

Teledermatology improves patient access to specialist care in New Zealand

Teledermatology is the use of a cell phone or computer to provide dermatologic services. A patient or his or her healthcare provider can receive advice on the diagnosis and management of their skin condition while never seeing the dermatologist in person.

Like many areas of the world, there is limited access to dermatologists in New Zealand, where 4.5 million people access health care through a mix of public and private services. The ideal dermatologist to patient ratio is 1 to 50,000, whereas New Zealand's public health service has a ratio of around 1 to 250,000. The routine wait time to see a dermatologist for an initial appointment is four months. Access is rationed to those with greatest need during an acute crisis or suffering from uncontrolled chronic skin disease.

There are also often long delays to see a dermatologist in the private sector. Access is limited to patients that can afford expensive fees or have private insurance. About 15% of the population live more than 80 km from a dermatologists, necessitating several hours of travel for an appointment. Consequently, the majority of dermatologic care is undertaken by local General Practitioners (GPs), who have limited training in the specialty.

Waikato Teledermatology (WT) was created to improve access to dermatologists. WT is a low-cost, secure, website-based, store-and-forward teledermatology network using the Collegium Telemedicus platform. It is important that a secure system is used in order to protect a patient's privacy. The referring clinician completes a referral form, takes clinical photographs of their patient, and uploads these to the website. The system messages the on-call dermatologist, who logs on to WT and responds to the inquiry by providing diagnosis and management advice.

Number of GPs submitting cases	31
Number of cases	266
Number of messages	1322
Number of images	933
Number of emails	2507
Median number of messages per case	5
Patient age range	6 weeks - 92 years
Patient gender (%). Female: Male	57:43

GP: General Practitioner

Tab. 1. Data collected about Waikato Teledermatology in its first 12 months of operation

We measured the usability and quality of WT consultations during the first twelve months of operation. WT was used by 31 referring GPs for 306 consultations with four dermatologists. Dermatologists responded to the referring doctors' requests in approximately two hours. Just over half of the consults were for tumours and the others were for rashes such as eczema. With the help of images taken using dermatoscopic devices that magnify and reveal structures under the skin surface, nine melanomas and three basal cell cancers were identified. Early detection of skin cancer improves a patient's outcome, especially as melanomas can be deadly if found too late. By providing prompt and accurate clinical diagnosis, teledermatology can also reduce the unnecessary surgical removal of harmless spots.



Marius Rademaker and Amanda Oakley.

Referring clinicians were surveyed. They reported multiple benefits, including markedly decreased delay to specialist advice, improved accuracy of diagnosis and treatment compared to that made without specialist input, decreased unnecessary procedures such as biopsies of undiagnosed conditions, and increased appropriate referrals for face-to-face assessment. These lead to cost savings for the patient and the health care system. They also found the rapid responses educational.

GPs often ask advice via letter, telephone or email. WT provides an alternative inexpensive, secure, and reliable way for them to access advice from a dermatologist.

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Publication

[Waikato Teledermatology: a pilot project for improving access in New Zealand.](#)

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J Telemed Telecare. 2015 Oct