The Implementation of Teledermatology In Australia

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1 Executive Summary

This document is a discussion paper on how dermatology can be delivered in a telemedicine model in regional Australia.

2 Introduction

The purpose of this document is to discuss how the provision of dermatology services can be successfully implemented via a telehealth model to improve access to a critical medical service for Australians in rural, remote and outer-metropolitan areas.

The authors of this document have had extensive experience in working with over 3,300 General Practitioners (GPs) and dermatologists over the past 5 years in post graduate medical education (in collaboration with the University of Queensland School of Medicine) and have successfully built and delivered teledermatology solutions in the UK. This combination of experience puts us in a unique position to be able to prepare this document to highlight the various options for consideration by the department.

This submission has been prepared in response to the Australian Government’s initiative - Connecting Health Services with the Future: Modernising Medicare by Providing Rebates for Online Consultations.

3 Dermatology in Australia

Skin problems represented 16.5 of each 100 visits to General Practice in 2009/2010 according to the Australian Institute of Health and Welfare and represented 10.8% of all problems presented.1

Yet according to the Department of Dermatology at St Vincent’s Hospital, medical practitioners are only consulted about skin conditions less than 50% of the time by those that have them.2 This research indicates that up to 25% of the population may have suffered some kind of skin condition at any point in time.

While skin problems represented 16.5 of every 100 visits, only 0.6 in 100 encounters resulted in a referral to a dermatologist, indicating that only one dermatology referral is made for each 166 visits to General Practice.3 This would indicate that many skin conditions aren't being diagnosed with treatment recommendations delivered by appropriate specialists.

Despite the number of skin conditions present in the community in Australia, in 2007 there were only 398 specialists in dermatology.11 Dermatology is one of the most poorly supported medical services in rural areas with very few residing outside metropolitan areas. For example there is no Dermatologist available for private consultations in Darwin.

Despite the frequency of skin problems in the general community, students completing a Bachelor of Medicine / Bachelor of Surgery (MBBS) in Australia will only study dermatology for six days across the medical degree program. GPs therefore have little training and limited experience in diagnosing and treating dermatological problems and require support from specialists to deliver effective dermatology services.

According to the RACGP submission to the Minister for Health and Ageing, 22nd January 201012, doctors who have done their initial training overseas make up over 40% of Australia’s rural workforce. As these overseas countries have a lower incidence of skin cancer, it is accepted that these doctors do not have the experience in diagnosing skin lesions and skin cancer related conditions.
# 4 Introducing Teledermatology

Teledermatology is defined as the practice of dermatology using information technology and communications systems to exchange medical information between a patient, clinician and a dermatologist - at the same or different times and in different geographic locations.

This transfer of information can be done in real-time via the use of video conference technology, or at different times using digital images transferred via a secure web-based platform.

There are two main modalities for delivering a teledermatology service, Store and Forward (SAF), and live interactive (LI). These can also be combined into a Hybrid model which contains both modalities into the one system.

## 4.1 Live Interactive/Video Conferencing Teledermatology

Live Interactive Teledermatology refers to the process where the patient, clinician and dermatologist interact together at the same time but in different locations, using full motion video such as a video conference technology.

This method allows the dermatologist to perform a dynamic assessment of the skin condition as the dermatologist is able to speak directly to the patient and clinician to gather all necessary information. In addition, they are able to provide an immediate initial diagnosis and management plan during the consultation.

This method has been shown to be efficient in terms of cost and timing as all parties have to be present at the same time in order for the service provision to function.

