

Brokering the Evidence-Practice Gap: A Strategy for Moving Evidence Into Clinical Practice

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Moving novel, evidence-based interventions into broad community use is challenging. This column describes how a mid-level public health administrator acted in the role of broker to link university-based researchers with maternal health clinical staff to successfully implement an innovative, evidence-based maternal depression treatment. Program evaluation assessed adoption, implementation, reach, and effectiveness. In

reflecting on this partnership, the broker provided critical elements of access, credibility, and accountability. A partnership between service providers and research teams provides one strategy to disseminate evidence-based practices among those served by public-health programs.

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Among impoverished mothers, depression is prevalent. In a study of 4,332 postpartum women, 28.3% of those with an annual income of less than \$10,000 had depression, more than four times the 6.7% prevalence rate among those with an annual income of greater than \$70,000 (1). In turn, depressed mood among impoverished mothers can increase the risk of poor economic outcomes, including homelessness (2). Lack of access to mental health specialists, as well as logistical, financial, language, and stigma barriers, often prevent this at-risk group of depressed mothers from receiving treatment.

In the United Kingdom, public health nurses (called health visitors) visit all postpartum women in their home. For women identified as depressed through screening, some health visitors may offer a course of a home-based treatment called Listening Visits (LV). The goal of LV is to relieve stress by providing women with the opportunity to discuss their concerns. Using active listening to understand the mother's situation, the health visitor then collaborates with her to identify solutions to problems that she has prioritized. In 2007, substantial empirical support led Britain's National Institute of Clinical Excellence to recommend LV for mild to moderate postpartum depression (3).

In the United States, treatment provided by trusted home visitors has the potential to overcome many of the treatment barriers experienced by depressed, impoverished mothers served by home-visiting programs. Yet, expanding novel, evidence-based interventions such as LV into standard clinical care is challenging. Diffusion-of-innovations theory (4) recognizes that communication among key stakeholders significantly facilitates the uptake of new interventions. Yet

in the area of mental health treatment, researchers and community practitioners are rarely in direct communication. Pre-existing connections that link these two groups through trusted intermediaries, or brokers, could facilitate this essential communication (5). This column describes a partnership between research and services in which a midlevel administrator of a state's department of public health (the services partner) brokered the communication between a university-based team of perinatal depression researchers (the research team) and the staff of a maternal health clinic to implement LV through the state.

Partnership Between Research and Services

The research and services partners met in 2001 through their joint involvement with the implementation of maternal depression screening in the Des Moines Healthy Start Program. The success of this implementation led to requests to implement depression screening from other agencies throughout the state. Thus, in this partnership's first formal collaboration, the services partner facilitated the statewide dissemination of depression screening by bringing together the research team and social service agencies and by providing funding for this first dissemination project (6). Even with success in disseminating maternal depression screening, the services partner recognized that many women identified as depressed were still not receiving treatment. Because of their ongoing collaboration, the services partner was very familiar with the first author's program of research on LV. The services partner was receptive to the idea of LV because of her experience with a similar, first-line dental

intervention successfully delivered by maternal health clinic home visitors. She thus believed that home visitors could also provide a depression treatment to women with limited access to mental health professionals. Thus in May 2013, the services partner invited the research team to apply for funding to disseminate LV throughout the state's maternal health clinics.

Implementation

The services partner is the nurse clinician in the Bureau of Family Health and the coordinator for the Title V maternal health clinics. The Bureau of Family Health, a subdivision of Iowa's Department of Public Health, provides administrative oversight to the Title V Maternal Child Health program, which provides prenatal and postpartum care to Medicaid-eligible and other low-income women. Following the standards of the American College of OB/GYN for ambulatory obstetric care, the maternal health clinics offer medical and dental assessment, health and nutrition education, psychosocial screening and referral, care coordination, assistance with plans for delivery, and postpartum home visiting. In this setting, LV delivered by home visitors provided a means to address depression treatment barriers in this at-risk group of women.

Step 1: obtain funding. Each year, administrators of the Bureau of Family Health have the opportunity to submit a proposal for funding from the Professional Development Executive Committee of Early Childhood Iowa. This agency seeks proposals that align professional development with national early childhood development standards. One of these standards is to promote professional development to improve staff competencies in mental health. Because early treatment of depression can alleviate suffering for a new mother and potentially decrease the harmful impact on her infant and other children, the services partner decided that educating clinical staff to provide LV was a good fit with this funding source.

With funding awarded in September 2013, the next critical fiscal issue was to ensure that the maternal health clinic directors could bill clinical staff's time to provide LV. To meet this essential prerequisite, the services partner consulted with the state's Medicaid officer to obtain Medicaid billing codes for the provision of LV. In October 2013, Medicaid issued two new billing codes for the state, for LV delivered in the home by a nurse and for LV delivered in the home by a social worker.

Step 2: select an implementation strategy. The 21 maternal health clinics, dispersed throughout Iowa, are clustered into six geographic regions for administrative purposes. Because of the distances between the clinics as well as the difficulty of having all home visitors in the state attend LV training on the same day, the research team and services partner decided to implement LV in one administrative region at a time from December 2013 to May 2014.

