Enhancement of the LTO^AU website

—

Final Report to July 2020

Lab Tests Online ^AU
Trusted, patient-centred, independent

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List of Abbreviations

Term	Meaning
AI	Artificial Intelligence
COVID-19	Coronavirus disease 2019
DNA	Deoxyribonucleic acid
GP	General Practitioner
HS Troponin	High-sensitivity troponin
INR	International normalised ratio
LTO^AU	Lab Tests Online Australasia
MBS	Medical Benefit Schedule
MyHR	My Health Record
PIS	Patient Information Sheet
PoCT	Point-of-Care Testing
QUPP	Quality Use of Pathology Program
UTI	Urinary Tract Infection
WA HCC	Western Australia Health Consumers' Council

Executive Summary

The overall aim of this project was to improve the LTO^{AU} website as a consumer resource for pathology test information through consumer participation, improvements in content and its presentation, improvements to the website that allow for easier navigation to access information of interest. The project objectives included improvements to the quality metrics to inform the improved performance of LTO^{AU} and to further explore and develop strategies for long-term sustainability for the LTO^{AU} website.

Outcomes and achievements within the six groups of activities identified in the grant are as follows:

- Ten new tests including four new MBS items have been added to the website.

- Eighteen patient information sheets that are downloadable in digital form by health practitioners have been prepared about commonly requested tests using existing content but written in a way that will be more easily understood by consumers.

- A new point-of care testing (PoCT) section has been added to the website covering all aspects of PoCT that may be of interest to consumers including questions that they might ask PoCT providers.

- The website has a new homepage which as well as having a much enhanced visual appearance, has several new features including a link to information for My Health Record users and new information about consumers seeking their laboratory results.

- The new home page also includes an Artificial Intelligence chatbot to assist consumers with their questions about pathology testing.

- Social media has been used extensively to solicit feedback on changes to our content and to new material. One survey of our patient information sheets prompted more than 1000 responses.

- The new LTO^{AU} dashboard shows there has been a 50% increase in site traffic over the funding period driven in part by the COVID-19 section which received 100,000 visits in 30 days.

- A more sophisticated combination of the analytics dashboard, responses from consumers to the newly deployed chatbot, and a consumer survey are providing LTO^{AU} with deeper information about the demographics of our visitors and the information they would like to see on the website.

- Some of the identified activities were unable to be completed during this project period but they will continue to be progressed.

2. Introduction

The vision of Lab Tests Online Australasia (LTO^{AU}) is to provide accurate and reliable information about pathology tests to all Australians. To achieve this there is a commitment to:

- Provide information about all tests that are listed on the Medical Benefits Schedule

- Deliver content that can be understood by people with a broad span of literacy levels

- Ensure users can find what they seek easily through intuitive website navigation

- Maximise the reach of LTO^{AU} to as many people as possible.

Since it was established in 2007, the LTO^{AU} website has been progressively developed and enhanced through the efforts of volunteer scientists and pathologists who regularly provide and review content. Grants from the Quality Use of Pathology Program (QUPP) have been critical in enabling enhancement programs that have successfully improved the service offered by LTO^{AU}. Recent projects have concentrated on ensuring ease of navigation as well as improving content presentation to assist understanding through the use of graphics, videos, and animation. These programs have been demonstrably successful. Since 2007, LTO^{AU} has had 10 million visitors and two million are expected in 2020.

In January 2020, LTO^{AU} received funding from QUPP to carry out the following activities by June 30, 2020:

1. Addition of new and revised test content to the LTO^{AU} website

2. Enhance existing content through rewriting and adding videos, animation, and graphics to broaden access of information

3. Develop a Point-of-Care Testing (PoCT) module

4. Streamline the user access to the LTO^{AU} content

5. Extending reach through social media and continued engagement with relevant stakeholders' channels

6. Develop informative metrics on the usage of the website to inform the strategic direction of LTO^{AU}.

The details of these activities and outcomes to further enhance the website are described below.

3. Achievements against performance indicators

Nine performance indicators were set.

Table 1. Performance indicators and achievements

No	Performance Indicator	Achievement
1	Ten new tests/conditions to be added to the website	• 10 new tests placed on website
2	Production of simplified and improved readability, patient information sheets for 20 commonly requested tests	• 18 written and 15 placed on website • Remaining two in preparation and to be completed within the next 60 days.
3	New Point-of-Care Testing Module added to website	New prominent menu item comprising of seven sub-sections written and published on website
4	Improved the landing page for My Health Record	New front/landing page in place including links to information on how consumers (MyHR and non-MyHR based) can find their test results.
5	Diabetes webpage designed and placed on website	Single webpage for diabetes information in design stage
6	Promotional material such as bulletins and publications to be circulated to identified key stakeholders	• Article about LTO^AU for HealthDirect published on their website. • Articles on consumer survey and readability of LTO^AU in preparation
7	100% increase in social media followers	• 35,500 visits on YouTube • 22,000 impressions on Twitter
8	Increase in visits to website and longer time spent on website	50% increase in visits over funding period
9	Development of an effective measure for LTO^AU status and analysis	A combination of the new dashboard developed using Google Analytics, responses to the recently introduced chatbot and the consumer survey, are all providing additional and further useful metrics on LTO^AU status, who our visitors are, and the type of information they want

4. Detailed review of activities and achievements

I. Addition of new and revised test content to LTO^{AU} website

Preliminary work identified ten new tests for addition to the website. These were:

- Four new genetic tests which were added to the Medical Benefits Schedule in May 2020.

- The Lay Committee of the Royal College of Pathologists of Australasia requested LTO^{AU} to provide information about transgender transition testing.

- The Genioz organisation offered information about online DNA testing which would ensure its availability after the Genioz website was taken down

- A gap analysis of tests on the Australian, UK and USA LTO sites identified four tests that were used in Australia but not yet on the LTO^{AU} site.

- One of these four tests was replaced in favour of providing information about COVID-19 testing after the pandemic reached Australia in February.

Experts in the relevant fields were commissioned to write articles on the new genetic tests, COVID- 19 and transgender testing while members of our reviewing panel modified the LTOUK content for the tests identified in the gap analysis and the online DNA testing article.

Table 2. Tests added in the funding period and their current status.

New Test/Condition/Other Content	Status
1. Heritable mutations associated with family hypercholesterolaemia	Posted on site
2. Somatic tumour gene testing	Posted on site
3. Hereditable pathogenic variants in colorectal and endometrial cancer	Posted on site
4. Whole genome or whole exome testing for childhood syndromes (previously called genetic testing for childhood syndromes)	Posted on site
5. Transgender transition testing	Posted on site
6. Covid-19	Posted on site
7. Online DNA testing	Posted on site
8. Procalcitonin	Posted on site
9. ED & overdose drug testing	Posted on site
10. Kidney function tests	Posted on site

LTO^AU's COVID-19 test content has been progressively expanded throughout the funding period and modified to ensure that it reflects Australian Government Department of Health policy on COVID-19 testing. The sub-sections of the COVID-19 section of the website are shown in Figure 1.
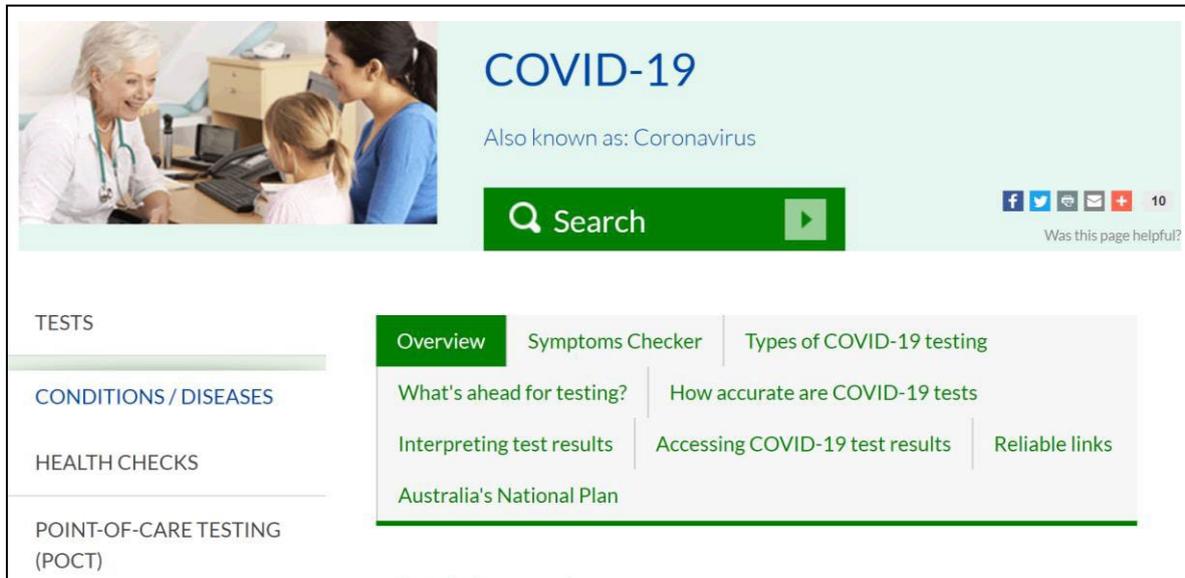

Figure 1. Overview of COVD-19 test content.

