A project to develop a telehealth model of care for people with diabetes in Far North Queensland

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Introduction

Globally, type 2 diabetes is increasing and is now considered to be reaching epidemic proportions.¹ The Australian Indigenous population however, faces a greater burden of disease because of their increased predisposition to acquire diabetes both throughout life and at an earlier age.² The prevalence of diabetes in Aboriginal and Torres Strait Islander people, has been reported to be as much as five to ten times greater than that of non-Indigenous Australians, and further, higher rates are seen among Indigenous Australians living in remote areas as opposed to those living in non-remote areas.²,³

Specialist multidisciplinary services delivered in the Chronic Disease Model of Care which supports self management of diabetes and the Primary Care Team are known to improve patient outcomes and reduce the need for hospital admissions. Unfortunately, access to these services for rural and remote residents of Queensland are severely limited, and in many instances require journeys of several days, travelling over hundreds of kilometres.

Clients living on Cape York, the Northern Peninsula Area and Torres Strait Islands are disadvantaged both geographically and socio-economically⁴. Cape York has an Indigenous Australian population of 6,016 (65.6% of the total population),⁴ while the Northern Peninsula Area and Torres Strait Islands have an Indigenous Australian population of 7,883 (80.4% of the total population).⁴ This equates to an Indigenous Australian population of 15.3% in Far North Queensland as opposed to a national average of 2.5%.⁴

In these areas, primary care is delivered by The Royal Flying Doctor Service, Apunipima Aboriginal Medical Health Council and Queensland Health. Both the Royal Flying Doctor Service and Apunipima Aboriginal Medical Health Council operate on a “fly in/fly out” basis, providing primary health care on a weekly or monthly cycle. This service delivery model creates many barriers for effective video conference (telehealth) communication because the teams are only available for a limited time, the demands made upon the teams are high and there is often little opportunity to influence the clinic appointment schedules.

Telehealth is the use of technology to deliver health services and includes the use of telephones and email as well as video-linked and web-based services. Telehealth provides an alternative to but does not replace, in-person consultations, and at the Diabetes Centre, is used to support, and not replace our current service provision which includes medical, diabetes in pregnancy, gestational, paediatric and high risk foot reviews.

Aim

The aim of this project was to introduce, regularly assess and improve a telehealth diabetes service to this region. Part of this process included identifying barriers to success and strategies to overcome these barriers.

Method

When this project commenced, it was assumed that the implementation of an evidenced based system of care and service delivery, would achieve the project aim. However, it became apparent that each service would require modification to meet local need as influenced by location, ethnicity and attitude of the local service providers, whilst simultaneously meeting the cultural and perceived health needs of the local population.
The majority of our consultations involve the diabetes management of Indigenous Australians, and it was the barriers identified by this group which has essentially shaped our service delivery.

In July 2009, a Service Level Agreement became effective for the development of a model of care for telehealth consultations with medical teams in the Torres, Cape and Cairns and hinterland districts for people with diabetes. It was anticipated that the timely management of diabetes complications would reduce the length of hospital stay and reduce the need for transfers to Cairns Base Hospital.

Telehealth consultations were initiated by receipt of an appropriate referral. An e-appointment is then sent to key members of the client’s primary care team, detailing the appointment and attaching the Queensland Health Telehealth Consent Form, Queensland Health Patient Information Pamphlet and any other information or requests pertinent to the consultation.

During the consultation, and depending upon the purpose of the consultation, relevant investigations, pathology results and digital imagery are shared via the video screen, with the client, their family and carers and members of the primary care team also present. This allows for greater understanding by the client and family, education for the primary care team and encourages the adoption of a multi-disciplinary team approach.

Following the consultation, a clinical letter is provided and sent electronically to the client’s general practitioner, diabetes educator or client electronic record system. This information may be sent instead via facsimile if a secure email address is not available. In accordance with Queensland Health, all details of the telehealth consultation is recorded in the client’s medical notes – date and type of consultation, start and concluding time of the consultation, names and roles of all participants and details of provider and recipient sites.

Results

In the first year of the project, fifteen patients received diabetes management via video-linked consultations. The second year saw this figure increased to forty-five. In the third year we achieved 263 and last year we supported 365 video-linked consultations—95% of which were for Indigenous Australians in our remote communities. The project is now in its 5th year and statistics continue to grow as the service is gradually being more accepted and utilised.

Traditional barriers are those associated with a lack of time, funding and technical skills, equipment and infrastructure difficulties and the clinician’s personal preference. As these barriers were overcome, it became quickly evident that the key to successful telehealth was the ability to link directly with the client’s primary care team. In order to achieve this each community had to be profiled with regard to socio-economic index, primary care provision and structure of the primary health care centre or hospital.

As anticipated, it became apparent that there were also barriers which we, as the provider, were required to meet.

Barriers to service provision were:

• the consultation needed to be scheduled to coincide with the primary care team’s presence at the remote Health Centre

• all relative processes and procedures had to be implemented by the provider site

• the service had to be available, potentially, with little notice

• a key member of the team able to liaise between client, primary health centre and primary care team required prior identification.
Slowly, telehealth consultations became accepted as common practice, and, just as slowly other barriers became apparent.

Barriers identified by recipients were:

- Historically, video conference units were installed to provide administration and education support only, a situation evidenced by inappropriate and often inaccessible units, located in conference, education or staff rest rooms.

- This situation is further compounded by the fact that prior local consultation with the community or community elders failed to occur meaning that the presence of video conference units and the ability to participate in video consultations, was not, and still often is not, actively promoted.

- Many Indigenous Australians experience discomfort at seeing their image on the video unit screen, and primary care staff often lack the training to remove the image once the camera angle has been set.

- Whilst many Indigenous Australians welcome the opportunity of having their family, carers and/or primary care team present at their consultation, it cannot be assumed that everybody welcomes this presence. All participants in a video consultation should be at the consent or invitation of the client.

- It must be acknowledged that English is not necessarily the first spoken language of many Indigenous Australians, and some do not speak it at all.

- To ensure that the client’s rights and cultural sensitivities are respected, it is essential that their health worker fully engage their client, liaise between all the video consultation partners and advocate on their behalf.

- It cannot be assumed that all Indigenous Australians wish to engage with a specialist or consultant via video conference.

**Discussion**

Whilst it is acknowledged that face to face consultations are the gold standard, it cannot be assumed that all consultations provided this way meet that standard for every patient. However, when all transmitting, quality, clinical criteria etc. are met, the ability to engage the client over the screen, share their results, x-rays, photos and together discuss the implication of proposed treatments – video must make for an acceptable silver standard.

Telehealth consultations also, provide the opportunity to engage the client, their family and/or carers, the primary care team and the specialist all at the same time, and in this respect, can be considered superior to the majority of face to face consultations. They save the client time, money and inconvenience, and, by effectively liaising with the client’s primary care team, and more significantly, with the client’s health worker, telehealth has the capacity to acknowledge traditional and cultural values.

However, for telehealth to progress as a service, it is essential that relevant and culturally appropriate training be readily available to ensure that all Australians are treated equitably and with respect.

**Conclusion and policy recommendation**

This service is constantly improving and evolving. Based on our experience further commitment is required for this service development. Success depends on administrative and practical support via a full time telehealth coordinator at the site providing the specialty service. In addition, a health worker or other staff member who is appropriately trained with the capacity to incorporate this telehealth role within their current designation is required at every community.
References


