

# FIMR and Other Mortality Reviews as Public Health Tools for Strengthening Maternal and Child Health Systems in Communities: Where Do We Need To Go Next?

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This article examines FIMR in relationship to two other maternal and child health mortality reviews—child fatality review (CFR) and maternal mortality review (MMR), and explores how their approaches to reviewing deaths can complement one another. Identifying opportunities for collaboration among these case review methodologies may lead to greater efficiencies at the local and state levels and strengthen the case review approach as a public health tool for improving maternal and child health outcomes. To enable comparative analysis, a table was constructed that identifies the purpose, structure, and process features of each case review approach. This was followed by an examination of two possible ways to improve maternal and child mortality review processes in states: 1) better coordination; and 2) improving each individual process through adapting and adopting promising practices from the others. A discussion is also provided of the state Title V role in facilitating both the coordination of reviews and the process of sharing best practices. Given the similarities that exist among the three MCH mortality reviews, it is important to view each review as one component of a larger system of maternal and child health death reviews. Implementing widely the recommendations generated by these reviews may increase the likelihood of improvements in services and systems on behalf of women and children.

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**KEY WORDS:** mortality reviews; death reviews; coordination; MCH systems.

## INTRODUCTION

In the 1980s, faced with the limitations of existing data systems and capacity, a national Low Birth Weight Work Group convened by the U.S. Public Health Service recommended that new methods be developed to capture more relevant and timely data

in order to improve the understanding of personal, social, and community as well as medical factors associated with adverse reproductive and infant health outcomes at the local level (1). Responding to this challenge, the federal Maternal and Child Health program designed a new community-level case review process leading from analysis to action; the process came to be known as Fetal and Infant Mortality Review (FIMR) (2). Many of the key elements of this original FIMR model were later refined by the National Fetal and Infant Mortality Review Program (NFIMR), a partnership between the Maternal and Child Health Bureau and the American College of Obstetricians and Gynecologists, and endure in today's fetal and infant mortality review programs. The recent Johns Hopkins University evaluation of FIMR programs nationwide (3) confirms that current FIMR methodology accomplishes the goals originally put forward by these national experts (4, 5).

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In 1996 when the national FIMR evaluation began, there were approximately 100 FIMR programs in existence across the country (6). Today there are over 200 FIMRs (7). During this same time period, there also was a noticeable increase in the number of states adopting other types of mortality reviews in addition to FIMRs. For instance, 48 states and the District of Columbia reported having active child fatality review committees in the first part of 2001 (8). Findings from the national evaluation of FIMR illustrate the important role of FIMR as it coexists with other state and community perinatal programs and review processes. Nearly half of the FIMR programs in the national evaluation study sample (45%) participated in child fatality reviews, 15% participated in maternal mortality reviews, and 30% participated in any combined review. Given the coexistence of these various mortality review processes, it is important to examine the relationships among them and to identify opportunities for cross-program coordination and learning.

With this objective in mind, this article examines FIMR in relation to two other maternal and child mortality reviews, Child Fatality Review (CFR) and Maternal Mortality Review (MMR), and explores how their varying approaches to reviewing the sentinel events of infant/fetal, child, or maternal death can complement one another. Identifying opportunities for collaboration among these case review methodologies may lead to greater efficiencies at the local and state levels and strengthen the case review approach as a public health tool for improving maternal and child health (MCH) outcomes.

To enable comparative analysis, we constructed a table that identifies the purpose, structure, and process features of each case review approach (Table I). A discussion of table results is followed by an examination of two possible ways to improve maternal and child mortality review processes in the states: 1) better coordination; and, 2) improving each individual process through adapting and adopting promising practices from the others. We then discuss the role of the state Title V program in facilitating both the coordination of reviews and the process of sharing best practices.

Finally, we explore the future role of the mortality case review process in a period in which timely data about maternal and infant events are more readily available to analysts. We conclude with recommendations about the role of mortality case review in the entire scope of maternal and child health surveillance.

## **FIMR, MATERNAL MORTALITY REVIEW (MMR), CHILD FATALITY REVIEW (CFR) COMPARISON**

Mortality review is a common clinical, as well as public health, improvement tool. The three most common maternal and child mortality case review methodologies—FIMR, CFR, and MMR—all represent efforts to organize community-level or statewide quality assurance or continuous quality improvement activities to improve the health and well-being of women, children, and families. While these review processes have much in common, it is also important to understand the differences among them.

