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# Perinatal Health Systems Initiatives in Local Communities

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The United States has a long history of population-based strategies to improve maternal and infant health dating back to the turn of the last century and efforts to improve environmental and living conditions in urban areas (Hogue and Hargraves 1993; Centers for Disease Control 1999). The advent of the Children's Bureau in 1912 and its emphasis on obtaining data to document the then high rates of maternal and infant mortality also contributed to this population-based focus (Wertz and Wertz 1989). Title V of the Social Security Act passed in 1935 established the Federal Maternal and Child Health (MCH) Program, which continues in this emphasis on a population-based approach to maternal and child health (Hutchins 1994).

In the early 1960's, the Maternal and Infant Care Projects were introduced by the Federal MCH Program (Maternal and Child Health Bureau, (MCHB)), focusing on provision of comprehensive prenatal care for the most disadvantaged populations in targeted communities around the country (Bassani, Squire et al. 2001). In the decade that followed, MCHB launched the Improved Pregnancy Outcome Project, emphasizing a regional approach to organizing services, specifically with regard to hospital-based care for mothers and newborns (Goldenberg and Koski 1984). In 1991, the Federal Healthy Start Program was established in response to the slowdown in the decline in the infant mortality rate (IMR) and the public's concern about the embarrassingly high IMR in the United States relative to other developed

countries (Badura 1999). With the goal of reducing infant mortality, the program has evolved over time to incorporate a broad community-based strategy aimed at the organization and delivery of services for women and children living in targeted communities experiencing disproportionate economic and social disadvantage. In addition, a number of public-private partnerships have evolved in communities to more efficiently and effectively coordinate and provide services for mothers and newborns in the entire population (Strobino, Nicholson et al. 1999). It is these community-based strategies, used in Healthy Start and other systems-oriented programs that are the focus of this publication.

In this brief, we describe a "snapshot" of perinatal systems initiatives (PIs) that were sampled as part of a larger nationwide study of the impact of Fetal and Infant Mortality Review (FIMR) Programs. Although the PIs served as a comparison to the FIMR Programs and we did not study their programmatic effect, we expect that they may make a unique contribution to bolstering or integrating the perinatal health care system in their community. A PI was defined in the study as a broad, collaborative, community-based activity involving multiple processes (such as assessment, planning, policy and development), partnerships, and program strategies to improve perinatal health. Initiatives that were designed to provide a single service were not included in our sample.

## Administrative Characteristics of Perinatal Systems Initiatives

There was considerable variability in the administration and funding of the perinatal systems initiatives. The lead agency of the PIs was most frequently located in the local health department (39%), followed by a community health agency or organization (29%). In a few cases, a local hospital (8.5%) played this role. Over three-quarters (78%) were built on other perinatal or health-related programs or activities. One-fifth (19%) of the PIs were formed as required components of other programs, but most (62.1%) were stand-alone initiatives. Ten percent of the sample included federal Healthy Start initiatives. Most of the PIs had an advisory or steering committee (81.4%).

The PIs leveraged multiple funding sources to meet their budget needs. Half of the PIs were funded by state funding sources, while one third (34%) received federal funds. Funding was also obtained from local sources (18%) and foundations (10%).

The PI directors and staff overall were well trained in the topics of perinatal health or infant mortality: 83.1% of directors reported having such training, along with 79.7% of their staffs. Fewer reported having training in strategies for implementing objectives or action agendas: 69.5% of directors and 62.7% of staff.