Given the concern about the availability of COVID-19 point-of-care tests in Australia that were of uncertain performance LTO^AU has also provided a prominent banner on the front page of the website that warns users not to use unapproved COVID-19 tests.

Information about online DNA testing (Table 2; new test 7) shown in Figure 2, was selected because it would otherwise be lost to consumers when the Genioz research study website was taken down following their loss of funding.
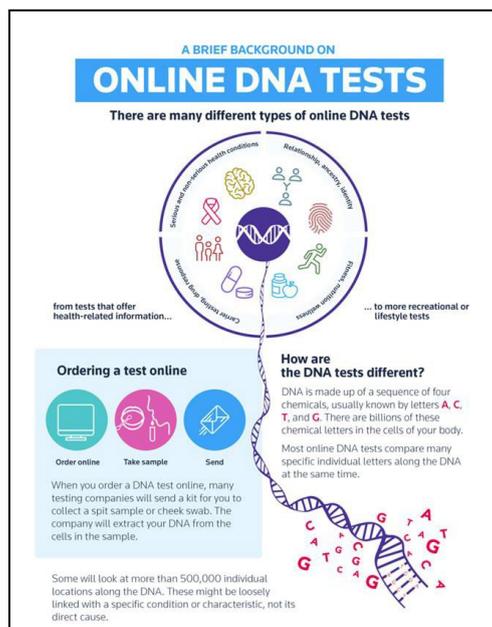

Figure 2. Newly provided information about Online DNA tests.

Tests 8-10 were identified as gaps in our content in a comparison with Lab Tests Online UK which has similar pathology practices to Australia. Originally, methotrexate was identified as one of these tests but was replaced by Kidney Function Tests. Although procalcitonin is not on the Medical Benefit Schedule (MBS) it is extensively used in the investigation and monitoring of sepsis in patients in intensive care in Australia.

As of 12th July, all articles have been written and reviewed, eight are posted on the site and two are awaiting placement.

II. Enhance existing content through rewriting and adding videos, animation, and graphics to broaden access of information

This activity was primarily achieved through a new initiative to provide consumers with a two-page A4 patient information sheet (PIS) which provided all the key information about a test or associated condition in a more readable, graphically designed format. The information in the PIS utilised existing content and would be available for printing out from the LTO^{AU} website.

Twenty tests were selected based on those tests most often ordered in primary healthcare, and most often sought on LTO^{AU} by our visitors. LTO^{AU} also endeavoured to encompass many pathology disciplines. Other features of the PIS format were the incorporation of Choosing Wisely messaging and MBS review recommendations, where possible. A primary goal was to ensure ease of understanding of the information through delivering essential points in a highly graphic format. Those requiring more detailed scientific information are directed to the existing website content.

Table 3. Tests to be incorporated into patient information sheet format

1. Thyroid Function Tests	2. Iron Studies
3. Full Blood Count	4. Liver Function Tests
5. B12 and Folate	6. Prostate cancer
7. Skin cancer	8. D-dimer
9. Kidney Function Tests	10. *Helicobacter pylori*
11. Providing a mid-stream urine	12. C-reactive protein
13. COVID-19	14. HS troponin
15. Non-invasive prenatal testing	16. INR
17. Cholesterol	18. Allergy blood test*
19. UTI	20. HbA1c & glucose*

*Work continues on these information sheets

As well as preparing the written content, the task required integration of graphics to improve readability and ease of understanding.

For reviewing purposes, we sought firstly the input of pathologists and scientists with relevant expertise and then asked for feedback from general practitioners (GPs) and consumers.


Figure 3. Front page of the D-dimer patient information sheet.

The back page of each of the PIS has a similar format as shown in Figure 4, with information about abnormal results and reference intervals together with some questions that consumers can ask their doctor.

Figure 4. Back page of the patient information sheet about Liver Function Tests.

As work progressed it was apparent that it would be difficult to complete all 20 sheets in the time available. Accordingly, it was decided to aim for the completion of 15 patient information sheets.

Access to the sheets is through the tile 'Quick Read Information Sheets' located on the new front page of the website (see section IV, page 13) which provides a link to a dedicated page. Clicking on the individual sheets allows the user to print a copy. This link and page are now operational, but some further planned changes to the website will see all the sheets presented in a more attractive format.
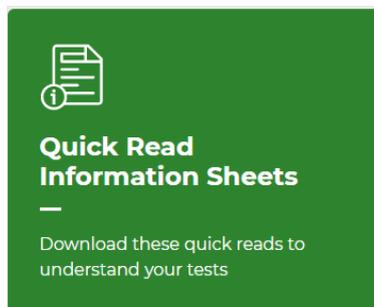
Feedback from both GPs and consumers has been very positive. LTO^{AU} has also conducted informal surveys on Facebook and Twitter that have had the dual benefit of gauging consumer opinion while promoting LTO^{AU} to a wide but targeted audience. While the readability of the sheets has improved, LTO^{AU} are aware that the sheets still incorporate a large amount of information and may overwhelm some readers.

LTO^{AU} is to consider all feedback to future editions of the sheets. The latter will also incorporate any relevant recommendations from the Medical Benefits Schedule Review when these are implemented.

Work will continue on the remaining information sheets.

III.   Develop a Point-of-Care Testing (PoCT) module

The LTO^{AU} website has for some years included a section on point-of-care testing (PoCT) albeit called "Testing outside of the laboratory". Although PoCT is not yet included as an item number on the MBS, it is estimated some 8-10 million point-of-care tests are conducted in Australia every year in a variety of healthcare locations. Furthermore, the Medical Services Advisory Committee recommended in March of this year that PoCT for monitoring of glycated haemoglobin (HbA1c) in patients with diabetes should be placed on the MBS. In view of these developments, it is timely to upgrade the information about PoCT on the website.

The project objective was to develop an information module for patients that may use these devises or considering use in terms of management of chronic diseases, including risks and benefits of PoCT.

The new PoCT section is now accessible via the new Front Page of the LTO website (Figure 5)

Figure 5. New link to PoCT on front page of website

Information is provided through seven sub-sections:

   i.   What is PoCT? – An explanation of what PoCT is including graphics (Figure 6) comparing PoCT with central laboratory testing. This includes a short animation to aid an understanding of the overall concept.
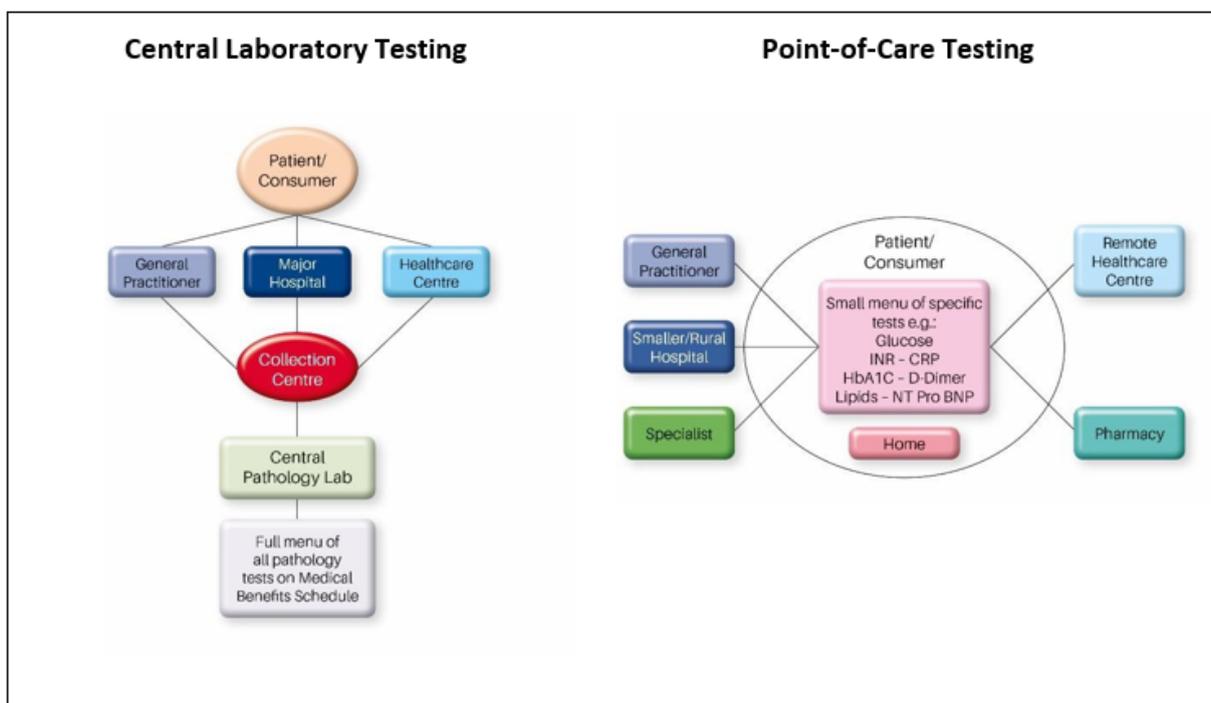
Figure 6. Graphics in PoCT section to show differences between central laboratory and point-of-care testing.

   ii.   Why is PoCT performed? – This provides an explanation of how PoCT has developed, the potential clinical advantages of PoCT, and a video of how it is used to manage chronic diseases by the Integrated Cardiovascular Clinical Network in South Australia (ICCNetSA).

   iii.   What tests are performed at point-of care and why? – This section provides a list of the more commonly performed tests in Australia, the clinical reasons for testing and in which locations. Images of common PoCT devices are also provided.

iv. How is PoCT performed? – This is a description of the PoCT process including the collection and application of finger-stick samples, together with a video showing the testing process for measurement of INR.

v. Advantages (benefits) and disadvantages (risks) of PoCT. –The central feature of this section is a table of the risks and benefits of PoCT from the perspective of the consumer, the healthcare practitioner (typically a GP), the funder of PoCT, and the community.

vi. Questions to ask your doctor or healthcare provider about PoCT. – Five questions are described together with the background as to why they might be asked by a consumer who is offered PoCT.

