

Telepresence Robots in Healthcare

With Specific Reference to Aubot's Teleport

Applications Within Healthcare:

- Elder Care
- Palliative Care
- Remote Consultation
- Remote Training
- Disability Care
- Etc.



Elder Care

Australia has seen in recent years a trend towards an aging population, with seniors over the age of sixty-four continuously making up a greater proportion of the population in every state and mainland territory. This means an increase in the required level of elder care services, while the proportion of the population that can serve as carers is shrinking. By necessity the industry must therefore become more efficient, with the carers being able to reach a greater number of clients in a shorter period of time. With Teleport they can do just that, checking in on patients living at home without the need to travel, cutting down on the time and cost of visitations, and still with a level of personal connection that far exceeds a phone or video call.

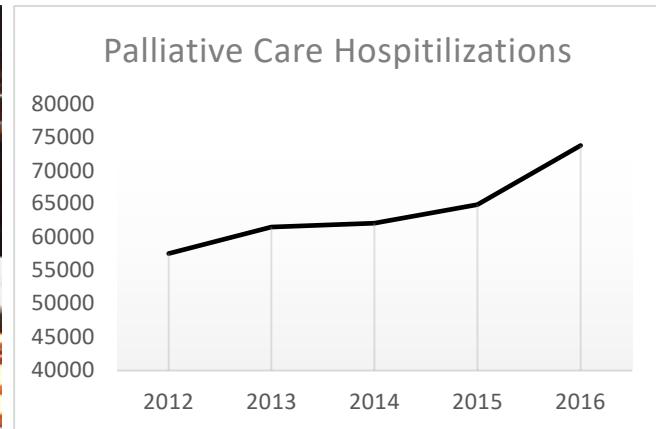
	2012	2015	2017	CAGR
Proportion of Population over 64 (%)	14.14	14.88	15.47	1.51%
Count of Population over 64 (No.)	3,213,683	3,554,125	3,790,791	2.79%

Situation: (Insert Fake Old Person Name Here) is not answering the phone, there is no way to know if he/she has been injured in a fall, or is just taking a nap, without going out there to check in. Time could be of the essence if they are injured. However, it could take a good deal of time to go check in person. Now with Teleport you can check in from wherever you are and make sure (Insert Fake Old Person Name Here) is alright.

Palliative Care

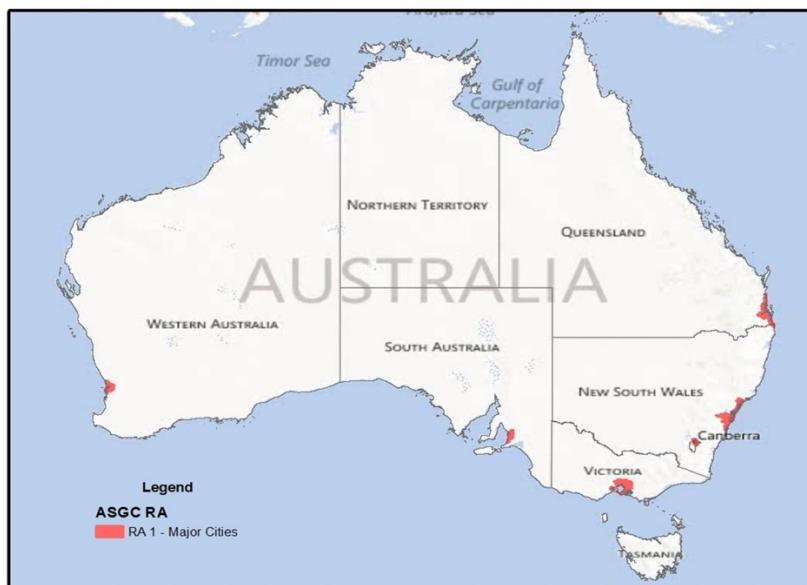
An increase in the age of the population also results in an ensuing increased palliative care need and provision. Hospitalizations for palliative care have been increasing, so now over half of admitted patients dying in hospital were receiving palliative care. Additionally, with

palliative care offered in the home, it is necessary to have a high level of access to the patient no matter their environment. Often a difficult time for both the patient and their family, Teleport offers a high level of interaction, be it at home or in the hospital, regardless of geographic separation, providing a deal of comfort to the patient and their family members.



