

MRAC Meeting 10 (6 March 2024)
Telehealth Minutes

MRAC Members

	Name	Position	Specialty (Focus)
1	Conjoint Professor Anne Duggan	Chair	Gastroenterology
2	Ms Jo Watson	Deputy Chair	Consumer
3	Dr Jason Agostino	Member	General Practice / Epidemiology / Indigenous Health
4	Dr Matthew Andrews	Member	Radiology
5	Professor John Atherton	Member	Cardiology
6	s47F	Member	General & Bariatric Surgery
7	Ms Janette Donovan	Member	Consumer
8	s47F	Member	Psychology
9	Professor Sally Green	Member	Health Research
10	Adjunct Associate Professor Chris Helms	Member	Nurse Practitioner
11	Professor Harriet Hiscock	Member	Paediatrics
12	Ms Alison Marcus	Member	Consumer
13	Associate Professor Elizabeth Marles	Member	General Practice/Indigenous Health and Health Policy
14	Dr Sue Masel	Member	Rural General Practice
15	Professor Christobel Saunders	Member	General Surgeon – Breast Cancer and Reconstructive Surgery
16	s47F	Member	Pathology

MRAC member apologies

	Name	Position	Specialty (Focus)
1	Professor Adam Elshaug	Member	Health Services & Systems Research
2	Dr Clare Skinner	Member	Specialist Emergency Physician
3	Ms Robyn Stephen	Member	Paediatric Speech Pathology
4	Professor Rosalie Viney	Member	Health Economic Research

Agenda item 6 – Telehealth Post-implementation Review

s22 provided the Committee with a summary of the objectives of the agenda item, being for members to note the Consumer Health Forum (CHF) stakeholder workshop feedback, finalise all outstanding recommendations, and discuss next steps in finalising the report. He advised that the Minister's Office has provided additional time for the Department to finalise the report, with final advice to be provided early-mid April 2024.

s22 provided an overview of the CHF workshops which ran on 8-9 February 2024, noting that the intent was to understand consumer experience and perception of telehealth (as well as looking into policy options such as eligibility), building on previous CHF engagements held in 2023.

The workshops found that:

- Participants had strong support for telehealth, and it was seen to remove barriers in terms of rural and remote location, time, and enhance access to specialist care, scripts, and referrals.
- Participants strongly supported the flexible delivery of telehealth and their right to choose.
- Participants agreed that telehealth had limitations such as when a patient or provider has poor digital literacy, issues with technology, or when a physical examination is required. There were also

reported instances of confusion around availability (video and phone), issues with informed financial consent, and face to face rapport did not always translate to telehealth.

- There were mixed views on appropriate use of telehealth. Some participants supported a continuous relationship, whilst others felt telehealth could be used for new patients and diagnosis.
- There was not strong support for eligibility criteria to be applied to telehealth and MyMedicare was seen as a possible constraint rather than benefit.

Members identified that the digital divide and inequity of technology is a significant issue, especially for vulnerable cohorts such as CALD, low-socio economic background, disadvantage, and low educational attainment, meaning that often the people most in need won't have equitable access to technology. Members expressed interest in collecting further evidence on this and on whether this inequity is greater than existing access issues. Members noted the challenge to balance MBS being a universal program with existing inequities that exist with technology. Training and education as well as the development of a national telehealth clinical standard/best practice were highlighted as important mechanisms to help address inequities (both with clinicians and consumers).

Members discussed the consumer perception that specialist telehealth was good and questioned whether this is because telehealth has been available for specialists for longer, and video is more frequently used by specialists.

Members discussed how eligibility criteria for telehealth better ensures quality, safety, and preserves access to face-to-face consultations. While acknowledging consumers' feedback, MyMedicare was identified as a mechanism to address fragmentation and encourage continuous relationships.

Recommendation 8 - Introduce eligibility requirements and exemptions to nurse practitioner and participating midwife MBS telehealth items, including selected services which have no established clinical relationship requirement.

s22 provided an overview of draft recommendation 8 and presented Members with 2 potential options for consideration:

Option 1 – Keep the draft recommendation with update for clarity of intent; different eligibility requirements for participating midwives.

Option 2 – Maintain current telehealth policies for nurse practitioners and participating midwives. This option provides members the opportunity to remove or defer this recommendation pending outcomes from the Scope of Practice Review.

A discussion paper prepared for this draft recommendation included analyses of MBS data. Based on current usage, 60% of nurse practitioner telehealth patients would likely not meet the proposed eligibility criteria, and 15% of all nurse practitioner services relate to telehealth-only care to patients. This was updated in the meeting by s22, with subsequent analyses showing that due to a high level of 'patient loyalty' to a single nurse practitioner, the majority of patients could potentially continue to access telehealth with the proposed eligibility criteria if they changed the scheduling of their face-to-face and telehealth services (i.e. to ensure the timing of at least one face-to-face consult in any 12-month period).

Members discussed the options, noting that option 1 moves toward increased parity of access for non-referred services and emphasises telehealth use in the context of ongoing care. Exemptions to the eligibility criteria for telehealth in relation to blood borne virus and sexual reproductive health and mental health could be introduced for nurse practitioners and better recognise their scope of practice on the MBS.

Members questioned whether the recommendation could be sent to the Scope of Practice Review for consideration. The department advised that while this may be possible; it would likely require expansion of its Terms of Reference and accommodation of an investigation to specifically address this issue in the current schedule of the review would be challenging.

s22 noted the broader context of improving autonomy for nurse practitioners and participating midwives via MBS services, which includes a 30% rebate increase for nurse practitioner attendance items, nurse practitioner participation eligibility to MBS subsidised multidisciplinary case conferences, and the removal of collaborative arrangements for nurse practitioners and eligible midwives.

Members discussed the importance of ensuring quality care, and questioned why there was a difference between GP and nurse practitioner items, noting the intent of draft recommendation 8 was better alignment with the agreed Telehealth Principles. It was also noted that telehealth for midwifery services should follow a face-to-face consultation, but Members agreed with stakeholder feedback that the 12-month requirements of GP telehealth eligibility were not relevant to episodes of care dictated by pregnancy and infant care.

Members agreed to retain Recommendation 8: Introduce eligibility requirements and exemptions to nurse practitioner MBS items and midwifery MBS telehealth items, including selected services which have no established clinical relationship requirement.

s22 advised that the Telehealth Post-Implementation Final Report will need to be finalised in March, with the report and advice to be provided to the Minister's Office in April 2024.

Members agreed that an updated report would be circulated to members, with comments and updates due back to the department by 25th March 2024.

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the Freedom of Information Act 1982 (CTH)
By the Department of Health and Aged Care

MRAC Meeting 9 (14 November 2023)
Telehealth Minutes

Attendees:

MRAC Members

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3	Dr Matt Andrews	Member	Radiology
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MRAC member apologies

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3	Adjunct Associate Professor Chris Helms	Member	Nurse Practitioner
4	Professor Harriet Hiscock	Member	Paediatrics

Agenda item 9 - Telehealth Post-implementation Review

s22 advised that the objective of the telehealth agenda item today is to seek member agreement on the MBS Telehealth Principles, decisions regarding the temporary MBS telehealth subspecialty items, and to MRAC recommendations, following consideration of stakeholder feedback. He also advised the Committee that Minister Butler agreed to extend the post implementation review of telehealth until 31 March 2024. This extension is to provide the Committee with additional time to consider the public consultation feedback for incorporation into the final report. It was noted that a condition of the extension includes the delivery of an interim report to Government by the end of 2023 calendar year, which should provide recommendations on the temporary MBS GP sub-specialised items alongside other agreed upon principles and recommendations. The final report delivered in 2024 should be inclusive of all recommendations (including those from the interim report) with a full rationale.

It was noted that there has been media coverage of MRAC consultation process.

s22 provided an overview of the public consultation on the draft report which received over 450 submissions from stakeholders including patients, providers, health organisations and peak bodies, with many of these responses addressing recommendation 9.

s22

It

was noted that there were mixed responses for recommendations s2 8 and s22

2

s22

2 Recommendation 8 – The Nurse Practitioner (NP) sector was not supportive of this recommendation and it was noted that MRAC member Adjunct Associate Professor s11(a) had previously provided advice that this recommendation would be catastrophic for the NP sector. Stakeholder feedback suggested that the recommendation would create further disparity between NPs and GPs and would reduce access for vulnerable populations. It was noted that the basis for this recommendation is potentially moving towards parity with GP services. It was also noted that the “12-month rule” is not appropriate in the context of midwifery. The submissions that supported this recommendation cited clinical quality and clinical oversight of safe prescribing, continuity of care, and that metropolitan providers can currently undermine other providers rurally.

s22

s22

s22 provided an overview of the research findings of Bond University, Australian National University and Bastion Insights which were included in the papers.

Bond University findings included:

- Relatively high level of agreement between face-to-face and telehealth assessments in acute settings for initial psychiatric diagnosis.
- Overall, no difference was found between telehealth (video or phone) and face-to-face consultation, for transfers to the emergency department.
- Only 2 of 31 trials reviewed established diagnoses by telehealth. 12 of the 31 trials provided telehealth-related training.

ANU findings included:

- 5% of GPs and 55% of patients used telehealth.
- Video telehealth was not commonly used.
- The likelihood of receiving video telehealth increased if the patient was a younger adult, lived in a very remote area, or visited their GP frequently.
- Continuity of care improved during the pandemic.
- Providers identified telehealth as a challenge for safety.
- Patients saw telehealth as an offering for ontological safety.

Bastion Insights findings from 2021 were provided to the Committee (although also acknowledged that some findings are dated given the research was conducted during the COVID-19 pandemic). This included:

- Patient satisfaction associated with telehealth was convenience, as well as time saved in travel and waiting times.
- Patient dissatisfaction was found to be associated with being uncomfortable or inexperienced in technology GPs not calling at scheduled time, feeling rushed or not listened to particularly on the phone.
- GP satisfaction was found to be associated with payments being provided for telehealth services (recognition of work that was previously unfunded), and improved infection control.
- GP dissatisfaction was found to be associated with technical issues, concerns around misdiagnosis and safe prescribing, privacy concerns.

The department undertook to provide previous research to the Committee that created archetypes of different telehealth users.

The Committee discussed the principles with reference to public consultation, consumer engagement. And research. In particular, the Committee agreed that a preamble to the principles should be included to provide overarching context. Small amendments were agreed for Principles 1 and 2, and it was agreed that

Principle 5 should be redrafted out of session (see Attachment A). It was also agreed that these principles would be included in the interim report provided to Government at the end of 2023.

s22

It was agreed that the interim report should be provided to government in the form of a letter with attachments.

The Committee agreed that the following recommendations be finalised as part of the final report prior to 31 March 2024.

- s22
- s22
- Recommendation 8 – further discussion required
- s22
- s22

MRAC Meeting 8 (8-9 August 2023)

Telehealth Minutes

Attendees:

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15	s47F	Member	Pathology
16	s47F	Member	Paediatric Speech Pathology

MRAC member apologies

	Name	Position	Specialty (Focus)
1	Professor Sally Green	Member	Health Research

Agenda item 8 - Review Topic: Telehealth Post Implementation Review – Overview and status update

s22 provided an overview and status update on the Telehealth post implementation review.

He highlighted the four-month timeframe for MRAC to finalise the report, noting this will include out of session work by members, a consultation period of six weeks, and finalisation of a report for the Minister by December 2023.

s22 also provided members with an update on MBS telehealth claiming to be considered in the context of the meeting:

☐ the overall proportion of MBS services by telehealth is de-escalating in line with COVID-19 incidence;

☐ telehealth currently makes up less than 25% of GP consultations;

☐ the proportion of telehealth being provided by video is highest among allied health professionals;

☐ the changes in video claiming for Specialist Attendances and GPs are foremost attributed to regulatory changes; and

☐ while the proportion of telehealth services for GPs, allied health professionals and Non-GP Specialists and Consultant Physicians have been decreasing, there has been an increase in Nurse Practitioners and Midwives claiming.

s22 highlighted instances where non-MBS funded telehealth has been in the media. This included Woolworths offering telehealth services for primary care which could include medical certificates, scripts or referrals, the Wesfarmers purchase of Instantscripts, and Health Insurers providing telehealth services.

Members discussed non-MBS funded telehealth and raised concerns around how the convenience framework of non-MBS funded telehealth may jeopardise quality care due to providers not having an existing relationship with the patient. Members also discussed how issues with non-MBS funded telehealth could be addressed. s22 advised that clinical governance and compliance measures outside the MBS may be a more appropriate mechanism in addressing these issues, referring to telehealth guidelines by the Medical Board of Australia updated in May 2023.

Agenda item 11 – Review Topic: Telehealth Post Implementation Review – Compliance

s47F presented an overview of compliance issues and risks in the context of telehealth, highlighting:

❑ Opportunistic practices are marketing themselves as providing a convenient service for patients however there are concerns around whether they are delivering appropriate quality care and patient safety.

o Text based services use an algorithm that enable a patient to obtain a pathology request form.

o Practice models are exploiting the fact that the existing relationship rule does not currently apply to Nurse Practitioners.

❑ Confusion amongst providers regarding the term telehealth as referenced in the MBS, and whether it refers to phone or video.

❑ Quality of care through telehealth is hard to quantify. Observations that some GPs might not provide the same amount of input for telehealth as they do face to face s47F

s47F identified that a GP servicing a Residential Aged Care Facility (RACF) was flagged for high volume of services, which turned out to be services provided whilst they were driving. This GP also admitted that appointments often did not include a review of the patient, but instead, liaison with facility.

❑ Tip offs allege practices phoning patients for administrative purposes and are not classified as an attendance.

❑ Services that are provided without patient consent.

❑ Provision of MBS funded telehealth services from an overseas location despite the legal requirement for the patient and the provider to be located in Australia.

Members discussed the challenges associated with working in rural, remote locations and the need to better support providers who service vulnerable cohorts.

A member highlighted that in a Residential Aged Care Facility (RACF), most patients have a degree of cognitive impairment and there is often greater value in having a conversation with the RACF staff for clinical input. Members agreed that telehealth in its

current framework is not fit for purpose for RACF patients and this issue requires further discussion.

Members expressed an interest in how much documentation is completed in telehealth vs face to face consultations, given the standards in documentation are the same.

Agenda item 12 – Review Topic: Telehealth Post Implementation Review – Presentation by Bond University

s47F presented Bond University's interim report findings to the committee. This included an analysis of 33 studies which looked at diagnostic assessment using telehealth or face to face for psychiatric conditions.

Agenda item 15 – Review Topic: Telehealth Post Implementation Review – Non-clinical drivers of Telehealth

s47F presented Health Design Lab findings for the project 'Understanding the use of video telehealth in general practice'. She reported that patients, practices, and GPs all have potential barriers to using video telehealth which need to be considered for video to be effective.

Barriers identified with patients, GPs and practices included low digital literacy, lack of support, inadequate technology, previous poor experience, and challenges with internet connectivity or access. Enablers included strong digital literacy, workforce training and support, patient education, established processes within practice for billing and payment, appropriate technology, and convenience.

The committee discussed the barriers and enablers and observed the differences in uptake between health professionals with allied health having greater uptake of video telehealth than general practice. A member highlighted that the workflows are entirely different in allied health and general practice, noting that an allied health professional often provides a treatment or a comprehensive assessment service, whereas in general practice there is often a cross-over between administrative and medical services. Members also noted particular professions such as psychologists received significant support from their professional association which may have impacted the uptake trends.

s47F identified emerging non-MBS funded telehealth platforms which marketed convenience. She provided an example of one model that offered unlimited medical certificates all year. Members expressed concern around the clinical quality associated with these models and discussed the lack of national standards for telehealth and how the MBS could address this.

The department highlighted that there are limitations in terms of how the MBS can address non-MBS funded services and related issues.

The committee discussed the need to reduce inappropriate telehealth use whilst also seeking to increase capacity for appropriate telehealth use. Members suggested that this could include guidelines and a national standard for telehealth, clinical

governance, Australian Commission on Safety and Quality standards and accreditation, practice funding incentives, education, and support from peers and local 'Champions'.

The committee requested further data on patient attitudes to video telehealth, including what patients would choose if there was a choice between video or phone, the distribution of video telehealth usage, and uptake in different community groups as well as community expectations.

Agenda item 16 – Review Topic: Telehealth Post Implementation Review – Synchronous and Asynchronous

Care

s22 provided an overview of synchronous and asynchronous care. He highlighted that asynchronous

services do not fit in the current framework of an MBS professional attendance and the committee had

previously referred this topic back to itself for further consideration. He asked the committee to consider

whether a single use MBS item is appropriate for asynchronous care, or whether it should be considered on a

case-by-case basis (if at all).

Members discussed asynchronous services and whether any should be funded under the MBS. Some

members reasoned that asynchronous care is already funded in pathology and radiology and should be

recognised in the MBS. Administrative tasks such as requests, referrals, and form completion were identified

as being potentially appropriate to be funded without the patient present. Tele-dermatology was identified

as a specific asynchronous clinical service (typically store-and-forward of images for analysis and reporting)

that could be MBS-funded, though it was noted this failed MSAC assessment on the basis of value compared

to existing (block funded) approaches.

Some members disagreed that asynchronous services should be funded through the MBS and sighted that

administrative tasks such as emails and forms should be considered part of the existing consultation services

and duty of care. Compliance risks were identified with some members sighting the funding of asynchronous

services such as emails as a 'slippery slope' that could be easily abused.

The department noted that the completion of forms and similar administrative tasks could be done in the

context of a general attendance if the patient is present, and the requirements of the attendance item

descriptor are met. A member noted that some allied health MBS items have the report included, so there is

precedent this approach. The department noted that MBS funding for asynchronous services would require a

pre-assignment of benefit, which would be problematic when patients are unable to provide consent before

service is provided.

When discussing including asynchronous services in the MBS and potentially creating new items, a member

suggested that the committee should be seeking to simplify the MBS rather than complicating it further. An

alternative approach suggested by members was that asynchronous services could be supported through

non-MBS mechanisms such as MyMedicare.

Agenda item 17 - Review Topic: Telehealth Post Implementation Review – MBS Review Taskforce Telehealth Principles

s22 provided an overview of feedback received in response to the MBS Review Taskforce Telehealth Principles targeted consultation process. He noted that overall, there was a high level of agreement with most principles, however there were some that had limited support and feedback indicated confusion amongst stakeholders.

After discussion, the committee endorsed amended wording for the Principles (see Attachment A).

Agenda item 18 - Review Topic: Telehealth Post Implementation Review – Telehealth Taxonomy

s22 provided an overview of telehealth taxonomy.

The committee agreed that continuity of care matters and should be applied consistently.

The Committee discussed continuity of care in the context of nurse practitioner telehealth items. The majority of members supported that the existing relationship rule be applied to these items.

A member observed that applying the existing relationship rule to nurse practitioner items could create another barrier to the workforce and impact the diverse and sometimes vulnerable populations that nurse practitioners typically service and suggested that any change to these Nurse Practitioner items would require time.

The department highlighted that there are many ways that nurse practitioners can operate in general practice that they may be able to participate in through MyMedicare.

s22



Agenda item 19 - Review Topic: Telehealth Post Implementation Review – finalisation of advice/consultation product s22 provided an overview of a proposed report structure for the Telehealth Post Implementation Review Report and invited feedback from members.

The department noted that there may be some elements of the review the committee wishes to recommend further consideration be given to or where further work is required to review.

The committee recognised the importance of transparency and expressed that the report should incorporate evidence as much as possible, and agreed the report should follow the Canadian Health Services Research 13-25 format.

MRAC Meeting 7 (10 May 2023)

Telehealth Minutes

Attendees:

MRAC Members

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2	Ms Jo Watson	Deputy Chair	Consumer
3	Dr Jason Agostino	Member	General Practice / Epidemiology / Indigenous Health
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7	s47F	Member	Psychology
8	Associate Professor Sally Green	Member	Health Research
9	Adjunct Associate Professor Chris Helms	Member	Nurse Practitioner
10	Professor Harriet Hiscock	Member	Paediatrics
11	Professor Anthony Lawler	Member	Health Services Administration / Emergency Medicine
12	Ms Alison Marcus	Member	Consumer
13	Dr Elizabeth Marles	Member	General Practice/Indigenous Health
14	Dr Sue Masel	Member	Rural General Practice
15	s47F	Member	Pathology
16	s47F	Member	Paediatric Speech Pathology

MRAC member apologies

	Name	Position	Specialty (Focus)
1	Professor Adam Elshaug	Member	Health Services & Systems Research
2	Professor Christobel Saunders	Member	General Surgeon – Breast Cancer and Reconstructive Surgery
3	Associate Professor Angus Turner	Member	Ophthalmology
4	Professor Christopher Vertullo	Member	Orthopaedic Surgery

Agenda item 6 - Review Topic: Telehealth Post Implementation Review

Item 6.1 – Presentation by Bond University

s47F presented Bond University's interim report on Telehealth

services, advising that Bond University's research focused on the use of telehealth as a substitution of face-to-face, including consideration of:

- Prescribing of antibiotics
- Quality and frequency of referrals
- Escalation to emergency departments
- Changes in patient attendance, particularly frequency.

s47F and members discussed Bond University's research and preliminary report from 2021 and noted:

- Patient initial diagnoses showed limitations via telephone and video consultations
- o However, use of telephone to take a medical history appears adequate
- Video consultations have some assessment capacity, particularly when planning is involved, and a carer is available.
- o When comparing video vs telephone consultation, no major differences in clinical effectiveness was noted. However, all studies related to scenarios of ongoing care, none of which included new diagnoses.
- Information is not currently available on the use of imaging diagnostics as a substitute for face-to face assessment (i.e. use of referred investigations as proxy for initial assessment).
- Based on the research found, there are reservations regarding the diagnostic ability via telehealth, however where there is ongoing care for known diagnosis telehealth is adequate.
- There were no paediatric specific studies, however for adults and geriatric patients, telehealth was shown to be adequate.
- Increasing familiarity of telehealth is likely to improve satisfaction and usability to increase accuracy
- Areas of concern with the utility of telehealth included acute care, radiology, triaging and use for diagnostic and acute or one-off consultations.

Item 6.2 – Presentation by Australian National University

s47F presented the Australian National University's study of Telehealth in Primary Care. They noted that the ANU's research focused on the observation changes in the delivery of healthcare and analysed large population-level linked data sets, complemented with qualitative studies on safety.

s47F and members discussed the ANU research and preliminary findings and noted:

- For 2020, the following groups were less likely to use telehealth:
 - o Older patients
 - o People of a lower educational status
 - o People in regional and remote areas
 - o English as a Second Language (ESL) individuals
- The average cost per service was shown to decline in 2020, but started to recover by end of 2020
- GP video telehealth by patient characteristics demonstrated:
 - o Advantaged communities are more likely to use more services and more video
 - o Patients' chronic health conditions did not impact whether video or phone were used more often, except for mental health and dementia patients being more likely to use video.
- The out-of-pocket cost for telephone was very low, whereas face-to-face and video are similar.

Item 6.3 – Overview and discussion of MBS Taskforce Review Principles

Members discussed MBS Review Taskforce guiding principles for telehealth one to six (See Attachment 1).

Members agreed that, due to time constraints, the remaining principles (7-10) should be considered out-of session.

Item 6.4 - Review of current patient eligibility settings and related exemptions

The Committee confirmed their guidance in relation to specialised GP telehealth services, as provided at the March 2023 meeting (attachment 6.3(b)).

Members agreed, due to time constraints, patient eligibility and telehealth taxonomy should be considered as part of an out-of-session paper.

The Committee agreed that targeted stakeholder consultation should be undertaken to gain feedback on the MBS Review Taskforce principles, to determine their currency in the context of permanent telehealth arrangements.

The department proposed a four-to-six-week consultation period, to allow for feedback to be collated for presentation to the August 2023 MRAC meeting.

Members endorsed the proposed consultation approach and stakeholder list, with the following additions noting that other suggestions were welcome out of session.

- Nursing and Midwifery Board of Australia
- Australian Indigenous Doctors' Association
- CORANA – remote area nurses
- Medical board/AHPRA
- Occupational Therapy Australia

- Australian Society of Ultrasound in Medicine
- Speech Pathology Australia
- Neurodevelopmental and Behavioural Paediatric Society of Australasia
- Council On the Ageing
- Australian Primary Health Care Nurses' Association
- Optometry Australia
- Royal Australian and New Zealand College of Obstetricians and Gynaecologists
- Royal Australasian College of Medical Administrators
- Australian Physiotherapy Association

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MRAC Meeting 6 (1 March 2023)

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17	Associate Professor Angus Turner	Member	Ophthalmologist

MRAC member apologies

	Name	Position	Specialty (Focus)
1	Professor Anthony Lawler	Member	Health Services Administration / Emergency Medicine
2	Professor Christobel Saunders	Member	General Surgeon – Breast Cancer and Reconstructive Surgery
3	Professor Christopher Vertullo	Member	Orthopaedic Surgery

Agenda item 8 - Review Topic: Telehealth Post Implementation Review

s22 provided an overview of the temporary telehealth items requiring MRAC discussion and

advice, and outlined the structure of the discussions to take place in two streams: patient access and patient end support. Members divided into two groups to discuss on these individual streams and report back to the full committee. See record of the committee's discussion at Attachment A.

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MRAC Meeting 5 (6 December 2022)
Telehealth Minutes

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MRAC member apologies

	Name	Position	Specialty (Focus)
1	s47F	Member	Pathology
2	Professor Chris Vertullo	Member	Orthopaedics

Agenda item 8 – update on Telehealth

s22, Director MBS Telehealth presented an overview of independent research currently being done by Bond University on the available evidence for telehealth providing expert advice on Medicare-funded telehealth services, with a focus on efficacy and safety. He

advised that the department's "Design Lab" is exploring systemic and behavioural barriers to adoption of video services.

s22 highlighted the Minister's formal request for the committee to undertake a telehealth review and provide advice in the second half of 2023. He invited discussion and advice in relation to the parameters of the review and of the independent research being procured to inform highlighting the Minister's instruction that MRAC specifically consider:

- reviewing and updating, if necessary, the MBS Taskforce Telehealth Principles to provide a framework for future consideration of MBS funded telehealth;
- the appropriateness of current settings for video and telephone consultations to ensure the right balance between access, quality and safety;
- current patient eligibility settings and related exemptions, noting this work will be informed by the Strengthening Medicare Taskforce.

The role of telehealth in residential aged care and potential benefits of supporting communication between a GP and a medical professional on site regarding or alongside a resident, including the potential to reduce inappropriate transfers between facilities and emergency departments was discussed. s22 confirmed there will be an opportunity to consider patient end support to optimise care.

Members discussed patient eligibility for telehealth services and queried whether Voluntary Patient Registration (VPR) was in scope for this review. The department advised that more information on VPR will be available at the next meeting and noted that recommendations from the Strengthening Medicare Taskforce are due to be provided to government by the end of 2022.

s22 presented a draft project timeline, and members agreed that multiple concurrent workstreams should be developed for members to nominate their interest in participating at the next MRAC meeting.

A member queried whether current telehealth data can be broken down and grouped by patient age, and whether there is telehealth data available outside the primary care space. The department acknowledged that while there are current data gaps in relation to non-GP specialist and consultant physician groups, there are opportunities for the committee to feed into current evidence gathering from other pilot and research projects on the use of telehealth and related data.

Members agreed the review should consider impacts of telehealth on social isolation and mental health and members.

The department advised that, unlike other reviews, the telehealth PIR will likely be limited to targeted consultation due to the time restraints.

MRAC Meeting 4 (5 August 2022)

Telehealth Minutes

Attendees:

MRAC Members

	Name	Position	Specialty (Focus)
1	Conjoint Professor Anne Duggan	Chair	Gastroenterologist
2	Ms Jo Watson	Deputy Chair	Consumer
3	Dr Jason Agostino	Member	General Practice/Epidemiology and Indigenous Studies
4	Dr Matt Andrews	Member	Radiology
5	Professor John Atherton	Member	Cardiology
6	s47F	Member	General & Bariatric Surgery
7	Professor Adam Elshaug	Member	Health Services & Systems Research
8	s47F	Member	Psychology
9	Associate Professor Sally Green	Member	Health Research
10	Professor Harriet Hiscock	Member	Paediatrics
11	Professor Anthony Lawler	Member	Health Services & Emergency Medicine
12	Ms Alison Marcus	Member	Consumer
13	Dr Elizabeth Marles	Member	General Practice/Indigenous Health
14	Dr Sue Masel	Member	Rural General Practice
15	Professor Christobel Saunders	Member	Breast Cancer & Reconstructive Surgery
16	s47F	Member	Pathology
17	s47F	Member	Paediatric Speech Pathology

MRAC Member Apologies

	Name	Position	Specialty (Focus)
1	Dr Chris Helms	Member	Nurse Practitioner
2	Associate Professor Angus Turner	Member	Ophthalmologist
3	Professor Chris Vertullo	Member	Orthopaedics

Agenda item 8 - Telehealth

s47F

• s22, Director, Telehealth section, provided an update on MBS telehealth services since these items were implemented permanently, as well an overview of the 1 July 2022 changes, and advice that telehealth will be a focus of the Albanese Government going forward.

• Members discussed what government is doing to improve patients access to video, balancing access and quality, metrics on quality of phone and video, better video access to age care and mental health.

- Ms Riley advised that telehealth would continue to be a standing MRAC agenda item as the department expects that the Minister will task MRAC with questions for consideration and proposed timeframes for review. Ms Riley also requested that if members are aware of any current or emerging telehealth evidence or research, the department would be grateful to be advised.

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Medicare Benefits Schedule Review Advisory Committee

Meeting No. 6

1 March 2023

Agenda item No. 8

Telehealth: Accessibility to temporary sub-speciality services, and targeting access to specific cohorts

Purpose

That the Committee:

1. **DISCUSS** whether there are specific services or patient populations requiring improved access via telehealth
2. **DISCUSS** options for improved accessibility, if required, and the use of patient-end services to support access to health care
3. **NOTE** the relevant MBS Review Taskforce principles and recommendations applicable to accessibility and patient-end support
4. **ADVISE** on the appropriateness of temporary telehealth items and whether these services should transition to ongoing telehealth arrangements

Background

As detailed at the December MRAC meeting, the focus of consideration at this meeting for the post-implementation review of MBS telehealth is eligibility and access, and the current temporary items. Future meetings will include consideration of eligibility and updates to relevant research findings.

December	March	May	August	November
Scope & Workplan	Access & patient-end support	Eligibility & research update	Synchronous/Asynchronous Quality & non-clinical drivers of telehealth	Consolidation & review of TF findings

The temporary COVID-19 telehealth items were first introduced with limited eligibility criteria to maintain access to care where infection control protocol created unintended barriers. However, concerns of perverse online-only models and increased risks of fragmented were raised by key stakeholders. This prompted the implementation of the existing clinical relationship requirement and associated exemptions, which were informed in consultation with Royal Australian College General Practitioners

(RACGP), Australian Medical Association (AMA), Australian college of Rural and Remote Medicine (ACRRM) and Rural Doctors Association of Australia (RDAA) and other medical experts. The intent of this approach was to balance quality with access. General guidance on current eligibility arrangements is at **Attachment A**.

However, providers of family planning, sexual and reproductive health, mental health, and drug and alcohol services expressed concern that the introduction of telehealth eligibility requirements focused on relationships with known providers would reduce or deny patients' access to Medicare-subsidised care. This is understood to arise from concerns that in acute circumstances, a patient may not be able to access such services from their "usual GP or practice". Barriers reported by some stakeholders relate to conscientious objection by the provider, workforce distribution, and social reasons which may discourage a person from consulting their normal GP.

The temporary MBS telehealth items exempt from the established clinical relationship requirement include (see also additional detail at **Attachment B**):

- Sexual and reproductive health - items expire 30 June 2023
- Smoking and nicotine cessation - items expire 31 December 2023
- Non-directive pregnancy counselling – exemption expires 30 June 2023
- Mental health services - exemption expires 30 June 2023

Relevant MBS Review Taskforce Recommendations and Principles (see also Attachment C)

The MBS Taskforce guidance material, the below recommendations and principles have been found to be applicable to the topic of accessibility:

s22

8	Supports different funding models consistent with patients' needs, clinical specialty, and purpose.
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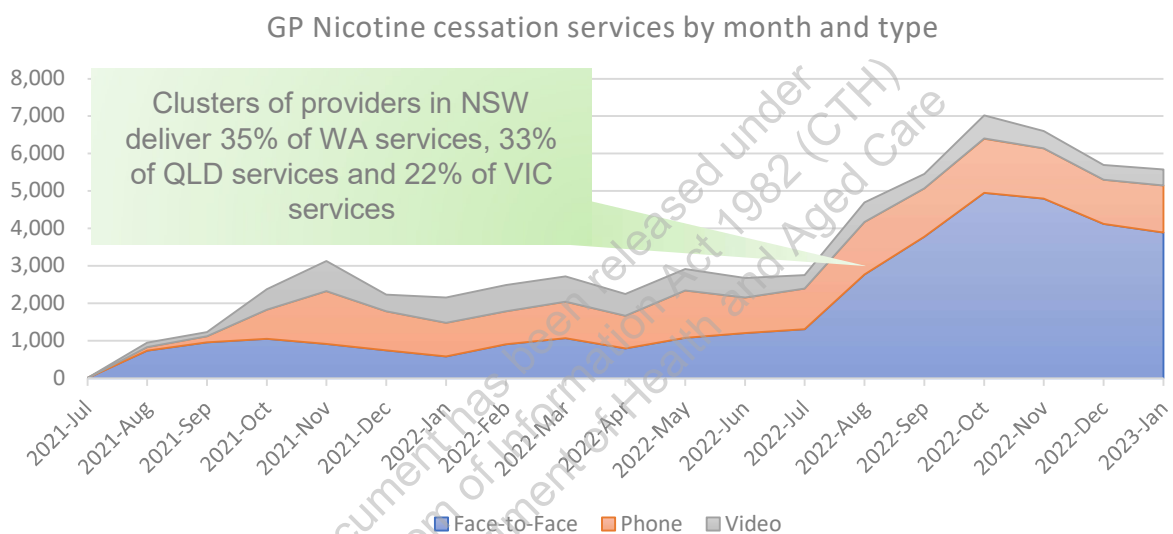
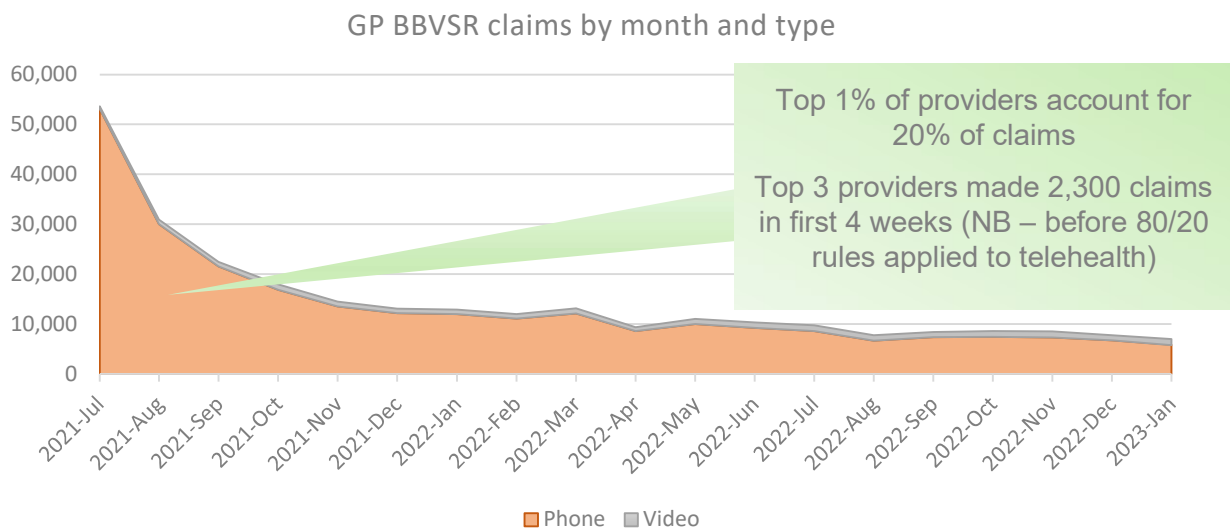
Key Issues

<u>Discussion Stream 1</u>	<u>Discussion Stream 2</u>
<i>Temporary GP sub-specialised services</i>	<i>Targeting access for patients with disability or with mobility issues</i>
<i>Fragmentation of care</i>	<i>Patient End Support</i>
<i>Telehealth and workforce distribution</i>	

s22

Fragmentation of care

s22

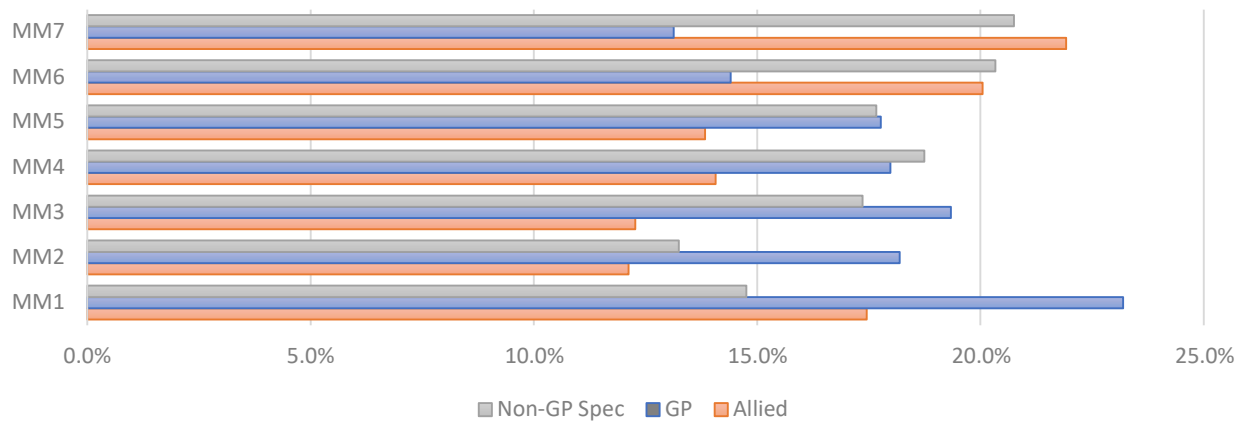


- s22

Access barriers due to workforce distribution and telehealth as substitution for face-to-face

- Workforce maldistribution and outright scarcity is often cited as a justification for relevant temporary GP telehealth items, particularly in relation to access to prescribers of medical termination and e-cigarette products.
- Telehealth offers potential to improve patients' access to services in areas challenged by workforce shortage. This was an objective of the first MBS telehealth items introduced for specialists and consultant physicians. While this potential remains for primary care, this has not necessarily been observed as a defining feature of how MBS telehealth items are now claimed.
- The highest users of telehealth services are in large cities. While telehealth is a larger proportion of private non-GP specialist services as rurality increases, it decreases for GP services.

Percent services by telehealth, by provider group, since July 2021



- Where telehealth has increased access to GP services, it is characterised by increasing the frequency of visits for patients with relatively good engagement with the health system and for patients in less disadvantaged areas.
- Notwithstanding the potential for telehealth to improve patients' access to care in areas of acute workforce challenge, the Department is aware of increasing concerns that telehealth is used as a backstop or misinterpreted as a substitute for workforce (mal)distribution.
- The 2022 NSW Health parliamentary inquiry into the delivery of health services within the state's rural, regional, and remote areas provides some key insights from patients, providers and system administrators regarding telehealth:
 - Patients and practitioners emphasised that the benefits of virtual care could only realised when that care was used to supplement services provided by medical practitioners who are present on the ground.
 - The strength of telehealth/ virtual care lies in creating links between specialists and onsite practitioners who maintain continuity of care for the patient
 - Telehealth had created another barrier for First Nations people in terms of accessing culturally appropriate health services
 - The effectiveness of telehealth is dependent on infrastructure, connectivity, and an understanding by the practitioner of the facilities available to the patient (i.e. the practitioner having local knowledge of whether diagnostic tools, such as x-rays, are available in location of the patient).

Attachment A – Established relationship Criteria excerpt from MBS Online Factsheet

Who is eligible?

The MBS telehealth items are available to providers of telehealth services for a wide range of consultations. All Medicare eligible Australians can receive these services if they have an established clinical relationship with a GP, OMP, or a medical practice. This requirement supports longitudinal and person-centred primary health care that is associated with better health outcomes.

An *established relationship* means the medical practitioner performing the service:

- has provided at least one face-to-face service to the patient in the 12 months preceding the telehealth attendance; or
- is located at a medical practice where the patient has had at least one face-to-face service arranged by that practice in the 12 months preceding the telehealth attendance (including services performed by another doctor located at the practice, or a service performed by another health professional located at the practice, such as a practice nurse or Aboriginal and Torres Strait Islander health worker); or
- is a participant in the Approved Medical Deputising Service program, and the Approved Medical Deputising Service provider employing the medical practitioner has a formal agreement with a medical practice that has provided at least one face-to-face service to the patient in the 12 months preceding the telehealth attendance.
- The established relationship requirement is a rolling requirement applying to every telehealth consultation. For each telehealth consultation, the patient must meet one of the eligibility requirements outline above, unless one of the following exemptions applies.

The *established relationship* requirement does not apply to:

- children under the age of 12 months; or
- people who are homeless; or
- patients receiving an urgent after-hours (unsociable hours) service; or
- patients of medical practitioners at an Aboriginal Medical Service or an Aboriginal Community Controlled Health Service; or
- people who are in a COVID-19 Commonwealth declared hotspot, until 31 December 2021; or
- people isolating because of a COVID-related State or Territory public health order, or in COVID-19 quarantine because of a State or Territory public health order; or
- people living in a flood-affected area, defined as a State or Territory local government area which is currently declared as a natural disaster area due to flood by a State or Territory Government.

AND patients accessing specific MBS items for:

- blood borne viruses, sexual or reproductive health consultations; and
- pregnancy counselling services; and
- mental health services; and
- nicotine and smoking cessation counselling.

A patient's participation in a previous telehealth consultation does not constitute a face-to-face service for the purposes of ongoing telehealth eligibility. New patients of a practice and regular patients who have not attended the practice face to face in the preceding 12 months must have a face-to-face attendance if they do not satisfy the above exemptions. Subsequent services may be provided by telehealth, if safe and clinically appropriate to do so.

Practitioners should confirm that patients have received an eligible face-to-face attendance in the preceding 12 months, or meet one or more of the relevant exemption criteria for the service, prior to providing a telehealth attendance. Failure to meet the established relationship requirement may result in incorrect claiming.



Medicare Benefits Schedule Review Advisory Committee

Meeting No. 7

10 May 2023

Agenda item No.6

Telehealth

Purpose

That the Committee:

1. **DISCUSS** the MBS Taskforce Review principles and recommendations (**Attachment 6.3a**), to consider their currency for use as MBS telehealth policy guidance, and whether updates are required.
2. **AGREE** draft position on MBS Review Taskforce Principles in relation to discussion outcomes from March 2023 meeting, including, if appropriate, an update on GP mental health options provided out of session.
3. **DISCUSS** the findings provided by ANU (**Attachment 6.2**) and Bond (**Attachment 6.1**)
4. **DISCUSS** the scope of telehealth items, including in consideration of efficacy and eligibility. A taxonomy of current items is provided (**Attachment 6.4a**).
5. **NOTE** the approach to targeted stakeholder consultation to inform the post implementation review of telehealth services.

Background

Expanding the scope of MBS telehealth services ahead of being made permanent

In 2020, as a part of the suite of infection control measures in response to COVID-19, approximately 280 MBS telehealth (video and telephone) items were introduced on a temporary basis. These temporary items were created as telehealth equivalents of existing Medicare face-to-face consultations. The process for determining the items in scope was informed by targeted consultations between the Department of Health and Aged Care and key clinical stakeholder groups.

Core objectives of the COVID-19 expansion of telehealth services were initially infection control and maintenance of access to care by patients with relatively high frequency consultations, but this was broadened early in consideration of whether MBS item descriptors could potentially be met with video and telephone solutions.

Telehealth eligibility requirements and exemptions: A complex situation for GPs and their patients and implementation challenges for the Government

Between April 2020 and July 2020, non-referred GP services telehealth services were available nationally, between any patient and GP. On the 20 July 2020 in response to concerns voiced by medical professionals about the quality of care and the potential undermining of rural providers, the 'established clinical relationship' criteria¹ was introduced for non-referred GP and Other Medical Practitioner (OMP) telehealth items. These

requirements were not observed to reduce telehealth service volumes at the time. This was largely interpreted by the Department as patients and providers adopting of new arrangements.

However, there are also exemptions which have changed over time, intended to reduce risk of unintended barriers for vulnerable patients with acute care needs. This has always included patients with specific COVID-19-related risks, including designated 'hotspot areas' and patients with recent diagnoses, but since July 2021 also includes other populations and services. As of July 2022 the list of patient groups in which the established relationship criteria does not apply include:

- children under the age of 12 months; or
- people who are homeless; or
- patients receiving an urgent after-hours (unsociable hours) service; or
- patients of medical practitioners at an Aboriginal Medical Service or an Aboriginal Community Controlled Health Service; or
- people living in an area declared as a natural disaster area due by a State or Territory Government; or
- people isolating because of a COVID-related State or Territory public health order, or in COVID-19 quarantine because of a State or Territory public health order

The current framework is complex for GPs and patients who may not know their eligibility for telehealth services at the point of booking, resulting in confusion and potential bill-shock for patients. The arrangements are also cumbersome from a payment integrity and compliance perspective, as exemptions have a significant reliance on post-payment audits. This is because the criteria for most exemptions are not routinely captured in the context of patients' Medicare enrolment.

In contrast, telehealth services for referred services replicate the arrangements of face-to-face items. This includes the standard GP- and non-GP specialist referral pathways for access to MBS allied health and non-GP specialist services. Non-GP specialists options for non-referred 'other medical practitioner' telehealth items are more limited compared to face-to-face, and these claims must comply with the established clinical relationship requirements and exemptions.

Interactions between the scope of services, eligibility, and accessibility

Since July 2021 for GP services, and January 2022 for non-GP specialist services, the scope of telephone services has been limited compared to those available by video.

This has retained telephone as an option for the highest volume GP consultations, for 'subsequent' non-GP specialist consultations, and for psychiatric services under 45 minutes. Allied health, midwifery and nurse practitioner services have retained video and telephone options since April 2020.

Stakeholders have made numerous representations to the Government and Department advocating for returning to an increased scope of telephone services, often citing technology equity and competency challenges, and a perceived comparable clinical efficacy of telephone services. This encapsulates an ongoing challenge for MBS telehealth policy whereby independent advice and more relevant published research by early 2021 has supported an emphasis on video interventions, and changes in the scope of telehealth services have resulted in some increased video use; however, it may be a risk in relation to the 'universality' of MBS services.

Current projects by the Australian National University (**Attachment 6.2**) and updated research from Bond University (**Attachment 6.1**) provide insights to these issues and navigation in relation to potential risks of current policy settings.

NB: non-clinical drivers of telehealth is scheduled as a focus of August MRAC meeting.

Key issues

- ***DISCUSS: the MBS Taskforce Review principles and recommendations, to consider their currency for use as MBS telehealth policy guidance, and whether updates are required.***

Prior to the Government's consideration of making these telehealth arrangements permanent, the MBS Review Taskforce released its final findings, including principles (**Table 1**) intended to guide ongoing MBS telehealth policy and recommendations. The Department has also engaged with researchers to understand and develop the evidence basis for efficacy of telehealth solutions as they translate to MBS items. This has included work by the Bond University Institute for Evidence Based Healthcare (**Attachment 6.1d): Final report - Telehealth in primary care 2021**).

The Taskforce Principles and research to date has informed the current scope of MBS telehealth services, alongside observations of the changing dynamic of MBS claims by the Department. For example, this includes an emphasis on video consultations and measures to mitigate quality and fiscal risks arising from models of care which emphasise higher volumes of shorter consultations by telephone.

- ***AGREE: draft position on MBS Review Taskforce Principles in relation to discussion outcomes from March 2023 meeting, including, if appropriate, an update on GP mental health options provided out of session.***

The expansion of MBS telehealth services in 2020 in response to COVID-19 was out of scope of the MBS Review Taskforce consideration. Nonetheless, the approach to make the majority of the COVID-19 telehealth items permanent has been informed by Taskforce principles and recommendations.

A key objective of the MRAC post-implementation review of telehealth is to review and update, if necessary, the Taskforce principles, intended as a framework for future

consideration of MBS telehealth items, and to identify when other funding approaches may be more optimal.

Table 1: MBS Review Taskforce Principles

Principle		Draft MRAC position (<i>Discussion</i>)
1	Should be patient-focused, and based on patient need, rather than geographical location	<div>s47C</div> <div>This document has been released under the Freedom of Information Act 1982 (CTH) By the Department of Health and Aged Care</div>
2	Must support and facilitate safe and quality services that demonstrate clinical efficacy for patients.	
3	Should be provided in the context of continuity of care between patient and practitioner	
4	Must not create unintended consequences or perverse incentives that undermine the role of face-to-face care	

5	Should prefer video over phone, as video offers richer information transfer, with fewer limited exceptions being allowed over time.	<div>s47C</div> <div> <p>This document has been released under the Freedom of Information Act 1982 (CTH) By the Department of Health and Aged Care</p> </div>
6	Support optimal clinical engagement with the patient by allowing clinician participation at both ends of the MBS telehealth consultation.	
7	Should be implemented and modified through time limited transition arrangements.	
8	Supports different funding models consistent with patients' needs, clinical specialty, and purpose.	

9	Should be guided by existing relevant guidelines and principles.	s47C
10	Require ongoing data collection, research and evaluation into outcomes and utility.	

Update on GP mental health advice (in response to Out of Session paper)

The Department will provide a verbal update on Members' feedback.

**1. DISCUSS: research findings provided by ANU and Bond University
(Q&A with researchers)**

Current patient eligibility settings and related exemptions for MBS items have been informed by the MBS Review Taskforce, other expert stakeholder advice and reviews of research relevant to the types of services available on the MBS. The lattermost to date has focused on primary care, but an update by Bond University includes consideration of non-GP specialist consultations (**Attachment 6.1c**).

Both Bond University and ANU provide insights and observations in relation to consideration of the scope, efficacy and impact of phone compared to video services, and associated policy changes. Projects by ANU have considered or are considering the telehealth and risk of potentially underserved populations, managing safety, and value.

This is expected to be augmented by members future consideration of non-clinical drivers of telehealth services, including advice from the Department's 'Design Lab', scheduled for August 2023.

2. DISCUSS: scope of telehealth items, including in consideration of efficacy and eligibility. A taxonomy of current items is provided (Attachment 6.4a).

The Department is seeking the committee's consideration, post presentation from the Australian National University and Bond University, of the current settings for video and telephone consultations and their appropriateness to ensure the right balance between access, quality and safety, including identifying any specific services or patient populations requiring improved access via telehealth.

The expansion of telehealth, particularly in relation to telephone services and in primary care is associated with an increased proportion of the MBS being delivered by telehealth. In the current financial year, the 'equivalent' items (for which there are now face-to-face, video and some telephone equivalents) represent nearly three quarters of MBS claims for attendances including procedures but excluding diagnostic imaging and pathology (145.3 million of 195.3 million services to 31 March 2023). Of this activity, the proportion of services by phone or video is currently approximately a fifth (29.6 million services).

In the context of revisiting the MBS Review Taskforce principles for MBS telehealth services, Members are asked to consider the scope of current MBS telehealth services and their patient eligibility criteria, if relevant. This includes the committee's consideration to the scope of services, as to whether based on current evidence service gaps. Or conversely, there is little or no evidence for a telehealth service(s) which causes concern.

The taxonomy (**Attachment 6.4a**) of services is derived from and intended to serve as a map to telehealth items in current MBS regulations. The source is also published online, at www.legislation.gov.au, including:

- [Health Insurance \(Section 3C General Medical Services – Telehealth and Telephone Attendances\) Determination 2021 \(legislation.gov.au\)](http://www.legislation.gov.au)
- [Health Insurance \(Section 3C General Medical Services – Telehealth Psychiatry Attendance Service\) Determination 2022 \(legislation.gov.au\)](http://www.legislation.gov.au)

Additional detail on the established clinical relationship for GP telehealth services is provided at **Attachment 6.4b**

3. NOTE the approach to targeted stakeholder consultation

The Department prepared consultation options for consideration by the MRAC Executive following the March 2023 meeting. It was deemed that engagement of stakeholders would not only assist Members in their task via input to the report for consideration, it could also improve the transparency and stakeholders acceptance of relevant MRAC advice to the Government.

The consultation approach comprises an initial invitation to stakeholders specifically on the MBS Review Taskforce principles and recommendations. There is a further opportunity to engage stakeholders following the August 2023 meeting, potentially in response to draft findings or a discussion paper intended to inform final findings. Development and endorsement of consultation materials will be sought out of session.

To accommodate consultations in the timeline allowed for the post implementation review, the process is likely to comprise targeted engagement of key stakeholders including but not limited to medical colleges, allied and other health organisations, First Nations health organisations, and health consumer and carer advocates. The proposed stakeholder list is at **Attachment 6.5**.

Attachments

Attachment 6.1: Bond University interim research findings

Work package A

6.1(a) Collated finds prepared by the Department

6.1(b) Interim report

Work package B

6.1(c) Collated finds prepared by the Department and interim report

6.1(d) Final report – Telehealth in primary care 2021

Attachment 6.2: ANU initial research findings

Attachment 6.3a: MBS Taskforce Review guidance resource

- i. principles and rationale
- ii. recommendations and implementation status

Attachment 6.4(a): MBS telehealth taxonomy

Attachment 6.4(b): Additional detail regarding the established clinical relationship

Attachment 6.5: Stakeholder list for consultation

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Attachment 6.1 (b)



INSTITUTE FOR
Evidence-Based Healthcare
bond.edu.au/iebh

Interim Report: Telehealth Work Package A

**Prepared for the Commonwealth Department of
Health and Aged Care, Canberra**

22 April 2023

Prepared by:

**Anne Mae Scott, Tiffany Atkins, Mina Bakhit, Hannah Greenwood,
Justin Clark, Oyuka Byambasuren, Paul Glasziou**

Integrity
IMPACT
Innovation

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Executive Summary

Introduction

In October 2020, The Institute for Evidence-Based Healthcare was contracted by the then-Department of Health, to complete a review of the evidence for the effectiveness, safety and economic impacts of the provision of primary and allied healthcare via telehealth. The Institute completed the Review in February 2021. Since that Review, over two years of additional evidence on the effectiveness and safety of telehealth has been published. The present Telehealth Review therefore aims both to update the findings of the previous review, and to expand its scope with several topics identified as of interest by the Department, by addressing 3 questions:

Question A1. **Updated reviews and new topics:** To update the findings of the previous Telehealth Review, by identifying, assessing the quality of, and synthesising additional evidence that has emerged in the last 2 years, on the topics addressed in the original Telehealth Review (2020-21).

Question A2. **Comparison of telehealth modes.** To identify, assess the quality of, and synthesise any existing randomised controlled trial and systematic review evidence, comparing telehealth (e.g. video) to telehealth (e.g. phone) provision of care; topic not considered in the original Review.

Question A3. **Special Outcomes.** To identify, assess the quality of, and synthesise any existing randomised controlled trial and systematic review evidence, on the impact of telehealth consultations on the following areas of interest: 1) Changes in the frequency of patient attendance; 2) Escalation to emergency department presentations.

Methods

The systematic reviews and evidence syntheses were reported in compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.⁽²⁾ The protocol was developed prospectively, and provided to the Department of Health prior to commencement of the reviews. The following databases were searched: PubMed (MEDLINE), Embase, and CENTRAL via the Cochrane Library. The search dates were: for question A1, which updates the evidence from the completion of the original Telehealth Review (2020-21) until the present, the searches were from 18 November 2020 (end-date of the search in original Telehealth Review) until 11 January 2023. For question A2, the search dates were from inception until 10 February 2023. For question A3, the search dates were from inception until 11 January 2023.

Results

Search Results

For **Question A1 (Updated reviews and new evidence comparing telehealth (via telephone or video to face-to-face delivery of care in primary and allied healthcare)**, we identified 564 systematic reviews from databases, 1770 randomised controlled trials from databases, and 255 randomised controlled trials through clinical trial registries. After deduplication and screening, we included 21 new references: 1 overview of 53 systematic reviews; 12 systematic reviews; and 8 randomised controlled trials. The PRISMA flowchart detailing this process is presented in Appendix 5 – PRISMA flow charts (search results and screening process).

For **Question A2 (Comparison of delivery of by one telehealth modality (e.g. videoconferencing) to another telehealth modality (e.g. teleconferencing), in primary and allied healthcare)**, we identified and screened 2571 articles. 16 randomised controlled trials (20 publications) were included in the final review. The PRISMA flowchart detailing this process is presented in Appendix 5 – PRISMA flow charts (search results and screening process).

For **Question A3 (Comparison of telehealth (telephone or video) to face-to-face delivery of care in areas of special interest)**, we rescreened the search results of the original Telehealth Review (2020-21) – a total of 7655 references after deduplication – and we screened the references identified for the present review – 1950 references after deduplication (as described above in Question A1). We included a total of 7 references: 6 RCTs on the topic of changes in frequency of patient attendance and 1 scoping review on the topic of escalation to emergency department. The PRISMA flowchart detailing this process is presented in Appendix 5 – PRISMA flow charts (search results and screening process).

Summary of the evidence and findings, by topic:

The overall findings, by topic, are summarised in **Error! Reference source not found.**, below.

- **Telehealth:** indicates care provided by telephone and videoconferencing.
- **Teleconferencing:** healthcare provided via telephone.
- **Videoconferencing:** healthcare provided by video technology.

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Interpretation of the findings

The original report (Telehealth Review 2020-21) reached a number of conclusions about the effectiveness of telehealth which remain valid. Briefly, those conclusions were that telehealth – either by videoconferencing or teleconferencing – appears to provide equivalent clinical outcomes for many types of clinical encounter, particularly for ongoing clinical care. For initial diagnosis, telehealth has some limitations, in particular where physical examination is required as part of the diagnostic process. While visual examination can be carried out via videoconferencing, this appears generally less satisfactory (less reliable and accurate) than examination face-to-face; and hands-on physical examination is limited to self-examination or some examination by carers.

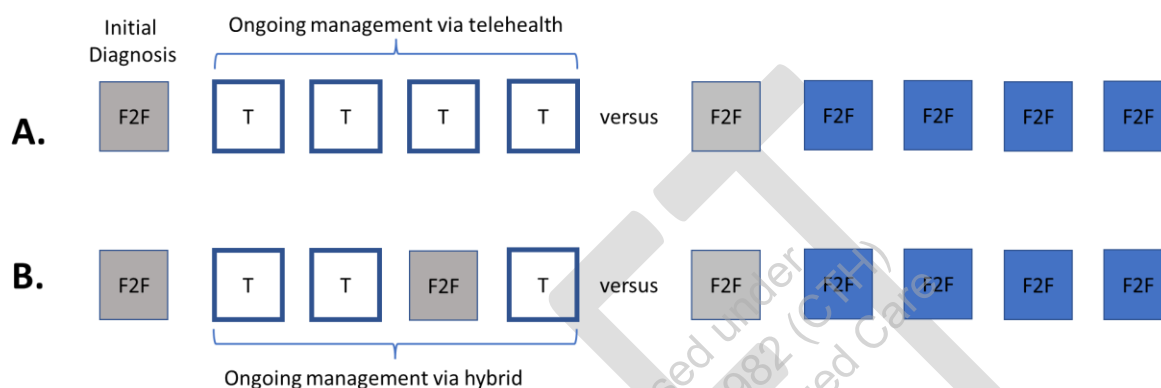


Figure 1 Comparisons of telehealth (T) versus face-to-face (F2F) consultations. (A) An initial diagnosis followed by management via T or F2F, or (B) by hybrid.

For continuing care for management of an established diagnoses (Figure 1 above), telehealth appears equivalent for most clinical outcomes, has similar cost to health services, increases convenience and access for patients, which is particularly important for rural patients and patients who have difficulty travelling to clinical appointments. Savings for health care services may occur with travel for home visits, e.g. in context of palliative care. Note that, while costs of the same consultation service are similar for telehealth and face-to-face consultations, the increase in access from telehealth has resulted in an approximately 10% increase in GP services in Australia. The net costs of this (from flow on decreases or increases) is unclear.

This update has strengthened several of those conclusions, and not reversed any. In addition, since the previous Telehealth Review, new research has been published, that provides new conclusions.

Effectiveness

This review includes 4 new topics (CVD management, weight management, physiotherapy, and traumatic brain injury) and has new trials for 7 of the previous topics (musculoskeletal management, PTSD treatment, depression treatment, anxiety disorders, insomnia treatment, and mental health miscellaneous). Overall, the findings are similar – that for ongoing management telehealth provides similar clinical effectiveness when substituted for face-to-face care (see A and B in Figure 1 above).

Some reviews also consider telehealth as add-on care. For example, telehealth-enhanced interventions for CVD management might be effective in improving physical and quality of life.

Diagnostic Accuracy assessments

Diagnostic assessments via telehealth is an area with limited research, particularly for real patient consultations. The most common type of study looked at specific pre-planned assessments. While history taking and verbal assessments can be done acceptably by telehealth, only some elements of physical examination are sufficiently reliable and valid. These may also be considered as a hierarchy of progressive difficulty and requirements from: (i) history only (via telephone), (ii) visual inspection (videoconference) (iii) physical examination (by self-examination or by a carer), (iv) examination with equipment (pre-provided, e.g. with monitor tools).

