State Health Agencies and Quality Improvement in Perinatal Care

Kay A. Johnson, MPH, EdM, and George A. Little, MD

ABSTRACT. The origin of the federal-state partnership in Maternal and Child Health (MCH) can be traced from the Children’s Bureau grants of 1912, through the Sheppard-Towner Act, to the creation of Title V and other programs of today that mandate planning, accountability, and systems development. In the past decade with the transformation of the health care system and the emergence of managed care, there has been a resurgence of interest in public, professional, and governmental interest in quality measurement and accountability. Regional perinatal systems have been implemented in all states with varying levels of involvement by state health agencies and the public sector. This historical framework discusses two primary themes: the decades of evolution in the federal-state partnership, and the emergence in the last three decades of perinatal regional system policy, and suggests that the structure of the federal-state partnership has encouraged state variation.

A survey of state MCH programs was undertaken to clarify their operational and perceived role in promoting quality improvement in perinatal care. Data and information from the survey, along with five illustrative state case studies, demonstrate great variation in how individual state agencies function. State efforts in quality improvement, a process to make things better, have four arenas of activity: policy development and implementation, definition and measurement of quality, data collection and analysis, and communication to affect change. Few state health agencies (through their MCH programs and perinatal staff) are taking action in all four arenas. This analysis concludes that there are improvements MCH programs could implement without significant expansion in their authority or resources and points out that there is an opportunity for states to be more proactive as they have the legal authority and responsibility for assuring MCH outcomes.

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ABBREVIATIONS. MCH, Maternal and Child Health; FIMR, Fetal-Infant Mortality Review; MIC, Maternity and Infant Care; OBRA, Omnibus Budget Reconciliation Act; TIOP, Toward Improving the Outcome of Pregnancy; HEDIS, Health Plan Employer Data and Information Set; HIV, human immunodeficiency virus; PRAMS, Pregnancy Risk Assessment and Monitoring System; CDC, Centers for Disease Control and Prevention; APT, Arizona Perinatal Trust; AFRS, Arizona Perinatal Regional System; AHC-CCS, Arizona Health Care Cost Containment System; ADHS, Arizona Department of Health Services; DPA, Department of Public Aid; PHSR, Perinatal Health Status Report; QUIPP, Quality Improvement in Perinatal Care Programs; RPCs, regional perinatal centers; RPCCs, Regional Perinatal Coordinating Councils; DMAS, Department of Medical Assistance Services.

STATE HEALTH AGENCIES CAN HAVE A PROACTIVE ROLE IN QUALITY IMPROVEMENT, ESPECIALLY IN MATERNAL AND CHILD HEALTH (MCH) SERVICES. THERE IS NO DOUBT THAT OPPORTUNITY EXISTS WITHIN THEIR COMPLEX POLITICAL, FISCAL, AND POLICY ENVIRONMENT TO BE INNOVATIVE AND PROGRESSIVE AND SOME ARE. STATE HEALTH AGENCIES INCLUDING PUBLIC HEALTH, MEDICAID, AND INSURANCE DEPARTMENTS COMMAND CONSIDERABLE FISCAL, REGULATORY, AND ADVOCACY INFLUENCE OVER THE QUALITY OF HEALTH CARE DELIVERED.

The Institute of Medicine defines quality of care as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”1 Quality may be measured through a variety of performance and outcome indicators, and a quality improvement process may be aimed at changing the organization of services, the system of care, or clinical practice.2–4

Many state health agencies have activities underway in one or more of these areas,5 particularly in MCH programs that have responsibility under federal law for activities related to quality improvement. This article will: 1) review the historical development of the federal-state partnership in MCH policy and quality improvement related to perinatal care; 2) present new information on current state health agency and MCH program efforts in quality improvement; and 3) offer illustrative case studies of five states’ perinatal care systems and quality improvement initiatives.

HISTORICAL FRAMEWORK

From the Children’s Bureau to today’s federal-state partnership in MCH programs, quality improvement has been used as a tool aimed at improving health outcomes (Table 1). The history of efforts to reduce mortality and morbidity illustrate the long tradition of quality improvement efforts in perinatal care. Maternal mortality is one such example.

In 1913 the first study conducted by the Children’s Bureau reported on prenatal care and birth outcomes in Johnstown, Pennsylvania, and included a model

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that has been used many times to gather information about gaps in service, access barriers, and impact of interventions.\(^6\) The bureau sought to improve obstetric service quality and reduce maternal mortality caused by complications of childbirth such as septi-
cemia and eclampsia. When writing for the Chil-
dren’s Bureau in 1916, Grace Miegs reported that
maternal mortality had
“...two chief causes; first, general ignorance of the dangers connected with childbirth and the need of skilled care and proper hygiene to prevent them; second, such difficulties related to the provision of proper obstetrical care as are characteristic in this country.”\(^7\)

Maternal mortality has served as a sentinel indica-
tor in perinatal care and has been a focus for quality improvement efforts that led to dramatic changes in service delivery and outcomes. In the United States, structured maternal mortality review with support and involvement of public, private and professional organizations was active earlier in this century. More recently, the historic principles of maternal mortality review have been applied and expanded by a Fetal-Infant Mortality Review (FIMR) initiative that has federal, state, local and private involvement and support.\(^8\) (See FIMR discussion below).

**Policy Developments Related to Quality Improvement**

The modern policy history of MCH began with the federal Maternity and Infant or “Sheppard-Towner” Act, which was passed in 1921 and repealed in 1929. The Act grew from a concern about the health and well-being of women and children and then was repealed after the attack by many, including organ-
ized medicine, who said it was a form of govern-
ment or socialized medicine. Implementation of the Act was the first time the federal government pro-
vided money to the states for health services.\(^7\) The primary objective of the Sheppard-Towner Act was establishment of demonstration MCH projects to im-
prove access and the quality of care through profes-
sional training and education. Professional training and education continues to be a quality improve-
ment activity conducted by state health agencies (see below).

Title V of the Social Security Act of 1935 effectively revived some of the strategies used under the Shep-
pard-Towner Act.\(^7\) Early Title V funds were used by
the states to improve the quality of inpatient obstet-
ric and neonatal services through construction of
hospital facilities in underserved areas and financing hospital care, in addition to prenatal and pediatric primary care and services for “crippled’ children.\(^9\)

The Title V federal-state partnership is now in its sixth decade.

The decades of the 1940s and 1950s could be said
to have been preparation for change in American health policy. Every year between 1935 and 1949 saw
comprehensive health insurance bills introduced in Congress; all died in committee.\(^10\) When World War II taxed the capacity of existing base hospital ser-
dices, the Emergency Maternity and Infant Care pro-
gram provided care for 1.5 million women and in-
fants of service men with low pay rates, but when the crisis was over, the program ended.\(^5\) Federal involve-
ment in biomedical research expanded and grants were given to states to build hospitals through the
Hill-Burton or Hospital Survey and Construction Act of
1946.

The 1960s brought the enactment of Medicare and
Medicaid, as well as a dramatic expansion of the scope and complexity of the federal-state interaction.
States’ responsibilities (under broad federal guideline
in the Medicaid program included setting in-
come and categorical eligibility levels, provider pay-
ment levels, and benefits including extent of
coverage. Although not primarily directed at MCH and perinatal services, these changes had a profound influence on these and all other aspects of the Amer-
ican health establishment. However, new mecha-
nisms to provide health coverage to vulnerable citi-
zens were not accompanied by efforts to assure quality.

