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# Systematic Review of Knowledge Translation Strategies to Promote Research Uptake in Child Health Settings

Lauren Albrecht BEd, MEd, PhD Student<sup>a,b,\*</sup>, Mandy Archibald BScN, PhD Candidate<sup>a</sup>, Erna Snelgrove-Clarke BN, MN, PhD<sup>c</sup>, Shannon D. Scott BN, MN, PhD<sup>a</sup>

<sup>a</sup>Faculty of Nursing, 3rd Floor, Edmonton Clinic Health Academy, University of Alberta, Edmonton, AB, Canada

<sup>b</sup>Department of Pediatrics, 3rd Floor, Edmonton Clinic Health Academy, University of Alberta, Edmonton, AB, Canada

<sup>c</sup>School of Nursing, Dalhousie University, Forrest Building, Halifax, NS, Canada

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Pediatrics;  
Child health;  
Diffusion of innovation;  
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**Background:** Strategies to assist evidence-based decision-making for healthcare professionals are crucial to ensure high quality patient care and outcomes. The goal of this systematic review was to identify and synthesize the evidence on knowledge translation interventions aimed at putting explicit research evidence into child health practice.

**Methods:** A comprehensive search of thirteen electronic databases was conducted, restricted by date (1985–2011) and language (English). Articles were included if: 1) studies were randomized controlled trials (RCT), controlled clinical trials (CCT), or controlled before-and-after (CBA) studies; 2) target population was child health professionals; 3) interventions implemented research in child health practice; and 4) outcomes were measured at the professional/process, patient, or economic level. Two reviewers independently extracted data and assessed methodological quality. Study data were aggregated and analyzed using evidence tables.

**Results:** Twenty-one studies (13 RCT, 2 CCT, 6 CBA) were included. The studies employed single (n = 9) and multiple interventions (n = 12). The methodological quality of the included studies was largely moderate (n = 8) or weak (n = 11). Of the studies with moderate to strong methodological quality ratings, three demonstrated consistent, positive effect(s) on the primary outcome(s); effective knowledge translation interventions were two single, non-educational interventions and one multiple, educational intervention.

**Conclusions:** This multidisciplinary systematic review in child health setting identified effective knowledge translation strategies assessed by the most rigorous research designs. Given the overall poor quality of the research literature, specific recommendations were made to improve knowledge translation efforts in child health. © 2015 Elsevier Inc. All rights reserved.

## Background

Effective strategies that assist evidence-based decision-making for healthcare professionals are crucial to ensuring high quality patient care and outcomes. Over the past decade

there has been a rapid expansion of available scientific evidence to inform health care interventions with a concomitant endorsement of evidence-based health care by professional governing bodies, healthcare professional training programs and regional health authorities. Despite these factors, there is a widening gap between research (what we know) and practice (what we do) with the majority of

\* Corresponding author: Lauren Albrecht, M.Ed.  
E-mail address: [lauren.albrecht@ualberta.ca](mailto:lauren.albrecht@ualberta.ca).