## Methods

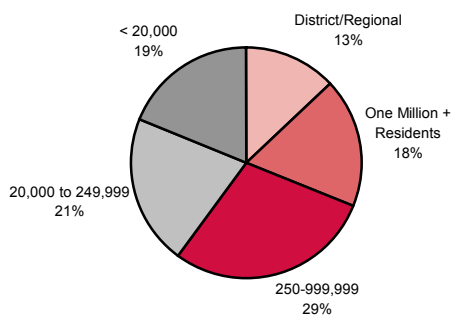
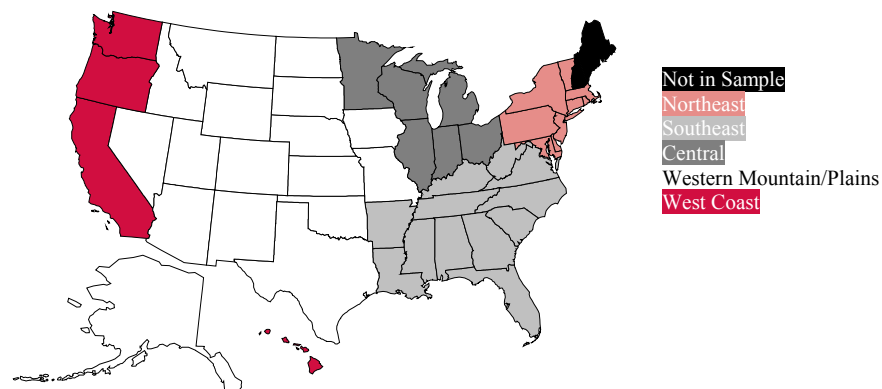
The FIMR evaluation was designed as a cross-sectional observational study in which geographic units were sampled across the nation based on the presence or absence of a FIMR program or other perinatal systems initiative, their geographic location and their population density. This design permitted comparison of the implementation of various public health functions in communities that did and did not have a FIMR, along with communities in which there were other perinatal health systems initiatives. Data were collected by telephone interview from 193 local health department respondents responsible for or knowledgeable about maternal and child health (MCH) programs, practices and policy. In addition, FIMR program directors and directors of perinatal systems initiatives were interviewed about the characteristics

of their program and their impacts on public health activities and perinatal services and systems. These latter interviews form the basis of the data presented here.

Interview data were obtained from 62 directors of perinatal systems initiatives, representing 74 percent of the 84 eligible initiatives. Data for population density and geographic areas are presented here for 60 PIs. Most other data were complete for 58-59 PIs, the sample used for the results presented in this report. The interview data include information about the structure and administration of the initiatives; their roles and characteristics; their objectives, community-based strategies and their implementation; and the presence and roles of an advisory board or committee.

## Characteristics of the Participating Perinatal Systems Initiatives

**Geographic Area.** The classification of geographic areas for the PIs reported here is reflective of both geographic location and differences in orientation of health departments and health services systems. The PIs were not evenly distributed across the country. Close to 30% were located in communities in each of the Southeast and Northeast regions, while one-fifth were in the Central region, 16.7% in the West Coastal states, and only 6.7% in the Western Mountain/Plains states.



**Population Density.** One third of the PIs (35%) were located in cities or counties with populations of 250,000-999,999 individuals, and one quarter (25%) in cities or counties with populations of 1 million or more. Fewer PIs were located in the smaller communities, 16.7% in cities or counties with populations of 20,000 to 249,999, and 15% in areas with populations of less than 20,000. Eight percent of the PIs were located in communities in which the local health department was organized on a district or regional basis composed of multiple counties for which the population size was not identified.

## Perinatal Systems Roles and Characteristics

The PI directors reported about the roles and characteristics of their initiatives. These characteristics ranged from data gathering and assessment, to facilitating collaborations among providers and developing clinical guidelines, to setting policy for the perinatal health system (Table 1). Almost all PI directors reported data and assessment related activities such as considering social and behavioral aspects of perinatal health, collecting and assessing data, and identifying gaps in the health care system. The vast majority

also reported activities related to advocacy and those that assisted in promoting provider and agency collaborations in the community. About half undertook activities related to educational programs for perinatal health care providers. Standard setting activities involving the development of protocols for clinical care, particularly high-risk care, were reported by half or less of the PI directors. While half of the directors reported that they assured implementation of perinatal health care policy, fewer set policy.