Specific planning of physical assessments is often required to manage the increasing difficulties in the hierarchy from (ii) to (iv), but this also suggests further research may overcome some of these limitations. We conclude the diagnosis by telehealth can be considered in 3 categories:

- A. Diagnosis via history of verbal assessment tool only – with no physical examination – where assessments limited to question-and-answer, such as cognitive assessments, telehealth appears equivalent to face-to-face.
- B. Planned visual or physical examination or assessment – without additional history – has mixed outcomes. For example, assessments for ankle fracture, low back pain, facial nerve palsy, and many elements of sleep apnoea were poor. Some planned assessments, such as sit-to-stand, and Parkinson's functioning were acceptable. For some this required specialized equipment – such as pulse oximeters, sphygmomanometers, and visual acuity charts – and suggests this inaccuracy may be overcome, but this would rarely be available in most patient settings for GPs.
- C. Consultation without pre-planned assessment or examination – that is, consultation for new presentations. Only 1 adequate study looked at diagnosis of new presentations, and found modest disagreement between telehealth and face-to-face assessment but with errors in both modes. However, when hands-on physical examination is an essential component of the diagnosis then telehealth is likely to be problematic.

Comparison of telephone to videoconference

This review found that 16 trials with moderate to high risk of bias, demonstrating that telephone and videoconference consultations have no major differences on clinical effectiveness and healthcare use (cost effectiveness) outcomes for a range of different conditions (e.g. depression and smoking cessation) and outcomes, e.g. quality of life, healthcare utilisation, and satisfaction with care. Note that this equivalence was found for ongoing care of patients with chronic conditions (see Figure 1, above), not acute care, which may require visual or physical examination for diagnosis.

Attendance for ongoing management

Trials which reported attendance rates for both arms generally found no differences in attendance between face-to-face at the clinic and home telehealth using either a video or telephone when comparing the same dose of intervention. Note that this equivalence is for ongoing care of patients with chronic conditions. The studies do not address the issue of increasing access for those unable to access face-to-face medical services.

Escalation to emergency department from long-term care

A review found only four trials. Two examined hospital avoidance: one trial found that providing additional telehealth support reduced the likelihood of having care escalated to a hospital than residents taken directly to the emergency department; the other (stepped wedge RCT) did not find a

significant difference in hospitalisation rate in residents receiving off-hours physician coverage by telehealth compared to residents of homes receiving standard physician coverage. A trial of pharmacist-led telehealth services found that the telehealth group had a lower incidence of alert-specific ADEs than usual care. The last trial of a hospital-based multidisciplinary wound care team via telehealth for treating pressure ulcers compared to usual care found no significant differences in reducing pressure ulcers, emergency department visits, wound healing times and hospitalisations. They concluded that telehealth support may reduce some emergency department visits, but further research and economic analyses are needed.

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Introduction

Telehealth in Australia dates back to the 1920s, and the use of telegraph by the Flying Doctor Services.(3) A century later, in 2013, the Australasian Telehealth Society urged wider adoption of telehealth in Australia.(4) With the declaration by the WHO of the COVID-19 pandemic in March 2020,(5) the temporary payment of benefits for telehealth was enabled on the Medicare Benefits Schedule. This enabled the provision of telehealth care services by general practitioners, specialists, and allied healthcare professionals.(6)

In October 2020, The Institute for Evidence-Based Healthcare was contracted by the then-Department of Health, to complete a review of the evidence for the effectiveness, safety and economic impacts of the provision of primary and allied healthcare via telehealth. The Institute completed and provided the Review to the Department in February 2021.(7) In December 2021, the Australian Government announced an investment of \$106M over 4 years, to support the permanent implementation telehealth services in Australia as part of the Medicare Benefits Schedule.(8)

However, since the time of the previous Telehealth Review in 2021, over two years of additional evidence on the effectiveness and safety of telehealth has been published. The present Telehealth Review therefore aims both to update the findings of the previous review, and to expand its scope with several topics identified as of interest by the Department.

The present document reports on a series of systematic reviews and evidence syntheses, to address 3 questions of interest to the Department:

Question A1. Updated reviews and new evidence comparing telehealth (via telephone or video) to face-to-face delivery of care in primary and allied health. Aim: to update the findings of previous Telehealth Review, by identifying, assessing the quality of, and synthesising additional evidence generated since the previous Telehealth Review (2020-21), on topics in scope for that review.

Question A2. Comparison of delivery of by one telehealth modality (e.g. videoconferencing) to another telehealth modality (e.g. teleconferencing), in primary and allied healthcare. To identify, assess the quality, and synthesise randomised controlled trial and systematic review evidence, which compares one telehealth modality (e.g. video) to another (e.g. telephone) for the provision of care – a comparison that was considered out of scope in the original Telehealth Review (2020-21).

Question A3. Comparison of telehealth (telephone or video) to face-to-face delivery of care in areas of special interest. To identify, assess the quality of, and synthesise any existing randomised controlled trial and systematic review evidence, on the impact of telehealth consultations on the following areas of interest: 1) Changes in the frequency of patient attendance; 2) Escalation to emergency department presentations.

For the purposes of the present report: “telehealth” is used to refer collectively to synchronous (‘live’) provision of care using either the telephone (i.e., teleconferencing or telephone consultation) or video (i.e., videoconferencing or video consultation).

Methods

The systematic reviews and evidence syntheses were reported in compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (2) – see Appendix 1 – PRISMA Reporting Checklist. Due to short timelines the protocol was not registered on PROSPERO or any other registry, however, the protocol was developed prospectively and provided to the Department of Health prior to commencement of the reviews. We used the 2weekSR – two-week systematic review – methodology to conduct the systematic reviews.(9) Where a deviation from the

methods specified in the protocol occurred during the conduct of the systematic reviews, this is reported in the relevant methods section.

Inclusion and exclusion criteria

Many of the inclusion and exclusion criteria that will be used to screen the literature for includable studies, are shared by the 3 questions of interest: A1, A2, A3. The shared criteria are identified in the dark blue cells, in Table 1, below. The differences between the inclusion criteria for the 3 questions are identified in the light blue cells. Full inclusion and exclusion criteria are described below (Table 1).

Table 1 Summary of the inclusion and exclusion criteria for Questions A1, A2, A3

Included	Question A1	Question A2	Question A3
P – Population	Participants of any age, gender, condition, receiving primary care from a GP, allied healthcare provider, nurse practitioner, midwife or similar.		
I – Intervention	Telehealth	Telehealth	Telehealth
C – Comparator	Face-to-Face	Telehealth	Face-to-Face
O – Outcomes	Clinical effectiveness, patient safety, cost-effectiveness, satisfaction with care		<ul style="list-style-type: none"> • Patient attendance • Escalations to ED
S – Study design	Any study design for study reporting diagnostic outcomes Systematic reviews or randomised controlled trials for all other outcomes		

Participants

These inclusion criteria applied to all 3 questions: A1, A2, A3 (outlined above, Table 1).

To be included, studies had to involve participants of any age, gender, or condition. Studies in tertiary care (in-hospital patients) were excluded. Studies involving patients discharged from the hospital and undergoing care by one of the included care providers (see below) were included, however.

The following care providers (or their equivalents in other healthcare systems) were included:

- General Practitioner: e.g. family physician, general practitioner, etc.
- Allied healthcare provider: e.g. psychologist, occupational therapist, physiologist, practice nurse, speech pathologists, dieticians, Aboriginal and Torres Strait Islander healthcare practitioners and workers, etc.
- Nurse practitioner
- Midwife

Clinician-to-clinician consultations not involving patients (e.g. GP to midwife) were excluded.

Specialist-provided care (e.g. by psychiatrists, dermatologists, rheumatologists, etc.) was excluded, unless the care *also* included both the patient and one of the includable providers (i.e., the care involved, for example, a patient, a GP, and a psychiatrist).

Intervention

These inclusion criteria applied to all 3 questions: A1, A2, A3 (see Table 1).

Included studies were those evaluating the effectiveness of real-time (synchronous) consultations via video or telephone. Consultations involving asynchronous provision of care (e.g. store and forward of patient generated data) were excluded.

Studies evaluating the following interventions were excluded: mobile apps, virtual reality, texting (e.g. reminders), online based platforms (e.g. information and support systems), telemonitoring, and studies of novel (non-standard) interventions.

Consultations could include single or multiple episodes of care, but the compared groups had to receive similar care in terms of frequency, duration, and healthcare provider.

Comparator

Comparators varied for questions A1, A2, A3 (Table 1), thus each is described separately.

Comparator for question A1

We included studies comparing consultations via video or telephone, to face-to-face (in-person) consultations. The care provided in both groups had to be similar in terms of frequency, duration, and healthcare provider.

Comparator for question A2

We included studies comparing one type of telehealth (e.g. telephone consultation / teleconferencing) to another type of telehealth (e.g. video consultation / videoconferencing). The care provided in both groups had to be similar in terms of frequency, duration, and healthcare provider.

Comparator for question A3

We included studies comparing consultations via video or telephone, to face-to-face (in-person) consultations. The care provided in both groups had to be similar in terms of frequency, duration, and healthcare provider.

Outcomes

Comparators varied for questions A1, A2, A3 (Table 1), and thus are described separately.

Outcomes for question A1 and A2

The includable outcomes comprised conventional safety and effectiveness outcomes, which – by necessity – varied by the individual condition and/or clinical area. The primary outcome was clinical effectiveness (details depending on condition/clinical area). Secondary outcomes included: patient safety, cost-effectiveness, and satisfaction with care. For diagnostic accuracy studies, the outcomes included comparative accuracy of diagnosis for face-to-face vs telehealth care.

Outcomes for question A3

The includable outcomes comprised clinical effectiveness, safety, cost-effectiveness and satisfaction, and/or diagnostic aspects, pertaining specifically to one of the following topics: changes in the frequency of patient attendance; or escalation to emergency department presentations.

Study design

These inclusion criteria applied to all 3 questions: A1, A2, A3 (Table 1).

We included the following study designs:

- **Randomised controlled trials (RCTs)** which included more than 10 participants and were of any randomised design, including parallel, cluster, crossover, factorial, or mixed
- **Systematic reviews**
- **Any study design** if the study reported on diagnostic accuracy of telehealth vs. face-to-face provision of care, as long as all other inclusion criteria are met

All other study designs (non-randomised trials, observational studies, qualitative-only studies) and all other types of reviews (e.g. literature, scoping, etc.) were excluded.

Publication type and language

These inclusion criteria applied to all 3 questions: A1, A2, A3 (Table 1).

We did not impose restrictions by language (i.e., if the publication met the inclusion criteria but was published in a language other than English, it is includable). We included only those publications that were published in full. That is, we excluded publications available as abstract only (e.g., conference abstract) with no additional results information available about the study's results (e.g., from a clinical trial registry record).

Search strategies to identify the relevant studies

The following databases were searched: PubMed (MEDLINE), Embase, and CENTRAL via the Cochrane Library (which includes the clinicaltrials.gov and the World Health Organisation's International Clinical Trial Registry Platform, ICTRP).

The search dates were as follows: for question A1, which updates the evidence from the completion of the original Telehealth Review (2020-21) until the present, the searches were from 18 November 2020 (end-date of the search in original Telehealth Review) until 11 January 2023. For question A2, the search dates were from inception until 10 February 2023. For question A3, the search dates were from inception until 11 January 2023.

Search strings for each question and each source searched are reproduced in full in Appendices 2-4.

Study selection and screening

Pairs of review authors (PG, TA, MB, HG, OB) independently screened the titles and abstracts for inclusion against the inclusion criteria. One review author (JC) retrieved full-texts, and pairs of review authors (PG, TA, MB, HG, OB) screened the full-texts for inclusion. Any disagreements were resolved by discussion, or reference to another author. The selection process was recorded in sufficient detail to complete a PRISMA flow diagram (see Appendix 5 – PRISMA flow charts (search results and screening process)) and a list of studies excluded at full-text stage are provided in Appendix 6 – Key Excluded Studies: systematic reviews and randomised trials.

Data extraction

We used a data extraction form to extract data from each included study. The form was piloted on 2 studies. Pairs of review authors (PG, TA, MB, HG, OB) independently extracted the data, and where discrepancies were identified, they were resolved by discussion or by reference to another author. Data was extracted on each study's: characteristics and methods; participants; interventions and comparator(s); primary outcome; secondary outcome(s).

Assessment of the risk of bias

Randomised controlled trials

The risk of bias of included randomised controlled trials was assessed independently by author pairs (PG, TA, MB, HG, OB), using the Cochrane Risk of Bias Tool 1. (Risk of Bias Tool 1 was used in preference to the Risk of Bias Tool 2, as the former allows for the rating of biases from funding or conflict of interest under the “other bias” domain; Tool 2 does not include this domain). All disagreements about ratings were resolved by discussion or by referring to a third author.

The following domains were assessed:

1. Random sequence generation
2. Allocation concealment
3. Blinding of participants and personnel
4. Blinding of outcome assessment
5. Incomplete outcome data
6. Selective outcome reporting
7. Other bias (focusing on potential biases due to funding or conflict of interest).

Each potential source of bias was graded as low, high, or unclear, and each judgement supported by a quote from the relevant trial.

In a deviation from the protocol, for question A2 only, the Risk of Bias Tool used was Cochrane Risk of Bias Tool 2 due to first author preference.

Systematic reviews

The risk of bias of included systematic reviews was assessed independently by author pairs (PG, TA, MB, HG, OB) using the AMSTAR tool 1. Rating discrepancies were resolved by consensus or by referring to a third author. Where the AMSTAR rating is 7 or above, the systematic review was included, and considered for updating, if additional evidence is identified through the searches.

Data synthesis

The approach to the synthesis of the identified evidence depended on whether the topic was a new topic or one that was previously synthesised; whether a systematic review on that topic was or was not identified; and whether RCT evidence was – or was not – identified for that topic (see Figure 2).

The combination of these factors yield four possible data synthesis scenarios:

- No change to the existing summary (of previously identified systematic review or randomised controlled trial evidence) – red box in Figure 2
- A summary of a newly identified, existing systematic review – green box in Figure 2
- An update of an existing, good quality systematic review, with RCT evidence published subsequent to that review – blue box in Figure 2
- A new systematic review – pink box in Figure 2

As the approach to evidence synthesis will differ for each of the four options, they are described separately, below.

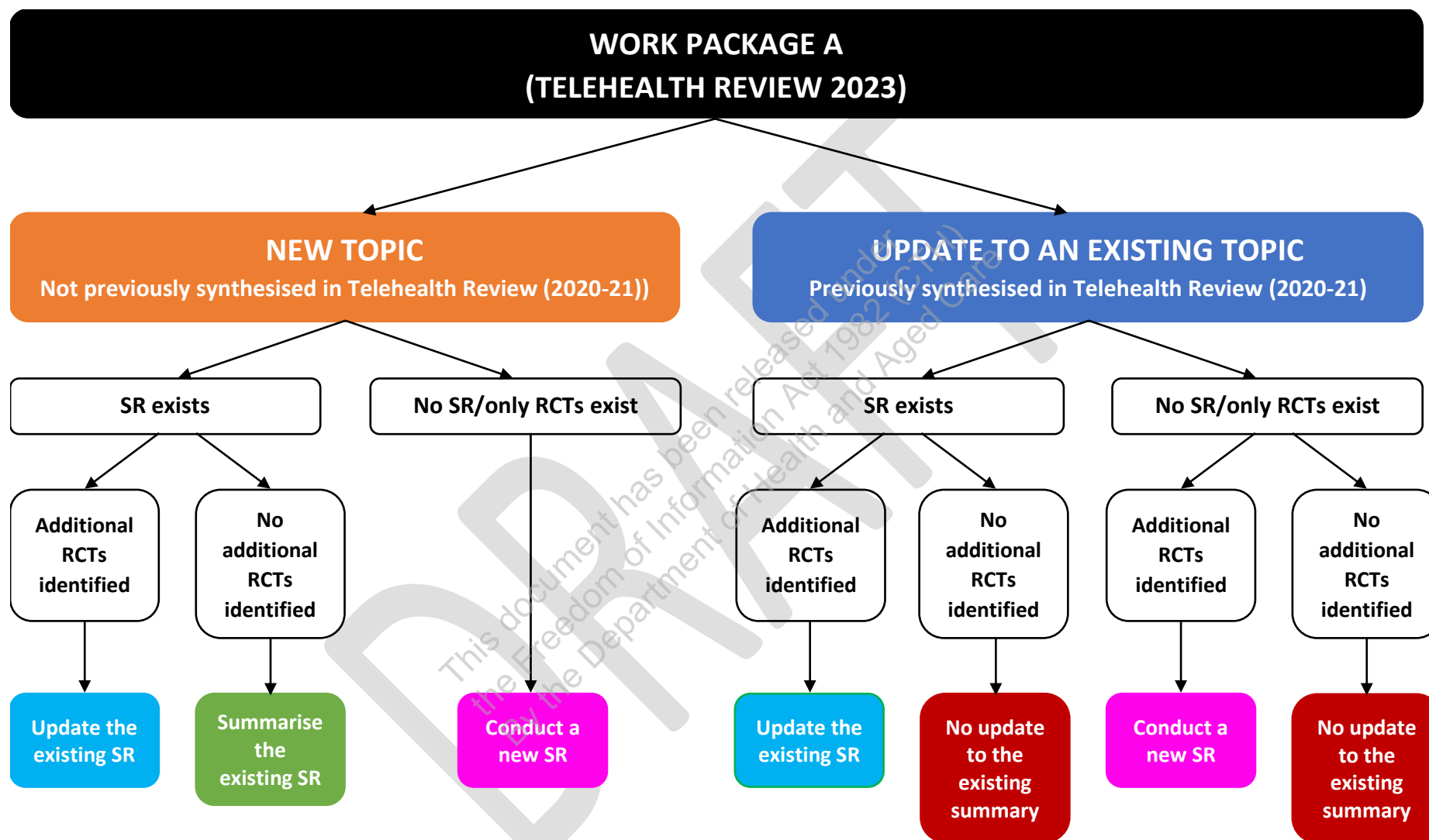


Figure 2: The possible approaches to synthesis and reporting of the evidence, depending on novelty of the topic and evidence types previously identified

Cases of: a previously summarised topic with no subsequent evidence identified

This approach applied to the following situations:

- The topic was previously summarised in the Telehealth Review 2020-21; a systematic review on that topic was identified or conducted, and no additional RCT evidence was identified on this topic in the searches conducted as part of the Telehealth Review 2023
- The topic was previously summarised in the Telehealth Review 2020-21; only RCT evidence existed at the time of the Telehealth Review 2020-21, and no additional RCT evidence was identified on this topic in the searches conducted as part of the Telehealth Review 2023

If no additional RCT evidence on a topic previously summarised in the Telehealth Review 2020-21 was identified whilst completing the searching and screening steps, the summary provided in the previous Telehealth Review, was be replicated in the Telehealth Review 2023. The content of the summary will be updated to indicate the currency of the search dates to 2023, and a statement will be provided clarifying that no additional evidence has been identified to change the previous conclusions.

Cases of: a new topic for which a good quality systematic review was identified, with no subsequent RCTs identified

This approach applied to the following situations:

- The topic is a new topic (i.e. one not previously summarised in the Telehealth Review 2020-21), for which a good quality systematic review was identified, but no further RCT evidence was identified (post-that review)

A one-page summary of that systematic review was produced, to summarise the evidence on the topic. The summary contains the following information:

- AMSTAR rating of the review
- Review question and scope: population and setting, intervention, comparison, and included study designs
- Review methods: sources searched, volume of evidence identified
- Main results of the review
- Conclusions
- Commentary on the review and its findings (e.g. in terms of applicability to the Australian setting)

Cases of: a good quality systematic review identified, with subsequent RCT evidence identified

This approach applied to the following situations:

- The topic is a new topic not summarised previously in the Telehealth Review 2020-21; a systematic review on the topic was identified, and additional RCT evidence was identified (subsequent to that review)
- The topic was previously summarised in the Telehealth Review 2020-21; a systematic review on that topic was identified or conducted as part of Telehealth Review 2020-21, and additional RCT evidence was identified on this topic in the searches conducted as part of the Telehealth Review 2023

A one-page summary of that systematic review was produced (if a new topic) or reproduced (if a previously summarised topic), to summarise the systematic review evidence on the topic. The summary will contain the following information:

- AMSTAR rating of the review
- Review question and scope: population and setting, intervention, comparison, and included study designs
- Review methods: sources searched, volume of evidence identified
- Main results of the review
- Update of the results of the review: where applicable and feasible, we will attempt to update the review's findings with the additional evidence, by updating the meta-analyses with the subsequently identified RCT evidence.
- Conclusions
- Commentary on the review and its findings (e.g. in terms of applicability to the Australian setting)

Cases of: conduct of a new systematic review

This approach applied to the following situations:

- The topic is a new topic not previously summarised in the Telehealth Review 2020-21, for which no existing systematic reviews are identified, but existing RCTs are identified
- The topic was previously summarised in the Telehealth 2020-21 review, although at the time only limited RCT evidence was identified, and additional RCTs were identified as part of the Telehealth Review 2023

Data synthesis

Review Manager 5.4 was used to calculate the treatment effect. For dichotomous outcomes, we used risk ratios (where the number of individuals with an event is reported) or rate ratios (where the number of events is reported). For continuous outcomes, we used mean difference (where outcome is reported using the same scale by multiple studies) or standardised mean difference (where outcome is reported using different scales by multiple studies). Meta-analyses were undertaken where ≥ 2 studies or comparisons report the same outcome, and random effects model was used. Where paucity of data or other factors preclude meta-analyses, data was synthesised narratively.

Unit of analysis

The individual was used as the unit of analysis, where possible. However, where data on the number of individuals with primary and secondary outcomes of interest was not available, we extracted and synthesised the information as it was presented in the original study (e.g., the number of repeat GP consultations in each trial arm, mean difference between groups, etc.).

Dealing with missing data

Due to very short timelines, we did not attempt to contact investigators or study sponsors to provide missing data.

Assessment of heterogeneity and reporting biases

We used the I^2 statistic to measure heterogeneity among the included trials. For meta-analyses involving more than 10 trials, we created a funnel plot.

Subgroup and sensitivity analyses

Where data was sufficient, we conducted subgroup analyses by time-points at which the outcome was reported (e.g., immediately post-intervention, at 3 months, 6 months, etc.), and by telehealth modality use (e.g. telephone, video).

Where a meta-analysis included a study with 3 or more domains rated at high risk of bias, sensitivity analyses were performed to assess the impact of including vs excluding of that study on the effect size estimate.

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Results

Results are reported separately, by question, in the following sequence:

Results for Question A1: Updated reviews and new evidence comparing telehealth (via telephone or video) to face-to-face delivery of care in primary and allied health.

- New topics, not previously synthesised in Telehealth Review 2021
- Updated topics, previously covered in Telehealth Review 2021, for which additional (new) evidence was found
- Topics unchanged from Telehealth Review 2021 (no additional evidence found)

Results for Question A2. Comparison of delivery of by one telehealth modality (e.g. videoconferencing) to another telehealth modality (e.g. teleconferencing), in primary and allied healthcare.

Results for Question A3. Comparison of telehealth (telephone or video) to face-to-face delivery of care in areas of special interest.

Question A1: Updated reviews and new evidence comparing telehealth (via telephone or video) to face-to-face delivery of care in primary and allied health - new topics, not previously synthesised in Telehealth Review 2021

Cardiovascular Disease Management

Telehealth-enhanced interventions (NB: also includes telemonitoring and mobile-based interventions outside the scope of the present review) for CVD management might be effective in improving physical and quality of life.

Evidence

Existing systematic review [Han 2021], [AMSTAR 7/11]

Review question and scope

Population and setting: Older adults with cardiovascular disease.

Intervention: Telehealth-enhanced management of CVD (NB: including remote consultation, as well as telemonitoring and mobile-based interventions)

Comparison: Usual care delivered through face-face consultations.

Outcomes: Blood pressure, body mass index, hospital admission rates, mortality, quality of life, and cost effectiveness.

Design: Randomised controlled trials.

Review methods

The Library of Congress, LISTA (EBSCO), PubMed (NLM), and Web of Science databases were searched with a date limitation from 1 January 2000 until 5 August 2021 for RCTs. Overall, 21 RCTs evaluating 7602 adults with CVD were included in meta-analyses. Risk of bias was assessed using the Cochrane risk of bias tool.

Main results

Studies evaluated a mix of interventions, including: telerehabilitation, telephone monitoring, telephone counselling, text messaging, web communication, and others, for CVD management. [N.B. some of these are outside the scope of the present review.] Overall, telehealth-enhanced management of CVD was associated a reduction in systolic blood pressure of 2.4 mmHg: 95% CI (-4.0 to -0.9). Telehealth-enhanced interventions were associated with improved quality of life scores (0.01; 95% CI 0.01 to 0.02; 4 RCTs) and mental health scores (-3.1; 95% CI -4.9 to -1.3; 3 RCTs). However, there was no statistically significant difference in BMI between telehealth enhanced interventions and usual care¹. (Table 2)

Three RCTs (involving 1407 adults) evaluated web-based consultations (or telehealth with or without providing blood pressure devices) versus usual care (i.e., face-to-face consultations) on blood pressure levels²³⁴. There were no statistically significant reductions in blood pressure levels in this subgroup of RCTs. Further, two studies evaluated the cost effectiveness analysis of telehealth enhanced interventions. A cost effectiveness analysis of cardiac telerehabilitation versus face-to-face cardiac rehabilitation found that telerehabilitation was significantly more cost-effective than usual care (ICER of €-21707 per QALY)⁵. In a large cluster RCT, Henderson et al concluded that telehealth services (including telemonitoring activities) for managing adults with chronic conditions including heart failure was not cost effective compared to usual care⁶.

Table 2: Summary of Findings of Han 2021 review of telehealth-enhanced interventions for CVD

Outcomes	Studies (N)	Difference [Time] (95%CI)	Comments
Systolic Blood Pressure (mmHg)	21	-2.4 (-4.0 to -0.9)	A subgroup analysis based on follow-up duration (3 months, 6-8 months, 12 months) showed similar results (I^2 90%).
BMI (kg/m ²)	6	-0.3 (-0.8 to 0.2)	(I^2 53%).
Mental health (CSE-D-10, points)	3	-3.1 (-4.9 to -1.3)	(I^2 90%).
Quality of life (EQ-5D, points)	5	0.05 (-0.06 to 0.17)	A sensitivity analysis excluding an extreme outlier found a statistically significant improvement in quality-of-life scores.
Cost effectiveness (ICER per QALY)	2	£92000 €-21707	Inconclusive results which might be attributed to the differences in the intervention and population evaluated.

ICER Incremental Cost Effectiveness Ratio

Conclusion

For older adults with cardiovascular disease, telehealth-enhanced interventions (including telemonitoring and mobile-based interventions) appeared better than usual care in improving patient outcomes including blood pressure, metabolic, and quality of life outcomes. The cost effectiveness of telehealth-enhanced intervention for CVD management is inconclusive. There are major limitations that should be taken into consideration in interpreting the results of this review. First, the high heterogeneity among included studies, in term of population (e.g., primary prevention versus adults with heart disease), interventions (e.g., high-tech devices for telemonitoring and alert system versus simple text-based reminders), outcomes measures (e.g., assumptions used for cost effectiveness analysis), and follow-up duration.

Commentary

The effect of replacing face-to-face with telehealth is not extensively evaluated. Evidence from a few RCTs found that there was no statistically significant differences in blood pressure control. Overall, telehealth-enhanced interventions (including telemonitoring and mobile-based) for CVD management might be effective in improving physical and quality of life. A systematic review and meta-analysis of 72 studies (both interventional and observational studies) including 127869 participants found similar results⁷. For example, combined remote monitoring and consultation found to be associated with 17% and 29% reductions in the risk of mortality and hospitalisation related to CVD among patients with heart failure. However, there is no high-quality direct evidence on the effect of telehealth consultation for the management of CVD in primary care. Therefore, caution should be exercised when generalising these results to Australian primary care contexts.

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Weight management

Telephone and face-to-face consultations were equally effective for both short and long-term outcomes for weight management.

Evidence

Existing systematic review [Huang 2019], [AMSTAR 9/11]

Review question and scope

Population and setting: overweight or obese adults, diabetes and hypertension patients

Intervention: telehealth interventions (videoconferencing or teleconferencing; N.B. Internet-based system, mobile telephone, text messaging were also included)

Comparisons: face-to-face equivalent

Outcomes: change in body mass index (BMI)

Designs: randomised controlled trials

Review methods

Medline, Cochrane Library, EMBASE, and CINAHL Plus were searched from inception until **31 Aug 2014** for randomised controlled trials that compared telehealth interventions with usual care or standard treatment in adults and reported a change in BMI. **Twenty-five randomised controlled trials** comprising 6253 people were included in the qualitative and quantitative analyses. Cochrane Risk of bias tool was used to assess the quality of the studies.

Main results

The included studies used variety of telehealth interventions for weight loss, for increasing physical activity, for diabetes and hypertension control. Meta-analysis of the 25 studies had an acceptable level of heterogeneity ($Q=31.38$, $df=24$, $I^2=23.52\%$, $p=0.14$). Random effects model of analysis showed the telehealth group reduced their BMI by 0.5 compared to the control group (pooled difference in means = -0.49 , 95% CI = -0.63 to -0.34 , $p<0.001$).

However, **only one study directly compared an intervention via telephone delivery to face-to-face delivery** (2). Perri et al conducted a 6-month weight-loss program based on problem-solving counselling delivered in 26 biweekly sessions in a three-arm RCT in rural setting: **telephone counselling** ($n=72$), **face-to-face counselling** ($n=83$), and **education control group** ($n=79$). At the end of the 6-month intervention, all three groups lost significant amount of weight (mean 10.0 ± 0.4 kg), however, at the end of the 12-month follow up since intervention conclusion, participants who received either telephone or face-to-face counselling regained less weight (1.3 ± 0.6 and 1.2 ± 0.7 kg) compared with those in the education control condition (3.7 ± 0.6 kg; $P_s=0.02$ and 0.03 , respectively).

Conclusion

Through the systematic review, we identified only one RCT that directly compared telephone delivery to face-to-face delivery of the same intervention for weight-loss. The results show telephone and face-to-face consultations were equally effective for both short and long-term outcomes.

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Physiotherapy

In variety of physical therapy areas, mixed quality evidence shows that telerehabilitation appears to be comparable or better than the conventional methods of rehabilitation.

Evidence

Existing systematic review [Seron 2021], [AMSTAR 7/11]

Review question and scope

Population and setting: patients of any age with any conditions who need physical therapy

Intervention: telerehabilitation in physical therapy

Comparisons: face-to-face care

Outcomes: Primary: clinical effectiveness, functionality, and quality of life. Secondary: adherence, satisfaction, and safety outcomes.

Designs: systematic reviews

Review methods

Medline/PubMed, EMBASE, and Cochrane Library were searched from inception up to **4 May 2020**. for systematic reviews of telerehabilitation by physical therapy. **Fifty-three systematic reviews were included in qualitative analyses.** Cochrane Risk of bias tool was used to assess the quality of the studies.

Main results

Of the 53 reviews, 15 were on cardiorespiratory rehabilitation, 14 on musculoskeletal conditions, and 13 on neurorehabilitation. The other 11 reviews addressed other types of conditions and rehabilitation. Twenty-seven of the reviews include meta-analysis. Of the 30 systematic reviews with low risk of bias, **17 reported no differences between the groups while 13 reviews evaluated showed results in favour of telerehabilitation versus face-to-face rehabilitation or no rehabilitation.** Thirty-five systematic reviews with unclear or high risk of bias showed mixed results.

Interpreting these reviews is complicated by a lack of clarity about the control and “usual care” groups. However, overall, the reviews suggest that:

- for musculoskeletal conditions telerehabilitation appears comparable or better than the conventional rehabilitation **to reduce pain and improve physical function.**
- **in patients with COPD pulmonary telerehabilitation** appears to have results **similar to conventional rehabilitation in reducing dyspnoea (see COPD Summary).**
- **in patients with osteoarthritis in the knee and non-specific low-back pain,** telerehabilitation **could improve functionality** in addition to **improving quality of life in patients with nonspecific low-back pain, osteoarthritis in the knee, and total arthroplasty in the knee and hip.**
- **in patients with multiple sclerosis** telerehabilitation seems to **contribute to balance and to increasing the levels of physical activity,** but its contribution in terms of balance, functionality, and quality of life **in patients with stroke is unclear.**
- **cardiac telerehabilitation is possibly better than face-to-face cardiac rehabilitation at reducing mortality by any cause** and seems to contribute to a better ability to exercise and health related quality of life (see CVD Summary).
- telerehabilitation **could be effective at reducing overweight and obesity** as well as **improving the physical capacity and quality of life in cancer survivors.**

Conclusion

In variety of physical therapy areas, mixed quality evidence shows that telerehabilitation appears to be comparable or better than the conventional methods of rehabilitation.

Commentary

Without in-depth analysis of the included systematic reviews, we could not determine how many of the original RCTs compared telehealth intervention with similar face-to-face intervention. There are total of 755 primary studies included in these 55 systematic reviews. If further evidence on this topic were considered important, we recommend screening the full list of primary studies or alternatively, conduct a full systematic search to answer the question on effectiveness of telehealth physiotherapy compared to face-to-face physiotherapy.

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Traumatic brain injury

Telehealth is acceptable and feasible and can be as effective as face-to-face delivery of care to traumatic brain injury patients.

Evidence

Existing Systematic review [Suarilah 2022], [AMSTAR 8/11]

Review question and scope

Population and setting: traumatic brain injury (TBI) survivors

Intervention: telehealth interventions (e.g. telephone calls, computer-assisted online, videoconference, text messages)

Comparisons: equivalent face-to-face care

Outcomes: neurobehavioral symptom, depression, symptom management self-efficacy

Designs: randomised controlled trials

Review methods

Cochrane, Academic Search Complete, Cumulative Index to Nursing and Allied Health Literature (CINAHL), EMBASE, MEDLINE, PubMed, and Web of Science were searched from inception until January 2022 for randomised controlled trials. **Seventeen randomised controlled trials** comprising 3158 people **were included in the qualitative and quantitative analyses**. Cochrane Risk of bias tool was used to assess the quality of the studies.

Main results

Among the 17 included studies, 14 studies were RCTs, and 3 studies were quasi-experimental. However, only two of the 17 studies compared telehealth delivery of interventions to equivalent face-to-face care:

- Fann *et al* (RCT) tested effectiveness of telephone delivered cognitive behavioural therapy (CBT-T, n=40) compared to face-to-face CBT (CBT-IP, n=18) and usual care (UC = no CBT, n=42) for people with major depressive disorder (MDD) within 10 years following TBI diagnosis (2). The main outcomes were change in depression severity on the clinician-rated 17 item Hamilton Depression Rating Scale (HAMD-17) and the patient-reported Symptom Checklist-20 (SCL-20) over 16 weeks. Unfortunately, they do not report the main outcomes as a direct comparison of CBT-T and CBT-IP groups, but instead compared combined CBT participants to UC group, or CBT groups to UC separately. There were no statistically significant differences on HAMD-17 score between any groups, but a significant difference on SCL-20 between all CBT vs UC. Overall, CBT-T was acceptable and feasible, >80% of the patients were moderately or very satisfied with it.
- Man *et al* (quasi-experimental) tested problem-solving skill training on people with acquired brain injury in four intervention groups: online training (n=25), computer-assisted training (n=28), face-to-face (n=30), and control group (no training, n=20) (3). At 4 months follow up, all training groups improved problem-solving skills, and therapist-administered group showed significantly better improvements in self-efficacy in problem-solving.

Conclusion

This review included two studies that compared telehealth delivered interventions to equivalent face-to-face care. Telehealth delivery is acceptable and feasible and can be as effective as face-to-face delivery.

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Question A1: Updated reviews and new evidence comparing telehealth (via telephone or video) to face-to-face delivery of care in primary and allied health - updated topics, previously covered in Telehealth Review 2021 (new evidence found)

Diagnostic Accuracy and Assessments – UPDATE of topic 4.2 from Telehealth Review 2020-21

Diagnostic accuracy requiring history only is similar for telehealth, but has limitations when physical examination is necessary.

Evidence

New Narrative Review of 21 relevant studies and reviews

Review methods

For studies of diagnostic accuracy of telehealth in primary care, we found few includable studies. Of 495 screened in the initial report, 18 studies were relevant: 1 systematic review and 17 other primary studies (including Summary 4.1). We supplemented the main search with a search specifically for studies which compared diagnostic accuracy between remote- and face-to-face consultation in primary care, and found 8 additional includable studies. The systematic review focused only on videoconferencing, and for the 17 other primary studies, 14 examined videoconferencing, 2 used teleconferencing, and 1 was unclear.

For this update, we identified 3 additional studies – two trials (sleep disordered breathing and sit-to-stand test), and a systematic review on visual acuity assessment.

Most of these studies only consider interrater reliability between two examiners in artificial study set ups designed to evaluate diagnostic assessments for specific clinical problems, and several required equipment being available at the patient end.

Main results

We have grouped the studies into:

- A. Diagnosis via history of verbal assessment tool only – with no physical examination
- B. Planned physical examination or assessment – without additional history
- C. Consultation without pre-planned assessment or examination – that is, consultation for new presentations.

A. Diagnosis via history or verbal assessment tool

A systematic review [Brearly 2017] included 12 studies which investigated the reliability, using a telephone interview procedure, of cognitive, functional, and behavioural scales in an elderly population with normal aging and dementia. These 12 studies of adult **neurocognitive tests** found that videoconferencing results were generally similar to face-to-face testing, but most studies involved small numbers of patients.

A study [Evan 2004] in two UK general practices a single interviewer assessed 98 consecutive attenders twice within 48 h by, with the order of face-to-face and teleconferencing being alternated. The patients underwent a 12-item **General Health Questionnaire and the Revised Clinical Interview Schedule (CIS-R)**. There was no evidence that the mode of administration led to a bias in scores on the CIS-R, whereas for the GHQ, those over 60 tended to score higher on the teleconferencing. Face-to-face and teleconferencing scores and case definition showed good agreement between for both GHQ and CIS-R. Notably participants had a strong preference for face-to-face interviews.

Several studies compared assessment via **depression rating scales** done face-to-face versus by teleconferencing. These generally found good agreement. For example, a study [Burke 1995] of 101

geriatric patients attending an outpatient assessed the Geriatric Depression Rating Scale administered by teleconferencing several days before, then several days after, a face-to-face assessment. Good agreement between the 2 teleconferencing assessments and the face-to-face assessment was found for most items. Smaller studies assessing the Hamilton Depression Rating Scale (HAMD) found similar results: one of 21 patients with an affective disorder [Kobak 2004], and another of 64 patients with a DSM-IV mood disorder [Kobak 2008].

A study [Reese 2013] of diagnosis in 10 children (3–5 years old) with **developmental delays** and 11 age-matched children with a diagnosis of **autism**: 5 clinicians, who were blinded to which diagnosis the children had received, assessed the children. No significant difference was found in reliability of diagnostic accuracy, Autism.

Diagnostic Observation Schedule (ADOS) observations, ratings for Autism Diagnostic Interview parent report of symptoms, and parent satisfaction between conditions.

A & B. Mixed history and physical examination

A telehealth trial in Rochester (Yurcheshen) studied the accuracy of identification of **risk for sleep disordered breathing** using a telehealth platform compared to providers using face-to-face encounters. In this study 90 participants referred to a comprehensive university sleep program were evaluated by a face-to-face clinician, then randomized to a second clinician who performed an evaluation online. Both evaluations included a history and physical exam. The outcomes included: pretest probability for obstructive sleep apnoea, level of daytime sleepiness, snoring volume, apnoeas witnessed by a third party, modified Mallampati score, presence/absence of tonsils, degree of overjet bite, and severity of apnoea based on home sleep testing. Agreement (as measured by Kappa values) were generally higher for historical elements and lower for physical exam findings. These kappas ranged from 0.70 (apnoeas witnessed by a third party) indicating high agreement to - 0.044 (degree of maxillary overjet) indicating agreement less than chance. The authors concluded that: "A relatively high degree of interrater reliability for historical elements suggests that the accuracy of telehealth for OSA is tempered by a suboptimal physical exam."

B. Physical examination or assessment

A study of 50 (Atkan 2022) patients with type 2 diabetes investigated the agreement between tele-assessment and face-to-face assessments of a **30-s Sit-to-Stand (STS) test**. This tests asks patients to rise up straight from a standard chair (with 45–47 cm seat height) and sit down again as many times as they can in 30 seconds. Each test was performed two times separated by 1 h: a face-to-face and an Internet-connected video call examination (tele-assessment). Two physiotherapists conduct these evaluations; each was blinded to the other, with the order of the evaluations randomized. Agreement was good between tele-assessment and face-to-face assessment. The 30-s sit-to-stand test score was 12.4 ± 1.8 for face-to-face and 12.2 ± 1.6 for tele-assessment: mean differences = 0.20 ± 0.88 , (limits of agreement = $+1.93$ to -1.53). Excellent interrater reliability was found for scores of the 30-s STS test [ICC = 0.93 (95% CI: 0.88; 0.96)].

A systematic literature of **visual acuity (VA) testing** for the assessment of ocular function [Samanta 2023] was performed in April 2020 using PubMed, Embase and Medline. The 14 studies included patients aged 3-97, with and without correction, with known ocular pathology.

The best reproducibility and correlation with in-clinic acuities were with the Peek Acuity application which measured distance vision on a Samsung Galaxy S3. The mean difference for home testing compared with clinic was 0.055 Logarithm of the Minimum Angle of Resolution (LogMAR), and test-retest variability was ± 0.029 LogMAR for 95% confidence interval limits. The authors concluded that Peek Acuity performed no worse than Snellen and ETDRS charts.

A US prospective study of the **Ottawa Ankle Rule** (which predicts the likelihood of ankle fracture) in an Emergency Department compared the results in 97 patients assessed both face-to-face and via videoconferencing. The agreement was often poor: kappa 0.61 for tenderness of the lateral malleolus, 0.41 for tenderness of the medial malleolus, and 0.53 for weight bearing. However, this made only a modest difference to the Xray ordering rates, and the false negative rate was 24% in the videoconferencing group and 15% in the face-to-face group. (Sikka, SAEM19).

Three studies assessed **low back pain**. A study of 47 patients [Peterson 2014] with LBP of less than 90 days' duration underwent both telerehabilitation and face-to-face assessments, and classified into 3 intervention groups: mobilization/manipulation, specific exercise, and stabilization, with an overall agreement of 68%. A study of 15 patients with low back pain [Palacín-Marín 2013], compared back examination by face-to-face and videoconferencing, found that videoconferencing was equivalent for 7 of 9 measures, but modest for lateral flexion and the Sorensen test of trunk extensor muscles. However, this required specialized software and internet connection for parts of the testing. A study of 25 patients [Truter 2014] compared face-to-face assessment with videoconferencing conducted with the participant standing on a reference line on the floor of the clinic with a camera which recorded movements and clinical measurements such as SLR leg angle were extracted from the recorded video once the participant had left, by the TR PT using the inbuilt software tools in the eHAB units. This found agreements between 25% (for lumbar lordosis) to 75% (for pelvic tilt).

A study of 17 patients with **heart failure** [Hwang 2017], compared 3 functional tests (timed up and go (time), six-minute walk (distance), grip strength (kilograms) by face-to-face and videoconferencing, found good agreement between the measures, but required a laptop computer for the patient assessment, plus an automatic sphygmomanometer and a finger pulse oximeter.

A study of 12 patients [Hoffmann 2008] with **Parkinson's disease**, where measurement of hand function and Activities of Daily Living (ADL; measured by the Functional Independence Measure [FIM] and 14 items of the Unified Parkinson's Disease Rating Scale [UPDRS]) were conducted using two methods: half by face-to-face while another assessor simultaneously scored the same assessments via a telerehabilitation system; half via telerehabilitation system while a face-to-face assessor simultaneously scored the assessments. They found high agreement between the two methods for hand function, and most measures of ADL, except for four of the UPDRS items (handwriting, speech volume, speech slurring/expression, bradykinesia).

A study of 10 patients [Hoffmann 2007] who had a **stroke**, where measurement of upper limb joint range of motion was by face-to-face (using a universal goniometer) and videoconferencing (using an internet-based goniometer). Measurements were similar between the two methods. The mean absolute difference between universal goniometer and Internet-based goniometer measurements was small for all movements, ranging from 1.1–2.4. For all movements, except wrist extension in the unaffected arm, the limits of agreement between the two methods of measurement ranged from – 5.9 to 5.9, which was within the pre-determined clinically acceptable limit of 6.

A study of 12 patients [Russell 2013] with **Parkinson's disease** where physical assessments (timed stance test, Timed "Up and Go" test, step test, steps in 360 degree turn, Berg Balance Scale, and lateral and functional reach tests) were conducted using two methods. Participants were simultaneously examined by a face-to-face therapist and a remote therapist via a telerehabilitation system. The authors found that the mean difference between all the assessments conducted by two methods was within clinically acceptable limits. Caveats of the study include small sample size.

A study [Tan 2019] of 28 patients with **facial nerve paralysis** (FNP) asked 7 clinicians to assess in a face-to-face clinic using standardized grading systems then (3 months later) repeat the assessment in videoconferencing recordings of the same patients. Though reliability was good for several components, it was poor to fair for resting symmetry, and concluded that “Video assessment ... was as reliable as face-to-face but with insufficient agreement, especially in the assessment of synkinesis.”

A study of 11 patients [Hill 2009] with an acquired **apraxia of speech** were assessed simultaneously via telerehabilitation and face-to-face methods on the Apraxia Battery for Adults. The Kappa statistics indicated moderate to very good agreement (0.59–1.00) between the two methods.

C. Consultation without preplanned examination

The McConnachie study [Summary 4.1] appears to be the largest and most relevant study of diagnostic accuracy in primary care as it involved a **consecutive presentation of real patient encounters** to a general clinic. The only other study of primary care diagnoses across a range presenting problems was from a primary care outpatient clinic in Japan [Ohta, 2017]. This study compared diagnosis of 2 general medicine diagnoses by teleconferencing (TD) and face-to-face (FD) with final diagnosis in 97 patients (mean age of 52 years). Levels of agreement (as kappa coefficients) were 0.75 for TD and FD and 0.81 for both, the final diagnoses and the TD and FD diagnoses, revealing a good level of diagnostic agreement. Diagnostic error occurred with both modes: the correct diagnosis rate for TD was 80.4% (78/97 cases) and for FD was 82.5% (80/97 cases) – slightly but not statistically significantly lower for TD. Errors for TD where FD was correct included cases where physical examination would likely help such as gall stones and kidney stones.

Conclusion

Diagnostic assessments via telehealth has limited research, particularly for real patient consultations. Most of the studies have looked at specific pre-planned assessments.

A. Diagnosis via history of verbal assessment tool only – with no physical examination. For assessments limited to question-and-answer, such as cognitive assessments, telehealth appears equivalent to face-to-face.

B. Planned physical examination or assessment – without additional history. When physical examination is required, the few studied done suggest lower agreement and accuracy. For example, assessment for ankle fracture, low back pain, facial nerve palsy, and many elements of sleep apnoea was poor, while assessments such as sit-to-stand, and Parkinson’s functioning were acceptable. Some research using specialized equipment – such as pulse oximeters, sphygmomanometers, and visual acuity charts - and suggests this inaccuracy may be overcome, but this would rarely be available in most patient settings for GPs, although some patients may have this equipment at home.

C. Consultation without pre-planned assessment or examination – that is, consultation for new presentations. Only 1 adequate study looked at diagnosis of new presentations, and found modest disagreement between telehealth and face-to-face assessment but with errors in both modes. However, when hands-on physical examination is an essential component of the diagnosis then telehealth is likely to be problematic.

Commentary

While history taking and verbal assessments can be done acceptably by telehealth, only some elements of physical examination are sufficiently reliable and valid. Specific planning of physical assessments is often required, but this also suggests further research may overcome some of these limitations.

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Antibiotic use in Primary Care – UPDATE of topic 4.4 from Telehealth Review 2020-21

Antibiotic prescribing may be higher in telehealth (phone, video or mixed) consultations than in face-to-face consultations.

Evidence

Existing systematic review [Bakhit, 2021], [AMSTAR 10/11] + 1 new study [Ray 2021]

Review question and scope

Population and setting: adult or paediatric primary care patients

Intervention: Telehealth (teleconferencing or videoconferencing)

Comparison: face-to-face consultation or usual care

Designs: RCTs, non-randomised controlled trials, controlled before/after, interrupted time series

Review methods

A database search of PubMed, Embase, and Cochrane, supplemented by backwards (cited) and forwards (citing) citation analysis, clinical registry search, and the preprint search via Europe PMC, from inception to 23 February 2021 found 13 eligible studies: 1 randomised trial and 12 cohort studies. For the only RCT identified (using the Cochrane Risk of Bias tool), the overall risk of bias was generally unclear. Blinding of the patients and healthcare providers was not possible. For the remaining 12 studies, Risk of Bias (using the ROBINS-I tool) was mostly of moderate or serious risk of bias- issues with study designs, no appropriate analysis methods were used or adjusting for important baseline confounding factors such as age, the severity of infection, and reported comorbidities.

Main results

13 studies included by Bakhit et al. 2021 are presented here (see Table 3). Of the 13 studies, 3 studies compared telephone consultations, 2 studies compared video consultations, and 7 compared mixed types of consultations, to face-to-face consultations. The review identified 1 RCT that assessed the impact of telehealth compared with face-to-face consultations on antibiotic prescribing, which found a non-significant 25% relative increase in antibiotics. The remaining 12 studies were observational and did not control well for confounding and therefore at high risk of bias. The analysis presented Table 2 below (by condition) did not show a consistent pattern for antibiotic prescribing. Generally, there are fewer diagnostic tests performed with TH consultations compared with face-to-face. Uscher-Pines (US, 2016) reported that the percentage of adults who were diagnosed with pharyngitis and received an appropriate group A Streptococcus (strep) test to confirm the diagnosis were higher in the face-to-face group [face-to-face group (n = 2297, 49.5%) vs telehealth group (n = 4, 3.4%)].

Table 3: Antibiotics prescribed for acute infections

Conditions	Studies (N)	Odds Ratio TH/F2F* (95%CI)	Comments
Randomised controlled trial			
Any infection	1	1.25 (0.73, 2.2)	More AB prescribing in TH consultations, but not significant
Before-after studies			
Acute sinusitis	1	0.78 (0.69, 0.89)	Significantly less AB prescribing in TH consultations
Cross-sectional studies			
Acute sinusitis	6	0.83 (0.68, 1.0)	Higher, but not significant, AB prescribing in F2F consultations
Pharyngitis	4	0.39 (0.95, 2.05)	Higher, but not significant, AB prescribing in TH consultations
Bronchitis	3	0.98 (0.6, 1.6)	No significant difference in AB prescribing
AOM	2	1.3 (1.11, 1.46)	Significantly more AB prescribing in TH consultations
Conjunctivitis	2	1.8 (0.7, 4.5)	Higher, but not significant, AB prescribing in TH consultations
UTI	2	1.4 (0.7, 2.9)	Higher, but not significant, AB prescribing in TH consultations

TH: telehealth; F2F: face-to-face; AB: Antibiotics; UTI: Urinary tract infections; AOM: Acute otitis media

* Odds Ratio < 1.0 means less antibiotics with telehealth; > 1.0 means more antibiotics with telehealth

We also found one new study (Ray 2021) which examined antibiotic prescribing for acute respiratory tract infections during COVID (and hence cannot be added to the pooled analysis). Calculated estimates from the study data shows a higher proportion of antibiotic prescribing occurred in the f2f group (n= 1318/2428) compared to telehealth (n=693/1782) (54% vs 39%), with guideline-concordant antibiotic management occurring in 93% of telehealth group compared to 91% of the f2f group, but this is difficult to interpret with the different case mix in the pandemic.

Conclusion

The impact of telehealth on prescribing appears to vary between conditions, with more increases than reductions.

Commentary

A high risk of bias exists due to the non-controlled study design of most included studies. Further research, particularly in Australia, is urgent.

References

1. Bakhit M, Baillie E, Krzyzaniak N, van Driel M, Clark J, Glasziou P, Del Mar C. Antibiotic prescribing for acute infections in synchronous telehealth consultations: a systematic review and meta-analysis. *BJGP Open*. 2021 Dec 14;5(6):BJGPO.2021.0106. doi: 10.3399/BJGPO.2021.0106.
2. Ray KN, Martin JM, Wolfson D, Schweiberger K, Schoemer P, Cepullio C, Iagnemma J, Hoberman A. Antibiotic Prescribing for Acute Respiratory Tract Infections During Telemedicine Visits Within a Pediatric Primary Care Network. *Acad Pediatr*. 2021 Sep-Oct;21(7):1239-1243. doi: 10.1016/j.acap.2021.03.008.

COPD: Exercise Therapy/Pulmonary rehabilitation – UPDATE of topic 4.10 from Telehealth Review 2020-21

Videoconferencing is similarly effective to face-to-face consultations for exercise therapy and pulmonary rehabilitation.

Evidence

Existing systematic review [Bonnevie 2021], [AMSTAR 8/11]

Review question and scope

Population and setting: People with stable COPD referred for exercise therapy

Intervention: home-based exercise therapy delivered using advanced telehealth technology (ATT)

Comparisons: no exercise therapy, inpatient or outpatient exercise therapy, and home-based exercise therapy without ATT

Outcomes: Exercise capacity, quality of life, functional dyspnoea, cost-effectiveness and various secondary outcomes.

Study designs included in the review: randomised controlled trials

Review methods

MEDLINE, CENTRAL, Science Direct, Scopus, PEDro, Greylist and OpenGrey were searched from inception to May 2020 for randomised parallel or cross-over trials. Fifteen eligible trials involving 1,522 participants were included and assessed using the Cochrane Risk of bias tool.

Main results

The review identified one study [Hansen 2020] that directly compared videoconferencing-based to face-to-face exercise therapy (see Table 4), rated as high risk of bias. This trial compared home-based exercise therapy supervised by a health professional via videoconferencing (60 minutes, 3 times per week including 20 minutes of education) with face-to-face health professional supervised exercise therapy sessions (60 minutes, 2 times per week + 1x60-90 minute education session) in 134 people with severe COPD. There was no difference between the study groups for the primary outcome, change in the 6-Minute Walking Distance from baseline to 10 weeks; nor differences between study groups on secondary outcomes at 22 weeks follow-up. (Table 4)

In the seven other studies, exercise therapy via telehealth was compared with no exercise therapy, and found improved quality of life, reduced shortness of breath, and better 6 minute walk tests. Studies of unsupervised exercise therapy with telehealth feedback compared to supervised telehealth exercise therapy found no important differences.

Table 4: Summary of findings of Hansen 2020 trial of exercise therapy for COPD via videoconferencing vs face-to-face

Outcomes	Patients	Increase by 22 weeks		Difference (95% CI)	Comments
		Face-to-face rehabilitation	Tele-rehabilitation		
Hospital admissions for COPD exacerbation	67/67	36	38	P=0.97; NS	No difference
6 Minute Walking Distance	67/67	11 metres	22 metres	11 (-12 to 34) NS	From a baseline average of 327m
30 sec-Sit To Stand, reps	67/67	1.5 repeats	1.1 repeats	-0.4 (-1.4 to 0.7) NS	From a baseline average of 9.8
Quality of Life (EQ-5D, VAS, points)	67/67	4.2	3.5	-0.8 (-7.5 to 5.8) NS	From a baseline average of 53
Adherence Measures					
Completed	67/67	43/67	57/67	P < 0.01	
Average Sessions attended	67/67	16 (of 20)	25 (of 30)		Total time similar as F2F sessions were longer

Conclusion

For patients diagnosed with severe COPD in the community, exercise therapy and/or pulmonary rehabilitation delivered by videoconferencing appears better than no exercise therapy. Home-based exercise therapy supervised by a health professional via videoconferencing was no better than face-to-face health professional supervised exercise therapy sessions, (1 randomised controlled trial) for people with severe COPD, showing no difference between study groups in walking capacity (as measured by a change in 6- minute walking distance at 10 weeks or at 22 weeks follow-up), quality of life and physical activity level at 22 weeks. While the effect is similar, telehealth would likely extend access for many community patients – e.g. those who are very sick – and therefore potentially reduce societal burden from disease and treatment.

Commentary

Exercise therapy / pulmonary rehabilitation is a highly effective treatment for COPD, improving function, quality of life, and reducing hospital readmission [Puhan 2016]. However, low uptake, insufficient attendance and high drop-out rates are characteristic of conventional Pulmonary Rehabilitation programs. The one trial comparing home-based exercise therapy provided by videoconferencing with face-to-face exercise therapy found no differences in health outcomes but higher attendance in the telerehabilitation group. Alternative models of delivery, such as telehealth, could improve access to, and therefore the population impact of, exercise therapy and pulmonary rehabilitation.

References

1. Bonnevie T, Smondack P, Elkins M, Gouel B, Medrinal C, Combret Y, Muir J-F, Cuvelier A, Prieur G, Gravier F-E (2021) Advanced telehealth technology improves home-based exercise therapy for people with stable chronic obstructive pulmonary disease: a systematic review. *Journal of Physiotherapy* 67:27–40
2. Hansen H, Bieler T, Beyer N, Kallemose T, Wilcke JT, Østergaard LM, Frost Andeassen H, Martinez G, Lavesen M, Frølich A, Godtfredsen NS. Supervised pulmonary tele-rehabilitation

- versus pulmonary rehabilitation in severe COPD: a randomised multicentre trial. *Thorax*. 2020 May;75(5):413-421. doi: 10.1136/thoraxjnl-2019-214246. Epub 2020 Mar 30. PMID: 32229541; PMCID: PMC7231436.
3. Puhan MA, Gimeno-Santos E, Cates CJ, Troosters T. Pulmonary rehabilitation following exacerbations of chronic obstructive pulmonary disease. *Cochrane Database Syst Rev*. 2016 Dec 8;12(12):CD005305. doi: 10.1002/14651858.CD005305.pub4. PMID: 27930803; PMCID: PMC6463852.

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Musculoskeletal management – UPDATE of topic 4.11 from Telehealth Review 2020-21

Face-to-face rehabilitation is no different to telerehabilitation (by video or phone) for physical function and pain.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare; now published): Krzyzaniak 2023 [AMSTAR 10/11] + 1 new RCT [Dadarkhah 2021]

Review question and scope

Population and setting: Adults outpatients (> 18 years) with musculoskeletal conditions including post-operative rehabilitation.

Intervention: Exercise program or functional rehabilitation via telehealth

Comparison: Exercise program or functional rehabilitation via face-to-face **Designs:** Parallel randomised (RCTs)

Review methods

The initial systematic review searched Cochrane CENTRAL, Medline, and Embase, to November 2020, and grey literature identified 4 RCTs (from 8 studies) focusing on telerehabilitation for musculoskeletal conditions, and a forward and backward citation search identified 1 additional relevant study. The Risk of bias was generally low across studies, except for lack of blinding.

Main results

The initial systematic review which contained four randomized trials directly compared telerehabilitation via videoconferencing to an equivalent face-to-face intervention for physiotherapy management, while the one remaining study delivered telerehabilitation via teleconferencing. All studies focused on patient rehabilitation in preparation for or post knee arthroplasty as a result of significant osteoarthritis. One study also evaluated “pre” rehabilitation for patients undergoing a hip arthroplasty. All studies found no clinically or statistically significant differences between telerehabilitation and face-to-face delivery, with standardised mean differences ranging from -0.24 to +0.16, see Table 5. Costs were also reported in one study, which was reported in the full systematic review.

Table 5 Outcomes for telerehabilitation versus face-to-face following total knee arthroplasty

Outcomes	Studies (N)	Difference Post treatment (95%CI)	Comments
Pain (WOMAC sub-scale)	2 RCTs (221)	SMD* = 0.12 (-2.3, 2.6)	No statistically significant difference, favours face-to-face
Physical Function (WOMAC sub-scale)	2 RCTs (221)	SMD* = -0.24 (-3.6, 3.1)	No statistically significant difference, favours telehealth
QoL – Physical (SF-36, QoL Brief)	2 RCTs (73)	SMD* = -0.16 (-0.72, 0.40)	No statistically significant difference, favours telehealth
QoL - Mental (SF-36, QoL Brief)	2 RCTs (73)	SMD* = 0.14 (-0.32, 0.60)	No statistically significant difference, favours face-to-face

WOMAC = Western Ontario and McMaster Universities Arthritis Index scale; **SF-36** = Short Form 36 Health Survey; **QoL Brief** = World Health Organization Quality of Life brief questionnaire **SMD** = standardised mean difference (-ve value favours telehealth)

The new RCT by Dadarkhah, 2021, is a superiority randomized controlled trial in Iran that compared the telerehabilitation of 56 patients with chronic non-specific low back pain using remote exercise at home compared to face-to-face exercise rehabilitation. Those who were in the remote group carried out the exercise at home 2 times a day for 4 weeks with telephone calls, 3 days per week for 4 weeks. Those in the face-to-face exercise group received the same exercises at the clinic, 3 times per week for 4 weeks. The primary outcome was the intensity of the low back pain measured by VAS and the secondary outcome was a disability score using the Oswestry Disability Questionnaire score. The new randomized controlled trial (Dadarkhah, 2021) generally had an unclear risk of bias as it demonstrated an unclear risk of bias within 3 out of the 7 domains using Cochrane's ROB-1 tool. Except for one domain (lack of blinding) where it had a high risk of bias.