**The Live Interactive work flow:**

```
GP sees patient with skin condition

GP determines a teledermatology consultation is required

GP schedules video consultation with dermatologist

GP, patient and dermatologist connect via video conference

Dermatologist provides diagnosis and management plan to GP and patient

Copy of consultation notes recorded by GP and dermatologist
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Live Interactive Advantages

● Allows dermatologist to interact directly with the patient
● Allows the patient to obtain specialist advice directly from the dermatologist

Live Interactive Disadvantages

● Teledermatology appointment needs to be scheduled between four parties:
  ○ Patient
  ○ Clinician
  ○ Dermatologist
  ○ Video Conference facility in medical practice

● Dermatologists have waiting lists to see patients during normal consulting hours (up to 6 months waiting time). A Live Interactive consultation will need be scheduled during this time which is likely to increase waiting lists. It will not increase the number dermatology consultations made available.

● Specialist video conference equipment is required by both parties
  ○ More expensive up front cost
  ○ May require multiple cameras
  ○ More difficult to set up and use

● Requires higher bandwidth internet connection or video link

● Standard video image quality is inferior to a standard digital camera. This may make some images unsuitable for diagnosis of melanoma and other skin conditions.

4.2 Store & Forward Teledermatology

Store and Forward Teledermatology is the most common form of teledermatology currently in use in Australia and around the world.

Store and Forward refers to the process whereby the patient health care data and still digital images are captured by a clinician, the digital images and patient data are packaged as a case file and forwarded via a telecommunications (similar to email) service to a dermatologist.

Once received, the dermatologist can review the case and write an opinion and diagnosis. This written review is then returned back to the clinician for discussion with the patient and treatment options if required. The benefit of Store and Forward is that the patient and clinician do not have to be present at the same time as the dermatologist. They are typically separated by both time and space.

As the dermatologist does not need to be present for the data capture from the specialists is able to review the case either outside of normal clinic hours or bundled into separate time slots within and existing clinic schedule.
The Store and Forward work flow:

With dermatology being a highly visual field of medicine, Store and Forward Teledermatology has been proven effective in terms of cost and patient outcomes.

**Store and Forward Advantages**

- Uses a standard digital camera
  - Low cost
  - Easy to use
- Dermatologist does not require any specialised audio visual equipment
- Submit the case at any time for review at a later time
- No appointment scheduling with the dermatologist
- Can be reviewed by the dermatologist at any time therefore increasing the number of dermatology consults being made available to patients
- Works with standard broadband internet - does not require high bandwidth
- Equipment (Digital Camera) can be easily moved between consulting rooms

**Store and Forward Disadvantages**
• Does not allow dermatologist to interview patient directly
• Relies on the clinician to capture suitable digital images
• Relies on the clinician to capture the correct data from the patient (this has been mitigated by a standard set of questions depending on infection, rash or skin lesion)
• The diagnosis and management plan are not provided at the initial visit

5 Dermatology and Telemedicine

Dermatology is an ideal candidate for telemedicine as it is a visually based medical speciality. During a dermatology consultation the dermatologist will primarily use visual cues to diagnose the skin condition with a standard set of questions. This means that as long as the digital image quality is sufficient a digital photograph or video image can substitute for a visual inspection. If the correct questions are asked by the GP, the specialist can obtain the information required for diagnosis.

The rapid cost reductions and advances in digital imaging technology, and wide spread availability of the internet has led to the rapid deployment of teledermatology services in many health care systems.

5.1 Established Body of Research

Of all the possible telemedicine services, teledermatology has the largest and strongest body of documented research. An analysis of the research papers released between 1990 and 2009 indicated there have been over 69 controlled clinical trials of teledermatology, and many more studies and reviews.

There have been two recent studies which provide a detailed summary and analysis of all the available research.

In January 2010, the United States Department of Veterans Affairs, Health Services Research & Development Service, released a review of all available studies of teledermatology titled, Teledermatology for Diagnosis and Management of Skin Conditions: A Systematic Review of the Evidence.

In June 2010, the Teledermatology Special Interest Group of the American Telemedicine Association released their review of the available studies of teledermatology titled, Summary of the Status of Teledermatology Research.