This section presents information on each mortality review methodology across several dimensions, as a backdrop to discussion of current and potential intersections. The information in these tables was derived from *Fetal and Infant Mortality Review Manual: A guide for communities* (9) and related NFIMR publications (11–13), the Centers for Disease Control and Prevention (CDC) document, *Strategies to reduce pregnancy-related deaths: From identification and review to action* (10), and from a recent study of child fatality review published by Webster (8). Because nationally there is a wide variability in case review program implementation within each type, and because program strategies continually are being refined in each arena, information in Table I reflects the general schema for each type of review and is not intended to represent any one individual case review program.

### **Scope**

While focused on differing target populations, as seen in Table I, the three mortality reviews are quite similar in terms of their intent to reduce the incidence of mortality in the population. All three focus on causes and factors that extend beyond the event of death, including both family and community concerns. They all involve data collection (i.e., case data, and/or population statistics) and the extrapolation of individual circumstances to the larger practice and policy context, including recommendations for specific medical, social, or service system changes. While there is a commonality of purpose, differences are observed in the use of the data and recommendations generated. CFR, for example, may use case review information for prosecution related to the individual case of death (e.g., especially with child maltreatment fatalities). Neither FIMR nor MMR are intended to generate action with respect to specific individuals;

**Table I.** Comparison of Three Types of Mortality Case Review Methodologies: FIMR (9), MMR (10), and CFR/CDR (8)

Scope	FIMR	MMR	CFR/CDR
Intent	To improve services and resources for women, infants, and families with the long-term goal of contributing to infant mortality reduction.	To prevent maternal mortality and morbidity.	To prevent child deaths/to identify obstacles that prevent the child welfare system from protecting children.
Objectives	<ol style="list-style-type: none"> <li>1. Examine the significant social, economic, cultural, safety, and health factors associated with fetal and infant mortality through review of individual cases.</li> <li>2. Plan a series of interventions and policies that address these factors to improve service systems and resources.</li> <li>3. Participate in implementation of community-based interventions and policies.</li> <li>4. Assess the progress of the intervention.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify pregnancy-associated deaths.</li> <li>2. Review the medical and nonmedical causes of death.</li> <li>3. Analyze and interpret findings.</li> <li>4. Act on the findings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify circumstances leading to cause of death.</li> <li>2. Review agency involvement and actions surrounding death.</li> <li>3. Collect data about child deaths for later analysis.</li> <li>4. Provide suggestions for prevention of future child deaths.</li> <li>5. Assist in prosecution of child maltreatment fatalities.</li> </ol>
Target population	Fetal and infant deaths.	The death of any woman during pregnancy or within one year of termination of pregnancy, irrespective of cause.	Varies (e.g. the death of any child 0–18, medical examiner child deaths, sudden unexpected child deaths, child abuse, and neglect cases).
<b>Structural and Organizational Characteristics</b>			
	FIMR	MMR	CFR/CDR
Administrative sponsorship	Local health departments (60%) or regional perinatal networks, hospitals, universities, community advocacy groups (40%).	State health departments, large city health departments, or perinatal regional consortiums.	Child welfare services, state or local health departments.
Legislative authority	Varies; usually general state public health law; may also be specific state FIMR law.	Varies; usually general state public health law.	Varies; 67% of states have specific state CFR/CDR law, may also be state mandate.
Funding source	State Title V programs, Federal Healthy Start, local/county health departments.	State Title V programs.	May be unfunded or funded mandate, or frequently funded by state child welfare or state health department, or federal grants.
Participants	Varies widely. Public health, obstetric and pediatric providers, SIDS representatives, social services/Medicaid, medical examiner, consumers, advocacy groups such as HM/HB and MOD, policymakers politicians, business executives, etc. (25–60 team members).	Varies widely. Public health, medical specialties, (e.g., Ob-Gyns, FPs, pediatricians, internists, pathologists), nurses, state medical societies, state Title V and Title X, social service programs, nutrition, medical examiners, coroners, HMOs, education boards, etc.	Varies widely. Most teams include representatives from public health, law enforcement, social services, and clinical medicine (usually a medical examiner, pediatrician, or general practitioner).

Table II. Continued.