Table 6 Outcomes from Dadarkhah, 2021

Outcomes	N	**Difference (baseline to 3 month) Follow up (95%CI)	Comments
Pain score (VAS)	56	MD* = -0.1 (-0.53, 0.33)	No statistically significant difference, favours telehealth
Disability score (Oswestry)	56	MD* = 0.6 (-6.12, 7.32)	No statistically significant difference, favours face-to-face

*MD=Mean difference, **difference=telehealth-face-to-face (-ve value favours telehealth)

Table 5.2 above outlines the results of the new RCT. The new RCT by Dadarkhah, 2021, demonstrated no statistically significant differences (p-value=0.93) between remote and face-to-face (MD=-0.1, 95% CI; -0.53 to 0.33) changed pain scores and there are no statistically significant differences (p=0.74) between remote and face-to-face exercise (MD=0.6, 95% CI; -6.12 to 7.32) for the disability scores from between baseline and 3 months post-intervention.

Conclusion

The initial systematic review demonstrated that five small RCTs, the delivery of rehabilitation via a telehealth to mostly patients post knee surgery appears to be no different to conventional therapy delivered face-to-face for physical function and pain outcomes after total knee replacement. We have not found any evidence to support the use of telerehabilitation for other musculoskeletal conditions, but this should be the subject of future research.

Furthermore, the additional new RCT, Dadarkhah, 2021 found no difference between the efficacy of remote telerehabilitation versus face-to-face rehabilitation for the treatment of low back pain persisting 12 weeks or longer. Face -to- face rehabilitation was not found to be superior to remote telerehabilitation.

Commentary

The new randomized controlled trial [Dadarkhah 2021] gave additional evidence that chronic non-specific back pain is consistent with previous findings which is based on the delivery of rehabilitation to mostly patients with post knee surgery that also demonstrated there was no difference between telehealth and conventional therapy.

References

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- or Longer: A Randomized Clinical Trial. *Journal of the National Medical Association*. 2021;113(3):278-284. doi:10.1016/j.jnma.2020.11.0
2. Krzyzaniak N, Cardona M, Peiris R, Michaleff ZA, Greenwood H, Clark J, et al. Telerehabilitation versus face-to-face rehabilitation in the management of musculoskeletal conditions: a systematic review and meta-analysis. *Physical Therapy Reviews*. 2023:1-17.

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PTSD treatment – UPDATE of topic 4.13 from Telehealth Review 2020-21

Videoconferencing is similarly effective to face-to-face care for PTSD.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare; now published) Scott et al 2022 [AMSTAR 10/11] + 3 new RCTs [Acierno 2021], [Morland 2022], [Peterson 2022]

Review question and scope

Population and setting: People of any age, gender, with PTSD

Intervention: Video-consultation delivery of psychotherapy for PTSD

Comparison: Face-to-face delivery of psychotherapy at similar intensity for PTSD

Design: Parallel randomised controlled trials (RCTs)

Review methods

For the initial review, searches of Cochrane CENTRAL, Medline, and Embase to November 2020, and forward/backward (citation analysis) in January 2021, identified 13 trials (27 references). For the present update, 3 additional RCTs (3 references) were identified. The total, the evidence as of March 2023 consists of 16 RCTs (30 references). The findings from the additional RCTs have been integrated into the meta-analyses where feasible, and the updated results are presented below.

Main results

Trials evaluated a variety of psychotherapies, including cognitive behavioural therapy, cognitive processing therapy, behavioural activation, therapeutic exposure, prolonged exposure, and others. All trials compared videoconferencing to face-to-face delivery of care. Trials most often reported on the impact of care on: PTSD severity, depression severity, quality of life, therapeutic alliance and satisfaction with treatment. The small differences between telehealth and face-to-face groups were not statistically or clinically significant for any of the outcomes (Table 7).

Table 7 Updated outcomes for telehealth (by video) versus face-to-face care for patients with PTSD

Outcomes	Studies (No. of patients)	Difference post treatment (95%CI)	Comments
PTSD severity immediately post-intervention	12 RCTs (1010)	SMD -0.01 (-0.19 to 0.17)	No statistically significant difference, does not favour either group
PTSD severity 6 month follow-up	6 RCTs (714)	SMD -0.08 (-0.23 to 0.07)	No statistically significant difference, favours video
Depression severity immediately post-intervention	8 RCTs (643)	SMD 0.04 (-0.21 to 0.29)	No statistically significant difference, favours face-to-face
Quality of life % score increase (SF-36) Post-intervention	1 RCT (18)	Physical 4.4% TH vs 4.5% F2F Mental: 46% TH vs 38% F2F	Similar improvements for both groups, differences between groups cannot be determined from reported data
Therapeutic alliance Post-intervention	5 RCTs (505)	SMD -0.04, (-0.24 to 0.16)	No statistically significant difference, favours video
Satisfaction with care Post-intervention	4 RCTs (454)	SMD 0.02 (-0.17 to 0.22)	No statistically significant difference, favours face-to-face

RCT=randomised controlled trial, SMD=standardised mean differences; MD=mean difference; SF36-P: 36 item Short form survey

Conclusion

In patients with PTSD, there is no clinically or statistically significant difference between videoconferencing and face-to-face therapy for reducing the severity of PTSD, depression and other key outcomes.

Commentary

The addition of 3 new RCTs since the systematic review did not change the conclusions of the original review. There continues to be no evidence that face-to-face therapy is better than videoconferencing for reducing the severity of PTSD, depression and other key outcomes, in patients with PTSD.

References

1. Scott AM, Bakhit M, Greenwood H, Cardona M, Clark J, Krzyzaniak N, Peiris R, Glasziou P. Real-Time Telehealth Versus Face-to-Face Management for Patients With PTSD in Primary Care: A Systematic Review and Meta-Analysis. *J Clin Psychiatry*. 2022 May 23;83(4):21r14143. doi: 10.4088/JCP.21r14143. PMID: 35617629.
2. Acierno R, Jaffe AE, Gilmore AK, Birks A, Denier C, Muzzy W, et al. A randomized clinical trial of in-person vs. home-based telemedicine delivery of Prolonged Exposure for PTSD in military sexual trauma survivors. *J Anxiety Disord*. 2021;83:102461.
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Depression treatment – UPDATE of topic 4.14 from Telehealth Review 2020-21

Telehealth (via videoconferencing or teleconferencing) is similarly effective to face-to-face psychological treatment of depression

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare; now published): Scott et al 2022 (updated) [AMSTAR 10/11]

Review question and scope

Population and setting: People of any age, gender, with depression

Intervention: Telehealth (videoconferencing or teleconferencing) delivery of psychotherapy

Comparison: Face-to-face delivery of psychotherapy at similar intensity

Design: Parallel randomised controlled trials

Review methods

Searches of Cochrane CENTRAL, Medline, and Embase to November 2020, and forward / backward (citation analysis) in January 2021, identified 9 RCTs (28 references). Risk of bias was generally low across the studies, except for lack of participant blinding and high attrition. For the present update, the original searches were updated to March 2023. No additional RCTs were identified, thus, the original conclusions remain unchanged.

Main results

9 trials compared either teleconferencing (n=4) or videoconferencing (n=5) delivery to face-to-face delivery. Trials evaluated a variety of psychotherapies, including cognitive behavioural therapy, problem solving therapy, and behavioural activation. Trials reported on: depression severity (9 trials, 6 meta-analysable), quality of life (1 trial), therapeutic alliance (1 trial), and treatment satisfaction (3 trials, 2 meta-analysable). The small differences between telehealth and face-to-face groups were not statistically or clinically significant for any of the outcomes (Table 8).

Table 8 Outcomes for telehealth versus face-to-face care for patients with depression

Outcomes	Studies (N)	Difference Post treatment (95%CI)	Comments
Depression severity: immediately post-treatment*	4 RCTs (541)	SMD -0.04 (-0.21 to 0.13)	No statistically significant difference, favours telehealth
Depression severity: 6 months post-treatment*	2 RCTs (373)	SMD 0.05 (-0.56 to 0.66)	No statistically significant difference, favours face-to-face
Quality of life (SF-36)	1 RCT (241)	"None of the scores showed significant difference between groups"	No statistically significant difference between groups, direction not reported
Therapeutic alliance: client - 14 weeks (WAI-C)	1 RCT (325)	MD 0.77 (-0.84 to 2.4)	No statistically significant difference, favours telehealth
Therapeutic alliance: therapist - 14 weeks (WAI-T)	1 RCT (325)	MD 0.61 (-1.3 to 2.5)	No statistically significant difference, favours telehealth
Treatment satisfaction – 12 months**	1 RCT (204)	SMD -0.05 (-0.33 to 0.22)	No statistically significant difference, favours telehealth

*Depression severity measured using a mix of scales, including: **PHQ9** = Patient Health Questionnaire-9, **HAMD** = Hamilton Depression Rating Scale; **BDI** = Beck Depression Inventory-II; **CESD** = Centre for Epidemiological Studies Depression scale; **SF-36**:
 **Treatment satisfaction measured using CSQ (Client Satisfaction Questionnaire) and CPOSS (Charleston Psychiatric Outpatient Satisfaction Scale); 36 item Short-Form Survey; WAI-C = Working Alliance Inventory-Client; WAI-T = Working Alliance Inventory-Therapist; SMD = standardised mean difference

Conclusion

There is no difference between telehealth (by teleconferencing or videoconferencing) and face-to-face therapy for reducing the severity of depression and other key outcomes, in patients with depression.

Commentary

As no additional trials meeting the inclusion criteria have been published since the previous report, the conclusions remain unchanged.

References

1. Scott AM, Clark J, Greenwood H, Krzyzaniak N, Cardona M, Peiris R, Sims R, Glasziou P. Telehealth v. face-to-face provision of care to patients with depression: a systematic review and meta-analysis. *Psychol Med*. 2022 Oct;52(14):2852-2860. doi: 10.1017/S0033291722002331. Epub 2022 Aug 12. PMID: 35959559; PMCID: PMC9693715.

Anxiety Disorders Treatment – UPDATE of topic 4.15 from Telehealth Review 2020-21

Telehealth CBT (by video or phone) is similarly effective to face-to-face CBT for patients with anxiety disorders.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare; now published): Krzyzaniak 2021 [AMSTAR 10/11] + 1 new RCT [Bouchard 2022]

Review question and scope

Population and setting: Children (4-8) or adults (>16 years) at university psychology clinics or outpatient treatment units with primary diagnosis of DSM axis-1 anxiety disorders

Intervention: 10-12 sessions of Cognitive Behavioural Therapy (CBT) delivered by teleconferencing or videoconferencing (CBT type varied by target group, e.g., children received family-based CBT)

Comparison: Face-to-face CBT at similar intensity

Design: Randomised controlled trials

Review methods

The initial review completed a search of Cochrane CENTRAL, Medline, and Embase, to November 2020, and of grey literature which identified 3 RCTs focusing on telehealth for anxiety disorders. A forward and backward citation search identified a further 2 relevant studies. The risk of bias was generally low across studies, except for non-blinding.

Bouchard, 2022, was a non-inferiority randomized controlled trial in Canada that compared the effectiveness of 15 sessions of weekly cognitive-behaviour psychotherapy (CBT) in adults on those with a diagnosis of generalized anxiety disorder (GAS) delivered by videoconference versus being delivered face-to-face at a clinic. The primary outcome measure was GAD severity using the ADIS-IV which was measured immediately at post-treatment, and a follow-up at 6 months, and 12-months. The new randomized controlled trial (Bouchard, 2022) was judged to have an overall high risk of bias as it demonstrated a high risk of bias within 2 out of the 7 domains on the assessment using Cochrane's ROB-1 tool.

Main results

The initial systematic review contained five RCTs comparing CBT delivered by telehealth (3 via videoconferencing and 2 via teleconferencing) to the same therapy delivered face-to-face found no difference in patient outcomes by mode of CBT delivery (Table 9). Each study found no significant differences between distance and face-to-face delivery modes, and distance delivery was as effective as face-to-face therapy for improving clinical patient outcomes (OCD scores and Depression scores include components for anxiety). Other outcomes such as quality of life, client satisfaction and working alliance also saw a similar pattern of results.

Table 9 Outcomes for telehealth versus face-to-face for CBT therapies for treatment of anxiety disorders

Outcomes	Studies (Time; N)	Difference Post treatment (95%CI)	Difference Follow up** (95%CI)	Comments
OCD scores (Y-BOCS, CY-BOCS, CSR)	3 RCTs (Post-treatment 156; 6 Months 136)	SMD* = 0.14 (-0.17, 0.45)	SMD* = 0.10 (-0.24, 0.44)	No statistically significant difference, favours face-to-face
Anxiety scores (DASS-A)	1 RCT (Post-treatment 23; 1.5 Months 16)	SMD* = -0.47 (-6.94, 6.00)	SMD* = -1.53 (-7.93, 4.87)	No statistically significant difference, favours telehealth
Depression scores (BDI-II, BDI-Y, DASS-D)	3 RCTs (Post-treatment 157; 3 Months 140)	SMD* = -0.02 (-0.44, 0.39)	SMD* = -0.25 (-0.58, 0.09)	No statistically significant difference, favours telehealth

Y-BOCS = Yale-Brown Obsessive Compulsive Scales (self report version); CY-BOCS = Children's Yale-Brown Obsessive Compulsive Scales; BDI-II = Beck depression Inventory, DASS = Depression Anxiety Stress Scale (DASS-D = depression subscale; DASS-A = anxiety subscale); * SMD = standardised mean difference (-ve value favours telehealth); * ** Follow up varied by outcomes: OCD=6 months; Anxiety=1.5 months; Depression=3 months

Table 10 Outcomes from Bouchard, 2022

Outcomes	N	***Difference Post treatment (95%CI)	***Difference Follow up** (95%CI)	Comments
Anxiety score (ADIS-IV)	148	MD* = -0.02 (-0.73, 0.69)	MD* = -0.29 (-0.98, 0.40)	No statistically significant difference, favours telehealth

*MD=Mean difference, **follow up at 6 months, ***difference=telehealth-face-to-face

Table 10 above displays the results of the new RCT by Bouchard, 2022. This study demonstrated that the treatment was statistically non-inferior when delivered by videoconferencing compared to face-to-face. The mean difference in anxiety scores between telehealth and face-to-face from pre- to post-treatment is -0.02 (95% CI; -0.73 to 0.69) and the mean difference between these groups from pre to 6 months follow up is -0.29 (95% CI; -0.98 to -0.40) in favour of telehealth. Based on the non-inferiority tests, the ADIS-IV mean scores improved from pre- to post-treatment on average by 44.5% in the videoconferencing group and improved by 42.4% in the face-to-face group.

Conclusion

The initial systematic review demonstrated that five small studies showed a similar pattern of results, which indicated that CBT delivered by videoconferencing or teleconferencing appeared as effective as face-to-face CBT in reducing clinically relevant symptoms for children and adults with anxiety conditions.

The new study by Bouchard 2022 demonstrated that CBT for generalized anxiety disorder (GAS) delivered by videoconferencing in adults can be just as effective as face-to-face therapy for reducing the severity of symptoms.

Commentary

Although the new randomized controlled trial [Bouchard 2022] was rated at high risk of bias, its findings are consistent with those previously found. Therefore, we can continue to conclude that CBT delivered by videoconferencing or teleconferencing appears as effective as face-to-face CBT in reducing clinically relevant symptoms for children and adults with anxiety conditions. This means that for treatment of anxiety disorders clinicians and consumers could choose communication modalities that are most appropriate for their clinical relationship.

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Insomnia treatment – UPDATE of topic 4.16 from Telehealth Review 2020-21

Telehealth (by video or phone) is similarly effective to face-to-face care for psychological treatment of insomnia.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare; unpublished): Scott 2022 (updated with 1 additional RCT)

Review question and scope

Patients and setting: patients with insomnia (as defined by each study) receiving primary care

Intervention: cognitive behavioural therapy for insomnia (CBT-I) by telehealth (teleconferencing or videoconferencing)

Comparison: CBT-I provided face-to-face

Designs: Parallel group randomised controlled trials

Review methods

Search of literature databases, and a forward and backward citation search on the included trials, yielded 3 trials which met the inclusion criteria. Fourth, additional trial (Gehrman 2021) was published subsequently to the initial systematic review, and its findings have been integrated below.

Main results

All 4 trials compared the delivery of CBT-I via telehealth (3 videoconferencing, 1 teleconferencing) to face-to-face. 3 trials reported on insomnia severity, showing small but non-significant differences between the telehealth and face-to-face groups at immediately and at 3 months post-treatment. 2 trials reported sleep quality scores, with small but non-significant differences between two groups at post-intervention and 3 months. There were small but non-significant differences in quality of life (physical and mental). Two trials reported contradictory evidence on satisfaction: one finding no difference between groups, and one finding less satisfaction with telehealth. (Table 11).

Table 11 Outcomes for telehealth versus face-to-face care for patients with insomnia

Outcomes	Studies (N)	Difference post treatment (95%CI)	Comments
Insomnia severity: 0-2 weeks post-intervention (ISI scores: range 0-28)	3 RCTs (164)	MD 1.13 (-0.29 to 2.55)	No statistically significant difference, favours face-to-face
Insomnia severity: at 3 months (ISI scores)	3 RCTs (145)	MD 0.93 (-1.45 to 3.31)	No statistically significant difference, favours face-to-face
Sleep Quality: 0-2 weeks post-intervention (PSQ)	2 RCTs (71)	MD 0.80 (-1.20 to 2.79)	No statistically significant difference, favours face-to-face
Sleep Quality: at 3 months (PSQ: range 0-21)	2 RCTs (51)	MD 0.93 (-1.45 to 3.31)	No statistically significant difference, favours face-to-face
Quality of life (Physical) 3 months (SF-12)	3 RCTs (145)	MD 0.24 (-2.15 to 2.62)	No statistically significant difference, favours face-to-face
Quality of life (Mental) 3 months (SF-12)	3 RCTs (145)	MD -0.45 (-3.62 to 2.73)	No statistically significant difference, favours telehealth
Satisfaction with treatment	2 RCTs (83)	1) No difference (p=0.16) 2) Lower in TH (p<0.01)	Contradictory evidence in satisfaction with telehealth care

SMD: standardised mean difference; **MD:** mean difference; **CI:** confidence interval; **n:** number; **SF-12:** 12 item short-form survey, **ISI:** Insomnia Severity Index scores (range 0-28); **PSQ:** Pittsburgh Sleep Quality scores (range 0-21)

Conclusion

Although the totality of the evidence consists of 4 very recent RCTs (all between 2019-2021), these suggest no clinically important difference between telehealth and face-to-face delivery of care for insomnia in the key outcomes.

Commentary

The addition of the fourth RCT to the previous review (which included 3 RCTs) increased the sample sizes in the meta-analyses, slightly decreasing the width of the 95% confidence intervals.

The conclusions are unchanged from those in Telehealth Review 2020-21.

Reference

1. Scott AM, Peiris R, Cardona M, Greenwood H, Krzyzaniak N, Clark J, Glasziou P. (unpublished). Telehealth versus face-to-face delivery of cognitive behavioural therapy for insomnia (CBT-I): a systematic review and meta-analysis of randomised controlled trials

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Mental health: less common conditions – UPDATE of topic 4.17 from Telehealth Review 2020-21

For most target groups, telehealth psychological therapy (by video or phone) is as effective as face-to-face therapy.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare; now published): Greenwood 2022 [AMSTAR 10/11] + 1 new RCT [Lleras 2020]

Review question and scope

Patient or population: Children, adolescents or adults in psychology clinics or outpatient treatment units with psychological needs or psychiatric diagnoses (excluding depression, PTSD, and anxiety conditions)

Intervention: Psychological therapies relevant to target condition delivered via teleconferencing or videoconferencing, varied program lengths.

Comparison: Face-to-face delivery of psychological therapy of equivalent or comparable intensity and duration relevant to target condition.

Design: Randomised controlled trials

Review methods

The initial review completed a search of Cochrane CENTRAL, Medline, and Embase, to November 2020, and of grey literature which identified 12 RCTs (reported in 15 articles) focusing on telehealth for a range of mental health disorders, and evaluating psychotherapies including: substance abuse counselling, CBT, CBIT, BFST, stress management. The risk of bias was generally unclear across studies, but high risk for non-blinding.

Lleras, 2020, was a superiority randomized controlled trial in Spain that compared the effectiveness of 12 weekly PPC group therapy sessions on 269 women who have a cancer diagnosis and are displaying high level of emotional distress. These sessions were delivered by videoconference and compared with those that had their group sessions face-to-face at a clinic. The main outcomes were severity scores for anxiety and depression (HADS), Post traumatic stress (PCL-C) and post-traumatic growth (PTGI) taken at post-treatment, and at 3 months follow-up.

The new randomized controlled trial (Lleras, 2020) was judged to have an overall high risk of bias as it demonstrated a high risk of bias within three out of the seven domains on the assessment using Cochrane's ROB-1 tool.

Main results

The initial systematic review contained a total of 12 studies, 7 used videoconferencing, 3 used teleconferencing, 1 used both, and in 1 it was unclear which modality was used. From the direct comparisons from 12 RCTs, telehealth interventions for miscellaneous psychological conditions appear to be comparable to therapy delivered face-to-face for symptom severity, function, and improvement (Table 11). Each study found small and non-significant differences between the two modes of therapy. Other outcomes such as client satisfaction and working alliance also saw a similar pattern of results. Three studies reported on the costs of telehealth vs. face-to-face care, and although no statistical significance was reported in either of these studies, it appears that

telehealth is either no different or less costly than face-to-face treatment for minority mental conditions.

Table 12 Outcomes for telehealth versus face-to-face for treatment of mental health conditions

Outcomes	Studies (Time; N)	Difference post treatment (95%CI)	Difference follow up** (95%CI)	Comments
Severity scores (CFS, CGI-S, BSI, YGTSS, PHQ-15, HADS)	7 RCTs (Post-treatment 335; 12 Months 106)	SMD* = 0.05 (-0.17, 0.27)	SMD* = 0.15 (-0.23, 0.53)	No statistically significant difference, favours face-to-face
Function scores (CGAS, MOS, GAF, VR-36)	5 RCTs (Post-treatment 237; 12 Months 105)	SMD* = 0.13 (-0.16, 0.42)	SMD* = 0.08 (-0.3, 0.47)	No statistically significant difference, favours face-to-face
Improvement scores (CGI-I, SRGIS, MAC – H/H)	2 RCTs (Post-treatment 157)	SMD* = -0.0 (-0.4, 0.39)	N/A	No statistically significant difference

CFS = Chalder Fatigue Scale; **CGI-S/I** = Clinical Global Impression Scale-Severity/Improvement; BSI = Brief Symptom Inventory; YGTSS = Yale Global Tic Severity Scale; **PHQ-15** = Patient Health Questionnaire-15; **HADS** = Hospital Anxiety and Depression Scale; **CGAS** = Children's Global Assessment Scale; **MOF** = Medical Outcomes Survey; **GAF** = Global Assessment of Functioning; **SRGIS** = Self-rated Global Improvement Scale; **MAC – H/S** = Mental Adjustment to Cancer: standardised mean difference (-ve value favours telehealth); ** Follow up was at 12 months.

Table 13 Outcomes from Lleras, 2020

Outcomes	N	Difference Follow up** *b (95%CI)	P value	Comments
Severity score (HADS)	269	1.36 (0.55,3.27)	0.16	No statistically significant difference
Severity Score (PCL-C)	269	1.20(-2.2,4.60)	0.69	No statistically significant difference
Severity score (PTGI)	269	-0.59(-6.40,5.22)	0.84	No statistically significant difference

*coefficient for fixed effect of therapy PPC vs OPCC ** Follow up was at 3 months

Within the new RCT by Lleras, 2020, significant baseline differences were found between the two treatment groups. Therefore, fixed effect models were developed to perform analyses to test the effect of interventions (between face-to-face and online) and adjusted for age, education, and work status. The results of the linear fixed effect models are in Table 13 above. There was found to be no significant fixed effect of therapy between face-to-face and online found for the HADS total score (b=1.36, P=0.16, 95% CI=-0.55 to 3.27). For the effect of treatment on PTSS (PCL-C), there was no statistical difference between the two treatment arms. (b=1.20, p=0.69, 95% CI=-2.20 to 4.60) and this was also seen for post-traumatic growth, PTGI (b=-0.59, P=0.84, 95% CI=-6.40 to 5.22).

Conclusion

The new RCT by Lleras de Frutos demonstrated that there were no significant differences in effectiveness of CBT for reducing symptoms in distressed cancer survivors among women delivered by videoconferencing compared to delivered by face-to-face therapy. Neither face-to-face nor videoconferencing were found to be superior.

Overall, our findings indicate that the delivery of mental health psychotherapies to patients with minor mental health conditions is comparable in outcomes and costs to face-to-face therapies. This supports findings of psychotherapy delivered via telehealth for anxiety, depression, and PTSD, reported elsewhere.

Commentary

Although the new RCT (Lleras 2020) had a high risk of bias, the delivery of mental health psychotherapies to patients with minor mental health conditions continues to be comparable in outcome effectiveness compared face-to-face therapies.

Given the various outcome measures and clinical groups, the generalisability of these findings to serious mental health conditions, i.e., schizophrenia, bipolar disorder etc. may be limited.

References

1. Greenwood H, Krzyzaniak N, Peiris R, et al. Telehealth Versus Face-to-face Psychotherapy for Less Common Mental Health Conditions: Systematic Review and Meta-analysis of Randomized Controlled Trials. *JMIR mental health*. 2022;9(3):e31780-e31780.
2. Lleras de Frutos M, Medina JC, Vives J, Casellas-Grau A, Marzo JL, Borràs JM, et al. Video conference vs face-to-face group psychotherapy for distressed cancer survivors: A randomized controlled trial. *Psycho-Oncology*. 2020;29(12):1995-2003.

Question A1: Updated reviews and new evidence comparing telehealth (via telephone or video) to face-to-face delivery of care in primary and allied health - topics unchanged from Telehealth Review 2021 (no new evidence found)

Diagnostic accuracy in primary care: Single consultation (was: topic 4.1 in Telehealth Review 2020-21)

Videoconferencing was less accurate than face-to-face for primary care consultations for children with acute conditions.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

No existing systematic review; relevant evidence: McConnochie, 2006.

Review question and scope

Patient: children (< 18 years) with an acute illness

Setting: emergency/primary paediatric care

Intervention: videoconferencing

Comparison: face-to-face consultation

Outcome: agreement between intervention and comparison with: (i) diagnosis (ii) treatment

Design: randomised trial of 2nd assessment

Review methods

From one USA paediatric primary practice, and a hospital emergency department, 1450 children were eligible, but 591 could be assessed by the research assistant, and 481 families consented. Children were seen twice for acute conditions: first face-to-face by their usual physicians then (ii) by experienced general paediatricians (study physicians) randomly assigned to either face-to-face or via videoconferencing with a telehealth assistant.

Main results

For the 492 visits studied, agreement on diagnosis of study physicians with usual physicians was 89%: with the difference in the proportion of visits with disagreements between telehealth study and face-to-face study evaluations (13.8% vs 8.3%, respectively, $p=0.05$), especially greater for ear problems (see Table 14). Disagreement proportions for prescriptions were similar (32% vs 27% respectively).

Table 14 From McConnochie, 2006 Table 2 - Agreement Primary Diagnosis: Telehealth Versus Face-to-face Study Physicians

Findings	Telehealth (N = 239), n (%)	Face-to-face (N = 253), n (%)	Total (N = 492), n (%)
Overall findings*			
Agreement	206 (86.2)	232 (91.7)	438 (89.0)
Disagreement	33 (13.8)	21 (8.3)	54 (11.0)
Findings by clinical grouping			
URI-Ear group only [†]			
Disagreement	16 (17.6)	7 (6.3)	23 (11.4)
All other groups (except URI-Ear) [‡]			
Disagreement	17 (11.5)	14 (9.9)	31 (10.7)

Conclusion

Even with a telehealth assistant who had ENT tools and camera, diagnosis appears less acute via videoconferencing than face-to-face. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

Commentary

Videoconferencing was less accurate than face-to-face, particularly for ear problems (although it should be noted that ear diagnosis is notoriously variable between physicians). Despite these differences in diagnosis, the management was little different between the groups.

References

1. McConnochie KM, Conners GP, Brayer AF, Goepp J, Herendeen NE, Wood NE, et al. Differences in diagnosis and treatment using telemedicine versus in-person evaluation of acute illness. *Ambul Pediatr*. 2006;6(4):187-95; discussion 96-7.

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GP primary care satisfaction: Single consultation (was: topic 4.3 in Telehealth Review 2020-21)

Videoconferencing is similar to face-to-face for primary care consultations, but with some downsides.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

No systematic review: relevant study Dixon & Stahl, 2009.

Review question and scope

Population and setting: adult (> 18 years) existing patients of the primary care practice in the UK

Intervention: videoconferencing

Comparison: face-to-face consultation

Design: randomised cross-over trial

Review methods

From one general practice, 152 of 175 patients approached were interviewed and examined twice: in both (i) face-to-face and (ii) videoconferencing settings, the order being randomized. After each consultation, patients and clinicians completed a questionnaire about satisfaction and preferences.

Main results

Physicians were very satisfied with videoconferencing but preferred face-to-face overall ($P < 0.0001$; Table 15). For videoconferencing, the physical examination, and the ability to order appropriate laboratory tests were the least satisfying elements of the encounter. Patients were also very satisfied with videoconferencing but overall preferred face-to-face ($P < 0.0001$).

Table 15 Outcomes for face-to-face versus videoconferencing satisfaction

Outcomes	Number people	Absolute effects* (95% CI)		Mean Difference (p-value)	Comments
		Face-to-face	Video-consultation		
Patient satisfaction	152 patients	4.6	4.3	0.3 ($p < 0.001$)	Small difference favouring F2F
Physician satisfaction	4 Drs	4.8	4.3	0.5 ($p < 0.001$)	Small difference favouring F2F

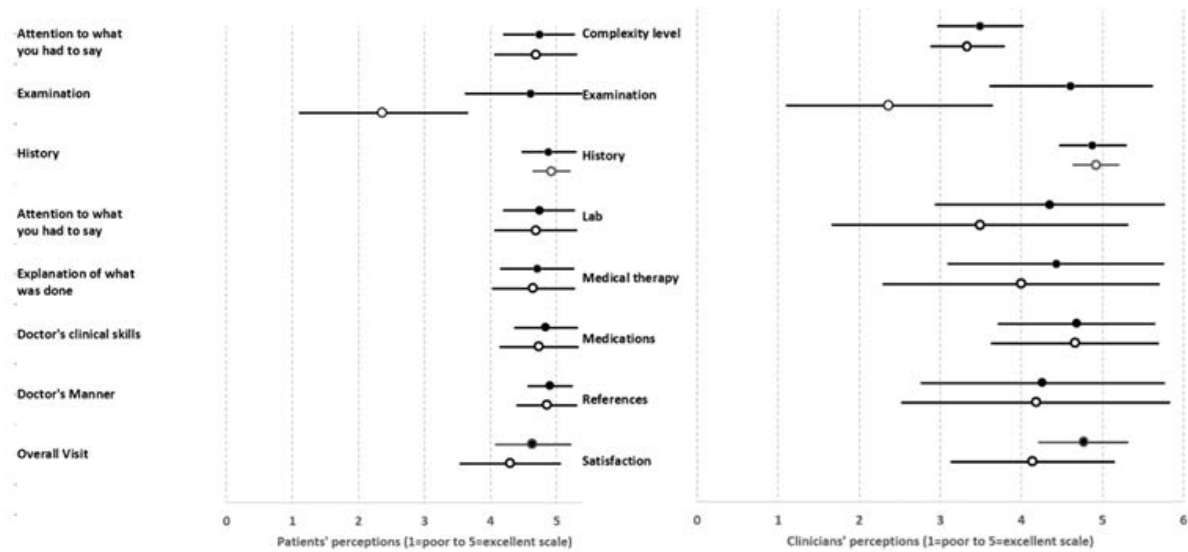


Figure 3 Perspectives on face-to-face and virtual visits for (A, left) patients (B, right) clinicians (1=poor to 5=excellent) (from Figure 4 in Dixon); note difference in Examination for both patients and clinicians

Conclusion

Patient and physician satisfaction were slightly less for telehealth, with clinicians and patients particularly concerned about the (limitations of) hand-on physical examination. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

References

1. Dixon RF, Stahl JE. A randomized trial of virtual visits in a general medicine practice. J Telemed Telecare. 2009;15(3):115-7.

GP Triage (Boggan systematic review) (was: topic 4.5 in Telehealth Review 2020-21)

Remote triage in acute primary care (via teleconferencing) is similar to face-to-face care. This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

Existing Systematic Review [Boggan, 2020] [AMSTAR 8/11]

Review question and scope

Population and setting: adults ≥ 18 yo + their families and caregivers in outpatient general setting (family, general internal, integrative and urgent medicine + ED)

Intervention: teleconferencing triage services

Comparison: face-to-face or usual care or waitlist control

Designs: RCTs, non-randomised controlled trials, controlled before/after, interrupted time series

Review methods

Searched Medline, EMBASE until 27 July 2018, plus references from high-quality systematic reviews and studies identified by stakeholders during topic development. 8 studies met the inclusion criteria: 1 individual RCT, 4 cluster RCTs, 2 controlled before/after studies, 1 interrupted time series.

Of the 5 included RCTs, 1 compared teleconferencing triage by nurses at own (registered) practice vs at the NHS Direct service, and 1 compared teleconferencing triage by GPs at own practice vs those from a deputising service; those 2 RCTs were excluded from the present review.

Main results

3 RCTs included by Boggan et al meet the inclusion criteria for the present review (see Table 16). All 3 trials compared teleconferencing care to face-to-face care. 2 RCTs compared the impact of teleconferencing to face-to-face care on subsequent attendance at emergency departments, finding no significant difference. 1 trial evaluated primary care contacts subsequent to teleconferencing advice or face-to-face care, finding no difference between groups. None of the included studies found statistically significant differences in safety outcomes. Findings of the Campbell et al 2014 trial (ESTEEM trial) are summarised separately below due to its considerable size.

Table 16 Characteristics of included studies (Boggan)

Study & design	Intervention & Comparator, N	Key outcomes	Results
McKinstry 2002 Parallel RCT	Phone-consultation advice (N=182) vs Face-to-face consultation (N=188)	Subsequent primary care contacts (mean, SD) Subsequent ED contacts (mean, SD)	Phone 0.6 (SD 0.8) vs F2F 0.4 (SD 0.7); difference NS Phone 0.0 (SD 0.2) vs F2F 0.0 (SD 0.1); difference NS
Lattimer 1998 Cluster RCT	Phone-consultation nurse triage (N=7184) vs UC (N=7303)	Attendance at ED unit within 3 days of call	Phone: 412 events vs UC 398 events (391 adjusted for differences in denominator); increase in Phone arm within statistical limits of equivalence
Campbell 2014 RCT	Phone-consultation GP triage (N=7017) vs Phone-consultation Nurse triage (N=7525) vs UC (N=7719)	Please see a separate 1 page summary of the Campbell 2014 (ESTEEM trial) in section 4.6 GP Triage (Campbell 2014 – the ESTEEM trial)	

ED=emergency department; SD=standard deviation; UC=usual care; NS=not significant

Conclusions

3 RCTs found that telehealth (via teleconferencing) provides similar clinical outcomes, compared to face-to-face care, in the outpatient general medical setting. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

Commentary

The evidence and conclusions pertain to care provided over the teleconferencing; none of the included RCTs evaluated the provision of telehealth by videoconferencing.

References

1. Boggan JC, Shoup JP, Whited JD, Van Voorhees E, Gordon AM, Rushton S, et al. Effectiveness of Acute Care Remote Triage Systems: a Systematic Review. J Gen Intern Med. 2020;35(7):2136-45.

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GP Triage (Campbell 2014 – the ESTEEM trial) (was: topic 4.6 in Telehealth Review 2020-21)

GP teleconferencing triage and nurse teleconferencing triage appear similar for outcomes and costs.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

No systematic review identified; relevant article: Campbell, 2015 from Boggan, 2020 review (summary above).

Review question and scope

Design: cluster RCT of GP practices in the United Kingdom

Population: patients who telephoned a practice, seeking a same-day face-to-face consultation with a GP

Interventions: 1) GP-led teleconferencing triage; 2) Nurse-led computer-supported teleconferencing triage; 3) Usual care

Outcomes: 1^o: primary care contacts in 28 days after the patient's index appointment request; 2^o: patient safety, experience of care, resource use and costs

Economic analysis: a cost-consequence analysis from the perspective of the UK's NHS

Methods

GP-led teleconferencing triage arm (13 GP practices, 7017 patients) (GPLT): patients who rang a practice requesting a same-day appointment, were called back by a GP within 1-2 hours. The GP could: give self-care advice, book a face-to-face or teleconferencing visit with a doctor or nurse that day, or another day.

Nurse-led, computer-supported teleconferencing triage (15 GP practices, 7525 patients) (NLT): as above, however, patients were called back by a nurse. The Plain Healthcare Odyssey Patient Assess was used to support nurses to assess and decide about the clinical needs of the patient.

Usual care (14 GP practices, 7719 patients) (UC): practices continued patient management as usual after the patient rang the practice requesting a same-day appointment.

Main results

GPLT had 33% more primary care contacts over the 28-day follow-up, and NLT 48% more, compared to UC. GPLT had 38% more GP total contacts (face-to-face and teleconferencing combined), and NLT had 16% fewer GP contacts, than UC (see Table 17). GP face-to-face contacts were reduced by 39% compared to UC, 20% compared to NT. There were 8 deaths in the trial, ruled by independent adjudicators not to be associated with the trial. There was no increased risk of A&E visits during follow-up. There was no difference in ease of receiving prompt care between the GPLT and UC arms, although NLT patients found this significantly more difficult. NLT patients were less satisfied with care, compared to UC and GPLT. Mean overall care costs for the 28-day follow-up were similar in all 3 arms: 75 pounds. (Table 17)

Table 17 GP Triage (Campbell 2014 – the ESTEEM trial)

	GPLT Mean (SD)*	NLT Mean (SD)	UC Mean (SD)	GPLT vs UC RR (95% CI)*	NLT vs UC RR (95% CI)	NT vs GPLT RR (95% CI)
Total primary care contacts on days 1-28	2.65 (1.7)	2.82 (1.7)	1.91 (1.4)	1.33 (1.30 to 1.36)	1.48 (1.44 to 1.52)	1.04 (1.01 to 1.08)
Overall GP contacts (F2F & telephone) on days 1-28	2.19 (1.29)	1.34 (1.08)	1.56 (1.01)	1.38 (1.28 to 1.50)	0.84 (0.78 to 0.91)	0.61 (0.56 to 0.66)
Overall GP contacts (F2F only) on days 1-28	0.92 (0.91)	1.19 (0.89)	1.46 (0.85)	0.61 (0.54 to 0.69)	0.80 (0.71 to 0.90)	1.30 (0.15 to 1.46)
Deaths	N=5 (0.7/1000 patients)	N=2 (0.3/1000 patients)	N=1 (0.1/1000 patient)	-----	-----	-----
At least 1 A&E visit within 28 days	N=171 (3.3%)	N=156 (2.9%)	N=166 (3%)	1.18 (0.87 to 1.61)	1.09 (0.80 to 1.49)	0.92 (0.67 to 1.26)
				MD (95% CI)	MD (95% CI)	MD (95% CI)
How easy was it to receive prompt care**	-----	-----	-----	0.39 (-3.01 to 3.80)	7.02 (3.60 to 10.45)	6.63 (3.23 to 10.03)
How satisfied were you with care received***	-----	-----	-----	1.33 (-0.69 to 3.35)	3.94 (1.88 to 5.99)	2.60 (0.58 to 4.63)
Cost of care (£) over 28 days: mean (SD) [95 th %ile range]	75.21 (65.45) [14.03 to 205.31]	75.68 (63.09) [7.62 to 184.90]	75.41(57.19) [43.00 to 172.00]	-----	-----	-----

GPLT=GP-led triage; NLT=Nurse-led triage; UC=usual care; SD=standard deviation; RR=rate ratio; 95% CI=95% confidence interval; *unless otherwise noted; **Scale of 1-100, increasing difficulty;*** Scale of 1 to 100, increasing dissatisfaction.

Conclusion

GPLT and NLT increased the number of primary care contacts compared with UC. Whilst GPLT had 38% higher total GP contacts (face-to-face and teleconferencing combined), it had 39% fewer face-to-face only contacts, suggesting a redistribution of the contact types. NLT had a lower rate of total GP contacts (by 16%) and GP face-to-face only contacts (by 20%). Triage appears safe and acceptable to patients (although more so when done by GPs than by nurses), and the overall costs of care were similar compared to usual care. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

References

1. Campbell JL, Fletcher E, Britten N, Green C, Holt T, Lattimer V, et al. The clinical effectiveness and cost-effectiveness of telephone triage for managing same-day consultation requests in general practice: a cluster randomised controlled trial comparing general practitioner-led and nurse-led management systems with usual care (the ESTEEM trial). *Health Technol Assess.* 2015;19(13):1-212, vii-viii.

Acute physiotherapy triage (was: topic 4.7 in Telehealth Review 2020-21)

Teleconferencing physiotherapy triage is clinically effective and safe in delivering care for primary care patients with musculoskeletal problems.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

No systematic review; relevant articles Salisbury, 2013a; Salisbury, 2013b

Review question and scope

Population and setting: Adults (aged ≥ 18 years) with a MSK problem, referred by general practitioners (GP) or self-referred for physiotherapy at community physiotherapy services in four different areas in England.

Intervention: PhysioDirect – initial physiotherapy assessment via teleconferencing triage, sent exercise advice, and where necessary, referred for face-to-face care or a teleconferencing follow up call.

Comparison: Usual care - waiting list for a face-to-face physiotherapist appointment.

Design: Pragmatic, individually randomised controlled trial, incorporating economic evaluation.

Review methods

Adults referred by their GP or self-referred for physiotherapy management of a musculoskeletal problem were randomised 2:1 to PhysioDirect (described above) or usual care. Outcomes were assessed at baseline, six weeks, and six months. Economic evaluation was analysed from the NHS perspective, and included the direct cost of physiotherapy and primary care consultations, medication prescribed, and hospital care.

Main results

There was no difference between PhysioDirect and usual care for physical component score at six months' follow-up (see Table 18). There were no significant differences between study groups for any scales from the SF-36v2 questionnaire, or time lost from work at six months. For process outcomes, PhysioDirect patients had fewer face-to-face appointments and physiotherapy consultations overall, shorter waiting times and lower rates of non-attendance. Patients in both groups were equally satisfied with access to care. While PhysioDirect patients were slightly less satisfied with their consultations and overall than usual care patients, they were still more likely to prefer the PhysioDirect service in the future. No adverse events were detected in either arm of the trial.

The direct costs of physiotherapy were slightly greater for PhysioDirect arm than usual-care, however sensitivity analyses after the trial ended suggested that it would be slightly less expensive than usual care. The QALYs gained in the PhysioDirect arm were similar to those of usual care. The incremental cost per QALY gained was £2889, the net monetary benefit was £117 (95% CI –£86 to £310) based on a willingness to pay of £20,000 and there was an 88% probability that PhysioDirect was cost-effective at this willingness-to-pay threshold.

Table 18 Outcomes for teleconferencing PhysioDirect versus usual care for initial physiotherapy assessments

Outcomes	Mean score		Difference in means (95% CI)	Effect p value	Comments
Primary outcome	PD (n = 1,506)	F2F (n = 743)			
SF-36v2 physical 6 months	43.5	44.2	-0.01 (-0.80 to 0.79)	p = 0.99	NS difference, equally effective
Secondary outcomes					
Patient satisfaction with consultation	75.7	79.2	-3.4 (-5.9 to 0.97)	p = 0.005	Significantly favours F2F
Overall patient satisfaction	75.9	79.7	-3.8 (-7.3 to -0.3)	p = 0.031	Significantly favours F2F
Time lost from work at 6 months	Days = 7.0	Days = 7.1	0.08 (-3.21 to 3.35)	p = 0.94	NS difference, no difference in time lost from work
Process outcomes					
Patient preference for PD	n = 393 (40%)	n = 131 (27%)	1.98 (1.43 to 2.74)	p < 0.001	Significantly favours telehealth
Number of consultations	n = 2.9	n = 3.3	0.87 (0.80 to 0.94)	p = 0.001	Significantly favours telehealth
Non-attendance rates	IRR = 0.09	IRR = 0.12	0.55 (0.41 to 0.73)	p < 0.001	Significantly favours telehealth
Economic outcomes	Mean among PhysioDirect group	Mean among usual-care group	Incremental difference (95% CI)		Comments
Cost of physiotherapy (£)	£87	£79	£8 (0.69 to 15.3)		PhysioDirect had higher overall cost of therapy
Cost of physiotherapy (£): sensitivity analysis	£72.2	£76.6	-£4.4 (-11.25 to 2.57)		Cost of care favour PhysioDirect, NS difference
QALYs	0.332	0.325	0.007 (-0.003 to 0.016)		No difference in QALYs gained

Abbreviations: NS = non-significant difference; F2F = face-to-face intervention; PD = PhysioDirect intervention

Conclusion

The provision of teleconferencing physiotherapy assessments was equally clinically effective compared with usual care. While teleconferencing triage was observed to have slightly lower patient satisfaction for the consultation itself and the service overall, PhysioDirect patients were significantly more likely to prefer the teleconferencing service. PhysioDirect is probably cost-effective compared with usual care. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

References

1. Salisbury C, Foster NE, Hopper C, Bishop A, Hollinghurst S, Coast J, et al. A pragmatic randomised controlled trial of the effectiveness and cost-effectiveness of 'PhysioDirect' telephone assessment and advice services for physiotherapy. *Health Technol Assess.* 2013;17(2):1-157, v-vi.
2. Salisbury C, Montgomery AA, Hollinghurst S, Hopper C, Bishop A, Franchini A, et al. Effectiveness of PhysioDirect telephone assessment and advice services for patients with musculoskeletal problems: Pragmatic randomised controlled trial. *BMJ (Online).* 2013;346(7893).

Asthma: GP check-ups (was: topic 4.8 in Telehealth Review 2020-21)

Teleconferencing is similarly effective to face-to-face check-ups for control and exacerbations of asthma.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

Existing systematic review [Kew, 2016] [AMSTAR 11/11]

Review question and scope

Patient or population: adults or children outpatients with asthma

Intervention: check-ups for asthma conducted using technology (e.g., teleconferencing, email)

Comparison: check-ups for asthma conducted face-to-face

Designs: Parallel randomised controlled trials (RCTs)

Review methods

Identified randomized trials from the Cochrane Airways Review Group Specialised Register (CAGR) up to 24 November 2015. Six studies (2100 participants) met the inclusion criteria.

Main results

Of the 6 included studies, 1 used videoconferencing, and 5 used teleconferencing. Telehealth and face-to-face check-ups were similarly effective for asthma control (Asthma Control Questionnaire - ACQ) and for quality of life (Asthma Quality of Life Questionnaire – AQLQ; see Table 19). In the face-to-face check-up groups, 21 participants out of 1000 had exacerbations that required oral steroids over three months, which was slightly fewer than to 36 (95% CI 9 to 139) out of 1000 for the remote check-up group, but this difference was not statistically significant.

Table 19 Outcomes for remote versus face-to-face check-ups for asthma

Outcomes	Studies (people)	Absolute effects* (95% CI)		Effect (95% CI)	Comments
		Face-to-face check-up	Remote check-up		
ACQ Scale 0-6; low=better 12 months	1 RCT (146)	The mean ACQ score improved by 0.11	The mean ACQ score improved by 0.18	Mean ACQ score improved by 0.07 more (-0.35 to +0.21)	No difference and CIs ruled out significant harm of remote check-ups.
AQLQ Scale 1-7; high=better 8 months	3 RCTs (544)	The mean AQLQ score was 5.5	The mean AQLQ score was 5.58	Mean AQLQ score was 0.08 better (-0.14 to +0.30)	No difference and CIs ruled out significant harm.
Lung function (FEV ₁) 6 months	1 RCT (253)	The mean trough FEV ₁ improved by 20 mL	The mean trough FEV ₁ improved by 186 mL	The mean trough FEV ₁ was 166 mL better (78 to 256)	Remote check-ups had better lung function in one study
Exacerbation requiring oral corticosteroids 3 months	1 RCT (278)	21 per 1000	36 per 1000	Odds ratio 1.74 (0.41 to 7.4)	Very imprecise
Exacerbation requiring hospital admission 6 months	3 RCTs (651)	5 per 1000	3 per 1000	Odds ratio 0.63 (0.06 to 6.3)	Very few events – no conclusion could be drawn

ACQ = Asthma control; ALQ = asthma-related quality of life

Conclusion

Current randomised evidence does not demonstrate any important differences between face-to-face and remote asthma check-ups in terms of exacerbations, asthma control or quality of life. There is insufficient information to rule out differences in efficacy, or to say whether remote asthma check-ups are a safe alternative to being seen face-to-face. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

References

1. Kew KM, Cates CJ. Remote versus face-to-face check-ups for asthma. Cochrane Database Syst Rev. 2016;4:Cd011715.

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Cardiovascular: Anticoagulant management (was: topic 4.9 in Telehealth Review 2020-21)

Teleconferencing interventions are a viable approach to manage oral anticoagulation. This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

No systematic review identified; relevant article Stareshin, 2006 from systematic review by Lee, 2018 [AMSTAR score 7/11]

Review question and scope

Patient or population and setting: adults (> 18 years) on warfarin for at least 3 months before enrolment at hospital clinic where patients are referred to by the primary care provider.

Intervention: Interim teleconferencing follow-up service with quarterly face-to-face clinic visits.

Comparison: Usual anticoagulant service for face-to-face delivered by allied health professionals (e.g., pharmacists) in collaboration with a medico.

Design: Parallel randomised (RCT)

Review methods

A search of Medline, EMBASE, Cochrane CENTRAL register of controlled trials, from 1996 to March 6, 2017 identified only 1 RCT which met the inclusion criteria. Many studies on cardiovascular conditions were excluded due to the setting (hospital-based) or additional technology used (internet-based self-management without clinician, use of equipment for data storage and transmission, or mobile apps and text communication) which are not routine care in the Australian context, and therefore not within scope of this review.

Main results

One randomized trial of 192 patients compared teleconferencing follow-up to an equivalent face-to-face intervention for anticoagulation management (evaluation of prothrombin time (expressed as INR) and clinical status every 4 weeks on both groups) and found that the average INR measured over the entire course of the study was the same for both groups, and the time in therapeutic range was as similar for both groups, with the exception of IT participants in the higher intensity anticoagulation of 2.5 to 3.5 INR target range following intervention (Table 20)

Table 20 Outcomes for tele-anticoagulation versus face-to-face for people on indefinite warfarin treatment (for VTE, stroke, AF, valve replacement)

Outcomes	Studies (people)	Absolute effects* (95% CI)		Effect (p value)	Comments
		Face-to-face check-up	Phone-consultation (IT group)		
Percentage of time in therapeutic range*	1 RCT (192)	55% (26%-94%)	58% (28%-91%)	3% (p=0.28)	No significant difference
Thromboembolic events		9 (4%)	4 (2%)	2% (p=0.16)	No significant difference
Serious bleeding events n(proportion as %) 36 M		42 (18%)	47 (20%)	2% (p=0.65)	No significant difference

*INR=international normalised ratio (ratio of 2.0-3.0 are considered in the effective therapeutic range)

Conclusion

Interim (intermittent) teleconferencing follow-up appears to be comparable to face-to-face sessions at most INR levels, and generated fewer urgent care/office visits. The IT group receiving higher intensity anticoagulation experienced greater anticoagulation control and fewer complications. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

Commentary

Other studies in the original review by Lee investigating the effectiveness of telehealth interventions for oral anticoagulation were excluded as they were of cohort and other observational designs.

References

1. Staresinic AG, Sorkness CA, Goodman BM, Pigarelli DW. Comparison of outcomes using 2 delivery models of anticoagulation care. Arch Intern Med. 2006;166(9):997-1002.
2. Lee M, Wang M, Liu J, Holbrook A. Do telehealth interventions improve oral anticoagulation management? A systematic review and meta-analysis. J Thromb Thrombolysis. 2018;45(3):325-36.

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Diabetes management (was: topic 4.12 in Telehealth Review 2020-21)

Telehealth (by phone or video) is similarly effective to face-to-face for glycaemic control and satisfaction with care in Type 1 and Type 2 Diabetes.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare): Cardona 2022 (unpublished)

Review question and scope

Population and setting: adults (> 18 years) with T2D and Adolescents (12-19 years) with T1D in Community clinics/primary care

Intervention: real-time diabetes education and counselling/behavioural healthcare by allied health or nursing via videoconferencing or teleconferencing

Comparison: face-to-face behavioural care or usual diabetes education

Designs: Parallel randomised controlled trials (RCTs)

Review Methods

Search of Cochrane CENTRAL, Medline, and Embase to November 2020 identified 6 systematic reviews (209 studies) and 28 additional single RCTs covering various telehealth approaches. Of the full set only 4 randomised trials (307 participants, 146 adults and 161 adolescents) met the inclusion criteria. Included trials evaluated immediate and short-term impact (3 months) of allied health/nursing support for diabetes self-management via education/coaching in adults; and psychologists support for treatment adherence of youth via family behavioural therapy.

Main Results

Three randomised trials compared videoconferencing (e.g., Skype) and one compared teleconferencing to an equivalent face-to-face intervention for diabetes management (up to 10 sessions over 12 weeks). Three trials reported on glycaemic values found that both modalities significantly reduced HbA1c between baseline and last follow-up for adults or adolescents but neither mode of intervention delivery was more favourable. Two trials were pooled and showed no significant differences between groups at post-interventions (MD -0.03, 95%CI -0.63 to 0.57) or at 3 months follow-up (MD -0.27, 95%CI -0.38 to 0.92; see Appendix 5: SR 4.12). One trial could not be pooled but showed no significant differences either in mean between groups for HbA1c% value changes from baseline (Telephone difference $p=0.236$, face-to-face difference $p=0.344$) or in mean glycaemia post-intervention (8.66+2.96 for telephone, vs 8.63 +3.46 for face-to-face).

Telehealth vs face-to-face for diabetes: adherence to therapy sessions: Two RCTs reported that adherence to 10 family-based therapy sessions for adolescents was not significantly different between telehealth and face-to-face modes (MD in number of sessions attended 0.8 $p>0.05$).

Telehealth vs face-to-face for diabetes: satisfaction with care: One study using the diabetes treatment satisfaction questionnaire reported that telehealth education and coaching by nurses is at least as satisfactory as the equivalent face-to-face modality both immediately (MD 0.05, 95% CI -0.70, 0.80) and 3 months after intervention (MD 0.44, 95% CI -0.32, 1.20).

Conclusion

Diabetes education/coaching by teleconferencing or videoconferencing using a nurse or diabetes educator is comparable to face-to-face sessions for the improvement of metabolic control in adults with T2D and adolescents with T1D and is acceptable, generating good satisfaction scores.

Adherence in adolescent did not vary between delivery modes. While the impact on glycaemic control appears to be small ($\leq 1.0\%$ HbA1c reductions) previous evidence suggests these small improvements have clinical importance in the long term (10). **The conclusions are unchanged from those in Telehealth Review 2020-21.**

Commentary

No Australian studies met the eligibility criteria.

References

1. Cardona M, Scott AM, Krzyzaniak N, Greenwood H, Clark J, Glasziou P. (unpublished). Diabetes management via telehealth or face-to-face in primary health services: comparative glycaemic control, patient adherence and satisfaction with care: A systematic review.

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Speech Pathology treatment (was: topic 4.18 in Telehealth Review 2020-21)

Telehealth (by phone or video) is similarly effective to face-to-face care for improving speech therapy outcomes.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare): Scott 2022 (unpublished)

Review question and scope

Population and setting: patients of all ages, with conditions seen by speech-language pathologists

Intervention: Telehealth (videoconferencing or teleconferencing) delivery of speech language pathology (SLP) services

Comparison: Face-to-face delivery of comparable speech language pathology services

Design: Parallel group randomised controlled trials (RCTs)

Review methods

Searches of Cochrane CENTRAL, Medline, and Embase to November 2020, and forward / backward (citation analysis) in January 2021, identified 8 RCTs (10 references). Risk of bias was generally low across the included studies, except for lack of participant blinding.

Main results

Two trials evaluated SLP for stuttering conditions, 3 trials for patients with Parkinson's disease, and 3 trials for other conditions (1 trial each for: speech sound impairments in children, dysphagia, and dysphonia). Four of the 8 trials were conducted in Australia. Seven trials compared videoconferencing to face-to-face delivery of care; 1 trial compared teleconferencing to face-to-face delivery. There were no clinically important or statistically significant differences between groups in % syllables stuttered (patients with stutter), change in sound pressure level monologue (patients with Parkinson's disease), GFTA-2 scores (children with speech sound impairments), VHI-10 scores (elderly with voice handicap) or swallowing ability (patients with post-stroke dysphagia; Table 21)

Table 21 Outcomes for telehealth versus face-to-face speech language pathology treatment

Outcomes	Studies (N)	Mean Difference (MD) post treatment (95%CI)	Comments
% syllables stuttered 6-9 mo. follow-up	2 RCTs (80)	MD 0.65 (-0.21 to 1.51)	No statistically significant difference, favours face-to-face
% syllables stuttered 12-18 mo. follow-up	2 RCTs (69)	MD 0.10 (-0.39 to 0.58)	No statistically significant difference, favours face-to-face
Change in SPL monologue Post-intervention	2 RCTs (65)	MD 0.64 (-1.20 to 2.48)	No statistically significant difference, favours face-to-face
GFTA-2 scores Post-intervention	1 RCT (14)	MD -0.06 (-0.18 to 0.06)	No statistically significant difference, favours telehealth
VHI-10 scores Post intervention	1 RCT (69)	MD 3.3 (-2.0 to 8.6)	No statistically significant difference, favours face-to-face
Swallowing ability of >80% accuracy Post-intervention	1 RCT (30)	87% TH participants vs 80% F2F	No statistically significant difference, favours telehealth

SPL=sound pressure levels; GFTA-2=Goldman-Fristoe Test of Articulation; VHI-10 Voice Handicap Index score; TH=telehealth; F2F=face-to-face

Conclusion

Based on eight small, randomized trials, there is no important difference in a range of clinical outcomes between telehealth and face-to-face care, for delivery of speech language therapies for a variety of patient groups and conditions. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

References

1. Scott AM, Clark J, Cardona M, Peiris R, Krzyzaniak N, Greenwood H, Glasziou P. (unpublished) Telehealth versus face-to-face delivery of speech language pathology services: a systematic review and meta-analysis.

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Pain management (was: topic 4.19 in Telehealth Review 2020-21)

Videoconferencing may be slightly less effective than face-to-face care for pain management. This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

Initial systematic review (conducted by the Institute for Evidence-Based Healthcare): Peiris 2022 (unpublished)

Review question and scope

Population and setting: adults or children requiring pain management in primary care

Intervention: (group or individual) pain management conducted using teleconferencing or videoconferencing

Comparison: (group or individual) pain management conducted face-to-face

Study design: Parallel randomised controlled trials (RCTs) and crossover trial

Review Methods

Search of Cochrane CENTRAL, Medline, and Embase to November 2020 identified no systematic reviews and 2 RCTs that met inclusion criteria. Forward-backward citation analysis identified a further 5 RCTs, giving a total of 7 RCTs (565 participants). Study quality was overall moderately high, except for blinding.

Main Results

Telehealth and face-to-face check-ups were similarly effective in the first six months for physical function, pain control and satisfaction with treatment among patients undergoing physical rehabilitation. All 7 studies looked at videoconferencing, and one of those also had a teleconferencing comparator. For patients undergoing psychotherapy for chronic pain, there was no difference in improvement of depression, anxiety, or other mental health outcomes, see Table 22. However, longer term follow-up in single RCTs showed better outcomes for people on the face-to-face modality, for pain severity (at 12 months) and physical function (6 months).

Table 22 Outcomes for telehealth versus face-to-face for patients receiving pain management

Outcomes	Studies (Time: N)	Difference post treatment (95% CI)	Difference follow-up** (95% CI)	Comments
Pain scores (BPI, NPRS, WOMAC-P)	7 RCTs (565) (Post-treatment 279; 6 months 349)	SMD* = 0.30 (-0.20, 0.79)	6 months SMD* = -0.07 (-0.28, 0.14)	No statistically significant difference. Post treatment, favours face-to-face. 6 month follow up, favours telehealth.
	1 RCT (12 months; 56)		SMD* = 1.42 (0.83, 2.01)	12 mo follow up favours face-to-face
Quality of life scores (QOLI, SPQU, KOOS-Q)	3 RCTs (344) (Post-treatment 61; 1-2 months 263)	SMD* = -1.96 (-2.5, -1.4)	1-2 months SMD* = 0.09 (-0.15, 0.34)	Post treatment favours face-to-face. No significant difference at 1-2 mo, favours telehealth
Physical function scores (WOMAC-F, MPI-A, RI-PA)	5 RCTs (432) (2 RCTs post-treatment 146, 3 RCTs 4 months 286,	SMD* = -0.04 (-0.37, 0.28)	4 months SMD* = 0.16 (-0.2, 0.51)	No statistically significant difference. Post treatment, favours telehealth. 4 month follow up favours face-to-face.
	1 RCT (6 months; 128)		SMD* = 0.5 (0.14, 0.85)	follow favours face-to-face
Mental function scores (PHQ-9, ERO, RI-CT)	3 RCTs (227) (1 RCT post-treatment 128; 1 RCT 3Ms – 23)	SMD* = -0.38 (-4.5, 3.7)	3 months SMD* = 3.5 (-6.1, 13.1)	No statistically significant differences. Post treatment favours telehealth; 6 month follow up favours face-to-face.
Satisfaction with treatment (CSQ, KTN)	5 RCTs (Post treatment; 286)	Not meta-analysed. 4 RCTs asked about satisfaction with the Telehealth format or technology, and reported satisfaction by participants.		

