

BMJ Open Identifying and bridging the knowledge-to-practice gaps in rehabilitation professionals working with at-risk infants in the public health sector of South Africa: a multimethod study protocol

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To cite: Govender P.

Identifying and bridging the knowledge-to-practice gaps in rehabilitation professionals working with at-risk infants in the public health sector of South Africa: a multimethod study protocol. *BMJ Open* 2021;**11**:e039242. doi:10.1136/bmjopen-2020-039242

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2020-039242>).

Received 08 April 2020
Revised 07 April 2021
Accepted 28 April 2021



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ABSTRACT

Introduction Early childhood is a critical time when the benefits of early interventions are intensified, and the adverse effects of risk can be reduced. For the optimal provision of early intervention, professionals in the field are required to have specialised knowledge and skills in implementing these programmes. In the context of South Africa, there is evidence to suggest that therapists are ill-prepared to handle the unique challenges posed in neonatal intensive care units and wards with at-risk infants in the first few weeks of life. This is attributed to several reasons; however, irrespective of the causative factors, the need to bridge this knowledge-to-practice gap remains essential.

Methods and analysis This study is a multimethod stakeholder-driven study using a scoping review followed by an appreciative inquiry and Delphi process that will aid in the development, implementation and evaluation of a knowledge translation intervention to bridge knowledge-gaps in occupational and physiotherapists working in the field. Therapists currently working in the public health sector will be recruited for participation in the various stages of the study. The analysis will occur via thematic analysis for qualitative data and percentages and frequencies for descriptive quantitative data. Issues around trustworthiness and rigour, and reliability and validity, will be ensured within each of the phases, by use of a content validity index and inter-rater reliability for the Delphi survey; thick descriptions, peer debriefing, member checking and an audit trail for the qualitative data.

Ethics and dissemination The study has received full ethical approval from the Health Research and Knowledge Management Directorate of the Department of Health and a Biomedical Research Ethics Committee. The results will be published in peer-reviewed academic journals and disseminated to the relevant stakeholders within this study.

INTRODUCTION

Currently, worldwide emphasis is placed on not only reducing child mortality but also in improving the quality of care for neonates.^{1 2} We are aware that during the neonatal period, an increase in the rate of mortality in children

Strengths and limitations of this study

- With the continued high burden of disease in resource-constrained environments of low-income and middle-income countries, knowledge translation interventions at a microlevel may be helpful in effecting positive changes within the day-to-day practice.
- This novel study is designed systematically with the use of multiple methods such as a scoping review, appreciative inquiry process and a Delphi process within a knowledge-to-action framework. Having participatory methods embedded within this study allows for propositional and non-propositional knowledge to be implemented within the study to ensure a genuinely stakeholder-driven strategy that may have greater uptake in day-to-day practice.
- A limitation may exist in the use of virtual platforms, which may serve as a barrier to greater networking and in establishing rapport, as is intended with the face-to-face sessions. Group sharing and good on-line facilitation may assist in developing group cohesion in a virtual platform, which has become the mainstay globally in light of the COVID-19 pandemic.
- The study offers an opportunity to explore context-specific needs that can be driven by stakeholders themselves and direct benefits to participants, as provided by the knowledge interventions that will be developed, implemented and evaluated within this study.
- Limitations in lieu of the COVID-19 pandemic may exist, in terms of lockdown and social distancing requirements, but the study remains feasible using virtual and other forms of telecommunication that do not deviate from achieving the study objectives. These alternatives are proposed in the Methods section of this article.

aged <5 years arises.³ Neonatal mortality rates per 1000 live births stand at 28% in sub-Saharan Africa, 16% in Northern Africa, 25% in Central and Southern Asia and 3% in Europe and Northern America.⁴ In South

Africa (SA), an estimated 12% of neonates die per 1000 live births annually during the perinatal and first weeks of life,⁵ with 23% of infants (aged >28 days) per 1000 live births die annually in SA.⁶ Although there has been an overall significant decline in child mortality rates over the past 20 years, child morbidity also requires emphasis.

In low-income and middle-income countries (LMICs), an estimated 250 million children (43%) <5 years of age will fail to meet their developmental potential because of extreme poverty and deprivation.⁷ This burden appears to be underestimated as the risks to health and well-being are related to other additional contextual factors. In LMICs, these include poor health and nutritional status and inadequate learning that may perpetuate the current socioeconomic milieu.