Review Process Features	FIMR	MMR	CFR/CDR
Source of data for case review, and sample size	Birth and death certificates, maternal interview, medical records, autopsy report. Varies by size of community and number of fetal and infant deaths/year. A FIMR team usually reviews about 3–5 cases/month.	Death certificates, autopsy report, medical records. Varies by size of state and number of maternal deaths/year. Usually all deaths are reviewed.	Death certificates, coroner or medical examiner report, case records. Varies by size of local community, number of child deaths/year, and the ages and types of cases reviewed.
Timing of review	6–8 months after the death.	6–12 months after the death.	Less than 3 months (45%). Greater than 3 months (51%).
Level of analysis	Local.	Usually state or perinatal region.	Local, state or both.
Anonymous	Yes; the names of providers, institutions, and families are not included in the case summary.	Yes; the names of providers, institutions and families are not included in the case summary.	No; medical, social service, and child welfare records of the deceased child are brought to the review.
Confidentiality	FIMR case review information is confidential.	MMR case review information is confidential.	CFR case reviews are confidential.
Home interview	Yes. An interview with the mother or other family member, if they agree, is included in each case review.	Not in the United States. WHO recommends a survivor interview.	No.
Relationship to Title V	Varies; FIMR programs frequently linked to Title V.	Usually linked to Title V.	Varies; some links in states.

their focus instead is on population health. FIMR goes the furthest in terms of expectations related to developing, implementing, and monitoring plans for action, based on recommendations evolving from review of individual cases; MMR's and CFR's intents are more circumscribed in these regards.

These differences in scope can be understood, in part, from recognition of the genesis of each specific review process. FIMR and MMR evolved initially from the medical and health care professions, with their traditions of peer-based hospital reviews as the backbone of quality assurance processes and their desire to uncover the series of events leading to specific outcomes in order to improve medical practice. CFR's genesis is in the child protection and criminal justice professions with their tradition of investigation and prosecution of crimes. Increasingly however, more emphasis in CFRs is focused on prevention of future deaths on a population basis, as opposed to individual investigation and interventions (14).

### Structural and Organizational Characteristics

The structure of each case review approach reflects the differences in their intent. In Table I, we look specifically at administrative sponsorship (state vs. local, as well as governmental vs. non-governmental

agency sponsorship), legislative authority, funding, and participants in the process.

From its inception, FIMR was conceived as a local, community-based strategy, involving both governmental and nongovernmental health and non-health organizations and community leaders (2). While FIMR is typically administered by local health departments, community-based organizations, coalitions, and collaboratives also can provide an administrative home for FIMR (4). Since pregnancy-related deaths are relatively uncommon, MMR case reviews are predominantly conducted in the state-wide context so that numbers are large enough to detect trends. MMR committees usually operate within state health departments and frequently work in particularly close collaboration with the state medical society or the state section of the American College of Obstetricians and Gynecologists (10). Maternal mortality review programs, however, are moving away from their original hospital-based model toward implementation as a state Title V-sponsored, interdisciplinary activity. Child fatality review can be either local or state based. In some states, both local and state CFRs are operative; typically, in these cases, state teams facilitate the work of the local teams. CFRs are usually administered by social service agencies or public health departments.

Funding sources also may vary by type of review. For example, both FIMR and MMR tend to be at least partially funded by state Title V MCH programs. Federal and state-level public health grant programs also play a role in supporting these two types of reviews. CFR commonly has a statutory mandate and may be funded through state health departments, state child welfare agencies, or national child welfare/child abuse prevention program resources. Conversely, some CFR programs may not receive any public funding, and the legislative mandate assumes ongoing implementation regardless of funding availability or source.

When examining the types of participants in the three mortality review processes, we again see both similarities and subtle, but important, differences. Of the three, FIMR committees are perhaps the most multidisciplinary and “mixed” (public–private sector, medical and nonmedical, clinical and professional), due to their broad focus on factors leading to fetal/infant death and their intent to effect practice and policy changes based on case review recommendations. Further, given their emphasis on “community ownership” of the problem of fetal/infant mortality and their charge to address it, FIMRs are typically organized into two teams with two specific functions—case review teams (CRT) and community action teams (CAT). CRTs usually are predominantly made up of health care and human service professionals; these teams examine the circumstances surrounding deaths as a springboard to identify needed improvements in health and human services and systems for women, children, and families. Recommendations from the FIMR review team are then prioritized and implemented, often, but not always, by a separate CAT composed of health, social services, and other professionals, as well as consumers. Community action teams are intended to include consumers and well-connected or influential members of the community, such as politicians, who can facilitate the implementation of recommendations to achieve systems changes (9).

