STATE POLICIES AND REGIONAL NEONATAL CARE

PROGRESS AND CHALLENGES 25 YEARS AFTER *TIOP*

A Report By

Ellen R. Shaffer, PhD, MPH
ershaffer@earthlink.net

For

The March of Dimes

November 2001

Table of Contents

EXECUTIVE SUMMARY

Reducing neonatal mortality – death between birth and day 28 - is one of the health objectives of the United States. Regional referral systems that direct high-risk patients to tertiary level neonatal intensive care units (NICUs) have been shown to improve neonatal survival significantly, and the March of Dimes has long played a key role in achieving consensus on this kind of regional approach.

Risk factors for neonatal mortality are on the rise, and goals for Healthy People 2010 spotlight the importance of improved outcomes. However, regionalized neonatal care systems face increasing stress in health care systems shaped by managed care and hospital networks. Debates about regionalization have occasionally burst into the public arena, as communities dispute the addition of new NICUs, or state legislatures consider modifying laws or regulations related to NICUs.

This is the first recent study to assess regionalization across all the states, and to ask knowledgeable observers across the U.S. about what is driving change.

This study provides timely answers to two sets of questions, based primarily on a survey of state health departments, as well as on the literature:

- **What are state policies regarding how regional perinatal systems operate**?
    - The commonly used definitions for NICU levels
    - The policy process for defining NICU levels, and referral networks
    - How states enforce compliance with rules about NICUs

- **What is changing, and why?**
    - Which states are considering changes to their regional systems now, or have changed those systems in the recent past? What did they change, or anticipate changing?
    - What constituencies in the state advocate or oppose change? What forces are driving change?

Major findings include:

<u>The Status of Regional Perinatal Systems</u>

1. **There is substantial variation among states in the definition of NICU levels. Only some states establish standards for volume of admissions, or for the birthweight of infants admitted at each level.**

2. **Healthy People 2010 goals call for 90% of births to be delivered at risk-appropriate sites. However, variations in level definitions, and in standards for quality, undermine the utility of this and other quality and outcome measurements.**

3. **Disagreements among physicians and hospitals at different levels about the critical determinants of safe and effective NICU care for neonates who are moderately to seriously ill make it more difficult to enforce uniform definitions, and account in part for variations in state standards for volume.**

4. **There is little public information about NICU levels.**

5. **Several states have developed complex methods to evaluate NICUs.**

<u>What Is Changing, and Why?</u>

1. **Eight states are formally reviewing NICU standards.**

2. **A few states vigorously develop and enforce NICU standards, and several support broadly representative committees that monitor developments. Accommodating provider concerns at times takes precedence over independently protecting patient well being. Optimal patient care may suffer as a result.**

3. **Hospital networks and managed care organizations (MCOs) were mentioned frequently as sources of conflict with state rules regarding which hospitals can admit and transfer, and where.**

4. **Reimbursement policies affect hospital NICU practices.**

INTRODUCTION

Reducing neonatal mortality – death between birth and day 28 - is one of the health objectives of the United States. Risk factors for neonatal mortality, including preterm births and low birthweight, have increased since 1990.

Regional referral systems that direct high-risk patients to tertiary level neonatal intensive care units (NICUs) have been shown to improve neonatal survival significantly, and the March of Dimes has long played a key role in achieving consensus on this kind of regional approach

This study explores how states' public policies regarding systems to provide risk-appropriate NICU care are changing. It reviews the definitions of NICU levels currently used by states and by hospitals, and the processes for changing both NICU level definitions and the referral systems for high-risk newborns. It also reports the comments of observers at the state level on what forces are motivating change.

Risk Factors For Neonatal Mortality On The Rise

Recent increases in risk factors for neonatal mortality make this report particularly timely. The percent of preterm births (less than 37 weeks of gestation) rose from 10.6 percent in 1990 to 11.8 percent in 1999, an increase of 11 percent.[1] Low birthweight (less than 2,500 grams) births rose from 7.0 percent in 1990 to 7.6 percent in 1999, and very low birthweight (less than 1,500 grams) births increased from 1.27 percent in 1990 to 1.45 percent in 1999. (There was no change in either rate between 1998 and 1999.) Multiple births are much more likely than singletons to be low birthweight, and multiple births have increased since 1990. The neonatal mortality rate (deaths between birth and 28 days) dropped from 5.8 per 1,000 births in 1990 to 4.9 per 1,000 in 1995,[2] but declined only slightly to 4.7 in 1999.[3]

BACKGROUND: REGIONALIZATION OF NEONATAL INTENSIVE CARE

Neonatal intensive care units (NICUs) emerged in the late 1960s, combining advanced technologies with trained and intensive staffing, to provide care for newborns at the highest risk for morbidity and mortality. NICUs contributed to significant reductions in neonatal mortality. To determine and implement an effective method for making high quality but expensive NICU care widely available, the March of Dimes convened landmark meetings in the early 1970s that included pediatricians, hospitals, health planning agencies, and consumers. The resulting 1976 report, *Toward Improving the Outcomes of Pregnancy* ***(TIOP)***, defined central features of a "systematized, cohesive regional network" in which "the complexity of patient needs determines where, and by whom, the care should be provided." The intention was to achieve timely assignment of high-risk mothers to the highest level of care appropriate, minimizing the need to transfer a low birthweight infant after birth, which increases risk.

TIOP standards were developed for three levels of neonatal care, reflecting the intensity of both technology and staffing, and identifying the complexity of care each level could provide:

> ***Level I***: Services primarily for uncomplicated maternity and newborn patients. These hospitals can stabilize unexpected complications prior to transfer but offer no special equipment or staffing. Level I hospitals are encouraged to develop channels for consultation, referral and transfer in the case of unexpected complications.
>
> ***Level II***: Care for complications including respiratory distress for a limited time period, offering some 24-hour services and more highly trained personnel than Level I. The TIOP report envisioned that these larger urban and suburban hospitals would care for the majority of complicated obstetrical problems and certain neonatal illnesses that are not life-threatening, while transferring out seriously ill newborns.
>
> ***Level III:*** Provide the full range of services and resources, including advanced ongoing respiratory support and surgery, immediate 24-hour availability of subspecialists, and concentrated staffing by skilled nurses. These hospitals are designated to offer consultation services and continuing education for all community hospitals and staff, and transport services including equipment, staff and coordination. They may also be engaged in clinical or basic research, and located within academic medical centers.

Virtually all low birthweight infants (under 2500 grams) and very low birthweight infants (under 1500 grams) require care at Level III facilities. National standards for Healthy People 2010 call for 90% of mothers and infants to receive risk-appropriate care.[4]

Regionalization depends on cooperation among hospitals to triage and transfer patients appropriately. Level I and II hospitals generally develop contracts with a particular Level III within their geographic region, to which they refer or transfer high risk deliveries. In return, community doctors and hospitals rely on tertiary care facilities to communicate with them regarding their patients and to return them when stable.

Changes in Regionalization

The TIOP recommendations were widely adopted, and reinforced by specific standards for NICU staffing, physical layout, and equipment, which were developed by the American Association of Pediatrics (AAP), and the American College of Gynecologists (ACOG). In many states these standards were codified into laws or regulations. However, these actions were voluntary on the part of states: there is no federal law or regulation regarding NICU levels or operations. This is the case although the federal Department of Health and Human Services recognizes the importance of risk-appropriate deliveries, and its Health Services and Resources Administration (HRSA) reports each state's conformance with the Healthy People 2010 standard.[5]

The Joint Commission on Accreditation of Hospitals and Health Care Organizations (JCAHCO), a non-governmental body, does not have dedicated standards for evaluating hospital NICUs.

While the three TIOP levels form the basis of the NICU classifications, there is variation among states and regions in how these levels are defined and designated. As new technologies became more widely available, more neonatologists entered into practice, and the health care financing environment changed, many hospitals opened new NICUs, and established new NICU levels.

Level II hospitals were generally expected to transfer out infants needing respiratory support for longer than four hours. However, higher-end Level II hospitals, sometimes termed "enhanced" or Level II+ centers, would typically keep these neonates for a longer time. They might also offer a higher level of medical care for severely ill neonates than a Level II, but not provide surgery or extracorporeal membrane oxygenation (ECMO). They typically have less intensive staffing than a Level III.

Alternatively, some academic medical centers may be defined as regional perinatal centers or Level III+ centers, performing transplants and other specialized procedures on neonates. This usually occurs in areas with high concentrations of specialty hospitals, although in a few rural states, one specialty center is designated as a regional perinatal center.

A preponderance of research demonstrates that higher volume and higher level NICUs are more successful at improving survival.[6] [7] [8] [9] [10]But some clinicians and hospitals have claimed that even lower level NICUs with fewer patients can provide equally good care, in community hospitals that are geographically closer and thus more accessible to birth families. It is not clear to what extent mothers and infants at risk are being transferred to higher level hospitals appropriately. The cost implications of an increased number of NICUs have not been well studied.

A recent review of eleven states found that seven used the original TIOP designations, four states varied, and in almost all cases the designations were established voluntarily by hospitals, without mandatory validation by the government or other external bodies.[11]Disagreement about NICU levels may be both a cause and a symptom of reported breakdowns[12] in the regionalized system of neonatal care.

Debates about regionalization have occasionally burst into the public arena, as communities dispute the addition of new NICUs, or state legislatures consider modifying laws or regulations related to NICUs. Most recently, clinicians, hospitals, consumers and state regulators in South Carolina have been engaged in a multi-year dispute regarding the definition of NICU levels, the impact of mid-level NICUs on neonatal mortality, and the state's right to enforce its regulations.

