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Knowledge Translation

Challenges in Translating an Evidence-Based Home Visitation Program Into Public Health Practice

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Increasingly, organizations such as the Coalition for Evidence-Based Policy, the Brookings Institution, the Rand Corporation, and the Canadian Task Force on Preventive Health Care are advocating that interventions show strong evidence of effectiveness before they are included in public policy initiatives involving large expenditures of public funds. While such efforts have focused attention on the importance of adopting evidence-based health practices, the translation of research interventions into mainstream practice is fraught with challenges. This article describes experiences over the past 12 years in translating the Nurse-Family Partnership (NFP), an evidence-based home visitation program for low-income, first-time parents, into public health practice. To provide context for discussion of the challenges encountered, a brief description of the key components of an NFP intervention and evidence for its implementation is presented, followed by an overview of dissemination of the program to communities.

The Nurse-Family Partnership

The NFP program targets low-income first-time parents and their families during pregnancy and through the first 2 years of the child's life. It has three goals: improve pregnancy outcomes by helping women to alter their health-related behaviours, including reducing use of cigarettes, alcohol, and illegal drugs; improve child health and development by helping parents to provide more responsible and competent care for their children; and improve families' economic self-sufficiency by helping parents to develop a vision for their own future, plan subsequent pregnancies, continue their education, and find work.

Each full-time nurse carries a caseload of 25 families. Although nurses have a structured set of visit-by-visit guidelines, they adapt these to the individual needs of families. On average, nurses visit weekly for the first

month in order to establish a relationship, then every other week throughout the pregnancy. Following the birth of the infant, weekly visits are resumed for the first 6 weeks postpartum and then decrease to every other week until the child is 21 months old. To facilitate termination of the relationship, nurses visit monthly until the child's second birthday.

Evidence for the effectiveness of the intervention has been established through three randomized clinical trials conducted with culturally diverse populations over a 20-year span. Key findings for nurse-visited women in at least two of three trials, compared to their counterparts in the control group, are:

- improvement in women's prenatal health — for example, reduction in prenatal cigarette smoking and reduction in hypertensive disorders
- reduction in children's health-care encounters for injuries
- reduction in unintended subsequent pregnancies
- longer intervals between first and second births
- improvement in children's school readiness — for example, in language skills, cognitive abilities, and behavioural regulation
- increased maternal employment, with accompanying reductions in families' use of welfare and food stamps
- increased father involvement

(Kitzman et al., 1997, 2000; Olds et al., 1997, 2002, 2007; Olds, Henderson, & Kitzman, 1994; Olds, Kitzman, et al., 2004; Olds, Robinson, et al., 2004)

The cost-benefits of the program also have been established. An early economic evaluation conducted by Olds and colleagues demonstrated that the savings to government, especially with respect to low-income unmarried women and their children, exceeded the cost of the program by the time children were 4 years of age (Olds, Henderson, Phelps, Kitzman, & Hanks, 1993). Evaluations by two external groups provide more recent data on the potential long-term cost-benefits of the program. The Rand Corporation estimates that for every dollar invested in providing the intervention to families at greatest risk, there is a return of $5.70, with most of the savings in reduced government expenditures on health care, education, social services, and criminal justice (Karoly, Kilburn, & Cannon, 2005), while an analysis by the Washington State Institute for Public Policy found that the program produced $18,000 in net benefits per family served (Lee, Aos, & Miller, 2008).

Dissemination of the NFP to Communities

As evidence from the trials has come to the attention of local and state policy-makers, communities have shown more and more interest in adopting the NFP. Between 1996 and 1999, small-scale dissemination of

the program was undertaken with a number of communities through grants from the US Department of Justice and the US Department of Health and Human Services. In November 1999, the National Center for Children, Families and Communities was established at the University of Colorado School of Nursing (since renamed College of Nursing) to provide the infrastructure for a scale-up of the program with funding from the Robert Wood Johnson Foundation. As the number of new communities running the program approached 200, it became apparent that continued scale-up through the university would be difficult to manage in light of state rules and regulations. Thus in 2003 the Nurse-Family Partnership National Service Office (NFP NSO) was established as a separate not-for-profit organization to continue the work of disseminating the program. In October 2009 the program was operational in 28 states, serving families in approximately 323 cities or counties (www.nursefamilypartnership.org). Although the program is implemented in these new settings by a variety of community-based organizations, the most common implementing entity is a city/county public health department.

