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Role of integrated knowledge translation in developing and implementing a multi-component infant feeding intervention: Insights from the CHERIsH study

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Introduction

This article provides an overview and insights from the process of using integrated knowledge translation in developing and implementing the Choosing Healthy Eating for Infant Health (CHERIsH) intervention. Integrated knowledge translation involves collaboration between researchers and research users in the research process, including shaping the research questions, interpreting the results and helping to disseminate the research results (Graham and Tetroe, 2009). The central premise of integrated knowledge translation is that involving knowledge users as equal partners alongside researchers will lead to research that is more relevant to, and more likely to be useful to, the knowledge users (Canadian Institutes of Health Research (CIHR), 2012).

CHERIsH is a multi-disciplinary, cross-institutional project that aims to develop, implement and evaluate an intervention to support and promote healthy infant feeding practices among parents and primary caregivers within primary care settings. A defining feature of CHERIsH was the partnership approach adopted in the development and implementation of this multi-component intervention, which involved integrated knowledge translation between researchers, primary care healthcare practitioners (HCPs) and public health policy stakeholders. The CHERIsH researchers comprise a multi-disciplinary team from epidemiology, health psychology, developmental psychology, implementation science, public health, nutrition and health economics across three

universities: University College Cork (UCC), National University of Ireland, Galway (NUIG) and Trinity College Dublin (TCD). Establishing a multi-disciplinary team at the outset was a further key element of this study, providing a breadth of expertise to guide intervention development and implementation.

The theoretical underpinnings, intervention development process and study design of CHERIsH are described elsewhere (Toomey et al, 2019, under review; Matvienko-Sikar et al, 2019). Development of the CHERIsH intervention and implementation strategy was guided by the Behaviour Change Wheel, which provided a structured and systematic approach to develop this multi-component intervention (Toomey et al, 2019, under review). Currently, the intervention is undergoing feasibility testing at a leading primary healthcare centre in southwest Ireland, and funding for the study has been provided by Ireland's Health Research Board (HRB) – a major Irish national health research funder.

This paper focuses specifically on the completed integrated knowledge translation activities for intervention development and implementation, as well as planned activities in this area and the insights arising from this process.

Overview of the intervention

The primary impetus for the CHERIsH study was to identify ways to reduce the risk of childhood obesity and overweight within primary care settings. Within this context, improving infant feeding was identified as a potential means through which parents and/or primary caregivers could reduce the risk of childhood obesity and overweight, as well as improve their child's overall health, well-being and development. CHERIsH therefore seeks to improve infant feeding by providing an intervention targeting parental infant feeding behaviours at the time of routine infant

vaccination visits. It also encompasses an implementation strategy to support behaviour change at the level of the healthcare practitioners delivering the intervention, which is essential to ensure that parents receive the intervention.

In summary, brief infant feeding messages are provided to parents/caregivers by primary healthcare practitioners, along with additional information materials and signposting to online resources. These messages focus on the timing, frequency and types of solid foods to be introduced to babies as well as responsive feeding practices (i.e. identifying and responding to cues that signal when a baby is hungry or full). The intervention components are outlined in Table 1 below.

Description of the integrated knowledge translation activities

The integrated knowledge translation process in CHERIsH involved a number of distinct components: co-creation of the original concept and grant application with the primary care partner; informal consultations with public health policy stakeholders and practitioners throughout the evidence synthesis phase; establishment of an international steering committee to provide feedback and advice on the proposed intervention; and a formal policy submission.

Partnership with a primary care provider was a defining feature of the CHERIsH study, and the original idea of developing an infant feeding intervention to reduce childhood obesity/overweight was proposed by the primary care partner. CHERIsH is an example therefore of a practice-led intervention and illustrates the value of integrated knowledge translation between researchers and primary care practitioners to identify practice gaps and co-create research proposals. Regular contact, involving ongoing and evolving discussions about the project, was also maintained with a number of healthcare

Table 1: Main components of CHERIsH intervention and implementation strategy

	Component	Description
Parent-level intervention	Brief verbal infant feeding messages	<ul style="list-style-type: none"> • Messages are delivered by primary healthcare practitioners to parents or caregivers during their baby's first routine vaccination visits • Vaccinations are administered at five standardised time points: at 2, 4, 6, 12 and 13 months of age
	Additional infant feeding resources for parents/caregivers	<ul style="list-style-type: none"> • Information leaflet and fridge magnet – displaying the key infant feeding messages and signposting to child health website (MyChild.ie) • Baby bib – signposting to child health website (MyChild.ie)
HCP-level implementation strategy	Implementation strategy for primary healthcare practitioners delivering the intervention	<ul style="list-style-type: none"> • Identifying a local opinion leader • Providing incentivised training for healthcare practitioners • Distributing supporting HCP resources and educational materials • Creating electronic delivery prompts for healthcare practitioners • Raising awareness across all healthcare practitioners within the practice • Providing local technical support and assistance

practitioners during the development phase. These included GPs and practice nurses from the primary care centre feasibility site, as well as a dietician from the national health service – all of whom provided significant input into the intervention and implementation strategy design process.