In MCH, a new approach was adopted in 1963
when the federal government was given authority to

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>1912</td>
<td>Children’s Bureau established by Congress as first US public health “grant-in-aid” program</td>
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<tr>
<td>1921</td>
<td>Sheppard-Towner Act passed; provided grants to states with enabling legislation to improve access to MCH services</td>
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<tr>
<td>1929</td>
<td>Sheppard-Towner Act repealed</td>
</tr>
<tr>
<td>1935</td>
<td>Social Security Act with Title V signed; plan and provision of an infrastructure for MCH services distinguishes that population. Title V requires state MCH programs to be located in state health agencies</td>
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<tr>
<td>1946</td>
<td>Hospital Survey and Construction Act (Hill-Burton) Grants to states to build hospitals</td>
</tr>
<tr>
<td>1964</td>
<td>Medicare and Medicaid programs enacted into law to increase access to care for elderly and poor</td>
</tr>
<tr>
<td>1976</td>
<td>Toward Improving the Outcome of Pregnancy: Recommendations for the Regional Development of Maternal and Perinatal Health Services (TIOP I)</td>
</tr>
<tr>
<td>1981</td>
<td>Title V funds combined with other programs as an MCH block grant as a result of OBRA</td>
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<tr>
<td>1984</td>
<td>First Medicaid expansion to extend coverage beyond AFDC income levels, with a series of expansions continuing through 1990</td>
</tr>
<tr>
<td>1988</td>
<td>Institute of Medicine report on The Future of Public Health</td>
</tr>
<tr>
<td>1989</td>
<td>OBRA ’89 (Omnibus Budget Reconciliation Act of 1989) provided amendments to Title V including reporting requirements</td>
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<tr>
<td>1991</td>
<td>Federal MCH program unit changed (elevated) from Office to a Bureau.</td>
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<tr>
<td>1993</td>
<td>Toward Improving the Outcome of Pregnancy: The 90s and Beyond (TIOP II)</td>
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<tr>
<td>1995</td>
<td>GRPA, P.L. 103-62 (Government Performance and Results Act) created additional accountability requirements for Title V and other programs</td>
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</table>
make project grants to states. One set of project grants was focused on Maternity and Infant Care (MIC). In the first 5 years, 53 MIC projects were created in cities and rural areas with high need and high infant mortality. This was the first major step into provision of medical care—not just preventive services. In 1967, another amendment to Title V authorized “intensive infant care” projects (intended to promote the development of neonatal intensive care). Here again, these efforts were primarily focused on improving access although some states monitored the quality of these efforts. Moreover, those few accountability efforts undertaken by states were focused on the publicly-funded patients rather than on the total population, and state planning and system development efforts were generally weak.11

The 1970s brought greater emphasis on health planning. In Title V, the “Improved Pregnancy Outcome” projects emphasized the need to plan, coordinate existing services, develop systems, provide professional education, and, only if necessary, provide services. Reflecting the tone of the time, the Select Panel for the Promotion of Child Health called for more emphasis on training, revision of reporting requirements, revitalization of state MCH plans, development of outcome and performance standards, and data systems for accountability.11

As a result of the creation of the MCH Services Block Grant in 1981, federal involvement with the Title V program was dramatically reduced over a decade. Under the Omnibus Budget Reconciliation Act (OBRA), Congress folded together a group of MCH programs and projects and distributed the program funds to states in the form of a lump-sum grant. This step in federalism reduced the oversight of program quality—by virtually eliminating the federal MCH agency role in standard setting and compliance review activities—and gave states flexibility in spending federal-state MCH funds.12 Many states in turn passed along their MCH dollars in the form of block grants to counties (eg, California). In terms of quality improvement at both the state and federal levels, this devolution generally resulted in reduced accountability and less effort devoted to developing guidelines, monitoring quality, collecting data, and reporting on performance.9,15 The block grant limited the ability of the federal MCH Bureau to provide effective leadership and guidance to the states. With reduced funding and less accountability, state Title V programs were recognized as being deficient in consistency of structure, roles, and services.14

From 1986 to 1990, a series of Medicaid expansions for maternity and pediatric coverage were enacted by Congress and the states.15,16 These changes led to coverage of millions of children and pregnant women in low-income families who would otherwise have been uninsured. However, these expansions in coverage were not accompanied by quality improvement or accountability mechanisms.17 States were concerned with the cost of care and consumer advocates were concerned with the numbers of women and children who had access to services; quality was not yet on the Medicaid horizon.

Further changes to the Title V Maternal and Child Health Services Block Grant under the OBRA of 1989 (OBRA 89, P.L. 101–329) placed renewed emphasis on planning, accountability, and systems development at both the state and federal level. More recently, at the beginning of the Clinton Administration, the Government Performance and Results Act (P.L. 103–62) created additional accountability requirements. In response the federal MCH Bureau has issued national and state performance measures to serve as basis for setting targets for performance and reporting on results. Three of the national performance measures, as well as five outcome measures, are directly related to perinatal care (see Table 2).18

**Directions From Professional and Private Organizations**

Professional and private organizations have acted independently and in concert with federal and state governments to advance perinatal care and systems development. As Table 1 illustrates there have been two versions of *Toward Improving the Outcome of Pregnancy* (TIOP),19,20 each published by ad hoc perinatal committees under the primary leadership of the American Academy of Pediatrics, the American College of Obstetricians and Gynecologists,21 and the March of Dimes. The first report (TIOP I)19 was published in 1976 and was directed primarily at the systematic organization of hospital-based perinatal services and is widely recognized as being the written foundation for the application to perinatal medicine of the concepts of needs assessment, resource allocation, and levels designation in a regionalized or systematic fashion. The second monograph (TIOP II),20 while urging evolution of the hospital-based system of care, emphasized a broadened scope of clinical responsibility from preconception through pregnancy to infant follow-up and placed great emphasis on data, evaluation, and accountability. However, neither report fully anticipated the current era of managed care and emphasis on quality improvement.

Other monographs—including reports of the Select Panel for the Promotion of Child Health,22 the US Public Health Service Panel on the Content of Prenatal Care,23 the National Commission on Children,24 *Bright Futures,*25 and several panels of the Institute of Medicine addressing issues of low birth weight and prenatal care26,27—provided a wealth of recommendations for strategies to improve access to care but rarely dealt with issues of quality. Public health agencies followed this trend in professional thinking and focused on reducing barriers to access, both financial and nonfinancial. As access barriers were reduced, public health agencies began to consider alternative roles in assuring optimal health outcomes.

The 1988 Institute of Medicine report on *The Future of Public Health* identified three “core” public health functions: policy development, assurance of services, and assessment.28 Quality improvement activities are clearly linked to all three functions. Among the recommendations of this panel were:

> “… that every public health agency regularly and systematically collect, assemble, analyze, and make avail-
Promoted by Eddy29 for designing practice policies stretching from the highly structured approaches by the four levels of the pyramid: direct health care, enabling, population-based, and infrastructure building services. Imbedded within the levels of service is assigned and programs are designed and implemented to specifically address these priorities. These program activities are described and categorized into three types; capacity, process, or risk factor.