Analysts have theorized about the influence of managed care, and market forces generally, on changes in regional perinatal care systems. At least one case study has documented how dynamics of hospital competition for maternity patients can motivate hospital decisions to

add a new NICU.[13] The present study is the first recent attempt to assess regionalization across all the states, and the first that asked knowledgeable observers across the U.S. about what is driving change in their area.

These developments frame the background for the present study.

STUDY APPROACH

Focus

This study addresses two sets of questions:

1. What are state policies regarding how regional perinatal systems operate?

    a. The commonly used definitions for NICU levels
    b. The policy process for defining NICU levels and referral networks
    c. How states enforce compliance with rules about NICUs

2. What is changing, and why?

    a. Which states are considering changes to their regional systems now, or have changed those systems in the recent past? What did they change, or anticipate changing?
    b. What constituencies in the state advocate or oppose change? What forces are driving change?

Methods And Sources Of Information

A literature review found limited information about state rules and practices, noted below. Inquiries to professional associations for neonatal nurses and physicians, to states, and to other researchers, established that states were likely to be the best sources of information. A written survey was sent to each state maternal and child health (MCH) department by email, with follow-up phone calls. In states where MCH departments did not respond, hospital licensing departments or another relevant office was sought. (The survey questions and list of respondents are attached at the end of this report.) The 28 states that responded to the survey provided direct reports on prospects for change. In addition, written documentation of NICU-related statutes and regulations was provided by survey respondents or found online for 17 of the 28 states that responded. For 12 of the 22 states that did not respond, some information was either found online, or identified in other studies. Information is therefore presented for a total of 40 states. The remaining 10 states, and the District of Columbia, did not respond to the survey, do not post information online regarding NICU rules, and descriptions were not identified from other sources.

Two written sources were consulted, in addition to information posted on state web sites. A review of 11 states is presented in Reexamining the Organization of Perinatal Services Systems: A Preliminary Report, June 2000, prepared by Donna M. Strobino, Holly A.

Grason, Ann M. Koontz, and Gillian B. Silver, published by the Women's and Children's Health Policy Center, Johns Hopkins University, and supported by the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services. Three of the states included in that report did not respond to the present survey. In addition, LuAnn Miles, Director of the Division of Perinatal Systems for the State of South Carolina's Bureau of Maternal and Child Health, Department of Health and Environmental Control, surveyed five surrounding southern states. Information on North Carolina, which did not respond to the present survey, was drawn from Ms. Miles' notes.

Table IV at the end of this report presents a list of sources for the information gathered for each state, including legislative and regulatory citations, and online sources.

SUMMARY OF MAJOR FINDINGS

The Status of Regional Perinatal Systems

1. There is substantial variation among states in the definition of NICU levels. Only some states establish standards for volume or birthweight of infants admitted.

Most states provide some definition of hospital services required at each NICU level. This mirrors the guidelines from TIOP, the American Academy of Pediatricians (AAP) and American College of Obstetricians and Gynecologists (ACOG), which specify physical layout, equipment, and medical staff required. For example, most states identify the number of hours of respiratory support, or the kind of specialty services such as surgery, that should be provided at each level.

States have different definitions of infant or maternal risk that would signal admission or transfer to a higher level NICU. States may use birthweight, gestational age, or a combination. Many states do not present standards for risk, and do not discriminate among NICU levels based on patients' specific risk factors.

States vary on performance requirements, particularly volume of patients admitted. If volume is used, it may be defined as average census or occupancy rate per day, number of beds per unit, or number of births per year. Each may have significantly different implications for outcomes. Research offers strong evidence that high level NICUs that treat a high volume of patients, on average 15 or more a day, are associated with improved survival for LBW neonates.[14 15]
There is also variation in the process for defining levels and regional referral networks, and whether compliance with standards for regionalization is voluntary or mandatory.

2. Lack of uniform definitions, and standards for quality, undermine the utility of quality and outcome measurements.

Delivery of 90% of VLBW births at tertiary level hospitals is a goal of Healthy People 2010, and states report annually to HRSA on their performance toward this goal.

However, it is difficult to know whether higher-ranking states are actually providing higher quality care than lower ranking states, due to the variability in state standards outlined above.

For example, all but one of over 20 hospitals in a major southern city is designated as a Level III tertiary care hospital, largely accounting for the state's achievement of 80% of risk-appropriate deliveries. Many of these tertiary hospitals operate low-volume NICUs.

In several states the rates of risk appropriate delivery reported by HRSA do not correlate as expected with infant mortality rates. This may be in part because risk-appropriate NICU care is most likely to affect neonatal mortality (birth to 28 days), while infant mortality measures death over a longer time span, birth to one year of age. It could also be related to incomplete and conflicting definitions of tertiary NICUs.

3. Disagreements among physicians and hospitals at different levels about the critical determinants of safe and effective NICU care for neonates who are moderately to seriously ill make it more difficult to enforce uniform definitions, and account in part for variations in state standards for volume.

NICUs are designed to incorporate a combination of features which are expected to save lives: advanced technology; highly trained staff who are also skilled due to regular practice treating very sick newborns; teamwork among doctors, nurses and ancillary staff (lab, X-ray, pathology, respiratory therapy); the availability of subspecialists 24 hours a day.

"Enhanced" level II NICUs with lower volumes offer only selected elements of the NICU that are required to effectively improve survival, such as advanced technology, or a trained subspecialist.

Some proponents of changing levels claim that a more competitive system is by definition a more modern and effective one, compared to a more defined regional system.

Providers with an interest in opening or upgrading smaller NICUs may attempt to dismiss research based on data that are only a few years distant. Louisiana abandoned a proposal to require a certain volume of patients for Level III NICUs due to political resistance from providers.

The AAP has polled its members who are neonatologists regarding a possible new set of definitions for NICU levels. Advocacy groups and professional organizations can also play an important role in renewing consensus on these issues. Consensus on these definitions could improve the performance of perinatal systems.

4. There is little public information about NICU levels.

It is interesting and somewhat paradoxical that there is no publicly available information about the NICU level for particular hospitals in most states, either in writing or online.

This suggests that to the extent hospitals are competing for maternity patients based on levels, they rely on physicians to inform their patients. A published list of hospitals by level could better equip physicians to advise their patients, and would likely shine a public spotlight on the issue. It could also assist expectant families in making choices. A study by Phibbs et al.[16] reports that high-risk mothers play a more active role in choosing delivery hospitals than do patients with many other conditions. More importantly, while such public identification could intensify competition among hospitals, it is more likely to create an environment of accountability.

5. Several states have developed complex methods to define and evaluate NICU levels.

For example, New York uses a combination of weighted criteria, in which staff qualifications and availability rank highly, the number of NICU beds medium, and NICU volume low.

What Is Changing, and Why?

1. Eight states are formally reviewing NICU standards.

The states are Florida, Georgia, Louisiana, New Jersey, New York, South Carolina, Tennessee, and Washington. In addition, Kansas noted that distinctions among Level II hospitals are beginning to become apparent and might warrant change. Arizona is considering changing the designations of particular hospitals.

A number of states recognize the evolving nature of medical technology by building in a process for regular review of their perinatal care systems, including NICU level definitions and regional referral systems. This may provide an orderly and systematic method for addressing changes in financing, delivery systems and technology. At times, it may also establish the arena for battle. No state other than South Carolina reported that it anticipates public political conflict at this time. But several said they had experienced such conflict within the last ten years, or had abandoned a particular proposal for change in the face of political opposition, usually from clinicians or hospitals.

Some states are changing NICU regulations as part of a process of improving and coordinating perinatal care generally, with an emphasis on improving maternity care**.** Eliminating racial disparities in infant mortality was also cited as a motivation for change by some states, including Texas.

2. A few states vigorously develop and enforce NICU standards, and several support broadly representative committees that monitor developments. Accommodating provider concerns at times takes precedence over independently protecting patient well being. Optimal patient care may suffer as a result.

Several states are actively engaged in modifying their NICU standards. Most of the states that responded to this survey sponsor perinatal advisory committees under the aegis of the state health department.

The process for determining changes in standards is generally in the hands of committees on which providers predominate, although they are authorized by states. Where states and their Departments of Health play a relatively more independent role, they may balance provider interests in favor of patients. In most places, the role of advocates and patients is secondary. There are no states where patients were identified as a major force driving changes. In South Carolina, however, patients and advocates are playing a central role in opposing proposals by certain hospitals.

Many states have rescinded or scaled back certificate of need (CON) rules, which were originally adopted in the 1970s and require state approval for hospital capital projects. A broader decline of state authority, associated with a retreat from health planning to regulate health care delivery, may be affecting the distribution of NICUs. Regionalization was traditionally seen as a cooperative enterprise among providers, the state, and patients, and often still is. Some respondents reported that well-functioning perinatal care committees give states, hospitals and clinicians the opportunity to compare notes and collaborate effectively. But when providers disagree, state legislatures and departments of health may be unwilling arbiters. In the case of South Carolina, they may be unable to exert sufficient influence to elicit compliance from hospitals.