Only in the past few years have the development and health communities recognised that early childhood development is a solid foundation for human capital development.⁸ Nurturing care by the provision of early intervention programmes in the early years is therefore essential in ensuring that individuals and societies thrive. Scientific evidence indicates that early childhood is a period of particular sensitivity to risk factors and a critical time when the benefits of early interventions are intensified, and the adverse effects of risk can be reduced. Early diagnosis is essential in allowing for initial medical responses and intervention, which is indicated in improving the neurodevelopmental outcome of high-risk infants.⁹

In SA, the ministry of health's strategy to enhance the provision of essential healthcare interventions for mothers and children in some of the country's poorest districts was noted as a step in the right direction.¹⁰ However, the policy framework and strategy for disability and rehabilitation services in SA has not strongly articulated the role of the rehabilitation team in neonatal care, although the roles of the members of the rehabilitation team are defined as covering the lifespan.¹¹ Currently, there is a substantial unmet need for rehabilitation in many LMICs with a large underprioritisation of rehabilitation by ministries of health. The WHO's launch of the Rehabilitation 2030 initiative emphasised the need for health system strengthening.¹² Part of this responsibility inevitably then requires competent and skilled healthcare workers for the care of both mother and newborn infant.¹²

For early intervention to be optimal, professionals in the field are required to have specialised knowledge and skills in the implementation of these programmes. Currently, therapists have indicated that they are ill-prepared to handle the unique challenges posed in neonatal intensive care units and wards with at-risk infants in the first few weeks of life.¹³ Bridging this knowledge-to-practice gap is therefore essential.

There has been increasingly growing evidence around knowledge translation (KT) in the last decade, with most communities having extensive agreement around the need to transfer knowledge into action. In a scoping review, KT strategies that achieve beneficial outcomes

were still unknown¹⁴ with limited empirical research on how to undertake integrated KT.¹⁵ Consolidation of KT activities remains limited despite the expressed need for KT strategies to be espoused within rehabilitation practice.¹⁶ With an increasing role in interprofessional primary healthcare teams, the scope of rehabilitation practice is expanding and should include KT that represents knowledge brokerage. This study, therefore, relies on KT in the care of at-risk infants in high-burdened settings such as the South African public health system.

Thus, this study aims to develop, implement and evaluate an integrated knowledge-to-practice intervention for rehabilitation therapists in SA targeted at at-risk infants in burdened settings such as the South African public sector.

The specific objectives include the following: (1) to review and appraise the available literature on KT interventions for rehabilitation professionals targeted at at-risk infants in burdened settings such as the South African public sector, via a scoping review, (2) to develop and refine a knowledge-to-practice intervention via a stakeholder-driven appreciative inquiry (AI) process and Delphi process for consensus by a group of experts in the field and (3) to implement and evaluate the knowledge-to-practice intervention with rehabilitation professionals working with at-risk infants in the South African public health sector.

METHODS AND ANALYSIS

This multimethod study is structured within three study phases. The study is anticipated to commence in the latter period of 2020 and will be completed by mid 2022.

Phase 1: systematic scoping review

Design

A systematic scoping review of peer-reviewed and grey literature on available KT interventions within the field of rehabilitation that cover infant health towards improved neurodevelopmental trajectories in at-risk infants will be considered. This review will be guided by Arksey and O'Malley's¹⁷ scoping review framework and the Joanna Briggs Institute guidelines for scoping reviews.¹⁸

Steps in the process

The steps would include identification of the research question, identification of relevant studies, study selection, charting of the data and collation, summarising and reporting of the results. Additionally, a quality assessment as recommended by Levac *et al*¹⁹ and Tricco *et al*²⁰ will be conducted.