Abbreviations: DHC, direct health care; ES, enabling services; PBS, population-based services; IB, infrastructure building; C, capacity; P, process; RF, risk factor.

Title V Block Grant Measurement Performance System, presents a schematic approach that begins with the identification of priorities and culminates in improved outcomes for the Title V population. After choosing a set of priority needs from the five year Statewide needs assessment, resource allocation ”Title V Block Grant Measurement Performance System, presents a schematic approach that begins with the identification of priorities and culminates in improved outcomes for the Title V population. After choosing a set of priority needs from the five year Statewide needs assessment, resource allocation is assigned and programs are designed and implemented to specifically address these priorities. These program activities are described and categorized by the four levels of the pyramid: direct health care, enabling, population-based, and infrastructure building services. Imbedded within the levels of service are performance measures a set of National “core” performance measures and up to ten State “negotiated” performance measures that are categorized into three types; capacity, process, or risk factor.”

Maternal and Child Health Bureau, Guidance and Forms for the Title V Application/Annual Report.

This historical background section discussed two primary themes: the decades of evolution in the federal-state partnership, and the emergence in the last three decades of perinatal regional system policy (see Table 1). This historical review, with a focus on quality improvement and its interaction with public health and MCH policy, suggests that the structure of the federal-state partnership has encouraged state variation. In terms of quality improvement efforts, there was wide variation in state MCH programs as far back as the Sheppard-Towner Act (which required states to develop state plans for improving maternal and child health). State-by-state differences increased under the program and project structure used during the 1960s and 1970s. More recently, the 1981 enactment of the MCH Block Grant gave states even broader flexibility. Consequently, the effectiveness and scope of perinatal care initiatives varies widely across the 50-state spectrum.

### Table 2: National Performance Measures from MCH Block Grant Guidance

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Pyramid Level of Service</th>
<th>Type of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DHC ES PBS IB C P RF</td>
<td></td>
</tr>
<tr>
<td>1. The percent of State SSI beneficiaries &lt;16 years old receiving rehabilitative services from the state Children with Special Health Care Needs (CSHCN) Program.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2. The degree to which the CSHCN Program provides or pays for specialty and subspecialty services, including care coordination, not otherwise accessible or affordable to its clients.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3. The percent of CSHCN in the state who have a medical/health home</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4. Percent of newborns in the state with at least one screening for each of phenylketonuria, hypothyroidism, galactosemia, hemoglobinopathies (eg, the sickle cell diseases) (combined).</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>5. Percent of children through age 2 who have completed immunizations for measles, mumps, rubella, polio, diphtheria, tetanus, pertussis, <em>haemophilus influenzae</em>, hepatitis B.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6. The birth rate (per 1000) for teenagers aged 15 through 17 years.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7. Percent of third grade children who have received protective sealants on at least one permanent molar tooth.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>8. The rate of deaths to children aged 1–14 caused by motor vehicle crashes per 100 000 children.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>9. Percentage of mothers who breastfeed their infants at hospital discharge.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10. Percentage of newborns who have been screened for hearing impairment before hospital discharge.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>11. Percent of children with CSHCN in the state CSHCN Program with a source of insurance for primary and specialty care.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>12. Percent of children without health insurance.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>13. Percent of potentially Medicaid-eligible children who have received a service paid by the Medicaid Program</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>14. The degree to which the state assuring participation in program and policy activities in the state CSHCN program</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>15. The rate (per 100 000) of suicide deaths among youths 15–19.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>16. Percent of very low birth weight live births.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>17. Percent of very low birth weight infants delivered at facilities for high-risk deliveries and neonates</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>18. Percent of infants born to pregnant women receiving prenatal care beginning in the first trimester.</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Abbreviations: DHC, direct health care; ES, enabling services; PBS, population-based services; IB, infrastructure building; C, capacity; P, process; RF, risk factor.

able information on the health of the community, including statistics on health status, community health needs, and epidemiologic and other studies of health problems . . . that the public health duties of states should include . . . assessment of needs in the state based on data collection; assurance of an adequate statutory base for health activities; . . . establishment of statewide health objectives; . . . assurance of appropriate organized statewide effort to develop and maintain essential . . . health services. . . .

During the past decade, with the transformation of the health care system into managed care approaches, there has been a resurgence in public, professional, and government interest in quality measurement and accountability. Professional efforts stretching from the highly structured approaches promoted by Eddy32 for designing practice policies on evidence to the voluntary performance measures of the Health Plan Employer Data and Information Set (HEDIS)30 to performance monitoring to improve community health31 all seek to use information to assess the quality of health services and their relationship to health outcomes. Government interest in oversight of the new health system also has been renewed.32 This historical background section discussed two primary themes: the decades of evolution in the federal-state partnership, and the emergence in the last three decades of perinatal regional system policy (see Table 1). This historical review, with a focus on quality improvement and its interaction with public health and MCH policy, suggests that the structure of the federal-state partnership has encouraged state variation. In terms of quality improvement efforts, there was wide variation in state MCH programs as far back as the Sheppard-Towner Act (which required states to develop state plans for improving maternal and child health). State-by-state differences increased under the program and project structure used during the 1960s and 1970s. More recently, the 1981 enactment of the MCH Block Grant gave states even broader flexibility. Consequently, the effectiveness and scope of perinatal care initiatives varies widely across the 50-state spectrum.
However, based on OBRA '89 changes, the federal Title V statute creates a mandate for states to improve the health of all mothers and children and links the mission of Title V-funded programs to achievement of the year 2000 health objectives for maternal and child health. Comprehensive needs assessment and planning also are statutorily required activities. In essence, this program has a mandate and accountability for improving maternal and child health outcomes. Moreover, under the latest federal guidance and the Title V Block Grant Measurement Performance System, states participating in the Title V program submit a plan and annual reports that include performance according to national core measures and state selected measures. States will be held accountable based on: 1) budget allocations and expenditures, 2) progress toward performance measures, and 3) progress toward outcome measures. States' responses to these trends are reflected in our survey results below.

SURVEY OF STATE MCH PROGRAMS REGARDING QUALITY IMPROVEMENT IN PERINATAL HEALTH

Purpose and Methodology

A 50-state telephone survey of MCH programs was undertaken to clarify their operational and perceived role in promoting quality improvement in perinatal care. All 50 states were contacted in May and June of 1998. Steps of the actual survey were:

1. A survey tool designed to be administered in 20 minutes by personal telephone conversation (after distribution by fax) was developed by the authors. There were three sections:

   A. Structure of perinatal services—with questions related to the internal health agency structure and the organization of perinatal services in the state (eg, Does the state have a perinatal plan? What roles describe the state perinatal unit or MCH agency?)

   B. Quality improvement initiatives—with questions regarding special quality initiatives, perinatal performance measures, public and professional reporting mechanisms, the roles and responsibilities of the public health agency versus Medicaid, and national data resources used (eg, What role does your state health agency play in reporting about the quality of or outcomes of perinatal care? What mechanisms does your state health agency use in reporting to the public about the quality of or outcomes of perinatal care?)