Few states regularly monitor or enforce compliance with NICU standards, and compliance mechanisms vary among states. A few conduct regular visits, and Louisiana even makes unannounced inspections; others rely entirely on hospital self-reports. Some can impose financial penalties in response to violations, and South Carolina and New York reported that they have done so. In many states violations of standards can potentially jeopardize a hospital's license to operate, though no state has invoked that power. Many rely on the tertiary level NICU in the area to work with community-based hospitals on quality issues. Most states would respond to a complaint if directly contacted, but this seems to be a rare event.

Further, authority for regional perinatal systems may be decentralized, perhaps shared between a hospital licensing division and a maternal and child health bureau within a state health department. These offices may or may not share data systems or even basic information. In California, two separate offices of the same state agency approve NICUs: one provides basic licensing, another certifies particular levels. In Texas, the hospital licensing office was certain there was no regional system for perinatal care, at the same time that the MCH branch had been undertaking a major regionalization campaign, with specifics codified in law in 1999.

3. Hospital networks and managed care organizations (MCOs) were mentioned frequently as sources of conflict with state rules regarding which hospitals can admit and transfer, and where.

State rules regarding NICU levels and regional referral networks may determine whether hospitals at a particular level can admit, keep, transfer out, or accept transfer in of high-risk mothers and newborns. For example, lower level NICUs may be required to transfer out seriously ill babies. If they upgraded their NICU designation to a higher level, they could retain those babies, and possibly associated reimbursement.

Some key informants believe that the emergence of hospital networks has introduced strong incentives to alter prescribed regional patterns of referral and transfer.

Perinatal regions are intended to define geographic areas, anchored by one or more tertiary level NICU. Most states initially defined these regions in cooperation with hospitals during the 1970s or 1980s. Ideally, high-risk mothers would be referred to the nearest tertiary center before delivery. For low and very low birth weight babies born elsewhere, survival is likely to depend on timely transport to the nearest tertiary center. In most cases, community-level hospitals have a contract for referral and transport to one or more tertiary hospitals within the perinatal region. However, several states reported that hospitals affiliated by ownership now prefer to keep patients within the same hospital network. In some cases this means crossing the boundaries of pre-existing perinatal regions. If hospitals within the same system are located at a distance from each other, the choice to bypass a hospital that is closer, but outside the network, presents a risk to the health of the infant.

This has led to conflicts between hospitals and states over level designations. A hospital system may seek to enhance the NICU services within one of its hospitals, or simply change the designation of an existing NICU upward, in order to create more tertiary centers within its network that can receive referrals and transports from its community-level hospitals. Depending on its rules, a state could object to the upgrade for a variety of reasons. For example, if it has standards for volume, the state could show that the hospital has not generated sufficient volume to meet the standards.

It can also lead to disputes between the chains and the state regarding the boundaries of the perinatal region in which transports are safe.

New Jersey, South Dakota and Utah all cited the influence of hospital networks in raising concerns about state definitions for NICU levels and referral areas. Wisconsin said both hospital networks and MCOs sought to keep admissions and referrals within their networks.

Illinois and Iowa each cited pressures from both hospital chains and MCOs to refer patients within their networks, which sometimes conflicted with the regional boundaries

and referral systems established cooperatively by hospitals and the state. Tennessee reported that MCOs had been most active in NICU level and referral issues.

4. Reimbursement policies affect hospital NICU practices.

One respondent noted that hospitals are likely to open a NICU primarily to attract obstetricians, and thereby maternity patients. In this respect, hospitals may use NICUs, or NICU level designations, as "brands" to market to physicians and mothers.

However, hospitals seeking to upgrade their existing NICUs to a Level II or III, or to an intermediate level between II and III, often intend to retain certain high-risk patients, rather than transferring them out. They may also want to be able to accept transfers. A hospital may seek to attract and retain privately insured patients or Medicaid patients, depending on whether it is a for-profit or a public hospital, the relative levels of reimbursement by the various insurance programs, and what other nearby hospitals are doing. Generally hospitals will prefer to retain rather than transfer high-risk newborns if a higher level of reimbursement is available for NICU care than for care of normal newborns, if the reimbursement is sufficient to cover costs, and if reimbursement is higher when newborns are not transferred. Hospital chains as well as MCOs may believe they are most likely to contain costs, as well as retain reimbursement, by keeping insured births within their networks. Hospital chains that are interested in keeping insured newborns within their network may upgrade their NICU levels to accomplish this.

New Jersey has tried to preserve the patient base for urban safety net providers that have high level NICUs by maintaining CON standards for opening new NICUs, at a time when suburban hospitals have been interested in competing for insured maternity patients.

Medicaid reimbursement policies and levels might be expected to affect hospital NICU practices. Up to half of births in each state are covered by Medicaid. An increase in funding for disproportionate share hospitals (DSH) in the early 1990s, and increases in Medicaid rates and eligibility standards, provided incentives for some hospitals to attract Medicaid patients, and was a factor in opening and upgrading NICUs in California. Few respondents to the present survey mentioned Medicaid reimbursement as a likely factor in hospital decisions about NICUs. It may be a more salient issue for hospitals, and not directly observed by state health officials; changes in DSH are also distant in time. Unfortunately, written documents provide little insight into the extent to which Medicaid reimbursement is linked to compliance with state rules on NICU levels.

Louisiana noted that some Level III hospitals had been able to avoid accepting Medicaid patients by pegging staffing to the lower level required by the state for non-Medicaid patients; the state resolved this by making its staffing rules uniform for all patients. New Jersey reported that reimbursement for NICU patients was not driving hospital competition currently; hospitals are more focused on rules regarding cardiac catheterization, which is highly reimbursed through Medicare.

DETAILED FINDINGS

I. Levels Of Care

The standards for NICU levels, set forth by TIOP and the AAP and ACOG Perinatal Guidelines, define for each level the acuity of patients who should be treated, and in some cases particular services that should be provided. They also specify the types and qualifications of staff, and requirements for equipment and physical layout.

Of the 30 states where levels could be reliably identified, less than half use the original three TIOP levels:

- 12 states still use the TIOP I definitions for levels I, II and III:
  Colorado, Connecticut, Indiana, Kansas, Mississippi, Missouri, North Carolina, Ohio, Oregon, Pennsylvania, Texas, West Virginia
- 3 states identify only one level of specialty care as a NICU:
  Massachusetts, Rhode Island, West Virginia
- 15 states have added levels beyond the three proposed in TIOP.
  - 3 states added extra levels in the middle only, below level III:
    Arizona, California, Iowa
  - 8 states added extra levels at the top only, above level III:
    Florida, Georgia, Louisiana, Maryland, New Jersey, New York, Utah, Virginia
  - 4 states added extra levels both in the middle and at the top:
    Illinois, South Carolina, Tennessee, Washington

Michigan, Minnesota, North Dakota, Oklahoma and South Dakota reported that they do not define NICU levels. For the other 15 states and the District of Columbia, no written definitions were identified.

Table 1 specifies the practices of each state where information on levels was available.

Using Birthweight, Age, and Volume Standards to Define Levels

A key element of regionalization is where high-risk babies are directed for delivery and transport. Some states include a definition for high risk, using birthweight and/or gestational age, to define which neonates should appropriately receive Level III care; others do not use either measure, or state only that "high risk" infants should be directed to higher level care. It is therefore difficult to know whether the highest risk deliveries are occurring at Level II, II+, III, or III+ hospitals.

Nine states establish a performance standard for volume:

NICU occupancy rate	Number of births per year	Number of NICU Patients/year	Number of transfers accepted	Not specified
New York	Arizona	New York	New Jersey	Florida
No. Carolina	Massachusetts	So. Carolina		
Rhode Island	No. Carolina			
Washington	So. Carolina			

Only one of the twelve states that uses the original TIOP definitions also reports a performance standard: North Carolina requires at least 75% occupancy in Levels II and III hospitals, as well as at least 500 deliveries a year at Level I.

How Many Levels? States Vary

Two contiguous states, Massachusetts and Rhode Island, recognize several levels of maternity care and nurseries, but only the highest level is defined as a NICU; in these two states, a NICU is by definition equivalent to a Level III. Both states require minimum volume standards, though their standards appear to differ. Massachusetts added an intermediate level nursery in 1989 designated as a Level IB continuing care nursery, for mild or moderately ill patients born in the facility, or stable infants transferred back from a referral center. Only Level III NICUs can provide ventilation.

Wisconsin considers only perinatal centers as NICUs. Wisconsin has no performance standards. This system does not recognize intermediate levels of care as appropriate sites for high-risk infants, and may tend to direct most high-risk neonates to the equivalent of a Level III.

In states that have added levels in the middle, between Levels II and III, it is likely that community hospitals are allowed to keep or transfer in sicker neonates. Of three states that have added levels in the middle, only Arizona has minimal standards for total annual volume. All four states that have added levels at both the middle and high end require consultation with a Level III NICU to determine treatment for low birth weight infants, although Tennessee requires this only for Level I hospitals. Illinois, South Carolina, and Washington, in contrast, have volume requirements for higher level hospitals, though all of the standards are different from each other.

States that have added levels above III, often called Regional Perinatal Centers (RPCs), may encourage the concentration of extremely high risk care at a few higher level hospitals. New York, for example, has so many specialty hospitals and specialist physicians, and a correspondingly dense population, that even a fairly sophisticated Level III NICU may not see the most complex cases. Utah, with a more sparsely dispersed population, has also adopted the RPC strategy. Florida, Maryland, New Jersey and New York have some kind of performance standard for higher level NICUs, and Florida plans to add standards for gestational age. Louisiana and Virginia both reported political

resistance to adding a volume standard. Utah reported recognizing the problem of performance at lower level NICUs, but cited the problem of scarce capacity in rural areas.

