GOVERNMENT OF WESTERN AUSTRALIA

Sustainable Health Review

Public Submission Cover Sheet

Please complete this sheet and submit with any attachments to the Sustainable Health Review Secretariat

Your Personal Details ***This information will be used only for contacting you in relation to this submission***	
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Publication of Submissions

Please note all Public Submissions will be published unless otherwise selected below

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Submission Guidance

You are encouraged to address the following question:

In the context of the Sustainable Health Review Terms of Reference listed below, what is needed to develop a more sustainable, patient centred health system in WA?

- Leveraging existing investment in Primary, Secondary and Tertiary healthcare, as well as new initiatives to improve patient centred service delivery, pathways and transition;
- The mix of services provided across the system, including gaps in service provision, sub-acute, step-down, community and other out-of-hospital services across WA to deliver care in the most appropriate setting and to maximise health outcomes and value to the public;
- Ways to encourage and drive digital innovation, the use of new technology, research and data to support patient centred care and improved performance;
- Opportunities to drive partnerships across sectors and all levels of government to reduce duplication and to deliver integrated and coordinated care;
- Ways to drive improvements in safety and quality for patients, value and financial sustainability, including cost drivers, allocative and technical efficiencies;
- The key enablers of new efficiencies and change, including, research, productivity, teaching and training, culture, leadership development, procurement and improved performance monitoring;
- Any further opportunities concerning patient centred service delivery and the sustainability of the WA health system.

Sustainability of telemedicine to provide equity of care in patients in rural and remote areas of Western Australia

Background

Delivery of health services in Western Australia (WA), the largest state in Australia, with an area of 2500km^2 can be a challenge, particularly as rural and remote population of WA is scattered in small areas rather than major centres. About 20% of the population reside outside the metropolitan areas. The poor accessibility and lack of adequate medical and nursing resources pose major problems in providing equity of care to patients with chronic liver disease, in particular, viral hepatitis, cirrhosis and complications of liver disease such as decompensated liver disease and cancer.

It is well documented that people living in remote areas have a higher rate of mortality, illness and hospitalisation, a higher rate of risk factors, less access to general practitioners (GPs) and other primary health providers than their counterparts in metropolitan areas (Wakerman et al; 2008). The uneven distribution of health care professionals across the country is partly due to traditional training approaches and funding mechanisms which tend to favour metropolitan areas.

Telemedicine

Telehealth, utilising teleconferencing technology with digital photography capabilities has the capacity of improving rural health services by offering patients the opportunity of accessing health care without having to travel long distances. Indeed, this innovative strategy has been shown to be very successful in implementing state-wide model of care in the management of chronic hepatitis C in Western Australia (Nazareth et al, 2013; Cheng et al, 2015).

Telehealth was established at Royal Perth Hospital in 2006 and has been particularly successful in many areas of chronic diseases such as viral hepatitis, inflammatory bowel disease, Neurological diseases, plastics and Urological pathologies. It requires a network of collaboration and co-ordination of services, both at tertiary centre and remote sites to provide the results of laboratory tests, radiology and other modalities vital to the management of the patients at the time of consultation. Enhanced digital photography has enabled the transmission of detailed images and allowed demonstration of techniques such as self-administration of injections.

Royal Perth Hospital was the first hospital in Australia to establish telehealth clinics (both medical and nurse clinics) for management of patients with chronic hepatitis C. This had evolved as a result of need of innovative strategies to provide care for these patients, many of whom reside in rural and remote areas. Survey of the patients who access care through telehealth for hepatitis C provides evidence to support its use in rural and remote areas with a large proportion showing great satisfaction with the program. Most of these patients did not require to attend face to face clinics through 6 to 12 months of treatment associated with significant side effects and toxicity which required frequent and careful monitoring.

Telemedicine has also been used successfully in other programs around the world, including the renowned ECHO program at the University of New Mexico. In this program regular teleconferencing occurred between specialists and primary care physicians in managing patients with chronic hepatitis C (Arora et al, 2011). This has enabled large number of patients in 21 ECHO sites with 407

patients with chronic hepatitis C to be treated without patients having to travel to consult with specialists. Liverpool Hospital in New South Wales is modelling on ECHO program for management of chronic hepatitis C.