BPI = Brief Pain Inventory; NPRS = numeric pain rating scale; WOMAC = Western Ontario & McMaster Universities Osteoarthritis Index (WOMAC-P = pain subset, WOMAC-F = function subset); QOLI = Quality of Life Inventory; SPQU = Spitzer Quality-of-Life Uniscale; KOOS-Q = Knee injury & Osteoarthritis Outcome Score, quality-of-life subscale; MPI-A = Multidimensional Pain Inventory, activity subscale; RI = Relaxation Inventory (RI-PA = physical assessment subscale, RI-CT = cognitive tension subscale); PHQ-9 = Patient Health Questionnaire 9 for depression; ERO = Emotion Regulation Questionnaire; CSQ = Client Satisfaction Questionnaire; KTN = Kentucky Telecare Network

* SMD = standardised mean difference; ** Follow up varied by outcomes: Pain=6 months; Quality of Life=1-2 months; Physical function and mental function =3 months

Conclusions

Telehealth is similarly effective to face-to-face for the management of acute and chronic pain through consultation or psychotherapy in various contexts such as consults, post-surgical rehabilitation programs, pre-habilitation of medical patients, or psychotherapy for up to 6 months. Face-to-face management is better than telehealth for pain severity at 12 months, for physical function at 6 months, and for quality of life immediately after the intervention. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

Comments

The only Australian study included dealt with acute pain following total knee arthroplasty.

References

1. Peiris R, Scott AM, Cardona M, Clark J, Krzyzaniak N, Greenwood H, Glasziou P. (unpublished). Comparative clinical effectiveness and acceptability of telehealth vs. face-to-face visits to primary health services for the management of pain: Systematic review and meta-analysis.

Antenatal and postnatal care (was: topic 4.20 in Telehealth Review 2020-21)

Telehealth as part of a hybrid face-to-face and online model for antenatal and postnatal care are comparable to face-to-face only care.

This topic was previously synthesised in the Telehealth Review 2020-21. No new evidence has been found to update the topic. The conclusions are unchanged, and current to 2023.

Evidence

No systematic review identified; relevant articles [Butler Tobah 2019] and [Seguranyes, 2014]

Review question and scope

Patient or population: pregnant women [1] and postpartum women [2]

Interventions: teleconferencing alone, or videoconferencing supplementing face-to-face

Comparison: exclusive face-to-face routine primary care

Design: randomised controlled trial

Review methods

A systematic search of Cochrane CENTRAL, Medline, and Embase, from inception to November 2020 found only two RCTs which met the inclusion criteria relevant to this review.

Main results

Antenatal care (1 RCT)

Butler Tobah et al conducted an RCT comparing usual obstetric care to a novel obstetric care model (OB Nest) which included a hybrid mix of 8 face-to-face appointments with midwife or obstetrician, 6 online appointments and direct text communication with a nurse, access to a women's online forum. There was no significant difference in adherence to vaccination guidelines, screening for depression or Group B strep, perceived quality of care, or in the incidence of Caesarean deliveries, preterm birth, birth weight or APGAR scores between the two groups. Telehealth yielded higher satisfaction and lower stress levels than usual care, but there were cases of gestational diabetes in the OB Nest group and not in the usual care group (see Table 23).

Table 23 Outcomes for videoconferencing/teleconferencing versus face-to-face for antenatal care

Outcomes	Studies (people)	Absolute effects		Effect MD (95%CI)	Comments
		Face-to-face check-up	Telehealth (OB Nest)		
Satisfaction %	RCT [1] (300)	78.9	93.9	15.0 (13.4 to 16.6)	Favours telehealth
Pregnancy-related stress 36 weeks		0.40	0.34	-0.06 (-0.11 to -0.01)	Favours telehealth
Gestational diabetes %		0.0	4.5	p <0.01	Favours F2F

Postnatal care (1 RCT):

Seguranyes et al multicentre, 'parallel controlled' RCT compared postpartum midwifery follow-up via video/phoneconferencing with face-to-face follow-up (primary care centre or home visit) and followed them up for 6 weeks postpartum. There was no statistically significant difference between groups for satisfaction with care and accessibility, type of infant feeding, or frequency of

consultations on maternal, and feeding issues (see Table 24). Telehealth yielded fewer face-to-face consultations but higher virtual contact rates with nurses.

Table 24 Summary of Outcomes for video/teleconferencing versus face-to-face for post-natal care

Outcomes at 6 weeks	Studies (people)	Absolute effects		Effect MD (95%CI)	Comments
		Face-to-face usual care	Telehealth as required + F2F		
Fewer F2F consults	RCT [2] (1,598)	1.17	1.0	0.17 (0.06 to 0.27)	Favours telehealth
Frequency of postnatal consults		1.22	2.74	1.52 (1.38 to 1.66)	Significantly more in Telehealth
Mean consults on neonatal issues		0.97	1.75	0.78 (0.56 to 0.99)	Significantly more in telehealth

Conclusion

Antenatal care:

Overall, the OB Nest TM model compared favourably to usual care for acceptability and stress levels among participants, and clinical outcomes were comparable to usual care. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

Postnatal care:

Women in the telehealth group had more frequent consults, despite having fewer face-to-face consults when compared to the control group. Feeding outcomes and satisfaction with care were similar between groups. **The conclusions are unchanged from those in Telehealth Review 2020-21.**

References

1. Butler Tobah YS, LeBlanc A, Branda ME, Inselman JW, Morris MA, Ridgeway JL, et al. Randomized comparison of a reduced-visit prenatal care model enhanced with remote monitoring. *Am J Obstet Gynecol.* 2019;221(6):638.e1-.e8.
2. Seguranyes G, Costa D, Fuentelsaz-Gallego C, Beneit JV, Carabantes D, Gómez-Moreno C, et al. Efficacy of a videoconferencing intervention compared with standard postnatal care at primary care health centres in Catalonia. *Midwifery.* 2014;30(6):764-71.

Question A2: Comparison of telephone versus video telehealth consultations: a systematic review and meta-analysis

Sixteen randomised controlled trials (20 publications), with 1719 people in aggregate, were included in the qualitative and quantitative analyses. Meta-analyses show:

- No difference between telephone and video on smoking-related outcomes
- No difference between telephone and video on depression outcomes
- No difference between telephone and video for quality of life outcomes
- No difference between telephone and video for healthcare utilisation
- No difference between telephone and video for satisfaction with care

Comparison of telephone versus video telehealth consultations: a systematic review and meta-analysis

Abstract

Objective: To identify, assess the quality of, and synthesise any existing randomised controlled trials, which compares synchronous telephone versus video telehealth consultations.

Methods: PubMed (MEDLINE), Embase, and CENTRAL via the Cochrane Library (which includes the clinicaltrials.gov and the World Health Organisation's International Clinical Trial Registry Platform, ICTRP) were searched from inception until 10 Feb 2023 for randomised controlled trials. Forward and backward citation analysis was conducted on included randomised controlled trials to ensure all relevant studies have been identified. Cochrane Risk of Bias-2 tool was used to assess the quality of the studies.

Results: Sixteen randomised controlled trials in 20 publications comprising 1719 people were included in the qualitative and quantitative analyses. Ten studies were conducted in the United States, three in the UK, 2 in Canada and 1 in Australia. Most of the studies (n=13) cover hospital-based outpatient follow ups, monitoring, and rehabilitation; 3 other studies that were conducted in the community, and were all smoking cessation studies. In half of the studies (n=8), nurses delivered the care. Almost all studies had high or unclear risk of bias mainly due to bias in the randomization process and selection of reported results. None of the studies reported on patient safety or adverse events. We did not find any study on telehealth interventions for diagnosis, initiating new treatment, or were set in primary care.

Conclusion: This review found no major differences between telephone and video consultations, on clinical effectiveness, patient satisfaction, and healthcare use (cost effectiveness) outcomes. However, there was notable absence of direct comparison studies of phone vs video consultations in primary care setting.

Key words: telehealth, telemedicine, telerehabilitation, systematic review,

Introduction

Telehealth (the provision of healthcare via telephone or video) has been routinely used for healthcare delivery for decades, but the COVID-19 pandemic accelerated the uptake of telehealth in many care settings globally (1). Telehealth consultations have shown to be equivalent to face-to-face care for clinical effectiveness, patient satisfaction and cost outcomes, in many different areas, including mental health and primary care (2).

However, very few studies have synthesised and directly compared the effectiveness of telephone versus video telehealth modalities. Studies that have examined this are generally narrowly focussed on specific care providers such as nurses (3), or on specific conditions such as chronic conditions (4).

Given the now widespread use of telehealth and the predominance of telephone over video consultations (1), it is important to assess the effectiveness and acceptability of telehealth delivered via telephone compared to video. We therefore aimed to identify, assess the quality of, and synthesise any existing randomised controlled trials, which compares synchronous telephone versus video provision of care.

Methods

The systematic review was reported in compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (5). The protocol was developed prospectively and is registered on the Open Science Framework (<https://osf.io/74wxf>). We used the two-week systematic review (2weekSR) methodology to conduct the systematic review (6). This systematic review was conducted as part of a larger work package to update the evidence for telehealth for the Australian Department of Health and Aged care.

Inclusion and exclusion criteria

We included randomised controlled trials of any design, including parallel, cluster, crossover, factorial, or mixed. Studies had to include more than 10 participants, and directly compare telephone consultations with video telehealth consultations. All other study designs (non-randomised trials, observational studies, qualitative-only studies) and all other types of reviews (e.g., literature, scoping, etc.), commentaries or opinion pieces were excluded.

Participants

We included studies with participants of any age, gender, care setting, or health condition. Studies set inside tertiary care (in-hospital patients) were excluded. However, studies involving patients discharged from the hospital and undergoing care by one of the included care providers were included. Care providers could include, but were not limited to, general practitioner (GP), allied healthcare provider, nurse practitioner, midwife, and specialist physicians (e.g., psychiatrists, dermatologists, rheumatologists). Telehealth consultations between patients and clinicians were included, clinician to clinician consultations not involving patients were excluded.

Intervention

We included studies that evaluated the effectiveness of real-time (synchronous) consultations via telephone calls, including diagnosis, treatment and follow up. Consultations involving asynchronous provision of care (e.g., store and forward of patient generated data) were excluded. Studies evaluating the following interventions were also excluded: mobile apps, virtual reality, texting (e.g., reminders), online based platforms (e.g., information and support systems), and studies of novel (non-standard) interventions. Consultations could include single or multiple episodes of care, but the compared groups had to receive similar care in terms of frequency, duration, and healthcare provider.

Comparator

We included comparators that evaluated the effectiveness of real-time (synchronous) consultations via video, on any device type, for diagnosis, treatment, and follow-up. We included only direct comparison between telephone and video telehealth consultations; indirect comparisons (of video to face-to-face or phone to face-to-face care) were excluded.

Outcomes

We included studies that reported on our primary outcome of interest, which was clinical effectiveness (details depend on condition/clinical area), and secondary outcomes, which were patient safety, cost-effectiveness, patient and clinician satisfaction with care. For diagnostic accuracy studies, the outcomes would include comparative accuracy of diagnosis for telephone vs video telehealth care.

Search strategy

PubMed (MEDLINE), Embase, and CENTRAL via the Cochrane Library (which includes the clinicaltrials.gov and the World Health Organisation's International Clinical Trial Registry Platform, ICTRP) were searched from inception until 10 February 2023. Full search strategies are provided in the Appendix. Forward and backward citation analysis was conducted on included randomised controlled trials to ensure all relevant studies have been identified.

Study restrictions

We did not impose any restriction by language (i.e., if the publication met the inclusion criteria but was published in a language other than English, it was includable). We included studies that were published in full. We excluded publications available as abstract only (e.g., conference abstract) with no additional results or information available about the study's results (e.g., from a clinical trial registry record).

Study selection and screening

Review authors (OB, HG) independently screened the titles and abstracts, and full-text articles for inclusion. Any disagreements were resolved by discussion or by consulting a third author (PG). Two authors (MB, TA) screened trials database search results. A list of studies excluded at full-text stage are provided in the Appendix.

Data extraction

Review authors (OB, HG, MB) independently extracted the data on study characteristics and methods; participants; interventions and comparator(s); primary outcome; secondary outcome(s).

Assessment of risk of bias

The risk of bias of included randomised controlled trials was assessed independently by two authors (MB, TA) using the Cochrane Risk of Bias Tool 2 (7). Five domains on bias arising from randomization process, bias due to deviations from intended intervention, bias due to missing outcome data, bias in measurement of the outcome, and bias in selection of the reported results were assessed, and bias was graded as low, high, or some concerns.

Data synthesis

Due to high heterogeneity and low number of studies in subgroups, we synthesised the data narratively with forest plots without meta-analyses (summary diamonds).

Results

Search results

We screened 2571 articles, which included 1225 references from citation searching and 209 from clinical trials registry search. Of the total of 40 full text articles we screened, 16 randomised controlled trials in 20 publications comprising 1719 people were included in the final review (see Figure in Appendix 5). The list of excluded studies is provided in the Appendix, with reasons.

Characteristics of included studies

Characteristics of included studies are shown in Table 25, below. Ten studies were conducted in the United States (8-20), three in the UK (21-24), 2 in Canada (25, 26) and 1 in Australia (27). Most of the telehealth interventions (n = 13) covered hospital-based outpatient follow ups, monitoring, and rehabilitation (8-13, 16-26). The other 3 studies were conducted in the community setting, and all were smoking cessation studies (14, 15, 27). Nine studies had 3-arm design that compared video and telephone interventions with either treatment as usual, waitlist, or minimal information (i.e., pamphlet) (8-10, 12, 13, 16-19, 22, 23, 27). Four studies involved patients' carers (11, 22-24, 26). In 8 studies nurses (9-13, 18-21, 26), 4 studies counsellors or therapists (8, 14, 15, 27), 3 studies specialist clinicians ((16, 23, 24) and in 1 study physiotherapist (25) delivered the interventions.

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Table 25 Characteristics of included studies

Study ID	RCT design	Follow up duration	Number of participants total, (T, V)	Population	Intervention and comparator	Reported outcomes
Byaruhanga 2021 (27) Australia	Parallel 3-arm	4 months	699 (229, 201)	Smokers over 18, who live in rural and remote area, with access to phone, internet, and e-mail	Up to 6 sessions of 15 minutes long Smoking cessation video counselling delivered by smoking cessation advisors via video communication technology (e.g., Skype) vs same via telephone	7-day point prevalence abstinence, prolonged abstinence, and quit attempts
Cacioppo 2021 (8) USA	Parallel 3-arm	6 months	119 (37, 38)	Cancer patients who speak english and eligible for cancer genetic testing	One session of genetic counselling by genetic counsellors via HIPAA compliant videoconferencing software or telephone at the oncology clinic in addition to generic information flyer	Genetic counselling service uptake, satisfaction with telemedicine
Chambers 2006 (21) UK	Parallel 2-arm	12 months	30 (15, 15)	Patients receiving parenteral nutrition	standard care and follow-up according to usual protocol, with videophone or telephone to the nutrition nurse specialist (NNS): weekly for 1 month, fortnightly for 1 month, once a monthly for 4 months, quarterly for the rest of the study	In-patient days
Egner 2003 (9) USA	Parallel 3-arm	24 months	27 (11, 9)	Multiple sclerosis patients who had recent functional setback in disease process and with expanded disability status scale of ≥ 7	structured in-home education and counselling session delivered via video or telephone by a rehabilitation nurse.	Depression, fatigue, health-related quality of life
Fincher 2009 (10) USA	Parallel 3-arm	One-off intervention and outcome survey	75 (25, 25)	Parkinson's disease patients who take ≥ 3 medications, have access and ability to hear on regular phones and videophones	20-minute standardized PD medication counselling session by nurse via videophone or telephone	Patient satisfaction

Hastings 2021 (11) USA	Parallel 2-arm	3 and a half months	40 dyads (20, 20)	veterans aged 65 years or older with complex medical conditions and suspected mild cognitive impairment and their care partners	12-week care management intervention: monthly video or telephone calls from a study nurse covering medication management, cardiovascular disease risk reduction, physical activity, and sleep behaviours	Feasibility, acceptability, usability
Jerant 2001 (13), 2003 (12) USA	Parallel 3-arm	12 months	37 (12, 13)	40 years or older congestive heart failure (CHF) patients who speak english	home telecare delivered via a 2-way video-conference device with an integrated electronic stethoscope or nurse telephone calls	Healthcare costs, patient satisfaction
Kim 2018 (14) USA	Parallel 2-arm	6 months	42 (21, 21)	18-75 years old women living with HIV, who smokes ≥ 5 cigarettes/day, who have smartphones, speak english, and willing to set a quit date within 4 weeks from the 1 st session	8 weekly counselling sessions (10-30 minutes) by counsellor for smoking cessation by telephone-based video or telephone calls along with open-label nicotine patches, also for 8 weeks	Biochemically verified 2- and 6-month abstinence
Kim 2016 (15) USA	Parallel 2-arm	3 months	49 (25, 24)	18–65-year-old Korean American women who had smoked ≥ 10 cigarettes/day for last 6 months, who have access to video calls, without contraindication to nicotine patch, not pregnant or lactating, and willing to set a quit date within 4 weeks	8 weekly counselling sessions (30 minutes) by therapists for a deep culturally adapted smoking cessation intervention by video or telephone call app along with open-label nicotine patches, also for 8 weeks. Self-help materials and family coaching was provided two times before and after quit day	Biochemically verified and self-reported 3-month abstinence
Kingery 2021 (16) (Manjunath 2021 (17)) USA	Parallel 3-arm	One-off intervention and outcome survey	2551 (119, 71)	Outpatient orthopaedic surgery patients	Video or phone follow up call by the surgeon	Patient satisfaction
McCrossan 2012 (23), 2015 (22) UK	Parallel 3-arm	41 months	83 (24, 35)	Infants with major congenital heart disease and their carers	Videoconferencing or telephone support with a clinician weekly or twice-weekly, and urgently if needed.	Healthcare resource use, inpatient days

Morgan 2008 (24) UK	Parallel 2-arm	One and a half month	30 (14, 16)	Infants with major congenital heart disease and their carers	Home-monitoring via videoconferencing or telephone calls following discharge from hospital, started twice-weekly then as needed by physicians	Anxiety levels of families
Phillips 2001 (18) USA	Parallel 3-arm	12 months	111 (36, 36)	18-60 years old patients with newly acquired spinal cord injury	Individual educational rehabilitation sessions with a nurse via video or telephone calls once a week for 5 weeks, then fortnightly for 1 month	Depression, quality of life, annual hospital days
Renard 2022 (25) Canada	Parallel 2-arm		20 (10, 10)	Rehabilitation patients with non- urgent conditions who have access to internet/computer, who can follow instructions for exercises at home	Up to 6 sessions of videoconference or telephone call follow ups with a physiotherapist	Qualitative analysis of feasibility, clinical effectiveness, patient satisfaction
Wakefield 2008 (20), 2009 (19) USA	Parallel 3-arm	12 months	148 (47, 52)	Heart failure patients	Home monitoring via videophone or telephone three times the first week after discharge, and then weekly for 11 weeks (14 contacts over 3 months by study nurse	6-month mortality, self- efficacy, satisfaction with care
Young 2007 (26) Canada	Parallel 2-arm	One and a half month	43 dyads (22, 21)	Paediatric orthopaedic surgery patients and their care givers	Videophone or telephone follow up post- discharge on day 3 and as needed for 6- weeks by orthopaedic clinic nurse	Qualitative exploration of families' experience

Risk of bias

Overall, most studies had high risk of bias or some concerns due to two domains: randomization processes were not clearly reported in 12 studies, and we could not clearly determine bias in selection of reported results in 9 studies. Bias due to deviations from intended interventions, missing outcome data, and bias in measurement of the outcome were mostly low (Figure 4).

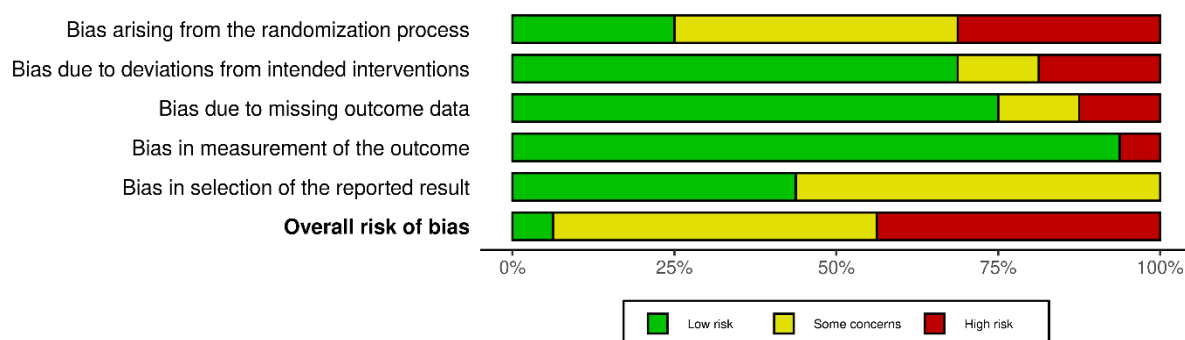


Figure 4 Risk of bias

Primary outcome: Clinical effectiveness

Three trials that were conducted in the community report smoking cessation outcomes (14, 15, 27). They found no significant difference between telephone and video interventions on smoking-related outcomes (Figure 5).

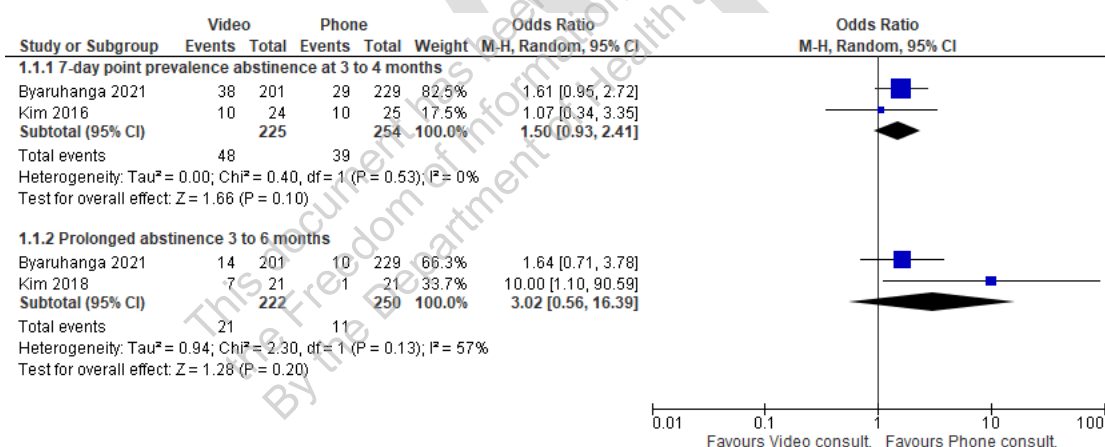
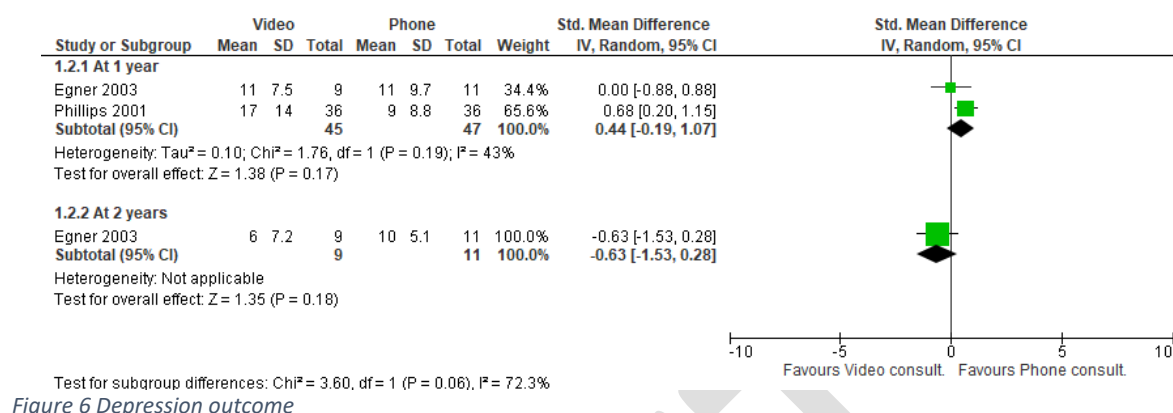
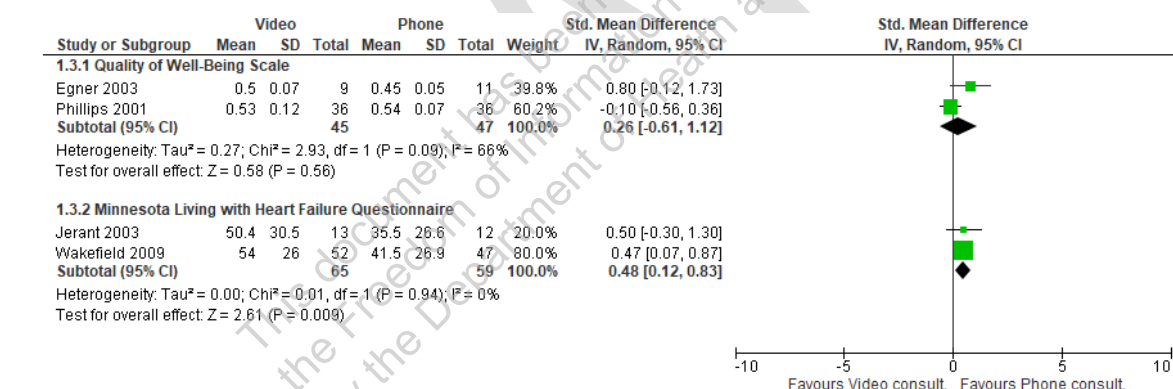


Figure 5 Smoking cessation outcomes

For depression outcomes (measured using the Centre for Epidemiological Studies-Depression (CES-D) scores), two studies found no significant difference between telephone and video interventions (9, 18) (Figure 6).



Four studies reported quality of life outcomes (9, 12, 18, 19). There was no difference in quality of well-being scores between telephone and video interventions (Figure 7). However, patients in the telephone group scored overall a half a point more on the Minnesota Living with Heart Failure Questionnaire scores (which ranges from 0-105, with higher scores indicating better quality of life). Although statistically significant, half a point is not likely to be clinically significant.



Secondary outcome: Healthcare utilisation

Three studies reported outcomes associated with healthcare utilisation, specifically, in-patient days of the two intervention groups (18, 21, 22). These study participants had either parenteral nutrition, chronic heart failure, or spinal cord injury, and were monitored in the community. There was no significant difference between telephone and video intervention groups regarding number of in-patient days (Figure 8).

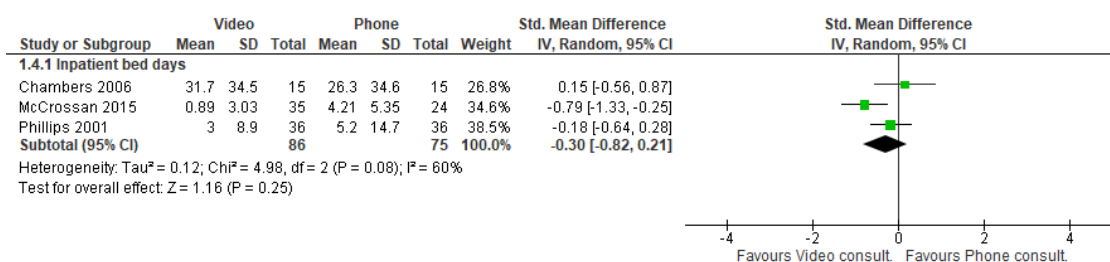


Figure 8 Healthcare utilization outcome

Two other studies compared the total healthcare costs of the two intervention groups (13, 22). In a study with chronic heart failure patients (13), the video care group total healthcare charges were higher than the telephone care group. This is in contract to a study with paediatric cardiology patients, where the total healthcare costs were a quarter of the telephone care group's (22). In both studies, telephone and video interventions cost much less than usual care.

Secondary outcome: Satisfaction with care

Six studies report on patient satisfaction with care, of which three are comparable and shown in Figure 9 (10, 12, 19). In the other three studies the patients were equally satisfied with both telephone and video telehealth in resolving their questions and concerns (16, 23, 24).

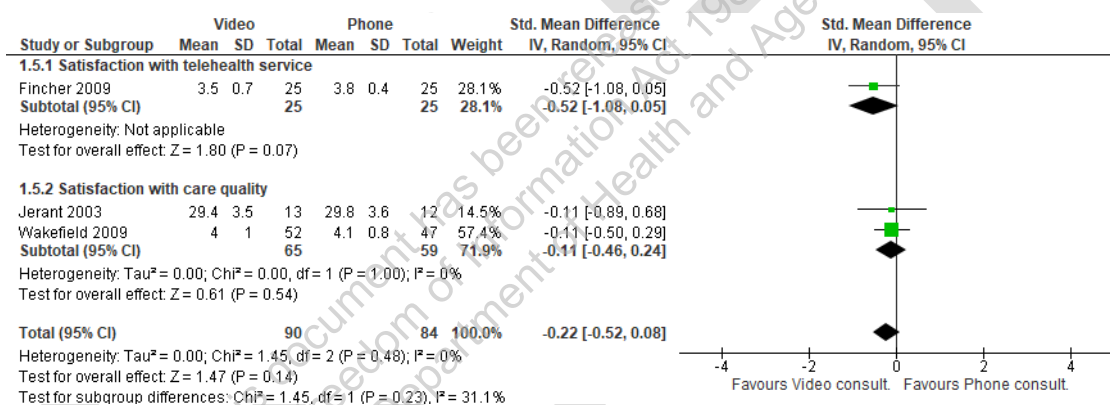


Figure 9 Patient satisfaction with telehealth

Seven studies addressed acceptability and feasibility of the telehealth interventions (11, 14, 15, 23-26). Both telephone and video interventions were largely and equally acceptable, however, the main challenges for feasibility were access to video-call equipment and individual patient's condition severity and self-efficacy. Clinicians also found videoconferencing acceptable and were more confident in making clinical judgements via the video call than telephone (23, 24).

None of the included studies reported on clinician satisfaction, patient safety or adverse events, telehealth interventions for diagnosis or initiating new treatment, or were set in primary care.

Discussion

This systematic review of 16 RCTs synthesised the available evidence on direct comparison of telephone and video telehealth consultations. There were no major differences on clinical effectiveness, patient satisfaction, and healthcare use (cost effectiveness) outcomes between the two modalities. Both telephone and video consultations were acceptable and feasible. Most of the studies had moderate to high risk of bias, thus reducing the quality of the evidence to low.

This review has many strengths. We prospectively developed and registered its protocol, conducted a rigorous search to find all available evidence, and reported the review in compliance with the PRISMA guidelines. Clear, strict inclusion and exclusion criteria allowed for studies in a variety of different health conditions to be synthesized. Furthermore, we only included RCTs and assessed the risk of bias of all included studies.

However, there are some limitations to our findings. All included studies were conducted in developed countries and most included fewer than 50 participants, therefore limiting the generalizability of the findings. Half of the studies were conducted prior to 2012 – before smartphones were in widespread use – and used a special video call devices installed in patients' homes, which would pose a challenge for scalability of the intervention. However, with the increasing ownership of personal smartphones, video communications have become more accessible. We also could not perform meta-analyses due to anticipated high heterogeneity and low number of studies in the relevant subgroups.

Many prior studies have demonstrated that telephone and video telehealth consultations separately, can be as safe and effective as face-to-face delivery in terms of acceptability, effectiveness, and safety outcomes, for a wide variety of conditions such as diabetes (28, 29) and mental health (2, 30, 31). This review demonstrated that when compared directly, telephone and video consultations are equally acceptable and effective.

Although the transition to telehealth happened swiftly since the pandemic's onset, we did not find studies set in primary care that compared telephone consultations with video ones. Given the increase in convenience and accessibility, and decrease in cost for healthcare, video or phone consultations could be highly beneficial in primary care delivery. Hence, the need for high-quality, robustly designed studies in primary care settings is considerable.

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Question A3 – Comparison of telehealth (telephone or video) to face-to-face delivery of care in areas of special interest (patient attendance, escalation to emergency dept.).

Changes in frequency of patient attendance

Telehealth is similarly effective to face-to-face clinic consultations for attendance outcomes using randomised controlled trials (RCTs) from known systematic reviews.

Evidence

6 randomized controlled trials: [Alcantara 2016], [Freeman 2013], [Hansen 2020], [Himelhoch 2013], [Morland 2015], [Morland 2020]

Study question and scope

Population and setting: participants of any age, gender, condition

Intervention: care provided via telehealth (via telephone or videoconferencing)

Comparison: care provided face-to-face

Outcomes: patient attendance

Design: randomised controlled trials.

Review methods

Screen of the search results from the Telehealth Review (2020-21) as well as the search results of the present review (Telehealth 2023). We searched: PubMed (MEDLINE), Embase, and CENTRAL via the Cochrane Library (which includes the clinicaltrials.gov and the World Health Organisation's International Clinical Trial Registry Platform, ICTRP) up to 11 January 2023, and screened studies against the inclusion criteria specified in the Methods section of the present report.

Main results

Characteristics of studies

Six trials in systematic reviews of telehealth reported outcomes on attendance. Two studies looked at interventions with those who have depressive symptoms (Alcantara 2012 and Himelhoch 2013), two studies looked at interventions for PTSD (Morland 2015 and Morland 2020), one was an intervention for poor adherence in type 1 diabetic adolescents (Freeman 2013) along with one for tele rehab for COPD outpatients. The summary overview of the six included studies is found below in Table 26.

Table 26 Summary overview of six included studies

Study (Location)	RCT design, N	Participants	Intervention	Telehealth modality & dose	Comparator modality & dose
Alcantara, 2016 (USA/Puerto Rico)	Parallel 3-arm, 257	Latinos aged 18+ with moderate/ severe depressive symptoms	ECLA (Engagement and counselling for Latinos)	Telephone, 1 per week session for 6-8 wks	F2F at clinic, 1 per week for 6-8 wks
Freeman, 2013, (USA)	Parallel 2-arm, 71	adolescents (12-19) with poorly controlled T1DM	BFST-D-behavioural family systems therapy	Video (skype), 60-90 min, up to 10 x sessions, 12wks	F2F at clinic 60-90 min, up to 10 sessions, 12 wks
Hansen, 2020 (Denmark)	Parallel 2 arm, 134	Adult outpatients with COPD	Group based tele rehab	Video, group based, 35 min exercise, 3 times per wk for 10 wks	F2F clinic, (60 min exercise, 2 times per week) for 10 wks
Himelhoch, 2013 (USA)	Parallel 2-arm, 34	Urban, low-income, adults with HIV/AIDS & depression	Cognitive behavioural therapy	Telephone 45min, 1x/week, 11 sessions over 14 wks in total	F2F at clinic 45min, 11 sessions over 14 wks
Morland, 2015 (USA)	Parallel 2-arm, 126 non-inferiority	Female adult veterans with PTSD,	Cognitive processing therapy	Video 90min, 1x/wk, 12 sessions	F2F at clinic 90 min, 12 sessions
Morland, 2020 (USA)	Parallel 3-arm, 175	Veteran adults with PTSD	PE (prolonged exposure)	Video at home, video at office 90min, 1x/wk, 6-15 sessions total*dependent on treatment response	F2F at home 90min, 1x/wk, 6-15 sessions total *dependent on treatment response

It is important to highlight that the telehealth modality differs among the various studies as some utilise the telephone whereas others use video. Additionally, the comparator is face-to-face at the clinic except for Morland 2020 who uses the comparator of face-to-face at home instead of face-to-face at the clinic. Furthermore, in most studies, the intervention is the same length, dose, or duration in both comparing groups. However, the exception is in Hansen, 2020, whose face-to-face group is 120 min per week versus only 105 min per week in the video group.

Risk of bias

Risk of bias was assessed with the Cochrane Collaboration's Risk of Bias tool 1 as part of previous reviews except for Alcantara, 2016 and Hansen, 2020. Studies were screened across seven domains: the method of random sequence generation and allocation concealment (selection bias), blinding of participants and personnel (performance bias), blinding of outcome assessment (detection bias), outcome reporting (attrition bias), and selective reporting (reporting bias). For each item, risk was either 'high', 'low' or 'unclear'. All studies had an overall high risk of bias as they had a level of high bias in at least one domain. Freeman, 2013 had the most domains with a high risk of bias, with three out of the seven considered a high risk. Both Morgan 2015 and 2020 had two out of the seven domains with a high risk of bias.

Outcomes

Table 27, below, outlines the summary of results regarding the attendance outcome.

Mean number of total sessions

Out of those studies that looked at the mean number of total sessions, two studies found that there were no differences in attendance between face-to-face and telephone (Alcantara, 2016 ($p=0.49$) and Himelhoch, 2013 ($p=0.2$)). The study by Freeman 2013 had no information on the standard deviation of the mean number of total sessions for each group, so a formal statistical test could not be performed. However, the means do look fairly consistent between groups (7.56 for the face-to-face group vs 7.03 for the Skype group) with a mean difference between telehealth and face-to-face of only -0.53.

Number of patients who completed treatment

Morland, 2015, found that there was no difference between face-to-face (50 patients, 79%) and video (48 patients, 76%), $p=0.67$) when comparing the number of patients that completed at least 10 sessions.

Hansen, 2020, found that more patients in the video intervention (57 patients, 85%) completed their treatment compared to the face-face group (43 patients, 64%); $p<0.01$. This could have been due in part because the face-to-face intervention was slightly longer in duration each week (120 minutes) compared to the video (105 min). However, when looking at the number who attended at least 70% of the total sessions there were no differences between the face-to-face (42 patients, 63%) and the video (49 patients, 73%) group; $p=0.27$.

Morland, 2020, did find a difference between face-to-face at home (46 patients, 79 %) and video at home (36 patients, 62%); $p=0.04$ and between face-to-face at home (46 patients, 79%) and office-based video (27 patients, 46 %); $p<0.001$.

Table 27 Summary of Attendance in arms of trials to telehealth versus face-to-face

Study	Outcomes	Intervention Groups		*Difference (P value)	Comments
		F2F N=84 (%)	Telephone N=87(%)		
Alcantara, 2016	Mean number of total sessions	4.58 (3.2)	4.90 (2.8)	+0.32 (0.49)	No difference
	Mean number of missed sessions	2.01 (2.6)	1.66 (2.3)	-0.35 (0.34)	No difference
	Mean number of additional sessions	0.60 (0.9)	0.55 (0.8)	-0.05 (0.75)	No difference
Study	Outcomes	Intervention Groups		*Difference (P value)	Comments
		F2F N=39	Skype N=32		
Freeman, 2013	Mean number of total sessions	7.56	7.03	-0.53	-
Study	Outcomes	Intervention Groups		*Difference (P value)	Comments
		F2F N=67 (%)	Video N=67 (%)		
Hansen, 2020	Median number of total sessions	16 (of 20)	25 (of 30)	+9	Total time similar as F2F were longer sessions
	Number of patients that completed treatment	43 (64)	57 (85)	+14 (<0.01)	More patients in the video intervention completed their treatment
	Number who attended at least 70% of total sessions	42 (63)	49 (73)	+7 (0.27)	No difference
Study	Outcomes	Intervention Groups		*Difference (P value)	Comments
		F2F N=18 (SD)	Telephone N=16(SD)		
Himelhoch, 2013	Mean number of total sessions	6.3 (3.1)	4.1 (2.7)	-2.2 (0.20)	No difference
Study	Outcomes	Intervention Groups		*Difference (P value)	Comments
		Face-to-face N=63(%)	Video N=63 (%)		
Morland, 2015	Number of patients that completed at least 10 sessions	50 (79)	48 (76)	-2 (0.67)	No difference
	Number of patients who dropped out	6 (9.5)	5 (7.9)	-1 (0.75)	No difference

Study	Outcomes	Intervention Groups			*Difference (P value)	Comments
		F2F Home n=58 n (%)	Office based TH (OT) n=59 n (%)	Home based TH (HT) n=58 n (%)		
Morland, 2020	Number of patients that completed treatment	46 (79)	27 (46)	36 (62)	OT and F2F home= -19 (p<0.001) HT and F2F home= -10 (p=0.04)	There is a difference between F2F home and both office and home telehealth

*Difference=Telehealth vs face-to-face

Conclusions

For patients across several different clinical areas, attendance rates are not significantly statistically different between face-to-face at clinic groups and either at home telephone or video groups. Attendance for face-to-face at home was found to be slightly significantly higher compared to at home video sessions. The conclusions are limited by the selective nature of the trials identified – as ones included in known telehealth reviews. Extending this to all trials of telehealth would be considerable effort, as it would entail a systematic review of all telehealth trials irrespective of the clinical topic area.

Commentary

Studies generally found no differences in attendance between face-to-face at the clinic and home telehealth using either a video or telephone when comparing the same dose of intervention. Although face-to-face at home sessions were better than home telehealth in one of the studies, this comparison is not a main consideration or as relevant as comparing face-to-face at the clinic with home telehealth.

References

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Escalation to emergency department: Transfer of residents of residential aged care facilities to emergency departments

Telehealth may reduce emergency departments' (ED) visits from residential aged care facilities (RACFs), but there is a need for economic analysis and further research.

Evidence

No systematic review available; a relevant scoping review by Sunner 2002 summarised.

Study question and scope

Population and setting: Residential Aged Care Facilities (RACF) (aged ≥ 65 years)

Intervention/concept: decision-making and assessments using telehealth

Comparison: Usual care – direct transfer to the emergency department (ED)

Outcomes: hospital avoidance, reducing adverse drug reactions, cost-effectiveness

Design: Individually and cluster randomised controlled trials.

Review methods

Medline, Embase and CINAHL were searched up to June 2022. The review explored the evidence for the effectiveness and experience of telehealth use, and impact on residential aged care facilities (RACF) staff's decision to transfer their residents to the emergency department. The review included 31 studies, of which only 4 were randomised trials, and their data are presented here.

Main Results

Two trials reported conflicting results regarding the hospital avoidance outcome. One RCT found that the telehealth groups were less likely to have their care escalated to a hospital than residents taken directly to ED, 27% vs 71% (OR 0.15, 95% CI 0.13-0.17). In contrast, the other Stepped Wedge RCT did not find a significant difference in hospitalisation rate in residents receiving off-hours physician coverage by telehealth compared to residents of homes receiving standard physician coverage.

One trial explored the impact of pharmacist-led telehealth services on reducing adverse drug reactions compared to usual care. The authors reported that the telehealth group had a lower incidence of alert-specific ADEs than usual care (adjusted incident rate ratio = 0.08; 95% CI 0.01–0.40).

The last trial explored the cost-effectiveness of linking a hospital-based multidisciplinary wound care team via telehealth for treating pressure ulcers compared to usual care. No significant differences were found in reducing pressure ulcers, ED visits, wound healing times and hospitalisations.

Conclusions

The review concludes that telehealth support may reduce ED visits, but there is a need for economic analysis and further research on telehealth use in RACFs to help prevent unnecessary hospital admissions and readmissions and its potential utility in enhancing care delivery for an older population in RACFs.

Reference

1. Sunner C, Giles MT, Kable A, Foureur M. Does telehealth influence the decision to transfer residents of residential aged care facilities to emergency departments? A scoping review. *Int J Older People Nurs.* 2023 Jan;18(1):e12517. doi: 10.1111/opn.12517. Epub 2022 Nov 17. PMID: 36394230.

DRAFT

This document has been released under
the Freedom of Information Act 1982 (CTH)
By the Department of Health and Aged Care

Appendix 1 – PRISMA Reporting Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Yes, but in methods due to the nature of the report.
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Each 1-page summary includes key abstract sections and content.
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Introduction section.
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Introduction section.
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Methods: inclusion & exclusion criteria section.
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Methods: search strategies section.
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Appendices 2-4.
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Methods: study selection and screening section.
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Methods: data extraction section.
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Methods: data extraction section; top-level information only, due to breadth of included topics.
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Methods: data extraction section; top-level information only, due to breadth of included topics.
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Methods: Assessment of the risk of bias section.
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Methods: Data synthesis section.
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Methods: Data synthesis section.

Section and Topic	Item #	Checklist item	Location where item is reported
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Methods: Data synthesis section.
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Methods: Data synthesis section.
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Methods: Data synthesis section.
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Methods: Data synthesis section.
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Methods: Data synthesis section.
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Not applicable.
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Not applicable.
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Appendix 5 (PRISMA flow charts)
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Appendix 6 (Key Excluded Studies)
Study characteristics	17	Cite each included study and present its characteristics.	Individual topic summaries
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Individual topic summaries
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Individual topic summaries, where applicable
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Individual topic summaries, where applicable
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Individual topic summaries, where applicable
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Individual topic summaries, where applicable
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Individual topic summaries, where applicable
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Not applicable
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Not applicable
DISCUSSION			

Section and Topic	Item #	Checklist item	Location where item is reported
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Executive Summary section + individual topic summaries
	23b	Discuss any limitations of the evidence included in the review.	Executive Summary section + individual topic summaries
	23c	Discuss any limitations of the review processes used.	Executive Summary section + individual topic summaries
	23d	Discuss implications of the results for practice, policy, and future research.	Executive Summary section + individual topic summaries
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Protocol for the overall review was developed a priori but not registered. For Question A2, the protocol was registered on the Open Science Framework.
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	From study authors.
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Reported in the relevant methods section.
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Appendix 8 – Funding and COI disclosures.
Competing interests	26	Declare any competing interests of review authors.	Appendix 8 – Funding and COI disclosures.
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	From study authors.

Appendix 2 – Search strategies to identify evidence for Question A1: Updated reviews and new evidence comparing telehealth (via telephone or video) to face-to-face delivery of care in primary and allied health

All searches cover the period of: 18 November 2020 (end-search date of the Telehealth Review 2020-21) to 11 January 2023

Searches for Randomised Controlled Trials

PubMed

("Telemedicine"[Mesh] OR "Videoconferencing"[Mesh] OR Telehealth[tiab] OR Telemedicine[tiab] OR Videoconferencing[tiab] OR ((Telephone[tiab]) AND (Consultation[tiab] OR face-to-face[tiab] OR in-person[tiab])) OR telephone-delivered[tiab])

AND

("Primary Health Care"[Mesh] OR "General Practice"[Mesh] OR rehabilitation[sh] OR "Outpatients"[Mesh] OR "Speech Therapy"[Mesh] OR Outpatient[tiab] OR "Primary health"[tiab] OR "Primary care"[tiab] OR "General practice"[tiab] OR "General practices"[tiab] OR "General practitioners"[tiab] OR "General practitioner"[tiab] OR "Family practice"[tiab] OR Physician[tiab] OR Physicians[tiab] OR Clinician[tiab] OR Clinicians[tiab] OR Therapist[tiab] OR Nurse[tiab] OR Nurses[tiab] OR Physiotherapist[tiab] OR Rehabilitation[tiab] OR Diabetes[tiab] OR Diabetic[tiab] OR Asthma[tiab] OR Depression[tiab] OR "Irritable bowel"[tiab] OR IBS[tiab] OR PTSD[tiab] OR "Chronic fatigue"[tiab])

AND

((Face to face[tiab]) OR "Usual care"[tiab] OR Visits[tiab] OR Visit[tiab] OR In-person[tiab] OR "In person"[tiab] OR ((Clinic[tiab] OR Centre[tiab] OR Home[tiab]) AND (Based[tiab] OR Contact[tiab])) OR Conventional[tiab] OR "Practice-based"[tiab] OR "Practice based"[tiab] OR Traditional[tiab] OR "Standard care"[tiab] OR Homecare[tiab] OR ((Routine[tiab] OR Home[tiab]) AND (Care[tiab])))

AND

("Delivery of Health Care"[Mesh] OR Delivery[tiab] OR Delivered[tiab] OR Via[tiab] OR Received[tiab])

AND

("Treatment Outcome"[Mesh] OR "Patient Satisfaction"[Mesh] OR Therapy[sh] OR Diagnosis[sh] OR "Clinical outcomes"[tiab] OR Treatment[tiab] OR Diagnostic[tiab] OR Efficacy[tiab])

AND

(Randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR placebo[tiab] OR "drug therapy"[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab])

NOT

(Animals[Mesh] not (Animals[Mesh] and Humans[Mesh]))

NOT

("Case Reports"[pt] OR Editorial[pt] OR Letter[pt] OR Meta-Analysis[pt] OR "Observational Study"[pt] OR "Systematic Review"[pt] OR "Case Report"[ti] OR "Case series"[ti] OR Meta-Analysis[ti] OR "Meta Analysis"[ti] OR "Systematic Review"[ti] OR "Systematic Literature Review"[ti] OR "Qualitative study"[ti] OR Protocol[ti])

CENTRAL

([mh Telemedicine] OR [mh Videoconferencing] OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR "face to face":ti,ab OR "in person":ti,ab)) OR "telephone delivered":ti,ab)

AND

([mh "Primary Health Care"] OR [mh "General Practice"] OR [mh Outpatients] OR [mh "Speech Therapy"] OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

((("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR Conventional:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab)))

AND

([mh "Delivery of Health Care"] OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

([mh "Treatment Outcome"] OR [mh "Patient Satisfaction"] OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

Embase

('Telemedicine'/exp OR 'Videoconferencing'/exp OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR face-to-face:ti,ab OR in-person:ti,ab)) OR telephone-delivered:ti,ab)

AND

('Primary Health Care'/exp OR 'General Practice'/exp OR 'Outpatient'/exp OR 'Speech Therapy'/exp OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

((("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR In-person:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR

Conventional:ti,ab OR Practice-based:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR
 "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab)))

AND

('health care delivery'/exp OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

('Treatment Outcome'/exp OR 'Patient Satisfaction'/exp OR "Clinical outcomes":ti,ab OR
 Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

AND

(random* OR factorial OR crossover OR placebo OR blind OR blinded OR assign OR assigned OR
 allocate OR allocated OR 'crossover procedure'/exp OR 'double-blind procedure'/exp OR
 'randomized controlled trial'/exp OR 'single-blind procedure'/exp NOT ('animal'/exp NOT
 ('animal'/exp AND 'human'/exp)))

AND [embase]/lim

Searches for Systematic Reviews

PubMed

("Telemedicine"[Mesh] OR "Videoconferencing"[Mesh] OR Telehealth[tiab] OR Telemedicine[tiab]
 OR Videoconferencing[tiab] OR ((Telephone[tiab]) AND (Consultation[tiab] OR face-to-face[tiab] OR
 in-person[tiab])) OR telephone-delivered[tiab])

AND

("Primary Health Care"[Mesh] OR "General Practice"[Mesh] OR rehabilitation[sh] OR
 "Outpatients"[Mesh] OR "Speech Therapy"[Mesh] OR Outpatient[tiab] OR "Primary health"[tiab] OR
 "Primary care"[tiab] OR "General practice"[tiab] OR "General practices"[tiab] OR "General
 practitioners"[tiab] OR "General practitioner"[tiab] OR "Family practice"[tiab] OR Physician[tiab] OR
 Physicians[tiab] OR Clinician[tiab] OR Clinicians[tiab] OR Therapist[tiab] OR Nurse[tiab] OR
 Nurses[tiab] OR Physiotherapist[tiab] OR Rehabilitation[tiab] OR Diabetes[tiab] OR Diabetic[tiab] OR
 Asthma[tiab] OR Depression[tiab] OR "Irritable bowel"[tiab] OR IBS[tiab] OR PTSD[tiab] OR "Chronic
 fatigue"[tiab])

AND

((Face to face[tiab]) OR "Usual care"[tiab] OR Visits[tiab] OR Visit[tiab] OR In-person[tiab] OR "In
 person"[tiab] OR ((Clinic[tiab] OR Centre[tiab] OR Home[tiab]) AND (Based[tiab] OR Contact[tiab]))
 OR Conventional[tiab] OR "Practice-based"[tiab] OR "Practice based"[tiab] OR Traditional[tiab] OR
 "Standard care"[tiab] OR Homecare[tiab] OR ((Routine[tiab] OR Home[tiab]) AND (Care[tiab]))))

AND

("Delivery of Health Care"[Mesh] OR Delivery[tiab] OR Delivered[tiab] OR Via[tiab] OR
 Received[tiab])

AND

("Treatment Outcome"[Mesh] OR "Patient Satisfaction"[Mesh] OR Therapy[sh] OR Diagnosis[sh] OR
 "Clinical outcomes"[tiab] OR Treatment[tiab] OR Diagnostic[tiab] OR Efficacy[tiab])

AND

(Meta-Analysis[pt] OR "Systematic Review"[pt] OR Meta-Analysis[ti] OR "Meta Analysis"[ti] OR "Systematic Review"[ti] OR "Systematic Literature Review"[ti])

NOT

("Case Reports"[pt] OR Editorial[pt] OR Letter[pt] OR "Observational Study"[pt] OR "Case Report"[ti] OR "Case series"[ti] OR "Qualitative study"[ti] OR Protocol[ti])

CDSR via the Cochrane Library

([mh Telemedicine] OR [mh Videoconferencing] OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR "face to face":ti,ab OR "in person":ti,ab)) OR "telephone delivered":ti,ab)

AND

([mh "Primary Health Care"] OR [mh "General Practice"] OR [mh Outpatients] OR [mh "Speech Therapy"] OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

((("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR Conventional:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab)))

AND

([mh "Delivery of Health Care"] OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

([mh "Treatment Outcome"] OR [mh "Patient Satisfaction"] OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

Embase

('Telemedicine'/exp OR 'Videoconferencing'/exp OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR face-to-face:ti,ab OR in-person:ti,ab)) OR telephone-delivered:ti,ab)

AND

('Primary Health Care'/exp OR 'General Practice'/exp OR 'Outpatient'/exp OR 'Speech Therapy'/exp OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR In-person:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR Conventional:ti,ab OR Practice-based:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab))

AND

('health care delivery'/exp OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

('Treatment Outcome'/exp OR 'Patient Satisfaction'/exp OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

AND

[(cochrane review]/lim OR [systematic review]/lim OR [meta analysis]/lim OR ((Search:ti,ab OR Searched:ti,ab) AND (PubMed:ti,ab OR MEDLINE:ti,ab)) OR (Systematic:ti,ab AND Review:ti,ab) OR 'Meta analysis':ti,ab OR Meta-analysis:ti,ab OR Review:ti OR ((Systematically:ti,ab OR Reviewed:ti,ab) AND (literature:ti,ab))

Searches of clinical trial registries

The search of Cochrane CENTRAL (see "searches for Randomised Controlled Trials," above) searched the following clinical trial registries:

- 1) ClinicalTrials.gov
- 2) WHO's International Clinical Trials Registry Platform (WHO ICTRP)

Appendix 3 – Search strategies to identify evidence for Question A2: Comparison of delivery of by one telehealth modality (e.g. videoconferencing) to another telehealth modality (e.g. teleconferencing), in primary and allied healthcare

All searches cover the period of: inception of each source (database, registry) to 10 February 2023

Searches for Randomised Controlled Trials

PubMed

("Telemedicine"[Mesh] OR Telehealth[tiab] OR Telemedicine[tiab] OR ((Telephone[tiab]) AND (Consultation[tiab] OR face-to-face[tiab] OR in-person[tiab]))) OR telephone-delivered[tiab])

AND

("Primary Health Care"[Mesh] OR "General Practice"[Mesh] OR rehabilitation[sh] OR "Outpatients"[Mesh] OR "Speech Therapy"[Mesh] OR Outpatient[tiab] OR "Primary health"[tiab] OR "Primary care"[tiab] OR "General practice"[tiab] OR "General practices"[tiab] OR "General practitioners"[tiab] OR "General practitioner"[tiab] OR "Family practice"[tiab] OR Physician[tiab] OR Physicians[tiab] OR Clinician[tiab] OR Clinicians[tiab] OR Therapist[tiab] OR Nurse[tiab] OR Nurses[tiab] OR Physiotherapist[tiab] OR Rehabilitation[tiab] OR Diabetes[tiab] OR Diabetic[tiab] OR Asthma[tiab] OR Depression[tiab] OR "Irritable bowel"[tiab] OR IBS[tiab] OR PTSD[tiab] OR "Chronic fatigue"[tiab])

AND

("Videoconferencing"[Mesh] OR Videoconferencing[tiab] OR Videoconference[tiab] OR Videoconferences[tiab] OR Video[tiab] OR Skype[tiab] OR Zoom[tiab])

AND

("Delivery of Health Care"[Mesh] OR Delivery[tiab] OR Delivered[tiab] OR Via[tiab] OR Received[tiab])

AND

("Treatment Outcome"[Mesh] OR "Patient Satisfaction"[Mesh] OR Therapy[sh] OR Diagnosis[sh] OR "Clinical outcomes"[tiab] OR Treatment[tiab] OR Diagnostic[tiab] OR Efficacy[tiab])

AND

(Randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR placebo[tiab] OR "drug therapy"[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab])

NOT

(Animals[Mesh] not (Animals[Mesh] and Humans[Mesh]))

NOT

("Case Reports"[pt] OR Editorial[pt] OR Letter[pt] OR Meta-Analysis[pt] OR "Observational Study"[pt] OR "Systematic Review"[pt] OR "Case Report"[ti] OR "Case series"[ti] OR Meta-

Analysis[ti] OR "Meta Analysis"[ti] OR "Systematic Review"[ti] OR "Systematic Literature Review"[ti]
OR "Qualitative study"[ti] OR Protocol[ti])

CENTRAL

([mh Telemedicine] OR Telehealth:ti,ab OR Telemedicine:ti,ab OR ((Telephone:ti,ab) AND
(Consultation:ti,ab OR "face to face":ti,ab OR "in person":ti,ab)) OR "telephone delivered":ti,ab)

AND

([mh "Primary Health Care"] OR [mh "General Practice"] OR [mh Outpatients] OR [mh "Speech
Therapy"] OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General
practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General
practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab
OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR
Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR
"Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

([mh Videoconferencing] OR Videoconferencing:ti,ab OR Videoconference:ti,ab OR
Videoconferences:ti,ab OR Video:ti,ab OR Skype:ti,ab OR Zoom:ti,ab)

AND

([mh "Delivery of Health Care"] OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

([mh "Treatment Outcome"] OR [mh "Patient Satisfaction"] OR "Clinical outcomes":ti,ab OR
Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

Embase

('Telemedicine'/exp OR Telehealth:ti,ab OR Telemedicine:ti,ab OR ((Telephone:ti,ab) AND
(Consultation:ti,ab OR face-to-face:ti,ab OR in-person:ti,ab)) OR telephone-delivered:ti,ab)

AND

('Primary Health Care'/exp OR 'General Practice'/exp OR 'Outpatient'/exp OR 'Speech Therapy'/exp
OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR
"General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family
practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR
Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR
Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR
IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

(Videoconferencing/exp OR Videoconferencing:ti,ab OR Videoconference:ti,ab OR
Videoconferences:ti,ab OR Video:ti,ab OR Skype:ti,ab OR Zoom:ti,ab)

AND

('health care delivery'/exp OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

('Treatment Outcome'/exp OR 'Patient Satisfaction'/exp OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

AND

(random* OR factorial OR crossover OR placebo OR blind OR blinded OR assign OR assigned OR allocate OR allocated OR 'crossover procedure'/exp OR 'double-blind procedure'/exp OR 'randomized controlled trial'/exp OR 'single-blind procedure'/exp NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)))

AND [embase]/lim

Searches for Systematic Reviews

PubMed

("Telemedicine"[Mesh] OR Telehealth[tiab] OR Telemedicine[tiab] OR ((Telephone[tiab]) AND (Consultation[tiab] OR face-to-face[tiab] OR in-person[tiab])) OR telephone-delivered[tiab])

AND

("Primary Health Care"[Mesh] OR "General Practice"[Mesh] OR rehabilitation[sh] OR "Outpatients"[Mesh] OR "Speech Therapy"[Mesh] OR Outpatient[tiab] OR "Primary health"[tiab] OR "Primary care"[tiab] OR "General practice"[tiab] OR "General practices"[tiab] OR "General practitioners"[tiab] OR "General practitioner"[tiab] OR "Family practice"[tiab] OR Physician[tiab] OR Physicians[tiab] OR Clinician[tiab] OR Clinicians[tiab] OR Therapist[tiab] OR Nurse[tiab] OR Nurses[tiab] OR Physiotherapist[tiab] OR Rehabilitation[tiab] OR Diabetes[tiab] OR Diabetic[tiab] OR Asthma[tiab] OR Depression[tiab] OR "Irritable bowel"[tiab] OR IBS[tiab] OR PTSD[tiab] OR "Chronic fatigue"[tiab])

AND

("Videoconferencing"[Mesh] OR Videoconferencing[tiab] OR Videoconference[tiab] OR Videoconferences[tiab] OR Video[tiab] OR Skype[tiab] OR Zoom[tiab])

AND

("Delivery of Health Care"[Mesh] OR Delivery[tiab] OR Delivered[tiab] OR Via[tiab] OR Received[tiab])

AND

("Treatment Outcome"[Mesh] OR "Patient Satisfaction"[Mesh] OR Therapy[sh] OR Diagnosis[sh] OR "Clinical outcomes"[tiab] OR Treatment[tiab] OR Diagnostic[tiab] OR Efficacy[tiab])

AND

(Meta-Analysis[pt] OR "Systematic Review"[pt] OR Meta-Analysis[ti] OR "Meta Analysis"[ti] OR "Systematic Review"[ti] OR "Systematic Literature Review"[ti])

NOT

("Case Reports"[pt] OR Editorial[pt] OR Letter[pt] OR "Observational Study"[pt] OR "Case Report"[ti] OR "Case series"[ti] OR "Qualitative study"[ti] OR Protocol[ti])

CDSR via the Cochrane Library

([mh Telemedicine] Telehealth:ti,ab OR Telemedicine:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR "face to face":ti,ab OR "in person":ti,ab)) OR "telephone delivered":ti,ab)

AND

([mh "Primary Health Care"] OR [mh "General Practice"] OR [mh Outpatients] OR [mh "Speech Therapy"] OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

([mh Videoconferencing] OR Videoconferencing:ti,ab OR Videoconference:ti,ab OR Videoconferences:ti,ab OR Video:ti,ab OR Skype:ti,ab OR Zoom:ti,ab)

AND

([mh "Delivery of Health Care"] OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

([mh "Treatment Outcome"] OR [mh "Patient Satisfaction"] OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

Embase

('Telemedicine'/exp OR 'Videoconferencing'/exp OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR face-to-face:ti,ab OR in-person:ti,ab)) OR telephone-delivered:ti,ab)

AND

('Primary Health Care'/exp OR 'General Practice'/exp OR 'Outpatient'/exp OR 'Speech Therapy'/exp OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

(Videoconferencing/exp OR Videoconferencing:ti,ab OR Videoconference:ti,ab OR Videoconferences:ti,ab OR Video:ti,ab OR Skype:ti,ab OR Zoom:ti,ab)

AND

('health care delivery'/exp OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

('Treatment Outcome'/exp OR 'Patient Satisfaction'/exp OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab)

AND

([cochrane review]/lim OR [systematic review]/lim OR [meta analysis]/lim OR ((Search:ti,ab OR Searched:ti,ab) AND (PubMed:ti,ab OR MEDLINE:ti,ab)) OR (Systematic:ti,ab AND Review:ti,ab) OR

'Meta analysis':ti,ab OR Meta-analysis:ti,ab OR Review:ti OR ((Systematically:ti,ab OR Reviewed:ti,ab) AND (literature:ti,ab)))

Searches of clinical trial registries

The search of Cochrane CENTRAL (see “searches for Randomised Controlled Trials,” above) searched the following clinical trial registries:

- 1) ClinicalTrials.gov
- 2) WHO's International Clinical Trials Registry Platform (WHO ICTRP)

DRAFT

This document has been released under
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By the Department of Health and Aged Care

Appendix 4 – Search strategies to identify evidence for Question A3: Comparison of telehealth (telephone or video) to face-to-face delivery of care in areas of special interest (patient attendance, escalation to emergency dept.).