Their detailed analysis of the evidence available from research studies lead to a positive conclusion about the clinical value of teledermatology:

The largest and strongest body of research exists regarding the diagnostic reliability of teledermatology. The evidence shows that teledermatology consultations, whether using Store and Forward or real-time interactive techniques, result in highly reliable diagnoses that compare favorably with conventional clinic-based care. This conclusion is based on the repeatability of high simple proportion agreement found in multiple research studies, studies that made simultaneous assessments of “baseline” reliability found among different clinic-based examiners, and reports that used chance-corrected measures of agreement.

In addition to the research showing the diagnostic accuracy and concordance of Store and Forward teledermatology, it has been shown to reduce waiting time for an initial
consultation dramatically. A study published in the August 2008 Journal of the American Academy of Dermatology found that tele-dermatology patients, on average, completed their initial consults in 4 days, compared to 48 days for conventionally referred patients.13

5.2 Teledermatology Programs

There are a large number of teledermatology programs current operating in Australia and around the world.

5.2.1 Australian Teledermatology Programs

The first reported teledermatology pilot study in Australia was published in the Australasian Journal of Dermatology in 1999. It was a small trial conducted by the Royal Perth Hospital and found that 25 of the 30 cases reviewed by teledermatology returned the same diagnosis as the face-to-face visits.7

While not well publicised there are a number of small teledermatology programs operating in Australia. These programs have evolved using existing technology and infrastructure and without targeted funding. Their development without specific funding from government demonstrates the demand for these services and the low cost and technical barriers to rolling out teledermatology programs.

5.2.2 Australian College of Rural and Remote Medicine Tele-Derm

In Australia the Australian College of Rural and Remote Medicine provides a Store and Forward teledermatology service called “Tele-Derm” to rural doctors. According to their web site https://www.acrrm.org.au/tele-medicine#one it is an online resource providing practical advice on the diagnosis and management of skin diseases in their general practice. Essentially designed as a teaching tool this is a service provided by dermatologist Dr Jim Muir, and is provided free for ACRRM members, RRMEO subscribers and General Practitioners who work in rural Australia. Their promise is to provide a diagnosis for a submitted case within 48 hours of submission.

5.2.3 Far North Queensland and Torres Strait Program

In addition to this service many dermatologists are currently providing Teledermatology to patient and General Practitioners using email (Store and Forward teledermatology). According to the Australasian College of Dermatologists press release on 19th May 2010 titled “Teledermatology offers expert services to rural Australians”, Dr Robert Miller has been providing a teledermatology service to patients in Far North Queensland and Torres Strait via traditional email. He has provided consultations for 60 patients and estimates his email consultations have saved Queensland Health up to $20,000 in travel, accommodation and medical costs.

5.2.4 University of Queensland and Princess Alexandra Hospital Outreach Teledermatology Network

The University of Queensland Dermatology Research Centre has developed an expert teledermatology network linking Brisbane to other regional public hospitals in Queensland that are under served or do not have dermatology services. The project utilises existing telehealth equipment at regional Queensland hospitals using Store and Forward technology. The current referral sites are in Mount Isa, St...
George and Dirranbandi with the dermatology service provided by the Princess Alexandra Hospital Department of Dermatology.

5.2.5 Skin Emergency Telemedicine Service

Between August 2008 and August 2009 a research project was carried out by the University of Queensland School of Medicine, Dermatology Research Centre in conjunction with the Princess Alexandra Hospital in Brisbane called the Skin Emergency Telemedicine Service (SETS) in which patients presenting to the PA emergency department with acute skin conditions have images taken and sent to a dermatologist for remote analysis (Store and Forward teledermatology). According to the research project web site - “Initial case studies demonstrate the feasibility of teledermatology in a skin emergency service.”.

5.3 International Teledermatology Programs

While it is a relatively new application in Australia, it has become more common in other parts of the world. A survey by the American Telemedicine Association conducted in 2003 reported there were 62 active teledermatology programs in 37 different US states. The US Department defense has one of the largest Teledermatology services in the world. The US Army has developed a Store and Forward teledermatology system called "Army Knowledge Online Teleconsultation", through which deployed troops have access to teleconsultation support. The system is available to all deployed troops including current combat zones. Over a 40 month period from April 2004 to July 2007, 2824 teleconsultations were performed.