This wide variation in definitions makes national comparisons difficult. For example, the HRSA standard for risk-appropriate deliveries is the percent of very low birth weight infants delivered at facilities for high-risk deliveries and neonates. If there is no uniform definition of such a facility, a high rate of risk-appropriate deliveries in one state may not represent significantly better practices than a slightly lower rate in another.

II. Process For Defining And Designating NICU Levels, And Enforcing Rules

Table II shows the process for each state to define and designate NICU levels, and enforce compliance.

State processes generally seek to involve hospitals in improving their performance and outcomes, and in setting definitions of NICU levels. A number of states permit hospitals to assign their own NICU level designation. In many cases an interdisciplinary committee advises the state licensing authority, or the health department, which makes final determinations. Several states codify the definitions of NICU levels, designate the levels of particular hospitals, tie reimbursement to particular hospital levels, and can impose financial penalties on hospitals that fail to comply. A number of states provide hospitals with regular reports regarding neonatal mortality and other measures to assist them in improving their performance.

Additionally, several states report that they use reviews established through CON laws or regulations to approve opening new NICUs or new NICU beds. North Carolina uses occupancy rates, the number of patient days, and a formula for determining need for additional beds.

Who Defines NICU levels:

A committee advises the state regarding the definition of NICU levels in:
Arizona, Georgia, Illinois, Maryland, Washington

Definitions are determined by the state in:
California, Louisiana, Massachusetts, New York

Hospitals can set their own definitions in:
Arkansas, Connecticut, Utah

Who Designates NICU levels at Particular Hospitals:

Hospital NICU levels are designated by the state in California, Illinois, Iowa, New York, North Carolina (through the CON process), Ohio (CON), and Virginia. California reviews NICUs initially to designate the level, but does not conduct follow-up visits; hospitals there can voluntarily change their level.

Maternal and child health consortia review hospitals and recommend their NICUs levels to the state in New Jersey, which also still uses the CON process to approve new and upgraded NICUs.

Hospitals can self-define their levels in Connecticut, Indiana, Kansas, Missouri, Tennessee, Texas, Utah, Washington, and Wisconsin. However, in both Tennessee and Texas, the state defines the perinatal regions.

Florida uses a CON process to approve new NICUs, but is currently developing independent standards and a monitoring process for NICUs.

Reimbursement

Some states that define NICU levels also require that hospitals adhere to those levels in order to qualify for reimbursement by Medicaid or by private insurance. Louisiana ties the actual dollar reimbursement level by all payers for NICU care to the hospital's NICU level. In Virginia, Medicaid uses licensed levels to determine reimbursement.

Ongoing monitoring

Many states visit or certify a hospital or NICU at least initially. A few states conduct subsequent visits to monitor compliance or reinforce state standards.

States that conduct periodic visits to NICUs are Connecticut, Illinois, Iowa, Maryland, Louisiana, Ohio, Rhode Island and Virginia. Iowa visits Level III hospitals every three months, Levels II and II Regional annually, and Level I every 2 – 3 years. Louisiana conducts unannounced site visits in addition to regular reviews. In Maryland, self-assessments by the hospitals are reinforced by site visits by an interdisciplinary committee. Virginia inspects hospitals every two years, and will investigate a complaint at any time.

States that rely on regional perinatal centers to monitor compliance and performance areNew York, South Carolina, and Utah. Wisconsin addresses problems through a work group assigned by the state perinatal consortium.

Additional measures: penalties, and reporting performance

Arizona, California, Louisiana, New York and South Carolina can impose financial penalties, or rescind a hospital's license, for failure to comply with rules.

Arizona, New York and South Carolina reported actually imposing such penalties. In South Carolina a Level II had repeatedly failed to transfer neonates in a timely manner.

Illinois, Massachusetts and Virginia have issued warnings or citations, but the hospitals complied before penalties were imposed. Ohio conducts a yearly licensure survey, and reports that hospitals with violations are cited, and can face financial penalties.

Georgia has proposed new rules that would grant enforcement authority to the state's Office of Regulatory Services.

Illinois and Texas report to hospitals about their neonatal mortality rates.

III. Recent Changes

Table III describes recent and proposed changes by state.

Nine states have recently changed some aspect of their regional system, either because of a regular state process, or because of issues related to the demise of certificate of need systems. Eight are currently reviewing their systems, or plan to do so within the next year. Two other states, Arizona and Kansas, reported issues that may bear addressing in the future. Analyzing the extent of the change, whether it is likely to benefit newborns, and what is driving the change, involves understanding both the existing system, and recent developments.

As noted above, in many states the process for determining NICU levels and establishing hospital referral patterns is entirely voluntary. In others, levels are described in statutes or regulations, but states don't have mechanisms for enforcing the rules, such as tying compliance to reimbursement. Still further, states may require compliance, but fail to monitor hospitals' performance on a regular basis.

States that have not changed their NICU level definitions may have experienced other changes in practice. For example, mid-level hospitals may engage in "level creep" by upgrading their individual classification to a level III, without changing the state's level definitions. Hospitals self-designate their levels in twelve states, making it easier to change their own levels without changing the rules.

States that have revised their rules, or implemented changes permitted by existing rules**,** include California, Hawaii, Illinois, Iowa, Maryland, Massachusetts, Ohio, Texas, and Virginia. Some of the changes they implemented:

Illinois. Illinois already has an additional middle NICU level and does not foresee adding new levels. It has used existing rules to upgrade the NICU designations of some hospitals, and is considering changing others. Illinois sponsors a closely monitored system that includes wide participation. Levels are set through a public rule-making process that includes a committee with members of the state legislature. The Department of Health is the final authority on designation of levels. It monitors outcomes, and follows up on newly designated units within 18 months. The state no longer establishes referral networks, but just requires lower level NICUs to have transfer agreements with a Level III hospital.

The state reports that hospitals may seek to upgrade their NICU designations due to pressure from MCOs to provide comprehensive care to mothers and children. If a Level II or II+ transfers an MCO baby to a Level III that is outside the MCO network, the MCO may apply pressure to transfer back within its network. Part of the problem is an oversupply of neonatologists: doctors are moving to the suburbs, and competing with city hospitals for maternity patients.

Iowa. Although hospital compliance is voluntary and is not tied to reimbursement, the state sponsors an Advisory Committee for Perinatal Guidelines that recommends whether the Department of Public Health should approve hospital requests to change NICU levels. A proposal was published in 1997, to update standards from 1989. The terminology was changed from "standards" to "guidelines," to connote a degree of flexibility considered practical for a rural state. The guidelines approved designating more than one hospital in each city as a Level II or a Level III, and dropped the requirement that a Level II or III be a referral center. In addition, a new Level II Regional Center was defined, to serve as a referral center primarily in rural areas. These units have greater capacity to ventilate neonates and provide 24 hour laboratory and radiology service, compared with Level IIs. But they are not required to have neonatologists and maternal-fetal medicine specialists, as Level III hospitals are. The proposal also suggested designating a fourth level of care at the state medical university. Another Level III objected, and considered that it should also be designated as a "comprehensive perinatal center." The advisory committee dropped the proposal, as it was seen as divisive to the regionalized system. After public comment, the revised Guidelines for Perinatal Services were adopted in January 1999.

The new state Guidelines report that doctors no longer routinely have a choice of where to admit patients, but are encouraged to admit to the hospital specified by the patient's health insurance policy. In the face of this pressure, and because of the rural character of the state, the Advisory Committee Guidelines state that it continues to strongly support the concept of regionalized perinatal services.

Maryland. An active Perinatal Clinical Advisory Committee meets regularly to update the Maryland Perinatal System Standards. New standards were adopted in 1999. The committee sent the new standards to each hospital, along with data on hospital-specific, birthweight-specific neonatal mortality rates for VLBW infants.

Massachusetts. Regulations state that the Department of Public Health recognizes the continuing evolution of care, and the Department reviews all regulations periodically to assure they reflect current practice, including technological advances and changing health systems. It is one of a small number of states that both reviews all relevant regulations periodically to assure that they reflect current practice, and also has not added new NICU levels. Reimbursement is tied to the level designation for maternity care, which is determined by the state Department of Public Health. The regulations were last revised in 1989-90. These regulations added a new Level IB continuing care nursery, within the established three levels of maternity/nursery care. Level I Community-Based Maternal-Newborn Service could have either a Level I nursery for uncomplicated cases, or a Level

IB continuing care nursery for mild to moderately ill newborns, including those retrotransferred. Level II Community-Based Maternal-Newborn Services are associated with Special Care Nurseries, which can treat moderately ill newborns, but cannot provide ventilation. Level III Neonatal Intensive Care Units provide comprehensive specialty and subspecialty services, and must be located within either a Perinatal Center or a Level III pediatric service.

Ohio. Standards address both OB and neonatal services. Ohio reviews its rules regularly every 4 –5 years to keep up with new concepts, but does not expect to change its levels or definitions. Addition of beds or change in designation is subject to certificate of need review. A series of rules were issued by the Director of Health in 1997, promulgated under Chapter 119 of state law, and subject to review in March 2002. The rules require hospitals to notify the Department prior to changing NICU levels, and set forth service and staff requirements for the three levels of NICUs.

