Teledentistry Downunder: opportunities and challenges

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IFA- “International Initiative on Ageing”
4- 6 October 2013 Istanbul
Face-to-face patient examinations are regarded as the most accurate method for correct oral health diagnosis. However, members of specific groups of the community are less likely to have access to a dentist. For example, the elderly (homebound or living in nursing homes).
Background

Information from the Australian state of Victoria indicates that:

• 11% percent of residents have seen a dentist in the past 12 months,

• few dentists are available to provide dental care for residents of aged care facilities

• half of Victoria’s dentists reported providing care to residents of RACFs, and

• These spent on average only one hour per month providing care in this setting.
Background

ICT provides opportunities to supplement traditional methods of oral diagnosis, delivery care and health promotion.
Objectives

To assess the feasibility of using teledentistry to screen for oral diseases and conditions and to develop treatment plans for older people living in Residential Aged Care Facilities (RACF).
Objectives

To evaluate the concordance between distance assessments (teledentistry) and face-to-face dental examinations.

To identify barriers to the implementation of this approach

- Patients
- Nurses
Methods

- Three nursing homes in Victoria
  - Two metropolitan
  - One rural.
- Five registered nurses.
- Fifty RACF’s residents.
Methods

• Registered nurses were trained to manipulate an intra-oral camera and use ICT infrastructure to send the information for remote examinations.

• Training involved three hours of direct contact, a 66-page training manual with contents organized in 5 modules, and up to 10 hours of practice examinations.

• Registered nurses performed a ‘virtual dental examination’ on a group of residents.
Methods

• The information obtained from this examination was transmitted to a server for review of the ‘virtual dental examination’.

• Information was registered on a conventional chart for the generation of treatment plans by qualified clinicians at the Melbourne Dental School, University of Melbourne.

• For 10 residents this information was compared with a real-life dental examination.
• Residents were given a questionnaire to assess his/her views on the teledentistry approach.
• Nurses self-completed a questionnaire to assess:
  • their overall experience with the approach,
  • the utility of the instructional training kit, and
  • other issues.
Results

RACF’s Residents:

• Format:
  • Appropriate (highly: 46% or slightly: 46%).
  • Satisfied (very: 46% or slightly: 38%).

• Would recommend (94%) to other people of their age and background.

• 28% commented that the most valuable element was its convenience.
Results

• When asked about how satisfied they were with the review of oral health needs:
  • satisfied (46%)
  • slightly satisfied (32%),
  • neutral (6%)
  • slightly dissatisfied (16%).

Reasons for this dissatisfaction were related to the lack of immediate feedback.

• Exam agreement: Excellent (Kappa=0.83)
Results

Three RNs provided feedback.

• Training material:
  • clear and relevant to the purposes of this project.
  • length of the material was right.

• Relevance to their work
  • neutral (It might only be relevant to low-care residents).
Conclusions

• The teledentistry approach using an intraoral camera proved to be feasible and reliable as an alternative to traditional oral health examination.
• Patients expressed high levels of satisfaction with the approach.
• Further development of the procedures is warranted for high-care resident assessment.
Future developments

This will lead to **Stage 3**, involving a multi-State community-based trial of the technology.

- *Economic modelling*
- *Qualitative evaluation*

Stay tuned

Thanks!
Acknowledgement

Project was funded by:

- Dental Health Services Victoria Research and Innovation Grants

- Victorian Department of Development, Business and Innovation.

We would like to acknowledge the RACFs and residents involved in this study.