5.3.1 United Kingdom National Health Service

The UK National Health Service has a number of Teledermatology programs in place including a trial using the Teledermatology software developed in Australia by Tele Derm Pty Ltd, the sponsor of this paper.

After two years of software development to ensure the system complies with the strict privacy / information transfer requirements of the NHS, it was used as a pilot study in 2010 in Hertfordshire, where 10 practices sent electronic referrals to the local hospitals consultant dermatologist.

The results of the 150 patient, double blind pilot are currently being prepared for publication. The comment from the users in the primary care practices and dermatologists was it was very cost effective, quick and simple to use. The data shows that it could reduce specialist referrals by 53% and deliver meaningful education to referring General Practice Doctors.

5.4 Support from the Australasian College of Dermatologists

The Australasian College of Dermatologists is the medical college responsible for the training and professional development of medical practitioners in the specialty of dermatology.

To become a practising dermatologist in Australia (and be recognised by Medicare and State Medical Boards) you must be a Fellow of the College.
It’s clear from their website and recent press releases the Australasian College of Dermatologists support the roll out of teledermatology to support rural and remote Australians.

The teledermatology section on their website states:

*Teledermatology has already been shown to be a useful way to provide dermatological specialist support to remote communities. Dermatology is also the branch of medicine most likely to be used by general practitioners in isolated regions for help in the care of their patients.*

The statement is reinforced by their Press Release from 17th August 2010 titled “Teledermatology: The future is here, now,” welcoming the government’s telemedicine announcement. The press release states:

*Dermatologists around Australia have been providing telemedicine services to rural and remote areas for a number of years. These services will now be eligible for Medicare rebates which are a welcome announcement; this recognises the value of E-health in the provision of medical services for the future.*

Their press release from 20 May 2009 titled “Teledermatology Cutting Down Barriers to Specialist Skin Care” discusses the SETS project and promotes it as an example of - “… how the use of secure email and digital images can facilitate specialist dermatological care, delivered rapidly and efficiently to a patient anywhere that has an internet connection.” Dr Jim Muir the Consultant Dermatologist to SETS said “This has great potential to be rolled out to emergency departments across Australia, and assist patients living in rural and remote parts of Australia.”

6 Delivery of Dermatology in Regional Australia – A Viable Solution

Due to the current situation of limited access to Dermatologists in Australia and the lack of availability during ‘office hours’ for video conferencing due to excessive face to face consult workloads; the Store and Forward model is the most economical and efficient service delivery model for rural and regional Australia.

Almost all dermatology conditions are not urgent (i.e. immediate life and death) but still have significant impact on the morbidity and mortality of patient if not diagnosed and treated effectively. Store and Forward provides the ability for the patient’s case to be recorded by a nurse, sent to the dermatologist to review in their ‘down time’ and reported back to the patient’s GP for follow up. The information recorded automatically creates the patient notes and a copy is generated for the dermatologist and GP.

Because it uses low cost digital cameras which are easy to use, a basic internet connection and does not require the scheduling of an appointment between the patient, clinician and Dermatologist, Store and Forward is the most frequently deployed teledermatology model in Australia and overseas.

The benefits:

- Nurses can assist GPs to maximise their patient workflow
- Dermatologists can structure their workload and maximise utility
- Timely and efficient interaction between GP and Patient
6.1 Similarity to Current Pathology Work Flow

Store and Forward operates in practice is similar to that of traditional pathology. The doctor gathers the required information and a sample (in this case a digital image) from the patient, packages it into the required format, and sends the package to the pathology company or specialist for evaluation. The pathology company receives the package, processes the request (and in the case of a biopsy a pathologist writes an opinion), which is then returned either physically or electronically to the doctor. The doctor then relays the results to the patient and determines what management is required.