State level MMR teams are also multidisciplinary, but they often primarily involve health and human service professionals, and not community leaders and/or consumer participants. This difference in committee make-up reflects MMR’s genesis in hospital/medical-only reviews. Expectations for action rest at the state level, and community-level constituents usually are not involved. Because CFRs are not anonymous—they use identified chart information—participants are typically social service,

criminal justice, and health/medical professionals who were involved in the case. These committees are very rarely able to involve community advocates or consumers because of the sensitive nature of the information being reviewed.

### Review Process Features

As noted earlier, all three mortality review processes involve data collection and analysis activities. Differences exist, however, in their case selection methods. In both FIMR and MMR, cases are identified from vital statistics databases. FIMR teams usually review a sample of fetal and infant deaths or, where numbers of deaths and FIMR program capacity allow, all fetal/infant deaths in a community. Maternal mortality review committees generally follow CDC guidelines, reviewing all deaths that occur in a state up to one year after the termination of pregnancy. Child fatality teams may review only the coroner or medical examiner case records, a subset of the population, or all child deaths (0–18 years) in a population.

All three types of mortality reviews use death certificate information, medical/case records, and autopsy results where available. Additionally, FIMRs frequently include birth certificate data as well as information from the maternal interview.

The choice of anonymity or case identification is appropriate to each of these processes, as they relate to the specific purpose of each type of review. FIMR and MMR are anonymous reviews; as the purpose of CFR is, in part, to resolve issues related to individual deaths, CFR is not. With FIMR’s public health focus on population, its community orientation, and its focus on facilitating broad participation of medical practitioners and provider institutions, anonymity is fundamental. Conversely, as the purpose of CFR is, in part, to resolve issues related to individual deaths, CFR is not an anonymous process. For MMR programs, anonymity is also important in order to facilitate maximum participation by the medical community. Confidentiality, however, is fundamental in all three types of mortality reviews.

Among the three types of mortality reviews, FIMR is unique in its inclusion of a home interview in the case review process. This type of qualitative data, usually obtained from the mother of the deceased infant, frequently provide the most valuable information about gaps in the service delivery system.

While the intent in all three reviews is to use the findings to improve maternal and child health outcomes, the approach to doing so differs. While

FIMR is an action-oriented, team-intensive methodology structured to move from case review to community action, CFRs and MMRs are, to date, less so. There is interest, however, on the part of many involved in these other mortality review programs in establishing a more formal mechanism for moving recommended systems changes to implementation.

Next we discuss ways to improve coordination and sharing of best practices among the varying maternal and child mortality review processes, with the intent of strengthening the case review approach as a public health tool for improving MCH outcomes.

### **IMPROVING COORDINATION OF THE MULTIPLE MORTALITY REVIEWS THAT EXIST IN STATES**

While coordination among co-existing mortality reviews is key for maximizing efforts, little information exists on suggested approaches. In November 1997, representatives from FIMR, CFR, and Sudden Infant Death Syndrome (SIDS) programs met to discuss how the different review processes and programs can maximize their efforts on behalf of families. Representatives of SIDS programs were included in order to consider how their focus on providing bereavement services might be of special interest in terms of related program partnerships. Another purpose of this meeting was to suggest strategies for FIMR–CFR collaboration at the local, state, and federal levels.

Participants strongly concluded that the distinctions between FIMR and CFR programs are crucial and need to be preserved. However, they also agreed that there is significant potential for efficiencies and greater impact through collaboration. For example, both mortality review programs can share aggregate, de-identified recommendations. Both also can work together to improve agency linkages and to create locally meaningful and culturally appropriate solutions to identified problems. Specific strategies recommended include convening an annual state-level joint FIMR and CFR meeting to share findings and recommendations and explore opportunities to partner in moving recommendations into action agendas; identifying members who participate in both processes in order to enhance communication on an ongoing basis; and, issuing joint reports to policymakers (15). In addition, participants recommended including SIDS program representatives on both FIMR and CFR teams and supported developing a process to ensure

that all families who have lost a child have access to culturally appropriate bereavement services.