   C. Perceptions—with questions about their views on what the role of the state health agency should be in quality improvement and on the value of quality improvement activities (eg, In your view, what should the role of the state health agency be in assuring quality in perinatal care? In your view, what is the present or future role of managed care organizations in the perinatal quality improvement activities of your state health agency?)

   The instrument included a total of 23 questions (with primarily formatted for “yes/no” or multiple choice answers). To assess values and perceptions, an agreement scale with a series of attitude statements also was included. Narrative answers were required for several questions.

2. Trial administration of the questionnaire was performed with two former state MCH agency leaders who have experience in clinical delivery of perinatal services. In addition, the instrument was reviewed by appropriate staff at the federal MCH Bureau and the Association of Maternal and Child Health Programs (which provided up-to-date contact lists for state MCH staff).

3. A personal letter was sent to each state MCH director that explained the purpose of the survey and requested a 20-minute interview with the MCH director or the lead perinatal staff person. A copy of the survey was included with the letter.

4. A research assistant scheduled telephone appointments with individual state MCH directors or their perinatal staff. The level of cooperation was quite good with little resistance. Several calls were required to secure appointments in some states. In four instances, states’ responses were provided by fax only. A total of 47 states participated (Georgia, Kentucky, and New Hampshire did not complete the survey; the District of Columbia was not included in this sample).

5. The survey was administered by one person (K.A.J.). Answers were not electronically recorded, but in-depth interview notes were written. Some states submitted additional supporting materials by fax or by mail.

SELECTED SURVEY RESULTS AND OBSERVATIONS

The following results for 47 states reflect responses on key questions related to state health agencies and quality improvement in perinatal care. A further publication, which will include more information regarding the structure and relationship of perinatal services to quality, will be published elsewhere.

States’ quality improvement and quality assurance efforts vary widely in focus and degree of involvement with the public and private sectors. Based on states’ responses, we identified four main categories of activity states can and do undertake in creating quality improvement effort. These include: 1) involvement in establishing and implementing a policy framework for the system of care (through law, regulations, and guidance); 2) involvement in the definition of quality, including the selection of indicators, benchmarks, and outcome measures; 3) participation in data collection and analysis; and 4) sharing information with providers, payers, and consumers to affect change.

Establishing and Implementing a Policy Framework for Quality Improvement

State health agencies are major players in the development of the policy framework for health services—including public health, insurance, and Medicaid agencies. These agencies have primary responsibility for implementation of the policies established by federal and state law. In order for state health agencies and their MCH programs to be involved in quality improvement in perinatal care,
there must be a policy framework that gives them the
authority and funding for such activities.

We found that state health agencies are involved in
drafting, issuing and implementing regulations or
guidelines that define quality parameters for perina-
tal systems, facilities, or providers. Examples of ac-
tivities in this area include: definitions for levels of
perinatal service or neonatal intensive care units,
qualifications for providers’ and facilities’ licensure,
and definitions of quality perinatal services to be
used in Medicaid-managed care contracts. However,
 few MCH programs have been given the authority to
carry out these activities independently.

Most states that provide MCH dollars for perinatal
clinical care (in local health department clinics or
hospitals) have established performance criteria or
guidelines for publicly-funded services. However,
only a small number of states (eg, California, Illinois,
Ohio, Oregon, Missouri, Vermont) have adopted and
implemented formal policies that include quality in-
dicators, performance standards, or outcome mea-
sures that are being used for quality improvement of
the overall system of perinatal care.

**Defining Quality: Perinatal System Performance
Measures for Accountability**

The latest federal MCH Block Grant guidance re-
quires that states use the National “Core” Perfor-
ance Measures to set 5-year performance targets
and make annual reports. In addition, each state
must develop 7 to 10 additional performance mea-
sures relevant to their MCH activities. The initial
reports and list of state measures were scheduled to
be submitted to the federal MCH Bureau in the sum-
er of 1998, and most states were finalizing selection
of state measures during the time of this survey.

Based on state agency decisions as of June 1, 1998,
this study found that a majority of states have in-
cluded one or more perinatal measures among their
state performance measures. The examples below
and Table 3 show the topics mentioned for discre-
 tionary measures related to perinatal care.

Notably, states have elected to use slightly differ-
ent indicators as performance measures on key top-
ics. For example, in relation to preventable neural
tube birth defects, some states are counting the num-
ber (or percentage) of infants born with neural tube
defects, while others are measuring the percentage of
women who took folic acid supplements before con-
ception to reduce the risk of neural tube defects. This
reflects state-by-state differences in available data
and the lack of uniform national definitions for some
problems and conditions.

The examples of perinatal measures mentioned by
states (in order of frequency mentioned) include
those related to: low birth weight, unintended preg-
nancy, prenatal nutrition or weight gain, tobacco use
during pregnancy, adolescent pregnancy, domestic

<table>
<thead>
<tr>
<th>Indicator/Measure</th>
<th>MCHB*</th>
<th>Year 2000†</th>
<th>TIOP II‡</th>
<th>HEDIS§</th>
</tr>
</thead>
<tbody>
<tr>
<td>National core performance measured under Title V guidance</td>
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<tr>
<td>Infant mortality</td>
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* Maternal and Child Health Services Title V Block Grant Program: Guidance and forms for the Title V Application/Annual Report.
† Healthy People 2000.
‡ (TIOP II) Toward Improving the Outcome of Pregnancy: The 90s and Beyond.
§ Medicaid HEDIS. NCQA.
States have set independent benchmarks in the area of perinatal care; however, more can be expected to do so based on our findings about selection of state performance measures (see above).

Three-quarters of states (34 out of 45) do not conduct analyses that compare outcomes by provider (eg, “report card” or ranking type reports). Most of those who do not prepare comparisons commented that providers would be resistant or antagonistic to such analysis. Two states reported that provider comparisons are “against state regulations.” Among those few states that publish comparisons of providers by outcomes, most have done so only for particular indicators such as cesarean section birth rates (eg, Rhode Island, Utah, Virginia, West Virginia).

Virtually all states publish comparative analyses by county, by town or township, or by region of the state; however, only a few of these publish information comparing facilities with perinatal services. Of these, virtually all share comparative data with facility identifiers. In other words, most provide an overall rate and an individual rate to each hospital. This information is provided to hospitals to encourage quality improvement efforts; however, only three states reported active follow-up to assist with or monitor the use of such data reports.

The Pregnancy Risk Assessment and Monitoring System (PRAMS)

PRAMS is a population-based surveillance system of maternal behaviors and experiences that was developed by the Centers for Disease Control and Prevention (CDC) to assist states in collecting information that could supplement birth certificate data and to be used in state level planning. PRAMS activities are important to quality improvement efforts in perinatal care because they provide information about maternal behaviors during the preconception, prenatal, and postnatal phases. Health influences and risks such as smoking, alcohol use, breastfeeding, pregnancy interval, domestic violence, and unintended pregnancy can be studied using PRAMS data. For states seeking to improve the quality and content of preconception and prenatal care, these data are extremely valuable and not generally otherwise available. In 1998, 18 states—representing 35% of all US births—participated in PRAMS with CDC support. In our survey, an additional 6 states reported doing the PRAMS surveys with only state dollars.