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Measuring the Readiness of Practitioners and Communities to Adopt an Evidence-Based Program

The extent to which an organization establishes administrative structures for the selection and performance evaluation of key personnel and to ensure ongoing resources and support for evidence-based programs has been identified as a critical factor in implementation effectiveness (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). The utility of existing scales or tools for assessing organizational influences on implementation in public health and community settings, however, appears to be limited (O'Brien, Racine, & Vojir, 2009; Schoenwald, Sheidow, Letourneau, & Liao, 2003). Such assessment may require the investment of considerable personnel resources for gathering initial data to determine site readiness to adopt an evidence-based program and monitoring once the program is in place. A further challenge is that many community-based organizations do not have well-developed quality-improvement processes to handle issues that are identified.

Selecting and Recruiting Home Visitors to Deliver the Program

Due to limited financial resources and nursing shortages in some regions, it is not uncommon for administrators and policy-makers to question whether the NFP program really needs to be implemented by nurses. This issue is most prevalent in communities that have other established

home visitation programs that use paraprofessionals. Because of the consistency of significant effects for nurse-visited women compared to controls across randomized clinical trials (Korfmacher, O'Brien, Hiatt, & Olds, 1999; Olds et al., 2002), the NFP is being disseminated only to communities that agree to use nurses as home visitors. Yet many sites, particularly in rural areas, have to rely on nurses without baccalaureate preparation to implement the program. Lack of formal public health training for professionals working in state and city/county health departments has resulted in the establishment of competency-based performance standards by the NFP NSO, rather than a specific degree requirement. This reliance on competency-based standards adds to the importance of having nurse supervisors make regular home visits with staff, to identify areas where they are not meeting competency expectations and to provide ongoing in-services and skill-building activities. As will be discussed below, observational home visiting by supervisors poses its own set of challenges.

Training Nurses in the Implementation of an Innovative Evidence-Based Intervention

Implementation research has found that the successful translation of a research intervention into practice rests on three factors: timely training, skilful supervision, and coaching of those involved in adopting the new program or practice model (Fixsen et al., 2005). The NFP NSO requires that all nurse home visitors and their supervisors complete a series of training sessions to acquire the knowledge and skills needed to deliver the program to families. Although this requirement is included in the contract with implementing organizations, the timely training of new program staff is not easy to ensure. In the early years of program dissemination, training involved three face-to-face sessions (approximately 9 days) over the course of 12 to 15 months. As new programs faced restrictions on funding for travel, the NFP NSO developed written materials to orient staff to key components of the program and reduced the number of face-to-face sessions from three to two. As of September 2009, new program staff are required to attend one face-to-face session prior to program implementation, with follow-up training provided through online modules facilitated by the nursing supervisor at the local site. While distance-learning strategies have been shown to be efficacious in formal settings such as colleges and universities, they do require considerable infrastructure support. A study conducted by the author found that the use of distance learning to deliver additional content, to help nurses improve their knowledge and skills related to child development and parenting, is not always supported by the local implementing organization; a number of nurse home visitors reported that they had to complete the

online modules at home on their own time, due to administrative pressures to maintain service delivery levels.