Informal knowledge exchange consultations also took place with public health policy stakeholders, involving regular contact with a number of key stakeholders from Ireland's national Health Service Executive (HSE) with expertise in the area of infant health and well-being. Early in the project, it was identified that there was considerable synergy between CHERIsH and the HSE-led Nurture

programme – a recently implemented national initiative to support change in the delivery of infant health and well-being services. Establishing and building links with members of the Nurture team proved hugely beneficial, enabling the researchers to share resources and expertise and seeking to enhance the perceived legitimacy of CHERIsH among parents/caregivers due to its links with the HSE. Signposting to HSE resources (MyChild.ie) in the intervention messages and materials ensured that there was consistency between the messages of both CHERIsH and Nurture.

Establishing an international steering

committee was planned as part of the original grant application. This committee included research collaborators from the project as well as international experts in infant feeding and childhood obesity, and stakeholders from the HSE and the Health Research Board. A committee meeting was convened over a two-day period to facilitate knowledge exchange and discussion on the proposed intervention components. The first day consisted of a smaller group meeting on intervention outcomes and an overview presentation on CHERIsH for all delegates. On the second day, presentations on intervention developments were followed by activity-based feedback sessions. These sessions gave participants the opportunity to provide feedback on the study design, intervention components and economic elements. The format of these sessions ensured that the feedback was comprehensive, documented and informed the final intervention design.

During the development phase, the CHERIsH team, in response to a call for submissions on tackling childhood obesity to the government's Joint Committee on Children and Youth Affairs, also prepared a policy submission to Ireland's legislature (the 'Oireachtas'). This policy submission highlighted the significance of infant feeding practices in reducing the risk of childhood obesity/overweight and provided clear and practical recommendations on how to improve infant practices based on the comprehensive research conducted by the CHERIsH research team to date. A member of the CHERIsH team also met with the Oireachtas committee directly to outline the CHERIsH submission proposals.

Ensuring that knowledge translation is maintained beyond the intervention development and pilot testing phase is a further aim of this study. In this regard, the CHERIsH team has secured additional funding to co-create a knowledge translation strategy with its primary care partner. This strategy will seek to address a number of key goals including: to inform and generate awareness

about CHERIsH; to share knowledge between researchers and healthcare practitioners involved in CHERIsH, including results of the CHERIsH feasibility study and process evaluation; to encourage buy-in among other healthcare practitioners in the event of future scale-up of CHERIsH; and to facilitate policy change in the broader area of childhood obesity/overweight through continued engagement with policy stakeholders and policymakers.

Challenges and lessons learnt

CHERIsH provides an example of how an integrated knowledge translation approach has been embedded throughout the development of an evidence-based behaviour change intervention. This ongoing knowledge translation process represents a novel approach to intervention development that seeks to leverage the expertise, skills and knowledge of research users rather than adhere to the traditional top-down approach. Notwithstanding the potential benefits of such an approach (CIHR, 2012), it is not without its challenges. Some of the key challenges and lessons learnt from this approach are outlined in Table 2 below.

It is a key aim to ensure that the challenges experienced and learning from this study will help to inform future development of CHERIsH and other similar interventions. Moreover, it is intended that these challenges and lessons will be communicated to stakeholders and researchers in a clear and practicable way as part of the ongoing knowledge translation process that has defined the CHERIsH project to date.

For further information on CHERIsH, visit www.cherishstudy.com

Table 2: Challenges and lessons learnt from the CHERISH integrated knowledge translation process

	Challenge/lesson	Description
Challenges	Time constraints	Limited capacity of healthcare practitioners and other stakeholders to engage due to busy work schedules and organisational culture
	Professional differences	Differences in language and culture of academic researchers and healthcare practitioners – accentuated when researchers and practitioners engage
	Skills and capacity	Limited skills and capacity of researchers to implement the integrated knowledge translation process – requires particular skills and sufficient capacity to implement
	Evaluation	Difficulty of evaluating the knowledge translation process to prove its efficacy over more traditional processes
Lessons learnt	Engage early and on an ongoing basis	Need to ensure and plan for early and regular engagement with healthcare practitioners and other stakeholders, rather than engagement that is tokenistic or ad hoc
	Improve clarity	Importance of increasing clarity on complex academic terms and concepts for practitioners and stakeholders from the outset
	Facilitate engagement	Need to facilitate engagement by acknowledging the time/organisational constraints of healthcare practitioners and other stakeholders and finding ways to work around these constraints
	Be strategic	Importance of developing a clear strategy for integrated knowledge translation from the outset, which includes identifying specific goals, knowledge users, key performance indicators and time points for your strategy



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