In a few states (eg, Alabama, Alaska, Maine, Oklahoma, South Carolina, West Virginia), particularly those with most experience in implementing, PRAMS, it is being used as a source of information for quality improvement activities. For example, Oklahoma uses PRAMS data for needs assessment and program planning, monitoring health status, and reporting to the public and professionals. Oklahoma staff reported that PRAMS “is the cornerstone of everything we do and is completely integrated into the way we work.” Alabama uses PRAMS data to distribute regional perinatal funds.

Several states (eg, New Mexico, North Carolina, Oregon, Utah), are just beginning to implement the survey process and do not yet have sufficient results to design applications. However, each of these states
Fetal-Infant Mortality Review (FIMR)

FIMR is a process that helps communities and states to examine the medical and social factors that influence infant mortality and to develop interventions to modify those factors. Thus, the FIMR process (as defined by most projects) uses a quality improvement approach through which data are collected, analyzed and reviewed, and used to make changes in clinical or administrative policies.

During the early 1990s these programs proliferated as a result of increased federal, state, and private funding. The national FIMR program operated between 1991 and 1993 with the purpose of funding demonstration sites to test and refine the FIMR method in different settings. The program objectives were: 1) to initiate community-based, interdisciplinary review of fetal and infant death in an ongoing process that includes information from medical and social service records and maternal interview; 2) to describe the factors that contribute to mortality; and 3) to design and participate in implementing community-based interventions based on the review findings. These demonstration projects were able to empower communities to create local solutions, increase communication and cooperation, improve the quality of service provided by individual professionals, facilities, and agencies, and facilitate the grieving process for the family. In addition the FIMR process was used by each of the federally funded Healthy Start Infant Mortality Prevention projects, by the Florida Healthy Start program, and a variety of other local efforts. Currently, the MCH Bureau is supporting additional FIMR activity.

A small number (8 of 47) of surveyed states reported using FIMR as a tool for quality improvement in perinatal care. Generally, this is done by a state level advisory or review board that compiles data from local FIMR projects to make recommendations for changes in policy or practice. In some cases, the quality improvement process goes on at the local level only.

Other states (8 of 47) reported use of the infant component of a child death review process for similar purposes. However, in half of these states, perinatal staff said that child death review projects had a limited and sometimes insufficient amount of detailed data on perinatal care.

Sharing Information With Providers, Payers, and Consumers to Affect Change

Public Reporting as a Component of Quality Improvement

Implicit in the concept of quality improvement is use of data to inform the providers and consumers in the system. States reported few mechanisms for disseminating information on perinatal quality or outcomes. Although virtually all states publish standard vital statistics reports that include information about perinatal outcomes and prepare news releases to encourage media coverage of key vital statistics data, less than half reported publication of documents specifically tailored to nonprofessional audiences. Among the documents intended for public audiences half are special reports on topics of concern, such as adolescent pregnancy (Mississippi), early discharge (Massachusetts), HIV (Nebraska), or cesarean section births (Utah). Several produce managed care report cards (eg, Maryland, New Jersey, Oregon), and still others are using “Kids Count” reports (eg, Rhode Island, West Virginia).

Nine states (Arkansas, California, Indiana, Massachusetts, New Mexico, New York, South Dakota, Tennessee, Utah) reported using the Internet to distribute information to the public and two others have concepts under development. This new medium is being used to publish vital statistics and special reports on outcomes and trends in childbearing, as well as to post new guidelines and invite public comment.

All states have MCH hotlines for referral to providers (as required under the Title V federal statute) and public education information regarding the value of services such as prenatal. However, no state reported that information regarding the quality of services is available through such a hotline.

Sharing Quality Information With Providers

States use several mechanisms to share information with providers. The standard mechanisms are news releases, published reports, mailings, and information lines. Special mailings to providers are being used in about one-third of states as a way to circulate information for quality improvement efforts. The information most often shared through provider mailings is new practice standards and guidelines. States reported distribution of guidelines related to group B streptococcus, HIV counseling, screening and testing, and infant sleeping position (national “Back-to-Sleep” campaign). Such efforts are aimed at quality improvement.

Information regarding outcomes is less frequently shared in mailings to professionals. However, several states mailed to providers (and/or provider organizations) the results of special studies of the rates of cesarean section births, outcomes of adolescent pregnancy, or utilization of specialty care for high-risk newborns. Other states (California, Idaho, Illinois, Indiana, Maine, New York, Ohio, Vermont) reported sharing—through mail or site visits—information on hospital performance related to perinatal quality and outcomes to facilities, including overall rates (without identifying information) for comparative purposes, as well as rates for the individual facility. Such reports may include rates on indicators such as neonatal mortality, cesarean section births, and other complications of labor and delivery.

Use of Databases and National Resources

States were asked about the information and data resources they use. Virtually all use data from the National Center for Health Statistics. They also were asked about two membership-based networks. Out of 45 states reporting, 15 MCH/perinatal staff were familiar with the Vermont-Oxford Network (a voluntary collaborative group of health professionals
who work to increase the effectiveness and efficiency of neonatal intensive care by integrating clinical research into daily practice)\textsuperscript{40} with most of these only aware that some hospitals in their state participate. Although more than half of states were familiar with the National Perinatal Information Center (a private organization focused on improving perinatal services, including a data network), few use its information resources, and several respondents said that such information could increasingly be found through the Internet.

In response to a question regarding use of the Cochrane Collaboration and the database or written resources in the report *Effective Care in Pregnancy and Childbearing*\textsuperscript{41} (a compilation of data from randomized, clinical trials and other studies on the effects of care, with information available in textbook and in electronic format). Despite promotion efforts by the collaborators, as well as foundations and national organizations concerned with perinatal health,\textsuperscript{42} no states reported using this information in their quality improvement efforts, and only three states (Minnesota, New Jersey, Massachusetts) were familiar with the resource.

When asked their views on the present or future role of these types of information networks, many said that they felt such resources were valuable for comparative analyses and that they would like to know more about how to apply the data to their work. Others mentioned use of various resources such as reports from the March of Dimes Birth Defects Foundation, Children’s Defense Fund, or the federal MCH Bureau.

**Perceptions on Quality Improvement in Perinatal Care**

State MCH program staff were asked to give their views on what the role of the state health agency should be and what the agency should be doing to promote quality improvement in perinatal care. With 40 states responding, the most common response was “leadership” (16) followed by setting standards (15) and monitoring (12). Between 5 and 10 states used the following terms: assurance, foster collaboration, consultation with other agencies, data systems accountability, provider education, regulation, development of systems, and evaluation of state funded services. A few states (less than 5) said their role should be to focus on evidence-based practice/best practices, population-based outcomes, performance measurement, resource development, public awareness, oversight, and technical assistance on quality improvement.

Those interviewed also were asked about their attitudes regarding the value of and relative role of their state health agency regarding perinatal quality improvement. The results (among 38 states responding) were as follows:

- All affirmed (97% strongly agreed with) the statement that “Quality improvement is a valuable activity.”
- All disagreed (68% strongly disagreeing) with the statement “Quality improvement is not the role of public health agencies.”