All searches cover the period of: inception of each source (database, registry) to 11 January 2023

Searches for Randomised Controlled Trials

PubMed

("Telemedicine"[Mesh] OR "Videoconferencing"[Mesh] OR Telehealth[tiab] OR Telemedicine[tiab] OR Videoconferencing[tiab] OR ((Telephone[tiab]) AND (Consultation[tiab] OR face-to-face[tiab] OR in-person[tiab])) OR telephone-delivered[tiab])

AND

("Primary Health Care"[Mesh] OR "General Practice"[Mesh] OR rehabilitation[sh] OR "Outpatients"[Mesh] OR "Speech Therapy"[Mesh] OR Outpatient[tiab] OR "Primary health"[tiab] OR "Primary care"[tiab] OR "General practice"[tiab] OR "General practices"[tiab] OR "General practitioners"[tiab] OR "General practitioner"[tiab] OR "Family practice"[tiab] OR Physician[tiab] OR Physicians[tiab] OR Clinician[tiab] OR Clinicians[tiab] OR Therapist[tiab] OR Nurse[tiab] OR Nurses[tiab] OR Physiotherapist[tiab] OR Rehabilitation[tiab] OR Diabetes[tiab] OR Diabetic[tiab] OR Asthma[tiab] OR Depression[tiab] OR "Irritable bowel"[tiab] OR IBS[tiab] OR PTSD[tiab] OR "Chronic fatigue"[tiab])

AND

((Face to face[tiab]) OR "Usual care"[tiab] OR Visits[tiab] OR Visit[tiab] OR In-person[tiab] OR "In person"[tiab] OR ((Clinic[tiab] OR Centre[tiab] OR Home[tiab]) AND (Based[tiab] OR Contact[tiab])) OR Conventional[tiab] OR "Practice-based"[tiab] OR "Practice based"[tiab] OR Traditional[tiab] OR "Standard care"[tiab] OR Homecare[tiab] OR ((Routine[tiab] OR Home[tiab]) AND (Care[tiab])))

AND

("Delivery of Health Care"[Mesh] OR Delivery[tiab] OR Delivered[tiab] OR Via[tiab] OR Received[tiab])

AND

("Treatment Outcome"[Mesh] OR "Patient Satisfaction"[Mesh] OR "Anti-Bacterial Agents"[Mesh] OR "Diagnostic Imaging"[Mesh] OR "Pathology"[Mesh] OR "Emergency Medical Services"[Mesh] OR Therapy[sh] OR Diagnosis[sh] OR "Clinical outcomes"[tiab] OR Treatment[tiab] OR Diagnostic[tiab] OR Efficacy[tiab] OR Antibiotics[tiab] OR Antibiotic[tiab] OR Anti-Bacterial[tiab] OR Anti-Bacterials[tiab] OR Imaging[tiab] OR Attendance[tiab] OR Pathology[tiab] OR Emergency[tiab])

AND

(Randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR placebo[tiab] OR "drug therapy"[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab])

NOT

(Animals[Mesh] not (Animals[Mesh] and Humans[Mesh]))

NOT

("Case Reports"[pt] OR Editorial[pt] OR Letter[pt] OR Meta-Analysis[pt] OR "Observational Study"[pt] OR "Systematic Review"[pt] OR "Case Report"[ti] OR "Case series"[ti] OR Meta-Analysis[ti] OR "Meta Analysis"[ti] OR "Systematic Review"[ti] OR "Systematic Literature Review"[ti] OR "Qualitative study"[ti] OR Protocol[ti])

CENTRAL

([mh Telemedicine] OR [mh Videoconferencing] OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR "face to face":ti,ab OR "in person":ti,ab)) OR "telephone delivered":ti,ab)

AND

([mh "Primary Health Care"] OR [mh "General Practice"] OR [mh Outpatients] OR [mh "Speech Therapy"] OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

((("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR Conventional:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab)))

AND

([mh "Delivery of Health Care"] OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

([mh "Treatment Outcome"] OR [mh "Patient Satisfaction"] OR [mh "Anti-Bacterial Agents"] OR [mh "Diagnostic Imaging"] OR [mh Pathology] OR [mh "Emergency Medical Services"] OR [mh /TH] OR [mh /DI] OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab OR Antibiotics:ti,ab OR Antibiotic:ti,ab OR Anti-Bacterial:ti,ab OR Anti-Bacterials:ti,ab OR Imaging:ti,ab OR Attendance:ti,ab OR Pathology:ti,ab OR Emergency:ti,ab)

Embase

('Telemedicine'/exp OR 'Videoconferencing'/exp OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR face-to-face:ti,ab OR in-person:ti,ab)) OR telephone-delivered:ti,ab)

AND

('Primary Health Care'/exp OR 'General Practice'/exp OR 'Outpatient'/exp OR 'Speech Therapy'/exp OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR

Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR In-person:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR Conventional:ti,ab OR Practice-based:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab))

AND

('health care delivery'/exp OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

('Treatment Outcome'/exp OR 'Patient Satisfaction'/exp OR 'antiinfective agent'/exp OR 'Diagnostic Imaging'/exp OR Pathology/exp OR 'emergency health service'/exp OR 'Clinical outcomes':ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab OR Antibiotics:ti,ab OR Antibiotic:ti,ab OR Anti-Bacterial:ti,ab OR Anti-Bacterials:ti,ab OR Imaging:ti,ab OR Attendance:ti,ab OR Pathology:ti,ab OR Emergency:ti,ab)

AND

(random* OR factorial OR crossover OR placebo OR blind OR blinded OR assign OR assigned OR allocate OR allocated OR 'crossover procedure'/exp OR 'double-blind procedure'/exp OR 'randomized controlled trial'/exp OR 'single-blind procedure'/exp NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)))

AND [embase]/lim

Searches for Systematic Reviews

PubMed

("Telemedicine"[Mesh] OR "Videoconferencing"[Mesh] OR Telehealth[tiab] OR Telemedicine[tiab] OR Videoconferencing[tiab] OR ((Telephone[tiab]) AND (Consultation[tiab] OR face-to-face[tiab] OR in-person[tiab])) OR telephone-delivered[tiab])

AND

("Primary Health Care"[Mesh] OR "General Practice"[Mesh] OR rehabilitation[sh] OR "Outpatients"[Mesh] OR "Speech Therapy"[Mesh] OR Outpatient[tiab] OR "Primary health"[tiab] OR "Primary care"[tiab] OR "General practice"[tiab] OR "General practices"[tiab] OR "General practitioners"[tiab] OR "General practitioner"[tiab] OR "Family practice"[tiab] OR Physician[tiab] OR Physicians[tiab] OR Clinician[tiab] OR Clinicians[tiab] OR Therapist[tiab] OR Nurse[tiab] OR Nurses[tiab] OR Physiotherapist[tiab] OR Rehabilitation[tiab] OR Diabetes[tiab] OR Diabetic[tiab] OR Asthma[tiab] OR Depression[tiab] OR "Irritable bowel"[tiab] OR IBS[tiab] OR PTSD[tiab] OR "Chronic fatigue"[tiab])

AND

((Face to face[tiab]) OR "Usual care"[tiab] OR Visits[tiab] OR Visit[tiab] OR In-person[tiab] OR "In person"[tiab] OR ((Clinic[tiab] OR Centre[tiab] OR Home[tiab]) AND (Based[tiab] OR Contact[tiab])) OR Conventional[tiab] OR "Practice-based"[tiab] OR "Practice based"[tiab] OR Traditional[tiab] OR "Standard care"[tiab] OR Homecare[tiab] OR ((Routine[tiab] OR Home[tiab]) AND (Care[tiab]))

AND

("Delivery of Health Care"[Mesh] OR Delivery[tiab] OR Delivered[tiab] OR Via[tiab] OR Received[tiab])

AND

("Treatment Outcome"[Mesh] OR "Patient Satisfaction"[Mesh] OR "Anti-Bacterial Agents"[Mesh] OR "Diagnostic Imaging"[Mesh] OR "Pathology"[Mesh] OR "Emergency Medical Services"[Mesh] OR Therapy[sh] OR Diagnosis[sh] OR "Clinical outcomes"[tiab] OR Treatment[tiab] OR Diagnostic[tiab] OR Efficacy[tiab] OR Antibiotics[tiab] OR Antibiotic[tiab] OR Anti-Bacterial[tiab] OR Anti-Bacterials[tiab] OR Imaging[tiab] OR Attendance[tiab] OR Pathology[tiab] OR Emergency[tiab])

AND

(Meta-Analysis[pt] OR "Systematic Review"[pt] OR Meta-Analysis[ti] OR "Meta Analysis"[ti] OR "Systematic Review"[ti] OR "Systematic Literature Review"[ti])

NOT

("Case Reports"[pt] OR Editorial[pt] OR Letter[pt] OR "Observational Study"[pt] OR "Case Report"[ti] OR "Case series"[ti] OR "Qualitative study"[ti] OR Protocol[ti])

CDSR via the Cochrane Library

([mh Telemedicine] OR [mh Videoconferencing] OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR "face to face":ti,ab OR "in person":ti,ab)) OR "telephone delivered":ti,ab)

AND

([mh "Primary Health Care"] OR [mh "General Practice"] OR [mh Outpatients] OR [mh "Speech Therapy"] OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)

AND

((("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR Conventional:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab)))

AND

([mh "Delivery of Health Care"] OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)

AND

([mh "Treatment Outcome"] OR [mh "Patient Satisfaction"] OR [mh "Anti-Bacterial Agents"] OR [mh "Diagnostic Imaging"] OR [mh Pathology] OR [mh "Emergency Medical Services"] OR [mh /TH] OR [mh /DI] OR "Clinical outcomes":ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab OR Antibiotics:ti,ab OR Antibiotic:ti,ab OR Anti-Bacterial:ti,ab OR Anti-Bacterials:ti,ab OR Imaging:ti,ab OR Attendance:ti,ab OR Pathology:ti,ab OR Emergency:ti,ab)

Embase

('Telemedicine'/exp OR 'Videoconferencing'/exp OR Telehealth:ti,ab OR Telemedicine:ti,ab OR Videoconferencing:ti,ab OR ((Telephone:ti,ab) AND (Consultation:ti,ab OR face-to-face:ti,ab OR in-person:ti,ab)) OR telephone-delivered:ti,ab)
AND

('Primary Health Care'/exp OR 'General Practice'/exp OR 'Outpatient'/exp OR 'Speech Therapy'/exp OR Outpatient:ti,ab OR "Primary health":ti,ab OR "Primary care":ti,ab OR "General practice":ti,ab OR "General practices":ti,ab OR "General practitioners":ti,ab OR "General practitioner":ti,ab OR "Family practice":ti,ab OR Physician:ti,ab OR Physicians:ti,ab OR Clinician:ti,ab OR Clinicians:ti,ab OR Therapist:ti,ab OR Nurse:ti,ab OR Nurses:ti,ab OR Physiotherapist:ti,ab OR Rehabilitation:ti,ab OR Diabetes:ti,ab OR Diabetic:ti,ab OR Asthma:ti,ab OR Depression:ti,ab OR "Irritable bowel":ti,ab OR IBS:ti,ab OR PTSD:ti,ab OR "Chronic fatigue":ti,ab)
AND

((("Face to face":ti,ab) OR "Usual care":ti,ab OR Visits:ti,ab OR Visit:ti,ab OR In-person:ti,ab OR "In person":ti,ab OR ((Clinic:ti,ab OR Centre:ti,ab OR Home:ti,ab) AND (Based:ti,ab OR Contact:ti,ab)) OR Conventional:ti,ab OR Practice-based:ti,ab OR "Practice based":ti,ab OR Traditional:ti,ab OR "Standard care":ti,ab OR Homecare:ti,ab OR ((Routine:ti,ab OR Home:ti,ab) AND (Care:ti,ab)))
AND

('health care delivery'/exp OR Delivery:ti,ab OR Delivered:ti,ab OR Via:ti,ab OR Received:ti,ab)
AND

('Treatment Outcome'/exp OR 'Patient Satisfaction'/exp OR 'antiinfective agent'/exp OR 'Diagnostic Imaging'/exp OR Pathology/exp OR 'emergency health service'/exp OR 'Clinical outcomes':ti,ab OR Treatment:ti,ab OR Diagnostic:ti,ab OR Efficacy:ti,ab OR Antibiotics:ti,ab OR Antibiotic:ti,ab OR Anti-Bacterial:ti,ab OR Anti-Bacterials:ti,ab OR Imaging:ti,ab OR Attendance:ti,ab OR Pathology:ti,ab OR Emergency:ti,ab)
AND

AND
([cochrane review]/lim OR [systematic review]/lim OR [meta analysis]/lim OR ((Search:ti,ab OR Searched:ti,ab) AND (PubMed:ti,ab OR MEDLINE:ti,ab)) OR (Systematic:ti,ab AND Review:ti,ab) OR 'Meta analysis':ti,ab OR Meta-analysis:ti,ab OR Review:ti OR ((Systematically:ti,ab OR Reviewed:ti,ab) AND (literature:ti,ab)))

Searches of clinical trial registries

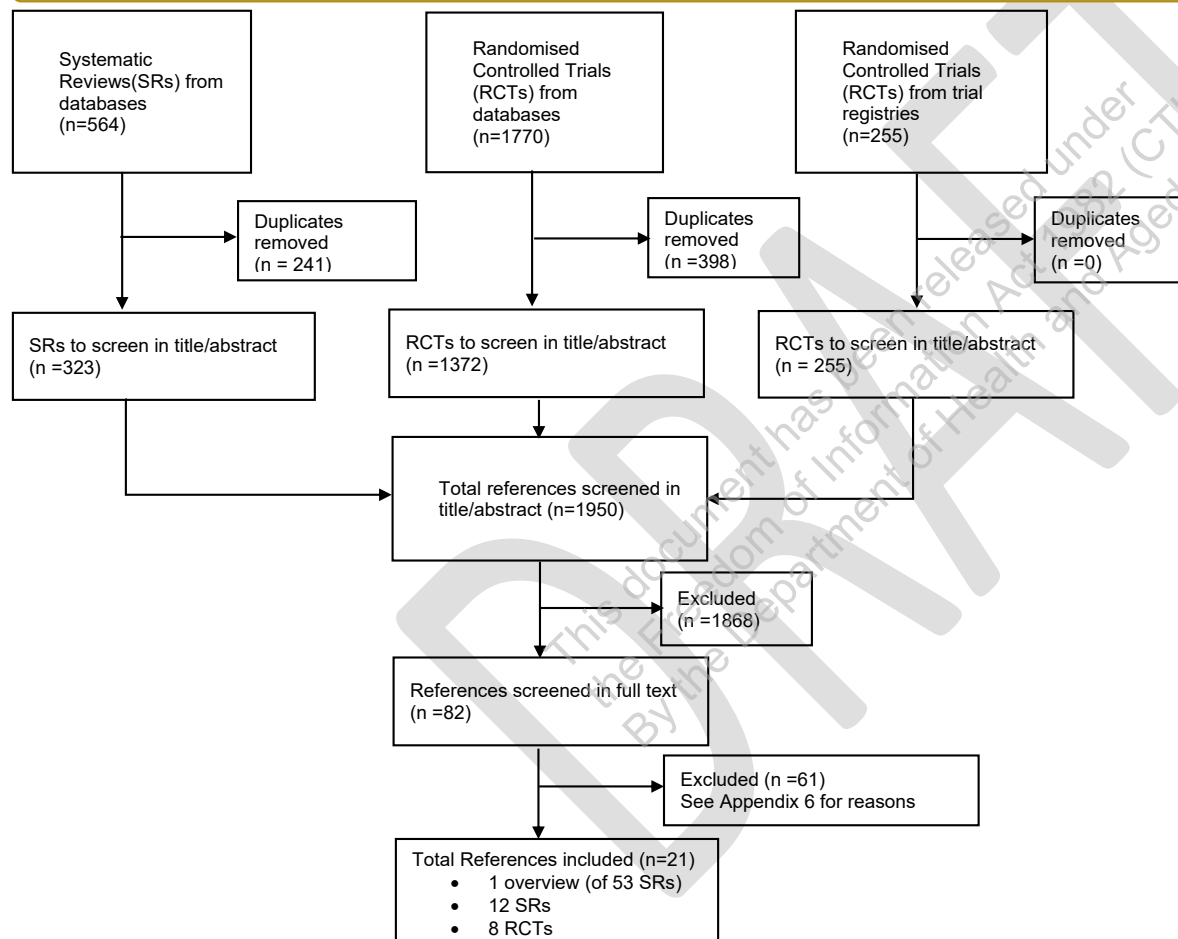
The search of Cochrane CENTRAL (see “searches for Randomised Controlled Trials,” above) searched the following clinical trial registries:

- 1) ClinicalTrials.gov
- 2) WHO's International Clinical Trials Registry Platform (WHO ICTRP)

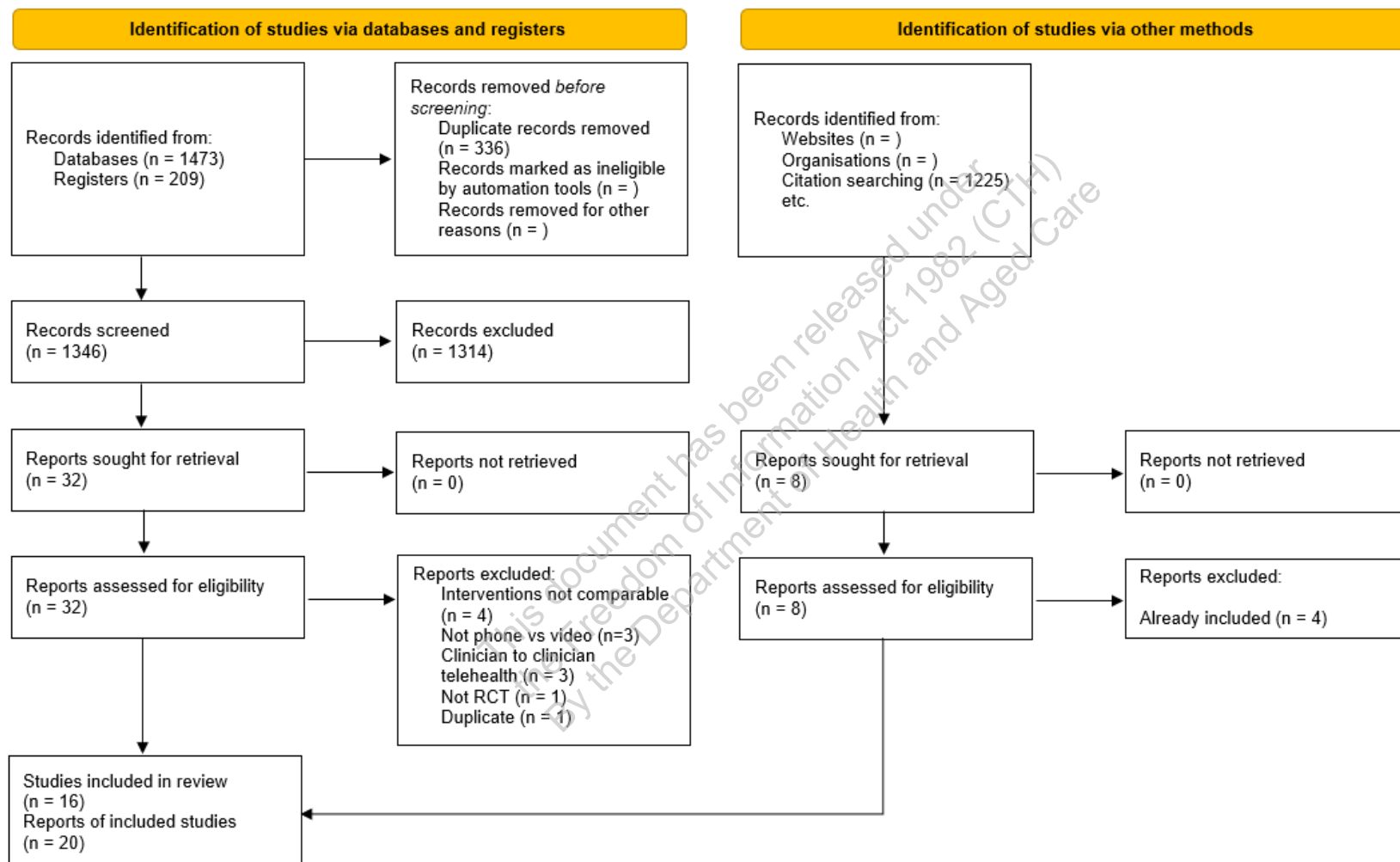
Appendix 5 – PRISMA flow charts (search results and screening process)

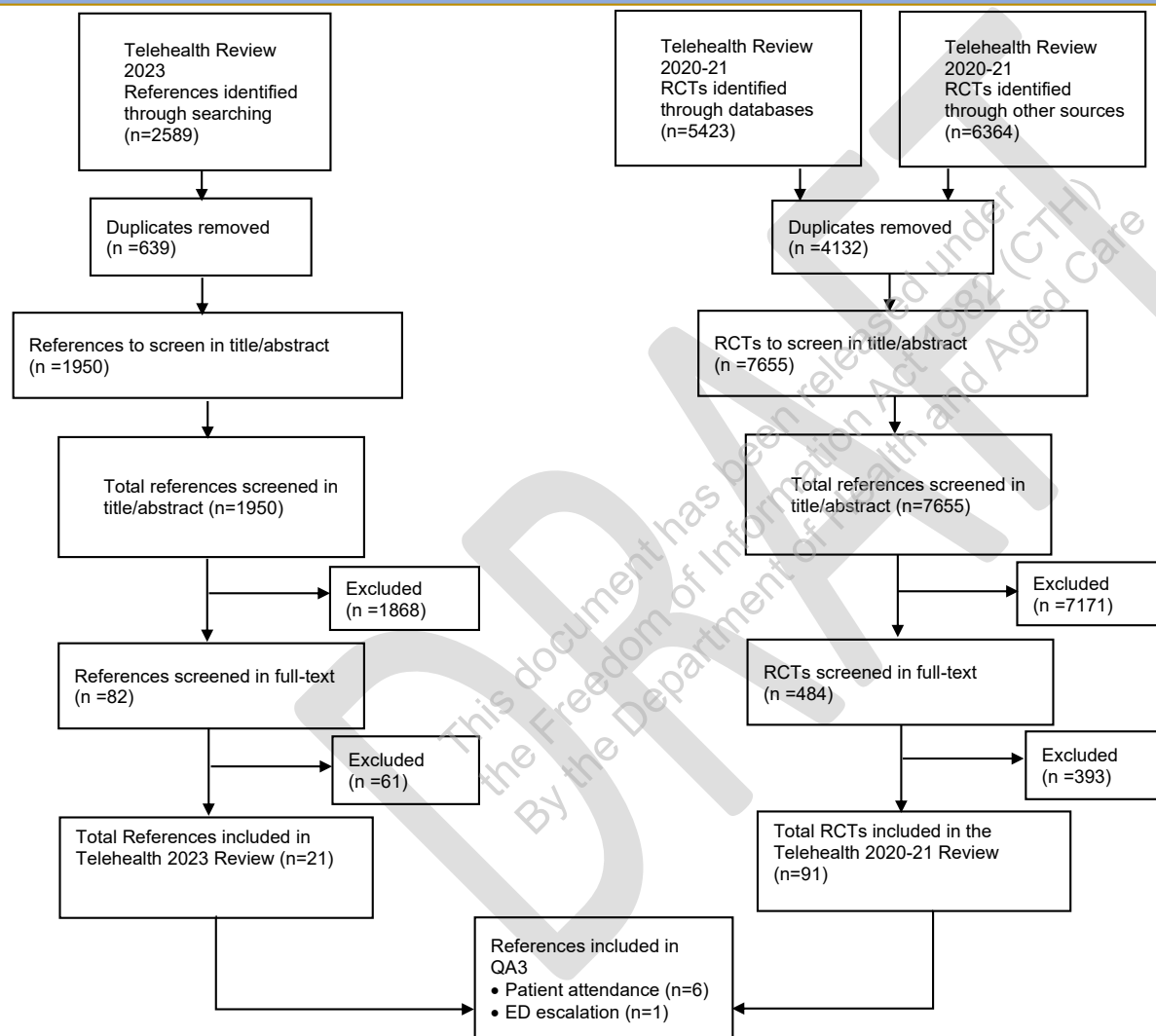
Question A1. Updated reviews and new evidence comparing telehealth (via telephone or video) to face-to-face delivery of care in primary and allied health.

QA1: Update of Telehealth Review 2021: Evidence for telehealth in primary and allied health care



Question A2. Comparison of delivery of by one telehealth modality (e.g. videoconferencing) to another telehealth modality (e.g. teleconferencing), in primary and allied healthcare.



Question A3. Comparison of telehealth (telephone or video) to face-to-face delivery of care in areas of special interest.**QA3: Additional outcomes: Evidence for telehealth in primary and allied health care**

Appendix 6 – Key Excluded Studies: systematic reviews and randomised trials excluded at full-text screen stage

Key relevant systematic reviews excluded at full-text screening stage:

No.	Reference	Reason for exclusion
1	Amiri P, Niazkhani Z, Pirnejad H, ShojaeiBaghini M, Bahaadinbeigy K. Objectives, Outcomes, Facilitators, and Barriers of Telemedicine Systems for Patients with Alzheimer's Disease and their Caregivers and Care Providers: A Systematic Review. <i>Archives of Iranian Medicine</i> . 2022;25(8):564-73.	AMSTAR<7
2	Anderson A, O'Connell SS, Thomas C, Chimmanamada R. Telehealth Interventions to Improve Diabetes Management Among Black and Hispanic Patients: a Systematic Review and Meta-Analysis. <i>J Racial Ethn Health Disparities</i> . 2022;9(6):2375-86.	Interventions of included studies
3	Bellanti DM, Kelber MS, Workman DE, Beech EH, Belsher BE. Rapid Review on the Effectiveness of Telehealth Interventions for the Treatment of Behavioral Health Disorders. <i>Mil Med</i> . 2022;187(5-6):e577-e88.	AMSTAR<7
4	Bucki FM, Clay MB, Tobiczky H, Green BN. Scoping Review of Telehealth for Musculoskeletal Disorders: Applications for the COVID-19 Pandemic. <i>Journal of Manipulative and Physiological Therapeutics</i> . 2021;44(7):558-65.	AMSTAR<7
5	Camden C, Pratte G, Fallon F, Couture M, Berbari J, Tousignant M. Diversity of practices in telerehabilitation for children with disabilities and effective intervention characteristics: results from a systematic review. <i>Disabil Rehabil</i> . 2020;42(24):3424-36.	AMSTAR<7
6	Chen LJ, Kamp K, Fang A, Heitkemper MM. Delivery Methods of Cognitive Behavior Therapy for Patients With Irritable Bowel Syndrome. <i>Gastroenterol Nurs</i> . 2022;45(3):149-58.	AMSTAR<7
7	Corso M, Cancelliere C, Mior S, Salmi LR, Cedraschi C, Nordin M, et al. Are Nonpharmacologic Interventions Delivered Through Synchronous Telehealth as Effective and Safe as In-Person Interventions for the Management of Patients With Nonacute Musculoskeletal Conditions? A Systematic Rapid Review. <i>Arch Phys Med Rehabil</i> . 2022;103(1):145-54.e11.	Comparators used in included studies
8	Eilidh C, Franklin V. Does a telemedicine approach improve glycaemic control and quality of life in children and adolescents with type 1 diabetes? <i>Pediatric Diabetes</i> . 2021;22(SUPPL 30):79.	Abstract Only
9	Farrell A, George N, Amado S, Wozniak J. A systematic review of the literature on telepsychiatry for bipolar disorder. <i>Brain Behav</i> . 2022;12(10):e2743.	AMSTAR<7
10	Fernandez E, Woldgabreal Y, Day A, Pham T, Gleich B, Aboujaoude E. Live psychotherapy by video versus in-person: A meta-analysis of efficacy and its relationship to types and targets of treatment. <i>Clin Psychol Psychother</i> . 2021;28(6):1535-49.	AMSTAR<7
11	Gandole S, Yadav V. REVIEW OF TELEREHABILITATION OF PHYSICAL THERAPY. <i>Journal of Pharmaceutical Negative Results</i> . 2022;13:3043-6.	AMSTAR<7
12	Gava V, Ribeiro LP, Barreto RPG, Camargo PR. Effectiveness of physical therapy given by telerehabilitation on pain and disability of individuals with shoulder pain: A systematic review. <i>Clin Rehabil</i> . 2022;36(6):715-25.	Interventions of included studies
13	Giovanetti AK, Punt SEW, Nelson EL, Ilardi SS. Teletherapy Versus In-Person Psychotherapy for Depression: A Meta-Analysis of Randomized Controlled Trials. <i>Telemed J E Health</i> . 2022;28(8):1077-89.	AMSTAR<7
14	Goodarzi Z, Holroyd-Leduc J, Seitz D, Ismail Z, Kirkham J, Wu P, et al. Efficacy of virtual interventions for reducing symptoms of depression in community-dwelling older adults: a systematic review. <i>International psychogeriatrics</i> . 2022:1-11.	Interventions of included studies
15	Guaiana G, Mastrangelo J, Hendriks S, Barbui C. A Systematic Review of the Use of Telepsychiatry in Depression. <i>Community Ment Health J</i> . 2021;57(1):93-100.	AMSTAR<7
16	Huang J, Fan Y, Zhao K, Yang C, Zhao Z, Chen Y, et al. Do patients with and survivors of COVID-19 benefit from telerehabilitation? A meta-analysis of randomized controlled trials. <i>Front Public Health</i> . 2022;10:954754.	Comparators used in the studies
17	Ibeggazene S, Turner R, Rosario D, Bourke L. Remote interventions to improve exercise behaviour in sedentary people living with and beyond cancer: a systematic review and meta-analysis. <i>BMC Cancer</i> . 2021;21(1):308.	Intervention of studies

18	Kinley E, Skene I, Steed E, Pinnock H, McClatchey K. Delivery of supported self-management in remote asthma reviews: A systematic rapid realist review. <i>Health Expect.</i> 2022;25(4):1200-14.	AMSTAR<7
19	Lindenfeld Z, Berry C, Albert S, Massar R, Shelley D, Kwok L, et al. Synchronous Home-Based Telemedicine for Primary Care: A Review. <i>Medical Care Research and Review.</i> 2023;80(1):3-15.	AMSTAR<7
20	Lu AD, Veet CA, Aljundi O, Whitaker E, Smith WB, 2nd, Smith JE. A Systematic Review of Physical Examination Components Adapted for Telemedicine. <i>Telemed J E Health.</i> 2022;28(12):1764-85.	AMSTAR<7
21	Mabeza RMS, Maynard K, Tarn DM. Influence of synchronous primary care telemedicine versus in-person visits on diabetes, hypertension, and hyperlipidemia outcomes: a systematic review. <i>BMC Prim Care.</i> 2022;23(1):52.	AMSTAR<7
22	Matsumoto K, Hamatani S, Shimizu E. Effectiveness of Videoconference-Delivered Cognitive Behavioral Therapy for Adults With Psychiatric Disorders: Systematic and Meta-Analytic Review. <i>J Med Internet Res.</i> 2021;23(12):e31293.	Intervention of studies
23	McClellan MJ, Osbaldiston R, Wu R, Yeager R, Monroe AD, McQueen T, et al. The effectiveness of telepsychology with veterans: A meta-analysis of services delivered by videoconference and phone. <i>Psychol Serv.</i> 2022;19(2):294-304.	AMSTAR<7
24	McLean SA, Booth AT, Schnabel A, Wright BJ, Painter FL, McIntosh JE. Exploring the Efficacy of Telehealth for Family Therapy Through Systematic, Meta-analytic, and Qualitative Evidence. <i>Clin Child Fam Psychol Rev.</i> 2021;24(2):244-66.	Interventions of studies
25	Moreira AM, Marobin R, Escott GM, Rados DV, Silveiro SP. Telephone calls and glycemic control in type 2 diabetes: A PRISMA-compliant systematic review and meta-analysis of randomized clinical trials. <i>Journal of telemedicine and telecare.</i> 2022:1357633X221102257.	Study types; (comparator, intervention, Secondary care)
26	Naslund JA, Mitchell LM, Joshi U, Nagda D, Lu C. Economic evaluation and costs of telepsychiatry programmes: A systematic review. <i>J Telemed Telecare.</i> 2022;28(5):311-30.	Interventions of Included study
27	Robson N, Hosseinzadeh H. Impact of Telehealth Care among Adults Living with Type 2 Diabetes in Primary Care: A Systematic Review and Meta-Analysis of Randomised Controlled Trials. <i>Int J Environ Res Public Health.</i> 2021;18(22).	AMSTAR<7
28	Şahin E, Yavuz Veizi BG, Naharci MI. Telemedicine interventions for older adults: A systematic review. <i>Journal of telemedicine and telecare.</i> 2021:1357633X211058340.	AMSTAR<7
29	Sánchez-Gutiérrez C, Gil-García E, Rivera-Sequeiros A, López-Millán JM. Effectiveness of telemedicine psychoeducational interventions for adults with non-oncological chronic disease: A systematic review. <i>J Adv Nurs.</i> 2022;78(5):1267-80.	AMSTAR<7
30	Sekhon H, Sekhon K, Launay C, Afililo M, Innocente N, Vahia I, et al. Telemedicine and the rural dementia population: A systematic review. <i>Maturitas.</i> 2021;143:105-14.	Study types (NO RCTs)
31	Shahouzaie N, Gholamiyan Arefi M. Telehealth in speech and language therapy during the COVID-19 pandemic: a systematic review. <i>Disabil Rehabil Assist Technol.</i> 2022:1-8.	AMSTAR<7
32	Stavropoulos KKM, Bolourian Y, Blacher J. A scoping review of telehealth diagnosis of autism spectrum disorder. <i>PLoS ONE.</i> 2022;17(2 February).	AMSTAR<7
33	Sunner C, Giles MT, Kable A, Foureur M. Does telehealth influence the decision to transfer residents of residential aged care facilities to emergency departments? A scoping review. <i>International journal of older people nursing.</i> 2022:e12517.	AMSTAR<7
34	Suso-Martí L, La Touche R, Herranz-Gómez A, Angulo-Díaz-Parreño S, Paris-Aleman A, Cuenca-Martínez F. Effectiveness of Telerehabilitation in Physical Therapist Practice: An Umbrella and Mapping Review With Meta-Meta-Analysis. <i>Phys Ther.</i> 2021;101(5).	AMSTAR<7
35	Tao KFM, Brennan-Jones CG, Jayakody DMP, Swanepoel W, Fava G, Bellekom SR, et al. Validation of teleaudiology hearing aid rehabilitation services for adults: a systematic review of outcome measurement tools. <i>Disabil Rehabil.</i> 2022;44(16):4161-78.	AMSTAR<7
36	Tristão LS, Tavares G, Tustumi F, Bernardo WM, Duarte ML, Peccin MS, et al. Telemedicine for Diabetes Mellitus Management in Older Adults: Systematic Review. <i>Current diabetes reviews.</i> 2022.	Included study types
37	Turk K, Jacobson Vann J, Oppewal S. Antibiotic prescribing patterns and guideline-concordant management of acute respiratory tract infections in virtual urgent care settings. <i>J Am Assoc Nurse Pract.</i> 2022;34(6):813-24.	AMSTAR<7
38	Velayati F, Ayatollahi H, Hemmat M. A Systematic Review of the Effectiveness of Telerehabilitation Interventions for Therapeutic Purposes in the Elderly. <i>Methods of information in medicine.</i> 2020;59(2-3):104-9.	AMSTAR<7

Key relevant randomised controlled trials excluded at full-text screening stage:

No.	Reference	Reason for exclusion
1	Armstrong AW, Chambers CJ, Maverakis E, Cheng MY, Dunnick CA, Chren MM, et al. Effectiveness of Online vs In-Person Care for Adults with Psoriasis: A Randomized Clinical Trial. <i>JAMA Network Open</i> . 2018;1(6).	Comparator
2	Befort CA, Vanwormer JJ, Desouza C, Ellerbeck EF, Gajewski B, Kimminau KS, et al. Effect of Behavioral Therapy with In-Clinic or Telephone Group Visits vs In-Clinic Individual Visits on Weight Loss among Patients with Obesity in Rural Clinical Practice: A Randomized Clinical Trial. <i>JAMA - Journal of the American Medical Association</i> . 2021;325(4):363-72.	Intervention
3	Dobkin RD, Mann SL, Weintraub D, Rodriguez KM, Miller RB, St Hill L, et al. Innovating Parkinson's Care: A Randomized Controlled Trial of Telemedicine Depression Treatment. <i>Mov Disord</i> . 2021;36(11):2549-58.	Intervention
4	Fappa E, Yannakoulia M, Ioannidou M, Skoumas Y, Pitsavos C, Stefanadis C. Telephone counseling intervention improves dietary habits and metabolic parameters of patients with the metabolic syndrome: A randomized controlled trial. <i>Review of Diabetic Studies</i> . 2012;9(1):36-45.	Secondary Care
5	Fortier CB, Currao A, Kenna A, Kim S, Beck BM, Katz D, et al. Online Telehealth Delivery of Group Mental Health Treatment Is Safe, Feasible, and Increases Enrollment and Attendance in Post-9/11 U.S. Veterans. <i>Behav Ther</i> . 2022;53(3):469-80.	Study design
6	Fridriksson B, Berndtson M, Hamnered H, Faeder E, Ding Z, Hedner J, et al. Beneficial effects of telemedicine-based follow up in sleep apnea - a randomized controlled multi-center trial. <i>Sleep Medicine</i> . 2022;100:S69-S70.	Poster Abstract
7	Guaracha-Basáñez GA, Contreras-Yáñez I, Estrada González VA, Pacheco-Santiago LD, Valverde-Hernández SS, Pascual-Ramos V. Impact of a hybrid medical care model in the rheumatoid arthritis patient-reported outcomes: A non-inferiority crossover randomized study. <i>J Telemed Telecare</i> . 2022;1357633x221122098.	Intervention
8	Kalichman SC, Katner H, Eaton LA, Hill M, Ewing W, Kalichman MO. Randomized Community Trial Comparing Telephone versus Clinic-Based Behavioral Health Counseling for People Living with HIV in a Rural Setting. <i>J Rural Health</i> . 2022;38(4):728-39.	Secondary Care
9	Lopez CM, Gilmore AK, Brown WJ, Hahn CK, Muzzy W, Grubaugh A, et al. Effects of Emotion Dysregulation on Post-treatment Post-traumatic Stress Disorder and Depressive Symptoms Among Women Veterans With Military Sexual Trauma. <i>J Interpers Violence</i> . 2022;37(15-16):Np13143-np61.	Intervention
10	Matheson BE, Datta N, Welch H, Citron K, Couturier J, Lock JD. Parent and clinician perspectives on virtual guided self-help family-based treatment (GSH-FBT) for adolescents with anorexia nervosa. <i>Eat Weight Disord</i> . 2022;27(7):2583-93.	comparator
11	Mohr DC, Ho J, Duffecy J, Reifler D, Sokol L, Burns MN, et al. Effect of telephone-administered vs face-to-face cognitive behavioral therapy on adherence to therapy and depression outcomes among primary care patients: A randomized trial. <i>JAMA</i> . 2012;307(21):2278-85.	Used in original SR
12	Molavynnejad S, Miladinia M, Jahangiri M. A randomized trial of comparing video telecare education vs. in-person education on dietary regimen compliance in patients with type 2 diabetes mellitus: a support for clinical telehealth Providers. <i>BMC Endocr Disord</i> . 2022;22(1):116.	Intervention
13	Renard M, Gaboury I, Michaud F, Tousignant M. The acceptability of two remote monitoring modalities for patients waiting for services in a physiotherapy outpatient clinic. <i>Musculoskeletal Care</i> . 2022;20(3):616-24.	Intervention
14	Romijn G, Batelaan N, Koning J, van Balkom A, de Leeuw A, Benning F, et al. Acceptability, effectiveness and cost-effectiveness of blended cognitive-behavioural therapy (bCBT) versus face-to-face CBT (ftfCBT) for anxiety disorders in specialised mental health care: A 15-week randomised controlled trial with 1-year follow-up. <i>PLoS One</i> . 2021;16(11):e0259493.	Study design
15	So H, Chow E, Cheng I, Lau X, Li T, Szeto CC, et al. Use of telemedicine for follow-up of lupus nephritis in the COVID-19 outbreak: The 6-month results of a randomized controlled trial. <i>Arthritis and Rheumatology</i> . 2021;73(SUPPL 9):3073-5.	Poster Abstract

16	So H, Chow E, Cheng IT, Lau SL, Li TK, Szeto CC, et al. Use of telemedicine for follow-up of lupus nephritis in the COVID-19 outbreak: The 6-month results of a randomized controlled trial. <i>Lupus</i> . 2022;31(4):488-94.	Restricted to Covid-19
17	So H, Chow E, Cheng IT, Lau SL, Li TK, Szeto CC, et al. USE of TELEMEDICINE for FOLLOW-UP of LUPUS NEPHRITIS in the COVID-19 OUTBREAK: ONE-YEAR, PRAGMATIC RANDOMISED CONTROLLED TRIAL. <i>Annals of the Rheumatic Diseases</i> . 2022;81:440.	Poster Abstract
18	Taguchi K, Numata N, Takanashi R, Takemura R, Yoshida T, Kutsuzawa K, et al. Clinical Effectiveness and Cost-effectiveness of Videoconference-Based Integrated Cognitive Behavioral Therapy for Chronic Pain: Randomized Controlled Trial. <i>J Med Internet Res</i> . 2021;23(11):e30690.	Comparator
19	Tarakci E, Tarakci D, Hajebrahimi F, Budak M. Supervised exercises versus telerehabilitation. Benefits for persons with multiple sclerosis. <i>Acta Neurol Scand</i> . 2021;144(3):303-11.	Secondary Care
20	Tian Y, Zhang S, Huang F, Ma L. Comparing the blood glucose control efficacy of telemedicine with that of standard prenatal care in women with gestational diabetes mellitus: a randomized controlled trial. <i>JMIR mHealth and uHealth</i> . 2021.	Intervention
21	Valdiviezo WV, Aldaz EM, Paredes FP, De Las Mercedes Hernández Bandera N. Self-Management Of Patients With Mild Copd In Primary Care: A Random Controlled Trial. <i>Journal of Pharmaceutical Negative Results</i> . 2022;13:1904-14.	Comparator
22	Victorson D, Hanson B, Kirwen N, Shevrin D. A 4-week video-conference delivered mindfulness-based pilot rct in advanced prostate cancer: Feasibility, acceptability, & proof of concept. <i>Global Advances in Health and Medicine</i> . 2021;10:20.	Poster Abstract
23	Yin W, Liu Y, Hu H, Sun J, Liu Y, Wang Z. Telemedicine management of type 2 diabetes mellitus in obese and overweight young and middle-aged patients during COVID-19 outbreak: A single-center, prospective, randomized control study. <i>PLoS One</i> . 2022;17(9):e0275251.	Intervention/restricted to Covid-19

Appendix 7 – Quality assessment (AMSTAR) of systematic reviews

AMSTAR scores of screened systematic reviews (Only those with score of 7 or more)

Systematic reviews included in report (score of 7 or more deemed high quality)													
Reference	Area of practice	AMSTAR Question											Overall score
		1	2	3	4	5	6	7	8	9	10	11	
Anderson 2022. Telehealth Interventions to Improve Diabetes Management Among Black and Hispanic Patients: a Systematic Review and Meta-Analysis.	Diabetes	1	1	0	1	0	1	1	1	1	1	0	8
Bakhit 2021. Antibiotic prescribing for acute infections in synchronous telehealth consultations: a systematic review and meta-analysis	Antibiotic prescribing	1	1	1	1	1	1	1	1	1	1	0	10
Boggan, 2020. Effectiveness of Acute Care Remote Triage Systems: a Systematic Review.	GP & Nurse triage	1	0	1	1	0	1	1	1	1	1	0	8
Bonnevie 2021. Advanced telehealth technology improves home-based exercise therapy for people with stable chronic obstructive pulmonary disease: a systematic review.	COPD	1	1	1	1	0	1	1	0	1	1	0	8
Corso 2022. Are Nonpharmacologic Interventions Delivered Through Synchronous Telehealth as Effective and Safe as In-Person Interventions for the Management of Patients With Nonacute Musculoskeletal Conditions? A Systematic Rapid Review.	Musculoskeletal	1	1	0	1	0	1	1	1	1	0	0	7
Goodarzi 2022. Efficacy of virtual interventions for reducing symptoms of depression in community-dwelling older adults: a systematic review. International psychogeriatrics.	Depression	1	1	1	1	0	1	1	1	1	0	0	8
Greenwood 2022. Telehealth versus face-to-face psychotherapy for less common mental health conditions: systematic review and meta-	Mental misc	1	1	1	1	1	1	1	1	1	1	0	10

analysis of randomized controlled trials													
Han 2021. Effectiveness of telemedicine for cardiovascular disease management: systematic review and meta-analysis.	CVD management	1	0	0	1	0	1	1	1	1	1	0	7
Huang 2022. Do patients with and survivors of COVID-19 benefit from telerehabilitation? A meta-analysis of randomized controlled trials.	COVID-19	1	1	0	1	0	1	1	1	1	1	0	8
Huang 2019. The effectiveness of telemedicine on body mass index: A systematic review and meta-analysis. .	Weight management	1	1	1	1	0	1	1	1	1	1	0	9
Ibeggazene 2021. Remote interventions to improve exercise behaviour in sedentary people living with and beyond cancer: a systematic review and meta-analysis.	Exercise in Cancer	1	1	0	1	0	1	1	1	1	0	0	7
Kew, 2016. Remote versus face-to-face check-ups for asthma.	Asthma	1	1	1	1	1	1	1	1	1	1	1	11
Krzyzaniak 2021. The effectiveness of telehealth versus face-to face interventions for anxiety disorders: A systematic review and meta-analysis.	Anxiety	1	1	1	1	1	1	1	1	1	1	0	10
Krzyzaniak 2023. Telerehabilitation versus face-to-face rehabilitation in the management of musculoskeletal conditions: a systematic review and meta-analysis.	Musculoskeletal	1	1	1	1	1	1	1	1	1	1	0	10
Lee, 2018. Do telehealth interventions improve oral anticoagulation management? A systematic review and meta-analysis.	Anticoagulants	1	1	0	1	0	1	1	1	1	0	0	7

Matsumoto 2021. Effectiveness of Videoconference-Delivered Cognitive Behavioral Therapy for Adults With Psychiatric Disorders: Systematic and Meta-Analytic Review.	Mental misc.	1	1	1	0	0	1	1	1	1	1	0	8
McCleery 2021. Diagnostic test accuracy of telehealth assessment for dementia and mild cognitive impairment.	Diagnostic test accuracy	1	1	1	1	1	1	1	1	1	1	0	10
McLean 2021. Exploring the Efficacy of Telehealth for Family Therapy Through Systematic, Meta-analytic, and Qualitative Evidence.	Mental misc	1	1	1	1	0	1	1	1	1	1	0	9
Moreira 2022. Telephone calls and glycemic control in type 2 diabetes: A PRISMA-compliant systematic review and meta-analysis of randomized clinical trials. Journal of telemedicine and telecare.	Diabetes	1	1	0	1	0	1	1	0	1	1	0	7
Naslund 2022. Economic evaluation and costs of telepsychiatry programmes: A systematic review.	Economics	1	1	1	1	0	1	0	1	1	0	0	7
Scott 2022. Telehealth v. face-to-face provision of care to patients with depression: a systematic review and meta-analysis.	Depression	1	1	1	1	1	1	1	1	1	1	0	10
Scott 2022. Real-time telehealth versus face-to-face management for patients with PTSD in primary care: a systematic review and meta-analysis.	PTSD	1	1	1	1	1	1	1	1	1	1	0	10
Scott 2022. Telehealth versus face-to-face delivery of cognitive behavioural therapy for insomnia (CBT-I): a systematic review and meta-analysis of	Insomnia	1	1	1	1	1	1	1	1	1	1	0	10

randomised controlled trials. (unpublished)													
Seron 2021. Effectiveness of Telerehabilitation in Physical Therapy: A Rapid Overview.	Tele rehab in physical therapy	1	1	1	1	0	1	1	1	0	0	0	7
Suarilah 2022. Effectiveness of telehealth interventions among traumatic brain injury survivors: A systematic review and meta-analysis.	Traumatic brain injury survivors	1	1	0	1	0	1	1	1	1	1	0	8
Tristão 2022. Telemedicine for Diabetes Mellitus Management in Older Adults: Systematic Review.	Diabetes	1	1	0	1	0	1	1	1	1	0	0	7

Appendix 8 – Funding and Conflict of Interest Disclosures

The present review was commissioned by the Department of Health and Aged Care, Canberra, Australia. The present review is an update and extension to a previously commissioned review by the then-Department of Health, in 2020-21. Five authors of the present review (AMS, MB, HG, JC, PG) were also involved in the conduct of the previous review. The Department was involved in establishing the parameters of the study question (PICO). The Department was not involved in the conduct, analysis, or interpretation of the evidence syntheses' findings. The authors report no other actual or potential conflicts of interest.

DRAFT
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References

[N.B. References for the individual evidence syntheses/summaries are provided at the end of each]

1. Snoswell C, LJ C, Hobson G, Taylor M, Haydon H, Thomas E, et al. Telehealth and coronavirus: Medicare Benefits Schedule (MBS) activity in Australia 2023 [Available from: <https://coh.centre.uq.edu.au/telehealth-and-coronavirus-medicare-benefits-schedule-mbs-activity-australia>].
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9. Clark J, Glasziou P, Del Mar C, Bannach-Brown A, Stehlik P, Scott AM. A full systematic review was completed in 2 weeks using automation tools: a case study. *J Clin Epidemiol*. 2020;121:81-90.
10. Nathan DM, Genuth S, Lachin J, Cleary P, Crofford O, Davis M, et al. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med*. 1993;329(14):977-86.

Attachment D – Telehealth item taxonomy

s22



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s22

BTOS	Video	Phone	1 in 12
	M1805: Nurse Practitioner Telehealth Services Non-referred time-tiered attendances	M1810: Nurse Practitioner Phone Services Non-referred time-tiered attendances	NO
	M1901: Midwifery Telehealth Services	M1902: Midwifery Phone Services	NO
	M1823: Follow up service provided by a practice nurse or Aboriginal and Torres Strait Islander health practitioner	M1824: Follow up service provided by a practice nurse or Aboriginal and Torres Strait Islander health practitioner	N/A

Attachment 6.4 (b): Established relationship criteria

The MBS telehealth items are available to providers of telehealth services for a wide range of consultations. All Medicare eligible Australians can receive these services if they have an established clinical relationship with a GP, OMP, or a medical practice. This requirement supports longitudinal and person-centred primary health care that is associated with better health outcomes.

An established relationship means the medical practitioner performing the service:

- has provided at least one face-to-face service to the patient in the 12 months preceding the telehealth attendance; or

- is located at a medical practice where the patient has had at least one face-to-face service arranged by that practice in the 12 months preceding the telehealth attendance (including services performed by another doctor located at the practice, or a service performed by another health professional located at the practice, such as a practice nurse or Aboriginal and Torres Strait Islander health worker); or

- is a participant in the Approved Medical Deputising Service program, and the Approved Medical Deputising Service provider employing the medical practitioner has a formal agreement with a medical practice that has provided at least one face-to-face service to the patient in the 12 months preceding the telehealth attendance

The established relationship requirement is a rolling requirement applying to every telehealth consultation. For each telehealth consultation, the patient must meet one of the eligibility requirements outline above, unless one of the following exemptions applies.

Use the 'List Paragraph' style for bullet points

Include private health insurance clinical category and procedure type

The *established relationship* requirement does not apply to:

- children under the age of 12 months; or

- people who are homeless; or

- patients receiving an urgent after-hours (unsociable hours) service; or

- patients of medical practitioners at an Aboriginal Medical Service or an Aboriginal Community Controlled Health Service; or

- people living in an area declared as a natural disaster area due by a State or Territory Government

- people isolating because of a COVID-related State or Territory public health order, or in COVID-19 quarantine because of a State or Territory public health order; or

- people living in a flood-affected area, defined as a State or Territory local government area which is currently declared as a natural disaster area due to flood by a State or Territory Government.

AND patients accessing specific MBS items for:

- blood borne viruses, sexual or reproductive health consultations; and

- pregnancy counselling services; and

- mental health services; and

- nicotine and smoking cessation counselling.

Temporary exemptions from the established relationship requirements have also been provided:

from 14 October 2022 until 31 December 2023, patients that have tested COVID-19 positive within the last 7 days, verified by either a laboratory test or COVID-19 rapid antigen self-test (RAT) which has been approved for supply in Australia by the Therapeutic Goods Administration; and

from 1 January 2023 until 31 December 2023, a person who suspects they have COVID-19 and who meets the PBS criteria for COVID-19 antiviral therapy and requires a GP referral for a PCR test to verify diagnosis.

A patient's participation in a previous telehealth consultation does not constitute a face-to-face service for the purposes of ongoing telehealth eligibility. New patients of a practice and regular patients who have not attended the practice face to face in the preceding 12 months must have a face-to-face attendance if they do not satisfy the above exemptions.

Subsequent services may be provided by telehealth, if safe and clinically appropriate to do so.

Practitioners should confirm that patients have received an eligible face-to-face attendance in the preceding 12 months, or meet one or more of the relevant exemption criteria for the service, prior to providing a telehealth attendance. Failure to meet the established relationship requirement may result in incorrect claiming.

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Attachment 6.5

MRAC – Telehealth post implementation review

Targeted Stakeholder Consultation list

Organisation	Acronym
Australian College of Rural and Remote Medicine	ACRRM
Australian Medical Association	AMA
Consumer Health Forum	CHF
Royal Australian College of General Practitioners	RACGP
Royal Australasian College of Physicians	RACP
Royal Australasian College of Surgeons	RACS
Rural Doctors Association of Australia	RDAA
Health Issues Centre	HIC
National Mental Health Consumer and Carer Forum	NMHCCF
Australian Association of Practice Management	AAPM
Nursing and Midwifery Board of Australia	NMBA
Australian College of Midwives	ACM
Australian College of Nurse Practitioners	ACNP
Australian Nursing and Midwifery Federation	ANMF
National Association of Aboriginal and Torres Strait Islander Health Workers and Practitioners	NAATSIHWP
Services for Australian Rural and Remote Allied Health (SARRAH)	SARRAH
National Aboriginal Community Controlled Health Organisation	NACCHO
Indigenous Allied Health Australia	AIHA

Allied Health Professionals Australia	AHPA
Australian Association of Psychologists Inc	AAPI
Australian Psychological Society	APS

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Medicare Benefits Schedule Review Advisory Committee

Meeting No. 8

8-9 August 2023

Agenda item 17

Telehealth Post Implementation Review: MBS Review Taskforce Telehealth Principles

Purpose

That the Committee:

1. **NOTE** the targeted stakeholder feedback on the MBS Review Taskforce telehealth principles
2. **NOTE** the committee's findings and proposed amendments to the MBS Review taskforce telehealth principles
 - **AGREE** on a final position regarding the MBS Review Taskforce telehealth principles.

Background

At the May 2023 meeting, members considered the MBS Review Taskforce telehealth principles 1-6. The department subsequently sought feedback from members on principles 7-10 out-of-session.

Initial amendments to the MBS Review Taskforce telehealth principles suggested by the Committee (at Attachment A) reflect the Committees findings including:

- Clinical need rather than patient location should remain the focus when considering the implementation of telehealth services.
- Telehealth quality standards should align with that of their equivalent face-to-face service
- Greater emphasis on clinical handover between health professionals should be made, with alignment of clinical guidance with advice provided by Australian Health Practitioner Regulation Authority
 - Face-to-face consultations should remain the preferred modality, as it provides for a more comprehensive physical assessment, while supporting the formation and consolidation of practitioner-patient

relationships. Telehealth is to be implemented as a complementary service to quality face to face care.

On 28 June 2023, a survey on the MBS Review Taskforce telehealth principles was distributed to 45 stakeholders, as agreed by the Committee. This survey listed the 10 principles, with a scale to rate agreement/disagreement with each, and space to provide comments such as suggested improvements (see Attachment C).

Survey responses were requested by 26 July 2023 to allow sufficient time for analysis prior to the Committee meeting (see Attachment B). On 14 July and 24 July 2023, reminders were sent to stakeholders who had not yet responded to the survey.

As at 28 July 2023, the Department received 19 stakeholder responses to the survey and 2 additional responses from stakeholders that declined to participate in the formal survey (but did provide specific feedback on principle 5).

Key Issues

Committee members have previously indicated a consensus to retain most principles with some amendments.

The results from the stakeholder survey showed that over 73% of participants either agreed or strongly agreed to six of the ten principles (see Attachment D). The principles with the highest agreement rating were principle 2 (89.47%), principle 3 (78.95%) and principle 10 (94.74%) with no recorded disagreement. The principles with the highest disagreement rating were principle 5 (15.79%), principle 6 (21.05%), principle 7 (22.22%), and principle 9 (15.79%).

It should be noted that while the survey indicated a reasonably high level of overall agreement, the written feedback varied.

Summary of Stakeholder Feedback for Principles with Highest Disagreement	
PRINCIPLE 5 - Should prefer video over phone, as video offers richer information transfer	<ul style="list-style-type: none"> • Written feedback on an emphasis on video services over telephone was divided and sometimes inconsistent with stakeholders' ratings. • While some stakeholders acknowledged video provides richer information, the majority raised concerns with this principle, and one stakeholder suggested the principle be removed completely. <ul style="list-style-type: none"> • Stakeholders generally justified their concerns on the basis of non-clinical factors that impede service provision: <ul style="list-style-type: none"> ○ Patient ability to use and access the technology effectively (such as disability and age considerations) ○ Infrastructure issues for patient and provider (slow internet, rural and remote considerations) ○ Patient preference (some patients do not want to use video) ○ Affordability of technology ○ Lack of evidence to support the preference for video
PRINCIPLE 6 - Support optimal clinical engagement with the patient by allowing clinician participation at both ends of the MBS telehealth consultation.	<ul style="list-style-type: none"> • Some stakeholders said that the principle was unclear. • Stakeholders suggested multi-disciplinary care inclusion (i.e. not just GPs) and use a different term broader than clinician. • A concern was raised that having clinician participation at both ends of the MBS telehealth consultation will result in misuse of MBS funds.