Store and Forward teledermatology works using exactly the same work flow and practice model. The only difference in the case of teledermatology is that no physical package is required to be sent. The case information and digital images are sent electronically. This means that Store and Forward teledermatology can be easily integrated into existing medical practices with little or no change in the way that the practice operates.

6.2 Advantages of Store and Forward Work Flow

- Store & Forward teledermatology is a very flexible service model and allows a range of practice models to be considered.
- Store & Forward is asynchronous which means that the interaction between the patient/primary care provider and the dermatologist does NOT need to occur at the same time. This saves the resources required to coordinate a mutually agreeable appointment.
- With average Australian dermatologist waiting lists of 6+ months, having to schedule an appointment within their normal practice workload will not reduce waiting times and may increase complexity.
- With Store & Forward the primary care provider can gather the required information and digital images when the patient visits and “upload” the case into the Teledermatology system at a later time.
- The dermatologist is able to review the case when convenient (possibly outside their normal consultation times or in other down time) and provide recommendations to the primary care provider.
- The patient then returns to see the primary care provider once the recommendations are received for diagnosis and treatment.
- If the resulting advice is that a visit to the dermatologist is required, then the patient can be advised to contact the dermatologist to schedule a face-to-face visit and the Teledermatology case can be considered a referral (similar to the current system where a GP will write a referral letter). The data previously provided will facilitate the consultation process.
- This model works well with the existing work flow processes and has the added benefit of allowing the Dermatologist flexibility in scheduling the case review.

6.3 Specialist Knowledge Requirements

No special skills or knowledge are required to perform a Store and Forward consultation. The digital images are taken using a standard digital camera and the software and image
upload operates via a structured information collection web based service. Training necessary to use the Store and Forward software is provided online at any time. As the system is not technologically advanced the chance that it will be working and used by time poor professionals is far higher.

6.4 Medico-Legal Risk Reduction

An advantage of a Store and Forward in dermatology is the automatic creation of a signed off diagnosis and treatment recommendation by the specialist. In a video conference there can be a risk in the patient misinterpreting the spoken word, not understand medical language and the need for the video consult to either need to be recorded or notes taken to be signed off by the specialist. As Store and Forward can generate a written record of both the initial examination and the dermatologist review this information can then be easily kept in a traditional patient records system for future reference.

6.5 Aboriginal Outreach Services – The Solution

One of the significant benefits of Store and Forward is that it can provide a dermatology service for outlying areas including Aboriginal Outreach Services. As the technology and cost requirements are low it is cost effective to provide services across the whole of Australia.

7 The TeleDerm Experience and Delivery Model

As we have built a proven Store and Forward service in the UK with Australian & UK dermatologists involved in the design and execution we are confident that we have the optimised solution for regional Australia. The service known as ‘eDerm’ (www.ederm.com.au) was originally designed to supply services in regional Australia but in development was identified as a potential solution to the same dermatologist supply issues that exist in the UK with the NHS. We have subsequently delivered this service successfully and are currently expanding our services in the UK.

We believe our system solves the key issues of data protection, ease of use, training of medical practitioners, information capture and dermatologist reporting our data indicates that we can supply a service at no cost to the GPs with a small annual access fee for the dermatologists. This low cost and simple templates service has the potential to enhance and assist dermatology services in Australia. We welcome the opportunity to present it for consideration.

7.1 Simple Remuneration Model

To implement teledermatology within the current Australia medical system may only require the addition of a single new item number - remuneration for a non-face-to-face patient consult for the Dermatologist.

7.2 Store & Forward Financial Advantages

As a Store and Forward case is typically reviewed in a Dermatologist’s down time the value of this time is significantly less (indicative figure of $95 per consult). A LI consult would need to be delivered during the normal working day to line up with referring GPs and patients. As this would stop the dermatologist from seeing other patients face to face the remuneration for these consults would have to be in accordance with the opportunity cost of that consult (i.e. $250 - $350 per consult).
8 Single Medicare Item Number