- A large majority disagreed (74%) with the statement “For quality improvement, providers should not evaluate or assess their own services.” Only 8 respondents felt this was true. Many commented that providers have a role to play in combination with state agencies.
- In response to the statement “In terms of perinatal quality improvement, my state is better than most other states,” most were undecided (60%). This, they said, reflected both a lack of comparative knowledge about other states and/or their unwillingness to rank their own state.
- Most agreed (65%, with 10 strongly agreeing) that “My state health department gives high priority to quality improvement activities.” Among the 7 negative and 6 undecided respondents, some commented that their state’s resource allocations did not reflect such a priority.

**ILLUSTRATIVE STATE CASE STUDIES**

These were prepared to add depth and realism to our survey results.\textsuperscript{43} Five states were selected to provide more detailed information about individual state approaches to state structure of perinatal care, relationship with Medicaid, perinatal provisions under Medicaid managed care contracts, use of data, and quality improvement efforts. Collectively, these illustrations reinforce the degree of variation among states. Data and information was gathered from several national data sets, including Medicaid-managed care contract data published by the George Washington University\textsuperscript{44} and state-by-state summaries on the oversight of integrated health systems published by the Milbank Memorial Fund (HCFA unpublished data from the Internet), as well as the survey discussed above and personal knowledge and experience of the authors (K. A. Johnson, G. A. Little. Focus groups with state MCH directors. Unpublished data, March of Dimes Birth Defects Foundation, 1995).

**Arizona**

The Arizona Perinatal Trust (APT) is a unique 501 (c)(3) organization founded in 1980 on completion of a Robert Wood Johnson Foundation regional perinatal program demonstration project that began in 1975. (Federal and state governmental support was instrumental in initiation of a newborn intensive care and transport program in 1967.) The Arizona Perinatal Regional System (APRS) is the performing corporation of the APT.

**Structure of the Arizona Perinatal Care System**

The APT plays a formal and informal role as a quasi-public organization through which professional and private concern and leadership is expressed. The ARPS originates from the trust and has an independent board of directors drawn from the perinatal community. All APT trustees are members of the APRS board. An important component of the ARPS organizational structure is an active, voluntary hospital certification program that has produced written guidelines for level I, II, and III perinatal care centers, in-hospital birthing centers, and enhanced
qualifications for perinatal centers that wish to develop advanced clinical practice modalities. There also are transport, marketing, and site visit review task groups and an education committee.

**Medicaid and Managed Care**

Managed care was integrated into the state Medicaid program in 1982 when the Arizona Health Care Cost Containment System (AHCCCS), the state agency responsible for Medicaid, was formed. This is the oldest statewide capitated program in the country. The state has one of the highest health maintenance organization (HMO) penetrations involving about 40% of the population. Approximately 20% of the population remains uninsured. AHCCCS rules require that medical services be provided in accordance with its medical policy manual. An independent but cooperative relationship between AHCCCS and the APT includes recognition by AHCCCS of hospitals that complete voluntary certification. For AHCCCS maternity patients, the state sets standards on continuity of enrollment, provider credentials, and standards of care. For example, the state requires that “The Contractor shall insure that a maternity care provider is designated for each enrolled pregnant woman for the duration of her pregnancy and postpartum care.”

**Use of Data**

The Arizona Department of Health Services (ADHS), Bureau of Vital Records, and APT have collected and analyzed data for years. The ADHS provides a consultant to analyze birth certificate data for review of certified centers and regional system analysis. APT and ADHS are in an active process of integrating data efforts including matched maternal mortality and infant birth/death certificates and annual data required from certified perinatal care centers. In addition the two parties are working collaboratively through the perinatal system on data collection and analysis of anesthesia and neonatal follow-up with study of transport system utilization data and certification of perinatal transport carriers planned for the future. Linked ADHS/APT perinatal data systems with electronic submission of APT data for certified perinatal centers is planned.

**Quality Improvement Initiatives**

The APT board of trustees and the ARPS board of directors continue a long-term, primary interest in perinatal outcomes. An example of their commitment is inclusion of a quality assurance activity component in the voluntary hospital certification program. Ongoing certification is linked to site visits and data collection. APT supports perinatal, anesthesia, and transport (maternal and neonatal) data collection and analysis. The AHCCCS is the sole agency responsible for oversight and regulation of Medicaid and works with the APT for development, management, and oversight of perinatal program efforts. Oversight of the private market by the Department of Insurance includes review of quality procedures during licensure for commercial HMOs but not ongoing quality oversight.

**Illinois**

State governmental involvement in organization of perinatal services began in the mid-1970s and is presently centered in the Division of Community Health of the Office of Family Health of the Illinois Department of Human Services.

**Structure of the Illinois Perinatal Care System**

A perinatal system that includes 10 perinatal networks and a perinatal advisory committee receives state support. Hospitals in the state are categorized by the Department of Health and a 3-level system is in place that includes level II intermediate and extended subcategories. Designated perinatal centers have affiliated hospitals that have been site visited and have perinatal advisory committee approval. Perinatal networks associated with perinatal centers may overlap geographically.

In 1998, the state leaders prepared final recommendations for updating longstanding perinatal rules and regulations that are being placed into the public rule making process. The state perinatal office (which includes full-time administrative staff) has regulatory responsibility, collaborates with other regulatory agencies and programs including Medicaid, issues guidelines, and collects and analyzes perinatal statistics. Subcontracts and grants are made to regional perinatal centers for professional outreach education and technical assistance.

**Medicaid and Managed Care**

There are more than 40 HMOs in the state with a Medicaid HMO initiative under the Department of Public Aid (DPA) that includes voluntary managed care for residents of Cook County. The state has been actively expanding its Medicaid HMO enrollment. The Department of Insurance has responsibility for per capita and prepaid plans and enforces minimum standards for contracts. The DPA oversees quality for Medicaid through peer review and has an 800 number for member reporting. Medicaid contracts address case management for prenatal care. For example, the state requires that contractors use the professional standards of the American College of Obstetricians and Gynecologists and that the plans collaborate with “the Family Case Management Program for the purpose of providing to Medicaid-enrolled pregnant women and infants aged 0 to 12 months adequate access to primary care and preventive services through client tracking and intensive case management services” through activities such as information-sharing, establishing protocols for client management, and conducting periodic meetings with case management providers.

The legislature has been active in HMO and Medicaid issues. Overall Illinois has made considerable effort to coordinate oversight among various health agencies.

**Use of Data**

The Office of Family Health is actively involved in collecting, analyzing, and reporting data. Data elements that have received attention include character-
istics of the childbearing population, behavioral and medical risks, network characteristics, and infant outcomes. In a recent Perinatal Health Status Report (PHSR), 11 tables and reports generated in earlier reports and defined as “essential” by the Illinois Consortium of Perinatal Network Administrators were highlighted. PHSR reports with standard tables based on these areas are planned for each year. The need for timeliness will be addressed through use of “provisional data” with intent to complete neonatal matched birth-death files by April of the subsequent year. Linkages include an interagency data management agreement that includes monitoring to assure confidentiality.

Quality Improvement Initiatives

Illinois has embarked on a statewide systems approach to perinatal care with the objective to assure access and improve quality of care in a managed care environment. The Quality Improvement in Perinatal Care Programs (QUIPP) initiative includes four components: outcome surveillance, introduction of continuous quality improvement, use of regulatory and other outcome measures for surveillance in facility compliance, and use of rules/regulations to assure an effective interface and synergistic relationship between regionalized systems and managed care entities.