Advantages of telemedicine at Royal Perth Hospital

- Telehealth program has been established for many years and successfully implemented in several areas of medicine
- It offers a convenient and effective method of providing access of health care to patients in rural and remote areas
- Patient satisfaction has been demonstrated by survey conducted on patients with chronic hepatitis C, a sensitive diagnosis, indicating their trust in the program in maintaining confidentiality
- Telehealth offers patients the opportunity to receive health care near their home which would mean that they do not need to travel long distances, saving them time and money, as well as reducing the need to take time off work
- Telehealth is very likely to reduce cost to the health system and work place, not just in supplemented travel expenses but time taken from work, in particular, days required for travel from distant and remote places. The economic saving cannot be underestimated.

Telehealth in the Liver Service

The telehealth Liver Service encompasses a wide range of liver diseases, including viral hepatitis (hepatitis B and C), alcoholic liver disease and other liver diseases and complications of liver diseases

Viral hepatitis

There are about 230,000 people in Australia living with Hepatitis C and about 20,000 in Western Australia. With the rapidly evolution of new drug therapy, it is now possible to cure hepatitis C in about 95% of the cases.

In 2006, interferon-based therapy was the only available treatment available for patients. This was associated with significant toxicity, some of which were unpredictable and severe. These patients required frequent and vigilant monitoring. Suitable referrals were directed to telehealth clinics for consultation and subsequent initiation of treatment and monitoring by Nurse Practitioner using telehealth. In the interferon era, demonstration of injection technique was possible through digital technology. Monitoring and regular blood tests were co-ordinated via Nurse Practitioner clinics. At Royal Perth Hospital, over a 4 year period between 2006 and 2010, 50 patients were treated using telehealth and participated in over 500 telehealth sessions. The cure rate of patients with hepatitis C using telehealth has also been shown to be similar to those patients in the metropolitan areas treated in face to face clinics (Nazareth et al, 2013).

With rapid advancement in the treatment of hepatitis C in the era of direct acting antiviral (DAA) agents and remote consultation referral program and GP prescribing with specialist support, our attention is now directed towards management of hepatitis C patients with complications of liver disease such as cirrhosis and liver cancer. This requires more refined and long-term consistent monitoring as early detection of liver cancer has been shown to improve survival. With the establishment of liver cancer data-base, imaging such as CAT scan done at major rural centres can be transmitted and discussed at our fortnightly Multidisciplinary liver cancer team meetings. Patients are consulted with on telehealth and subsequent management is planned.

Chronic Hepatitis B which is prevalent in the remote and rural areas, particularly in migrants, now form a large proportion of patients seen in telehealth clinics. Investigations are being co-ordinated through ***PathWest*** laboratories and regional Radiology firms with results directly available on ***isoft***, an electronic patient record system for results of investigations.

Abnormal liver tests and cirrhosis

Patients for investigations of abnormal liver test and management of cirrhosis can be done successfully on telehealth. Only infrequently these patients need to have more extensive and more specialised investigations in tertiary centres. These can be co-ordinated through telehealth to minimise time away from home or work. Cirrhosis can lead to liver failure and cancer. Early diagnosis is critical for better patient outcomes. Telehealth offers an ideal strategy to monitor these patients. This is particularly important in smaller centres where GPs are transient and the lack of adequate or regular monitoring can have devastating effects without the use of telehealth.

Patients who have been recently discharged from hospital following complications of liver disease can also be monitored successfully through telehealth.

Current status of telehealth for the Liver Service

Although telehealth program is well established at Royal Perth Hospital, the lack of sustainable funding has posed a threat to the continuation of this program which has been demonstrated as a very effective way in providing equity of care in those living in rural and remote areas. There is uncertainty as to the future of both continuation of the program and ability to expand the program to cater for other regions and medical disciplines.

From July 2016 to June 2017, there were 221 telehealth liver clinic sessions managing patients with liver disease. With the success in telehealth program in liver disease, telehealth clinics have recently been established in General Gastroenterology, predominantly managing patients with inflammatory bowel disease and in the same period there were 97 Gastroenterology telehealth sessions. Thus, within the department of Gastroenterology and Hepatology alone, there was a total of 318 telehealth clinic sessions were in the 12 month period, alleviating the need for these patients to come to face to face clinics at the tertiary centre.

Summary

Telehealth has been demonstrated to be a successful and effective method for providing health care to those living in rural and remote areas in several medical disciplines. The establishment and administration of the program requires co-ordination and collaboration between tertiary and regional centres and involve a network of skilled professionals and resources. Without sustainable resources, the future of this innovative and successful program in Western Australia, remains uncertain. The application of telemedicine has been shown to work in other countries and in many areas of medicine. There is a great need for such a program to continue and progress in an attempt to provide equity of health care to those disadvantaged by distance. These patients can also be assured of best practice using evidence-based medicine in the rapidly advancing era in medicine.

References:

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