Throughout the PoCT section, there are videos, animation, diagrams, and photographs to enhance understanding of the content.

Feedback from healthcare professionals involved in PoCT has been positive and LTO^{AU} is working on ways to assess consumer feedback on this new section of the website.

IV.   Streamline access to LTO^{AU} content

This part of the project included two major activities**:**

i. Improvements of the landing page on LTO^{AU} for consumers coming from MyHR. – This will provide information about MyHR and pathology results and improve access to other commonly used areas of the website.

ii. Prepare a single page for chronic diseases commencing with diabetes where all information about the disease is co-located.

The new home page of the website provides a vastly different look to the previous one as shown in Figures 7 and 8.
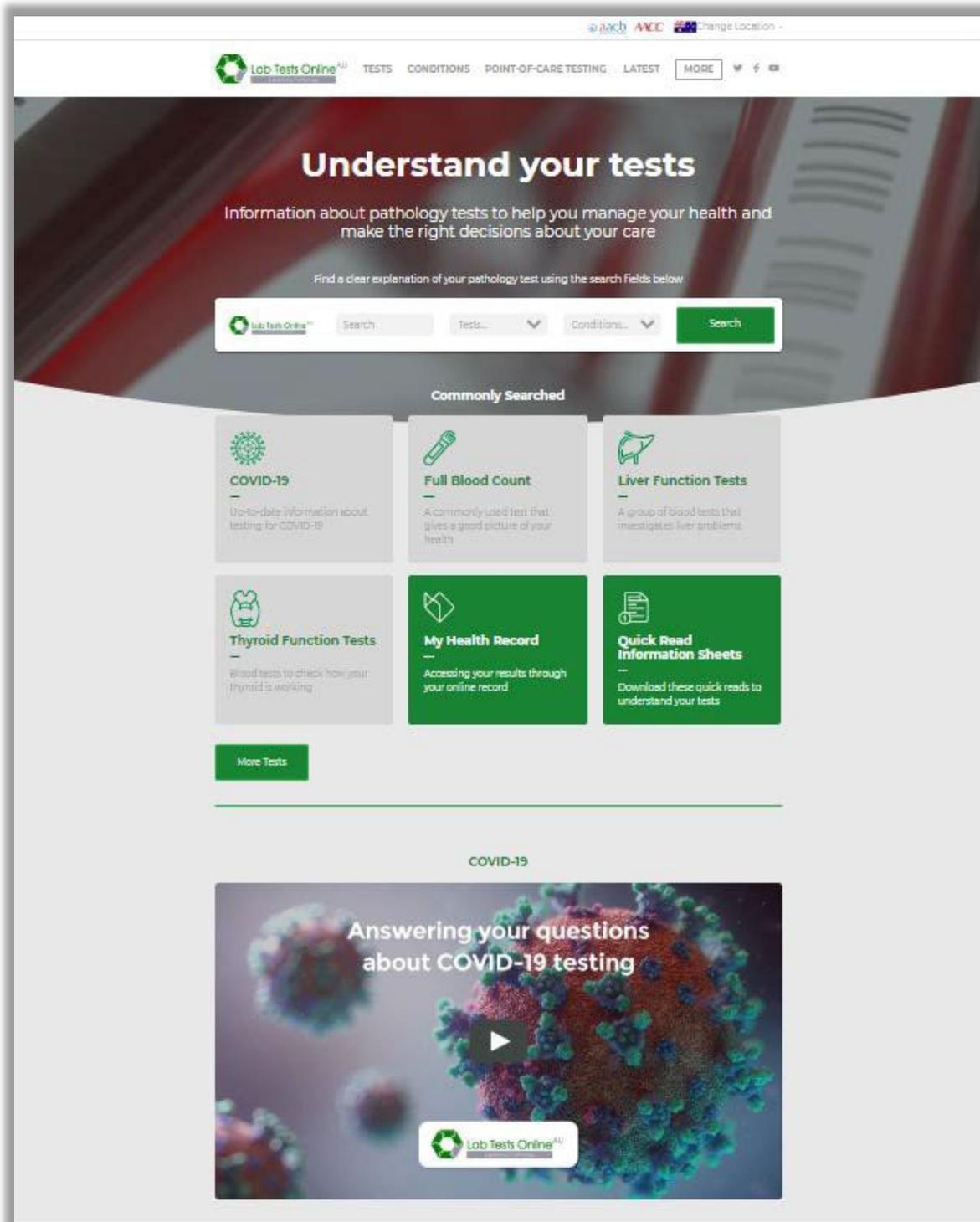
Figure 7. Upper part of the new LTO^{AU} homepage.
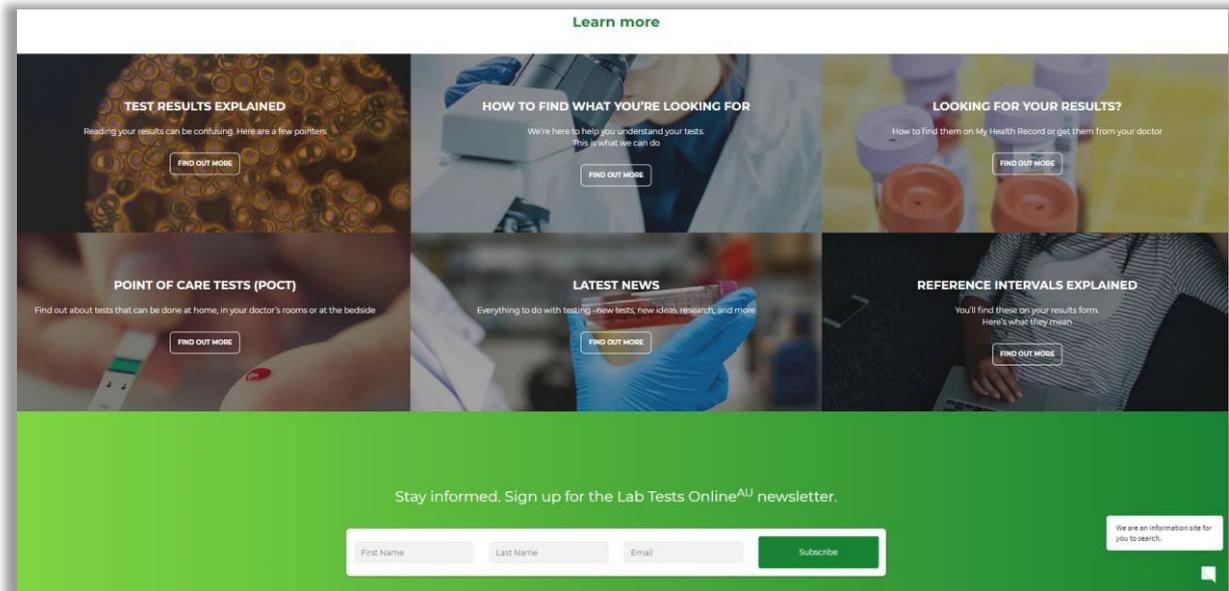
Figure 8. Lower part of the new LTO^{AU} homepage.

The new homepage has been designed with the following new features:

- Priority has been given to more commonly accessed information

- Large tile-based graphics provide links to commonly used tests, My Health Record, and the downloadable information sheets.

- "Looking for your results?" links to new information about accessing copies of test results (Figure 9). LTO^{AU} receives large numbers of enquiries from people seeking copies of test results either via MyHR, their doctor, or a COVID-19 testing service. This new feature should help address users demands much more efficiently.

- The new front page includes an interactive chatbot. Further details are provided in subsection V on page 14 of this report.
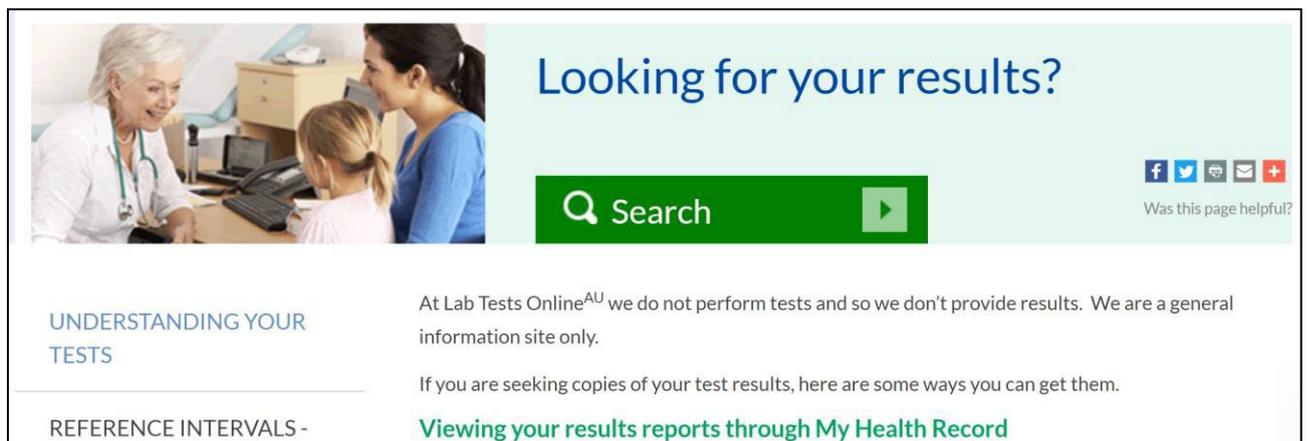
Figure 9. The new "Looking for your results?" section is easily accessed from the Home Page.