The Illinois perinatal system office reports that it uses vital statistics and the services of the National Center for Health Statistics. Some hospitals are members of the Vermont-Oxford Network and there is interest in statewide participation. Reporting to professionals has included regional perinatal council reports with comparisons. Public reporting has included a consumer guide on cesarean section and a report on the health status of select populations.

Massachusetts

This state has a long and well-defined involvement in perinatal care system designation, implementation, and quality improvement. A perinatal office with full-time staff is located in the Division of Maternal, Child and Family Services in the Bureau of Family and Community Health.

Structure of the Massachusetts Perinatal Care System

The Massachusetts perinatal system is formally regionalized through regulation and hospital licensing. Hospitals are categorized into three levels through formal criteria that are said to be among the strongest in the country. These regulations, as revised in 1991, do not allow long-term ventilation in level II hospitals. There is a perinatal advisory committee.

Medicaid and Managed Care

Managed care in Massachusetts is considered to be one of the most developed markets in the country, with the Division of Insurance as the sole licensing agency. The Division of Medical Assistance manages the Medicaid program. The Department of Public Health has formal oversight duties for managed care and integrated delivery systems including certificate of need and approval of transfer of hospital ownership.

The Medicaid program is active in quality assurance, including contract provisions with managed care organizations that establish practice standards and provide criteria for prenatal care. For example, the state defines “proactive prenatal care” in the contract with responsibilities including educational outreach, risk assessment, development of a care plan, delivery of health care (prevention) counseling, case management, and coordination of support services.

Use of Data

In addition to active analysis of vital statistics, Massachusetts is involved with a National Cooperative Agreement on Data with the CDC and is attempting to develop a system to use birth certificate for a HEDIS pilot study. The state office is aware of the Vermont-Oxford Network, the National Perinatal Information Center, and the Cochrane Collaborative.

Quality Improvement Initiatives

State MCH staff speak of a strong, proactive role in quality improvement and report a broad spectrum of ongoing efforts including analysis of vital statistics and other data by town and population of special interest. A Massachusetts Infant Mortality Task Force was convened by then Governor Dukakis in 1984 when infant mortality was 10.1/1000 live births and the state ranked 24th; 13 years later after efforts to implement recommendations that included improved access and availability of health care, financial coverage, care coordination, and community-based initiatives, the rate was 5.2 and the state ranked first. Public reporting includes major news releases and a World Wide Web site. The perinatal office believes that managed care plans can and should maintain both independent and cooperative role in quality improvement.

New York

This state is known for using regulatory approaches in health care policy and for maintaining strong governmental involvement in shaping and reviewing perinatal services. Recently an ad hoc Work Group on Perinatal Regionalization released a report on the status of perinatal regionalization in an increasingly managed care environment.

Structure of the New York Perinatal Care System

The Department of Health has been active in emphasizing the importance of perinatal regionalization and designating hospital responsibilities. The regionalization concept is incorporated in the New York Code of Rules and Regulations. A 1985 “appropriateness review” designated 20 hospitals as individual or joint regional perinatal centers (RPCs) within a network of primary, secondary, and tertiary care giving a 4-level (with RPC) system. RPCs function as the hub of affiliated hospitals and have specific responsibilities including case review and conferences. There is a state perinatal council. Regionalization and transfer agreements were reemphasized in 1994.
The state office responsible for perinatal care has a full-time staff and is located in the Bureau of Women’s Health. After the recent report of the regional-ization work group an effort is said to be underway to revise regulations to evolve a system that will be locally responsive, broaden the focus of perinatal quality assurance beyond focus on hospitals and neonatal intensive care, and add insurers, local health departments, and other interests in a framework of seven newly defined regional perinatal forums. A major planned objective is linkage of the quality assurance role of the new RPC with a statewide perinatal data system.

Medicaid and Managed Care

Counties have been able to enroll Medicaid patients in HMOs since 1991, and the state is phasing in mandatory HMO participation. Rapid growth in HMO enrollment overall has occurred with more than 25% of the total population enrolled by 1996, and 15% of the population remaining uninsured. The state’s Medicaid managed care program has adopted some aspects of the enhanced prenatal care model that was set up in the 1980s. This includes a defined role for a maternal and infant care coordinator and expanded benefits (eg, smoking cessation, nutrition counseling from a registered dietitian, homemaker services for those under bed rest orders).

There has been legislative support of oversight and intervention in the managed care sector. The Department of Health oversees quality of care having assumed responsibility for the Medicaid program from the Department of Social Services in a reorganization in 1996 and shares responsibility for licensing and oversight with the Department of Insurance. Solvency and quality oversight of the private market have received attention.

Use of Data

Perinatal data use in New York includes both vital statistics and hospital discharge data. By 1987, the state had a newborn diagnosis-related grouping system of its own and had provided case mix indices for hospitals. Grants have been given in the past to RPCs for demonstration perinatal data sets. The Statewide Perinatal Data System is a major part of the new perinatal system currently being implemented. Efforts are underway to electronically integrate the birth certificate process with the RPC oversight activity.

Quality Improvement Initiatives

New York is considered one of the most active states in terms of state government involvement in quality monitoring. The state health agency is involved in establishing guidelines for practice as well as monitoring quality of care, performance of providers and facilities, patient outcome, and access. Quality concerns were a prime motivating factor in the present effort to restructure the perinatal system. Medicaid and perinatal data files are linked. Infant mortality review efforts (using some national FIMR tools) are in place in approximately 12 communities. Reporting to professionals includes birth certificate data through the perinatal system and special mailings.

Virginia

This state, like many states, has a history of state government effort in perinatal health policy and care interacting with the academic and private provider sectors. There has been considerable focus on neonatal care and data.

Structure of the Virginia Perinatal Care System

The Virginia Department of Health, Division of Women’s and Infants’ Health, has responsibility for perinatal services and has a full-time staff committed to this work. Rules and regulations for the Licensure of Hospitals in Virginia (as adopted in 1982 and modified several times subsequently) includes a section of obstetric and newborn services. Regulations for nursery designation were mandated by the general assembly in 1992 and after numerous revisions and public hearings, were promulgated in 1995. The defined levels of nurseries are: general, intermediate, specialty, and subspecialty. Subspecialty nurseries, in general, have the capabilities noted in the appendix of TIOP II with specialty nurseries able to ventilate babies for extended periods among other services. There are seven Regional Perinatal Coordinating Councils (RPCCs).

Medicaid and Managed Care

HMO penetration in Virginia is moderate and the state government appears to be progressing deliberately. There are three managed care programs under Medicaid, which is run by the Virginia Department of Medical Assistance Services (DMAS). The Medicaid program considers physician standards to be those within the scope of a professional license and contracts for enhanced prenatal care.

Use of Data

Vital statistics data are utilized extensively. Data compiled from the neonatal designation process along with its accompanying reports are used in quality efforts such as identifying whether babies are born in the “correct hospital.”

Quality Improvement Initiatives

Systematic quality assurance and improvement are identified by the state health service infrastructure as important. The 1995 regulation on nursery designation included a statement saying that: “quality assurance of this highly technical resource-intensive service that has been developed rapidly in recent years...” is not available. A report of neonatal outcome data for 1996 including definitions of newborn service level has been released that presents outcomes by hospitals in five Virginia Health Service Areas.