The only change required to Medicare rebates to implement Store and Forward teledermatology is the addition of an item number for dermatologists.

8.1 New Item Number for Teledermatology Consult

There would be the need for a Medicare Item Number for a Dermatologist Teledermatology Case Review. If Store and Forward was used the indicative fee would be $95. This figure has been derived from consultations with Australian Dermatologists interested in delivering services.

8.2 Primary Care Provider Consult

The GP would simply charge a longer consult instead of a standard consult to allow for the extra 5-10 minutes needed to collect the information via Store and Forward. This extra remuneration would adequately cover their time and hardware costs.

8.3 Primary Care Follow Up Billing

Once the dermatologist has reviewed the teledermatology case, the results are returned to the doctor. Depending on the results, the doctor may be required to ask the patient to make a return visit to discuss the results and/or begin treatment. This would be billed as a normal consult (short or standard) depending on the duration and clinical action needed to be taken.

8.4 Structural Medicare Item Number – No Changes

Because Store and Forward teledermatology does not require both the doctor and dermatologist to be present at the same time, there is no requirement for a Medicare Item Number to compensate the two parties during the same consultation period. As such there is no change required to the Medicare Legislation.

9 No Financial Incentive Requirement

Due to the low capital costs of the system, we believe no additional financial incentives are required to offer the service to patients. We are able to advise the general practices of low cost cameras to buy and the dermatologists only require an internet connection.

9.1 Low Capital Costs

Store and Forward teledermatology requires an internet connection, no specific computer hardware and a low cost camera ($300-600). To send a dermatoscopic image the doctor simply attaches their dermatoscope (which will cost $80 for the attachment). This will provide the dermatologist with the same visual information they would normally have when making a face to face diagnosis with the patient. Video technology is yet to reach this quality of image standard.

10 Ease of Use & Support

When working in a remote clinical environment it is important that the technology required to perform telemedicine is easy to learn, easy to use, is robust and easy to maintain.
The web based software is easy to use and includes online training resources which allow for the user to learn what is required and how to use the system online with little or no facilitated instruction.

The digital cameras required are standard digital cameras that are commonly used by consumers and are “point-and-shoot” and require no technical skills to use.

10.1 Web Based Teledermatology

Most current Store and Forward teledermatology systems work across the internet using standard internet web browsers. As a result there is no special software installation required and they will operate on all current personal computers that have access to the internet.

10.2 Secure Web Site

Using a unique username and password, the clinician logs into the teledermatology system, in the same way you login to an online banking or email system. Using “Bank Standard” data encryption technology, the patient information and images are securely uploaded from the clinic computer to the web based service. No patient information is required to be stored on the clinic computer. When notified, the dermatologist logs into the system with his/her own secure username and password and reviews the patient data and images online - with no data being downloaded to the dermatologist’s computer system. All the patient data and images remain within the Store and Forward system and it is only accessible via password.

10.3 “Point-and-Shoot” Digital Camera

Digital cameras have now become ubiquitous and have replaced all traditional film cameras for photographers from home through to professional. Modern “point-and-shoot” digital cameras are familiar to most Australian adults and are easy to use when used with “auto-focus” and “auto-flash” take high quality images. These cameras are capable of taking sufficient quality images for teledermatology given the correct lighting and easy to follow instructions.

10.4 Online Training and Support

In addition to the web site being used for the capture of patient information and images, it can include a full suite of training materials including check lists and quick reference guides which may be printed for easy reference, training videos delivered online that show the exact steps for performing the consultation and capturing the images, screen recordings showing the exact steps required to enter the information into the web site.

11 Current IT Infrastructure Integration

Store and Forward teledermatology is designed to work with existing IT infrastructure and does not require any high performance or upgraded technology. Any current personal computer that is sufficient for accessing the internet is capable of being used for Store and Forward teledermatology.
11.1 **Standard Personal Computer**