Eligibility criteria

The study will use the population, concept and context model to determine the eligibility of the research question.¹⁸

Procedure

The first step would involve searching relevant databases with search strings and limits (as per the scoping review

protocol). This will be followed by study selection (title and abstract screening followed by full-text screening using predefined eligibility criteria) by two reviewers and a third person at hand for disputes. The primary reviewer, the principal investigator, will conduct a comprehensive search and screening of the study titles from the selected databases. All citations from the search works will be exported to an EndNote library, and all duplicates will be removed before embarking on abstract and full-article screening. Two reviewers will be responsible for conducting the abstract screening followed by full-article screening of the selected studies independently and aligned to the eligibility criteria. The screening results will be reported using the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews checklist.²¹ Charting of the evidence will occur by the development of a data-charting tool guided by the research question. The charting tool will include the following details, namely, (1) author and year of publication, (2) title of evidence/study, (3) aims and objective/s, (4) country of the evidence/study, (5) study design, (6) study participants, (7) study results, (8) findings relevant to answer the question, (9) conclusion and (10) recommendations. The form will be continually updated to enable the capturing of all relevant data to answer the review question. A narrative account of the extracted data will be analysed using thematic analysis.²² Data will be imported into a relevant programme for organisation of the data and computer-assisted data analysis (eg, NVivo and Atlas-ti). Initial codes will be derived, followed by word trees, prior to categorisation into subthemes and themes using a hybrid approach.²³

Quality appraisal

The quality of the included studies will be appraised using the Mixed Method Appraisal Tool (MMAT) V.2011.^{24 25} For qualitative studies, section 1 of the MMAT will be used for a quantitative study, section 2 for randomised controlled study, section 3 for non-randomised study and section 4 for descriptive study. For a mixed-methods study, section 1 for appraising the qualitative component will be used and the appropriate section for the quantitative component (sections 2, 3 or 4) and section 5 for the mixed-methods component. The tool will be used to critically appraise the quality of the methods of the included studies. It will seek to examine the appropriateness of the study aims, the context relevance and theoretical inferences to answer research questions, author's discussions and conclusions. The overall quality for each of the studies selected will be calculated following the MMAT guidelines (score=number of criteria met divided by 4) and then presented using one of four descriptors, namely, (1) low quality (1%–25%), where minimal criteria are met, (2) average (26%–50%), (3) above average (51%–75%) and (4) high quality (87%–100%), where all criteria are met. For mixed-methods studies, the principle is that the overall quality cannot be more than the quality of its weakest component.^{24 25} As a result, the

overall quality score will be the lowest score of the study components (qualitative or quantitative).

Phase 2: discovery, dream and initial design: generating content for the KT intervention via stakeholder input Design

AI offers a positive way to explore, discover possibilities and transform systems and teams²⁶ towards a shared vision of identified strategic intervention. It, therefore, plays an integral part in supporting change.²⁷

Recruitment and selection of sample

Therapists involved in the care of at-risk infants at district, regional and tertiary hospitals in KwaZulu Natal (KZN) practising in the field of occupational therapy and physiotherapy will be invited to participate. There are currently approximately 623 Occupational Therapists (OTs) in KZN, of which 194 work in the public health sector.²⁸ The head of child health within the ministry of health in KZN, the neonatal coordinator for the province as well as the KZN forum for OT were accessed to determine the number of eligible participants (n=46). Currently, there are approximately 1101 physiotherapists in KZN;²⁹ however, the actual number of therapists working in the public sector could not be ascertained. A purposive sample will therefore be drawn from this total number of therapists within the province, based on those that are currently working within/or have rotations in neonatal intensive care units within their institutions.

Stages

The first two stages of the AI process will be implemented. In stage 1, the discovery stage, themes on positive steps taken towards ensuring early intervention for at-risk infants will be identified and shared. In stage 2, the dream stage, themes from desires and wishes from all stakeholders will be shared. Stage 3 of the design stage, themes around appropriate KT content will be explored, and ideas generated.

Data collection process

A workshop format will be followed for the AI process with materials available for expression of ideas followed by a discussion and collation of common themes and ideas (should face-to-face contact be allowed). Session times will be negotiated with participants, given their work schedules and availability. Participants will be accommodated in a comfortable setting with a maximum of 3 hours allocated for the data collection. This will allow for a 'meet and greet' to establish rapport and network with others in the field over refreshments, as well as for the actual discussion group (which will not span >90–100 min). In lieu of COVID-19, the option of virtual platforms such as Zoom will be explored for the discussion groups. The ZOOM Pro-plan subscription will be used to ensure that there are >40 min allocated to each of the online sessions. This would then entail multiple groups (with a maximum of 10–12 participants) proceeding through the same data collection process to facilitate more robust discussion

as opposed to a larger group on a virtual platform. The session will not span >90–100 min. Prior consent will be solicited from participants together with details on the most convenient time to host a virtual session and network and other requirements that may be required for the virtual session. Participants will be offered reimbursement for data use for the session/s. The session/s (irrespective of whether it occurs face-to-face or virtually) will be audio-recorded.