As a way to further coordinate and improve linkages among case review processes, MCHB also awarded 3-year grants to states (Virginia, Montana, and Colorado in 1998; Connecticut, District of Columbia, Illinois, and New Jersey in 2001) to explore ways to improve coordination between local and state-based mortality reviews and state maternal and child health programs. Some of the activities of these grants include joint training and conferences for members of different mortality reviews to identify “common ground” and promote coordination among participants. These funded projects have identified many additional opportunities for coexisting mortality reviews to link data in order to avoid duplication of effort and strengthen recommendations for change.

In Michigan, state and local CFR program staff worked with experienced FIMR participants to develop a conceptual model for separate FIMR and CFR review processes with several shared steps (16). In this model (Fig. 1), official documents are jointly reviewed by CFR and FIMR staff at the community level to identify and triage infant deaths to the most appropriate review process (e.g., if homicide, then CFR). Cases are then reviewed and discussed by the assigned team. Recommendations are subsequently forwarded to groups such as local action teams, state and/or local public agencies, or intersectorial collaboratives that can make the appropriate change. Implementation of this conceptual model is evolving; Michigan’s first joint FIMR–CFR report was developed in 2003 and is awaiting approval by the Michigan Department of Community Health and the Family Independence agency (Fournier R, personal communication, February 17, 2004).

Another example of coordination of multiple reviews is found in Palm Beach, Florida (17). The FIMR and CFR in Palm Beach annually present a major report with their combined findings and recommendations. While their findings may be somewhat different, the Palm Beach FIMR and CFR share prevention as the common theme, and have found that there is power in joint reporting and in joint media work that benefits all partners.

While the differences in purpose among FIMR, MMR, and CFR would favor promoting improved coordination among different reviews over completely combining reviews, certain circumstances might warrant joint review of an individual case. Similarly, the development of state mortality review databases could identify cases reviewed by more than one review

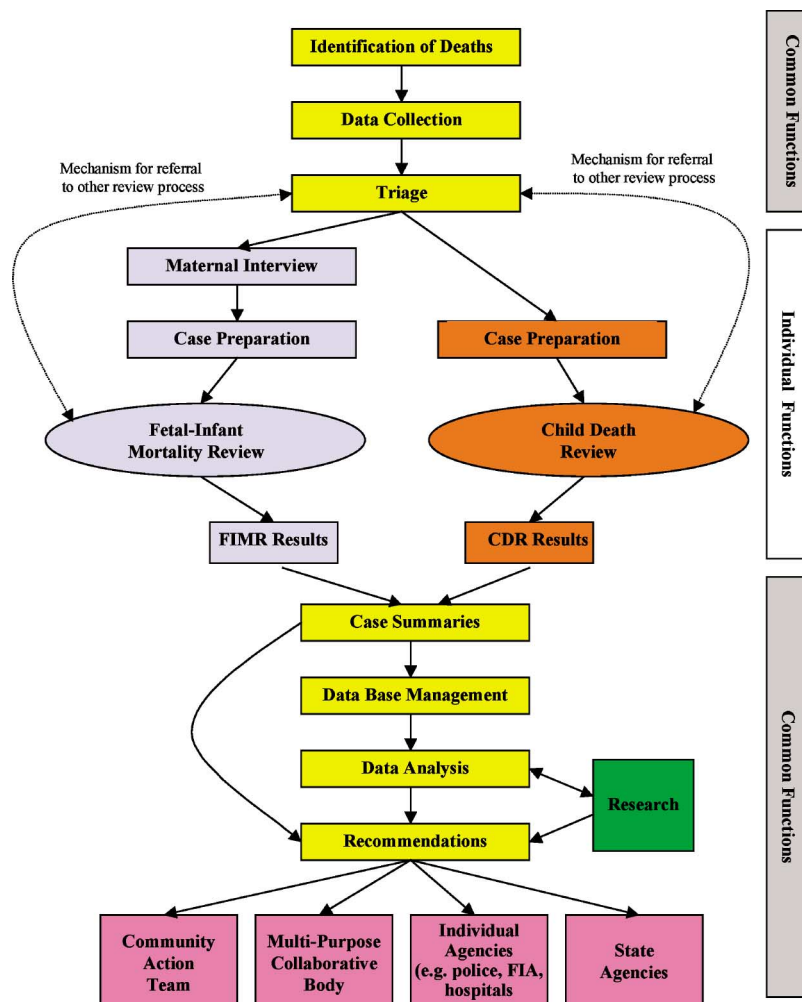


Fig. 1. Coordinating fetal infant mortality and child death review in a community. (Source: Reference 16)

committee. State databases also could provide a better understanding of the types of recommendations generated by different types of reviews in a state.