Any personal computer which is able to connect to the internet and use an internet web browser such as internet Explorer or Firefox is able to work with a web based Store and Forward teledermatology system.

Currently available Store and Forward systems are designed to work with Microsoft Windows (XP, Vista, 7) and Macintosh personal computers. As no files are stored locally there are no special requirements for storage or backup. Once the case information and images are uploaded into the teledermatology system they are stored securely and are accessible via secure password to a dermatologist in any location in Australia (where they have an internet connection).

11.2 **Current Broadband Technology**

A standard teledermatology case consists of a small amount of text information regarding the patient and on average three images. The images produced for teledermatology are between 300Kb and 500Kb in size. This means a standard Store and Forward teledermatology case contains no more than 1600Kb of data. A teledermatology case containing 1600Kb of data would take approximately 1 minute 15 seconds to upload on a 256Kbps internet connection or as little as 18 seconds on a 1Mbps connection. According to the Telstra Enterprise web site\(^5\), users on their NextG mobile data network get typical upload speeds of 300Kbps to 1Mbps. Using the Telstra Satellite Broadband (available in all locations) the upload speed of 128Kbps means a case will take just 2 minutes 30 seconds to upload. The implementation of the National Broadband Network will lower these times significantly.

11.3 **The National Broadband Network**

The National Broadband Network (NBN) will improve the availability and performance of internet access for all applications including teledermatology. As this service is rolled out it will promote the timely delivery of information from regional practices to metro specialists.

12 **Summary**

We understand from recent discussions with the department that the context of these submissions is in relation to funding for video conferencing in the initial stages. In many areas of medicine this method is the best valid approach.

Unfortunately due to the complex factors documented in this paper this is not the case for dermatology. We believe Store and Forward is a viable and economic solution for doctors in rural and remote areas to access professional specialist opinions.

Store and Forward offers a financially attractive solution for dermatology due to reduced costs associated with:

- equipment
- training
- cost of the dermatologist’s time
- Medicare item number value
- risk of wasted time due to technology failure of video conferencing
- multiple users can use it at once in a practice
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- nurse collected data from predetermined information fields to match dermatologist’s questions - ensures quality control
- Medico legal risks mitigated
- Work-flow simplicity - an extension of existing work practices

**The case for Store & Forward Teledermatology:**

- already in limited use by GPs in Rural Australia as part of the Medical Specialist Outreach Assistance Program (MSOAP).
- supported by the Australasian College of Dermatologists.
- effective in reducing travel costs and waiting times.
- easy to implement and use by any health care service provider.
- low cost to setup and maintain.
- in widespread use globally including the US and UK Health Systems.
- an effective alternative to a face to face visit in many cases.

Whilst providing an item, number for other areas of medicine which are video conference focused it would be our recommendation to create a Store and Forward item number exclusively for dermatology as it’s the only practical way of engaging the industry to deliver a service in regional Australia.

**13 About the Authors**

TeleDerm Pty Ltd is a business developed in Australia for the provision of TeleDermatology services. The service ‘eDerm’ was developed with Australian and international professors of Dermatology, GPs and practice nurses. After its initial development it was further developed to meet the strict requirements of the UK NHS for ease of use and data protection. This now provides Australia with a ready made solution for implementation.

The parent company HealthCert (www.healthcert.com.au) is the largest provider of post graduate skin cancer education in the world in partnership with leading university medical schools in Australia and overseas. This knowledge of dealing with GPs in the field allows us to understand their specific needs and ensure the service we provide meets their clinical requirements.

Our other business is a primary care medical practice in Redcliffe, Qld which assists us in understanding implementation at a primary care level and assists us in building new service models to manage the workforce / service delivery models with an aging population and decreasing tax income base.

The combination of our businesses and relationships with significant University Schools of Medicine allows us to present this paper with a high degree of confidence. We look forward to the opportunity to further assist policy makers in the delivery of a low cost meaningful service to regional doctors and patients.

**14 References**

2. Marks R, et al 'Atlas of common skin diseases in Australia' Department of Dermatology, St Vincent's Hospital, Sydney 1999