Data analysis

Data will be analysed thematically using inductive–deductive reasoning and with reference to analytical memos that would be noted by a moderator present in the AI workshop. Should the workshop session be held virtually, permission to video-record the session will be requested and, these will be reviewed as part of the analysis process. The transcribed data will be imported onto a software programme (NVivo and Atlas-ti) for organisation of the data. Initial coding, followed by categories and themes will ensue.^{22 23} Where necessary relevant verbatim responses will be highlighted to support the findings.

Trustworthiness

In ensuring rigour within this phase of the study, thick descriptions will accompany the narrative reported with verbatim quotes, peer debriefing will occur during the analysis process, member checking and respondent validation will occur following analysis of the data, and an audit trail will be maintained for all decisions and processes.

Phase 3: design stage 1: consensus on the KT intervention content (expert input)

Design

A hybrid 2–3 rounds of Delphi process will be conducted.

Recruitment and selection of sample

A systematic process will be followed for the identification of experts (panellists) in this study. This will include the recruitment of opinion leaders, based on contributions to national conferences, clinical researchers in paediatrics; determined via the training universities in SA as well as by the relevant professional society's databases (Occupational Therapy Association of South Africa (OTASA) and South African Society of Physiotherapy (SASP)) as well South African authors working in the field as identified by the phase 1 scoping review. Non-probability purposive sampling will be used in the recruitment, and snowball sampling initiated should other potential participants be identified by the originally recruited sample. Individuals will not be selected to represent the general population but rather in their ability to expertly contribute to the research questions. The anticipated sample size is 50 participants (to account for potential attrition) through the subsequent Delphi rounds. This will be modelled on a previous Delphi study conducted with experts in the field of paediatrics.³⁰

Data collection

Expertise will be documented in a self-report biographical questionnaire. To use the Delphi technique maximally, the findings of the scoping review will be combined with the data from the 'discovery, dream and design phase' to inform the round 1 questionnaire. Polar responses (yes/no) and unipolar responses (Likert scales) will form part of the survey. A pilot of the developed survey will be initiated and a content validity index computed during this phase to establish relevancy and clarity of included items. Results of round 1 will be collated and assist in the development of the round 2 survey. Prior to round 1, experts will be sent an information package, a description of Delphi technique and a consent letter.

Data analysis

Following round 1, results will be pooled and feedback provided to the panel with the round 2 questionnaires electronically. Membership of the panel will not be disclosed to the participants (quasi-anonymity). Communication within rounds will occur via electronic ways. Items on which agreement has not been settled will be highlighted, and panellists will be encouraged to reconsider their stance on those items that consensus was not reached on and to re-rate items. Data will be analysed using relevant software packages. The extent with which each participant agrees with the stated issue (numerical/categorical scale) and the level of agreement between each other (descriptive statistics) will be determined. Cronbach's alpha will be used to measure internal consistency of the group. For example, where Cronbach's α is close to 1.0, it can be argued that there is consistency in the responses of the panel. An a priori consensus threshold of 70% ($\pm 5\%$) will be selected because of the small number of panellists anticipated.

Phase 4: design stage 2: design and refinement of the KT intervention

The knowledge-to-action (KTA) framework,^{31–34} the diffusion of innovation theory,³⁵ and Levac *et al's*³⁶ best practice guidelines for developing educational resources will be used to inform the development process. Data from the preceding (design stage 1) will be collated. More specifically, the KTA framework³¹ will provide the 'big picture' and be used as the overarching guide for the KT process. Levac *et al's*³⁶ best practice guidelines will assist with specific details and steps needed to design the knowledge intervention. The diffusion of innovation theory will inform the design and implementation through consideration of the characteristics of the innovation that support adoption (ie, relative advantage, complexity, compatibility, trialability and observability), as well as the key factors that influence innovation dissemination (ie, time, social networks and communication channels).³⁵ The structure, including duration, mechanism of delivery and content of the intervention, will be determined at this stage.