Further work is required to achieve the optimal placement of the tiles and associated links. LTO^{AU} are also exploring how the new enhanced look of the home page can be reflected or represented through to other pages which now look outdated by comparison. Work on the new landing page for diabetes will also continue in the next couple of months.

V.   Extending reach through social media and continued engagement with relevant stakeholders' channels

An ongoing goal of LTO^{AU} is to extend its reach to more consumers and during the project period this was achieved through expanding the use of social media channels and by embedding LTO^{AU} in more healthcare organisations through discussions and activities with relevant stakeholders.

i.   Social media activities

Data shows there has been an increasing and unique user activity in various social media channels. As part of this project LTO^{AU} is aiming to increase its presence on Facebook, YouTube, and Twitter. Activities scheduled in this part of the project included exploration and expansion of these social media activities.

There was a mix of results from this by active targeted channel as shown in Table 4 but nevertheless the activities overall extended the reach of LTO^{AU} and to a broader audience.

Table 4. Results on increasing use of social media channels to promote LTO^{AU}.

Channel	Users and other measures	Comments
YouTube: **559 Channel Subscribers** **+ 244 Channel subscribers**	• During the project LTO^{AU} received an additional 35,500 views and gained 244 new subscribers. • Liver Function Tests continue to be the most popular with more than 35,000 views since release in 2018. • COVID-19 related videos received ~2,000 views. This is pleasing given the amount of information to be found elsewhere.	We have 23 videos that are now promoted within YouTube aside from being embedded on our website. Three videos on COVID-19 were created during the grant period (overall testing, serology, and PCR Testing) as well as one on Point-of-Care Testing.
Facebook: **3949** **Followers** **+ 102 Followers**	• A total of 30 posts were made • The survey of patient information sheets reached 1,700 while that on Thyroid Function Tests reached an audience of 1,000	The Facebook strategy was to build awareness of the brand rather than a using it as a primary tool for disseminating consumer information.

Twitter: 602 Followers + 22,000 Impressions	• The measure here was more about 'spreading the word'. • Total Tweets made were 44 so not prolific but in that time 16 influential followers were gained. Key metric was 22,000 impressions.	The strategy for Twitter was to build awareness of the brand rather than using it as a primary tool for disseminating information.

The YouTube statistics are encouraging and of particular interest. LTO^AU used the channel primarily to post our videos but consumers are now using this medium as an alternative form of search engine like Google and therefore coming to the LTO^AU channel by mere coincidence. This traffic means LTO^AU should make greater use of the channel in the future.

LTO^AU has used social media to obtain feedback from consumers on our patient information sheets. Two surveys were implemented and feedback was received via Facebook and Twitter with interaction/engagement from other professional bodies. The latest survey received more than 2,700 views via these mediums. This also provided the benefit of enabling LTO^AU to target specific audiences that we wish to communicate with in the future.

The social media group of activities in this grant included the introduction of a chatbot (a computer program that simulates and processes human conversation in either written or spoken form). This was introduced in the later stages of this grant period and we are still in the early stages of its development.

Currently, when visitors land on the new website homepage, the chatbot opens up in the bottom right-hand corner (Figure 10). The message states that LTO^AU does not perform testing and therefore we do not have test results; this is to address what is the most a common enquiry from visitors – which has increased markedly following the widespread COVID-19 testing. Almost 90% of the queries were users asking about access to results with a further 5% being about COVID-19 testing venues, locations and costs.
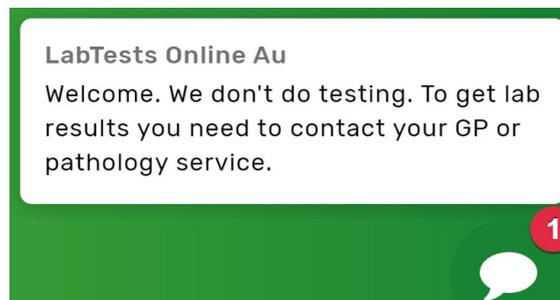
Figure 10. Chatbot which now opens automatically of new home page of LTO^AU.

Users can type questions to the chatbot about the information they are seeking. LTO^AU are using the bot's artificial intelligence (AI) capabilities to develop automated answers to address the questions. While the chatbot is now functional we are planning to further enhance the user experience in the coming weeks through more targeted answers to their questions.

Importantly, this new facility has opened up a new form of instantaneous feedback for LTO^AU providing insights into what visitors really want (such as the price of COVID-19 tests, locations of test

venues, how long before test results are available , what happens if test results are not received etc). User questions are already highlighting areas of new information and topics for LTO^AU to consider adding to the website, such as reference ranges and new types of tests.

ii. Engagement with relevant stakeholders

There are a number of different healthcare organisations with whom we believe collaboration and engagement would extend the reach of LTO^AU and be of benefit to consumers through easier access to relevant information. Figure 11 provides an overview of potential organisations and how they can interact with LTO^AU in the context of the pathology testing cycle from the consumer through consultation, requesting, analysis and access to the test result.
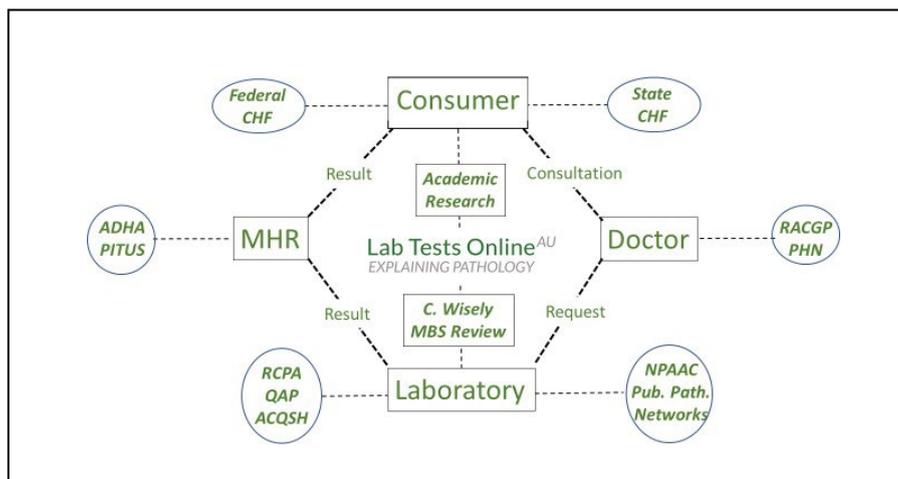
**Figure 11. Lab Tests Online Australasia and related organisations in the consumer-orientated pathology test cycle. (CHF- Consumer Health Federation; ADHA – Australian Digital Health Agency; PITUS; RACGP – Royal Australasian College of General Practitioners; RCPAQAP – Royal Australasian College of Pathologists Quality Assurance Program; ACQSH – Australian Council of Quality & Safety in Healthcare; NPAAC – National Pathology Accreditation Advisory Council).**

It was the intention during the grant period to meet with many of the organisations shown in Figure 11, but this was not possible due to the development of the COVID-19 pandemic. Likewise, promotion of LTO^AU through attendance and presentations at conferences was not possible.

Collaboration with the New South Wales State Pathology Service has progressed and interaction with LTO^AU includes links from their test catalogue to LTO^AU; work is also proceeding on including links to LTO^AU on patient reports. While similar collaborations were planned with PathWest, this has not taken place due to other priorities within the PathWest organisation including COVD-19.

Consumers are of course significant stakeholders of LTO^AU and discussions about involving consumers in more LTO^AU related activities have taken place with both the Federal Consumer Health Council and with the Health Consumers' Council of Western Australia (WA HCC). As a result of these discussion a member of the WA HCC, has been invited to join the LTO^AU management group to provide a consumer perspective.

Another activity to extend the reach of LTO^AU, which overlaps with the engagements with stakeholders, is through publications about LTO^AU activities. The former Chair of LTO^AU, Dr Susan Benson conducted an interview with HealthDirect as part of their 'Partner in Focus' series and this has been published on the Health Direct website (https://about.healthdirect.gov.au/partner-newsletter/partner-in-focus-lab-tests-online-au).

Work continues on two papers that have arisen from the activities in the last 12 months:

- A review of the key findings from the consumer survey conducted by Curtin University in 2019 and will be submitted to the Medical Journal of Australia

- A paper comparing the readability of LTO^AU webpages compared to other health information sites, for submission to the Pathology Journal.