PRINCIPLE 7 - Should be implemented and modified through time limited transition arrangements.	<ul style="list-style-type: none"> • Some stakeholders were unclear what "time limited transition arrangements" are and wanted clarification about intention of the principle. • Suggestion to simplify requirements, remove separate MBS items that differentiate between phone and video, and merge these into general telehealth item numbers. • The need to ensure the time limitation is adequate to enable ongoing review, consultation and feedback was highlighted. • Stakeholders questioned how do to ensure equity of access in any transition arrangements.
PRINCIPLE 9 - Should be guided by existing relevant guidelines and principles.	<ul style="list-style-type: none"> • Suggestion to amend the principle to capture the consumer perspective and consideration to technology. • Suggestion to develop Best Practice Guidelines for utilisation of telehealth <ul style="list-style-type: none"> • Agreed that evidenced based guidelines are needed but suggestion is that it should also be updated regularly to ensure contemporary in nature and fit for purpose. • Suggestions also included that clarity of what are the relevant guidelines is needed.

Stakeholders also suggested that national guidelines would support health practitioners in providing telehealth. A pilot of the National Safety and Quality Digital Mental Health Standards (see Attachment E) could potentially inform a relevant MRAC recommendation, with consideration given to whether the Standards have broader application. The outcomes of the pilot are expected to be known in late 2023.

Discussion

- Does stakeholder feedback prompt updates or refinements to the Committee's re-working of the Taskforce principles?

Attachments:

- A:** Initial MRAC amendments to the MBS Review Taskforce telehealth principles
- B:** MBS Review Taskforce telehealth principles survey
- C:** Targeted stakeholder list and email sent to stakeholders
- D:** Targeted stakeholder feedback
- E:** National Safety and Quality Digital Mental Health Standards
- F:** Final Suggestions and Combined feedback

MBS Review Advisory Committee – Telehealth Post Implementation Review
MBS Review Taskforce Telehealth Principles

Initial MRAC amendments to the MBS Review Taskforce telehealth principles

Principle		MRAC suggested feedback
1	Should be patient-focused, and based on patient need, rather than geographical location	<p>s47C</p> <p>This document has been released under the Freedom of Information Act 1982 (CTH) By the Department of Health and Aged Care</p>
2	Must support and facilitate safe and quality services that demonstrate clinical efficacy for patients.	
3	Should be provided in the context of continuity of care between patient and practitioner	

4	<p>Must not create unintended consequences or perverse incentives that undermine the role of face-to-face care</p>	<p>s47C</p> <p>This document has been released under the Freedom of Information Act 1982 (CTH) By the Department of Health and Aged Care</p>
5	<p>Should prefer video over phone, as video offers richer information transfer, with fewer limited exceptions being allowed over time.</p>	
6	<p>Support optimal clinical engagement with the patient by allowing clinician participation at both ends of the MBS telehealth consultation.</p>	

7	Should be implemented and modified through time limited transition arrangements
8	Supports different funding models consistent with patients' need, clinical specialty and purpose.

9	Should be guided by contemporary relevant guidelines and principles
10	Require ongoing data collection, research and evaluation into outcomes and utility.

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Attachment B

MBS Review Advisory Committee – Telehealth Post Implementation Review

MBS Review Taskforce Telehealth Principles

Survey

Preview Link: https://healthau.au1.qualtrics.com/jfe/preview/previewId/39c0c7c6-243e-4255-a032-528c481e5275/SV_4PIOxxUzyHt5nYq?Q_CHL=preview&Q_SurveyVersionID=current

MBS Review Advisory Committee (MRAC) Telehealth Post Implementation Review - MBS Review Taskforce Telehealth Principles

To inform the MBS Review Advisory Committee post-implementation review of MBS telehealth services, your feedback is sought regarding the 2020 MBS Taskforce telehealth principles via completion of this survey.

All responses are confidential and individuals will not be identified in reporting.

Questions requiring an answer are marked with an *.

If you have any queries or require assistance to complete the survey please contact us at mrac.secretariat@health.gov.au.

1. PRINCIPLE 1 - Should be patient-focused, and based on patient need, rather than geographical location. Please rate Principle 1 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating



2. If you could make any changes or amendments to Principle 1 what they be?

Please provide any proposed amendments to the Principle below.

3. PRINCIPLE 2 - Must support and facilitate safe and quality services that demonstrate clinical efficacy for patients. Please rate Principle 2 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating



4. If you could make any changes or amendments to Principle 2 what they be?

Please provide any proposed amendments to the Principle below.

5. PRINCIPLE 3 - Should be provided in the context of continuity of care between patient and practitioner. Please rate Principle 3 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating ★★★★★

6. If you could make any changes or amendments to Principle 3 what they be?

Please provide any proposed amendments to the Principle below.

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7. PRINCIPLE 4 - Must not create unintended consequences or perverse incentives that undermine the role of face-to-face care. Please rate Principle 4 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating ★★★★★

8. If you could make any changes or amendments to Principle 4 what they be?

Please provide any proposed amendments to the Principle below.

9. PRINCIPLE 5 - Should prefer video over phone, as video offers richer information transfer, with fewer limited exceptions being allowed over time. Please rate Principle 5 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating ★★★★★

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10. If you could make any changes or amendments to Principle 5 what they be?

Please provide any proposed amendments to the Principle below.

11. PRINCIPLE 6 - Support optimal clinical engagement with the patient by allowing clinician participation at both ends of the MBS telehealth consultation. Please rate Principle 6 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating ★★★★★

12. If you could make any changes or amendments to Principle 6 what they be?

Please provide any proposed amendments to the Principle below.

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13. PRINCIPLE 7 - Should be implemented and modified through time limited transition arrangements. Please rate Principle 7 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating 

14. If you could make any changes or amendments to Principle 7 what they be?

Please provide any proposed amendments to the Principle below.

15. PRINCIPLE 8 - Support different funding models consistent with patients' needs, clinical specialty and purpose. Please rate Principle 8 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating 

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16. If you could make any changes or amendments to Principle 8 what they be?

Please provide any proposed amendments to the Principle below.

17. PRINCIPLE 9 - Should be guided by existing relevant guidelines and principles. Please rate Principle 9 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating 

18. If you could make any changes or amendments to Principle 9 what they be?

Please provide any proposed amendments to the Principle below.

19. PRINCIPLE 10 - Require ongoing data collection, research and evaluation into outcomes and utility. Please rate Principle 10 from 1 star to 5 stars.*

1 star- strongly disagree 2 stars- disagree 3 stars- neutral 4 stars- agree 5 stars- strongly agree

Your rating



20. If you could make any changes or amendments to Principle 10 what they be?

Please provide any proposed amendments to the Principle below.

Submit

Attachment C

MBS Review Advisory Committee – Telehealth Post Implementation Review
MBS Review Taskforce Telehealth Principles

Targeted Stakeholder Consultation Distribution List

Organisation		
ACT Health Directorate	Australian Psychological Society	Optometry Australia
Allied Health Professionals Australia	Australia's Disability Strategy Advisory Council	Queensland Health
Australasian College for Emergency Medicine	Council of Remote Area of Nurses of Australia	Royal Australasian College of Medical Administrators
Australasian Society for Ultrasound in Medicine	Council on the Ageing	Royal Australasian College of Physicians
Australian and New Zealand College of Anaesthetists	Consumer Health Forum	Royal Australasian College of Surgeons
Australian Association of Practice Management	Disability Gateway	Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Australian Association of Psychologists Inc	Health Issues Centre	Royal Australian College of General Practitioners
Australian College of Midwives	Indigenous Allied Health Australia	Rural Doctors Association of Australia
Australian College of Nurse Practitioners	National Aboriginal Community Controlled Health Organisation	Services for Australian Rural and Remote Allied Health
Australian College of Rural and Remote Medicine	National Association of Aboriginal and Torres Strait Islander Health Workers and Practitioners	Speech Pathology Australia
Australian Health Practitioner Regulation Agency	National Mental Health Consumer and Carer Forum	Tasmanian Department of Health
Australian Indigenous Doctors Association	Neurodevelopmental and Behavioural Paediatric Society of Australasia	Victorian Department of Health
Australian Medical Association	Northern Territory Department of Health	WA Department of Health
Australian Nursing and Midwifery Federation	Nursing and Midwifery Board of Australia	
Australian Physiotherapy Association	NSW Ministry of Health	
Australian Primary Health Care Nurses Associations	Occupational Therapy Australia	

Dear CEO/Chair/President

The Medicare Benefits Schedule (MBS) Review Taskforce ran from 2015 to 2020 and reviewed more than 5,700 items on the MBS to align services with contemporary clinical evidence and practice, and improve patient health outcomes. The Taskforce provided over 60 reports to government outlining almost 1,400 recommendations to modernise the MBS and published its Final Report in December 2020.

On 14 December 2020, the Taskforce recommendations and principles for MBS telehealth services were published. These principles intended to guide best practice and have informed how MBS telehealth has been changed permanently, building on the expansion of services in response to the COVID-19 pandemic.

In 2021, the Medicare Benefits Scheme (MBS) Continuous Review was established to ensure the MBS continues to support high-quality care, remains flexible, and stays up to date. The MBS Continuous Review involves reviews of Medicare items and services by experts, and is supported by the Medicare Benefits Schedule (MBS) Review Advisory Committee (MRAC). The MRAC is comprised of practising clinicians, academics, health system experts and consumers and is committed to actively engaging with the health sector and consumers about decisions on how the MBS can improve care for all Australians through comprehensive consultation processes. Additional information about the MRAC, including membership and Terms of Reference can be found on the [Department of Health and Aged Care website](#).

The MRAC is currently undertaking a post-implementation review of changes to MBS telehealth services, as requested by the Minister for Health and Aged Care, the Hon Mark Butler MP. In undertaking this review, the MRAC is examining how MBS telehealth services are used and will provide recommendations for improvements based on contemporary clinical evidence and advice from experts including patients. To inform this review, the MRAC seeks feedback from the NAME OF ORGANISATION on the [2020 MBS Taskforce telehealth principles](#), via completion of a survey. This survey lists the 10 principles, with a scale to rate your agreement/disagreement with each, and space to provide comments such as suggested improvements and whether it should be removed. Survey feedback will be considered by the MRAC to inform potential changes to MBS telehealth principles.

Please note, the consultations process for this review is a two-step process. This is the first step and there will be a further opportunity to provide input to the MRAC's post-implementation review of MBS telehealth services via a further consultation process later this year.

Below is a unique link to for NAME OF ORGANISATION to respond to this survey. Your response is requested by **Wednesday 26 July 2023** in order for it to be considered by the MRAC at its next meeting in August 2023. If you have any issues completing the questionnaire, please contact MBSContinuousReview@health.gov.au.



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National Safety and Quality Digital Mental Health Standards



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Acknowledgement

The Commission would like to thank all of our partners for their contributions to the development of the NSQDMH Standards and their continuing commitment to improving safety and quality across the Australian healthcare system.

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Introduction

Digital mental health services have seen significant growth over the past decade, offering new and innovative ways for consumers, carers and families to access services. Digital mental health services can be used as standalone supports that are self-managed or therapist-guided, or as a complement to in-person services. Digital services may be easier to access than in-person services, and sometimes can be accessed anonymously to protect service user identity¹ and encourage fuller disclosure and engagement.

There is growing evidence regarding the important role digital mental health services can play in the delivery of services to consumers, carers and families.² Some digital mental health services can be as effective as in-person services, while others have not been subject to rigorous evaluation processes or evidence collection.

The Australian Commission on Safety and Quality in Health Care (the Commission) developed the National Safety and Quality Digital Mental Health (NSQDMH) Standards in collaboration with consumers, carers, families, clinicians, service providers and technical experts.

The development of the NSQDMH Standards is a significant first step in providing safety and quality assurance for digital mental health service users and their support people, and best practice guidance for service providers and developers across the three areas outlined below.

The primary aim of the NSQDMH Standards is to improve the quality of digital mental health service provision and to protect service users, and where relevant, their support people, from harm. The NSQDMH Standards provide a quality assurance mechanism that tests whether relevant systems are in place to ensure that expected standards of safety and quality are met. The NSQDMH Standards provide a nationally consistent statement about the standard of care service users and their support people can expect from a digital mental health service.

What is a digital mental health service?

It is recognised that there are distinct specialist mental health, suicide prevention and alcohol and other drug sectors that provide services to often distinct cohorts.

For the purpose of the NSQDMH Standards, mental health, suicide prevention and alcohol and other drug services delivered via a digital platform come under the term of digital mental health services. These can include provision of information, digital counselling services, treatment services (including assessment, triage and referral services) and peer-to-peer support services, that are delivered via telephone (including mobile phone), videoconferencing, web-based (including web-chat), SMS or mobile health applications (apps).

The NSQDMH Standards are not intended to apply to more generic wellness services, which are not offering specific health services to service users or their support people. Standalone electronic health or medical records, decision support tools for clinicians, analytic services, services that primarily provide support and education to health professionals, clinical practice management software, and clinical workflow and communication software are excluded under the definition of digital mental health services for the purposes of the NSQDMH Standards.

What do the NSQDMH Standards cover?

There are three NSQDMH Standards, which cover clinical and technical governance, partnering with consumers, and the model of care which includes communicating for safety and recognising and responding to acute deterioration.

The three NSQDMH Standards are:

- **Clinical and Technical Governance Standard**, which describes the clinical and technical governance, safety and quality systems and the safe environment (including privacy, transparency, security and stability of digital systems) that are required to maintain and improve the reliability, safety and quality of digital mental health care, and improve health outcomes for service users.
- **Partnering with Consumers Standard**, which describes the systems and strategies to create a person-centred digital mental health system in which service users and where relevant, their support people are:
 - a. Included in shared decision-making
 - b. Partners in their own care
 - c. Involved in the development and design of quality digital mental health care.
- **Model of Care Standard**, which describes the processes for developing and delivering digital mental health services, minimising harm to service users, their support people and others, communicating for safety and recognising and responding to acute deterioration in mental state.

Each standard contains:

- A description of the standard
- A statement of intent
- A list of criteria that describe the key areas covered by the standard
- Explanatory notes on the context of the standard
- Item headings for groups of actions in each criterion
- Actions that describe what is required to meet the standard.

How should the NSQDMH Standards be applied?

The NSQDMH Standards are voluntary and should be applied at the level of the service provider that makes digital mental health services available to service users and their support people.

Not all actions within each standard will be applicable to every digital mental health service. A service provider may provide more than one digital mental health service and may see the application of the NSQDMH Standards differ across those services.

The applicability of actions and the extent of the strategies required will be determined by the size, risk to service users and their support people, and the complexity of the service provider's digital mental health services. The model of care for the digital mental health service may also inform whether an action is relevant. To meet the NSQDMH Standards, service providers will need to work closely with developers of digital mental health services in relation to the design, development and delivery of their products to service users and their support people.

While service providers may provide services other than digital mental health services, the NSQDMH Standards are not intended to be applied to those other service components.

The Commission intends to develop further guidance for service providers and service users to support the implementation of the NSQDMH Standards.

Alignment with other standards

In developing the NSQDMH Standards, the Commission has adapted some actions and terminology from the [National Safety and Quality Health Service \(NSQHS\) Standards \(second edition\)](#).³

Where a service provider that is required to meet the NSQHS Standards offers digital mental health services, only the actions unique to the NSQDMH Standards are recommended for implementation in addition to the NSQHS Standards. This ensures that the issues specific to digital mental health services are given appropriate focus.

A word about language

The language we use is important and must be selected wisely. It has the power to offer hope and encouragement or to convey pessimism or low expectations. It can exacerbate or mitigate the significant stigma that exists towards mental illness, alcohol and other drug use and suicide.

The terminology in common use across different domains in the health sector is not universal, particularly in referring to those who seek assistance from health services. The NSQDMH Standards refers to those who use digital mental health services as **service users**.

Where reference is made to **consumers, carers and families**, as opposed to service users, this is intended to specifically refer to those with lived experience, who may or may not have used digital mental health services.

Individuals who provide support and reassurance to service users are referred to as **support people** and may be a family member, friend or paid support worker.

An organisation that makes digital mental health services available to service users and their support people is referred to as a **service provider**.

The services, whether they are information services, digital counselling services, treatment services (including assessment, triage and referral services), or peer-to-peer services, and irrespective of the digital medium through which they are provided, are referred to in the NSQDMH Standards as **digital mental health services**.

This terminology is adopted for clarity of purpose within the NSQDMH Standards, but it is not a requirement that service providers adopt the language used in the NSQDMH Standards within their own organisation.

A **glossary** is provided within this document to aid the reader in understanding the terms used.

More information

For more information on the NSQDMH Standards visit the Commission's website:

www.safetyandquality.gov.au/dmhs

You can access a range of digital mental health services on the Australian Government's digital mental health gateway Head to Health: headtohealth.gov.au



Clinical and Technical Governance Standard

Service providers have a responsibility to the community for continuous improvement of the safety and quality of their services, and ensuring that they are person centred, safe and effective.

Intention of this standard

To implement a clinical and technical governance framework that ensures service users and their support people receive safe and high-quality care.

Criteria

Governance, leadership and culture

Service providers set up and use clinical and technical governance systems to improve the safety and quality of care.

Safety and quality systems

Safety and quality systems are integrated with governance processes to enable the service provider to actively manage and improve the safety and quality of care.

Workforce qualifications and skills

The workforce has the right qualifications, skills and supervision to ensure the delivery of safe and high-quality care to service users and their support people.

Safe environment for the delivery of care

The environment promotes safe and high-quality care for service users and their support people.

Explanatory notes

Delivering digital mental health services requires consideration of both clinical and technical governance to ensure safe and high-quality service delivery and service user experience.

Clinical and technical governance should be integrated components of a service provider's corporate governance. Good governance ensures that everyone – from the workforce to managers and members of governing bodies, such as boards – is accountable to service users, their support people and the community for assuring the delivery of digital mental health services that are safe, effective, integrated, high quality and continuously improving.

Clinical governance

Thorough research has identified the elements of an effective clinical governance system and the effect of good clinical governance on health service performance.⁴⁻⁶

Clinical governance is the set of relationships and responsibilities established by a health service provider between its governing body, executive, workforce, service users and their support people, and other stakeholders to ensure good clinical outcomes. It ensures that the service provider and service users and their support people can be confident that systems are in place to deliver safe and high-quality health care and continuously improve services.

Leaders have an important role in influencing the quality of care by setting priorities, shaping culture, supporting the workforce, engaging effective digital mental health services, and monitoring progress in their safety and quality performance. Managers and the workforce also play an important role in clinical governance, aligning clinical and technical priorities and supporting continuous quality improvement.

The Australian Commission on Safety and Quality in Health Care (the Commission) has developed the [National Model Clinical Governance Framework](#)⁷ to support the delivery of safe and high-quality care. Service providers should refer to the framework for more details on clinical governance, and the associated roles and responsibilities.

Technical governance

Technical governance is the system by which the use of digital information and communication technology is directed and controlled. It includes leadership, organisational structures, strategy, policies, and processes to ensure that the provider's digital technology sustains and extends the organisation's strategies and objectives.

Service providers should take a systematic approach to the governance of information management and information and communication technology, which is incorporated within their corporate governance framework.

Implementing this standard

This standard integrates actions for the clinical and technical governance of digital mental health services. Recognising the shared elements (for example, leadership, culture, incident management) and interdependencies, service providers may need to cross-reference actions between the clinical and technical workforce to minimise duplication and improve outcomes.

Each service provider needs to put in place strategies for clinical and technical governance that consider its own circumstances and context.

Governance, leadership and culture

Service providers set up and use clinical and technical governance systems to improve the safety and quality of care.

Item	Action
Governance, leadership and culture	<p>1.01 The governing body:</p> <ul style="list-style-type: none"> a. Provides leadership to develop a culture of safety and quality improvement, and satisfies itself that this culture exists within the organisation b. Provides leadership to ensure partnering with service users and their support people c. Sets priorities and strategic directions for ethical, safe and high-quality care, and ensures that these are communicated effectively to the workforce and service users and their support people d. Endorses the organisation's clinical and technical governance frameworks e. Ensures that roles and responsibilities are clearly defined for the governing body, management, clinicians, peer workers, technicians and other members of the workforce f. Monitors the action taken as a result of analyses of clinical and technical incidents and trends g. Reviews reports and monitors the organisation's progress on safety, quality, performance and effectiveness h. Establishes principles and practices within governance frameworks that support the organisation's ability to adapt to technology as it changes.
Organisational leadership	<p>1.02 The service provider establishes and maintains clinical and technical governance frameworks and uses the processes within these frameworks to drive improvements in safety, quality, performance and effectiveness.</p>
	<p>1.03 The service provider implements and monitors strategies to meet its priorities for diverse population groups, including Aboriginal and Torres Strait Islander peoples, and inclusion of service users and where relevant, their support people.</p>
	<p>1.04 The service provider considers the safety and quality of health care for service users and their support people in its business decision-making.</p>
	<p>1.05 The service provider applies ethical principles to its business decision-making about the design, development and delivery of services.</p>

Item	Action
Clinical and technical leadership	<p>1.06 The service provider:</p> <ul style="list-style-type: none"> a. Ensures clinical, peer worker and technical leaders understand and perform their delegated safety and quality roles and responsibilities b. Ensures clinical, peer worker and technical leaders operate within the clinical and technical governance frameworks to improve the safety and quality of health care for service users and their support people c. Engages clinical and peer worker expertise in the clinical governance of the service d. Engages technical expertise in the technical governance of the service.

Safety and quality systems

Safety and quality systems are integrated with governance processes to enable the service provider to actively manage and improve the safety and quality of care.

Item	Action
Legislation, regulations, policies and procedures	<p>1.07 The service provider uses a risk management approach to:</p> <ul style="list-style-type: none"> a. Set out, review and maintain the currency and effectiveness of policies, procedures and protocols b. Monitor and take action to improve adherence to policies, procedures and protocols c. Review compliance with legislation, regulations and jurisdictional requirements.
Measurement and quality improvement	<p>1.08 The service provider uses quality improvement systems that:</p> <ul style="list-style-type: none"> a. Identify safety, outcome and quality measures, and monitor and report performance and outcomes b. Identify areas for improvement in safety and quality c. Maintain a quality improvement register to log initiatives to improve safety and quality d. Assign to members of the workforce clear responsibility for safety and quality e. Implement and monitor safety and quality improvement initiatives.
	<p>1.09 The service provider ensures timely reports on safety and quality systems and performance are provided to:</p> <ul style="list-style-type: none"> a. The governing body b. The workforce c. Service users and their support people.

Item	Action
Risk management	<p>1.10 The service provider:</p> <ul style="list-style-type: none"> a. Identifies and documents service risks b. Uses clinical, technical and other data collections to support risk assessments c. Acts to reduce risks d. Regularly reviews and acts to improve the effectiveness of the risk management system e. Reports on risks to the workforce, and service users and their support people f. Plans for and manages internal and external emergencies and disasters, including cybersecurity risks and threats.
Incident management systems and open disclosure	<p>1.11 The service provider has incident management and investigation systems and:</p> <ul style="list-style-type: none"> a. Assists the workforce to recognise and report incidents b. Assists service users and their support people to communicate concerns or incidents c. Involves the workforce, consumers, carers and families in the review of incidents d. Provides timely feedback on the analysis of incidents to the governing body, the workforce, and service users and their support people e. Uses the information from the analysis of incidents to improve safety and quality f. Incorporates risks identified in the analysis of incidents into the risk management system g. Regularly reviews and acts to improve the effectiveness of the incident management and investigation systems.
	<p>1.12 The service provider:</p> <ul style="list-style-type: none"> a. Uses an open disclosure program that is consistent with the Australian Open Disclosure Framework b. Monitors and acts to improve the effectiveness of open disclosure processes.
Feedback and complaints management	<p>1.13 The service provider:</p> <ul style="list-style-type: none"> a. Has processes to seek regular feedback from service users and their support people about their experiences of the service and outcomes of care b. Uses this information to improve safety, quality, performance and effectiveness.

Item	Action
	<p>1.14 The service provider has a complaints management system, and:</p> <ul style="list-style-type: none"> a. Encourages and assists service users and their support people to report complaints b. Involves service users and their support people in the review of complaints c. Resolves complaints in a timely way d. Provides timely feedback to the governing body, the workforce, and service users and their support people on the analysis of complaints and actions taken e. Uses information from the analysis of complaints to inform improvements in safety and quality f. Records the risks identified from the analysis of complaints in the risk management system g. Regularly reviews and acts to improve the effectiveness of the complaints management system.
Diversity and high-risk groups	<p>1.15 The service provider:</p> <ul style="list-style-type: none"> a. Identifies the diversity of service users and their support people b. Identifies groups of service users who are at higher risk of harm c. Incorporates information on the diversity of service users and their support people, and higher-risk groups into the planning and delivery of the service.
Healthcare records	<p>1.16 The service provider has healthcare records systems that:</p> <ul style="list-style-type: none"> a. Support the creation and maintenance of accurate healthcare records b. Comply with security and privacy legislation and regulations c. Support the systematic audit of clinical information and the technical operation of the healthcare record d. Integrate multiple information systems, where they are used.
	<p>1.17 The service provider providing clinical information into the My Health Record system has processes that:</p> <ul style="list-style-type: none"> a. Optimise the safety and quality of care to service users and their support people b. Use national patient and provider identifiers c. Use standard national terminologies d. Describe access to the system by the workforce, to comply with legislative requirements e. Maintain the accuracy and completeness of the clinical information the service provider uploads into the system.

Workforce qualifications and skills

The workforce has the right qualifications, skills and supervision to ensure the delivery of safe and high-quality digital mental health care to service users.

Item	Action
Safety and quality training	1.18 The service provider provides orientation to the organisation that describes roles and responsibilities for the safety and quality of services for: <ul style="list-style-type: none"> a. Members of the governing body b. Clinicians, peer workers, technicians and other members of the workforce.
	1.19 The service provider uses its training systems to: <ul style="list-style-type: none"> a. Assess the competency and training needs of its workforce b. Implement a training program to meet its requirements arising from these standards c. Provide access to training to meet its safety and quality training needs d. Monitor the workforce's participation in training.
	1.20 The service provider has strategies to provide culturally safe services to meet the needs of its Aboriginal and Torres Strait Islander service users and their support people.
Performance management	1.21 The service provider has valid and reliable performance review processes that: <ul style="list-style-type: none"> a. Require members of the workforce to regularly take part in a review of their performance b. Identify needs for training and development in safety and quality c. Incorporate information on training requirements into training systems.
Qualified workforce	1.22 The service provider has processes to ensure clinicians and peer workers involved in the design and delivery of services: <ul style="list-style-type: none"> a. Have the necessary skills, experience and qualifications for these roles b. Have, and work within, a defined scope of clinical practice.
	1.23 The service provider has a process to ensure technicians involved in the design and delivery of services have the necessary skills, experience and qualifications for this role.
Safety and quality roles and responsibilities	1.24 The service provider has processes to: <ul style="list-style-type: none"> a. Assign safety and quality roles and responsibilities for services to the workforce b. Support the workforce to understand and perform their roles and responsibilities for safety and quality.

Safe environment for the delivery of care

The environment promotes safe and high-quality care for service users and their support people.

Item	Action
Safe environment	<p>1.25 The service provider maximises the safety and quality of care:</p> <ul style="list-style-type: none"> a. Through the design of services, the digital operating systems and internal access controls b. By ensuring the terms and conditions for use of services are fair and transparent and do not mislead service users and where relevant, their support people c. By ensuring devices and other infrastructure are fit for purpose and well maintained d. By developing and using processes for the prompt implementation of legislative and regulatory changes.
	<p>1.26 The service provider has systems to:</p> <ul style="list-style-type: none"> a. Minimise risk of abuse of service users and where relevant, their support people b. Minimise risk of exploitation of service users and where relevant, their support people c. Preserve the dignity of service users and where relevant, their support people.
	<p>1.27 The service provider has systems to minimise the risk for children and young people to be harmed while using a service.</p>
Privacy	<p>1.28 The service provider conducts a privacy impact assessment for each service in accordance with best practice.</p>
	<p>1.29 The service provider has privacy policies for each service that are:</p> <ul style="list-style-type: none"> a. Easy to understand and transparent for service users and their support people b. Uphold service users' rights and choices c. Readily available to service users and their support people before accessing and while using the services d. Compliant with privacy laws, privacy principles and best practice.
	<p>1.30 The service provider advises service users, and where relevant, their support people, of changes to privacy policies in a timely and comprehensible way.</p>

Item	Action
Transparency	<p>1.31 The service provider has systems for the collection, use, disclosure, storage, transmission, retention and destruction of data that provide service users and where relevant, their support people with:</p> <ul style="list-style-type: none"> a. Information on the types of data collected and how the information is used b. Information on any interoperable healthcare services c. Information on who has access to their data, including through data sharing agreements, provision or sale to third parties, and if transfer of data outside of Australia occurs d. Timely information if requests to access data by external parties are granted by the service provider e. Protection of their data that was provided anonymously or using a pseudonym f. Prevention against the unauthorised re-identification of anonymous or de-identified data g. Notification if the service ceases operation or changes ownership h. Information on where their data will go if the service ceases to operate or changes ownership i. Information on the legacy of their data.
	<p>1.32 The service provider has mechanisms for service users to:</p> <ul style="list-style-type: none"> a. Consent to the use of personal data and records for any purpose beyond direct care b. Consent before any personal data and records are used in research, unless it is de-identified c. Withdraw or withhold consent for the collection, storage or distribution of their personal data and records d. Opt out from the sharing of their personal data and records e. Access, copy and amend their personal data and records f. Request deletion of their personal data and records.
Costs and advertising	<p>1.33 The service provider provides service users and where relevant, their support people with clear and transparent information on the:</p> <ul style="list-style-type: none"> a. Direct costs to access the service b. Estimated data usage requirements for using the service.
	<p>1.34 The service provider ensures that in-product sales or advertising:</p> <ul style="list-style-type: none"> a. Complies with Australian Consumer Law and regulatory requirements b. Is appropriate for service users.

Item	Action
Security and stability	<p>1.35 The service provider has information security management systems and uses a risk-based approach to:</p> <ul style="list-style-type: none"> a. Assign responsibility and accountability for information security b. Complete and maintain an information and data inventory c. Protect data in transit and at rest d. Protect against interruption, damage or disconnection of the service e. Assess the size and extent of threats to its information assets f. Consider and mitigate vulnerabilities and threats g. Conduct regular updates, reviews and audits of information security h. Detect, respond and report to the governing body, workforce, service users and their support people on information security incidents and technical faults.
Continuity and updates	<p>1.36 The service provider:</p> <ul style="list-style-type: none"> a. Manages platform and operating system updates and patches b. Manages the continuity of services, backup and recovery mechanisms c. Effectively communicates service changes or interruptions to service users and where relevant, their support people.

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Partnering with Consumers Standard

Service providers develop, implement and maintain systems to partner with service users and their support people. These partnerships relate to the planning, design, delivery, measurement, review and evaluation of digital mental health services. The workforce uses these systems to partner with service users and their support people.

Intention of this standard

To create services in which there are mutually valuable outcomes by having:

- Service users and their support people as partners in planning, design, delivery, measurement, review and evaluation of digital mental health services
- Service users as partners in their own care, and with their support people, in line with the model of care and to the extent that they choose.

Criteria

Partnering with service users in their own care

Systems that are based on partnering with service users in their own care, and with their support people, are used to facilitate the delivery of care. Service users are partners in their own care, with their support people, in line with the model of care and to the extent that they choose.

Health and digital literacy

The service provider takes account of the health and digital literacy of service users and their support people and ensures that communication occurs in a way that supports effective partnerships.

Partnering with service users in design and governance

The service provider partners with service users and their support people in the design and governance of digital mental health services.

Explanatory notes

Partnerships with consumers, carers and families in health care are integral to the development, implementation and evaluation of health policies, programs and services. Service providers should ensure that these partnerships underpin the delivery of their digital mental health services.

Effective partnerships exist when people are treated with dignity and respect, information is shared with them, and participation and collaboration in healthcare processes are encouraged and supported to the extent that people choose.⁸

Delivering care that is based on partnerships provides many benefits for service users and their support people, and service provider organisations. Effective partnerships, a positive experience for service users, and high-quality health care and improved safety are linked.

Achieving effective partnerships when health care is delivered by digital means can occur at three levels⁹:

- At the **individual level**, partnership with the service user is demonstrated through the delivery of respectful care and the provision of information relevant to their care. Service users and, where appropriate, their support people should be encouraged and assisted to participate in their own care and self-management, and engaged in making decisions and planning care, to the extent that they choose. This form of partnership is not reliant on the service user engaging with any specific individual in the service, rather it is evidenced in the way the service engages with the service user.
- At the **level of a digital mental health service**, partnerships relate to the participation of service users, consumers, carers, families and support people in the planning, design, monitoring and evaluation of the digital mental health service and any changes in the service. Engaging with service users and their support people in the design of digital mental health services is essential to maximise the usability and accessibility of the service.
- At the **level of the service provider**, partnerships relate to the involvement of service users, consumers, carers, families and support people in overall governance, policy and planning. This level overlaps with the previous level in that a service provider may offer various digital mental health services. Service users, consumers, carers, families and support people may be members of key committees for the service provider, in areas such as clinical governance, technical governance, and service design, and where relevant also in areas such as education, ethics and research.

The processes involved with these partnerships will vary according to the type of digital mental health service and its model of care.

Organisational leadership and support are essential to nurture partnerships at all three levels. Supporting effective consumer, carer and service user partnerships may mean supporting multiple mechanisms of engagement and modalities. Meaningful methods of engagement range from representation on committees and boards, to contributions at focus groups, to feedback received. Engagement may occur face-to-face or via digital means, including social media. Taking the diversity of service users and their support people into account is also necessary to achieve the best results.

Partnering with service users in their own care

Systems that are based on partnering with service users in their own care, and with their support people, are used to facilitate the delivery of care. Service users are partners in their own care, with their support people, in line with the model of care and to the extent that they choose.

Item	Action
Healthcare rights and informed consent	2.01 The service provider uses a charter of rights that is: <ul style="list-style-type: none"> a. Consistent with the Australian Charter of Healthcare Rights b. Easily accessible to service users and their support people.
	2.02 The service provider has informed consent processes that comply with legislation and best practice.
	2.03 The service provider has processes for supported decision-making, and to identify and work with a substitute decision-maker if a service user does not have the capacity to make decisions for themselves.
Planning care	2.04 The service provider has processes to partner with service users and where relevant, their support people to make decisions about their current and future care.

Health and digital literacy

The service provider takes account of the health and digital literacy of service users and their support people and ensures that communication occurs in a way that supports effective partnerships.

Item	Action
Communication that supports effective partnerships	2.05 The service provider uses communication mechanisms tailored to the diversity of service users and their support people.
	2.06 The service provider communicates information to service users and where relevant, their support people: <ul style="list-style-type: none"> a. In a way that meets their needs b. That is easy to understand and use.

Partnering with service users in design and governance

The service provider partners with service users and their support people in the design and governance of digital mental health services.

Item	Action
Partnerships in governance, planning, design, measurement and evaluation	2.07 The service provider: <ul style="list-style-type: none"> a. Partners with consumers, carers and families from the intended service user groups in the governance, planning, design, measurement and evaluation of the services b. Has processes to involve a mix of people that are reflective of the diversity of service users and their support people.
	2.08 The service provider provides orientation, support and education to service users, consumers, carers, families and support people who are partners in the governance, planning, design, measurement and evaluation of the service.
	2.09 The service provider partners with service users and their support people to incorporate their views and experiences into training and education for the workforce.
Usability	2.10 The service provider has processes to assess and optimise the usability of each service including: <ul style="list-style-type: none"> a. Function b. Cultural safety c. Service user feedback, experience and satisfaction d. Service user outcomes e. Access.
Accessibility	2.11 The service provider partners with service users and their support people to: <ul style="list-style-type: none"> a. Minimise barriers to accessing services associated with the hardware, software, data requirements and platform of the services, or the language, location, age, culture and ability of the service users and their support people b. Ensure services are compatible with commonly used assistive technologies c. Meet relevant standards for web page or web application d. Regularly review access to services and take action to improve access by service users and their support people.



Model of Care Standard

Service providers establish a model of care for each digital mental health service and implement and maintain systems for the delivery of safe and high-quality care to minimise the risk of harm to service users, their support people and others.

Intention of this standard

To ensure digital mental health services have a clearly defined model of care, consistent with best practice and evidence; and service users, and where relevant, their support people, receive care consistent with the model of care. The care provided aligns with the service user's expressed goals of care and healthcare needs and is clinically appropriate.

To ensure that risks of harm to service users and their support people are minimised and managed, including through the transition of care.

Criteria

Establishing the model of care

The service provider ensures that the model of care for each digital mental health service is goal-directed and can achieve the stated outcomes of care for service users and their support people.

Delivering the model of care

The care delivered is consistent with the model of care and provided in partnership with service users and where relevant, their support people.

Minimising harm

In line with the model of care, service users at risk of harm are identified and targeted strategies are used to prevent and manage harm to service users or others.

Communicating for safety

Service providers have systems in place for effective and coordinated communication that facilitates the delivery of safe and high-quality care for service users and their support people.

Recognising and responding to acute deterioration

Service providers have systems in place to recognise and respond to acute deterioration in mental state.

Explanatory notes

Model of care

The model of care outlines the way a digital mental health service is to be delivered. Service users and their support people access digital mental health services through a range of channels and media, and the model of care for their chosen service may not always be obvious.

Service providers should understand and describe the purpose and intent of the service, how it is to operate, what it is intended to achieve and how it is informed by evidence and best practice. This can help to assist service users, and where relevant, their support people, to make informed choices about digital mental health services.

As the NSQDMH Standards apply to a wide range of digital mental health services, the actions in the Model of Care Standard may apply differently in each different type of service. Monitoring the delivery of care to ensure the service does what it promises to do, that it communicates clearly to the service user and engages with their support people (to the extent that the service user chooses) is equally necessary, but requires appropriate accountabilities to be put in place.

Minimising risk

Minimising risk in any care delivery setting is important. For digital mental health services, in-person interactions and environmental cues are often not available to signpost potential risks. Screening of risk is therefore important, particularly in relation to the risk of harm, including self-harm and suicide. Where risk is detected, an effective response should be available, whether that is provided directly by the service or via referral to another agency.

Serious adverse events may be preceded by changes in a person's behaviour or mood that can indicate a deterioration in their mental state. Early identification of deterioration may improve outcomes but can be more difficult in a digital setting. However, digital services should not mean a higher level of risk. A systematic approach to recognising deterioration early and responding to it appropriately is therefore required, noting that the response may include calling for emergency assistance internally or via external emergency response systems.

Communicating for safety

Communication is a key safety and quality issue, and no less so in services delivered by a digital means. Correct identification is an important component of communication in health care settings. When a service user is not physically present and when they may even be accessing the service anonymously, it remains critical to ensure that they are correctly identified and receive continuity in their care, and that no other individual is able to inappropriately access their care details.

There are key times when effective communication and documentation are critical to the safety of service users and their support people. This includes when critical information about a service user's care emerges or changes, and when their care is transferred. Systems and processes should be in place to ensure effective communication at these times.

Establishing the model of care

The service provider ensures that the model of care for each digital mental health service is goal-directed and can achieve the stated outcomes of care for service users and their support people.

Item	Action
Designing the model of care	3.01 The service provider: <ol style="list-style-type: none"> Documents the purpose and intent of the model of care for each service and the context in which it will operate Defines the intended service user demographic and matches the model of care to the service users and their support people Monitors and evaluates the performance and effectiveness of the model of care Assigns accountability for maintaining and improving the effectiveness of the model of care.
Evidence supporting the model of care	3.02 The service provider ensures the model of care for each service is based on best available evidence and best practice and supporting policies.
Information for service users and their support people	3.03 The service provider provides product information on each service to service users and where relevant, their support people that: <ol style="list-style-type: none"> Aligns with the current template endorsed by the Australian Commission on Safety and Quality in Health Care Is easy to understand and meets their needs.

Delivering the model of care

The care delivered is consistent with the model of care and provided in partnership with service users and where relevant, their support people.

Item	Action
Delivering the model of care	3.04 The service provider: <ol style="list-style-type: none"> Monitors the delivery of their service to ensure it is consistent with the model of care Has a process for assigning responsibilities to a member of the workforce for the overall accountability of the care of each service user Develops the goals of care and actions for treatment in partnership with the service user Clearly communicates the care plan to the service user Enables the involvement of support people, to the extent that the service user chooses Has a process for referral to follow-up services and supports that is consistent with the model of care.

Minimising harm

In line with the model of care, service users at risk of harm are identified and targeted strategies are used to prevent and manage harm to service users or others.

Item	Action
Screening of risk	3.05 The service provider has systems to identify service users who are at risk of harm, including self-harm and suicide.
Planning for safety	3.06 The service provider has systems to: <ol style="list-style-type: none"> Effectively respond to service users who are distressed, have expressed thoughts of self-harm or suicide, or have self-harmed Effectively respond to service users who present a risk of harm to others Provide information to service users with healthcare needs beyond the scope of the service on where and how to access services appropriate to their clinical need Enable crisis intervention aligned to legislation.

Communicating for safety

Service providers have systems in place for effective and coordinated communication that supports the delivery of safe and high-quality care for service users and their support people.

Item	Action
Correct identification	3.07 The service provider has processes to: <ol style="list-style-type: none"> Routinely ask if a service user is of Aboriginal and/or Torres Strait Islander origin and to record this information in administrative and clinical information systems Authenticate service users and match them to their care Protect the anonymity of the service users where this is part of the model of care Use appropriate identifiers for service users according to digital services best-practice guidelines.
Communication of critical information	3.08 The service provider has processes to: <ol style="list-style-type: none"> Communicate when critical information about a service user's care emerges or changes, to ensure the safety of the service user Enable service users and their support people to communicate critical information and information on risks to their service provider.

Item	Action
Transfer of care	<p>3.09 The service provider:</p> <ul style="list-style-type: none"> a. Has processes to effectively communicate when all or part of a service user's care is transferred b. Determines minimum information content to be communicated when care is transferred c. Sets out the process for a transfer of care, in line with the model of care d. Assesses risks relevant to the service's context and the particular needs of the service user when a transfer of care occurs e. Encourages service users and where relevant, their support people to be involved in the transfer of their care.

Recognising and responding to acute deterioration

Service providers have systems in place to recognise and respond to acute deterioration in mental state.

Item	Action
Recognising acute deterioration	3.10 The service provider uses defined parameters to recognise acute deterioration in mental state that requires care to be escalated.
Escalating care	3.11 The service provider has protocols that specify criteria to call for emergency assistance.
Responding to acute deterioration	3.12 The service provider has systems to respond to service users who show signs of acute deterioration.

Glossary

Where appropriate, glossary definitions from external sources have been adapted to fit the context of the National Safety and Quality Digital Mental Health Standards.

abuse: improper treatment or treatment with harmful effect or for an unfavourable purpose.

accessibility: the design of products, devices, services or environments so as to be usable by people with the widest possible range of abilities, operating within the widest possible range of situations. For example, web accessibility means that websites, tools and technologies are designed, and developed so that people with disabilities can use them.¹⁰

actions for treatment: the activities or behaviours recommended to be undertaken by a service user to achieve the intended outcomes of treatment.

acute deterioration: psychological or cognitive changes that may indicate a worsening of the service user's health status; this may occur across hours or days.

alert: warning of a potential risk to a service user.

anonymity: the condition of being anonymous; an individual dealing with an entity cannot be identified and the entity does not collect personal information or identifiers.¹¹

approved identifiers: items of information accepted for use in identification, including family and given names, date of birth, sex, address, healthcare record number and Individual Healthcare Identifier. Service providers and clinicians are responsible for specifying the approved items for identification and procedure matching.

assessment: a clinician's evaluation of a disease or condition based on the service user's subjective report of the symptoms and course of the illness or condition, and the clinician's objective findings. These findings include data obtained through laboratory tests, physical examination and medical history, and information reported by carers, family members and other members of the healthcare team.¹²

assistive technologies: any device, system or design, that allows an individual to perform a task that they would otherwise be unable to do, or increases the ease and safety with which a task can be performed, or anything that assists individuals to carry-out activities.¹³ An example of an assistive technology is Text to Speech, which allows highlighted electronic text to be read aloud by a computer or mobile device.

audit: a systematic review against a predetermined set of criteria.¹⁴

Australian Charter of Healthcare Rights: specifies the key rights of service users when seeking or receiving healthcare services.¹⁵

Australian Open Disclosure Framework: provides a framework for health service organisations and clinicians to communicate openly with service users and their support people when health care does not go to plan.¹⁶

authentication: the act of proving or verifying the identity of a service user. See also *identification*.

backup: a copy of digital data taken and stored elsewhere so that it may be used to restore the original after a data loss event.

barriers: something that prevents or limits what someone can do or access.

best practice: when the assessment, diagnosis, treatment or care provided is based on the best available evidence, which is used to achieve the best possible outcomes for service users and their support people.

best-practice guidelines: a set of recommended actions that are developed using the best available evidence. They provide clinicians and peer workers with evidence-informed recommendations that support their practice, and guide clinician, peer worker and service user decisions about appropriate health care in specific clinical practice settings and circumstances.¹⁷

business decision-making: decision making regarding service planning and management by a service provider. It covers the procurement of digital mental health services, purchase or contracting of equipment, program maintenance, workforce training for safe handling of services and equipment, and all issues for which business decisions are taken that might affect the safety and wellbeing of service users and their support people, and the workforce.

care: all services and interventions provided to a person with a mental health issue, suicidal thinking or behaviour, or alcohol and other drug use.

carer: a person who provides personal care, support and assistance to another individual who needs it because they have mental health issues, suicidal thinking or behaviour, or alcohol and other drug use. A carer may be a family member, friend or significant other whose life, because of their active caring and supporting role, has been affected by their association with an individual who has, or has had, mental illness, suicidal thinking or behaviour, or alcohol and other drug use.¹⁸ An individual is not a carer merely because they are a spouse, de facto partner, parent, child, other relative or guardian of an individual, or live with an individual who requires care. A person is not considered a carer if they are employed and paid to provide care to a consumer, a volunteer for an organisation, or caring as part of a training or education program,¹⁹ but a person who receive a carer's benefit is regarded as a carer.

children and young people: people under 18 years of age.

clinical communication: the exchange of information about a person's care that occurs between treating clinicians, service users, and where relevant, their support people, and other members of a multidisciplinary team. Communication can be through several different channels, including in-person meetings, telephone, written notes or other documentation, and electronic means. See also *communication process*.

clinical governance: an integrated component of corporate governance of healthcare organisations. It ensures that everyone – from frontline clinicians to managers and members of governing bodies, such as boards – is accountable to service users and their support people, and the community for assuring the delivery of safe, effective and high-quality services. Clinical governance systems provide confidence to service users and their support people, and the healthcare organisation that systems are in place to deliver safe and high-quality health care.

clinician: a healthcare provider, trained as a health professional, including registered and non-registered practitioners.

communication mechanisms: ways of communicating that impart, share or exchange data or information in a way that is relevant and useful to a service user and where relevant, their support people.

communication process: the method of exchanging information about a person's care. It involves several components and includes the sender (the person who is communicating the information), the receiver (the person receiving the information), the message (the information that is communicated) and the channel of communication.

complaints management system: a staged way of receiving, recording, processing, responding to and reporting on complaints, as well as using them to improve services and decision making.²⁰

compliance: forced adherence to a law, regulation, rule, standard, process or practice.

confidentiality: the state of keeping or being kept secret or private.

conformance: voluntary adherence to a standard, rule, specification, requirement, design, process or practice.

consumer: a person with lived experience who may or may not have used digital mental health services. A healthcare consumer may also act as a consumer representative to provide a consumer perspective, contribute consumer experiences, advocate for the interests of current and potential service users, and take part in decision-making processes.²¹ Consumers may also be referred to as peers, clients, people with experiential knowledge, experts by experience, and people with knowledge through experience.

critical information: information that has a considerable impact on a service user's health, wellbeing or ongoing care (physical or psychological). The availability of critical information may require a clinician to reassess or change a service user's care plan. Increased suicidal thinking, cessation of medication and break-up of important relationships are examples of information that might be considered critical information.

cultural safety: identifies that health consumers are safest when clinicians have considered power relations, cultural differences and patients' rights. Part of this process requires clinicians to examine their own realities, beliefs and attitudes.

Cultural safety is defined not by the clinician but by the health consumer's experience – the individual's experience of the care they are given, and their ability to access services and to raise concerns.

The essential features of cultural safety are:

An understanding of one's culture

An acknowledgement of difference, and a requirement that caregivers are actively mindful and respectful of difference(s)

Informed by the theory of power relations; any attempt to depoliticise cultural safety is to miss the point

An appreciation of the historical context of colonisation, the practices of racism at individual and institutional levels, and their impact on First Nations people's living and wellbeing, in both the present and the past

That its presence or absence is determined by the experience of the recipient of care and not defined by the caregiver.²²

culture of safety: a commitment to safety that permeates all levels of an organisation, from the clinical workforce to executive management. Features commonly include acknowledgement of the high-risk, error-prone nature of an organisation's activities; a blame-free environment in which

individuals are able to report errors or near misses without fear of reprimand or punishment; an expectation of collaboration across all areas and levels of an organisation to seek solutions to vulnerabilities; and a willingness of the organisation to direct resources to deal with safety concerns.²³

cybersecurity: the practice of protecting systems, networks, and programs from digital attacks.

cybersecurity risks and threats: usually aimed at accessing, changing, or destroying sensitive information, extorting money from service users, or interrupting normal business processes.

data at rest: data stored on a hard drive, laptop, flash drive, or archived or stored in some other way.²⁴

data in transit: data actively moving from one location to another such as across the internet or through a private network, from network to network or being transferred from a local storage device to a cloud storage device.²⁴

data security: the process of protecting digital data from destructive forces and the unwanted actions of unauthorised access and data corruption throughout its lifecycle. Data security includes a range of measures such as data encryption and tokenisation, and key management practices that protect data across all applications and platforms.

data sharing agreement: a formal contract that clearly documents what data are being shared and how the data can be used. This serves to protect the agency providing the data, ensuring that the data will not be misused, and to prevent miscommunication on the part of the provider of the data and the agency receiving the data by making certain that any questions about data use are discussed.

destruction of data: the process of destroying digital data (for example, stored on tapes, hard disks and other forms of digital media) so that it is completely unreadable and cannot be accessed or used for unauthorised purposes.

deterioration in mental state: a negative change in a person's mood or thinking, marked by a change in behaviour, cognitive function, perception or emotional state. Changes can be gradual or acute; they can be observed by members of the workforce, or reported by the person themselves, or their family or carers. Deterioration in a person's mental state can be related to several predisposing or precipitating factors, including mental illness, psychological or existential stress, physiological changes, cognitive impairment (including delirium), intoxication, withdrawal from substances, and responses to social context and environment.

device: a piece of equipment or a mechanism designed to serve a special purpose or perform a special function (for example, a smartphone or other electronic device).

digital health: the convergence of digital technologies with healthcare to enhance the efficiency of healthcare delivery and make medicine more personalised and precise. It may include both hardware and software solutions and services, including telemedicine, web-based, email, mobile phones and applications, text messages, wearable devices, and clinic or remote monitoring sensors.

digital mental health service: a mental health, suicide prevention, or alcohol and other drug service that uses technology to facilitate engagement and the delivery of care. The service may be in the form of information, digital counselling, treatment (including assessment, triage and referral), or peer-to-peer service that is delivered to a service user via telephone (including mobile phone), videoconferencing, web-based (including web-chat), SMS or mobile health applications (apps).

digital literacy: the ability to identify and use technology confidently, creatively and critically to meet the demands and challenges of life, learning and work in a digital society.²⁵

digital operating system: the set of programs which are used to link a computer's hardware resources with the user's software applications.²⁶

dignity: the state or quality of being worthy of honour or respect.

direct care: the provision of services to a service user that require some degree of interaction between the service user and the service provider.

disability: any continuing condition that restricts everyday activities. There are many different kinds of disability and they can result from accidents, illness or genetic disorders. A disability may affect mobility, ability to learn things, or ability to communicate easily, and some people may have more than one. A disability may be visible or hidden, may be permanent or temporary and may have minimal or substantial impact on a person's abilities.²⁷

diversity: The varying social, economic and geographic circumstances of consumers who use, or may use, the services of a health service organisation, as well as their cultural backgrounds, disability status, religions, beliefs and practices, languages spoken, sexual orientation, gender identity and gender expression, and sex characteristics.²⁸

downloading: the process of copying data from one device to another over a network.

effectiveness: the degree to which something is successful in producing a desired result. When something is deemed effective, it means it has achieved the intended outcome.

emergency assistance: advice or assistance provided when a service user's condition has deteriorated severely.²⁹

environment: the context or surroundings in which care is delivered. For digital mental health services, technology and digital devices enable it. Environment can also include other service users and their support people, and the workforce.

escalation of care: an intervention to raise concerns with a healthcare professional about the clinical deterioration of a service user. Its purpose is to summon healthcare professionals to assess and respond to the concerns. It serves as a safety mechanism so that service users who become acutely unwell may be identified early and managed in a timely manner.³⁰

ethics: a set of concepts and principles that guide us in determining what behaviour helps or harms a person or group of people.³¹

evaluation: a process that critically examines a program or service. It involves collecting and analysing information about a program or service's activities, characteristics, and outcomes. Its purpose is to make judgments about a program or service, to improve its effectiveness, and/or to inform programming decisions.

evidence-based: any practice that relies on scientific evidence for guidance and decision making.

evidence-informed: any practice that uses local experience and expertise with the best available evidence from research (although this may be limited) to identify the potential benefits, harms and costs of an intervention.

experience of care: the range of interactions that service users, and where relevant, their support people, have with the digital mental health care system, including their care from their health plan, the workforce involved in delivering the service, and the service provider.

exploitation: the use of people's vulnerability or taking unfair advantage of them for one's own benefit.

goals of care: clinical and other goals for a service user's episode of care that are determined in the context of a shared decision-making process.

governance: the set of relationships and responsibilities established by a service provider between its executive, workforce and stakeholders (including service users and their support people). Governance incorporates the processes, customs, policy directives, laws and conventions affecting the way an organisation is directed, administered or controlled. Governance arrangements provide the structure for setting the corporate objectives (social, fiscal, legal, human resources) of the organisation and the means to achieve the objectives. They also specify the mechanisms for monitoring performance. Effective governance provides a clear statement of individual accountabilities within the organisation to help align the roles, interests and actions of different participants in the organisation to achieve the organisation's objectives. In the NSQDMH Standards, governance includes both clinical and technical governance, which are integrated components of corporate governance.

governing body: a board, chief executive officer, organisation owner, partnership or other highest level of governance (individual or group of individuals) that has ultimate responsibility for strategic and operational decisions affecting safety and quality.

guidelines: clinical practice guidelines are systematically developed statements to assist clinician and service user decisions about appropriate health care for specific circumstances.³²

hardware: any physical device used with a digital service (for example, a computer, monitor, mouse, telephone or videoconferencing unit).

harm: an act that causes loss or pain.

health literacy: the Australian Commission on Safety and Quality in Health Care separates health literacy into two components – individual health literacy and the health literacy environment.

Individual health literacy is the skills, knowledge, motivation and capacity of a service user to access, understand, appraise and apply information to make effective decisions about health and health care, and take appropriate action.