Texas. Texas established a series of guidelines for NICU levels and referral systems by law in 1998-99. They authorize the state Department of Health to coordinate perinatal care within and across state borders. Hospitals can abide by the guidelines or not, at their discretion. The rules are "not intended to restrict decisions concerning client referral or transfer." Hospitals may designate their own levels, but are encouraged to report them to the state, which will publish them. There is no formal licensing by the state; the Licensing Division was unaware of these rules. The Maternal and Child Health department is using the rules to campaign for better coordination and to elicit hospital support for the system, partly in an attempt to reduce racial disparities in infant mortality.

Virginia. Virginia conducted a substantial process to review regulations in 1995, which established four levels of newborn services: general, intermediate, specialty, and subspecialty. The hospital licensing division of the state Department of Health, which regulates NICUs, reports that it does not anticipate impending changes.

States in the process of change, or considering change:

Arizona. Hospitals' compliance with standards for levels is technically voluntary, but an agency certifies that the hospitals meet defined standards. Certification is required to receive both Medicaid and private reimbursement. The state already has additional levels, and is considering developing a freestanding intermediate care facility, and a nursery/pediatric care facility at a children's hospital. One independent hospital and one hospital related to a chain are seeking certification. The process focuses on voluntary participation and education.

Florida. Florida has relied on the state's CON process, which has no mechanism for ongoing review once a facility is approved. However, there have been repeated proposals to abolish CON, and there is agreement among hospitals and clinicians that tertiary services should be monitored even if CON is gone. The state is now reviewing standards and processes for potentially monitoring NICUs independently of the CON process.

Georgia. Georgia currently reviews Regional Perinatal Centers, the highest level of care, through the CON process; however compliance is voluntary. The state is considering new rules which would give the Office of Regulatory Services enforcement authority, and set levels for newborn nurseries, consistent with the Guidelines for Perinatal Care in Georgia. The state does not have additional levels and does not plan to add any.

Kansas. Kansas hasn't changed its perinatal system since it was first instituted in the 1970s. Hospitals self-designate, using the traditional three levels. The state reports that it is beginning to become apparent that there may be differences among the kind of care delivered at the Level II hospitals.

Louisiana. Levels are defined by regulation, and enforced by subsequent unannounced inspections by the state. Regulations were changed in 1991 to tie levels to reimbursement. A new set of revisions was completed in June 2001, and after public comment adoption is expected in January 2002. Most hospitals in New Orleans are Level III, with a few also designated at the higher level of III-Regional (III-R). Reimbursement rates from all sources are higher for higher level NICUs. The new rules will bring state clinical requirements in line with those of the state Medicaid program, which requires that a pediatrician with specialty training must be present if a neonatologist is not; hospitals will have to comply to maintain their level designation and their reimbursement level. In the past hospitals were able to maintain the Level III designation but avoid accepting Medicaid patients by failing to meet Medicaid staffing rules; when a neonatologist was not present in the hospital, an anesthesiologist or emergency MD could cover. Additionally, neonatal and obstetric services will have to be at the same level. Level II hospitals will not be allowed to keep babies under 1500 grams, unless they are too unstable to transfer. Many Level IIIs have one neonatologist and only 8 beds. The state has tried changing the standards to require a certain volume of patients, but withdrew from this "political hot potato." The state perinatal commission is very active. OB/Gyns, nurses and perinatologists are most active in seeking change.

New Jersey. New Jersey requires certificate of need review both to establish and to upgrade designations. The state also defines regions for referrals. New Jersey adopted certificate of need standards for perinatal care in 1974, and conducted a major update in 1991. A Level IIA was added in the 1980s, to meet concerns of large hospitals that didn't want to transfer out high-risk neonates. The rules were last modified in 1999. They will be up for periodic review again shortly, but the state regulator and hospital administrator interviewed do not expect any controversy, since most hospitals consider Medicaid reimbursement too low to generate much interest. In comparison, it is expected that there will be more contention over cardiac catheter and surgery, which are reimbursed highly by Medicare. Two hospitals are expected to seek NICU level upgrades.

There are no for-profit hospital chains in NJ but there are networks with common ownership. Some span across the state's designated perinatal regions, which are set by the county lines. The hospitals may seek a modification to the designation of regions for referrals.

Upgrading the level of individual hospitals permits those hospitals to keep transfers within a network. It also permits some hospitals to accept transfers in, which helps subsidize the costs of the NICU. Keeping referrals within the network may help to integrate services across hospitals. Hospitals are more powerful in NJ than are MCOs, which reportedly don't have enough concentrated market power to exert leverage.

New York. New York defines levels in regulations, but levels are not tied to reimbursement. The state relies mostly on regional perinatal centers to monitor compliance and provide education, but reviews reports on quality, and is developing a statewide perinatal data system. Regulations are being revised to think of regionalization more broadly than NICUs, and also to address appropriate care for high-risk mothers. The state also wants to reflect changes in the health care system related to managed care and corporate mergers among hospitals. The state is surveying all hospitals regarding current capabilities and services. Hospital associations in particular are nervous about the possible outcome, though they are not in opposition at this point.

South Carolina. South Carolina is involved in a contentious dispute between hospitals that want to change the NICU level designations so that they can upgrade, and the state Department of Health and Environmental Control and advocates, who oppose the changes. The state responds to complaints about violations, and may also conduct unannounced inspections. It has cited several hospitals on numerous occasions for failing to transfer out very low birth weight infants, and the hospitals have refused to comply. Two Level II hospitals are for-profit, and located across the street from two Level III hospitals.

There is limited financial support for neonatologists in South Carolina; there are only 700-800 babies in the state who need a NICU annually, most of whom are covered by Medicaid. New neonatologists seek a patient base, and some hospitals want to retain insured patients without transferring them. They claim regionalization is antiquated and limits geographic access, and that competition will produce better infant mortality rates. The state has issued financial penalties against two hospitals with mid-level NICUs for failing to transfer out neonates to a higher level facility. The hospitals have contested the fines.

Tennessee. Tennessee sets regions and defines levels, but hospitals determine their level designation. Guidelines are reviewed every five years, and the next review is due in 2002. Several issues may arise. MCO boundaries conflict with state-designated regions. Some MCOs are not statewide. In addition, doctors have the right to decide where to refer patients, but their preferred hospitals may not all be in the same network. Until recently, Level IIIs took care of their own inborn babies without accepting transfers or developing transport systems. Currently, some Level III hospitals affiliated with networks are taking patients who wouldn't have gone there to deliver based on geographic boundaries established by the state's regional system. Hospitals are classified as Level I, IIA, IIB, or III; in addition there are five regional perinatal centers in the state that have defined regional responsibilities including transport and education. While

hospital relations are generally cooperative, there is some competition among Level IIIs, and between Level IIIs and the regional perinatal centers. Competition between Levels IIA and IIB is not a significant factor.

Washington. The state's Statewide Perinatal Advisory Committee has been reviewing levels since June 2000, and final adoption of its proposal is expected shortly. The last revision was in the early 1990s. Currently hospitals self-identify their levels; they are encouraged but not compelled to comply with guidelines.

The new guidelines delineate more specifically gestational ages, and some services, appropriate for each of the six levels of care:
Basic care Level I: 36 weeks
Intermediate Care IIA: 34 weeks
Intermediate Care IIB: 32 weeks; can provide nasal CPAP
Intensive Care IIIA: 26 weeks; can provide ventilation; establishes database for quality improvement and outcomes monitoring
Intensive Care IIIB: all gestational ages; can provide surgery
Intensive Care IIIC: all gestational ages; can provide open-heart surgery, ECMO, organ transplantation

---

[1] Ventura SF, Martin JA, Curtin SC, Menacker F, Hamilton BE. Births: Final data for 1999. National vital statistics reports; vol 49 no. 1. Hyattsville, Maryland: National Center for Health Statistics. 2001.

[2] National Center for Health Statisitcs. Health United States, 1996-1997, and Injury Chartbook. U.S. Department of Health and Human Services, Hyattsville, MD 1997.

[3] Kochanek KD, Smith BL, Anderson RN. Deaths: Preliminary data for 1999. National vital statistics reports; vol 49 no. 3. Hyattsville, Maryland: National Center for Health Statistics. 2001.

[4] Healthy People 2010, http://www.health.gov/healthypeople/document/HTML/Volume2/16MICH.htm#_Toc494699664. Downloaded September 13, 2001.

[5] Performance Measure 17, National "Core" Performance Measure Objectives and Indicators 1995 to 2000. As reported by state in their Title V Block Grant FY 1998 Annual Report and FY 2000 Application; Form 11. Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services. http://www.Mchdata.net/Reports_Graphs/Action.Lasso, downloaded 4/25/01.

[6] Phibbs CS, JM Bronstein, E Buxton, RH Phibbs. The effects of patient volume and level of care at the hospital of birth on neonatal mortality. *JAMA*, October 2, 1996; 276(13):1054-1059.

[7] Powell, S.L.; Holt, V.L.; Hickok, D.E.; et al. Recent changes in delivery site of low-birth-weight infants in Washington: Impact on birth weight-specific mortality. *American Journal of Obstetrics and Gynecology* 173(5):1585-1592, 1995.

[8] Kirby, R.S. Perinatal mortality: The role of hospital of birth. *Journal of Perinatology* 16(1):43-49, 1996.

[9] Paneth, N.; Kiely, J.L.; Wallenstein, S.; et al. The choice of place of delivery: Effect of hospital level on mortality in all singleton births in New York City. *American Journal of Disabilities in Children* 141(1):60-64, 1987.

