



Stepped wedge roll-out of clinical interventions to evaluate impact in real world setting:

Challenges identified and lessons learnt during the PEACH study

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Background

- There is a limited information on the challenges of operationalizing a stepped wedge trial to evaluate interventions by clinical staff in a care home setting.
- This poster describes the methodological challenges of the PEACH study. We aim to investigate the effectiveness of a Quality Improvement Collaborative on resident and service level outcomes in older people's care homes.
- We are employing a stepped wedge design as part of a broader programme of research using realist methodology to consider the use of Quality Improvement Collaborative for improvement in care homes.

Methods

- The intervention involves four Quality Improvement Collaborative within South Nottinghamshire.
- Each Quality Improvement Collaborative comprises of a multidisciplinary team tasked with developing and implementing Comprehensive Geriatric Assessment (CGA) for older care home residents in their area. We aimed for this to be implemented by clinical staff in 48 care homes (12 per Quality Improvement Collaborative) using an open-cohort stepped wedge design.
- Our primary outcome is emergency hospital admissions.
- The stepped wedge data will be analysed via a generalised linear mixed model (GLMM).



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Each QIC develops a CGA tool



Planned stepped wedge monthly roll-out and data collection across 12 care homes in each site

Care home	M0	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

Results

- Only two of the four sites attempted a stepped wedge roll-out with two main barriers identified in this real-world study. Both barriers were due to clinical and operational reasons.
- The first was failure to implement the intervention according to the randomised sequence in site one, thus a non-randomised stepped wedge design was implemented. The second was a slower implementation than anticipated in site two, one care home over a period of 12 months, therefore rendering a stepped wedge roll-out unfeasible.
- There are also two important insights identified as to how Quality Improvement Collaborative may operate when delivering complex interventions interface between health and social care. The first is a potential conflict between the requirements of a stepped wedge trial design and issues involved in implementing an intervention by clinical staff. The second is constraining quality improvement initiatives which are intuitive in nature to fit the requirement of a stepped wedge trial might render them ineffective or less effective.
- Alternative analytical strategies will now be adopted comprising using a times series to assess the impact of: CGA within each site and Quality Improvement Collaborative across the four sites.

Conclusion

The SW methodology in a real-world setting was challenged by legitimate clinical and logistic concerns which were solicited as part of the QIC approach. This resulted in the need to adapt methods and analysis to support evaluation. Using stepped wedge alongside QICs for care homes has intuitive appeal but is challenged by the need to let QICs respond to quality issues in care.

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