

Translating Research on Incontinence Into Practice

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- ▶ **Background:** Translating research evidence into clinical practice (TRIP) is an important initiative for health services so that care delivered is cost-effective, is efficient, and improves patient outcomes. Most TRIP studies have reported on disseminating and implementing clinical practice guidelines, protocols, or care pathways and have been undertaken in acute rather than community settings.
- ▶ **Objectives:** To identify the factors that influence incontinence TRIP and to present key international studies on incontinence TRIP.
- ▶ **Methods:** Existing literature on TRIP was analyzed to generate a plan for future research.
- ▶ **Results:** Several methods to effect incontinence TRIP are described, including clinical practice guidelines and protocols, clinical pathways, partnerships between organizations, a model for incorporating UI research based on generic questions, and implementation strategies that incorporate change theory and consideration of barriers.
- ▶ **Conclusions:** Future research is needed on incontinence TRIP in the following areas: barriers, the best theoretical approaches, the effectiveness of empowerment approaches, the value of mentors, effective strategies for nurses and unlicensed personnel, the impact of international collaboration, and regulations across settings.
- ▶ **Key Words:** incontinence · translating research into practice

This presentation examines the success of using over 10 years of translating urinary incontinence (UI) and fecal incontinence (FI) research in practice settings. Examples of translating research into practice (TRIP) studies that implement incontinence research in clinical settings, using clinical guidelines, protocols, and care pathways, are presented. A number of implementation strategies and partnerships between organizations are discussed and a

potential model for TRIP using a clinical guideline is also presented. Also, research needed on strategies for TRIP is also outlined with a focus on future directions for shaping incontinence TRIP.

Translation of Research Into Practice

Translating research evidence into clinical practice and the dissemination and implementation of the scientific knowledge that underpins the evidence base is a challenge for health services in developed countries of the world (Bero et al., 1998). Approaches that have been used include: (a) investigating the barriers and facilitators to using research in practice (Funk, Tornquist, & Champagne, 1995); (b) systematically reviewing evidence and effectiveness of interventions (Bero et al.); (c) using models for dissemination and management of change (e.g., diffusion of innovation; Rodgers, 1998; Rogers, 1995); and (d) developing and implementing clinical guidelines (Seers, 1998).

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Important factors for consideration are: (a) the management of change at organizational and individual levels and factors which influence this; (b) the nature of the innovation (Bero et al., 1998); (c) methods and styles of communication; (d) change agents and leaders (Bero et al.; Thomson O'Brien et al., 2002); and (e) outreach experts (Oxman, Thomson, Davis, & Haynes, 1995). Organizational and social system contexts (Antrobus & Kitson, 1999; Thomson O'Brien et al., 2002), users of the innovation, characteristics of nurses, education and clinical experience of nurses (Estabrooks, Floyd, & Scott-Findlay, 2003), and the use of audit and feedback (Titler & Everett, 2001) are also important. It is beyond the scope of this presentation to review the wealth of literature relating to the general TRIP that can be found elsewhere (e.g., Titler & Everett).

Translating research into practice became a funding priority of the Agency for Healthcare Research and Quality (AHRQ) in 1999. As a result, TRIP I and II grants were awarded for the evaluation of healthcare interventions based on research that improved outcomes, quality, effectiveness, efficiency, cost-effectiveness, or a combination of any of these (Farquhar, Stryer, & Slutsky, 2002). Projects led by nurses provide examples of this translational research. No single approach to TRIP has been found to be successful. Information and education strategies alone are not effective, while multiple strategies are more effective (Gross et al., 2001).

Translation of Research on Incontinence Into Practice

Clinical Practice Guidelines and Protocols

Clinical practice guidelines on incontinence have been used with varying success in TRIP. The Agency for Health Care Policy and Research (now AHRQ) clinical practice guideline on UI (Fantl et al., 1996) was widely distributed and included in a number of implementation initiatives in ambulatory and primary care settings and was adapted for use in long-term care settings (AHRQ, 2000; American Medical Directors Association, 2000; Ryden et al., 2000; Watson, Brink, Zimmer, & Mayer, 2003).

Evidence exists that behavioral interventions improve continence outcomes in nursing home residents. In one study, nursing home residents receiving an exercise and incontinence intervention significantly improved while residents in the control group declined on 14 outcome measures (Schnelle et al., 2002). These researchers noted that in order to provide the intervention a staffing ratio of five residents to one nursing assistant was necessary. They suggested that fundamental changes to nursing home staffing were needed for TRIP. In another study, it was reported that although an incontinence management protocol was effective in decreasing pressure ulcer incidence, considerable financial resources were needed (Frantz, Xakellis, Harvey, & Lewis, 2003). Further health services research that can capture costs, benefits, and value of incontinence treatment and management is needed to help with TRIP.