[10] Sanderson M, Sappenfield WM, Jespersen KM, Liu Q, Baker SL. Association between level of delivery hospital and neonatal outcomes among South Carolina Medicaid recipients. *American Journal of Obstetrics and Gynecology,* December, 2000; 183(6):1504-11.

[11] Strobino DM, Grason HA, Koontz AM, Silver GB. *Reexamining the Organization of Perinatal Services Systems: A Preliminary Report.* The Women's and Children's Health Policy Center, Johns Hopkins University, and the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services, June, 2000.

[12] McCormick MC, DK Richardson. Access to neonatal intensive care. *The Future of Children,* Spring 1995, 5(1), David and Lucile Packard Foundation, Menlo Park, CA. Downloaded from www.futureofchildren.org/LBW/11LBWMCC.htm on 2/18/98.

[13] Richardson DK, K Reed, C Cutler, et al. Perinatal regionalization versus hospital competition: the Hartford example. *Pediatrics,* September, 1995; 96(3):417-423.

[14] Phibbs CS, JM Bronstein, E Buxton, RH Phibbs. The effects of patient volume and level of care at the hospital of birth on neonatal mortality. *JAMA*, October 2, 1996; 276(13):1054-1059.

[15] Cifuentes J, J Bronstein, CS Phibbs, RH Phibbs, SK Schmitt, WA Carlo. Mortality in low birth weight infants according to level of neonatal care at hospital of birth. In press, May 2000.

[16] Phibbs CS, DH Mark, HS Luft, DJ Peltzman-Rennie, DW Garnick, E Lichtenberg, SJ McPhee. Choice of hospital for delivery: a comparison of high-risk and low-risk women. *HSR: Health Services Research*, June 1993, 28(2):201-222.

LIST OF SURVEY QUESTIONS

1. How are NICU levels defined in your state? How many levels are there, and what services can they provide? Would you please send by mail relevant documentation from regulations or laws?

   a. Are there NICUs operating in your state that are defined as a fourth or fifth level of care?

   b. If so, what is the definition of these additional levels, and what services are provided?

2. Do NICU standards require higher level NICUs to meet standards for volume (number of patients served per year) as well as staffing?

   If so, what is the volume requirement, for which levels?

3. What is the process for defining new levels of NICUs? Are new levels defined by:

   state law

   regulation

   accepted voluntarily

   other:

4. What if any is the relationship between NICU level designation and reimbursement by private or public payors; in other words, do NICUs have to meet standards for a particular level of care to receive either private insurance or Medicaid reimbursement?

5. What other mechanisms does the state use to assure that hospitals comply with NICU standards, aside from reimbursement?

   For example, how often does the state conduct reviews to monitor compliance?

   Can penalties be imposed for failure to comply, or does the state rely on voluntary compliance?

   If penalties are permitted, have they been imposed on any hospital within the last 10 years?

6. Is there an effort presently in your state to change or expand the definition of NICU levels? Do you anticipate such an effort in the near future?

If so, is the effort focused on changing a regulation, a law, or through another method?

Are you aware of such efforts in other states? If so, which states:

7. Which of the following are actively involved in seeking changes to the existing system of classifying NICUs:

a. Hospital chains

b. Independent hospitals (not part of a chain)

c. Insurance companies

d. Managed care organizations

e. Neonatologists

f. Other health care professionals (OB/Gyns, nurses, etc.)

g. Patients and/or patient advocates

h. Regulators

i. Legislators

j. Other groups: _____

8. Which of these groups is opposing changes?

9. How would each active group be affected by such changes?

Detailed

Tables

TABLE I: NICU LEVELS, BY STATE

STATES USING TRADITIONAL TIOP DEFINITIONS: I, II, III

State	NICU level definitions	Volume standards?
Colorado	Based on AAP/ACOG guideline, 4th edition Level I/basic care: basic perinatal services for uncomplicated obstetric and newborn patients Level II: also selected at-risk patients Level III: comprehensive services for large majority of high-risk OB and newborn patients, including prematurity and surgery.	No, but there are staffing guidelines. It is difficult to meet specialized equipment and staffing require-ments without volume
Connecticut	Traditional I, II, III	No
Indiana	Traditional I, II, III	No
Kansas	Levels I, II, III Levels refer both to NICUs and to antepartal, intrapartum and postpartum services. State refers to AAP/ACOG and March of Dimes TIOP documents for guidance and description of services.	No
Mississippi	Traditional I, II, III	No
Missouri	Traditional I, II, III; recent increase in IIIs	No
North Carolina	I - Normal births, at least 2,000 grams at birth II - May provide some respiratory support; at least 1,500 grams, approximately 32 weeks III - unstable or critically ill; surgical, respiratory, other intensive interventions	I: at least 500 deliveries/yr II and III: at least 75% occupancy in existing beds
Ohio	I: regular II: Intermediate, to stabilize, IV fluids, antibiotics III: NICU - high-risk infants. For prolonged care, ECMO, CPAP. Standards address obstetrics as well as newborn services Rely on AAP/ACOG guides for staffing, equipment Level II must have neonatologist on staff if providing ventilation; otherwise must transfer	Can't exceed 16 babies in one nursery room; can have multiple nursery rooms.
Oregon	Traditional levels I, II, III	No
Pennsylvania	Level I: Normal Neonatal Level II: Neonatal Intermediate/Intensive Care Level III: Neonatal Intensive Care Adhere to Guidelines for Perinatal Care, AAP/ACOG, for staffing, equipment	No

TABLE I: NICU LEVELS, BY STATE

State	NICU level definitions	Volume standards?
Texas	Basic perinatal facility: care that is or is expected to be uncomplicated, for women and infants. Specialty perinatal facility: uncomplicated, plus those at high risk or who require complicated care. Subspecialty perinatal: for those with serious illnesses and abnormal health conditions. American Academy of Pediatric standards for Levels I, II, III, per Texas Administrative Code, Title 25, part I, Chapter 37, Subchapter M, Rule section 27.252. Definitions: Texas Perinatal Care System. (Also lists a range of relevant standards including TIOP)	No
West Virginia	Three levels, per AAP/ACOG Guidelines	No
STATES WITH ONE HIGH LEVEL OF NICU		
Massachusetts	Three levels of maternity/nursery care, only one level of NICU care. I: Community-Based Maternal-Newborn Service including a Level IB Service with a Continuing Care Nursery. Level IB nurseries represent a transitional stage to Level II special care nurseries for moderately ill newborns born within that hospital or retrotransferred infants. II: Community-Based Maternal-Newborn Service with a Special Care Nursery. Level II Nursery is part of a larger system of care, providing more specialized services to sicker infants born there or transferred in from I or IB units. Infants require close, ongoing medical assessment, but not comprehensive services of a Level III. III: Perinatal Center and/or Neonatal Intensive Care Unit Provides comprehensive range of specialty and sub-specialty services to severely ill infants. Responsible for educational and transport services to other hospitals. All infants requiring mechanical ventilation must be transferred to a Level III. All I and II hospitals must have written agreement with a III for consult, transfer. The III may be located in another state.	Level IB Community-Based Maternal-Newborn Service must have minimum 1200 births/year. Level II: Minimum 1500 births/year in any of last three years, or will do so in next 3 years, or designation warranted due to role in providing access to care. Level III: No explicit volume requirement.
Rhode Island	One level. Must be able to provide full range of subspecialty services. Several levels of newborn nurseries may exist in one hospital: Regular nursery, for newborns with no infections; Isolation facility for newborns with an infection; Premature nursery for seriously ill newborns who are not infectious. NICU can accept infants <1500 grams; not clear that other levels are prohibited from doing so	Yes: minimum 15 a day
Wisconsin	1. Primary/community-based 2. Perinatal Center: Specialized high risk	No

TABLE I: NICU LEVELS, BY STATE

STATES THAT HAVE ADDED EXTRA LEVELS IN THE MIDDLE ONLY

State	NICU level definitions	Volume standards?
Arizona	Birth center: normal pregnancy Hospital birth ctr: low risk, non-C section Level I Perinatal Care Center: Low risk, C-section Level I EQ Perinatal Care Center: Low/moderate risk pts selected through Enhanced Qualifications Level II Perinatal Care Centers: Level I care plus selected hi-risk maternity and complicated newborns Can serve 1500-2500 g neonates who are not ill but require more feedings and nursing hours than normal; 34 weeks+ gestation Level II EQ: Expanded Level II care of defined problems through a process of Enhanced Qualifications; 28 weeks+ gestation Level III: All levels of care; accept transfers; all gestational ages	Level II and Level II EQ: minimum 1,000/year Level III: minimum 2,500/year
California	Intermediate (II) Community (II+) Regional (III)	No. Technical Advisory Committee may deny approval if fewer than 6 beds
Iowa	Levels relate to both OB and NICU/newborn services Level I: 69 maternity hospitals Level II (14 hospitals) Level II Regional Perinatal Centers (8 hospitals) Level III Perinatal Centers (hospitals) Purpose of designation is to ensure appropriate care as close to home as possible. Ideal to have community hospital within 50 miles from perinatal center, but not possible in rural areas. Guidelines are intended to assure that when a hospital markets itself at a particular level, it is capable of providing that care. The public is entitled to know the level of functioning.	Not explicitly; assume higher level NICUs would have higher volumes. AAP and ACOG staffing guidelines required