Step 3: provide LV training. The LV curriculum comprises three parts. Part 1 is a one-day workshop covering foundational education about perinatal depression. Because of the prohibitive costs of attending a two-day training for this dissemination project (foundational and LV training), the LV research team developed an educational webinar to deliver the foundational material. Together, the services partner and the research team set a date for the webinar. The services partner communicated with the maternal health clinic directors to ensure that they knew about the webinar and, as much as possible, granted time for their staff to attend. The research team developed and delivered the webinar. In turn, the services partner posted the recorded webinar on the Bureau of Family Health Web site for staff unable to view the live webinar, as well as for subsequently hired staff.

Part 2 of the LV curriculum has two subcomponents: LV protocol development and an LV skills training workshop. In preparation for the LV skills training workshop in each region, the research team consulted with the directors of each maternal health clinic in that region. The purpose of these phone consultations was to explain the LV project and jointly determine whether LV could be implemented in that clinic, and if it could, to assist the clinic director in developing an LV protocol tailored to the clinic. Three of the 21 clinic directors indicated they could not implement LV because they did not provide home-visiting services and therefore would not be eligible for Medicaid reimbursement. Once consultations within the region were complete, the research team provided a one-day LV skills training workshop that covered the history of LV and empirical support, LV skills, and the logistics of using LV (such as reviewing clinic LV protocols, related paperwork, and billing procedures).

Part 3 of the LV curriculum is a simulated practice of LV skills. After the LV workshop, maternal health clinic staff completed an LV simulation exercise by phone with the fourth author, a research team member with considerable expertise in delivering LV.

Step 4: evaluate. Using RE-AIM, a public health framework for assessing the scope of dissemination (7), a descriptive program evaluation assessed four outcomes: adoption, implementation, reach, and effectiveness. Although a control group comparison was initially considered, additional funding in subsequent years was not guaranteed. The services partner therefore opted to implement LV in all agencies simultaneously, rather than incorporate some clinics as a control group comparison. To evaluate the impact of LV, the director of each maternal health clinic provided six months of deidentified data on the use of LV. The university's institutional review board determined that these data did not meet the regulatory definition of human subjects research and therefore did not require its oversight.

Adoption was high: all 18 maternal health clinics that were eligible for Medicaid reimbursement developed an LV protocol, and staff completed LV training. Implementation

was moderately high: 61% (11 of 18) of adopting clinics provided LV at least once in the six-month evaluation period. Among the 161 women flagged as depressed during the evaluation period, 21% ($N=33$) completed a course of LV (4.0 ± 1.2 M \pm SD sessions). Notably, this estimate of reach is conservative because some of the 161 women with elevated depression scores were already receiving treatment and thus were not eligible to receive LV. Effectiveness was high. The average scores on the Edinburgh Postnatal Depression Scale (EPDS) decreased 4.7 points after the LV sessions (from 14.0 to 9.3). Moreover, the average post-LV EPDS score was below 12, which is the cutoff score used by the maternal health clinics to signal elevated depression symptoms.

Lessons Learned: Brokering the Research-Practice Gap

Reflecting on this collaboration, we assert that the services partner did indeed broker the communication between the research team and the maternal health clinics. Moreover, this role extended beyond the mere passive introduction of the two groups by providing logistical and fiscal access as well as credibility and accountability.

Access. The services partner provided access to three types of fiscal resources as well as logistical access. First, as a midlevel manager, the services partner was able to identify applicants eligible to apply for professional development funding. Second, the services partner provided administrative oversight to funded projects and thus was able to contribute professional time to the implementation. Thus, the services partner was allotted professional time for the implementation. Third, as coordinator of Title V maternal health clinics, the services partner was able to leverage a collaborative relationship with Medicaid staff to obtain LV Medicaid billing codes, which were a critical fiscal resource. Finally, the services partner provided the research team with logistical access to the maternal health clinics by introducing them to the clinic directors.

Credibility and accountability. Many demands compete for the time of maternal health clinic staff, and the introduction of LV into standard care represented yet another task. The involvement of the services partner communicated to the maternal health clinic directors and staff the credibility of the research team, that LV is a valuable intervention, and that implementing LV was an expectation. Although some maternal health clinic staff were immediately enthusiastic about providing LV, others likely gave it a lower priority. Nevertheless, the adoption rate was high and the implementation rate was moderately high. We suggest that the clinic directors prioritized the provision of LV because they understood it was important to the services partner. Finally, once a clinic collected six months of evaluation data, the research team was concerned that without ongoing monitoring, LV use would decline. To provide ongoing accountability,

the services partner instituted a Web-based LV use report system.

Conclusions

The project described here successfully bridged the research-practice gap by leveraging the unique strengths and resources of a university-based research team, a public-health administrator, and maternal health clinic staff to broadly implement an evidence-based depression intervention in a state's maternal health agencies. Alone, none of these partners had the means to be successful. As a broker, the services partner facilitated the successful implementation of LV by linking university researchers with staff in a clinical practice setting. Finally, we suggest that the broker's role went beyond the mere introduction of researchers and clinic staff by actively contributing elements that were key to dissemination and implementation success. In conclusion, partnering with public health administration is a promising strategy to implement evidence-based practices in clinical settings.

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