Implementation of the 1996 Fantl and colleagues guideline in a randomized controlled trial of 40 primary care practices resulted in improvements in initiating conti-

nence care in women, but older men were less likely to be asked about incontinence. Also, incontinent adults were reluctant to mention it, because it was seen as not a big problem and a part of normal aging (Dugan et al., 2001). These researchers also targeted practitioners in the primary care setting, providing them with information on UI and onsite support. Several barriers in implementing the guideline included lack of self-awareness, lack of agreement, and lack of self-efficacy and outcome expectancy. Thus educational initiatives alone to increase the use of guidelines may be insufficient and strategies aimed at changing intrapersonal factors of clinicians may be needed (Bland et al., 2003).

The Continence for Women project implemented a screening and treatment protocol incorporating bladder training and pelvic floor muscle exercises based on the 1996 Fantl and colleagues guideline in 21 ambulatory settings (Sampselle et al., 2000a, 2000b). In this 3-year project 1,474 women were screened. Of the 132 treated for UI, significant improvements were found in number of days leaked, leakage in a typical week, average volume of urine lost, bothersomeness, restrictions of activities, and cost of self-management at the 4-month followup ($p < .05$). No differences were found in daytime frequency or nocturia. This study, aimed at translating and implementing the guidelines in clinical settings, did not include objective outcome measures or controls. This implementation initiative demonstrates what can be achieved but does have resource implications, in terms of effort related to case-finding and effectiveness.

A much smaller project in one primary care setting in the United Kingdom (UK) used a similar approach of implementing consensus guidelines in three phases: development and consensus, implementation, and evaluation (Button et al., 1998a, 1998b). Due to the small sample size and short duration, some improvements in care of people with UI were noted but were not significant. Before the guidelines could be implemented, considerable time and effort went into reaffirming roles of members of the team, constructing a single assessment protocol that worked with the practice computer system, educating staff, improving medical records, and creating additional screening opportunities.

Using guidelines for successful incontinence TRIP is limited (Bland et al., 2003; Button et al., 1998a; Sampselle et al., 2000a; Williams, Crichton, & Roe, 1997). More research is required to provide evidence of effect on outcomes and cost-effectiveness. Evidence-based guidelines are used in practice if they form part of service development and not a top-down approach (Knight & Procter, 1999).

Clinical Pathways

Evidence-based peer-reviewed clinical pathways of care for continence (integrated care pathways) have also been developed and used in the UK as opposed to clinical guidelines (Baylis, Cherry, Locke, & Salter, 2001). They are used in a variety of clinical settings with the intention that they follow the patient as he or she moves between primary care, acute care, or long-term care settings. However, they have not been systematically adopted (Baylis, Salter, &

TABLE 1. Future Research Needs Related to the Translation of Research on UI and FI Evidence-Based Practices

- Identify significant barriers involving systems, regulations, organizations, staff and consumers.
- Identify the best theoretical approaches.
- Test the effectiveness of empowerment approaches such as Participatory Action Research.
- Examine the value of mentors acting as change agents and facilitators, supporting new researchers, and enabling clinicians.
- Develop crosscultural and international strategies in institutional and home settings.
- Identify effective strategies for training nurses and unlicensed personnel and facilitating their access to the evidence.
- Examine the impact of international collaborations and projects for testing and identifying unique barriers and effective strategies.
- Compare the effects of regulations governing professionals between settings and those in acute settings, care homes, and primary care.

Note. UI = urinary incontinence; FI = fecal incontinence.

Locke, 2003) and there is no evidence on their clinical effectiveness. Reasons for this include staffing levels, which are too low to introduce major change; changes that are too complex; and a lack of time and resources preventing implementation. Even when adopted within a healthcare organization their use is not optimal because of lack of staff time, staff turnover, and the time required to implement (Wells, 2001).

Partnerships Between Organizations

Partnerships between the academic and clinical settings hold promise. An academic clinical practice model in the long-term care setting has resulted in improving assessment and treatment of urinary symptoms (incontinence and retention) and in improving graduate nursing students' self-efficacy in managing incontinence (McConnell, Lekan-Rutledge, Nevidjon, & Anderson, 2004). This model incorporates complexity theory processes, such as interaction of different organizations, their members, and the environment to achieve higher levels of functioning.

Model for Use of the UI Guidelines in Nursing Homes in the United States

Understanding the magnitude of the problem and current standard of care is an essential step in incontinence TRIP at the policy level to achieve sustainable and reproducible outcomes. An ongoing project (TRIP II – U18 HS 11064) is the second in a series of AHRQ-funded studies designed to improve evaluation and treatment of UI in nursing homes. In the first study, researchers described the nature of existing practice and barriers to practice in 52 nursing

homes (RO1 HS08491) to develop a strategy for improvement in care (Watson et al., 2003). Based on the findings from the first study, the ongoing study is testing an approach using advanced practice nurses to improve practice that will influence policy nationally. Evidence suggests that such a model can improve care for nursing home residents. Ryden and colleagues (2000) examined the effect on continence status for newly admitted nursing home residents when advanced practice gerontological nurses worked with staff to implement a protocol based on the AHRQ Clinical Practice Guidelines for incontinence. The quasi-experimental study using random assignment for the treatment and control groups found that fewer residents in the treatment group became more incontinent, more remained stable, and more improved or maintained their continent status.