The health literacy environment is the infrastructure, policies, processes, materials, people and relationships that make up the healthcare system, which affect the ways in which service users and their support people access, understand, appraise and apply health-related information and services.³³

health information: information or an opinion, that is also personal information, about the health or disability of an individual, or a health service provided or to be provided; or other personal information collected to provide or in providing a health service.³⁴

healthcare record: includes a record of the service user's medical history, treatment notes, observations, correspondence, investigations, test results, photographs, prescription records and medication charts for an episode of care.

higher risk (service users at higher risk of harm): a service user with multiple factors or a few specific factors that result in their being more vulnerable to harm from health care or the healthcare system. Risk factors may include having chronic clinical conditions; having language barriers; being of Aboriginal or Torres Strait Islander background; having low health literacy; being

homeless; or being of diverse gender identities and experiences, bodies, relationships and sexualities (currently referred to as lesbian, gay, bisexual, transgender and intersex [LGBTI]).

identification: the act of indicating a person's identity. See also *authentication*.

incident: an event or circumstance that resulted, or could have resulted, in unintended or unnecessary harm to a service user; or a complaint, loss or damage. An incident may be clinical or technical in nature. Misdiagnosis, inappropriate treatment and events of self-harm are examples of clinical incidents; a data breach, service interruption or loss of data are examples of technical incidents.

information and data inventory: a high-level list of the data and information that an organisation collects, where it is held, with whom it is shared, and how it is used.

information security: the practice of preventing unauthorised access, use, disclosure, disruption, modification, inspection, recording or destruction of information.

information management security system: a set of policies and procedures for systematically managing an organisation's sensitive data. It aims to protect the confidentiality, availability, and integrity of assets from threats and vulnerabilities, minimise risk and ensure business continuity by pro-actively limiting the impact of a security breach.

informed consent: a process of communication between a service user and service provider about options for treatment, care processes, data management or potential outcomes.³⁵ This communication results in the service user's authorisation or agreement to participate in planned care or data management. The communication should ensure that the service user has an understanding of the care they will receive or the data to be managed, all the available options and the expected outcomes.³⁶

in-product sales: the offering of products for sale embedded within a digital mental health service.

intended service user demographic: the information (for example, age, gender) about service users for whom the service is intended.

internal access controls: security features that control how service users (and where relevant, their support people) and systems communicate and interact with other systems and resources (for example, through authentication and authorisation, regular automated monitoring and verifying of access configurations, auditing of service user access to data access, and control policies that make sure service users, and where relevant, their support people, are who they say they are and that they have appropriate access to data).³⁷

interoperability: the ability of computerised systems to connect and communicate with one another readily to exchange and make use of data and information. In the health system, interoperability of digital systems means seamless and secure connections are made between clinical information systems that previously were disconnected and siloed, and that patient information can be shared and clinical decisions made in light of all the relevant data available, delivering better care as a result.

jurisdictional requirements: systematically developed statements from state and territory governments about appropriate healthcare or service delivery for specific circumstances.³² Jurisdictional requirements encompass a number of types of documents from state and territory governments, including legislation, regulations, guidelines, policies, directives and circulars. Terms used for each document may vary by state and territory.

leadership: having a vision of what can be achieved, and then communicating this to others and evolving strategies for realising the vision. Leaders motivate people and can negotiate for resources and other support to achieve goals.³⁸

legacy (digital): the digital information that is available about someone following their death.³⁹

mental health service: a service whose primary function is to provide information, treatment, rehabilitation or support targeted towards people with a mental illness, suicidal thinking or behaviour, or alcohol and other drug use. It may offer clinical services or non-clinical interventions. Note that for the purposes of the NSQDMH Standards, mental health, suicide prevention, and alcohol and other drug services have been included under the term mental health service, although it is recognised that these are distinct sectors providing services to often distinct cohorts (noting that some service users have multiple needs and benefit from collaboration between sectors).

mental state: See *deterioration in mental state*.

minimum information content: the content of information that should be contained and transferred in a particular type of clinical handover. What is included as part of the minimum information content will depend on the context and reason for the handover or communication.⁴⁰

model of care: the way a health service is to be delivered. It outlines best practice care and services for a person, population group or service cohort as they progress through the stages of a condition. It aims to ensure service users and their support people get the right care, at the right time, by the right team and in the right place.⁴¹

open disclosure: an open discussion with a service user, and where relevant, their support people, about an incident that resulted in harm to the service user while receiving care. The criteria of open disclosure are an expression of regret, and a factual explanation of what happened, the potential consequences, and the steps taken to manage the event and prevent recurrence.⁴²

opt out mechanism: a way for a service user to take action to withdraw or withhold their consent.

orientation: a formal process of informing and training a worker or contractor starting in a new position or beginning work for an organisation, which covers the policies, processes and procedures applicable to the organisation.

outcome: the status of an individual, group of people or population that is wholly or partially attributable to an action, agent or circumstance.⁴³

ownership of data: the act of having legal rights and complete control over a single piece or set of data elements.

partnership: a situation that develops when service users, and where relevant, their support people, are treated with dignity and respect, when information is shared with them, and when participation and collaboration in healthcare processes are encouraged and supported to the extent that service users choose.

patch: publicly released update to fix a known bug or issue.

peer worker: someone employed on the basis of their personal lived experience (of mental health issues, suicidal thinking or behaviour, or alcohol and other drug use) and recovery (consumer peer worker) or their experience of supporting family or friends with mental health issues, suicidal thinking or behaviour, or alcohol and other drug use (carer peer worker).

peer-to-peer support service: a system of giving and receiving help founded on key principles of respect, shared responsibility, and mutual agreement of what is helpful. Peer support is not based on psychiatric models and diagnostic criteria. It is about understanding another's situation empathically through the shared experience of emotional and psychological pain. When people find affiliation with others they feel are 'like' them, they feel a connection. This connection, or affiliation, is a deep, holistic understanding based on mutual experience where people can 'be' with each other without the constraints of traditional (expert/patient) relationships.

person-centred care: an approach to the planning, delivery and evaluation of health care that is founded on mutually beneficial partnerships among service providers, service users and their support people.⁴⁴ Person-centred care is respectful of, and responsive to, the preferences, needs and values of service users. Key dimensions of person-centred care include respect, emotional support, physical comfort, information and communication, continuity and transition, care coordination, involvement of carers and family, and access to care.⁹ Also known as patient-centred care or consumer-centred care.

performance: the level of accomplishment of a given task measured against pre-set known standards.

personal data and records: data about an identified individual, or an individual who is readily identifiable, for example, name, address, date of birth, and all associated records, such as their transcribed consultations, chats, medical histories, shared clinical records, and other third-party data/records used in digital mental health work.

platform: a group of technologies that are used as a base upon which other applications, processes or technologies are developed. Historically, application programs written for one platform would not work on a different platform. New standards-based interfaces and open interfaces allow application programs to run on multiple platforms. Additionally, software developers have developed software tools that allow applications to run on multiple platforms.⁴⁵

policy: a set of principles that reflect the organisation's mission and direction. All procedures and protocols are linked to a policy statement.

privacy: the right to be free from interference and intrusion, to associate freely with whom you want and to be able to control who can see or use information about you. Information privacy is about promoting the protection of information that says who we are, what we do and what we believe.⁴⁶

privacy impact assessment: a systematic assessment of a service that identifies the impact that the service might have on the privacy of individuals, and sets out recommendations for managing, minimising or eliminating that impact.⁴⁷

procedure: the set of instructions to make policies and protocols operational, which are specific to an organisation.

process: a series of actions or steps taken to achieve a particular goal.⁴⁸

product information: information written by the service provider responsible for the digital mental health service that provides objective information about the quality, safety and effectiveness of the service, as well as its purpose and intended service users and their support people.

program: an initiative, or series of initiatives, designed to deal with a particular issue, with resources, a timeframe, objectives and deliverables allocated to it.

protocol: an established set of rules used to complete tasks or a set of tasks.

pseudonym: a name, term or descriptor that is different to an individual's actual name.¹¹

quality: the standard of something as measured against other things of a similar kind; the degree of excellence of something.

quality improvement: the combined efforts of the workforce and others – including service users and their support people, researchers, planners and educators – to make changes that will lead to better service user outcomes (health), better system performance (care) and better professional development.⁴⁹ Quality improvement activities may be undertaken in sequence, intermittently or continually.

recovery (data): a process of salvaging (or retrieving) inaccessible, lost, corrupted, damaged or formatted data from secondary storage, removable media or files, when the data stored in them cannot be accessed in a standard way.

regularly: occurring at recurring intervals. The specific interval for regular review, evaluation, audit or monitoring needs to be determined for each case. In the NSQDMH Standards, the interval should be consistent with best practice, risk based, and determined by the subject and nature of the service.

risk assessment: assessment, analysis and management of risks. It involves recognising which events may lead to harm in the future and minimising their likelihood and consequences.⁵⁰

risk management: the design and implementation of a program to identify and avoid or minimise risks to service users and their support people, the workforce and the service.

risk: the chance of something happening that will have a negative impact. Risk is measured by the consequences of an event and its likelihood.

risk-based approach: an approach that identifies, assesses, and understands the risks, and takes appropriate mitigation measures in accordance with the level of risk.

safety: the condition of being protected from harm or other non-desirable outcomes.

scope of clinical practice: the extent of an individual clinician's approved clinical practice within an organisation, based on the clinician's skills, knowledge, performance and professional suitability, and the needs and service capability of the organisation.⁵¹

screening: a process of identifying service users who are at risk, or already have an illness or injury. Screening requires enough knowledge to make a clinical judgement.⁵²

self-harm: intentional direct injury of body tissue without the intention to die, usually as a way of trying to cope with distressing or painful feelings. Also known as deliberate self-injury or non-suicidal self-injury.

service context: the particular context in which care is delivered. The service context will depend on the organisation's function, size and organisation of care regarding service delivery mode, location and workforce.⁵³

service provider: an organisation that provides digital mental health services to service users, and where relevant, their support people, either free of charge or at a cost. A service provider may make available one or more services from which service users and their support people can select, and has in place a system to oversight the delivery of the service. A developer of a digital mental health service that makes the service directly available to service users and their support people is a service provider.

service user: a person who has used, or may potentially use, a digital mental health service. A service user may be a consumer or a carer or a support person, depending on the nature of the service.

software: a collection of code instructing a device to perform specific tasks. Software includes programs, applications, scripts and sets of instructions.

standard: agreed attributes and processes designed to ensure that a product, service or method will perform consistently at a designated level.⁴³

substitute decision-making: the process where someone makes a health-care decision for a person who has lost capacity. The substitute decision-maker “stands in the shoes” of the person to make the decision that the person would have made for themselves if they could still make that decision.

supported decision-making: the provision of decision-making support which enables people with cognitive disabilities to exercise their legal decision-making rights.

support people: individuals who provide support and reassurance to service users (for example, a family member, friend or paid support worker).

system: the resources, policies, processes and procedures that are organised, integrated, regulated and administered to accomplish a stated goal. A system:

Brings together risk management, governance, and operational processes and procedures, including education, training and orientation

Deploys an active implementation plan; feedback mechanisms include agreed protocols and guidelines, decision support tools and other resource materials

Uses several incentives and sanctions to influence behaviour and encourage compliance with policy, protocol, regulation and procedures.

technical fault: an abnormal condition or defect at the component, equipment, or sub-system level which may lead to a failure.

technical governance: the system by which the current and future use of information and communication technology is directed and controlled. It is an integrated component of the corporate governance of healthcare organisations and includes leadership, organisational structures, strategy, policies and processes to ensure that the organisation’s information technology sustains and extends the organisation’s strategies and objectives.

technician: a person skilled in the technique of a craft or employed to do practical work or look after technical equipment.

terms and conditions: the rules that apply to fulfilling a particular contract and that form an integral part of that contract. Service users and service providers must agree the terms and conditions to form a contract.

transitions of care: situations when all or part of a service user’s care is transferred between services or providers, as the service user’s conditions and care needs change.⁵⁴

updates: an updated version of a digital mental health service.

usability: the extent to which a product (such as a device, service, or environment) can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.⁵⁵

workforce: all people working for a service provider, including clinicians, technicians and any other employed or contracted locum, agency, student, volunteer or peer workers. The workforce can be members of the organisation, or company representatives providing technical support who have assigned roles and responsibilities for care of, administration of, support of, or involvement with service users and their support people in the organisation. See also *clinician and technician*.

young people: people under 18 years of age.

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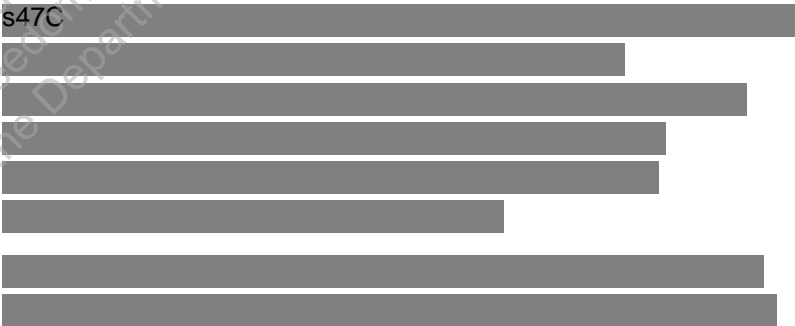
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MBS Taskforce Review Telehealth Principles

Principle	MRAC and External stakeholder suggested feedback
<p>1 Should be patient-focused, and based on patient need, rather than geographical location</p>	<p><i>Retain, with amendment.</i></p> <ul style="list-style-type: none"> Remove geographical location reference <ul style="list-style-type: none"> Note some external stakeholders were concerned that this meant those in rural areas were less important. Reconsider “patient need”, as this may translate to patient convenience emphases should be placed on clinical needs. 10.5% of disagreed with this principle felt that rural and remote patients should have higher remuneration. 10.5% felt neutral and 78.9% agreed with the principle. <p>s47C</p> <p>Action item: Committee to provide advice on the framework for best defining patient clinical needs (and/or guidance on unwanted or inappropriate practise)</p>
<p>2 Must support and facilitate safe and quality services that demonstrate clinical efficacy for patients.</p>	<p><i>Retain, with amendment.</i></p> <ul style="list-style-type: none"> Further consideration required as how to define the completion of a ‘quality’ service Consider change in language to “demonstrate clinical efficacy for patients.” Majority of external stakeholder feedback agreed (89.5%) with this principle with no disagreement and 10.5% neutral. Suggests removal of patients in wording External feedback provided no disagreement as written, 10.5 neutral and 89.5% agree. <p>s47C</p> <p>Action Item: Further discussion required</p>

3	Should be provided in the context of continuity of care between patient and practitioner	<p><i>Retain, with amendment.</i></p> <ul style="list-style-type: none"> Consider continuity of care with focus on 'clinical hand over' External stakeholder feedback agreed (78.9%) with this principle no disagreement and 21.1% neutral. <p>s47C</p>  <p>Action item: Consider amending principle and or including clinical hand over within MBS explanatory notes</p>
4	Must not create unintended consequences or perverse incentives that undermine the role of face-to-face care	<p><i>Retain, with amendment.</i></p> <ul style="list-style-type: none"> Update language to state 'complementary service' rather than 'substitution' for face-to-face It is important to note that face-to-face care allow for a more comprehensive physical assessments of patients. While also supporting the formation and consolidation of ongoing health professional-patient care model External feedback provided 5.3% disagree, 10.5 neutral and 84.2% agree. <p>s47C</p>  <p>Action item: Committee to consider feedback from external stakeholders and language to qualifies and that nuances the use of telehealth as part of continuity of care model</p>
5	Should prefer video over phone, as video offers richer information transfer, with fewer limited exceptions	<p><i>Amend</i></p> <ul style="list-style-type: none"> The Committee and some external stakeholders felt the evidence was not sufficiently strong to promote video over phone. The majority of external stakeholders were either neutral or agreed that video did provide a richer transfer of information.

	being allowed over time.	<ul style="list-style-type: none"> Overwhelming stakeholders voiced concerns about creating unintended barriers. With concerns for Equity and infrastructure concerns were raised, and discussion related to access and unintended barriers and complications of the increased technical requirements for video. Technology literacy and awareness were also discussed in relation to practitioner limitations and patients' lack of awareness that video consultations are available. Committee emphasised clinical need, rather than prescriptive guidance on telehealth modality. External feedback provided 15.8% disagree, 36.8 neutral and 47.4% agree. <p>s47C</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
6	Support optimal clinical engagement with the patient by allowing clinician participation at both ends of the MBS telehealth consultation.	<p><i>Retain, with amendment</i></p> <ul style="list-style-type: none"> Overwhelmingly external feedback state wording needed clarity. There were also arguments to expand so it is relevant to multi-disciplinary care, and against using the terms "clinician" as its restrictive to only GPs. MRAC discussed and recommended the reinstatement of GP patient end support items that were removed in 2022. External stakeholder feedback reinforced that this principle is not currently being enforced for GPs. <ul style="list-style-type: none"> The removal created an inequity in regional and remote areas. It was also recommended that new patient-end support items were created, enabling nurse (or other suitably trained clinical assistant) to facilitate telehealth consultation with a GP, and that such services would qualify in the context of the requirement for GP established clinical relationship. In addition, members noted consideration should be given for both private and public specialists External feedback provided 21.1% disagree, 15.8% neutral and 63.2% agree.

8	Supports different funding models consistent with patients' need, clinical specialty and purpose.	<p>Retain, with consideration for updates to rationale</p> <ul style="list-style-type: none"> • Funding models do need to align with models of care - and as the chronic disease burden grows so does the need for innovative arrangements • Multidisciplinary team care may vary according to patient needs and local resources. Specification of models could be misconstrued as a requirement. Avoid listing "optimal" multidisciplinary work arrangements. • Its appropriate to consider funding with respect to long term planning of MBS telehealth • Blended payments to support appropriate patient care should be part of a 2-yearly review, with consideration of changes that may occur to WIP and are likely to occur through MyMedicare • Further clarity was requested by external stakeholders as what is defined as multidisciplinary care team. • External feedback provided 10.5% disagree, 15.8% neutral and 73.7 % agree.
9	Should be guided by contemporary relevant guidelines and principles	<p>Retain without amendment</p> <ul style="list-style-type: none"> • External feedback provided from stakeholders advised this principle is too broad. • Telehealth is a form of clinical consultation, albeit not face to face. MBS principles thus should be no different. The way the principle is written is judicious and appropriate. • Resources to improve health literacy and guidelines for consumers to better improve their health literacy and health engagement should also be included 'relevant guidelines and principles' • Ongoing review mechanisms should include scoping and examination of new guidelines, to ensure the approach is evidence based and consistency with best practice • Best Practice is continuity of care from a known primary care provider. Telehealth is facilitating this. • The four goals remain relevant with a focus on best practice, value and ensuring patient is known to provider. • External feedback provided 15.8% disagree, 31.6% neutral and 52.6% agree.

		<ul style="list-style-type: none"> The concern from external stakeholders is what guidelines is this principle referring to. <p>Action: Committee to decide if specification of the guidelines is useful.</p> <p>§47C [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
10	Require ongoing data collection, research and evaluation into outcomes and utility.	<p>Retain without amendment</p> <p>Research considerations may include:</p> <ul style="list-style-type: none"> Proportion of services delivered by telehealth at a practice level and at an individual clinician level Comparing modality and consent through telehealth for procedures Demographics and underserved populations External stakeholders were overwhelmingly positive with regard to this principle. External feedback provided 0% disagree, 5.3% neutral and 94.7% agree.



Medicare Benefits Schedule (MBS) Review Advisory Committee

Meeting No. 9

14 November 2023

Agenda item No. 9

Telehealth Post-implementation Review

Purpose

That the committee:

1. **NOTE** the amended timeframe for the post-implementation review of telehealth;
2. **DISCUSS** the public consultation feedback received on the Telehealth Post-implementation Review Draft Report;
3. **NOTE** the recent telehealth consumer engagement conducted by the Consumers Health Forum (CHF);
4. **NOTE** the research by Bond University, Australian National University and Bastion Insights;
5. **DISCUSS** any subsequent amendments to the 2023 Telehealth Post-Implementation Review Draft Interim Report; and
6. **AGREE** on final advice for the following:
 - a. The MBS Taskforce Telehealth Principles;
 - b. Temporary MBS telehealth subspecialty items; and
 - c. Other recommendations for which there is stakeholder and MRAC support.

Background

The scope of the post-implementation review of telehealth includes:

- Permanent and temporary MBS funded telehealth services.
- The MBS Review Taskforce Telehealth Principles (to be used as a framework for future consideration of MBS funded telehealth services).
- The appropriateness of current settings for video and telephone consultations to ensure the right balance between access, quality, and safety (including identifying any specific services or patient populations requiring improved access via telehealth).



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- Current patient eligibility settings and related exemptions within the MBS.
- Non-clinical drivers of telehealth services, real or perceived costs and challenges of video adoption compared to telephone, and synchronous and asynchronous care.

On 21 October 2023, Minister Butler agreed to extend the deadline for a final report from the post-implementation review of telehealth until 31 March 2024. A condition of the extension is an interim report to the Government by the end of 2023 that still provides final advice on the temporary MBS GP subspecialised items matters alongside principles and recommendations that may be finalised in the wake of consultation.

The extension of up until 31 March 2024 provides additional time to consider and respond to any complications arising from consultation feedback and to produce a final report document. The final report is to be inclusive of all recommendations from the interim report with their rationale and recognition of feedback and sensitivities, if appropriate. The final report will be made publicly available on the department's website (as a product of the MRAC)..

Key Issues

a. Consultation Feedback on Draft Report

On 6 November 2023, the six-week public stakeholder consultation on the MRAC's draft report closed.

- Over 400 individual submissions were received as part of this process.

o [REDACTED] s22
[REDACTED]
[REDACTED]

- A summary of the consultation feedback is at Attachment A.

b. CHF Consumer Engagement

- o On 9 November 2023 the CHF ran a consumer engagement workshop to discuss telehealth from a consumer perspective.
- A summary of the feedback from this event is at Attachment B.

c. Research update

- Bond University's 'Work Package C' (Attachment C) has been provided to members, with research questions informed by the May 2023 meeting:

Question	Summary of results
How valid are telephone and video interviews in comparison with face-to-face interviews for initial psychiatric diagnosis?	There was a relatively high level of agreement between face-to-face and telehealth assessments in acute settings.
Do patients who access telehealth care experience more or less frequent transfers to the emergency department, than patients who access care face-to-face?	Overall Bond University found no difference between telehealth (video or phone) and face-to-face consultation, for transfers to the emergency department.



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Is telehealth-specific training a factor in reviews of diagnostic accuracy in patients with common mental illness, comparing telehealth (telephone or video) or face-to-face?	Bond University found that only 2 of 31 trials reviewed established the diagnoses by telehealth. 12 of the 31 trials provided telehealth-related training, noting this typically focused on technology.
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- ANU provided an update to research presented to the MRAC in May 2023 ([Attachment D](#)). The findings included:
 - In 2022, while over 95% of GPs and 55% of patients used telehealth, video telehealth was not commonly used (with only 1 in 20 telehealth consultations provided by video).
 - The likelihood of receiving video telehealth increased if the patient was a younger adult, lived in a very remote area, or visited their GP frequently.
 - In 2022, the use of video telehealth declined, and while the policy change that removed the reimbursement for longer phone items slowed this decline, it did not stop or reverse it.
 - Continuity of care improved during the pandemic, with a modest increase in the proportion of patients with high continuity increasing from 2019 to 2022.
 - Providers identified telehealth as a challenge for safety (specifically the techniques that they use to accurately diagnose and manage a patient). In a telehealth consultation these are reduced to using one or two senses (hearing and sight), and to using the window offered by the patient's modality (fixed screen, mobile screen, phone).
 - Patients saw telehealth as an offering for ontological safety (as it is accessible, conducted in their own home or chosen location, and is more likely to fit in with their own time schedules).
 - In addition, in 2021 Bastion Insights were engaged by the Department to conduct a 'time-study' of telehealth in general practice and to explore patient experience and barriers to using telehealth. Several observations by Bastion Insights (refer [Attachment E](#)) remain relevant. The time-study provides insight into the practical realities of delivering healthcare through phone or video as well as expectations and lived experience of patients, providers and practices.
 - The report found that telehealth (phone) consultations were the quickest form of consultation with an average of 12.4 minutes followed by face-to-face consultations averaging 17 minutes and the longest mode of consultations being video telehealth at 17.7 minutes.
 - The report also identified that patients, administrative staff, and GPs experience with telehealth varied.
 - Patient satisfaction was found to be associated with the convenience of using telehealth for simple appointments (repeat scripts, referrals, and follow up test results), as well as time saved in travel and waiting times.
 - Patient dissatisfaction was found to be associated with being uncomfortable or inexperienced in technology required to complete a video telehealth consultation, connectivity issues, GPs not calling at



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scheduled time, feeling rushed or not listened to particularly on the phone.

- GP satisfaction was found to be associated with payments being provided for telehealth services, improved infection control, simple and quick consultations for repeat scripts or referrals, and convenience of being able to provide care from any location.
- GP dissatisfaction was found to be associated with technical issues, perceived risks of misdiagnosis and potential overprescribing, privacy concerns when patients attempted to participate in the consultation without being in a private setting, and additional workload.
- There was an obvious preference for phone over video telehealth consultations. While video consults were convenient for both patients and GPs, practice managers reported increased workload and costs associated with video as there are additional steps and technology requirements for providing video.
- While the time-study was conducted at a time when COVID was impacting behaviour and decision making, many of the aforementioned findings are consistent with results from the Department's Design Lab (previously presented to the committee), and ANU research.

d. Inclusions in the Interim Report to Government

- MBS Telehealth Principles:
 1. Should be patient-focused and based on patient need, as determined by the clinician and the patient.
 2. Must support and facilitate safe and quality services for patients, aligning with the clinical requirements of the equivalent face-to-face service and demonstrating clinical efficacy.
 3. Should be provided in the context of coordinated and continuous care between patient and clinician.
 4. Must not create unintended consequences or perverse incentives that undermine the role of face-to-face care.
 5. Must offer both telephone and video along with face-to-face consultations, though modality for any service is subject to Principles 1 and 2. Video should be encouraged over phone where it will provide a better patient and/or provider experience.
- Should support optimal clinical engagement with the patient by allowing clinician participation at both ends of the MBS telehealth consultation, enabling remuneration of both the treating clinician and patient-end clinician.
- 1. Should provide sufficient notice of changes to MBS telehealth items for clinicians and patients to adjust to change.
- Advice on temporary MBS telehealth subspecialty items has included:



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- Other recommendations, pending consideration of consultation feedback (refer Attachment A and Attachment B)

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- **Recommendation 8:** Extend eligibility requirements to nurse practitioner MBS and midwifery MBS telehealth items.

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Attachments

- A. Public Consultation Feedback Summary
- B. Consumer Health Forum – Consumer Feedback
- C. Bond University Research – Work Package C
- D. ANU Research
- E. Bastion Insights Research

Summary of Public Consultation feedback

The public stakeholder consultation on MRAC's draft report received over 400 submissions.

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Recommendation 8: Extend eligibility requirements to nurse practitioner MBS and midwifery MBS telehealth items.

The feedback from stakeholders indicated some misinterpretation of “extending eligibility requirements” to mean that eligibility requirements were being reduced. For the stakeholders that interpreted this recommendation as a reduction of eligibility requirements, they were supportive.

For the stakeholders that interpreted the recommendation as introducing the 1 in 12 rule to nurse practitioner items, the feedback was mixed.

- Some stakeholders were not supportive citing:
 - A negative impact on nurse practitioner led business models.
 - Undermining the ability for nurse practitioners to work to their full scope.

- | | |
|--|---|
| | <ul style="list-style-type: none">○ A reduction in patient access to health care.○ A disproportionate impact on vulnerable patients.○ The 1 in 12 isn't an appropriate measure for an existing relationship for pregnancy care (given the average gestation timeframe).● Some stakeholders that were supportive citing:<ul style="list-style-type: none">○ It would address online only business models (that often undermine continuity of care).○ An improvement in the quality of care.○ More consistency in the MBS. |
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Summary of Consumer Health Forum Summary

On 9 November 2023, the Consumer Health Forum (CHF) conducted roundtable discussions to provide feedback on the MRAC's draft recommendations and experiences of telehealth.

MRAC Draft Report Feedback

Overall feedback

- The wording of the draft recommendations was too complex, hard to understand, and would not be easily understood by the wider population. It was recommended that the report include a consumer summary (as well as a consumer summary of the principles).
- Minimum standards and guidelines around general etiquette for the use of both video and phone would be beneficial, for both providers and patients. For example, an individual reported that during a video consultation the provider did not turn on their video. This patient felt uncomfortable with this (and felt it violated privacy as they could not be sure if they were speaking to the correct provider or if other people were in the room).
- More telehealth services should be offered, with limited rules around its use.
- Terminology of 'chronic conditions' should include mental health conditions.
- Video is the better option over phone, but patients may request to turn their video off if they are seeing a new provider and feel their issue is sensitive. It was noted that some people may be uncomfortable with video if they live in rural towns, and that racism could be an issue.
- All recommendations should consider the patient holistically. It was highlighted that there should be consideration of people who are housebound, with mobility issues, First Nations, and CALD. In addition, consumers noted that there was a lack of consideration of carers/legal guardians/family of patient.

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Recommendation 8 -*Extend eligibility requirements to nurse practitioner MBS and midwifery MBS telehealth items.*

- Consumers agreed.

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Perception and Experiences of Telehealth

- Telehealth was seen to be useful, but it was also identified that it cannot replace all care that is provided in-person.
- Positive comments about telehealth included:
 - Telehealth is great for convenience and improved access, noting that it does need to be equitable.
 - It is good for quick appointments.
 - It is beneficial for follow up appointments and continuity.
 - Telehealth is an opportunity for increased home visits for those who need it, which could be performed by nurses and live streamed with GPs or specialists.
 - Digital models of care should be used more in primary care settings.
- Comments around telehealth limitations included:
 - Telehealth is problematic for anything requiring visibility (even though this occurs) such as physio appointments.
 - Not suitable for diagnoses.
 - Not ideal for sensitive matters.
- Not suitable for new cases as there is no trust established or shared history.
 - Potential issues with proof of identity and doctor shopping.
- Consumers agreed that doctors don't necessarily know how to use telehealth and aren't always very good at it. It was suggested that standardised training would assist. A standardised platform (Zoom, etc) was also suggested, as over time everyone would become familiar with it.
- It was noted that providers need to be respectful of patient time.
- It was suggested that out of pocket costs should be the same as face-to-face appointments, with neither the patient nor provider being worse off by using telehealth.
- Consumers had varied opinions about online only models (and either saw the benefits of increased access or issues around doctor shopping and quality of care).



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Post Implementation Review - MBS Telehealth

14 November 2023

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Purpose

NOTE the amended timeframe for the post implementation review of telehealth.

DISCUSS public consultation feedback.

DISCUSS the research conducted by the Consumer Health Forum.

NOTE the research by Bond University, Australian National University, and Bastion Insights.

DISCUSS any subsequent amendments to the 2023 Telehealth Post Implementation Review Draft Interim Report.

AGREE on final advice for the following:

- a. The MBS Taskforce Telehealth Principles.
- b. Temporary MBS telehealth subspeciality items.
- c. Other recommendations for which there is stakeholder and MRAC support.

Amended Project Timeline

Tasks	Date	Breakdown
Consultation (1)	08/08/23	<ul style="list-style-type: none"> Collating external stakeholder and MRAC feedback on Principles and collate into recommendations to the Minister
August Meeting	09/08/23	<ul style="list-style-type: none"> Agreement Paper on approach final report
Drafting	01/09/23	<ul style="list-style-type: none"> Draft MRAC telehealth report including recommendations.
Consultation (2)	Sept-Nov	<ul style="list-style-type: none"> Public external consultation
November Meeting	14/11/23	<ul style="list-style-type: none"> Consideration of consultation feedback, any unresolved issues
Interim Report	01/12/23	<ul style="list-style-type: none"> Finalise Interim Report for submission to Government (final advice on the temporary MBS GP subspecialised items, principles). Could be a letter or an executive summary of the Final Report.
Final Submission	31/3/24	<ul style="list-style-type: none"> Final Report deadline – though ideally can be completed in early 2024. All recommendations from the interim report with their rationale, consultation report and consumer summary.

Consultation – media summary

Remove 'blanket preference' for video telehealth: Report

A report considering telehealth in Australia suggests the blanket preference principle be changed.



7 NOVEMBER 2023

TELEHEALTH MOVE IS
MBS COST CUTTING

AMA POLITICAL TELEHEALTH

MEDIA RELEASE

Telehealth recommendations will impact access to healthcare



on-GP specialists
particularly for vulnerable

Doctors say proposed telehealth changes could 'penalise' regional and vulnerable patients

By regional health reporter [Steven Schubert](#) and national health reporter [Elise Worthington](#)
Posted Tue 7 Nov 2023 at 5:35am

[Dr. Australian Doctor News](#)

Clamp down on existing relationship exemptions in telehealth rules, MBS Review suggests

A draft report recommends changes to telehealth items for pregnancy counselling and mental health care plans.

[Antony Scholefield](#) [Rachel Carter](#)



12 OCTOBER 2023

A CHANGE OF TUNE FROM
TELEHEALTH MBS REVIEW

6 minutes [News](#)

AMA has 'serious' concerns if Medicare rebates for initial specialist consults via telehealth are axed

The MBS Review's proposal will make it harder for patients to access care, president Professor Steve Robson says.

[Carmel Sparke](#)

2 8 November 2023 [Save](#)

31 October 2023

MEDICINE AND HEALTH

Call the doctor: Telehealth and the case for making contraception, abortion, and pregnancy care permanent

Feedback from Public Consultation

Recommendation	Feedback	Specific mentions
s22		
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Recommendation 8: Extend eligibility requirements to nurse practitioner MBS and midwifery MBS telehealth items.	<div><div></div><div>0</div><div></div></div>	34

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Overall Feedback from Public Consultation

General observations

- Based on submission count there has been a high level of interest
- Good level of agreement with Principles
- [REDACTED] s22
- Recommendations [REDACTED] s22 and 8 (existing relationship for NP services) divided

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Detailed Feedback from Public Consultation – Recommendation 8

FOI 25-0233 LD - document 11.C

Profile	Excerpts From Submissions
Organisations (mostly professional representative bodies) and Providers	<p><u>Disagreement</u></p> <p><i>“If I need to see these patients prior to billing a telehealth appointment, these patients will be disadvantaged and unable to access my care. I work in transgender and gender diverse healthcare”.</i></p> <p>s47F</p> <p><i>“We believe the ‘12-month rule’ is entirely inappropriate in primary care, presenting yet another barrier to a population that already struggles to access health care”.</i></p> <p><i>“There are no ‘exclusions’ to the ‘12-month rule’ proposed for vulnerable patients of nurse practitioners, thus this recommendation would see patients of nurse practitioners even more greatly disadvantaged than those who try to access GPs”.</i></p> <p>s47G</p>
Range of Organisations and Providers	<p><u>Agreement</u></p> <p><i>“We are aware of many organisations in Brisbane, that employs a large number of Nurse Practitioners (across all of Australia) to speak via a telephone to patients, providing prescribing off label medications for solely weight loss plus recommending alternative compounding supply chains due to the shortage issues. This company has no Doctor on site, no clinic to attend, nor any collaborative arrangement that is recommended”.</i></p> <p>s47F</p> <p><i>“The foundation of extending the application of the 12-month rule to nurse practitioner MBS telehealth items is justified as a strategy to support continuity of care and consistency with the Telehealth Principles”. “Why this criterion is not applied to allied health is not stated. It would be helpful to present the rationale for this recommendation as it is logically inconsistent.</i></p> <p>s47G</p>

General observations

- The report is not written in a consumer-friendly way – the final should be accompanied by a consumer summary
- Telehealth availability improves flexible access to care and can improve continuity...
- ... However, it is also limited in its replacement of in-person care and minimum standards for telehealth etiquette for providers is desirable.
- Emphasis on enabling patient choice
- General agreement with recommendations

Specific comments

- The Principles are provider-centric and should instead be patient-centric
- Asynchronous care could be covered by existing items, new items or non-MBS funding programs

Do Members have any reflections from their own reading of stakeholders' feedback?

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Bond Research (Work Package C) Key Findings

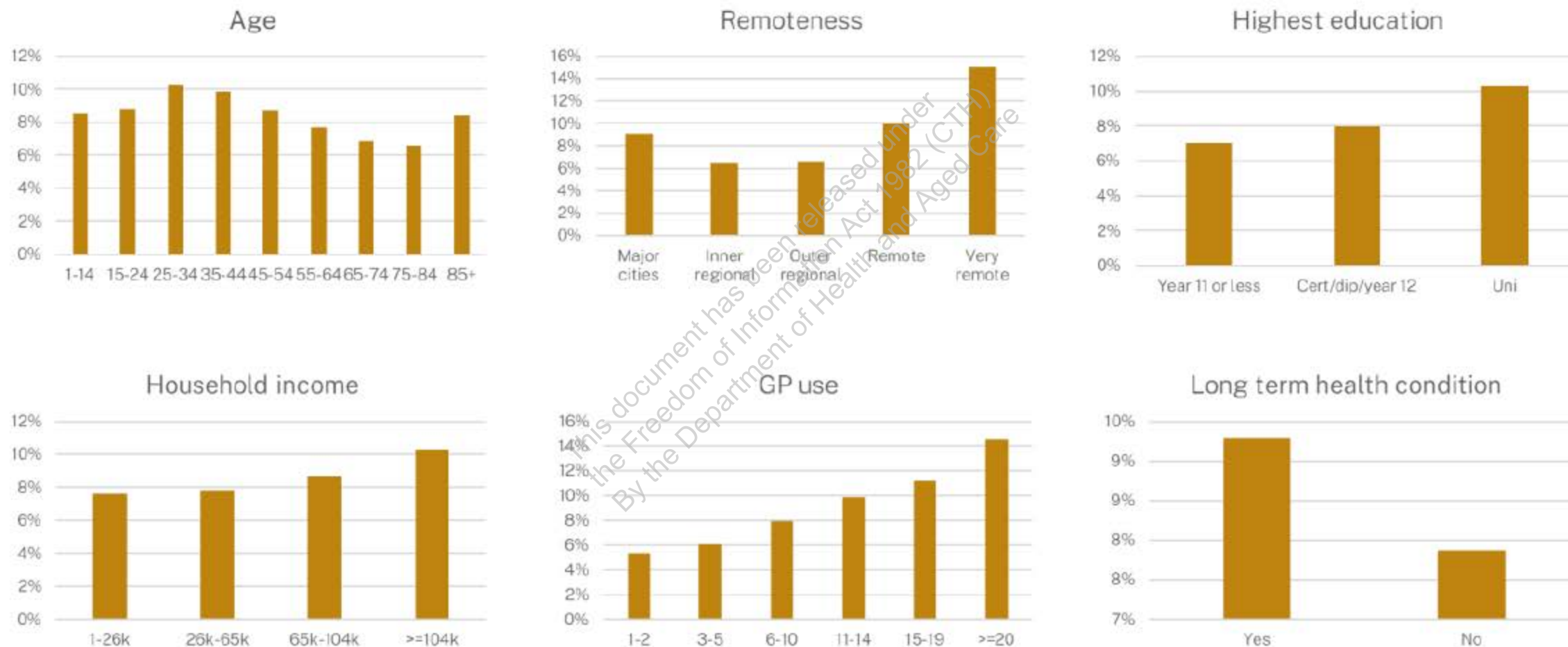
Question	Summary of results
How valid are telephone and video interviews in comparison with face-to-face interviews for initial psychiatric diagnosis?	There was a relatively high level of agreement between face-to-face and telehealth assessments in acute settings.
Do patients who access telehealth care experience frequent transfers to the emergency department than patients who access care face-to-face?	Overall Bond University found no difference between telehealth (video or phone) and face-to-face consultation, for transfers to the emergency department.
Is telehealth-specific training a factor in reviews of diagnostic accuracy in patients with common mental illness, comparing telehealth (telephone or video) or face-to-face?	Bond University found that only 2 of 31 trials reviewed established the diagnoses by telehealth. 12 of the 31 trials provided telehealth-related training, noting this typically focused on technology.

ANU Research Key Findings

- 95% of GPs and 55% of patients used telehealth, video telehealth was not commonly used (with only 1 in 20 telehealth consultations provided by video).
- The likelihood of receiving video telehealth increased if the patient was a younger adult, lived in a very remote area, or visited their GP frequently.
- Continuity of care improved during the pandemic, with a modest increase in the proportion of patients with high continuity increasing from 2019 to 2022.
- Providers identified telehealth as a challenge for safety (specifically the techniques that they use to accurately diagnose and manage a patient).
- Patients saw telehealth as an offering for ontological safety (as it is accessible, conducted in their own home or chosen location, and is more likely to fit in with their own time schedules).

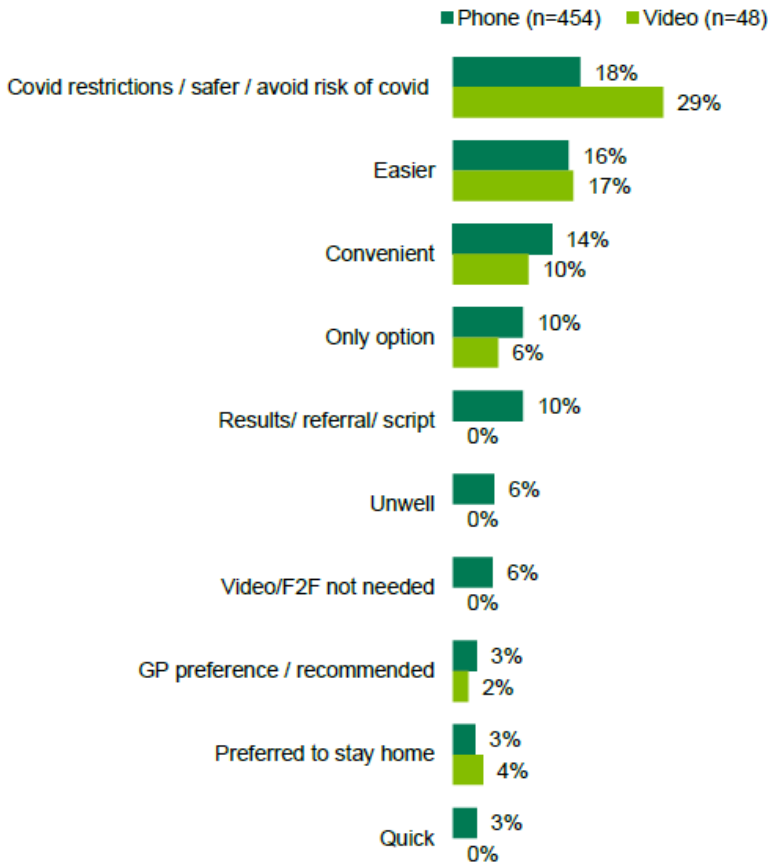
ANU Research Key Findings

Figure 1. Variation in use of video, by selected patient characteristics, 2022



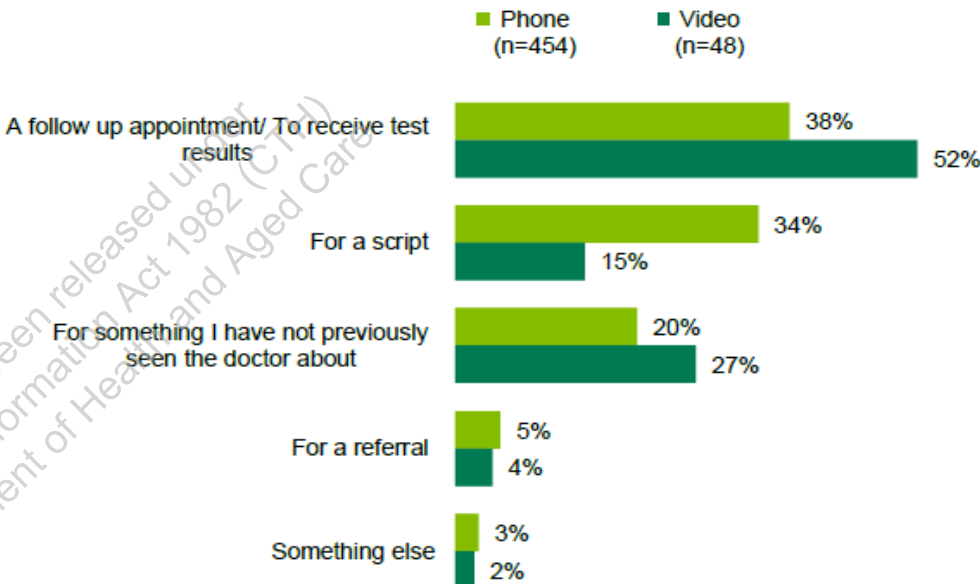
Bastion Insights Research Key Findings – Patient Experience With Telehealth

Figure 2: Reasons for patients booking their appointment as telehealth



Source: Patient Survey, Q17 Why did you choose to do the appointment via [INSERT phone OR video] Base: n=502 patients who have engaged with their GP in the last 6 months via telehealth (phone or video)

Figure 3: Reasons for consultations



Source: Patient Survey, Q15 Was the consultation...; Base: n=502 patients who have engaged with their GP in the last 6 months via telehealth (phone or video)

Bastion Insights Research Key Findings – Patient Experience With Telehealth

- Patient satisfaction was found to be associated with the convenience of using telehealth for simple appointments (repeat scripts, referrals, and follow up test results), as well as time saved in travel and waiting times.
- Patient dissatisfaction was found to be associated with being uncomfortable or inexperienced in technology required to complete a video telehealth consultation, connectivity issues, GPs not calling at scheduled time, feeling rushed or not listened to particularly on the phone.

Bastion Insights Research Key Findings – Provider Experience With Telehealth

- GP satisfaction was found to be associated with payments being provided for telehealth services, improved infection control, simple and quick consultations for repeat scripts or referrals, and convenience of being able to provide care from any location.
- GP dissatisfaction was found to be associated with technical issues, perceived risks of misdiagnosis and potential overprescribing, privacy concerns when patients attempted to participate in the consultation without being in a private setting, and additional workload.

To Finalise - Telehealth Principles

1. Should be patient-focused and based on patient need, as determined by the clinician and the patient.
2. Must support and facilitate safe and quality services for patients, aligning with the clinical requirements of the equivalent face-to-face service and demonstrating clinical efficacy.
3. Should be provided in the context of coordinated and continuous care between patient and clinician.
4. Must not create unintended consequences or perverse incentives that undermine the role of face-to-face care.
5. Must offer both telephone and video along with face-to-face consultations, though modality for any service is subject to Principles 1 and 2. Video should be encouraged over phone where it will provide a better patient and/or provider experience.
6. Should support optimal clinical engagement with the patient by allowing clinician participation at both ends of the MBS telehealth consultation, enabling remuneration of both the treating clinician and patient-end clinician.
7. Should provide sufficient notice of changes to MBS telehealth items for clinicians and patients to adjust to change.

Other Draft Positions

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- **Recommendation 8:** Extend eligibility requirements to nurse practitioner MBS and midwifery

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Path to Review completion

Consultation report

- Out of session
- Intended to be appendix to final report

Interim report

- Could be a letter with attachments for the principles, recommendations
- Could be more 'report-y', such as an exec summary (i.e. something that is built upon as the final report for early 2024)

Final report

- Due on or before 31 March 2024 (though ideally before)
- Out of session or early 2024 (Note MRAC meeting 6 March 2024)
- Consumer summary section



Medicare Benefits Schedule (MBS) Review Advisory Committee

Meeting No. 10

6 March 2024

Agenda item No. 6

Telehealth Post Implementation Review

Purpose

That the Committee:

1. **NOTE** the interim advice provided to Government (Attachment 6.A).
2. **NOTE** the Consumer Health Forum Workshop Summary (Attachment 6.B)
3. **NOTE** the Non-GP Specialist discussion paper (Attachment 6.C1).
4. **AGREE** and **ENDORSE** a final position on recommendation 9.
5. **NOTE** the Nurse Practitioner discussion paper (Attachment 6.D1).
6. **AGREE** and **ENDORSE** a final position on recommendation 8.
7. **AGREE** and **ENDORSE** a final position on recommendation 2, 3, and 10.
8. **DISCUSS** next steps for finalising the Post Implementation Review of Telehealth Final Report.

Background

On 21 December 2023, MRAC provided interim advice to the Government (see **Attachment 6.A**) which included recommendation 1 (MBS Telehealth Principles) and recommendations 4, 5, 6, and 7.

Outstanding MRAC recommendations are required to be finalised at this meeting to allow sufficient time to finalise the advice to Government.

Key Issues

Consumers Health Forum Workshop

On 8-9 February 2024, the Consumers Health Forum ran two telehealth focused workshops aimed at uncovering further consumer insights related to personal experience, views on when telehealth is appropriate, as well as eligibility. A summary of the workshops is at **Attachment 6.B**.

Overall participants were in strong support of telehealth. They acknowledged that telehealth can remove barriers in terms of rural and remote location, time, and enhance access to specialist care, scripts and referrals. They also acknowledged limitations such as when a patient or provider has poor digital literacy, issues with technology, or when a physical examination is required.



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There were mixed views in terms of appropriate use of telehealth. Some participants thought telehealth is most beneficial in the context of a continuous relationship between a provider and the patient, yet others thought that telehealth could be effectively delivered to a new patient for a new condition. The provision of telehealth services for specialist consultations (including an initial consultation) was supported with the view that a referral from a GP to a Specialist should be sufficient to receive telehealth.

There were also mixed views from participants in terms of eligibility. Participants strongly supported the flexible delivery of telehealth and their right to choose. While majority recognised the benefits of an existing relationship, many participants did not support eligibility criteria being applied and argued against the 1 in 12 rule (stating it was complicated, undermined the concept of equivalence, impacted access, and did not make sense for a 'well' person).

In addition, patients had differing views about MyMedicare. Some considered it to be a good measure of eligibility, whereas others identified limitations as not every GP is participating and it may create a barrier to care.

Outstanding Recommendations

Outstanding recommendations to be finalised include 2, 3, 8, 9 and 10.

Rec	Draft Wording	Comments	Potential wording
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8	Extend eligibility requirements to nurse practitioner MBS and midwifery	<p>November meeting - MRAC agreed further discussion is required.</p> <p>MRAC may wish to consider the out of session paper at Attachment 6.D1</p>	<p>s47C [redacted]</p> <p>[redacted]</p> <p>[redacted]</p> <p>[redacted]</p> <p>[redacted]</p> <p>[redacted]</p>
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Next steps - Finalise report

The Department has updated the draft final report to include interim recommendations (**Attachment 6.E**). Upon finalising recommendations, the MRAC should:

- Agree on an approach to finalising the report;
 - A upon timeframes for out of session work;
- Consider anything that is missing from the report that should be included prior to completion.

	Week					
Task	4/3	11/3	18/3	25/3	1/4	8/4
Final Rec's						
Draft final report						
Advice to Minister						

The Department will organise publication of the report online (following discussion with Executive around timing). The Department will assist with communications material for the Chair and members, for example, to support responses to media or health sector questions about the report and recommendations.

Attachments

- 6.A Interim Advice provided to Government
- 6.B CHF Workshop Summary
- 6.C1 Non-GP Specialist discussion paper
- 6.D1 Nurse Practitioner and Participating Midwives discussion paper
- 6.E Draft Report

Summary of Consumer Health Forum Workshop – Telehealth 8 -9 February 2024

From 8 -9 February 2024, the Consumer Health Forum ran two workshops on behalf of the Department to gain a better understanding of patient experience and perception of telehealth as well as explore policy options. At each workshop there were approximately 10-15 participants with varied demographic profiles.

Each workshop covered the same discussion topics.

Breakout 1. Personal experiences - attitudes and perception of telehealth

Overall participants expressed strong support for telehealth noting in particular:

- It is convenient (especially for rural and remote).
- Great for post-surgery follow up.
- Successful examples of appointments with specialists both during and after COVID pandemic.
- Enhances health.
- Removes obstacles.
- Timely referrals, scripts, and pathology results.
- Meets needs in one off telehealth service.
- Telehealth should be expanded, not restricted
- Provides continuity of care should the patient or provider move interstate during treatment.

Participants identified the following issues and limitations:

- Different practices use different telehealth software which can create confusion for the patient.
- Providers often ran late for telehealth consultations.
- Technical issues
- Inconsistency on when e-scripts were or were not offered.
- Confusion around availability of video and phone (some participants were not aware that you could receive either modality).
- Patient insufficiently informed that they would be charged full out of pocket cost as they did not meet MBS eligibility criteria.
- Feeling that appointment was rushed.

Breakout 2 – Appropriate use of telehealth

Participants identified the following circumstances when telehealth is appropriate:

- Telehealth is beneficial when provided in the context of a continuous relationship (when you know your doctor and your doctor knows you).
- Telehealth should be available to a wider range of providers (e.g. nurses etc).
- Telehealth is best for treating existing conditions (although examples of covid treatments were identified as an exception to this).
- With new conditions, the risk of misdiagnosis may be greater with telehealth.

- Training for all providers who use telehealth was highlighted as something that should occur to support best practice telehealth.

Participants identified the following issues and limitations:

- Fragmentation between GP and Specialist.
- Success of consultation is dependent on digital literacy of both patient and provider.
- Telehealth has limitations when a physical examination is required.
- Differing views about whether it is appropriate to access telehealth for new condition.
 - Some participants thought telehealth was equivalent to in person care, whereas others suggested telehealth has limitations when a physical examination is required.
- Clearer integration with telehealth and scripts is needed.
- Delivering confronting test results isn't appropriate under telehealth.
- Telehealth isn't always appropriate if a patient doesn't have adequate privacy.
- There should be flexibility in how telehealth is offered, and it shouldn't be a one size fits all approach.
- Sometimes there are barriers to getting referrals and access to mental health treatment through telehealth.
 - Face to face rapport with the known provider didn't always translate well to telehealth and providers weren't as effective. Many felt training specific to conducting a telehealth consult outside the technical needs important.
 - Mental health appointments sometimes still need face to face assessment (particularly when patient's physical state is related to the mental health condition i.e. eating disorders)
 - Providers conducting services at home made some patients question the level of confidentiality with their care.
- Language barriers and the availability of interpreters

Breakout 3. Telehealth Eligibility

Overall participants supported telehealth being provided with minimal restriction, and in some cases, were against any eligibility criteria.

- Patients should have the right to choose if they receive telehealth.
- Ensuring there is an existing relationship between a patient and their provider was supported and seen as "better".
- An initial telehealth appointment with an unknown provider was seen as appropriate if they also receive face to face care in the future.
- Online only business models were discussed as doing the opposite of MBS telehealth.
- Patient end support was identified as a useful tool.
- Participants were supportive of an initial consultation with a specialist to be telehealth.
- Participants suggested that they could establish a relationship through telehealth, and an initial consultation did not need to be face-to-face.
- Referral from a GP to Specialist should be enough to receive initial telehealth consultation from Specialist.
- A recording of the telehealth consultation would be beneficial for patients.

Participants identified the following issues and limitations:

- Eligibility was seen as complicated and hard to understand.
- It was not always clear what eligibility is trying to achieve.
- Some participants were against any eligibility criteria and thought it should be freely available.
- Equivalence to face to face was seen as contradictory to the 1 in 12 rule.
- The 1 in 12 rule didn't make sense for "well" person.
- Eligibility undermines the equivalence
- Asynchronous care (text) should be made available.
- Telehealth can hinder a relationship as some people aren't good over the phone.
- Participants questioned if interpreters are available.
- Many consumers had not heard of MyMedicare and were not aware that this service could support them with a GP.
- Participants had differing view on MyMedicare. Some considered it to be a good measure of eligibility, whereas others identified limitations as not every GP is participating and it may create a barrier to care.

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Medicare Benefits Schedule (MBS) Review Advisory Committee

Meeting No.10

6 March 2024

Agenda item No. 6.D

Telehealth Post Implementation Review: Nurse Practitioner and Participating Midwives Out of Session Paper

Purpose

That the Committee:

1. **CONSIDER** the attached discussion paper in the context of MRAC's draft recommendation 8.

Issues

Throughout the consultation process support for the draft recommendation 8 "*Extend eligibility requirements to nurse practitioner MBS and midwifery MBS telehealth items*" has been divided.

On 14 November 2023, MRAC agreed that further discussion was required to finalise recommendation 8.

The Department has prepared an out of session discussion paper to facilitate this discussion amongst the Committee (Attachment 6.D1).

Next Steps

The Committee's final recommendations need to be endorsed at the next MRAC meeting on 6 March 2024. This will ensure that the final advice for the post implementation review of telehealth can be provided to Government by 31 March 2024.

Attachments

Attachment 6.D1 - Nurse Practitioner and Participating Midwives – Out of session paper



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FOI 25-0233 LD - document 12.D.1

Out Of Session Discussion Paper

Nurse Practitioner

and

Participating Midwives

Telehealth

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INTRODUCTION

A nurse practitioner is an experienced registered nurse who has completed an additional master's degree and has been endorsed as a nurse practitioner by the Nursing and Midwifery Board of Australia (NMBA). NPs can assess and diagnose patients, request and interpret tests, prescribe medication and therapies, and make referrals to other health practitioners.

Participating midwives are midwives who have met the requirements of the NMBA Registration standard: Endorsement for scheduled medicines for midwives and are qualified to prescribe scheduled medicines on the Pharmaceutical Benefits Scheme and provide Medicare Benefits Scheme (MBS) rebated care through a continuity of care model.

There are currently 8 nurse practitioner and 8 participating midwifery MBS telehealth (video and telephone) items. Nurse practitioner telehealth services are equivalent to their general time-tiered face to face attendance items. While for participating midwife items, equivalent items relate to short and long antenatal or postnatal attendance face to face items.

An MBS Review Advisory Committee (MRAC) draft recommendation was provided as part of public consultation in September 2023:

“Recommendation 8: Extend eligibility requirements to nurse practitioner MBS and midwifery MBS telehealth items.”

The intention of the recommendation is to better align eligibility for non-referred telehealth attendances by nurse practitioners and participating midwives with General Practitioner (GP) items, to better ensure telehealth is provided to known patients for existing conditions.

Most GP telehealth non-referred consultations require patients to have an established clinical relationship, defined as the patient having had at least 1 face to face consultation at the practice in the 12 months prior to the telehealth consultation. However, exemptions are permitted in acute and other specific scenarios, for services to:

- children under the age of 12 months; or
- people who are homeless; or
- patients receiving an urgent after-hours (unsociable hours) service; or
- patients of medical practitioners at an Aboriginal Medical Service or an Aboriginal Community Controlled Health Service; or
- people living in an area declared as a natural disaster area due by a State or Territory Government; or
- temporary specific MBS items for blood borne viruses, sexual or reproductive health consultations, pregnancy counselling services and mental health services¹;

¹ The MRAC has provided advice to the Minister for Health and Aged Care in December 2023 with respect to making these temporary items permanent and proposed eligibility requirements.

- temporary exemptions for care to patients that have tested COVID-19 positive within the last 7 days, and patients with COVID-like symptoms who meet the PBS criteria for COVID-19 antiviral therapy seeking referral for a private pathology test to verify diagnosis.

Other telehealth eligibility requirements under the MyMedicare Scheme and Urgent Care Clinic (UCC) of consideration, include:

My Medicare

- From 1 November 2023, new Level C (longer than 20 minutes) and D (longer than 40 minutes) phone items were introduced for patients registered in MyMedicare at their registered practice. Linking these phone items to MyMedicare registration ensures that they are provided in the context of continuous care between the patient and their preferred primary care team.
- Eligibility under My Medicare is defined as face-to-face visits recorded with the same practice, including:
 - one face-to-face visit for practices in remote locations (MMM 6 and 7); or
 - two face-to-face visits for practices in other locations in the previous 24 months;
 - people who are facing hardship will be exempt from all eligibility requirements. This includes people experiencing domestic and family violence and homelessness.
- Parents/guardians and children can be registered at the same practice if one of them is eligible and registered. A parent/guardian must register a child under 14 years and provide consent on their behalf. Young people aged 14 to 17 years can register and provide consent without a parent/guardian.

Urgent Care Clinic

- The use of video telehealth in Medicare UCC is being trialled with limitation to extenuating circumstances and will be closely evaluated.
- These clinics have been made exempted from the established clinical relationship requirement due to the episodic nature of presentations at a Medicare UCC.
- Medicare UCCs face significant workforce challenges requiring additional support to ensure continuation of services to the community in instances where a GP or other clinician is not available on site for a temporary period.
- Regular GP care is not appropriate for the UCC setting and patients are referred to and encouraged to maintain a relationship with an existing GP.
- Currently, telehealth services and the exemption to the clinical relationship requirement is only applicable for the Broome, Devonport and Alice Springs Medicare UCCs

Current GP telehealth eligibility criteria and draft recommendation 8 are informed by available research which suggests telehealth is best suited to ongoing care of known patients'

for diagnosed conditions. However, nurse practitioner and participating midwives have no such requirements or exemptions for their non-referred services.

The purpose of this discussion paper is to examine, discuss and inform the final recommendation 8 in relation to stakeholder feedback.

MRAC TELEHEALTH PRINCIPLES

Draft Recommendation 8 aligns with MRAC telehealth principles 1, 2, 3 and 4. Together these emphasise telehealth as part of continuous care and minimising risk of telehealth use to undermine care provided in-person.

By aligning eligibility requirements across non-referred attendances, parity across nurse practitioners, participating midwives and GPs would emphasise continuity of care. This approach will also deter online-only practice models which present a risk of fragmented care, and in some circumstances are associated with service models perceived to have a more opportunistic and primarily commercial intent.

STAKEHOLDER CONSULTATION

Feedback on draft recommendation 8 was divided. There was also evidence of some confusion in stakeholders' responses. Those supporting draft recommendation 8 cited the following justifications:

- Improved continuity and quality of care, aligning with available evidence.
- Deterrence of online-only service provision, including:
 - emerging business models that attempt to harness MBS subsidised consultations for the purposes of subscription access to private, or non-PBS medicines and referrals (e.g. related to vaping, cannabis prescribing, Ozempic and ichthyotherapy); and
 - metropolitan providers undermining regional services without clinical capability or relationships to provide or escalate more comprehensive care.

Respondents who identified as nurse practitioners, participating midwives, or aligned with relevant professional organisations, oppose the proposed introduction of eligibility requirements, and raised the following issues:

- Reduced patient access to timely and affordable care, particularly for vulnerable, disadvantaged, and frail patients.
- Specific disadvantage to rural and remote areas where GPs and other doctors are less available.
- Generalising current rules based on 12-month service history is inappropriate for midwifery care, as episodes of care are driven by pregnancy.

DATA ANALYSIS OF NURSE PRACTITIONER AND PARTICIPATING MIDWIVES TELEHEALTH

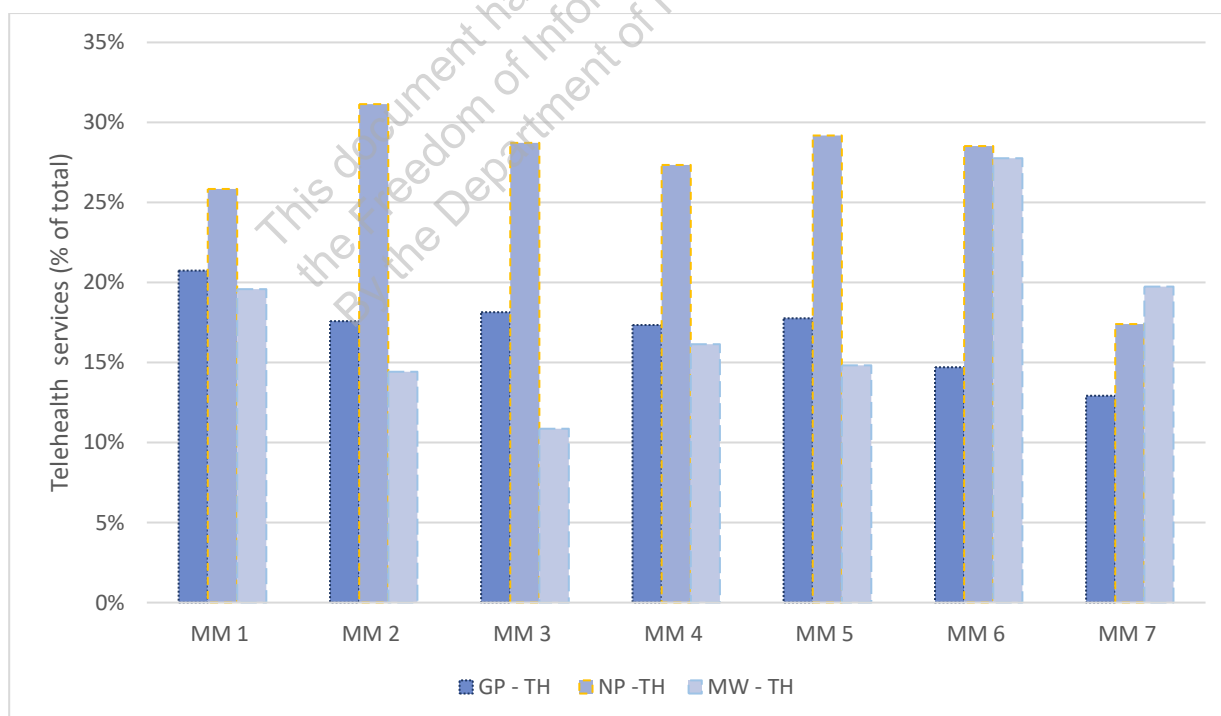
In 2022-23, 374,476 Australians received a total 1,025,929 MBS nurse practitioner services, delivered by 854 providers. Of these services, 27% were accessed through telehealth (video and telephone), with the majority (84%) by telephone.

There were 221,357 MBS participating midwifery items claimed, delivered to 43,114 patients by 641 providers for the same period. Access for midwifery care via telehealth represented 18% of total MBS midwifery services, most of which (85%) was by telephone.

In consideration of whether MBS data adds context to stakeholders' concerns, the Department has compared how provider groups use telehealth across geographical classifications, high-level billing patterns, and evidence of continuity of care. The following observations are made:

- Nurse practitioners provide a higher proportion of their services by telehealth (27%) compared to GPs (20%) and participating midwives (18%), except in remote regions where it is slightly higher for participating midwives (28%) (see Figure 1).
 - Previous discussions by the MRAC in response to nurse practitioner service models has referenced limited access to established consultation rooms, and the lower business expenses of telehealth provide options for sustainable practise.

