Challenges in Evaluating Telehealth through RCT – The Problem of Randomization

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Overview

- Telehealth
- Randomized Controlled Trials (RTCs)
- Case study
- Practical issues and methodological concerns
- Conclusions
Telehealth

• Delivery of care virtually by means of telecommunication technology.

• Advantages include: improved clinical outcomes, control over the demand on healthcare resources, increased cost efficiency, streamlined services and patient empowerment to engage in self-management of medical conditions.

• To evaluate telehealth implementations, methods such as RCTs are often employed.
Randomized Controlled Trials (RCTs)

• RCTs as the gold standard.
• Random allocation of participants and blind or double blinded design.
• Strict criteria might create delays, have an impact on the sample size and the generalisability of the findings.
• Neglects contextual issues.
Case Study

- RCT for the evaluation of a telehealth service implemented alongside case management for patients with Chronic Obstructive Pulmonary Disease (COPD).
- Longitudinal data collection using qualitative methods:
  - 3 focus groups in July 2009.
  - 8 interviews in June 2010.
- 24 participants: community matrons, congestive heart failure nurses, COPD nurses and community support workers.
Practical Issues - I

• Inappropriate timing of the trial.
• Decreased efficiency as a result of the additional workload and lack of relevant support/training.
• Unequal distribution of caseload for nurses.

“Obviously because the patient have been picked up randomly so one matron might have ten patients in the caseload who have been chosen in the trial and then there is another matron who might have two.” CHF nurse (FGD1 2009).
Practical Issues - II

• Difficulties with recruitment because of barriers in taking consent.

  “...the police were there and it was all chaotic antisocial behavior, it was not appropriate on that day so I have it (get consent and complete questionnaires) to do in my next visit” COPD nurse (FGD3 2009).

• Challenges to existing expertise structures.

• Design and operationalization issues led to premature termination of the trial.
Methodological Concerns - I

• Inequitable access to healthcare resources due to selection and exclusion criteria:

  “X (area name) got a big Asian population as well ....Chinese and all sorts” CHF nurse (FGD2 2009)

• Consent-taking was described as detrimental to patients’ wellbeing:

  “I don’t understand why everybody has been consented. Because I feel there is a psychological element there.....I think that does affect them.” CM (FGD1 2009).

• Withdrawal of the telehealth service after the study.
Methodological Concerns - II

• Challenges with randomisation since there is no placebo.

• Need for alternative evaluation methods that take into account user opinion:

  “Building evaluation, not maybe an RCT, but have some really robust local evaluation that you can use...to know that it’s working and need to know that it’s beneficial.” Telehealth project manager (Interview 3 2010)

• Under these circumstances the value of the findings of the RCT evaluation might be limited.
Conclusions

• Tackling practical and methodological issues:
  – Education and training in evaluation methodologies.
  – Staff involvement in designing the RCT.

• Re-visiting the usefulness of RCTs:
  – Qualitative methods can provide useful insights, taking in account contextual issues when evaluating technological interventions in healthcare.
THANK YOU!