Enablers and Barriers to the Adoption of Point of Care Testing by Community Pharmacists: A Mixed Methods Systematic Review Using the Theoretical Domains Framework

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Background

- The scope of pharmacist practice in Canada is expanding. Community pharmacists can interpret and order laboratory tests and perform point of care testing in routine practice.
- Current evidence suggests that point of care testing is effective to influence patient clinical outcomes and that there has been uptake in practice.[1]
- The potential benefits of using point of care testing in community pharmacies are countered by several barriers that hinder implementation on a broader level.
- Determinants (i.e., enablers and barriers) of the implementation of point of care testing in community pharmacies have been identified but not systematically synthesised.[2]
- The present study provides a unique opportunity to use a theory based approach to synthesize available research to inform the design of future implementations interventions to aid adoption of point of care testing in community pharmacies.

Objectives

- To describe the perceived or experienced barriers and enablers to point of care testing from the perspective of pharmacists, patients, health care professionals or any other third parties.

- To map the findings of the enablers and barriers to the Theoretical Domains Framework to see how they fit with theoretical understandings of behavior change.

Methods

- **Design:** Mixed methods systematic review using the convergent integrated approach guided by the JBI manual for evidence synthesis[3] and the Cochrane Handbook for Systematic Reviews of Interventions.[4]
- The protocol is formatted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P).
- The final manuscript will be reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).
- The protocol will be pre-registered on PROSPERO.

Methods

Database sources:
- MEDLINE, EMBASE, CINAHL and Cochrane Library

Search terms:
- Search strategy developed in consultation with medical librarian.
- Database appropriate terms are used including: point of care testing, point of care systems, rapid testing, community pharmacy, pharmacists, pharmacy services.

Inclusion Criteria:
- Peer reviewed literature
- English language literature
- Studies reporting one or more determinants (i.e., enablers and barriers) for implementing point of care testing in community pharmacy from the perspective of pharmacists, patients or other health care providers
- Qualitative, quantitative, or mixed methods designs.

Exclusion Criteria:
- Articles not related to point of care testing
- Settings other than the community pharmacy or if multiple settings, can not pull-out pharmacy specific data
- Conference abstracts, protocols, systematic or narrative reviews, letters, commentaries, and grey literature

Study Selection:
- Two researchers will independently screen all titles and abstracts of retrieved papers.
- The two researchers will then independently screen the full text articles for inclusion against the predefined inclusion and exclusion criteria.

Data Abstraction:
- Two researchers will independently extract data into a standardized data extraction form created in Microsoft Excel.
- Full text articles will be abstracted for:
  - Author, publication year, country of origin, study objective(s), study design, main results (i.e., enablers and barriers).
  - For quantitative studies: we will extract proportions of respondents agreeing or disagreeing to various determinants.
  - For qualitative studies: we will extract theme headings, theme descriptions, supporting verbatim quotes and authors' interpretations.

Methods

Quality Appraisal:
- Qualitative: Critical Appraisal Skills Programme (CASP) tool
- Quantitative surveys: Centre for Evidence Based Management critical appraisal of survey tool.
- Mixed methods studies: Mixed Methods Appraisal Tool (MMAT)

Data synthesis:
- Descriptive analysis: numerical summary of the number, type and distribution of included papers
- Qualitative and quantitative data extracted will undergo inductive thematic analysis to generate a set of themes.
- Themes generated will be deductively mapped to the 14 domains of the Theoretical Domains Framework.

Results

- The review is ongoing. A total of 755 articles have been identified in the Medline search.

Conclusion

- Once complete, our review will be the first to systematically synthesize the enablers and barriers to the adoption of point of care testing and map them to the Theoretical Domains Framework.
- The results may be used by pharmacists and policymakers to help design interventions to improve and guide the implementation of point of care testing in community pharmacies, inform the training of pharmacy students, and direct professional development.

Acknowledgments

References

1. Albasri A, et al. BMJ Open 2020;10:e034298. **2.** Gubbins PO, et al. J Am Pharm Assoc 2014;54:163-171. **3.** Stephenson M, Chapter 12: Systematic reviews of measurement properties, In: JBI Manual for Evidence Synthesis. JBI, 2020. **4.** Noyes J, Chapter 21: Qualitative evidence. In: Cochrane Handbook for Systematic Reviews of Interventions. Version 6.3. 2022.