STATES WITH EXTRA LEVELS AT THE HIGH END ONLY

Florida	Primary Secondary: 1,000 grams and over (per L. Miles) Tertiary Quaternary	Yes. Also weight standards. Will add standards for gestational age.
Georgia	Basic, specialty, subspecialty (traditional I, II, III) 6 regional perinatal centers Specialty hospitals can accept referrals Per "Recommended Guidelines for Perinatal Care Georgia:"	No

TABLE I: NICU LEVELS, BY STATE

State	NICU level definitions	Volume standards?
Louisiana	Levels apply to both obstetrical and neonatal services Level I, II, III, III-Regional Level III-Regional are the larger mostly academic-affiliated units that have all the required pediatric subspecialty support required in the Louisiana State Perinatal Plan	No. All III-Regional have over 30 beds. But many III units have a single neonatologist and go as low as 8 beds. Attempts to regulate volume have met with political resistance.
Maryland	I: hospital with a perinatal program which may provide care to newborns >36 weeks gestational age or >1,800 grams II: newborns >32 weeks, >1,500 grams III: may provide medical intensive care, >26 weeks, >800 gms III+: must be geographically near a Level IV perinatal center, may provide medical intensive care for newborns of all gestational ages and birth weights, and may provide specialty services, as defined by the standards IV: provides comprehensive neonatal and obstetrical services including all subspecialty services, as defined in standards	No
New Jersey	Community Perinatal Center - Basic: low risk maternity patients, at least 36 weeks gestational age, >2,499 grams; services for returned infants; agreement w/Regional Center Community Perinatal Center - Intermediate: at least 32 weeks gestational age, >1,499 grams, services specified in agreement with Regional Center Community Perinatal Center - Intensive: at least 28 weeks gestational age, weight greater than 999 grams Regional Perinatal Center: provides care to high risk mothers and neonates; consultation, referral, transport and follow-up to other members of its Maternal and Child Health Consortium. Only 2 hospitals at this level, can do pediatric cardiac surgery and transplants: RWJ Hospital, and Boro Heart and Lung (no maternity)	Regional Perinatal Center must accept over 80 maternal-fetal transports within 2 years of designation.

TABLE I: NICU LEVELS, BY STATE

State	NICU level definitions	Volume standards?
New York	1 - Basic II - Specialty III - Subspecialty Regional perinatal center (RPC) RPC offers very highly specialized services (e.g. fetal surgery, ECMO, pediatric cardiac and neurosurgery. RPCs also responsible for overseeing system of regionalized care within their region, and working with affiliate hospitals to improve quality of care. Closely follow AAP/ACOG Guidelines for Perinatal Care. Formula in regs for no. of NICU beds per 1,000 live births, based on expectations of premature deliveries: no more than two continuing care beds per 1,000 live births; 3-4 intermediate care beds per 1,000 live births; one intensive care bed per 1,000 live births, as of 7/1/90. Also specifies nurse-to-patient staffing ratios.	Yes: II: at least 1,200 high-risk newborn patients/year, 70 NICU discharges, min. 10 NICU beds III: at least 2,000 high-risk newborns, 120 NICU discharges/year, min. 15 NICU beds. RPC: at least 4,000 high-risk births, 200 NICU discharges/year, min. 25 NICU beds. (Level designation based on a mix of criteria, which are weighted. Volume is given a low weight; no. NICU beds medium weight, staff qualifications and availability high weight.) NICU must have minimum 75% occupancy.
Utah	TIOP Levels I, II, III Also one Level IV, that does cardiovascular surgery and other specialty care. Children's and University hospitals across the street from each other, can transport to Children's for specialized care.	No Questions re: whether some I's have enough volume for deliveries; Utah too rural to limit care.
Virginia	General: at least 2,000 grams or 34 weeks GA Intermediate Specialty Subspecialty	No. There was debate on this issue when the regulations were promulgated.

STATES WITH EXTRA LEVELS AT BOTH MIDDLE AND HIGH ENDS

Illinois	I General II Intermediate II with Extended Capabilities: no high-risk maternity patients III Intensive perinatal: can be children's hospital without OB Perinatal Center: One center in each perinatal network, responsible for the regionalized perinatal program; can be more than one institution; university-affiliated. II and II+ need letters of agreement with a III Regs require personnel, diagnostic resources 42 areas in Chicago	No. Proposed and debated but no agreement. Watching published studies on implications for mortality. Levels II & and II w/EC must transfer certain neonates on recommendation of Level III: <1250 gms, <30 weeks; for II, ventilation >6 hours

TABLE I: NICU LEVELS, BY STATE

State	NICU level definitions	Volume standards?
South Carolina	Levels designate Perinatal (Obstetrics & Newborn) Services Community Perinatal Center (Level I): uncomplicated deliveries greater than 2000 grams, 36 weeks gestation Specialty Perinatal Center (Level II): Selected high-risk patients, at least 1500 grams, 32 weeks gestation, not needing ventilation. Enhanced Perinatal Center (Level IIE): Selected high-risk patients, at least 1250 grams, 30 weeks gestation, can be. on ventilatory support up to 24 hours. Must be no closer than 60 miles to a Regional Perinatal Center. Subspecialty Perinatal Center (Level III): High-risk OB and complex neonatal patients. Can provide ventilatory support, surgery. Regional Perinatal Center (RPC):High-risk obstetric and complex neonatal patients. Offer continuing education programs, approve transfers or decisions to keep neonates at lower level hospitals, provide transport system. (These are proposed regs, under discussion)	Yes for III and RPC: III: manage no less than an average of 1500 deliveries a year, or at least 125 neonate admits weighing less than 1500 grams, over previous 3 years. RPC: No less than 2,000 deliveries/year, or average of 250 neonate admits weighing less than 1500 grams each, over previous 3 years.
Tennessee	Level I: uncomplicated care; can stabilize sick infants prior to transfer Level IIA: Mild obstetric and neonatal illnesses, do not require specialized services. Ventilation only until transfer Level IIB: Some complications, neonates who are moderate-ly ill. Protracted ventilation allowed under supervision of board certified or board-eligible neonatologist Level III: Care for severe and complicated disorders. May provide transport services. Regional Perinatal Center: One per each of five regions. Responsible for professional education for staff of other hospitals in region. Must provide transport services. If no other appropriate facility is available to manage significant high-risk conditions, RPC must accept all such patients regardless of financial status	No. For Level I, consult or transfer required for infants born at 2000 grams or less RN to patient ratios recommended.
Washington	Proposed: I (Basic): uncomplicated pregnancies, health neonates at least 36 weeks gestation; can stabilize unexpected problems IIA (Intermediate): Selected complicated pregnancies at least 34 weeks; mildly ill and back-transported neonates. IIB (Intermediate): Selected complicated pregnancies at least 32 weeks; moderately ill neonates; nasal CPAP IIIA (Intensive Care): Selected complicated pregnancies at least 26 weeks; severely ill neonates; mechanical ventilation; may be a state contracted perinatal center; database for QI and outcomes monitoring IIIB (Intensive Care): All complicated pregnancies and neonates at all gestational ages. Surgical treatment of complications of prematurity III C (Intensive Care): Full spectrum of medical and surgical pediatric subspecialists; may include neonatal open heart surgery, neonatal ECMO, pediatric organ transplantation	IIA: avg. daily census of at least 1-2 Level II patients IIB: 2 - 4 Level II patients IIIA, B, C: at least 10 Level II/III patients

TABLE I: NICU LEVELS, BY STATE

NO LEVELS ESTABLISHED, OR NO INFORMATION ABOUT LEVELS AVAILABLE

State	NICU level definitions	Volume standards?
Alabama	Unknown	Unknown
Alaska	Unknown	Unknown
Arkansas	Unknown	Unknown
Delaware	Unknown	Unknown
District of Columbia	Unknown	Unknown
Hawaii	No definition of NICUs in state regulations. Newborn facility	Unknown
	defined in Hawaii Administrative Rules.	Unknown
Idaho	Unknown	Unknown
Kentucky	Unknown	Unknown
Maine	None identified	Unknown
Michigan	NICUs are not identified by level	No
Minnesota	Not defined	No
Montana	Unknown	Unknown
Nebraska	Unknown	Unknown
Nevada	Unknown	Unknown
New Hampshire	Unknown	Unknown
New Mexico	Unknown	Unknown
North Dakota	State does not license; no information re: levels	No
Oklahoma	No standards for levels. Oklahoma Hospital Standards	No
	include construction requirements for NICUs.	Unknown
South Dakota	Not defined	No
Vermont	No reference to NICUs in Dept. of Health web site	Unknown
Wyoming	Unknown	Unknown