**Table 1. Roles and Characteristics of the Perinatal Systems Initiatives (N = 58)**

<b>Roles and Characteristics</b>	<b>N</b>	<b>%</b>
<u>Data and Assessment</u>		
Consider Social and Behavioral Aspects of Perinatal Health	57	98.3
Undertake Data Collection and Assessment	51	87.9
Identify Unrecognized Gaps in the Health Care System	51	87.9
Investigate Perinatal and Infant Health Problems in Depth Using Multiple Sources	45	77.6
Assess Perinatal Health Needs	44	75.9
Identify Perinatal Data Needs	42	72.4
Undertake Timely Monitoring of Changes in the Health Care System	39	67.2
<u>Advocacy</u>		
Advocate for Mothers and Newborns	50	86.2
Educate Community about Perinatal Health	50	86.2
Serve as a Forum for Community Concerns about Mothers and Newborns	44	75.9
<u>Linkages/Communication</u>		
Facilitate Communication Among Clinical Providers	49	84.5
Foster Community Empowerment and Mobilization	40	69.0
<u>Provider Education</u>		
Specify Content for Perinatal Health Care Provider Education Programs	30	51.7
Assure Provision of Education Programs for Perinatal Health Care Providers	29	50.0
<u>Standard Setting</u>		
Develop Protocols to Identify High-Risk Patients	30	51.7
Develop Protocols for Follow-up of High-Risk Patients	29	50.0
Develop Protocols for High-Risk Consultation Services	20	34.5
Develop Protocols for Maternal and Newborn Transport	13	22.4
<u>Policy</u>		
Assure Implementation of Perinatal Health Care Policy	30	51.7
Set Policy for the Perinatal Health Care System	19	32.8

## Perinatal Systems Initiatives' Objectives

Each respondent was asked to identify up to four objectives of their initiative, and to then describe the strategies to achieve the objectives, monitoring and implementation of the objectives. The data presented here are based on 207 reported objectives for 58 PIs (out of the potential maximum of 232 objectives, if each respondent had identified four objectives). The majority of the objectives dealt with the general theme of health promotion and risk reduction across a range of health concerns (67.6%), while the remainder targeted systems capacities and organizations (14.5%), needs assessment and monitoring (6.8%), access to appropriate care (6.3%), or some other theme (4.8%). When viewed in terms of the number of initiatives in which the general theme was reported for the objectives, a clearer picture emerges of the extent to which the PIs embraced each theme. The vast majority of PIs had at least one objective that dealt with health promotion and risk reduction (91.5%); 33.9 percent dealt with systems and services capacity and organization, 20.3 percent with access to appropriate care, 16.9 percent

with provider competencies, and 15.3 percent each with needs assessment and monitoring and service and provider coordination.

Apart from the themes, the objectives specifically focused first on health concerns (31.9%), such as low birth weight, infant mortality, substance use and adolescent pregnancy (Table 2). The next most frequent foci were perinatal health care and services (22.7%), with prenatal care topping the list of foci here. Systems development or coordination (9.7%) was also among the most frequently reported foci. When viewed in terms of the total number of PIs that included the topic among their four objectives, 42.4 percent included prenatal care; 27.1 percent, low birth weight; 20.3 percent, infant mortality; 16.9 percent, consortium development; 13.6 percent, adolescent pregnancy; 11.9 percent substance use; and 10.2 percent each, parenting skills and risk assessment. Other less frequently reported foci, but noted by more than one PI included FIMR development, family planning and racial and ethnic health disparities.