Phase 5: destiny stage: implementation of the intervention

Sample

Therapists working in high-burdened settings in KZN public health sector via non-probability purposive

sampling. Sampling and recruitment will be implemented as for phase 2.

Data collection

Implementation of the intervention will occur as per the AI (destiny stage)¹⁷ and will follow the structure determined in the preceding phase (content, duration and mechanism of delivery). Therapists will additionally be required to document their initial experiences in a developmental blog/journal.

Data analysis

Blog/journal entries will be exposed to a thematic analysis at the end of the intervention using inductive–deductive reasoning. The analysis will follow the same processes as for phase 2. This, together with a postintervention focus group with volunteers who had undergone the KT intervention, will form part of the KT intervention evaluation process.

ETHICS AND DISSEMINATION

Ethical approval

The study received full ethical approval from the Health Research and Knowledge Management Directorate of the Department of Health (NHRD Ref: KZ_202008_066) and the Biomedical Research Ethics Committee, University of KwaZulu-Natal (Ref: BREC/00001886/2020). The committee is registered with the South African National Health Research Ethics Council (REC-290 408-009). Informed consent will be obtained from all participants prior to any data collection. There are no anticipated risks to participants who volunteer to participate in the study.

Dissemination and implication for the public health sector

The need for more explicitly articulated evidence-based strategies for health professionals who are expected to function in challenging environments are required in the country. These include the increased burden of care, limited resources and a general lack of knowledge and skill to handle the demands placed in contexts that requires a professional to be fit for practice in diverse settings. With this, appropriate KT interventions may prove essential in ensuring that health practitioners can meet the demands in these contexts. Expected outputs from the study include designing an integrated knowledge resource for therapists working in the field of neonatal care, charting of critical aspects that will potentially inform a standard of care for at-risk infants in high burdened settings and training on how to design and implement KT interventions. The knowledge gained from this study is transferable to other KT initiatives involving families/caregivers by the participants of this particular study. Given that this study is positioned within the ambit of implementation science, the translated study findings will not only be available in peer-reviewed articles but will also be disseminated to appropriate audiences at relevant conferences. The

intervention in this study also translates and disseminates information to a targeted audience, thereby contributing to service delivery in the country's public health sector.

Contributors PG: conceptualisation of the study and drafting of the manuscript for publication.

Funding This study has received support from the National Research Foundation (NRF) via the Research Development Grants for Y-Rated Researchers Funding instrument, Grant Number 120400 (Reference: CSRP190423432325).

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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REFERENCES

- Lawn JE, Davidge R, Paul VK, *et al*. Born too soon: care for the preterm baby. *Reprod Health* 2013;10.
- Chawanpaiboon S, Vogel JP, Moller A-B, *et al*. Global, regional, and national estimates of levels of preterm birth in 2014: a systematic review and modelling analysis. *Lancet Glob Health* 2019;7:e37–46.
- UNICEF. *Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential*. Geneva: World Health Organization, 2018.
- Hug L, Sharrow D, You D. *Levels & trends in child mortality: report 2017. Estimates developed by the UN inter-agency group for child mortality estimation*. New York, NY: UNICEF, 2017.
- Richter L, Black M, Britto P, *et al*. Early childhood development: an imperative for action and measurement at scale. *BMJ Glob Health* 2019;4:e001302.
- Nannan NN, Groenewald P, Pillay-van Wyk V, *et al*. Child mortality trends and causes of death in South Africa, 1997 - 2012, and the importance of a national burden of disease study. *S Afr Med J* 2019;109:480.
- Britto PR, Lye SJ, Proulx K, *et al*. Nurturing care: promoting early childhood development. *Lancet* 2017;389:91–102.
- Machel G. Good early development—the right of every child. *Lancet* 2017;389:13–4.
- Cioni G, Sgandurra G. Normal psychomotor development. In: *Handbook of clinical neurology*. Elsevier, 2013: 3–15.
- Westwood A, Claassen J. Childhood in-hospital mortality from acute gastro-enteritis in Cape town. *S Afr Med J* 2010;100:196.
- Department of Health (DoH), South Africa. Framework and strategy for disability and rehabilitation service in SA.
- World Health Organization. Rehabilitation, 2020. Available: <https://www.who.int/news-room/fact-sheets/detail/rehabilitation>
- Hardy MS, Govender P, Naidoo D. Novice occupational therapists' experiences of working in neonatal intensive care units in KwaZulu-Natal. *South Afr J Occup Ther* 2021;51.
- Gagliardi AR, Berta W, Kothari A, *et al*. Integrated knowledge translation (IKT) in health care: a scoping review. *Implement Sci* 2016;11:38–50.
- Gagliardi AR, Dobrow MJ. Identifying the conditions needed for integrated knowledge translation (IKT) in health care organizations: qualitative interviews with researchers and research users. *BMC Health Serv Res* 2016;16:256–84.
- Jones CA, Roop SC, Pohar SL, *et al*. Translating knowledge in rehabilitation: systematic review. *Phys Ther* 2015;95:663–77.
- Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
- Joanna Briggs Institute. *The Joanna Briggs Institute reviewers' manual 2015 methodology for JBI scoping reviews*. Australia: The Joanna Briggs Institute, 2015.