Finally, when discussing coordination of reviews it is also important to consider the relationship of case-fatality reviews in MCH in the context of other MCH surveillance techniques being used by localities or states, such as the Perinatal Periods of Risk (PPOR) approach or the publication of routine reports based on vital statistics or Pregnancy Risk Assessment Monitoring (PRAMS) data. As the results of a PPOR analysis or routine or special analyses of vital statistics and/or PRAMS data are also used to identify risk factors for adverse pregnancy, as well as perinatal and infant health outcomes, these results can and sometimes are used to complement case re-

view data and strengthen information generated from individual-level case reviews. FIMR, CFR, and MMR committees not already doing so may want to consider a process whereby a review of analyses of MCH surveillance data is integrated into their case review activities on a routine basis.

### SHARING BEST PRACTICES AMONG MORTALITY REVIEWS

Collaboration among different mortality reviews can lead to adoption and/or adaptation of the best practices observed from one type of mortality review to another. Areas in which best practices can be shared include the constellation of participants in the review process, strategies related to implementing

the process itself, and the use of findings generated by the review.

### Review Process Participants

Of the three types of case review methodologies, FIMR is the most inclusive in terms of professional disciplinary representation, and emphasizes inclusion of consumers and community advocacy organizations. Although several states have recently expanded their maternal mortality review committee membership beyond physicians and nurses to include members from areas such as nutrition, mental health, substance abuse, family planning, and domestic violence, MMRs typically do not include consumers or advocates. Similarly, CFRs have traditionally not included consumer advocacy organizations. A few CFRs however have expanded membership to include representatives from the insurance industry, legislatures, and tribal and armed forces (8).

The benefit of including consumers and community activists in the case review is found in the participation of individuals who can embrace the “issue” of fetal and infant mortality and who are best positioned to translate findings into changes in policy and secure resources for systems change. Broad inclusiveness further has potential to promote sustainability by expanding the base of individuals and organizations for advocating for resources to support ongoing operation of mortality review processes. MMRs and CFRs might consider broader participation and/or two-team structures to enhance the likelihood of system and policy change.

### Review Process Features

Home interviews have been found to be an effective component of the FIMR process, generating enriched information on the extent to which services and community resources are available, accessible, and culturally appropriate. The interviews are unique in that they provide information from the mother’s own perspective on her infant’s death and on the process of perinatal care. Home interviews also are an opportunity to provide culturally appropriate health and human services referrals, as needed, and to support families in the bereavement process. As such, the home interview also might be viewed as a prime opportunity to intervene with those families at risk for experiencing future fetal, infant, child, and/or maternal deaths.

It is unclear whether it would be more difficult to conduct survivor interviews with either CFR or

MMR cases, as litigation is involved in many of these deaths. However, there are some locales that are integrating family interviews into their other mortality reviews. In Palm Beach County, the Healthy Start coalition expanded their FIMR process to include all child deaths for the age group of 0–19 years. Their staff conducts a home visit for each case if the parents agree (17).

Regarding maternal mortality reviews, the World Health Organization (18) has long promoted interviewing the surviving spouse or partner, and a standardized home interview tool is available. Given the provider liability issues in the United States, it may be more feasible to advocate for a more general public health home assessment visit to at-risk families rather than a specific interview with all families where the mother has died. In addition, survivor interviews could be conducted in those cases where liability is not at issue (e.g., suicide, or some motor vehicle deaths). Information about the family’s circumstances gleaned from the home visit may inform the case review, and, additionally, follow-up of those children who have lost their primary caretaker could be assured.

CFR and/or MMR processes might be enhanced by drawing on FIMR program experience in dissemination and “taking recommendations to action.” The FIMR structure, with separate teams for case review and for action planning, is formally structured to move beyond analysis. In fact, many CFRs and MMRs are currently examining how they can disseminate their findings more widely and engage stakeholders in promoting the implementation of recommendations.