There has been insufficient time to finalise these writing assignments, but they will continue, and submission will be made to the indicated journals as soon as possible.

VI. Develop informative metrics on the usage of the LTO^AU website to inform the strategic direction of LTO^AU

The activities in this part of the grant were focussed on using analytics data to develop a dashboard of LTO^AU performance and an analysis of a consumer survey conducted by Curtin University which was completed at the start of this funding period. The aim was to develop metrics to inform future LTO^AU planning.

The new dashboard shown below provides a number of other informative metrics other than just visitor numbers. Thus using Google analytics data LTO^AU can now identify the geographic location of site visitors, the time they spend on the site, their age group, and the type of device they are using for access.

The data below, which indicates progression from the beginning of the project period, shows that there was significant increase in traffic, particularly from Australia and New Zealand. It was also pleasing to see that the LTO^AU audience continues to be engaged (65% of visitors under 44 and 18-24 years spend the longest time on the site).
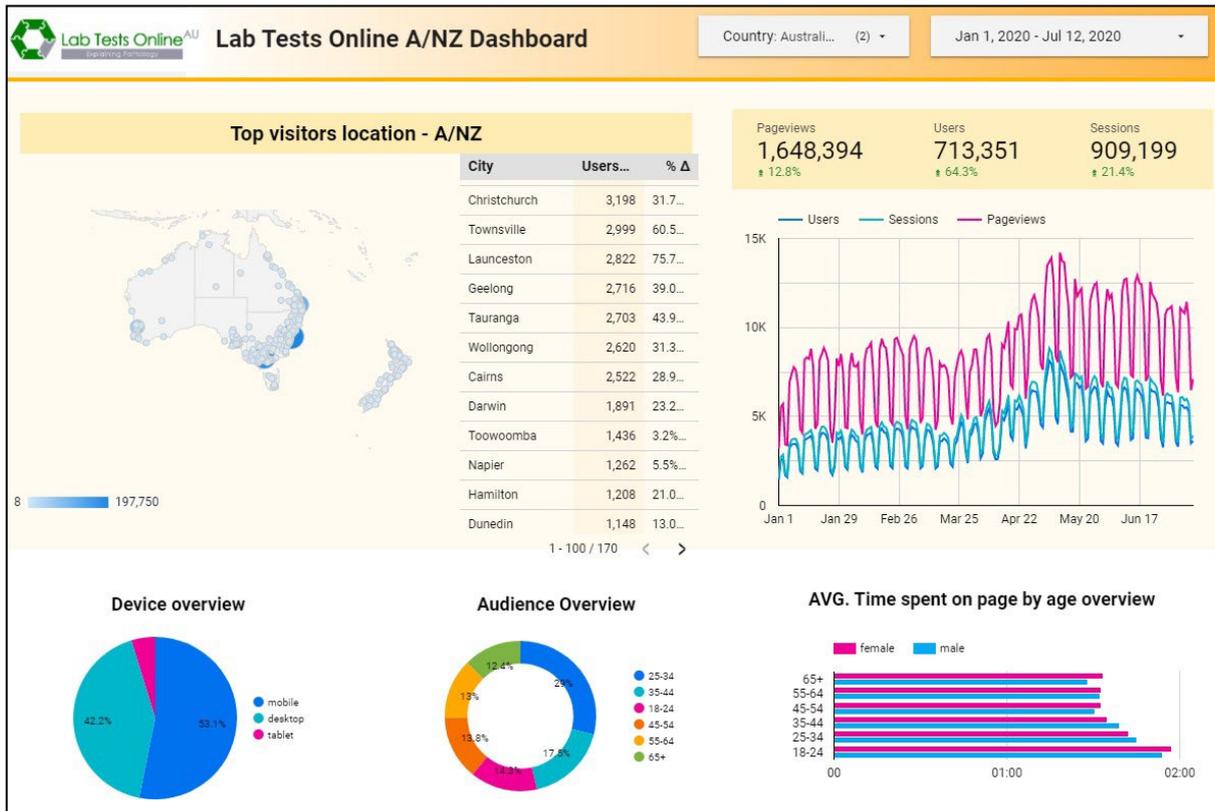
Figure 12. New dashboard to show key attributes of visitor traffic to LTO^AU.

This new dashboard also shows that during the project period, LTO^AU is frequented most by those under 44. Interestingly, nearly 45% of these are 34 years and under as shown in Figure 13, together with the average time spent on the page according to age group.
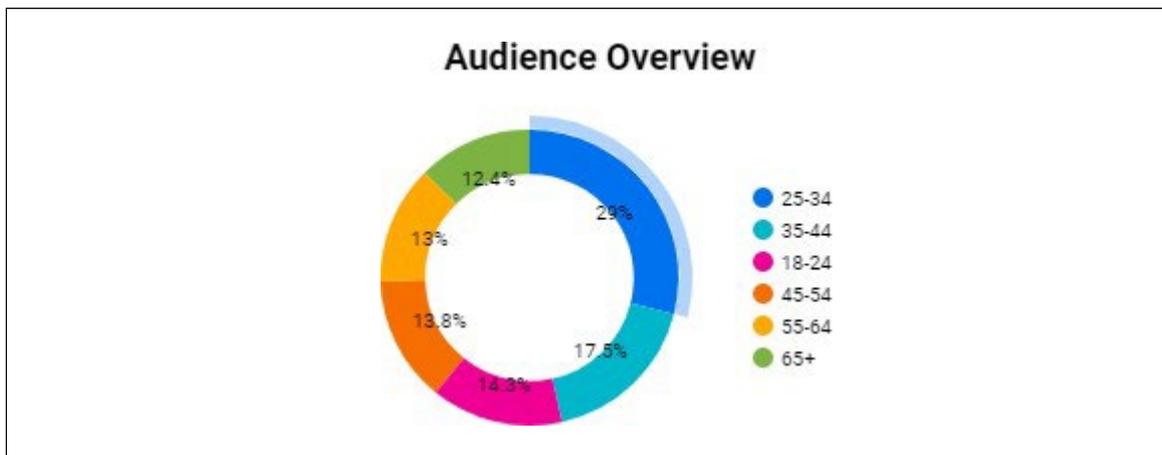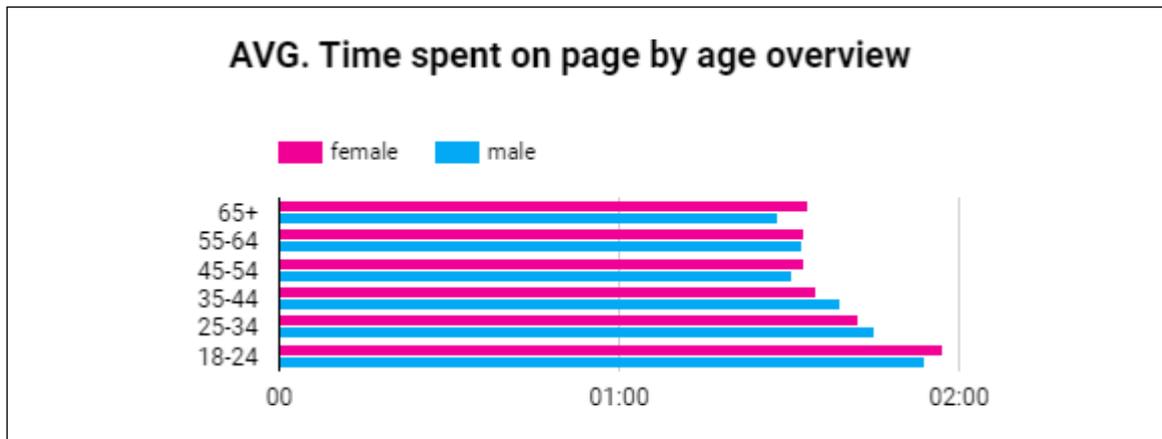
Figure 13. Age demographics and time spent on site statistics for LTO^AU visitor traffic.

The new dashboard metrics together with the feedback from the chatbot is providing LTO^AU with useful data about the demographics of our users and the types of information they are looking to obtain. Such information will be useful in guiding future content development.

Useful information to guide future strategy has also been obtained from a user survey conducted by Curtin University. Completed by both website users and health care professionals, there were more than 500 responses over a six-week period. The major findings are shown in the Appendix of this report but key responses included confirmation of the important role that LTO^AU plays for users in helping them understand their test results; however, we need to continue our efforts to improve the understanding of and access to our content. It is LTO^AU's intention to publish the findings of the survey in a suitable peer-reviewed journal.

5. Difficulties encountered and resolutions

The development of the COVID-19 pandemic shortly after the funding period commenced led to many of our key professionals, whom we rely on for content and reviewing, to be either unavailable or only able to respond with extended deadlines.

No obvious solution was identified to solve this problem and consequently LTO^{AU} was not able to complete all the scheduled activities in the time available. However, at the same time, LTO^{AU} devoted resources to provide extensive information about COVID-19 given its obvious importance.

The LTO^{AU} team will continue to work on those areas where we have not met the performance indicators and it is anticipated most if not all will be completed by the end of August.