- 19 Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
- 20 Tricco AC, Lillie E, Zarin W, et al. A scoping review on the conduct and reporting of scoping reviews. *BMC Med Res Methodol* 2016;16:15.
- 21 Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
- 22 edClarke V, Braun V. Thematic analysis. In: *Encyclopedia of critical psychology*. New York, NY: Springer, 2014: 1947–52.
- 23 Fereday J, Muir-Cochrane E. Demonstrating rigor using thematic analysis: a hybrid approach of inductive and deductive coding and theme development. *Int J Qual Methods* 2006;5:80–92.
- 24 Pace R, Pluye P, Bartlett G, et al. Testing the reliability and efficiency of the pilot mixed methods appraisal tool (MMAT) for systematic mixed studies review. *Int J Nurs Stud* 2012;49:47–53.
- 25 Souto RQ, Khanassov V, Hong QN, et al. Systematic mixed studies reviews: updating results on the reliability and efficiency of the mixed methods appraisal tool. *Int J Nurs Stud* 2015;52:500–1.
- 26 Cooperrider D, Whitney DD. *Appreciative inquiry: a positive revolution in change*. Berrett-Koehler Publishers, 2005.
- 27 Scerri A, Innes A, Scerri C. Using appreciative inquiry to implement person-centred dementia care in hospital wards. *Dementia* 2019;18:190–209.
- 28 Ned L, Tiwari R, Buchanan H, et al. Changing demographic trends among South African occupational therapists: 2002 to 2018. *Hum Resour Health* 2020;18:22.
- 29 Louw QA, Berner K, Tiwari R, et al. Demographic transformation of the physiotherapy profession in South Africa: a retrospective analysis of HPCSA registrations from 1938 to 2018. *J Eval Clin Pract* 2020
- 30 Naidoo P, Joubert RWE. Consensus on hypotonia via Delphi process. *Indian J Pediatr* 2013;80:641–50.
- 31 Graham ID, Logan J, Harrison MB, et al. Lost in knowledge translation: time for a MAP? *J Contin Educ Health Prof* 2006;26:13–24.
- 32 Colquhoun HL, Letts LJ, Law MC, et al. A scoping review of the use of theory in studies of knowledge translation. *Can J Occup Ther* 2010;77:270–9.
- 33 Eccles M, Grimshaw J, Walker A, et al. Changing the behavior of healthcare professionals: the use of theory in promoting the uptake of research findings. *J Clin Epidemiol* 2005;58:107–12.
- 34 Eccles M, The Improved Clinical Effectiveness Through Behavioral Research Group (ICEBERG). Designing theoretically-informed implementation interventions implementation science 2006.
- 35 Rogers EM. A prospective and retrospective look at the diffusion model. *J Health Commun* 2004;9:13–19.
- 36 Levac D, Glegg SMN, Camden C, et al. Best practice recommendations for the development, implementation, and evaluation of online knowledge translation resources in rehabilitation. *Phys Ther* 2015;95:648–62.