Acknowledging the Importance of Clinical Supervision

The ZERO TO THREE National Center for Infants, Toddlers and Families believes that reflective supervision fosters an interpersonal environment conducive to self-reflection on one's practice, resulting in experiential learning — a process that enables professionals to help parents nurture the development of their young children (Eggbeer, Mann, & Seibel, 2007). The NFP NSO has embraced reflective supervision as a key component of program implementation, with the expectation that nursing supervisors at program sites will hold weekly one-on-one supervisory meetings with nurses, hold bi-weekly case conferences with the team of nurse home visitors, and make quarterly observational home visits with nurses. As budgets in community-based organizations have shrunk, administrative and supervisory staffs have invested more time in management functions and less time in clinical supervision. Thus many new NFP nursing supervisors lack the skills needed to promote and facilitate reflective practice. To fill this gap, the NFP NSO has increased the education and consultation required to help nursing supervisors become comfortable with reflective supervision. However, a large proportion of NFP nursing supervisors still struggle to find the time for observational home visiting with staff nurses in order to appraise their competence in working with families and to identify areas for ongoing clinical development. And while most programs do hold team meetings on a regular basis, the time allotted for reflection on practice issues encountered in working with families may be subsumed by the need to update staff on organizational policies and requirements.

Maintaining Fidelity to the Program Model

It is not unusual for tensions to arise around the importance of implementing the NFP program as it was designed and tested versus adapting it to the cultural values and beliefs of the populations served. There is a growing body of evidence that the intended outcomes documented through research are unlikely to be achieved unless the practices associated with the original model are fully adopted (Committee on Quality of Health Care in America, Institute of Medicine, 2001; Washington State Institute for Public Policy, 2002). Some of the tensions that arise over this issue reflect misunderstandings about what "fidelity" comprises. There is no prohibition against individualizing care when using an evidence-based approach. For example, an important component of the NFP model is a strength-based approach directed towards optimizing the family's sense of efficacy. Four strategies intrinsic to a strength-based approach are: lis-

tening to what families want and starting there; believing that families are the experts on their own lives and are capable of making choices to achieve desired goals; supporting families' view of options available to them; and helping families to set modest and reasonable goals that, when achieved, will contribute to their growing sense of efficacy (O'Brien & Baca, 1997). Adherence to these strategies is consistent with respect for the cultural values and beliefs of diverse populations. Therefore, the extent to which evidence-based programs can explicate the components and activities needed to reach the desired goals is crucial to the achievement of effective program implementation on a wider scale.

Valuing Prevention as an Essential Strategy for Improving Population Health

As public health resources become increasingly constrained, primary prevention programs are confronted with a number of challenges. For instance, services rarely show an immediate effect at the population level, yet their cost is immediate. The NFP, which targets an essentially well population of low-income pregnant women and their children, is an easy target for budget cuts when fiscal resources are in decline. Major national threats, such as flu pandemics or large-scale environmental destruction due to catastrophic weather events, may drive state and local public policy in ways that would not apply in normal circumstances. Thus cities, counties, or states may abruptly withdraw their support from an NFP program, resulting in sudden closures.

Moreover, evidence-based programs often focus on a segment of the population for whom the intervention has demonstrated effectiveness, rather than on the entire population. The segment of the population for whom the NFP is known to be effective is first-time mothers. This has raised issues in some communities about the need to balance spending on preventive services with spending on treatment services for families with known risks such as child abuse or with special-needs children. A related issue may be the place of direct-care services in public health agencies, as in the United States there has been a strong national and state emphasis on core public health functions related to community assessment, policy development, and assurance (e.g., linking individuals to needed personal health services). Where policy development has embraced evidence-based programs as a means of improving population health, agencies have been more willing to consider the NFP model.

In summary, the various challenges confronting the NFP, an exemplar of the dissemination of an evidence-based program intervention, include both programmatic and policy issues. In managing these issues, the NFP NSO has had to build a substantial infrastructure to assess the readiness of new communities to adopt the program and to provide services, guid-

ance, and support on a number of fronts: education for new staff on how to effectively deliver the intervention; ongoing nursing consultation and oversight of program implementation; quality improvement monitoring and guidance; and advocacy at state and national levels to facilitate the development of policies that are supportive of the program. As public health practice is increasingly being treated with the same rigour as acute and primary practice, we need further research on how to effectively scale up evidence-based programs and address the many challenges.

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