

Editorial

Thoughts About the National Evaluation of FIMR: Strategies for Evaluating Population-Based MCH Interventions

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This issue of the *Maternal and Journal Health* is devoted to the results of a national evaluation of Fetal and Infant Mortality Review programs or FIMR, conducted by the Johns Hopkins University's Women's and Children's Health Policy Center in 1996–1999 (JHU). As clearly summarized by Koontz *et al.* in this issue (1), a FIMR is a community-based action process aimed at enabling the identification and resolution of problems related to poor perinatal outcomes. The FIMR process uses fetal and infant deaths as sentinel events to bring multidisciplinary teams together to consider the factors associated with these deaths and to develop recommendations for community-specific strategies to improve the health of women, infants, and families.

FIMR is a population-based intervention, implemented under national guidance from the National Fetal and Infant Mortality Review (NFIMR) program, a joint effort of the Maternal and Child Health Bureau (MCHB) and the American College of Obstetricians and Gynecologists (ACOG), but ultimately delivered at the community level. A FIMR's potential effects range from changes in the practice approaches of individual physicians to legislative or administrative changes to improve the delivery of services to women, infants, and their families, all activities undertaken to ultimately reduce the incidence of fetal and infant deaths in a community. As will be evident from this issue, FIMR is one of a variety of approaches to fetal and infant mortality reduction, in some communities operating alongside Healthy Start programs, regionalized perinatal systems, and other perinatal systems initiatives, PSIs (2). Likewise, FIMR is not a completely unique intervention in that similar types

of reviews focused on child mortality and maternal mortality also operate in many communities (3), and it is often a matter of serendipity as to which review (s) are present in any one state or community. Because of FIMR's population focus, the fact that it is part of a set of services designed to improve maternal and infant outcomes, its potential wide array of effects, and because its ultimate objective is focused on two relatively rare health events, fetal and infant death, the evaluation of a program such as FIMR is a challenging and multifaceted undertaking.

Given the complexity of evaluating an intervention such as FIMR, it was necessary for the JHU evaluators to adopt an approach that would be able to document those factors that represent FIMRs in general as well as reflect the community-specific nature of FIMR, provide evidence of their unique impact while appreciating that they are interventions operating as part of a larger community health service delivery system, and demonstrate effects that could clearly be associated with FIMR activities. From the accompanying articles in this issue, the reader will observe that the strategy adopted by the JHU evaluation is congruent with a public health system performance improvement approach.

In 2001, Handler and colleagues (4) presented a model for examining public health system performance based on the work of Turnock (5–6) and an earlier conceptual framework for examining the delivery of health care services laid out by Donabedian (7). In this model, the performance of the public health delivery system can be measured by examining the relationships between the *structural capacity* of the public health system (e.g., information, fiscal, organizational, human resources), the extent to which a public health intervention or a public health system

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engages in the key *processes* of public health such as assessment and planning, the prevalence of the results of such processes, or the *outputs* of the system, and the relationship between the outputs of the public health system and the *outcomes* of the system. Handler *et al.* (4) state that the model can be used to evaluate the effectiveness of a public health delivery system at multiple levels (e.g., national, state, local) as well as to examine unique public health interventions.

While not explicitly articulating this in their evaluation methodology (8), the JHU's evaluation scheme is congruent with a public health system performance improvement approach. In their evaluation, the JHU team specifically examine the relationship between structural factors and the outputs of FIMR (9): engagement in the essential MCH services [EMCHS (10)] and the development and implementation of recommendations; they also compare the prevalence of one of these outputs (EMCHS) in FIMRs versus other PSIs (11). The JHU team also recognized that because FIMR is a community and population-focused intervention, it also contributes to the performance of the essential MCH services by the local public health agency in the community in which the FIMR is located, and that this contribution may be different from and/or may be enhanced by the presence of other PSIs in a community (2).

By designing and undertaking a unique evaluation approach that reflects the proposed model (4) for evaluating the public health system/interventions described earlier, the researchers at JHU provide important insights about the structure, activities, and role of FIMRs in their communities. When just examining the FIMRs (9), the JHU evaluators find that certain factors such as whether the FIMR has two teams (a team for case review and a team for community action) versus some other structure, and the kinds of training participated in by FIMR directors and staff, both affect the likelihood of a FIMR implementing recommendations and engaging in the essential MCH services. They also find that FIMRs are more likely to develop recommendations in the areas of practice and program change rather than policy development. When comparing engagement in the EMCHS of FIMRs to other PSIs (11), the researchers find that reflecting their more prescribed focus, FIMRs are less likely to be engaged in many of the essential MCH services than PSIs, but that when FIMRs are co-located in communities that also have a PSI, the FIMR, PSI, or both are more likely to be engaged in the EMCHS. This finding suggests that FIMR's contribution to the public health enterprise is possibly en-

hanced in the presence of other public health system initiatives in the community, those that might have more of an opportunity to carry out changes in practice, programs, or policy. Taken together, this set of evaluation findings provides some clear direction for intervention improvements that may enhance FIMR effectiveness.