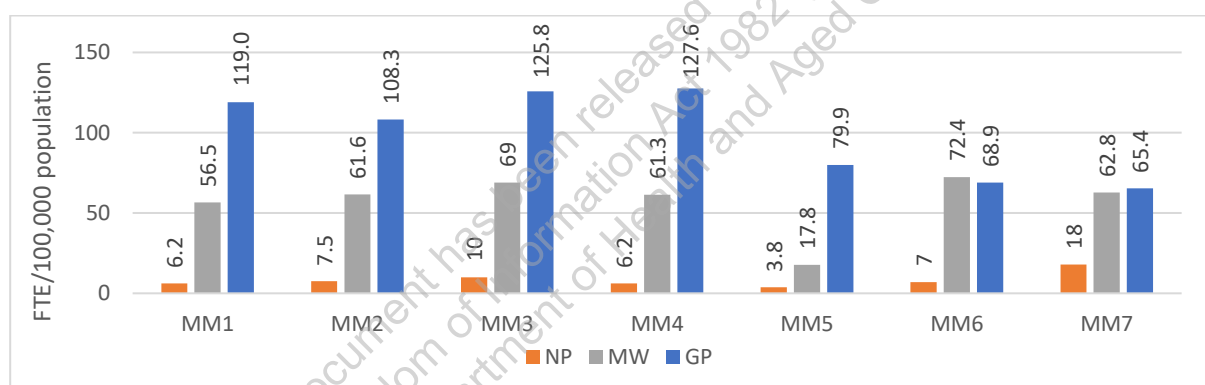
FIGURE 1 - PROPORTION (%) OF TELEHEALTH SERVICES BY PROVIDER AND REGION



- As a percentage of their distribution of national services, nurse practitioners provide the same or more services to patients outside of metropolitan areas compared to GPs, although the nominal impact of this difference is overshadowed by service volumes.

- For example, in 2022-23 nurse practitioners provided approximately 3% of their total MBS services as telehealth to patients in MM5, which is more than the 1.2% for GPs, but this describes 26,000 nurse practitioner services compared to 1.9 million GP services.
- For participating midwife services in 2022-23, the proportion of services by telehealth is lower than GP in all regions except in MM6 and MM7, where it is 1.5 to 2 times higher. This is interpreted primarily as evidence of workforce distribution and bespoke service models required for care to the small and disperse population of patients living in these regions.
- The geographic distribution of full time equivalent (FTE) per 100,000 population for nurse practitioners and the participating midwifery workforce has a similar pattern to GPs for MM1-4 regions. The FTE rate nearly halves for GPs in MM6 and MM7 regions but participating midwives are more evenly distributed, and the FTE rate more than doubles in MM7 for nurse practitioners.

FIGURE 2 - FTE PER 100,000 POPULATION, BY REGION, 2022



- Patients' use of nurse practitioners for telehealth appears generally less likely to meet eligibility requirements for the established clinical relationship or continuity of care using the GP definition. This is also true of participating midwives, although there is some evidence of telehealth being used by participating midwives to complement an episode of care comprising multiple consultations.
 - The Department has periodically observed patients' and providers' compliance with the established clinical relationship for GP telehealth services. The Department has moderate confidence that since July 2020 (re-introduction of current GP telehealth eligibility requirements) more than 90% of GP telehealth services meet relevant eligibility criteria at the time of consultation.
 - There are limitations to the data with respect to patients' relationships to practices for nurse practitioners and participating midwives; however, more than half (59.8%) of nurse practitioner and more than a quarter (27.1%) of participating midwife telehealth consultations were to patients that are unlikely to meet a requirement of a face-to-face consultation in the past 12-months.

RELEVANT RESEARCH AND ADVICE

In the updated systematic reviews conducted by Bond University, it was found that overall telehealth (video and telephone) and face to face consultations can have equal efficacy for ongoing management of known conditions for a known patient (Scott et al. 2023a). Through this review several studies related to nursing or midwifery care were included, relating to triage, diabetes education, antenatal and postnatal care.

Bond University also found that, 'while history taking and verbal assessments can be done acceptably by telehealth, physical examinations by telehealth could be more challenging and less reliable or valid (Scott et al. 2023a). When hands-on clinical assessment was necessary for diagnosis, and especially for a new diagnosis, telehealth was unlikely to be suitable (Scott et al. 2023a).

While there was moderate strength of evidence for telehealth on pre-planned assessments, unplanned, unstructured, and opportunistic or acute telehealth assessments were found to be lower quality when compared with face to face in most scenarios.

In relation to an objective of draft recommendation 8 to better establish parity for eligibility of nurse practitioner and GP telehealth services, 2022 health workforce may inform the scope of services by nurse practitioners that would be exempt from telehealth eligibility requirements. For example, this would include mental health and sexual and reproductive health consultations, and approximately 8% of nurse practitioners work within mental health settings while approximately 1% work within maternal, child and family health. Of this workforce, the majority of nurse practitioners work within the hospital setting (40%) followed by community health care centres (13%).

OPTIONS TO FINALISE RECOMMENDATION 8

Members are asked to consider whether stakeholder feedback supports an alternative interpretation of relevant research evidence and advice drawn upon for draft recommendation 8. It is also appropriate to consider how amendment to either the recommendation and its rationale may be updated to minimise stakeholder confusion and guide implementation, if agreed by the Government. This may include the definition used to identify an existing clinical relationship, exemptions, available items, and relevant compliance measures.

The Department notes forthcoming changes to nurse practitioner and participating midwife MBS items in 2024, which are informed by recommendations of the former MBS Review Taskforce, and which may be appropriate to consider and build upon:

- The requirements for collaborative arrangements for nurse practitioners and participating midwives are to be removed from November 2024, subject to the passage of legislation. This will remove an administrative barrier to providers participating with autonomy in the MBS.

- MBS fees for nurse practitioner items will increase by 30% from 1 July 2024, raising them to a level between non-vocationally registered GP items and those for GPs who have fellowship with either the Australian College of Rural and Remote Medicine or the Royal Australian College of General Practitioners. This may help address some broader concerns raised around the parity and financial viability.

Two options to finalise the recommendation are presented below, including opportunity for the MRAC members to suggest alternatives.

1. Keep the draft recommendation with update for clarity of intent, option for different eligibility requirements for participating midwives.

An updated draft recommendation was used for targeted stakeholder discussion in February 2024:

Recommendation 8: Introduce eligibility requirements and exemptions to nurse practitioner MBS and midwifery MBS telehealth items, including selected services which have no established clinical relationship requirement.

- By applying the 1 in 12-month rule for nurse practitioners, there would be a move to emphasise continuity of care and better enable patient and practitioner options to escalate to in-person care locally if required.
- Improved parity with eligibility for GP services will re-emphasise face-to-face services as the preferred standard and help avoid fragmentation of care by providers who are unknown and/or not local to the patient. Steps toward parity would also be achieved with an expansion of nurse practitioner MBS items to better recognise their scope practice and support care telehealth without eligibility requirements for patients seeking sexual and reproductive healthcare or specific mental health services.
- Compliance measures currently relevant to GP telehealth arrangements may also apply:
 - The 30/20 telephone prescribed pattern of service rule: Where 30 or more relevant telephone attendance services are claimed on each of 20 or more (cumulative and/or consecutive) days in a rolling 12-month period.
 - The 80/20 prescribed pattern of service rule: Where 80 or more relevant services (inclusive of telehealth) is claimed on each of 20 or more days in a 12-month period.
 - Where a practitioner is in breach of either of these rules, they will be referred to the Professional Services Review (PSR).
- The 1 in 12-month rule is not relevant to the model of care for midwifery which is dictated by episodes of pregnancy and initial care of an infant.
 - Some stakeholders suggested an initial attendance by face to face only is sufficient for access to subsequent services via telehealth, if appropriate.

- For consistency with GP and as proposed for nurse practitioner, it may be appropriate to permit MBS midwifery services linked to non-directive pregnancy counselling to be provided by telehealth without any eligibility requirement based on prior in-person attendance.

2. Maintain current telehealth policies for nurse practitioners and participating midwives

MBS telehealth items

- Remove or defer a recommendation on nurse practitioner and participating midwife telehealth services, pending the independent Unleashing the Potential of our Health Workforce - Scope of Practice Review (the review).
- Currently the Review is in its second phase (December 2023 to March 2024). More than 700 submissions to targeted questions on scope of practice, and meetings held with over 90 organisations from across the health system have been completed to inform their issues paper 1- *reviews key themes, evidence base and legislative context*.
- The Review is schedule to complete another two phases, before delivering a final report and implementation plan in October 2024.
- It may be appropriate to still consider the application the 80/20 and 30/20 prescribed patter of service rules, as the services in scope are similar to GP non-referred attendances to which these rules apply. This would not address the issue of possible fragmentation, but aid as a deterrent to high-throughput and low-vale models of care.

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MBS Review Advisory Committee

**Telehealth
Post-Implementation Review**

**FINAL
REPORT**

March 2024

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Summary

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In 2022, the Australian Government Minister for Health and Aged Care asked the Medicare Benefits Schedule (MBS) Review Advisory Committee (MRAC) to conduct a post-implementation review of telehealth services and:

- advise on the appropriateness of current settings for video and telephone consultations to ensure the right balance between access, quality and safety
- review, and update if necessary, the MBS Taskforce Telehealth Principles to provide a framework for future consideration of MBS-funded telehealth
- advise on current patient eligibility settings and related exemptions.

In conducting its review, the MRAC considered data from independent research (literature and systematic reviews), Department of Health and Aged Care-driven stakeholder interviews and workshops with general practice clinicians and managers, and MBS claims data about different aspects of telehealth.

Telehealth services in Australia

Over the past few years, there has been a major shift in the role of telehealth in the delivery of Medicare services. Although MBS telehealth items have existed since 2002, their use expanded drastically in response to the COVID-19 pandemic, when new, temporary MBS telehealth items were created to ensure continued access to health care. The most significant changes at this time were the broadening of health providers and patients able to use telehealth and enabling services by phone. Before COVID-19, telehealth was primarily for non-general practitioner (GP) specialists and patients living outside major cities. Most of the temporary MBS telehealth items introduced during the pandemic have since been made permanent.

Since the beginning of COVID-19 telehealth items, GPs have been the largest group of telehealth providers, accounting for approximately 6 out of every 7 telehealth services.

Telehealth use peaked in the second quarter of 2020. Although it declined when social distancing requirements were removed, telehealth use remains widespread. The proportion of services by telehealth in 2022–23 was 20% for GPs, 11% for non-GP specialists, 12% for allied health and 3% for other providers including nurse practitioners and midwives.

Clinician uptake

Telehealth was rapidly adopted by most health service providers in the context of the pandemic. More than half of all telehealth providers provided their first video or telephone consultation within a month of the items commencing.

Video consultations as a proportion of all telehealth consultations is increasing. However, use of video varies by clinician type. GPs are using video the least: rising to 5% of GP telehealth consultations in 2022–23. This is likely to reflect a range of issues, including additional time taken for technical set-up; lack of guidance and support; and the preferences, capabilities and technological access of both clinicians and patients. This contrasts with the much higher use

of video consultations by allied health and non-GP specialists, which comprised 75% and 48% of telehealth consultations in 2022–23, respectively.

Patient uptake

Patients' uptake of telehealth is also variable. For example, analyses of linked demographic and MBS data show that against a backdrop of overall reduced access to GP services in 2020 compared to 2019, telehealth is used less by males, people aged over 70, people of lower socioeconomic status, people in outer regional and remote areas, and people with low English proficiency (Butler et al. 2023). Despite these observations, telehealth users who participated in the Australian Bureau of Statistics Patient Experiences in Australia survey were more likely to be middle aged or older, and older patients were more positive about their telehealth use than younger people (ABS 2021).

Patients have historically used telehealth differently outside major cities, and may have had more experience with video services, with access to most non-GP specialist consultations by video since 2011.

Telehealth business models

Outside of the MBS, there has been growth in online-only GP business models that offer telehealth services for medical certificates, prescriptions and referrals. These services are marketed as a convenient way to access health care where the outcomes are pre-determined and patient led. However, given they are generally provided as a quick once-off consultation, where the patient is unknown to the clinician and without access to the patient's medical records, they do not support safe, quality or continuous care.

While these private services are not Medicare claimed, they may have downstream effects on the volume and clinical appropriateness of Pharmaceutical Benefits Scheme (PBS) prescriptions and MBS referrals (for example, for pathology, imaging or non-GP specialist review). In addition, a patient's care may be further fragmented as they do not have their regular health provider (usually a GP but may be a nurse practitioner) coordinating this care.

Balancing access, quality and safety

Face-to-face consultation remains the preferred standard of health care and must remain accessible to patients. At the same time, telehealth can improve access to health care for some groups in some circumstances. The MRAC therefore considers it appropriate that the Australian Government continue supporting better uptake of telehealth where quality and safety standards can be met.

In considering whether and when telehealth services can meet quality and safety standards, the MRAC considered both stakeholder feedback, and research evidence, including Bond University's systematic literature reviews, and case study research by the Australian National University. However, the limitations of existing research comparing face-to-face care to telehealth, and comparing telephone and video modalities, mean that strong, evidence-based recommendations are not yet possible. Further research into many aspects of telehealth is needed.

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Comparing telehealth and face-to-face health care

The limited research suggests that telehealth can be equivalent to face-to-face care for the management of known conditions of known patients. However, telehealth is clearly inadequate when hands-on clinical assessment is needed. Telehealth is likely to be less effective for new diagnoses, particularly in cases where clinical information requirements are extensive and/or complex.

Video vs telephone modalities

Bond University's systematic literature review found no major differences between video and telephone consultations in patient satisfaction, clinical effectiveness or cost-effectiveness. Similarly, stakeholders gave strong feedback from different clinical practices that, in many cases, there is no discernable difference in outcome between video and telephone consultations. However, there are major gaps and limitations in the existing research, and more studies with longer follow-ups are needed before any firm, evidence-based recommendations on telehealth modality can be made.

Despite these research limitations, the MRAC considers it self-evident that video consultations more closely approximate face-to-face consultations than phone consultations, as they give clinicians access to both verbal and non-verbal information. This makes video preferable or necessary in some circumstances, such as with paediatric patients, when diagnosing conditions with visual signs, and whenever observation of the patient is critical. However, there are challenges in accessing video for both clinicians and patients, such as digital literacy, costs and internet access.

Overall, clinicians must balance patient needs and preferences with clinical safety and effectiveness, and give clear guidance to the practice manager and staff about when to offer a telehealth consultation and which modality to use.

Telehealth in the MBS

In line with its discussions about access, quality and safety, the MRAC proposed revisions to the MBS Telehealth Principles, which provide a framework for treatment via telehealth in the MBS. The MRAC also considered the potential for introducing asynchronous telehealth items, the role of patient-end support in the MBS, and where exemptions to established clinical relationship criteria should continue to apply.

Asynchronous telehealth

Currently, the MBS only supports the synchronous (real-time) delivery of telehealth services that are analogous to in-person consultations – for which the patient must be present. Some stakeholders have advocated for the creation of MBS items for asynchronous care, such as writing referrals, filling out forms or reviewing reports.

While acknowledging that many clinicians' administrative workloads are increasing, the MRAC does not support the creation of new items for asynchronous telehealth services. However, other options could be explored, such as reviewing the remuneration for some MBS items; instituting longer, time-tiered items for complex patients; or considering other (non-MBS) funding pathways to remunerate clinicians for administrative work.

Eligibility requirements for GP telehealth services, and exemptions

Currently, GPs and clinicians working in general practice can only provide MBS-rebated telehealth services if they have an existing and continuous relationship with the patient (the '12-month rule'). Some items are exempt from this requirement.

The MRAC considers that telehealth items should only be exempt from the established clinical relationship criteria after consideration of risks and where:

- presentations and issues are relatively acute and immediate service is time critical,
- 'unrestricted' access has a clear public health advantage,
- misuse by patients or providers is unlikely and
- a single consultation or episode of care is sufficient and unlikely to fragment care or adversely affect outcomes.

As well as agreeing to these general principles, the MRAC considered specific temporary telehealth items that are currently exempt from the 12-month rule, but for which the exemption is due to expire. The MRAC recommended that telehealth bloodborne virus and sexual and reproductive health (BBVSR) and GP mental health treatment items remain exempt from the 12-month rule, citing (among other things) the need to ensure continued access for vulnerable populations.

At present, the 12-month rule does not apply to nurse practitioners and allied health clinicians. To support continuity of care and align with the Telehealth Principles, the MRAC considered it appropriate to extend application of the 12-month rule to nurse practitioner MBS telehealth items. The MRAC recommended that the 12-month rule will continue to be exempt for allied health MBS telehealth items.

Currently, MBS items for non-GP specialist consultations do not have the 12-month rule eligibility requirements that applies for most GP telehealth services. Given the different organisation of items on the MBS, consideration was given to 'initial' non-GP specialist consultations by telehealth, and whether this was appropriate. Requiring an established clinical relationship for non-GP specialist telehealth services would mean individual telehealth consultations as a 'subsequent' service only, to ensure continuous, high-value care across these clinician groups.

Home visits and patient-end support

Given the decline in GP home visits, the MRAC considered how the MBS could be used to harness patient-end support for telehealth consultations with a GP. The MRAC recommended the reintroduction of patient-end support by GPs with non-GP specialists, with extension to nurses or allied health clinicians to facilitate GP consultations.

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Recommendations

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Acronyms, abbreviations and definitions

ANU	Australian National University
BBVSR	Bloodborne virus and sexual and reproductive health
GP	general practitioner
HTA	health technology assessment
MBS	Medicare Benefits Schedule
MM	Modified Monash
MRAC	MBS Review Advisory Committee
MSAC	Medical Services Advisory Committee
PBS	Pharmaceutical Benefits Scheme

Definitions

Telehealth is defined broadly by many sources as “the use of technology to deliver healthcare services at a distance”. The structural requirements of MBS items necessitate a real-time video and audio (video), or audio-only (telephone) consultation with a patient. In this report, “telehealth” can refer to both video and phone, with some matters identified as specific to video or phone.

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Introduction

[MBS items for telehealth services](#) have been available since 2002 (ANAO 2023), but were restricted to patients in eligible areas, patients of Aboriginal Community Controlled Health Organisations and patients in residential aged care. However, due to natural disasters and public health emergencies (drought, bushfires and the COVID-19 pandemic), additional access and COVID-19 MBS items were created to ensure that people could still access health care when a conventional face-to-face consultation was not possible. The most significant changes at this time were the broadening of health providers and patients able to use telehealth and enabling services by phone. Before COVID-19, telehealth was primarily via video and for non-GP specialists and patients living outside major cities.

Most of the telehealth items introduced in response to the COVID-19 pandemic were made permanent on 1 January 2022, superseding many items that had been part of an iterative

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The COVID-19 MBS telehealth items have changed the approach to delivering Medicare services in Australia, shifting from almost entirely face-to-face services to an increased number of non-face-to-face services. This has also permitted more widespread use of telephone consultations without a video element, and direct phone and video services by general practitioners (GPs) and other primary care clinicians that had not previously offered either service.

Telehealth may appear to improve access, but there is risk of decreased quality and safety associated with non-face-to-face consultations. Also, commercialisation of online-only telehealth services may threaten continuity of care by providing one-off episodes of care and/or low-value health care. These online-only services may also increase the number of subsequent inappropriate referrals, consultations and prescriptions.

Minister's request for this review

On 14 November 2022, the Minister for Health and Aged Care, the Hon Mark Butler MP, requested that the MRAC conduct a post-implementation review of telehealth services, to:

- advise on the appropriateness of current settings for video and telephone consultations to ensure the right balance between access, quality and safety
- review, and update if necessary, the MBS Review Taskforce Telehealth Principles (first published in the Taskforce's [Telehealth Recommendations 2020](#)) to provide a framework for future consideration of MBS-funded telehealth
- advise on current patient eligibility settings and related exemptions, noting that this work will be informed by the [Strengthening Medicare Taskforce](#).

Information about the MBS Continuous Review and the MRAC is in [Appendix A](#).

Balancing access, quality and safety

Telehealth services must balance improved access with high-quality and safe health care. Further, telehealth services should assist with continuity of care to deliver the best health outcomes for patients.

Research and systematic literature reviews

To inform its deliberations and recommendations, the MRAC was presented with data from:

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- Australian Department of Health and Aged Care (the department)-driven research conducted by the Health Design Lab and the Medical Benefits Division Design Lab (Health Design Lab, unpublished), including stakeholder interviews and workshops with general practice clinicians and managers
- MBS data, collated and presented by the department.

Limitations of the research

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Telehealth as a substitute for in-person care

The MRAC noted from the research that no new relevant evidence had been found since the 2021 systematic review (Scott et al. 2021). Overall, telehealth and face-to-face consultations could have equal efficacy for ongoing management of known conditions for a known patient (Scott et al. 2023a). It is acknowledged that the latest systematic review did not yield as much new research as anticipated. Also, several studies were subject to bias, had small sample sizes and were conducted overseas.

The MRAC noted Bond University's research conclusions that, 'while history taking and verbal assessments can be done acceptably by telehealth, only some elements of physical examination are sufficiently reliable and valid' (Scott et al. 2023a). When hands-on clinical assessment was necessary for diagnosis, and especially for a new diagnosis, telehealth was unlikely to be suitable and a face-to-face consultation was highly preferred (Scott et al. 2023a). Most research in this area focused specifically on pre-planned assessments. In contrast, unplanned, unstructured and opportunistic telehealth assessments are likely to be of lower quality when compared with face-to-face, potentially impacting patient safety. s47C

Even if telehealth has potential to increase patients' access, there were perceived risks of both lower quality of care and lower value services when telehealth is not used optimally. Further, the MRAC noted that it is more difficult to diagnose via telehealth as the information requirements for that diagnosis increase – for example, additional information from pathology or imaging tests.

Comparing video and telephone consultations

The MRAC noted through Bond University's systematic review that studies comparing video consultations to telephone consultations revealed no major differences in patient satisfaction, clinical effectiveness or health care use (cost-effectiveness) (Scott & Glasziou 2023). However, these studies in the systematic review had several limitations, including:

- lack of currency (half of the studies were conducted prior to 2012 before widespread availability of smartphones and 'used special video call devices installed in patients' homes, which would pose a challenge for scalability of the intervention' [Scott et al. 2023a])
- a medium to high risk of bias
- none reported on patient safety or adverse events
- none reported on diagnosis or initiating new treatment
- none were set in primary care that directly compared video to telephone consultation.

Overall, the MRAC agreed with the authors that this is an emerging area of study that requires more research.

Clinician use of telehealth services

Telehealth was rapidly adopted by most health service providers in the context of the pandemic. More than half of all telehealth providers provided their first video or telephone

consultation within a month of the items commencing of telehealth services (Figure 1). Since the beginning of COVID-19 telehealth items, GPs have been the largest group of telehealth providers, accounting for approximately 6 out of every 7 services (Figure 2).

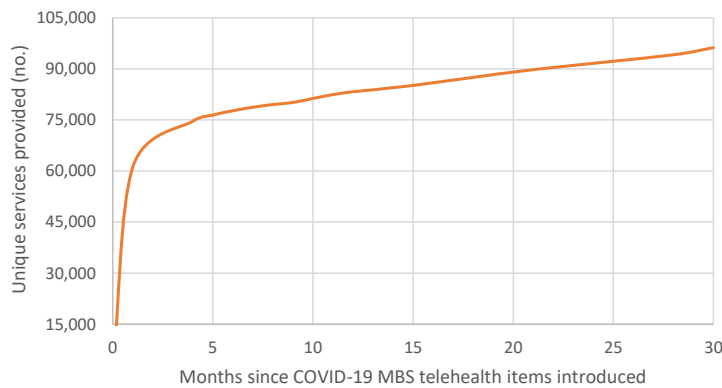


Figure 1 Cumulative uptake of MBS COVID-19 telehealth services (unique service providers)

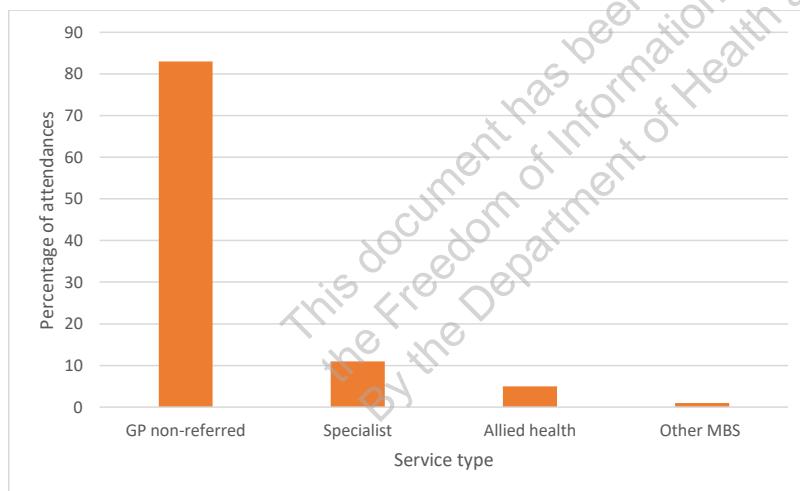


Figure 2 Proportion of telehealth consultations by MBS broad type of service, April 2020 – June 2023

The proportion services by telehealth in 2022–23 was 20% for GPs, 11% for non-GP specialists, 12% for allied health and 3% for other providers including nurse practitioners and midwives (Figure 3).

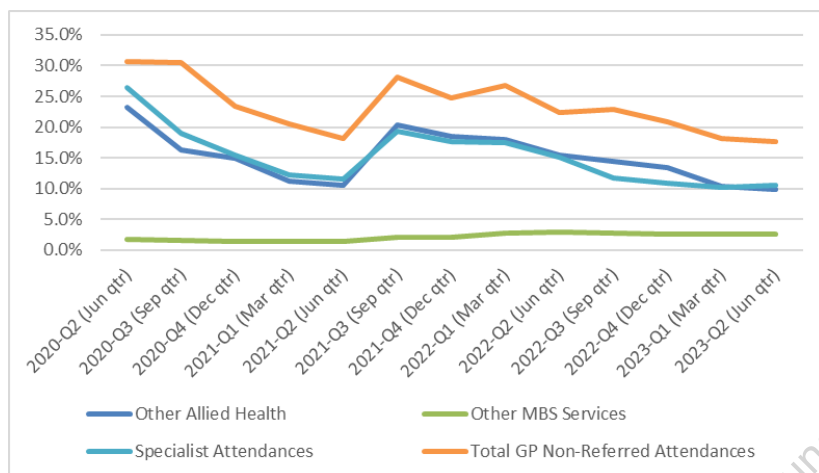


Figure 3 MBS broad type of services, proportion of services by telehealth (phone and video), 1 April 2020 – 30 June 2023

The MRAC noted that GPs on average are using video the least of all clinician types, at less than 5% of all telehealth consultations claimed in 2022–23 (see Figure 4).

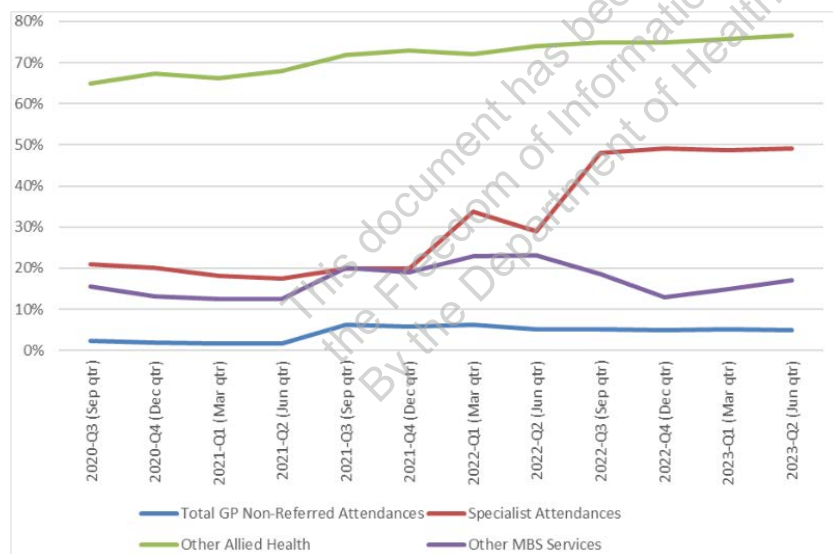


Figure 4 Percentage of video telehealth consultations, by clinician, 1 July 2020 – 31 March 2023

Referring to the [Modified Monash \(MM\) Model](#) for rurality, the MRAC noted from MBS data that, since July 2021, most users of telehealth services are in major cities (MM 1), and

most of these consultations are for GP services. As rurality increases (MM 2–7), telehealth GP services decrease, but non-GP telehealth and allied health services both increase (see Figure 5).

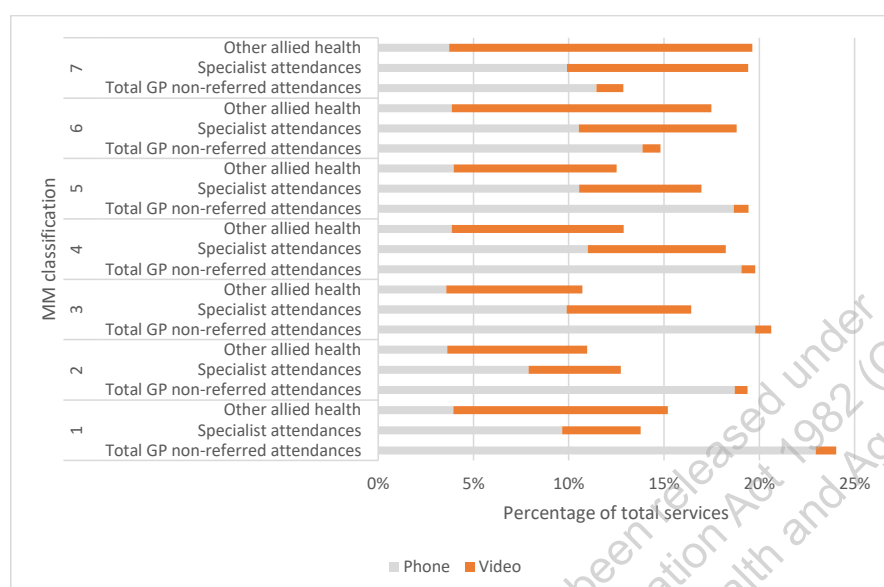


Figure 5 Proportion of services by telehealth, by broad type of service and rurality (MM 1–7)

Informed by the Health Lab’s research (Health Design Lab, unpublished), the MRAC proposed several possible reasons for why GPs are not taking up video as readily as some of their colleagues, including:

- Clinicians may feel more comfortable using conventional, face-to-face consultations, especially for some conditions and some patients.
- Patients may be more comfortable using face-to-face consultations.
- GP appointments are relatively short (for example, compared to specialists and allied health appointments), making GPs reluctant to spend time dealing with potential technology issues.
- General practice clinics may not have been adequately supported in updating their telehealth capabilities. Some practices may have used telehealth during COVID-19, but did not have a strategy in place to continue using it after COVID-19 restrictions ended.
- General practice includes many patients who are older, and the over 70-years age group uses video telehealth less often than younger age groups.
- There are no guidelines outlining the available telehealth systems and how to make decisions regarding suitability for individual practices. Some clinicians and patients may lack digital literacy or internet access.
- There may be some confusion around Medicare claiming for telehealth items.

Patient use of telehealth services for primary health care

The MRAC noted that, during the first quarter of 2020 before the implementation of COVID-19 MBS telehealth on 13 March of 2020, the use of telehealth services increased substantially from pre-pandemic levels. Within weeks, telehealth transitioned from just over 1 million services to over 6 million services (see Figure 6). Since then, use of telehealth services has been declining, likely reflecting the removal of COVID-19-related social distancing restrictions and a return to conventional face-to-face consultations.

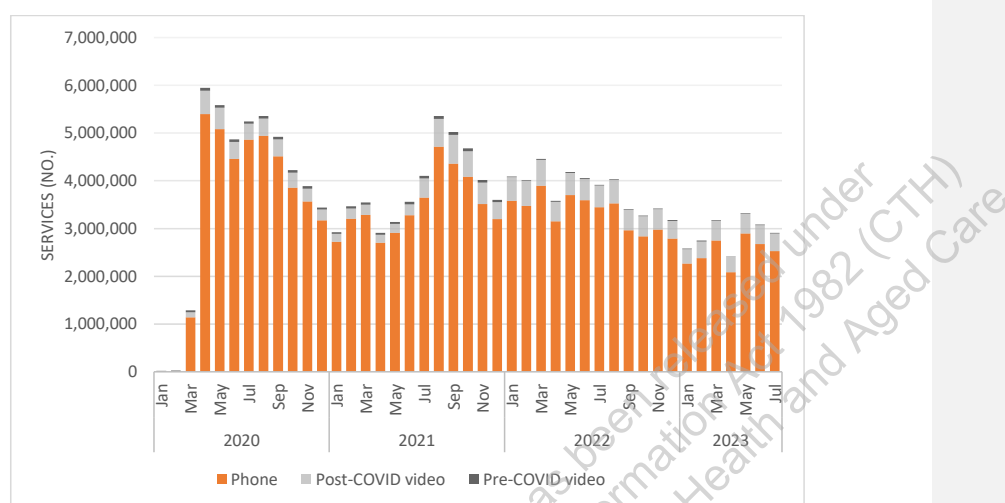


Figure 6 Patient use of telephone and video services, January 2020 – June 2023

The proportion of claimed GP telehealth services is stabilising at around 20% of all GP services in financial year 2022–23. Some analyses (e.g. Butler et al. 2023) show telehealth use is lower among:

- older people
- males
- those with low education or low income
- those living in outer regional/remote areas
- those who are not proficient in English.

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Patients have historically used telehealth differently outside major cities, and may have had more experience with video services, with access to most non-GP specialist consultations by video since 2011 (see Figure 5 in [Clinician use of telehealth services](#)).

There are also possible privacy issues, both in terms of patient access to a private space and the need for clinicians to ensure privacy in the conduct of a telehealth consultation. The MRAC also noted additional research being undertaken about culturally safe telehealth services (results not yet available).

Online-only telehealth models

The MRAC discussed the growth in online-only GP business models that offer telehealth services for medical certificates, prescriptions and referrals. These services are marketed as a convenient way to access health care where the outcomes are pre-determined and patient led. However, given they are generally provided as a quick once-off consultation, where the patient is unknown to the clinician and without access to the patient's medical records, they do not support safe, quality or continuous care. While these private services are not Medicare claimed, they may have downstream effects on the volume and clinical appropriateness of PBS prescriptions and MBS referrals (for example, for pathology, imaging or non-GP specialist review). In addition, a patient's care may be further fragmented as they do not have their regular GP or nurse practitioner coordinating this care.

Populations and services where access can be optimised with telehealth

The MRAC agreed that face-to-face consultation was still the preferred standard of health care, but also considered that telehealth could complement this care for some patients in certain circumstances. Specifically, telehealth could improve access for some patients, such as those with disability who are largely housebound, by providing access to an increased frequency of consultations and more timely access. However, the MRAC considered it important that patients with complex conditions are not relegated to telehealth-only consultations, as this could result in inferior care in the longer term.

The MRAC referred to its review of the MBS items for mental health, smoking cessation, and bloodborne virus and sexual and reproductive health (BBVSR) to frame its discussion and recommendations for improved access (see [Eligibility requirements and exemptions](#)).

Proponents of telehealth often cite equity of access for people in rural and remote regions as justification for the services. The MRAC agreed with this, but also noted that non-clinical barriers exist for those settings, including:

- technology and infrastructure limitations
- poor digital literacy for both patients and clinicians
- patient education on how to optimise their telehealth consultation
- previous poor experiences in using telehealth, for both patients and clinicians
- clinicians' understanding of the facilities available to the patient
- the lack of culturally appropriate health services for First Nations people.

The MRAC considered that some types of health care services and workflows likely conform to telehealth better than others. For example, a face-to-face consultation may be preferred for initial diagnoses and assessments, whereas telehealth may better suit treatment-based or follow-up consultations.

Considering the research presented to the committee, the MRAC suggested criteria for the assessment of new requests for telehealth items and exemptions to eligibility. Items that are exempt from the established clinical relationship should:

- represent situations where there is a relatively high acuity presentation or issue, where the immediacy of the service(s) is critical
- represent a clear public health advantage when providing 'unrestricted' access to care
- have a low likelihood of misuse by patients and providers
- refer to care where a single episode or consultation is sufficient and unlikely to adversely affect outcomes or fragment care.

In addition, several risks should be considered, including:

- overservicing and enabling adverse commercial models of care
- the efficacy of telehealth-only solutions
- privacy risks of sensitive or condition-specific items on patients' MBS claims records
- impacts to equity of access, including potential interactions with technology literacy and culturally and linguistically diverse groups, and people with vision or hearing impairments.

The MRAC noted that telehealth could help improve access to high-quality health care for some groups of people. The MRAC considered that telehealth items and exemptions could enable access for several populations or situations, such as:

- people with a health concern that needs urgent attention (although the MRAC noted that this may need to be defined, as 'urgent' may differ for different people)
- people in rural and remote settings where the health care workforce may be limited
- when delayed access may result in adverse health outcomes
- paediatric patients with behavioural issues that impede face-to-face consultations.

The MRAC considered situations involving care plans – for example, for patients with complex and chronic health conditions – and the importance of face-to-face consultations for ongoing care. However, the MRAC also considered that there may be situations where such patients benefit from telehealth, such as those in residential aged care or as part of the National Disability Insurance Scheme. The MRAC acknowledged that these are complex areas of health care. The MRAC advised that telehealth, in its current framework, is not fit for purpose for residents in aged care and requires further committee discussion.

Importantly, the MRAC acknowledged the importance of vulnerable patients receiving value-based health care, but also noted that exemptions should not result in fragmentation of health care. The MRAC suggested 2 criteria that could be used to help identify vulnerable populations:

- where inequality of service is widely acknowledged
- where lack of access would be highly detrimental for the patient.

The MRAC considered it appropriate for the department to better support uptake of telehealth. The MRAC noted that while the department cannot promote certain systems or set-ups, accreditation requirements and standards for telehealth and associated technology would guide clinicians towards overall best practice as well as a telehealth system that best works for their practice and patients. MRAC pointed out that the Australian Digital Health Agency and the Australian Commission on Safety and Quality in Health Care have a role to play in accreditation, for both telehealth systems and for practices to meet standards around using telehealth.

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MBS Telehealth Principles review

In 2020, the MBS Review Taskforce developed Telehealth Principles to guide future consideration of telehealth items in the MBS (MBS Taskforce 2020a).

As part of its post-implementation review, the MRAC reviewed these Principles and proposed updates, taking into account stakeholder feedback.

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The MRAC discussed whether Principle 1 should be amended to refer exclusively to patient **clinical** need. However, the MRAC noted that patients' needs may be both clinical and non-clinical. For example, a patient may need to use telehealth for access-related reasons. Provided that telehealth is clinically appropriate (refer Principle 2), Principle 1 need not preclude consideration of non-clinical needs.

The MRAC considered that both the clinician and patient have a role in identifying the patient's needs. Acknowledgment of the patient's role could discourage inappropriate behaviour such as cold-calling patients to initiate consultations and generating MBS claims of limited clinical value. Patients would also benefit from education on how to optimise care

when choosing telehealth, including joining from a quiet and private space, without distractions.

Principle 2

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Principle 2 emphasises that telehealth services must meet quality and safety standards. The MRAC considered that Principle 2 remains especially important in light of the emergence of new asynchronous telehealth models that do not deliver the same level of service and risk bypassing necessary clinical examination.

The MRAC considered that telehealth services must be clinically efficacious and align with the requirements of the equivalent face-to-face services. When scheduling telehealth appointments, clinicians should feel confident that these MBS item descriptor criteria can be fulfilled (although it may become apparent during a telehealth consultation that a face-to-face consultation is needed).

The MRAC noted external feedback that Principle 2 should refer to 'all aspects of safe and quality services'. However, the MRAC considered that this 'absolutist' phrasing was unhelpful.

Principle 3

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Principle 3 supports continuity of care. The MRAC discussed whether the principle should focus exclusively on the relationship between the patient and their primary clinician, or if it should refer to effective clinical handover after episodes of care with another clinician.

The MRAC considered that an important purpose of the principle is to discourage opportunistic and aggressively commercial service models and those that offer telehealth-only consultations focused on a single disease or medicine. However, the MRAC also acknowledged the need for coordination where there are episodes of care (such as medical termination care) with a different clinician. The MRAC decided to largely retain the original wording, adding the concept of 'coordinated' care. Given that different clinicians are covered by different codes of conduct, the MRAC decided against referencing any specific code governing clinical handover. The MRAC noted that in relation to general practice, the

introduction of MyMedicare has the potential to further improve continuity of care, and to replace and improve upon current arrangements through broader links to telehealth services.

Principle 4

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The MRAC considered revising Principle 4 to designate telehealth as ‘complementary’ rather than as a ‘substitute’ for face-to-face consultations, and to identify face-to-face consultation as the preferred modality because it allows for comprehensive physical assessment. However, the MRAC noted that when comprehensive physical assessment is unnecessary, telehealth can be an effective substitute. The MRAC considered that more prescriptive wording risked devaluing and undermining telehealth.

The MRAC agreed to retain the original wording, noting that the intent of Principle 4 is to ensure that patients continue to have access to face-to-face care.

Principle 5

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The intent of Principle 5 is to give guidance on which telehealth modality (video or telephone) is preferred. Principle 5 builds on Principles 1 and 2, which set out when telehealth is an acceptable alternative to face-to-face consultation.

The MRAC discussed whether practices using telehealth items (as well as face-to-face consultations) should be encouraged or even required to offer both telephone and video modalities to patients to discourage lack of investment in video capability. However, it was noted that such a requirement could have unintended consequences for practices that operate almost entirely face-to-face, complemented with occasional telephone consultations.

The MRAC acknowledged that video more closely approximates face-to-face consultation, giving the clinician access to both verbal and non-verbal information. However, the MRAC considered that the research evidence about any difference in clinical effectiveness was not strong enough to justify a blanket preference for video. The MRAC noted strong feedback from stakeholders that in many cases, there is no discernible difference in outcome between video or telephone consultations. Additionally, non-clinical issues (such as the patient’s

access to and ability to use the technology) can mean telephone offers a better experience for the patient and/or provider in some circumstances. Therefore, the MRAC considered that clinicians should weigh factors and choose the most clinically appropriate modality for each consultation.

Principle 6

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The MRAC noted that the intent of Principle 6 was to expand and better recognise the engagement of clinicians that support the patient face-to-face during a telehealth consultation with another (remote) clinician. The MRAC considered that Principle 6 should be retained, with additional explanatory detail.

In Principle 6 (and others), the term 'clinician' includes allied health professionals and pharmacists.

Principle 7

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Principle 7 signals the department's intention to give notice of changes to telehealth items. The principle was introduced in response to stakeholder feedback that during the MBS Review, practices had not been given enough time to adjust to item changes.

The MRAC noted stakeholder feedback that the wording of Principle 7 was confusing. The MRAC considered that the intent of the principle should be retained, but rewritten in plain language.

Principles 8, 9 and 10

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Appendix A MBS Continuous Review and committee

Medicare Benefits Schedule Continuous Review

The Medicare Benefits Schedule (MBS) is a list of health professional services (items) subsidised by the Australian Government for health consumers. MBS items provide patient benefits for a wide range of health services including consultations, diagnostic tests, therapies and operations.

The MBS Continuous Review builds on the work of the MBS Review Taskforce (the Taskforce). From 2015 to 2020, the Taskforce provided the first extensive, line-by-line review of the MBS since its inception in 1984.

In October 2020, the Australian Government committed to establishing a continuous review framework for the MBS, consistent with recommendations from the Taskforce Final Report.

Established in 2021, the MBS Continuous Review allows for ongoing rigorous and comprehensive reviews of Medicare items and services by experts, on a continuous basis, to ensure that the MBS works for patients and supports health professionals to provide high-quality care.

Medicare Benefits Schedule Review Advisory Committee

The MRAC is an independent, clinician and consumer-led, non-statutory committee, established to advise government on publicly funded services listed on the MBS.

The MRAC aims to improve patient access to high-value care through consideration of the appropriateness of existing MBS services, in addition to wider health reform solutions which may include alternate funding models or means of service provision and the addition of new services where a health technology assessment (HTA) is not appropriate.

Through review processes, the MRAC examines how the MBS is used in practice and recommends improvements based on contemporary clinical evidence. It also allows for continuous monitoring of previously implemented changes and assists with identification of priority areas where targeted research, investment or support is required, through the assessment of cross-speciality items, to maximise system benefits.

The MRAC:

- undertakes thematic assessments across the MBS to examine issues including, but not limited to, consistency between items, methods of service delivery and multidisciplinary models of care
- considers changes in service delivery that may inform both MBS and non-MBS approaches (such as alternative funding models) to improving patient health outcomes and deliver high-value care to the community
- considers applications from the sector for MBS changes where the informed considerations of the MRAC do not require a new stand-alone HTA assessment

- identifies key areas for review as informed by patterns and trends in MBS data and other identified evidence and data sources
- undertakes a progressive schedule of work that builds upon the work of the MBS Review Taskforce and aligns with government and Department of Health and Aged Care priorities
- provides clinical and service delivery advice on policy issues identified by the department, relevant to the scope of the committee.

The MRAC comprises practising clinicians, academics, health system experts and consumer representatives. The current MRAC membership is available on the Department of Health and Aged Care's [MRAC webpage](#).

MBS Continuous Review Guiding Principles

The following principles guide the deliberations and recommendations of the MBS Continuous Review:

a) The MBS:

- is structured to support coordinated care through the health system by
 - recognising the central role of general practice in coordinating care
 - facilitating communication through general practice to enable holistic coordinated care
- is designed to provide sustainable, high-value, evidence-based and appropriate care to the Australian community
 - item descriptors and explanatory notes are designed to ensure clarity, consistency and appropriate use by health professionals
- promotes equity according to patient need
- ensures accountability to the patient and to the Australian community (taxpayer)
- is continuously evaluated and revised to provide high-value health care to the Australian community.

b) Service providers of the MBS:

- understand the purpose and requirements of the MBS
- utilise the MBS for evidence-based care
- ensure patients are informed of the benefits, risks and harms of services, and are engaged through shared decision making
- utilise decision support tools, Patient Reported Outcome and Experience Measures where available and appropriate.

c) Consumers of the MBS:

- are encouraged to become partners in their own care to the extent they choose
- are encouraged to participate in MBS reviews so patient health care needs can be prioritised in design and implementation of MBS items.

The MRAC and its working groups recognise that general practice general practitioners are specialists in their own right. Use of the term 'general practice', both within this report and in the MBS itself, does not imply that general practitioners are not specialists.

The MRAC notes that the MBS is one of several available approaches to funding health services. The MRAC and its working groups apply a whole-of-health-care-system approach to its reviews.

Government consideration

If the Australian Government agrees to the implementation of recommendations, it will be communicated through government announcement.

Information will also be made available on the Department of Health and Aged Care websites, including [MBS Online](#), and departmental newsletters.

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References

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Request1 MMM: Midwifery - number of services, number of patients and Number of providers

-----by patient's Modified Monash Model (MMM) and service type

MMM based on Patient's geo-coded address as at their Enrollment

Telehealth: MBS Sub-groups M1805, M1810

Face-to-Face: MbsS Group M14

Reference period based on date of service using data processed to 28Nov23

Financial Year	MMM	Service Type	Number of Patients	Number of Providers	Number of Services	Average Number of Services per Patient
2022-23	MM 1 - Metropolitan Areas	Face-to-face	189,892	778	516,884	2.72
2022-23	MM 1 - Metropolitan Areas	Telehealth	85,568	586	180,079	2.10
2022-23	MM 1 - Metropolitan Areas	Total	242,146	826	696,963	2.9
2022-23	MM 2 - Regional Centres	Face-to-face	28,504	650	62,922	2.21
2022-23	MM 2 - Regional Centres	Telehealth	14,448	456	28,463	1.97
2022-23	MM 2 - Regional Centres	Total	37,717	715	91,385	2.4
2022-23	MM 3 - Large Rural Towns	Face-to-face	19,799	593	48,705	2.46
2022-23	MM 3 - Large Rural Towns	Telehealth	9,144	416	19,628	2.15
2022-23	MM 3 - Large Rural Towns	Total	25,132	673	68,333	2.7
2022-23	MM 4 - Medium Rural Towns	Face-to-face	14,075	546	30,480	2.17
2022-23	MM 4 - Medium Rural Towns	Telehealth	5,464	397	11,467	2.10
2022-23	MM 4 - Medium Rural Towns	Total	17,457	637	41,947	2.4
2022-23	MM 5 - Small Rural Towns	Face-to-face	30,725	649	64,002	2.08
2022-23	MM 5 - Small Rural Towns	Telehealth	13,589	466	26,388	1.94
2022-23	MM 5 - Small Rural Towns	Total	38,044	723	90,390	2.4
2022-23	MM 6 - Remote Communities	Face-to-face	7,409	325	16,756	2.26
2022-23	MM 6 - Remote Communities	Telehealth	3,289	232	6,684	2.03
2022-23	MM 6 - Remote Communities	Total	9,338	400	23,440	2.5
2022-23	MM 7 - Very Remote Communities	Face-to-face	5,381	205	11,112	2.07
2022-23	MM 7 - Very Remote Communities	Telehealth	1,417	156	2,340	1.65
2022-23	MM 7 - Very Remote Communities	Total	6,151	277	13,452	2.2
2022-23	Unknown	Face-to-face	10	9	16	1.60
2022-23	Unknown	Telehealth	2	2	3	1.50
2022-23	Unknown	Total	12	11	19	1.6
2022-23	Australia	Face-to-face	294,760	808	750,877	2.55
2022-23	Australia	Telehealth	132,457	639	275,052	2.08
2022-23	Australia	Total	374,476	854	1,025,929	2.7

Request2: Nurse Pracitioner (NP) - number and % of patients by patient type

-----New Patient indicating patient didn't receiving any Face-to-Face service within 365 days prior to any Telehealth service(s), incl those with a Telehealth service(s) after a Face-to-Face service(s)

-----Continuing Patient indicating patient reviewing one or more Face-to-Face service within 365 days prior to one or more Telehealth service(s)

NP Telehealth: MBS Sub-groups M1805, M1810

NP Face-to-Face: MbsS Group M14

Reference period based on date of service for NP Telehealth, using data processed to 28Nov23

Financial Year	Patient Type	Number of Patients	% of Total Patients
2022-23	Continuing Patient	53,189	40.2%
2022-23	New Patient	79,268	59.8%
2022-23	Total	132,457	100.0%

New Patients are those with initial consultation via telehealth in the 12 months, not patients new to the provider/practice.
 If a patient has an initial telehealth consultation, then face-to-face, and another telehealth consultation after the face-to-face, he/she is still regarded as a new patient.

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Request4a: Number of Nurse Practitioner (NP) services by providers whose Derived Major Specialty (DMS) is NP Telehealth: MBS Sub-groups M1805, M1810
NP Face-to-Face: MbsS Group M14
Reference period based on date of service using data processed to 28Nov23

Financial Year	Service Type	NEWITEM	Number of Services
2018-19	Face-to-face	82200	40,509
2018-19	Face-to-face	82205	182,166
2018-19	Face-to-face	82210	213,603
2018-19	Face-to-face	82215	133,510
2018-19	Face-to-face	82220	137
2018-19	Face-to-face	82221	295
2018-19	Face-to-face	82222	447
2018-19	Face-to-face	82223	9
2018-19	Face-to-face	82224	68
2018-19	Face-to-face	82225	336
2018-19	Face-to-face	Total	571,080
2018-19	Total	Total	571,080
2019-20	Face-to-face	82200	27,315
2019-20	Face-to-face	82205	229,757
2019-20	Face-to-face	82210	224,294
2019-20	Face-to-face	82215	137,427
2019-20	Face-to-face	82220	119
2019-20	Face-to-face	82221	355
2019-20	Face-to-face	82222	510
2019-20	Face-to-face	82223	32
2019-20	Face-to-face	82224	37
2019-20	Face-to-face	82225	531
2019-20	Face-to-face	Total	620,377
2019-20	Telehealth	91178	2,114
2019-20	Telehealth	91179	1,936
2019-20	Telehealth	91180	2,279
2019-20	Telehealth	91189	15,734
2019-20	Telehealth	91190	10,167
2019-20	Telehealth	91191	8,319
2019-20	Telehealth	91192	81
2019-20	Telehealth	91193	1,124
2019-20	Telehealth	Total	41,754
2019-20	Total	Total	662,131
2020-21	Face-to-face	82200	14,065
2020-21	Face-to-face	82205	218,627
2020-21	Face-to-face	82210	244,224
2020-21	Face-to-face	82215	135,529
2020-21	Face-to-face	82220	178
2020-21	Face-to-face	82221	519
2020-21	Face-to-face	82222	1,611
2020-21	Face-to-face	82223	48
2020-21	Face-to-face	82224	55
2020-21	Face-to-face	82225	246
2020-21	Face-to-face	Total	615,102

2020-21	Telehealth	91178	6,176
2020-21	Telehealth	91179	5,536
2020-21	Telehealth	91180	5,393
2020-21	Telehealth	91189	49,964
2020-21	Telehealth	91190	35,590
2020-21	Telehealth	91191	28,414
2020-21	Telehealth	91192	514
2020-21	Telehealth	91193	7,203
2020-21	Telehealth	Total	138,790
2020-21	Total	Total	753,892
2021-22	Face-to-face	82200	20,652
2021-22	Face-to-face	82205	231,385
2021-22	Face-to-face	82210	261,302
2021-22	Face-to-face	82215	122,556
2021-22	Face-to-face	82220	272
2021-22	Face-to-face	82221	520
2021-22	Face-to-face	82222	6,064
2021-22	Face-to-face	82223	146
2021-22	Face-to-face	82224	125
2021-22	Face-to-face	82225	434
2021-22	Face-to-face	Total	643,456
2021-22	Telehealth	91178	6,771
2021-22	Telehealth	91179	27,204
2021-22	Telehealth	91180	13,978
2021-22	Telehealth	91189	81,947
2021-22	Telehealth	91190	53,892
2021-22	Telehealth	91191	32,746
2021-22	Telehealth	91192	1,279
2021-22	Telehealth	91193	9,356
2021-22	Telehealth	Total	227,173
2021-22	Total	Total	870,629
2022-23	Face-to-face	82200	26,005
2022-23	Face-to-face	82205	283,057
2022-23	Face-to-face	82210	296,389
2022-23	Face-to-face	82215	144,094
2022-23	Face-to-face	Total	749,545
2022-23	Telehealth	91178	12,119
2022-23	Telehealth	91179	20,246
2022-23	Telehealth	91180	10,109
2022-23	Telehealth	91189	110,812
2022-23	Telehealth	91190	74,728
2022-23	Telehealth	91191	31,413
2022-23	Telehealth	91192	1,561
2022-23	Telehealth	91193	13,604
2022-23	Telehealth	Total	274,592
2022-23	Total	Total	1,024,137

; Allied Health - Nurse Practitioner, by financial year, NP service type and MBS item

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Request4b: Number of patients with Nurse Practitioner (NP) services by providers whose Derived Major Specialty (DMS) is Allied Health - Nurse Practitioner, by financial year and NP service type

Telehealth: MBS Sub-groups M1805, M1810

Face-to-Face: MBS Group M14

Reference period based on date of service using data processed to 28Nov23

Financial Year	Service Type	Number of Patients	% of Total Patients	Number of Services	% of Services
2018-19	Face-to-Face	251,750	100.0%	571,080	100.0%
2018-20	Total	251,750	100.0%	571,080	100.0%
2019-20	Face-to-Face	256,601	91.5%	524,157	79.2%
2019-20	Face-to-Face & Telehealth	15,693	5.6%	127,546	19.3%
2019-20	Telehealth	8,121	2.9%	10,428	1.6%
2019-21	Total	280,415	100.0%	662,131	100.0%
2020-21	Face-to-Face	229,994	78.3%	459,161	60.9%
2020-21	Face-to-Face & Telehealth	33,842	11.5%	245,176	32.5%
2020-21	Telehealth	29,785	10.1%	49,555	6.6%
2020-22	Total	293,621	100.0%	753,892	100%
2021-22	Face-to-Face	226,018	67.0%	460,764	52.9%
2021-22	Face-to-Face & Telehealth	42,253	12.5%	288,809	33.2%
2021-22	Telehealth	68,901	20.4%	121,056	13.9%
2021-23	Total	337,172	100.0%	870,629	100.0%
2022-23	Face-to-Face	241,329	64.6%	510,888	49.9%
2022-23	Face-to-Face & Telehealth	52,599	14.1%	367,521	35.9%
2022-23	Telehealth	79,528	21.3%	145,728	14.2%
2022-23	Total	373,456	100.0%	1,024,137	100.0%

Nurse Practitioner (NP) statistics by number of unique provider, 2022-23**NP Telehealth: MBS Sub-groups M1805, M1810****NP Face-to-Face: MbsS Group M14****Reference period based on date of service data processed to 28Nov23**

Financial year	Number of unique providers (NP)	Number of Unique patients	Services (total - telehealth and face-to-face)	Subtotal services (telehealth) - to which there has been any occurrence of TH	Telehealth only - mutually exclave from total	Face-To-Face only - mututally exlusive from total	TH AND F2F Combo only
2022-23	1	343,880	830,052	224,113	123,346	430,597	276,109
2022-23	2	26,241	156,343	38,734	22,490	83,648	50,205
2022-23	3	3,605	32,555	8,513	6,152	18,649	7,754
2022-23	4	555	4,773	2,359	2,095	2,008	670
2022-23	5	156	1,702	954	868	674	160
2022-23	6	26	297	188	165		
2022-23	7	8	125	125	125	-	-
Total	Total	374,476	1,025,929	275,052	155,306	535,687	334,936

% via mode

15.1%

52%

32.6%

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Post Implementation Review - MBS Telehealth

6 March 2024

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Purpose

NOTE the interim advice provided to Government

NOTE the Consumer Health Forum Workshop Summary

NOTE the Non-GP Specialist discussion paper

AGREE and **ENDORSE** a final position on recommendation 9.

NOTE the Nurse Practitioner discussion paper

AGREE and **ENDORSE** a final position on recommendation 8.

AGREE and **ENDORSE** a final position on recommendations 2, 3, and 10.

DISCUSS next steps for finalising the Post Implementation Review of Telehealth Final Report.

Amended Project Timeline

Tasks	Date	Breakdown
Consultation (1)	08/08/23	<ul style="list-style-type: none"> Collating external stakeholder and MRAC feedback on Principles and collate into recommendations to the Minister
Aug Meeting	09/08/23	<ul style="list-style-type: none"> Agreement Paper on approach final report
Drafting	01/09/23	<ul style="list-style-type: none"> Draft MRAC telehealth report including recommendations.
Consultation (2)	Sept-Nov	<ul style="list-style-type: none"> Public external consultation
Nov Meeting	14/11/23	<ul style="list-style-type: none"> Consideration of consultation feedback, any unresolved issues
Interim Report	01/12/23	<ul style="list-style-type: none"> Finalise Interim Report for submission to Government (final advice on the temporary MBS GP subspecialised items, principles). Could be a letter or an executive summary of the Final Report.
March Meeting	06/03/24	<ul style="list-style-type: none"> Finalise all recommendations.
Finalise Report	29/03/24	<ul style="list-style-type: none"> Finalise report. All recommendations with rationale and consumer summary.
Advice to Minister	12/04/24	<ul style="list-style-type: none"> Final advice provided to Minister.

Consumer Health Forum (CHF) Workshop Summary

On 8-9 February 2024, CHF ran two telehealth focused workshops.

Aim: To understand consumer experience and perception of telehealth (as well as looking into policy options such as eligibility).

Feedback

- Overall participants were in strong support of telehealth.
- Telehealth can remove barriers in terms of rural and remote location, time, and enhance access to specialist care, scripts and referrals.
- s47C
- Agreed telehealth has limitations; i.e. when a patient or provider has poor digital literacy, issues with technology, or when a physical examination is required.
- There were mixed views on appropriate use of telehealth. Some supported continuous relationship, whilst others felt it could be used for new patients and diagnosis.
- Participants strongly supported the flexible delivery of telehealth and their right to choose.
- There was not strong support for eligibility criteria to be applied to telehealth.

Outstanding Recommendations Summary

Rec	Original Wording	Potential wording
2	s22	s22
3	s22	s22
8	Extend eligibility requirements to nurse practitioner MBS and midwifery	s47C
9	s22	
10	s22	s22

Recommendation 8 – Update to MBS data on patient episodes

- Discussion paper: 40% of current NP telehealth patients potentially meet a GP-type established clinical relationship
- However, a follow-up analysis shows:
 - 15.1% of total NP services (155,000 in 2022-23) are telehealth-only episodes of care
 - 91.8% of patients get their NP services from a single NP
 - More than half (56.3%) of annual episodes of care that include NP telehealth also include face-to-face and are from a single unique provider.

s47C

s47C

Recommendation 8

	Options in Discussion Paper
Extend eligibility requirements to nurse practitioner MBS and midwifery MBS telehealth items	<p><u>Option 1 – Keep the draft recommendation with update for clarity of intent; different eligibility requirements for Midwives.</u></p> <ul style="list-style-type: none"> • Improved parity with eligibility for GP services. • Will re-emphasise face-to-face services as the preferred standard and help avoid fragmentation of care by providers who are unknown and/or not local to the patient. <p><u>Option 2 – Maintain current telehealth policies for Nurse Practitioners and Participating Midwifery telehealth</u></p> <ul style="list-style-type: none"> • Remove or defer a recommendation on Nurse Practitioner and Midwifery telehealth services, pending the independent health workforce- scope of practice review. • The Review is scheduled to complete another two phases, before providing a final report and implementation plan in October 2024.

Outstanding Recommendations Summary

Rec	Original Wording	Potential wording
2		s47C
3		
10		s47C

Path to Review completion

1. Agree on an approach to finalising the report
 - All members or subgroup?
2. Agree upon timeframes
3. Consider anything that is missing from the report that should be included prior to completion.

Task	Week					
	4/3	11/3	18/3	25/3	1/4	8/4
Final Rec's						
Draft final report						
Advice to Minister						