Remote Consultation

The remoteness of Australia makes consultation difficult, as physical travel can be time consuming and expensive. When GP's and their patients must consult with a specialist in an urban center, it is often necessary to communicate via telephone or email. Not only is this not the most efficient form of consultation, but it is more likely to lead to miscommunication. Being able to project the GP into the urban hospital (or vice-versa) for a discussion via Teleport leads to a more collaborative work environment, one in which the patient is most likely to receive the best possible outcome.



Telehealth Eligibility Outside of the Red Areas

It is especially important to have as much health engagement in rural and remote areas as possible, as chronic conditions and health risks are often more prevalent in such areas. These include asthma, osteoarthritis, diabetes, daily smoking, alcohol risk, and obesity. Such problems are likely to lead to complications in health, which can be seen in the drastically higher numbers of potentially avoidable deaths in remote and very remote areas. The greater level of engagement from doctors, both local and geographically distant, the easier it will be to manage these conditions and improve the health of regional and remote communities.

Remote Training

Another aspect essential to the medical field, but is made difficult due to the geographic remoteness of Australia, is continuous training. It is costly and time-consuming to bring doctors from more regional areas in for such training, and many typical methods of remote information dissemination such as a webcast or conference call are greatly lacking in engagement. Having these practitioners Teleport in can greatly increase engagement as they could be a part of the training, rather than just a spectator to it.

It is especially important for regional and remote doctors to be receiving such training, as the supply of doctors per head of population, and particularly specialists, is up to about 4.5x less in these areas, and so they are forced to face a wider array of complications without the same level of support as their urban peers. Preparing them for this means continuous training in the most engaging fashion possible. As with remote consultation, the engagement and care of this fashion is the best way to improve the overall health of regional and remote communities.

Disability Care

It has been estimated that approximately one fifth of the Australian population experiences some form of disability, with almost a third of that, or 1.4 million people, suffering from a severe or profound disability. With the health complications that can accompany a number of disabilities, it can often be important to keep a relatively close eye on those suffering from such disabilities. Particularly as the prevalence of disability increases with age, there are then additional reasons to be monitoring the health of the individual.

The number of disabled individuals leans heavily upon physical disabilities, with about 83.9% of the disabled population having a physical disability. In many cases, this can greatly reduce the freedom these individuals have. Teleport can assist greatly in returning freedom to the individual, as it offers mobility without physically having to travel, and can also be used with a variety of control tools, including a joystick, chin control, and head tracking control.



Sources

Australian Network for Disability. (n.d.). *Disability Statistics*. [online] Available at: <https://www.and.org.au/pages/disability-statistics.html> [Accessed 24 Jan. 2019].

Australian Bureau of Statistics. (18 October 2016). *Disability, Ageing and Carers, Australia: Summary of Findings, 2015*. [online] Available at: <https://www.abs.gov.au/ausstats/abs@.nsf/0/C258C88A7AA5A87ECA2568A9001393E8?Open document> [Accessed 25 Jan. 2019]

Australian Bureau of Statistics. (n.d.). *Data By Region*. [online] Available at: <https://itt.abs.gov.au/itt/r.jsp?databyregion> [Accessed 24 Jan. 2019]

University of Queensland. (n.d.). *Telehealth substitution of rural outreach services: an economic analysis*. [online] Available at: <http://www.ruralhealth.org.au/14nrhc/sites/default/files/Caffery%20Liam%20PPTs%20A2.pdf> [Accessed 25 Jan. 2019]