6. Conclusion

Over a short and challenging period of six months, significant enhancements have been made to the LTO^{AU} website according to the objectives stated at the commencement of the project. In summary these are:

1. **Objective**: Addition of new and revised test content to the LTO^{AU} website; *Outcome* – Ten new tests including four new MBS items have been added to the website.
2. **Objective**: Enhance existing content through rewriting and adding videos, animation, and graphics to broaden access of information; *Outcome* – Fifteen patient information sheets that are downloadable in digital form by health practitioners have been prepared about commonly requested tests using existing content but written in a way that will be more easily understood by consumers.
3. **Objective**: Develop a Point-of-Care Testing (PoCT) module; *Outcome* – A new point-of care testing (PoCT) section has been added to the website covering all aspects of PoCT that may be of interest to consumers including questions that they might ask PoCT providers.
4. **Objective**: Streamline the user access to the LTO^{AU} content; *Outcome* – The website has a new homepage which, as well as having a much enhanced visual appearance, has several new features including a link to information for My Health Record users and new information about consumers seeking their laboratory results. The new home page also includes an Artificial Intelligence chatbot to assist consumers with their questions about pathology testing.
5. **Objective**: Extending reach through social media and continued engagement with relevant stakeholders' channels; *Outcome* – Social media has been used extensively to solicit feedback on changes to our content and to new material. One survey of our patient information sheets prompted more than 1000 responses.
6. **Objective:** Develop informative metrics on the usage of the LTO^{AU} website to inform the strategic direction of LTO^{AU}; *Outcome* – The new LTO^{AU} dashboard provides a number of informative metrics about site users including location, age group and the time they spend on site. It also shows there has been a 50% increase in site traffic over the funding period.

All of the above contribute to the goal of making the LTO^{AU} website the most comprehensive and up-to-date source of information about pathology testing for the consumer. Aside from content additions the enhancements such as the redesign of the front page and the provision of patient information sheets address the challenge of providing complex information in a way that can be understood by more consumers. This challenge is ongoing and further enhancements will now be better informed through the enhanced metrics dashboard and interactions with consumers through surveys and social media.

7. Acknowledgements

The activities and outcomes described in this report were provided by the Lab Tests Online^{AU} Management Group and comprised of the following people and responsibilities:

- Dr Susan Benson – Chair, Lab Tests Online Australasia

- Chief Medical Editor – Dr Bruce Campbell

- Dr Kevin Carpenter – Chief Executive Officer, Australasian Association of Clinical Biochemists & Laboratory Medicine

- Pamela Robson – Medical Content Writer

- Dr Andrew St John – General Manager

- Julie Sherfan – Content Editor

- Rajeev Chandra – Website and Data Analytics Manager

- Elin Turnbull – Management Assistant

8. Appendix

Online Survey of Lab Tests Online^{AU} Users

Established in 2007, Lab Tests Online^{AU} is the Australian Government-funded online resource helping Australians understand their pathology tests. An online survey of LTO^{AU} users has provided important insights into the value and purpose of the resource.

The survey yielded 857 responses between November 2019 and January 2020. The geographic distribution of the 713 respondents from Australia and New Zealand are shown in Figure 1.

Figure 1: Geographic distribution of survey respondents.
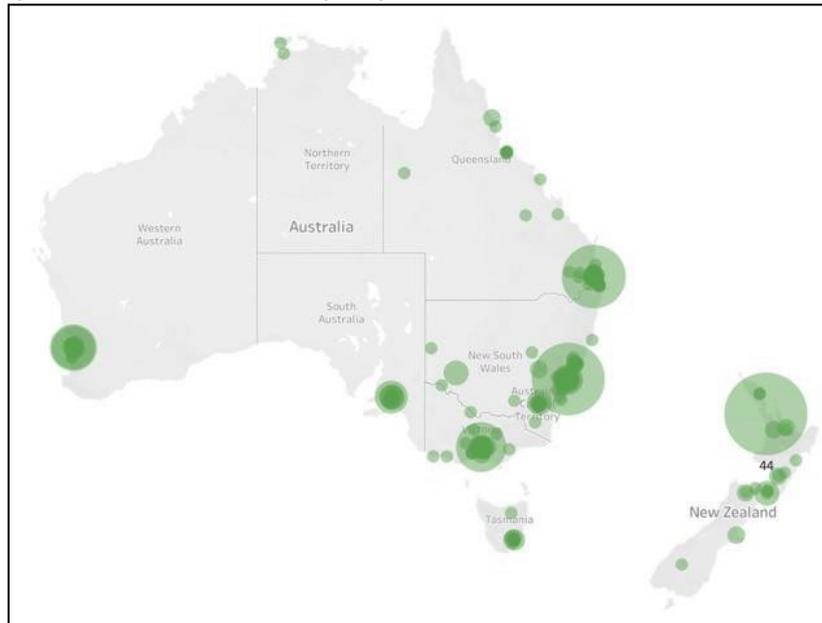
The Australian and New Zealand responses were analysed in detail and showed that 73% identified as health consumers; 18% as healthcare professionals; and 9% as either students or teachers (Table 1).

Table 1. Breakdown of type of survey respondents.

Respondent category	No.	% of respondents
Health consumer	518	73%
Health professional	128	18%
Education: student or teacher	67	9%
Total	713	100%

The age distribution of respondents is shown in Figure 2. The age of health consumers included a greater proportion (24%) in the >= 65-year group than the healthcare and education groups (5 and 1%). Overall, 72% were female, 28% male.
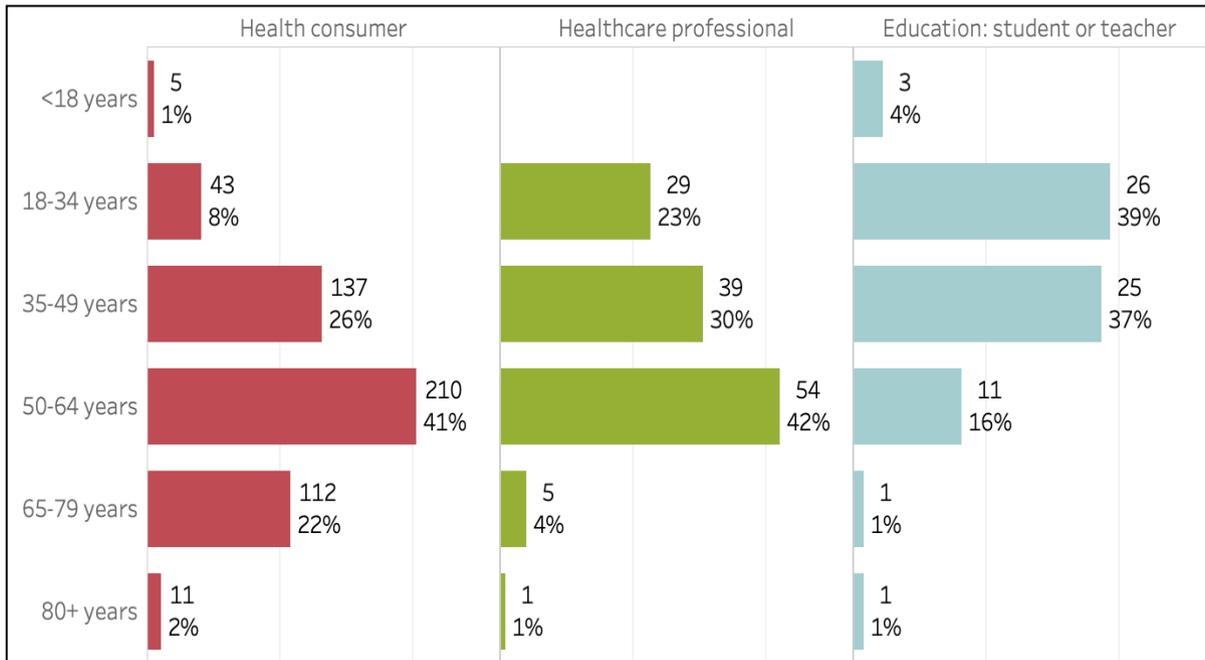
Figure 2: Age distribution.

47% of health consumers were visiting the site for the first time, with 30% having visited the site six or more sites before. This is in contrast to the healthcare and education user groups (66% and 70%) who were more likely to be using LTO^{AU} on an ongoing basis (Figure 3).
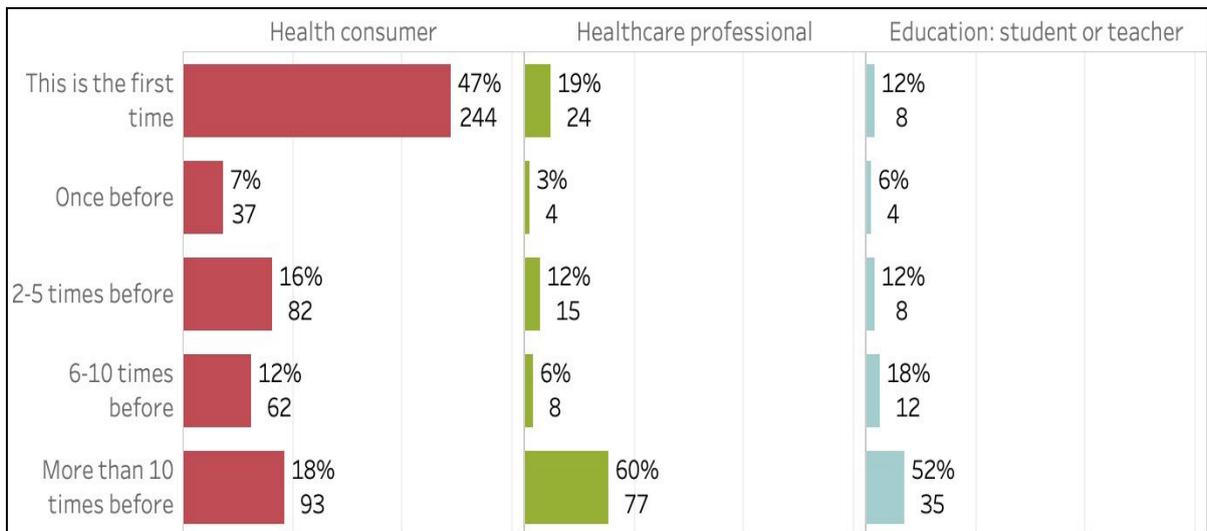

Figure 3: Prior visits to LTO^{AU} by user group.