These studies illustrate a series of generic questions (e.g., What is the size of the clinical problem? What is the nature of current practice?) that may be useful in incontinence TRIP at the policy level so that it will be sustainable and reproducible. The first study provided evidence that incidence of new cases of UI in nursing homes was about 15% of newly admitted residents and overall about 4% every 12 weeks; with on average only 20% of the necessary evaluation being done (Watson et al., 2003). These results show that the problem is manageable and pinpoint practice areas needing improvement.

Existing barriers were also identified. Limited resources and time of clinicians (MDs, NPs, PAs) were found to be factors suggesting the need for an intervention to address this workforce problem. To identify possible solutions, it was useful to think about ideas that had worked under similar circumstances. In this case, mental health nurse consultants supported by Medicare to evaluate psychiatric conditions in nursing homes provided a useful model for designing this approach to UI in nursing homes.

The research to evaluate the intervention was designed to determine if it changes critical processes and outcomes and is cost-effective in order to support policy change. Therefore, the second study examined nurse practitioners' evaluations of UI in nursing homes, its effect on UI, and related cost and cost savings. Ultimately the results may be used to make a case for a new Medicare benefit that would support the model.

By asking a series of generic questions over the course of two studies, the problem was first carefully defined in terms of its nature, size, and barriers. Then, an intervention was built based on this new understanding and is being tested to lay groundwork. It may result in a fundamental change in policy that could transform evaluation and treatment of UI in nursing homes nationally. Therefore, these basic generic questions may have application in guiding similar policy-directed TRIP projects.

Implementation Strategies

Implementation strategies that also incorporate change theory and consideration of the complex chain of interdependent barriers and facilitators to progress are required for incontinence TRIP in clinical settings (Feder, Eccles, Grol, Griffiths, & Grimshaw, 1999). A review of 18 stud-

ies provided some evidence that implementation of clinical guidelines is effective in changing processes and outcomes of care although it is difficult to compare studies because of different designs (Thomas et al., 2004).

Translating research evidence into practice may employ clinical guidelines, education, facilitators, and change agents. Health professionals may not be able to attend educational sessions on incontinence and the absence of a change agent or facilitator, such as a continence adviser, can prevent TRIP (Abbott & Hotchkiss, 2001). Testing a variety of educational strategies is needed, including experiential and interactive approaches as opposed to the more traditional classroom approaches.

Even with facilitators or designated research staff there are barriers to incontinence TRIP in nursing homes due to barriers (Ouslander et al., 1995; Stone et al., 2002). Barriers to TRIP include nurses not perceiving the research as being relevant, lack of confidence in evaluating research, lack of time for implementation, and lack of organizational support (Dunn, Crichton, Roe, Seers, & Williams, 1997; Nagy, Lumby, McKinley, & Macfarlane, 2001).

Beliefs and attitudes, involvement in research activities, professional characteristics, education, information-seeking, and socioeconomic factors are individual determinants of research utilization by nurses (Estabrooks et al., 2003). The strategies and resources for incontinence TRIP should not be underestimated. Creative systems approaches involving multidisciplinary teams in longitudinal initiatives are warranted. The merits of including consumer perspectives and preferences for treatment are recognized.

Future Directions

Future directions for shaping incontinence TRIP should embrace the following principles: (a) it should use a whole systems approach involving patients and families, organizations and individuals, and providers and consumers; (b) it should ensure it is transferable to acute, ambulatory, and long-term care clinical settings; and (c) it should be locally and culturally sensitive and relevant (Table 1).

Attention to the language around UI and FI is needed. For example, use of the term *bladder health* may engage more people. Outlining cost-effectiveness in the areas of staff and organizational resources, time, supplies, and finances supports TRIP versus the status quo. Multidisciplinary approaches involving partnerships and grant applications from researchers, clinicians, consumer organizations, managed care organizations, and quality improvement organizations are required. The effectiveness of change agents or facilitators such as advanced practice nurses—including master's-prepared nurse practitioners and clinical specialists—particularly in long-term care settings is required also.

Researchers in incontinence TRIP should be realistic about adherence or compliance in the clinical setting, identify barriers to overcome in practice (how and why), and report on negative aspects of what did not work and why. Participatory action research or community-based action research, which empowers organizations, communities, and individuals, may provide more enduring results (AHRQ, 2003; Koch, Selim, & Kralik, 2002), and should

be tested as potential approaches to incontinence TRIP. Financial rewards, penalties, and regulations should be explored as mechanisms for ensuring TRIP is successful. ▼

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