The JHU FIMR evaluation design also allows the researchers to examine whether the presence of a FIMR, PSI, or both is associated with the implementation of the essential MCH services by local health agencies (2). The data indicate that presence in a community of either a FIMR or a PSI is, in fact, associated with greater engagement in the essential MCH services by local health agencies. Similar to the findings of McDonnell (11) for the performance of the EMCHS by the FIMR and PSI programs themselves, the results of Strobino (2) suggest some potential synergy when both types of programs are present in a community, with increased performance of the EMCHS by the local health agency. Whether this finding is due to the fact that local health agencies in communities with either a FIMR or a PSI are more "engaged," cannot be ascertained from the evaluation data. However, together these findings suggest that the "effect" of FIMR is in its role as part of a system of services, which appears to be in keeping with the nature and focus of this intervention. Of note, the results presented here might be even more clear and powerful if the evaluation was conducted today, given the growth and maturity of the NFIMR program since the time that the JHU evaluation was initiated.

In this issue, we also learn how the FIMR process, which involves the intersection of public health activities with clinical practice, is similar as well as different from other mortality reviews (e.g., maternal mortality, child fatality), particularly with respect to FIMR's focus at both the individual and community levels and its emphasis on turning findings into community action (3). Mentioned in the Hutchins article (3) and fully explicated in another (12), we also learn about the important role of state Title V agencies in promoting, supporting, and advocating for FIMR, and how the efforts of state Title V agencies can enhance the effectiveness of the FIMR process. Both of these articles provide clear direction to the MCH field with respect to collaboration and sharing of best practices between the different types of reviews and the various ways in which state Title V agencies can support and enhance the work of FIMRs.

While on their face, the findings of the JHU FIMR evaluation are more subtle than startling, their

importance has as much to do with the selected methodology of the evaluation as with the findings themselves. The JHU team tackled the very difficult question of how to measure the impact of a multisite, population-focused intervention that encompasses diverse strategies to facilitate systems change and improve health. In their evaluation design, they chose not to examine the impact of FIMR on fetal and infant death, which some might view as the ultimate test of FIMR's success. According to the authors, this decision was based on the feasibility in demonstrating change given the rarity of these events, and the fact that these outcomes are affected by a multitude of processes in the environment, in the health care delivery system, and by individual health status and behavior (8).

The researchers' decision to focus on the intermediate processes or the two major *outputs* of FIMR, the development and implementation of recommendations and the performance of the essential MCH services rather than health status outcomes, has relevance beyond the evaluation of FIMR and deserves particular attention. Population-based public health interventions are more diffuse than both individual-level medical interventions and public health programs aimed directly at changing individual behavior, and are often focused at changing those health outcomes determined by multiple factors (e.g., infant death). As such, demonstrating that these interventions make a difference is fraught with difficulty. As an alternative, examining outputs such as engagement in the essential public health services should be considered a legitimate and meaningful measure of their performance, and the JHU FIMR evaluation clearly contributes to this approach. However, refinement and further validation of such measures (e.g., should we examine each essential public health service or might we increase our understanding of the effect of an intervention on outputs by using an index/combination of services?) for use in examining the effects of public health interventions remains an important area of exploration.

Ultimately, it is essential to examine and understand the relationship between the outputs of the public health delivery system/public health interventions and health status outcomes. In doing so, we will be forced to ask questions in new ways. Rather than examining whether the presence of a FIMR or other type of perinatal system initiative in a community leads to absolute differences in rates of fetal and infant death compared to communities without such initiatives, we might ask the following questions: Are

communities in which FIMRs are more successful in the implementation of recommendations more likely to experience declines in fetal and/or infant deaths? Are rates of decline in fetal and infant death greater in communities in which the presence of a FIMR or PSI is associated with increased performance of the essential MCH services by the local health agency? By linking public health outputs to health status outcomes, this approach could provide new insights into understanding the public health contribution (as opposed to the medical contribution) to fetal and infant mortality reduction and the role of interventions such as FIMR. While this seems to be a daunting task, the step of examining the more immediate outcomes or outputs of FIMR undertaken by the JHU researchers gives additional justification to this approach and provides a foundation for future exploration of the effects of FIMR and similar public health interventions on maternal and child health status outcomes.

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