The following Figures and Table show the responses to other survey questions about content and access to LTO^{AU} as well as pathology results and My Health Record.
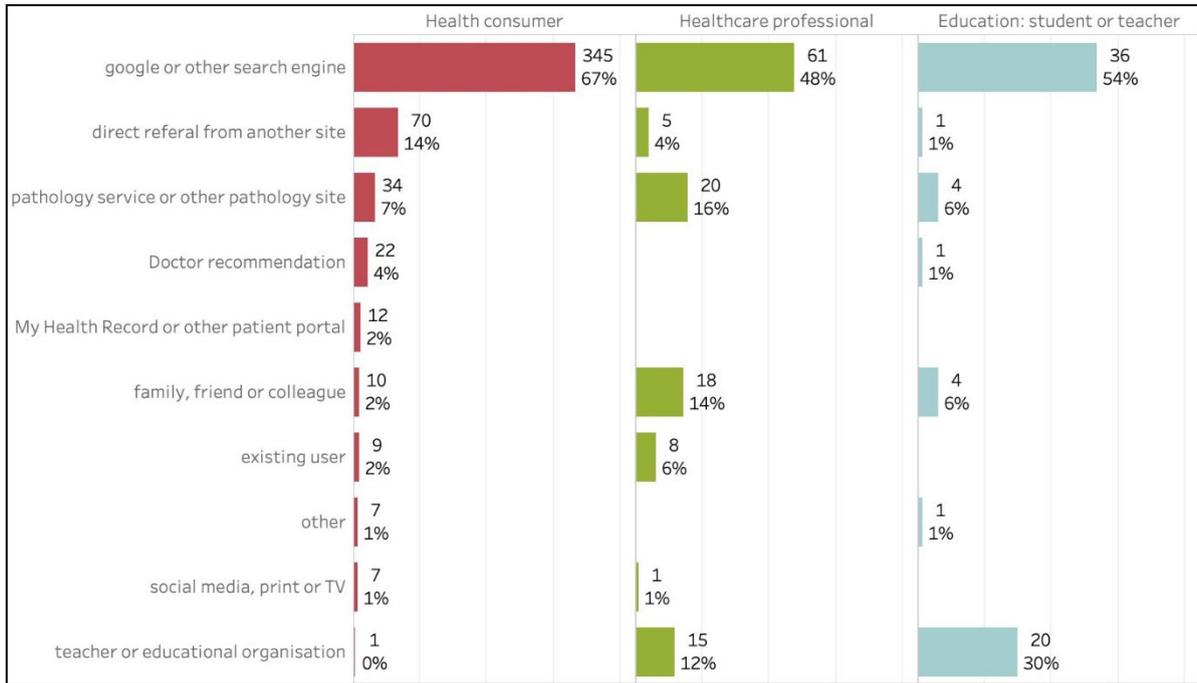
Figure 4: How did you know about LTO^{AU}?
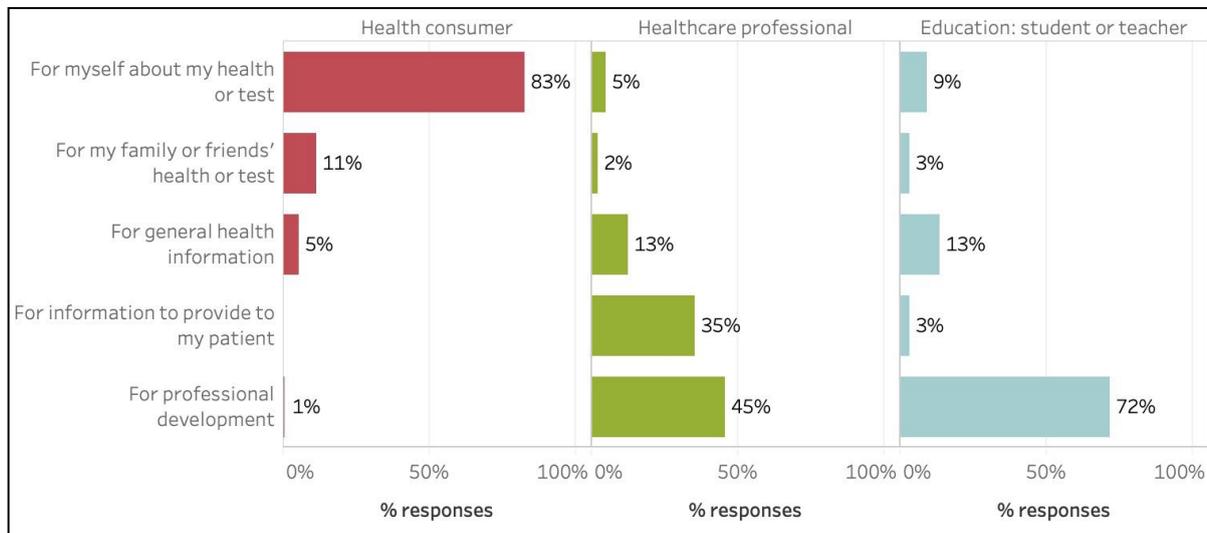
Figure 5: Reason for visiting LTO^{AU}.
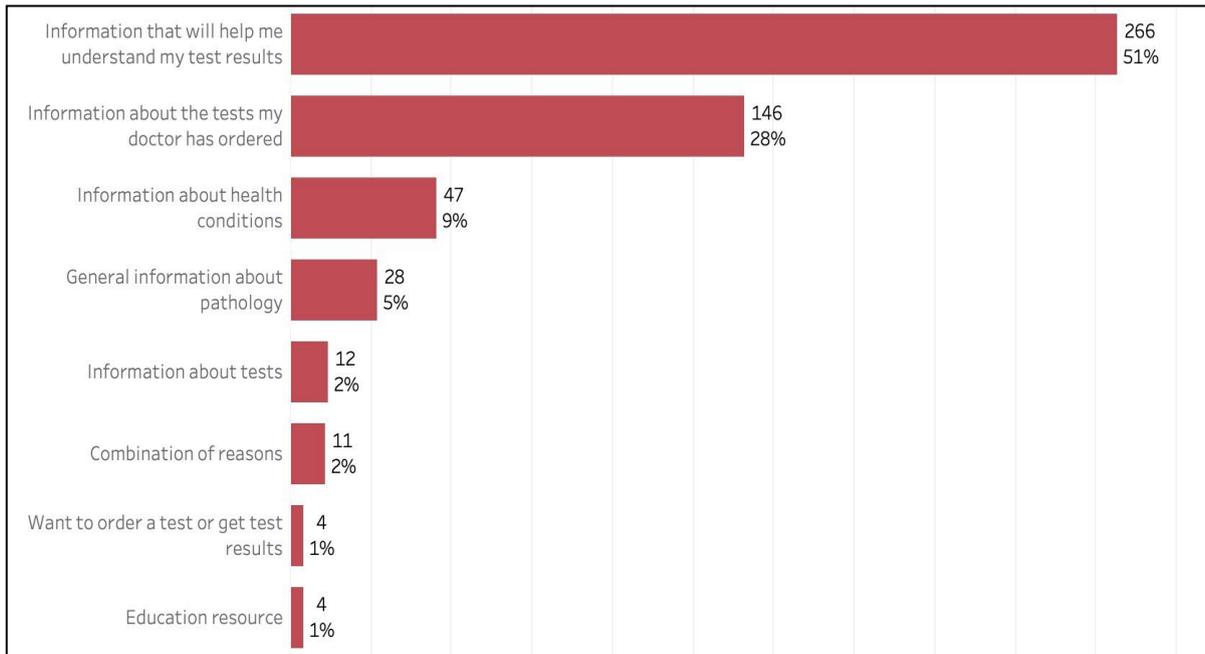
**Figure 6: Information required (health consumers only)**
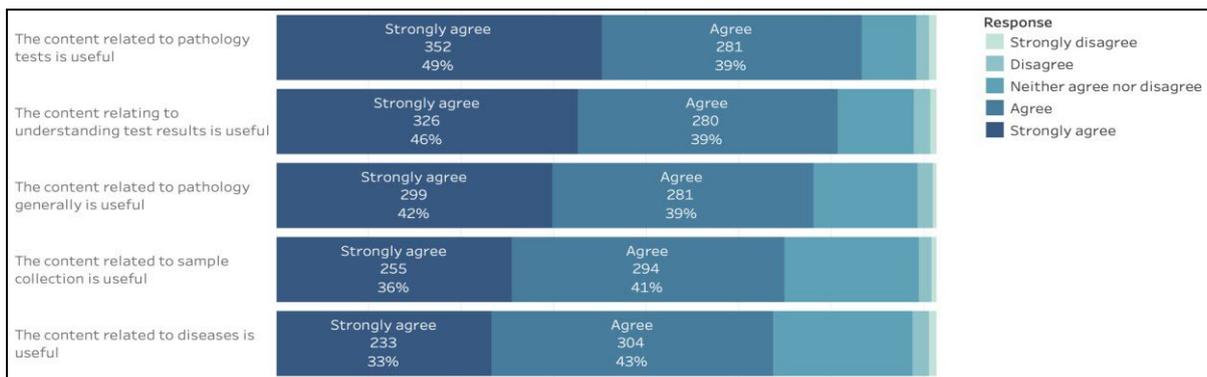
**Figure 7: Feedback on value of different types of information on the site**
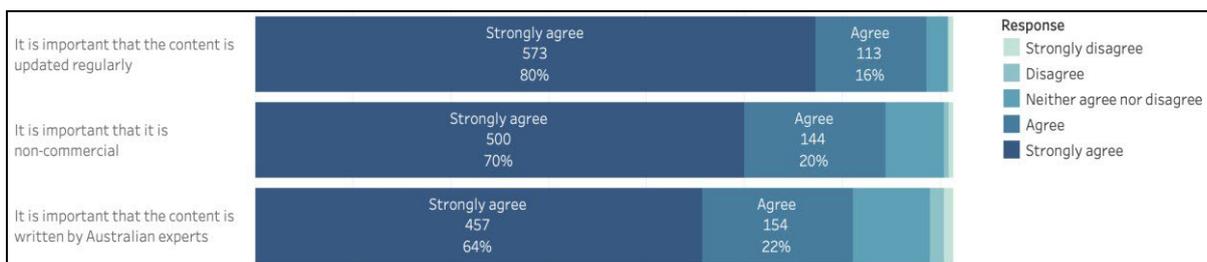
**Figure 8: Most important features to users**
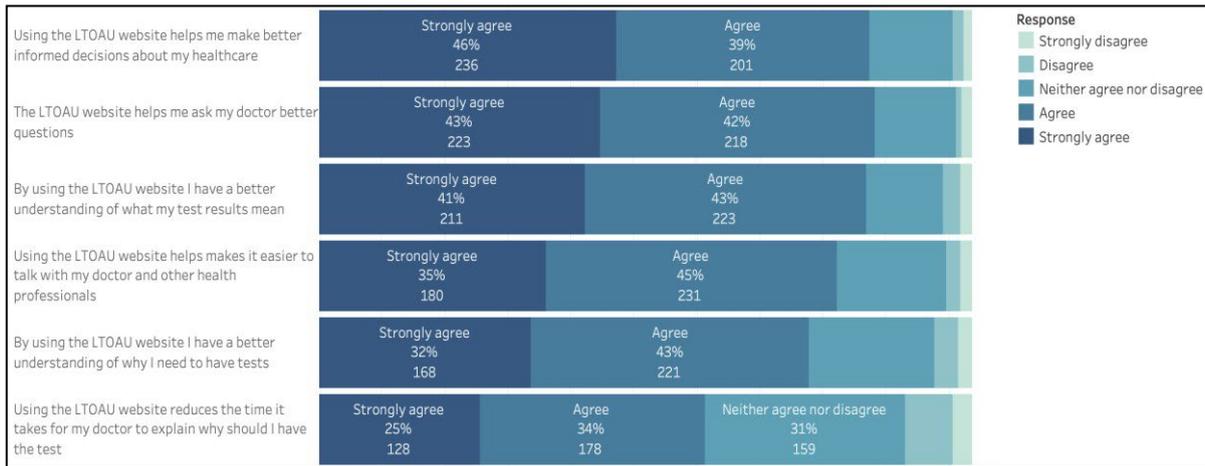
Figure 9: Benefits to users
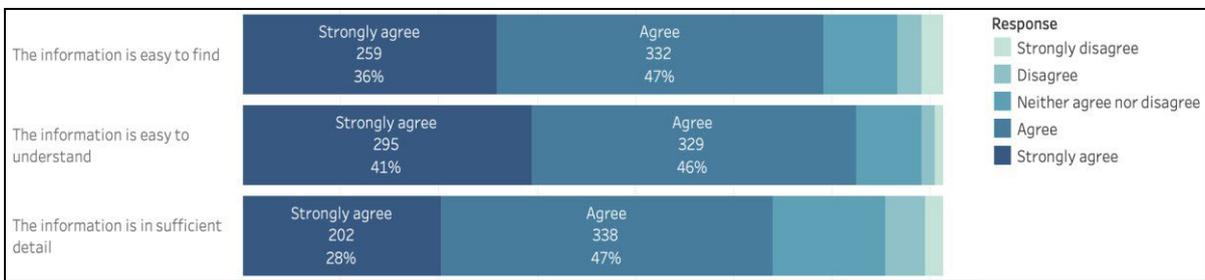
Figure 10: Feedback on ease of use