While CFRs or MMRs might pursue the FIMR two-team approach in order to facilitate moving from findings to community action, the concept of operating review program activities at both the state and local levels, which is most often seen in CFR, is an approach that FIMRs might consider. A state-level process may be able to effectively coordinate local case review committee findings in order to identify and address issues requiring policy attention at the state level. Moreover, having a state-level process to examine local mortality review recommendations can facilitate development of actions that are consistent across the state.

### Focus and Use of Review Findings

The focus of findings and suggested actions differs by type of review process. For CFR, traditionally, the first priority is intervention with respect to

individual cases/deaths. Findings in MMR are directed exclusively at systems issues with relevance statewide. FIMR pursues findings both for individuals (e.g., through the home interview component) and for community level programs, practices, and policies.

The three processes also may differ somewhat with respect to the locus of responsibility for initiating changes in services or policy. FIMR, with its CAT, is structured specifically to bring about change at the community level. MMR is more likely to target the state level for initiating recommended change, while CFR usually focuses on both the community and the state levels.

It may be useful for all three reviews to consider the relative potential benefits of expanding their scope in terms of both the focus of their recommendations and the process (responsible entities/levels) for taking recommendations to action.

#### **THE ROLE OF THE STATE TITLE V PROGRAM IN COORDINATION OF MULTIPLE MORTALITY REVIEW PROCESSES AND SHARING OF BEST PRACTICES**

Grason and colleagues summarize and highlight the array of approaches evolving in states to promote and work with FIMR and other case review programs (19). One particularly pertinent area is coordination of reviews. Not only is it important to coordinate among the different types of maternal and child mortality reviews, coordination at the state level of local reviews of the same type is also essential to improving maternal and child health outcomes. Such coordination, as well as data set linkage capabilities, enhances the potential to examine trends and take action to address needs of consequence statewide. Title V programs are uniquely positioned to facilitate/accomplish this kind of coordination, due to their longstanding partnerships with other child- and family-serving agencies and subsystems, their experience with bringing together data from different sources to create comprehensive information about community needs and assets, and their strong focus on data-driven planning and policy development.

Further, state Title V programs report efficiencies when local mortality review training can be organized at the state level (19). Some state Title V programs also provide technical assistance to both FIMR and CFR efforts; these training and technical

assistance functions provide ideal venues for sharing promising practices across the different types of review programs.

As noted earlier, analysis of local mortality review team findings at the state level can contribute to a broader, more complete view of the health system issues at hand and ensure linkages for policy and program action. In specific regard to community-level mortality review methodologies (FIMR and CFR), state roles may be particularly germane, as certain issues (e.g., resolving administrative and/or financing issues related to Medicaid) are not amenable to intervention at the local level alone. Moreover, state MCH program awareness of local review findings and recommendations can be important to development of the state's required Title V Block Grant five year needs assessments, as well as annual grant plans and reports.

Additionally, while each of the mortality reviews may operate very independently in a state, they often experience the same financial challenges that compromise their survival. Issuing a combined report emphasizing the issues and preventive strategies common to both maternal and child deaths in a state could also be beneficial for devising strategies to ensure long-term funding for mortality review programs. A consolidated analysis and set of recommendations for improving MCH provided to the governor and legislature likely would garner greater attention and make a stronger case for efficient resource allocation as well as the need for sustained support for the mortality review programs.

#### **CONCLUSION**

While there is variability in the evolution and implementation of the various MCH mortality case reviews, there are similarities as well. Given these similarities and the almost serendipitous nature as to which states and/or localities have instituted which of the review processes, it seems useful to view each type of review as one component of a larger system of maternal and child death reviews that spans the MCH life course. In this scenario, any death of a mother, infant, or child can be viewed as a sentinel event that should sound the alarm for improvement in the MCH delivery system. Whether a state or locality has an MMR, CFR, or FIMR process in place, the findings from such reviews, along with ongoing review of data generated by routine surveillance of vital statistics, PRAMS data, or special analyses conducted through

PPOR, should be the cause for action on behalf of women and children. The likelihood of real change and improvement in services and policies will be facilitated if findings are disseminated widely at both the local and state levels to consumers, professionals, and key policymakers. To this end, a strong partnership between local health departments, social service agencies, MCH consumer advocacy groups, and state maternal and child health programs in the conduct of mortality reviews is essential.

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