



Videophone Delivery of Medication Management in Community Nursing

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Aim of the trial

This trial was a pilot project to assess the feasibility of delivering medication management via a Videophone link from the South Australian Royal District Nursing Service (RDNS) Contact Centre to client's homes.

In particular, we wanted to assess these factors:

- Client suitability
- Safety
- Effectiveness
- Costs

Background to the Trial

The Royal District Nursing Service:

- Covers the metropolitan Adelaide area
- Sees over 5,700 clients a month and delivers over 520,000 in home nursing services a year
- Provides nursing care, home support services, home allied health services
- Operates a 24 by 7 Contact Centre

Why we did this trial

There is an urgent need for innovation in community nursing due to:

- Serving an aging population with a high burden of chronic disease
- Elderly people wish to stay in their own home as long as possible, and the health system wants to keep them there.
- The need to make the most efficient and effective use of the existing nursing workforce

**New technologies + new nursing methods
= innovative service delivery**

Home and desktop installation of videophones is now possible due to:

- Widespread availability of broadband
- New technology: clear picture and sound over lower bandwidth
- Development of the videophone exchange
- Easy to transport and install
- Easy to use: works like a normal telephone



Some Technical Matters

- Custom built videophone exchange
- Triple redundancy; servers hosted in three independent locations
- Wherever possible, ADSL 2+ installed at clients' homes
- Videophones can be configured to operate at slower speeds where necessary eg over satellite
- Since the trial was conducted, operation over the mobile data service has also commenced

Client enrolment

Oral medication management selected as the target group:

1. District Nurse assistance obtained in selection process
2. Home Assessment by Clinical Manager and Dr Tori Wade
3. Mini Mental State Assessment
4. Their GP was also informed and consented to having medication delivered in this way
5. Installation of a broadband data link to the home, followed by Videophone connection
6. The Call Centre nurses developed an individual protocol and Care Plan for each client

Client Suitability

- MMSE score 21+ (mild dementia)
- MMSE score would reduce risks
- History of medication adherence with home nursing attendance
- Daily or twice daily visit requirements
- No locked box required
- Speaks and reads English
- Informed consent possible
- Able to locate and use the videophone
- Able to use a Webster pack independantly



Outcomes 1: Service Delivery and Satisfaction

- 14 clients assessed and 9 recruited into the trial
- 1077 Virtual Visits conducted; service delivery ranged from 5 weeks to 18 weeks
- Clients reported satisfied to very satisfied
- RDNS Contact Centre nurse interviews showed positive responses to delivering virtual visits
- Other health issues of clients were able to be assessed and managed via videophone

Outcomes 2: Safety

- No medication errors or mishaps
- Videophone exchange very reliable; no downtime
- Home Videophones had some disconnections due to household power failure, clients pulling the plug, router failure or telephone disconnections

Summary Point:

Medication Management by Videophone should be part of an integrated service that can also deliver home visits as a back up.

Outcomes 3: Cost-Effectiveness

- A medication management service by Videocall took on average 9 minutes, compared to 19 minutes by drive around home visit
- The cost of the Videocall visit under the conditions of this trial was approx. 60% of the cost of an equivalent drive around visit
- Cost-effectiveness of virtual visits increases with the length of service delivered

Trial Outcomes 4: Comparability and Equity of Service Delivery

- Medication management was delivered to same high standard as face to face. Specific nursing protocols were developed for virtual visits.
- Face to face delivery allows more observation of the general home environment
- Videophone delivery allowed more continuity on weekends and public holidays
- Videophone delivery allowed timing of medication management to be tailored to suit the clients

Future Possibilities in Community Nursing

- Expansion of medication management services. Significant numbers of clients currently on RDNS books would be suitable for a Videophone service. New clients could be assessed on referral.
- Extension to other client groups, such as palliative care and mental health
- Inclusion of home Videophone monitoring to community aged care packages
- Use of Videophones in care of the elderly in the community for hospital avoidance

Other Current Users of the Videophone Network in SA

- 9 Aboriginal Health Services in rural and remote SA
- Aboriginal Health Council of SA
- Aged Care Facilities and General Practices in Western Adelaide
- Womens and Childrens Hospital, Wakefield Emergency Centre
- Adelaide Plastic Surgery Associates
- Integrated Cardiovascular Clinical network (ICCnet)
- MindsPlus psychology services

The sky is the limit



The more people in the health care system that are connected by Videophone, the more useful they will be.