	No.	%
Yes	352	49%
I don't know if I am registered or not	98	14%
I don't know what My Health Record is	23	3%
No	240	34%
Total	713	100%

**Table 2: Proportion registered for My Health Record (all groups)**
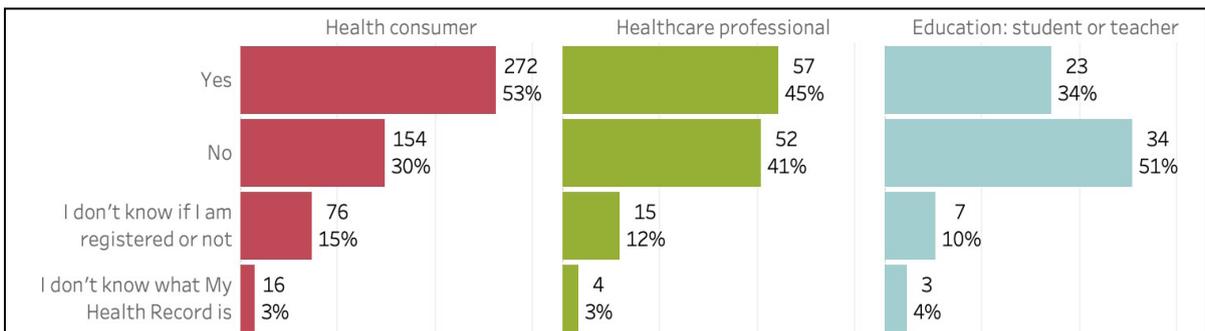
Figure 11: Proportion registered for My Health Record by user group
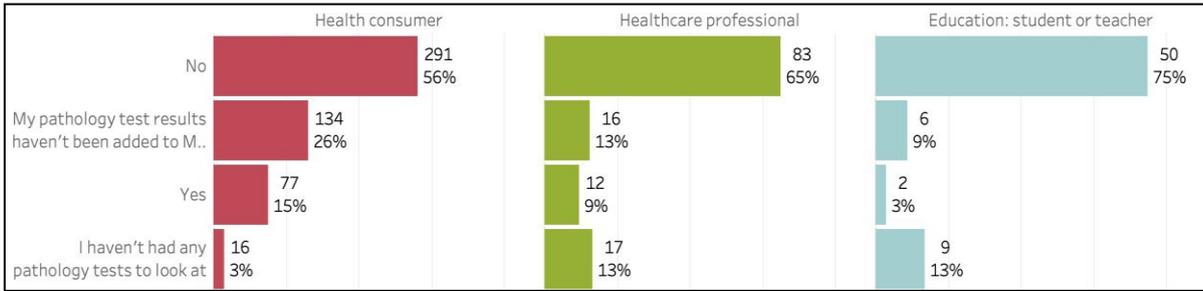
**Figure 12: Proportion who have viewed pathology results in My Health Record**
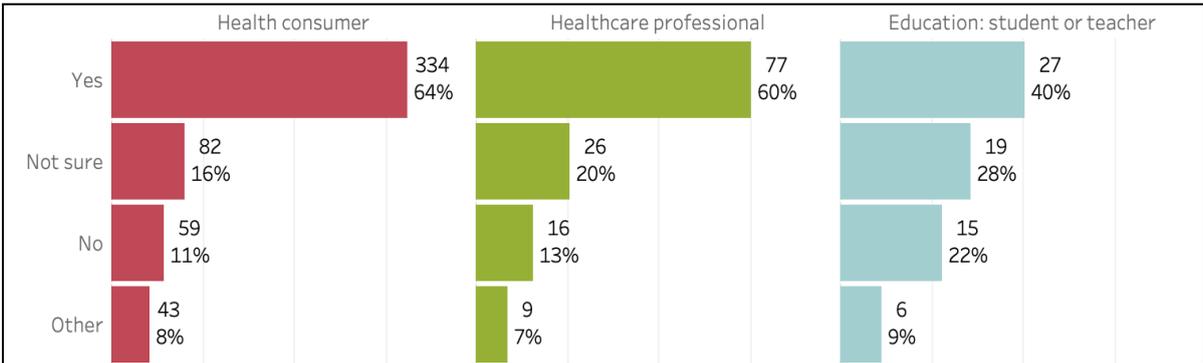
Figure 13: Do you consider it important that your pathology results are available to you in My Health Record?