DMAS has a quality review process for its managed care programs. Apparently, private sector providers are responsive at this time mainly to professional standards and marketplace.

Virginia has embarked on a Healthy Start grant-funded effort statewide that is envisioned to be more
community and consumer oriented than past efforts. The RPCC structure has been involved in quality efforts in the past (including a statewide FIMR project) and consideration is being given to including a revised RPCC presence in the new perinatal initiative.

DISCUSSION

For purposes of this article “quality improvement” is defined as a process using data and information to assess and improve the effectiveness of care, and in turn, to improve outcomes. Quality improvement is, therefore, by definition a process to make things better, not just monitoring. This process requires knowledge of what quality is and what an improvement would be. Quality may be defined as optimal outcomes (however those outcomes are benchmarked).

Given the definition above, what should states be doing to make things better? We identified four main arenas through which state MCH programs currently take action. We believe, based on state agency staff perceptions, that these four areas are critical to states’ efforts. First, as part of their assurance function, they should be actively involved in the development of a policy framework that assures quality. Second, state agencies should participate in efforts to define quality, including selection of indicators, benchmarks, and outcome measures. Third, assessment and surveillance are mandated roles that are best fulfilled through collection and analysis of data regarding quality and outcomes in perinatal care. Fourth, state health agency staff should interact with and inform the various constituencies in health care; they should play an active role in informing providers, health plans, systems of care, payers, and consumers.

The dilemma, as shown by the results of our survey, is that all states are not taking action in each of these four arenas.

1. The majority of states wish to have a leadership role in quality improvement; however, they often report that they do not have the authority to write regulations, issue guidance, or otherwise take the lead in policy development. Policy development is more likely to take the form of consultation or collaboration with a Medicaid agency.

2. States are actively involved in development of performance and outcome measures to define quality (particularly in light of the new federal Title V guidelines). However, these measures may not be used by private sector providers or those who manage systems of care.

3. Most states are using data and information to monitor access, but few are using it for quality improvement. The focus of assurance activities is typically on access, without regard to quality.

4. Interactive efforts to monitor quality were frequently limited only to the public clinics or to publicly funded patients (sometimes including Medicaid). Most MCH programs and their perinatal staff have relationships with providers and facilities, but few are actively informing providers about the quality and outcomes of perinatal care. Still fewer provide quality information to consumers.

5. The debate over public disclosure and medical records confidentiality, combined with the tradition of having no encounter level data reported for privately-funded patients in private-office practices, results in a dearth of efforts to report provider- or facility level quality information. This is true at a time when Congress and many state legislatures are debating legislation regarding public disclosure of managed care information and quality.

Obviously, state MCH programs may fail to engage in quality improvement because of limited resources. However, some specific shortfalls identified in the survey might be addressed without expanded authority and with no major increase in resources. For example, we note the following. Benchmarks for quality are often set in isolation from other agencies and providers. Data are collected that could be, but are not, applied to perinatal quality improvement efforts (eg, vital statistics not analyzed by region or facility, PRAMS data not communicated outside the agency). Despite national data resources and organizations, staff did not feel they had a sufficient basis for comparing their state’s efforts to others—perhaps indicating a lack of interstate communication about these issues. Providers are not given feedback on their performance (mainly because of reported concerns on the part of the state agency that such action would disrupt provider-state relationships). Communication and information-sharing regarding quality, especially with the public, is lacking, perhaps because of a concern about the risks.

The case studies illustrate the high degree of variation—even among proactive states—in states’ approaches to perinatal care. Some use a more regulatory approach to systems and policy development; others seek voluntary cooperation. Linkages to Medicaid managed care are prominent in some states (including quality-related state contract language), while some MCH agencies are not yet acting in this arena. One may apply a comprehensive strategy, while another focuses on areas in sequence. Based on tradition, one state may exercise strong central authority and another may empower regional/local entities.

The five states also show that there are some energetic quality improvement initiatives underway. Of particular note is the Illinois QUIPP initiative which, although not fully implemented, includes all four categories of activity described above. This effort illustrates the type of proactive quality improvement initiatives that have been undertaken in a few other states (eg, Nebraska, Oregon, Vermont, Washington [R. A. Ehrenkranz, K. A. Johnson, G. A. Little. 50-state survey of state MCH programs on the structure of perinatal services. Unpublished data, March of Dimes Birth Defects Foundation, 1994]). However, even these efforts vary considerably, with states establishing different benchmarks and processes.

Because both the national and the state measures include a variety of perinatal factors, Title V guidance—and the federal and state accountability processes it defines—holds the possibility of advancing
accountability and quality improvement efforts in future years.

CONCLUSIONS

As we leave the decade of the 1990s the concern, dissatisfaction, evolution, change, and uncertainty that characterizes the American health care system are very much present in state health agencies and perinatal medicine. Moreover, for more than a decade there has been concern and debate about the relative contribution of perinatal regionalization to pregnancy outcomes and debate about the impact of so-called deregionalization. Central to this discussion is the role of state public health agencies in system development and quality monitoring. Our survey suggests that with the exception of a few states, overall state health agency involvement with perinatal regionalization today tends to be less active and regulatory and more passive or collaborative (G. A. Little and K. A. Johnson. A survey of state policies and practices related to quality improvement in perinatal care. Unpublished data, June 1998).

The dramatic changes—particularly the rapid growth in managed care—in the health care system raises questions about whether or not these services continue to be delivered in the way they have been in the past or continue to have the impact they had in the past is unclear. It is reasonable to conclude—as is expressed in TIOPIP—that 1) the systematic delivery of care needs to be emphasized more before and beyond last months of pregnancy and first month after birth, and 2) there is a danger of slippage from improved outcomes attained in the past if a perinatal system functions less effectively. As rates of enrollment of managed care arrangements continue to increase in the public and private care sectors, there have been specific efforts and statements directed at the impact of managed care on perinatal care, regionalization and outcomes. However, to date, the evidence is insufficient for drawing conclusions.

Finally, many of the MCH/perinatal staff in our survey believe that state health agencies have an important role as leaders in development of a policy framework and system structure that supports effective delivery of perinatal care and included quality improvement initiatives. State MCH/perinatal staff generally expressed the view that they have a valuable role to play in quality improvement. In particular, they often perceive their role as leaders who set standards (collaboratively) and monitor quality.

The consensus framework for public MCH functions states that one of the top 10 essential services to be performed by MCH agencies is to “evaluate the effectiveness, accessibility, and quality of perinatal health and population-based maternal and child health services.” Some would say that states don’t have to do this, but a majority of observers would say it is an increasingly important role in today’s public health agencies and MCH programs. We conclude that whether benefits coverage is through private insurance, a new State Children Health Insurance Program, or Medicaid and whether services are delivered in the public or private sector, state MCH programs have a role to play and have been assigned responsibility for the policy framework and structure that undergirds quality improvement efforts for the total cohort of perinatal patients in the state.

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46. This may be because of the risks associated with public reporting of medical outcomes. See Chassin MR, Hannan EL, and DeBuono BA. Benefits and hazards of reporting medical outcomes publicly. N Engl J Med. 1996;334:394–398


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