**Table 2. Most Frequently Reported Foci of the Objectives**

	Health Concern		Service/Care Foci		Systems Functions	
	N	%	N	%	N	%
Prenatal Care	-----		29	14.0	-----	
Low Birth Weight	17	8.2	-----		-----	
Infant Mortality	12	5.8	-----		-----	
Consortium Development	-----		-----		12	5.8
Substance Use	11	5.3	-----		-----	
Parenting Skills	10	4.8	-----		-----	
Adolescent Pregnancy	8	3.9	-----		-----	
Service And Provider Coordination	-----		-----		8	3.9
Risk Assessment	-----		7	3.4	-----	
Preterm Labor And Fetal Monitoring	-----		6	2.9	-----	
Tobacco Use/Smoking	5	2.4	-----		-----	
SIDs	5	2.4	-----		-----	
Provider Competencies	-----		5	2.4	-----	
<b>TOTAL</b>	<b>66</b>	<b>31.9</b>	<b>47</b>	<b>22.7</b>	<b>20</b>	<b>9.7</b>

The PI directors reported using a variety of strategies to address their objectives that can generally be broken down into three categories: program (70.5%); practice (24.6%); and policy (3.9%). The most frequently reported strategies included in descending order of frequency of reporting: provider education, client/patient education, community education, data assessment and client/patient outreach (Table 3). Other less commonly reported strategies not shown in Table 3, but reported by more than one PI, were care of high-risk clients, community based coalition/consortium, parent education, agency coordination, shared records/common forms, and risk assessment.

Respondents reported that most PI objectives had been implemented (87.7%), although some were in process (9.9%), and a small number had not yet been implemented (1.5%). About half of the objectives were monitored with

strategies other than use of routine data; 33.5 percent of the PI directors reported formal monitoring strategies and 16%, more informal means of monitoring.

**Table 3. Most Frequently Reported Strategies to Achieve the Objectives**

	N	%
Provider Education	45	21.7
Client/Patient Education	28	13.5
Community Education	20	9.7
Data Collection and Assessment	19	9.2
Client/Patient Outreach	14	6.8
FIMR Review and Development	11	6.3
Community Outreach	10	4.8
Provider Collaboration	10	4.8
Case Management	7	3.4
Screening	5	2.4
<b>Total</b>	<b>169</b>	<b>81.2</b>

## Perinatal Systems Initiative

In most communities, the PIs were not the sole entity focusing on perinatal health issues, and often interacted with several other organizations. Many PIs collaborated with, participated in, or provided specific health expertise to initiatives or programs of other public or private groups in the community: 84.2% to initiatives related to pregnant women; 69.5% to ones related to infants; and 52.6% to ones for non-pregnant reproductive-age women. Some communities had perinatal boards or committees organized around perinatal health concerns in their communities.

Of the 45 respondents who responded to questions about these boards or committees, nearly half (47.8%) said there was a perinatal board/committee in the community, and 8 reported that their PI was the perinatal board. Of the 22 perinatal boards/committees, the PI director or staff was a member of the board in 81.8% (18) of the boards/committees. Over half (62.1%) of the respondents perceived that the local Perinatal Board played a moderate to very significant role in shaping perinatal program or policy direction in their community.

## Observations

This “snapshot” of perinatal health systems initiatives in local communities clearly shows that they are community-oriented programs. The strategies used by these initiatives to implement their objectives predominantly involve the public health functions related to education of the workforce, community education and outreach and collaboration or coordination among providers, agencies and health care facilities. The variation in these strategies is less than the variation in the particular foci of the objectives. This is not surprising as there may be a limited number of broad-based community strategies that can be implemented, while there is a long list of perinatal health concerns that may be targeted in communities. The foci reported by the PI directors appear to address the different problems and health care needs in their respective communities.

In general, our findings also indicate that these systems initiatives are not very policy oriented, although they do involve data and assessment functions that could ultimately result in establishing new or revising old policies. We did not assess financing of these programs in our study, only their source of funding. As a result, we do not have a sense of the intensity of the initiative.

One caveat in interpreting our results is that there was considerable activity related to perinatal health and health care in the communities that are reported here. For example, more than half of the communities also had an active FIMR program. Thus, we cannot generalize to all U.S. counties or metropolitan areas even if they had a perinatal systems initiative. Regardless, the activities of the PIs analyzed provide a basis for guiding the maintenance, development and further implementation of current and future PIs.

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