healthcare professionals not drawing upon the best research evidence to guide clinical practice decisions (Institute of Medicine, 2001). Previous research demonstrates that 30–40% of patients do not receive care complying with current research evidence and 20–25% of the care provided is not needed or potentially harmful (Freedman et al., 2011; Grol, 2001; Hampers & Faries, 2002; Johnson et al., 2006; Knapp, Simon, & Sharma, 2008; Schuster, McGlynn, & Brook, 2005). In response, knowledge translation (KT) strategies have been developed and implemented to bridge the research practice gap, yet their impact on health care delivery and patient outcomes has been varied (Bero et al., 1998; Grimshaw et al., 2004; Oxman, Thomson, Davis, & Haynes, 1995; Thompson, Estabrooks, Scott-Findlay, Moore, & Wallin, 2007). Previous systematic reviews have explored KT strategies in relation to various professional groups, such as physicians, nurses and allied health professionals (Bero et al., 1998; Grimshaw et al., 2004; Oxman et al., 1995; Scott et al., 2012; Thompson et al., 2007) and multidisciplinary systematic reviews specific to one clinical area (i.e., spinal cord injury, child and youth mental health) (Barwick et al., 2012; Noonan et al., 2014) or one area of practice (i.e., public health, rehabilitation) (LaRocca, Yost, Dobbins, Ciliska, & Butt, 2012; Menon, Korner-Bitensky, Kastner, McKibbin, & Straus, 2009) have been completed. However, a systematic review of KT strategies in child health irrespective of professional group and clinical focus has not been completed. While the concept of multidisciplinary draws on knowledge from different disciplines separately, interdisciplinarity synthesizes knowledge from the disciplines into an interactive whole (Choi & Pak, 2006). As effective health care delivery is dependent upon interdisciplinary collaboration, and the science of KT is well-accepted as being interdisciplinary, a more productive approach would be to systematically review the literature and include interventions for multiple provider groups respective of the unique features of the clinical setting.

Child health settings are unique, multidisciplinary settings encompassing a wide-range of healthcare professionals. Previous research points to the unique challenges of child health settings including higher emotional investment from healthcare professionals (Coetzee, 2004; Watson & Field, 1996), the expectation of family-centered care (Bruce et al., 2002; Hutchfield, 1999), and unique ethical situations (Watson & Field, 1996). Thus, in the current health care climate that demands care to be based upon recommendations from the latest, accepted research, it is essential that KT strategies employed in child health settings be: 1) multidisciplinary in nature thereby reflecting the eclectic professional mix evidenced in today's child health settings (and not developed on a discipline by discipline basis), and 2) based upon previous research findings from similar child health settings.

Understanding the most effective ways of translating evidence into clinical practice for different health professional groups and different health care settings has been

identified as a key priority in North America (Dault, Lomas, & Barer, 2004; Institute of Medicine, 2001). This highlights the need to break down organizational and professional silos that characterize healthcare and understand the most effective ways of translating evidence into practice from the perspective of health professional groups and settings. The goal of this study was to identify and synthesize the evidence on interventions aimed at putting research into child health settings.

## Methods

### Literature Search

A comprehensive search strategy was developed by a health research librarian in collaboration with content expertise of the research team to identify all relevant articles (Appendix A). The following electronic databases were searched: MEDLINE, PubMed, Ovid MEDLINE, Cochrane Central Register of Controlled Trials, EPOC systematic review database, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects, Health Technology Assessment Database, HealthStar, EMBASE (Excerpta Medica), CINAHL, PsycINFO (Psychological Abstracts) and Sociological Abstracts using date (1985–May 2008), using language (English) and restrictions (Morrison et al., 2009). The date restrictions reflect the emergence of the evidence-based medicine/evidence-based practice and the KT movements and were purposively selected to capture all relevant literature. Reference lists of relevant articles were also examined. The same search strategy was updated in 2011 by a health research librarian to identify all relevant articles from the time of the previous search (2008) to 2011. The research designs were restricted to randomized controlled trials (RCTs), controlled clinical trials (CCT), and controlled before-after (CBA) studies. The research design restriction was determined after the initial 2008 search was executed due to volume of literature. The updated 2011 search only included these three designs.

### Inclusion Criteria

Studies were included if they met the following pre-determined inclusion criteria:

- 1) primary research study employing either RCT, CCT, or CBA study design;
- 2) target population was healthcare professionals (i.e., physicians, nurses, allied health professionals) working in child health settings;
- 3) interventions had a primary purpose of implementing research into pediatric practice; and
- 4) outcomes measured the change at the professional/process, patient, or economic level.

### Study Selection

Two reviewers (LA, MA) independently screened the search results to determine whether the study met the inclusion criteria. Each article was rated as include, exclude

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