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
Arizona	New levels recommended by Arizona Perinatal Trust/ Arizona Perinatal Regional System, Inc. (APT/APRS, Inc.) in collaboration with statewide perinatal leaders, especially AZ Dept. of Health Svcs. Hospitals self-designate.	Certification by APT/APRS Inc is required both for state Medicaid for state Medicaid program (AHCCCS) and for state as payor of last resort.	Licensure is voluntary, but all hospitals at Levels II, II EQ, and III comply. Hospital can lose license, but that would be drastic. Higher level hospitals are expected to mentor. Two hospitals have had HCFA (now CMS) violations; none have lost license.
Arkansas	Hospitals self-designate based on professional norms.		
California	Designation voluntary. Two sources: Office of Statewide Health Planning and Development (OSHPD) designates Intensive Care Neonatal Nurseries (ICNNs), which are not divided into levels. California Children's Services (CCS) designates levels, after a site review by a physician, nurse & social worker from Children's Medical Services (CMS), plus a NICU Technical Advisory Committee (TAC) consisting of a neonatal nurse and a perinatologist. TAC believes minimum no. of beds required to maintain skills, may deny approval if no. of beds below 6; one hospital's application to perform neonatal surgery was denied for lack of volume. CMS can promulgate standards for a new level.	Hospitals negotiate MediCal rates of reimbursement with the State based on the level of services provided and staffing needed to provide them. Lack of approval would deny both MediCal and CCS funding to the NICU.	CMS does not conduct periodic reviews to monitor compliance due to lack of staff. The Senate Finance Committee pointed that out in 1999 but the needed staff positions were not in the final 2000 budget. However, complaints are investigated. Failure to comply with licensing standards can result in fines, and approval could be withdrawn; some NICUs have not been approved but none have lost approval once designated.
Colorado	Hospitals define levels voluntarily. The Colorado Perinatal Care Council, an advisory group, assesses the hospitals every 2 - 3 years. In the past only Level II and III were assessed; this year, they have begun working with Level I's.	Unknown.	Compliance is voluntary. Self-assessment guide has column: "We would like help meeting this guideline." Sets standards for nursing staff/ patient ratios

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
Connecticut	Self-designation based on professional norms		
Florida	NICUs approved by CON. Not licensed. Process now under review.		Once NICUs are approved through CON process, no mechanism for ongoing review and monitoring. State is currently developing standards and monitoring process.
Georgia	Formal designation of RPC's self-assessment, checked by state health agency. Recommended Guidelines for Perinatal Care in Georgia sets levels used for CON. Guidelines developed by the Council on Maternal and Infant Health, who are appointed by the Governor and sit in an administrative capacity within the Div. of Public Health; represent providers and users. Within GA Dept. of Human Resources, Div of Public Health and Office of Regulatory Services are involved, plus Dept. of Community Health, Division of Health Planning. ORS inspects, monitors, licenses, registers and certifies a variety of health and child care programs, and recommends certification of facilities to receive Medicare and Medicaid funds. Div. Of Health Planning administers CON program.		Voluntary compliance with guidelines. Under new rules, if adopted, ORS will have enforcement authority and sanctions can be imposed for noncompliance with the rules.

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
Illinois	Public rule-making process; committee with reps from the legislature. Dept. of Health is final authority on designation of levels.		State monitors all outcomes for pts <1500 grams, joint M&M reviews with center. State grants $3-500 million to coordinate care, including monitoring & evaluation. State follows up on newly-designated units within 18 months Could lose license if not in compliance. State sends letter requiring compliance within a time limit; always met. Believes that distance between II/IIEC and III not a problem; all IIIs have good transport systems. Committees collect info from FIMR, home health visits, hospital records, track deaths & other outcomes. Home interviews collect a lot of info, community action teams can make policy Springfield team reviewed 30 deaths over 2 years, recommended more perinatal autopsies, pathologist, social support programs.
Indiana	Voluntary self-designation through hospital survey		
Iowa	Voluntary regionalized system. Iowa Administrative Code Chapter 150, Sections 641 -150.1 through 150.12 set guidelines to determine levels. To change its level, hospital writes to the Advisory Committee for Perinatal Guidelines, outlining area and population to be served, links with other levels of hospitals, unmet needs in target area and ability of hospital to meet needs. Advisory Comm. and state's perinatal health care program recommend to state DPH whether to grant or deny certificate of verification to the hospital.	No direct relationship. Some facilities may be able to negotiate higher rates for Medicaid contracts.	State visits Level IIIs every 6 months, Levels II and II Regional annually, Level I every 2-3 years No penalties; compliance voluntary. Review teams offer technical assistance, education, referrals. Iowa Dept. of Inspections & Appeals and JCAHO also review for licensure.

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
Kansas	Self-designation by hospital. No state laws or regulations re: NICU level.		No reviews to monitor compliance. Voluntary compliance with national guidelines only.
Kentucky	Unknown		
Louisiana	Levels defined by regulation. The Perinatal Plan was published in the State Register. Initially, unit applies to state at the level they wish to be. Team from state licensure inspected each unit for floor space, staffing and support personnel, and written transfer agreements, as stated in Perinatal Plan Reinforced by subsequent unannounced inspections.	compliance tied to Medicaid reimbursement. Most high-risk infants are covered by Medicaid. Third party payers follow Medicaid's lead The perdiem payment is tied directly to the designated level of care. Level III-R is reimbursed at least $1584 a day.	Unannounced site visits at 10% of hospitals each year. Hospitals can lose license if violate regulations, or can. be downgraded, which would entail loss of reimbursement. No hospital has incurred penalties; when deficiencies found in inspections, units were required to show they had corrected them in a timely manner.
Maine	Unknown		
Maryland	Perinatal Clinical Advisory Committee meets regularly to update and maintain the Maryland Perinatal System Standards. Latest standards released January 1998. Standards sent to each hospital, plus data on hospital-specific, birthweight-specific neonatal mortality rates for VLBW infants. Self-assessment of level of perinatal care done voluntarily by each hospital through a survey.		Discussion and reenforcement of state standards for levels achieved through hospital visits by a Maryland interdisciplinary team. As of March 1999, all 18 Level I and Level II hospitals had site visits, and four of the 17 Level III, III+ and IV hospitals were also visited. Plans to involve the Maryland Institute for Emergency Medical Services Systems, which is responsible for maternal-neonatal transport in Maryland.
Massachusetts	Licensure regulations, promulgated by the MA Dept. of Public Health. Hospital files application with state Dept. of Health as to the level of maternal and/or newborn services for which it requests designation. After initial designation, hospital re-applies for designation of maternal and/or newborn services each time it applies for renewal of hospital license.	Reimbursement rates for both public and private insurers are tied to the hospital level designations.	Initial site review to grant license. Subsequent reviews usually in response to a complaint or particular sentinel events. Hospitals develop plan of correction for any cited deficiencies, monitored by the Dept. Citations have been issued in last 10 years, and hospitals have complied. Dept. has provided technical assistance to meet regs if need indicated or requested.

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
Michigan	State does not set levels		
Minnesota	"Minnesota does not define in law or regulate NICU levels in the state. Their regulation/compliance with national standards is a function of JCAHCO." (Note: JCAHCO states it does not set or enforce NICU standards.)		
Missouri	Voluntary self-designation through annual licensing survey of MO hospitals (MHA, DOH, AHA) by obstetrical level		
New Jersey	CON review required for intensive and intermediate NICU beds, and to change designation to become Intermediate or higher. Regulations call for regular review of provisions, and review of hospitals. Regs set up maternal and child health consortia, and hospitals assigned to each region. Consortia recommend upgrades; state has final say.		
New York	Levels defined in regulations. Hospitals apply to change level per regs: 1. Submit information re: staffing levels, facilities and experience. 2. Review of hospital discharge data. 3. Possible site visit to verify information and clarify arrangements for providing specialized care.	No relationship	Regional Perinatal Centers (RPCs) are paid to review and work on improving quality of care at affiliate hospitals. Dept. of Health reviews reports from RPCs and will conduct analyses of data from Statewide Perinatal Data System (being developed/ implemented) Rely on educational approach to promote voluntary compliance with regs; can impose penalties or mandate changes if hospitals do not respond to education. Penalties have been imposed in the last 10 years.

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
North Carolina	CON review for new neonatal service or to add beds to existing neonatal service. Occupancy rates, no. of patient days, and formula for determining need for additional beds used in review.		
North Dakota	State does not define levels		
Ohio	Addition of beds or change in designation subject to certificate of need process. Dept. inspects and approves affiliation agreements. Dept. expects transfer agreements will involve hospitals within one hour travel, though not written in rules.		Yearly licensure survey. If hospital in violation, gets citation, has to address within 30 days, or get penalty. Financial penalties can be imposed. Hospitals usually try to comply.
Oklahoma	State does not define		
Oregon	Informal, unofficial self-designation at the local level		
Pennsylvania	Unknown		
Rhode Island	Unknown		Each hospital NICU reviewed annually. Penalty: revocation of NICU license or discontinuance of NICU operations.
South Carolina	Hospitals licensed by state for one year. Must request amended license to change NICU level. Perinatal boards in each region, and one statewide.	No direct tie to reimbursement.	RPC reviews quality of care in region. State may conduct unannounced inspections, and may inspect in response to a complaint, which can remain anonymous. State can levy penalties for non-compliance, including letters of warning and financial penalties, and license can be denied, suspended or revoked. Financial penalties may reach up to $5,000. State has issued warning letters in the past several years, including several for Level II hospital that failed to transfer sick neonates in a timely manner.

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
South Dakota	Licensing regs make no reference to NICU		There is a community health nurse in all but about 5 of the state's 67 counties. They work with hospitals both east and west of the Missouri River to assure good care, including timely transport of premature deliveries. Most smaller hospitals recognize when there is a premature delivery they can't handle properly, and take steps to transport. Large hospital systems very competitive with each other. If community hospital has agreement with a larger center will transport there, otherwise mother can choose where to go.
Tennessee	Regions designated by Commissioner of TN Dept. of Health. Levels self-designated by hospitals. Attempted to classify hospitals with subspecialty services as Level IV, but Level IIIs objected; now called RPCs.	Set by each insurer.	Voluntary

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
Texas	Voluntary. TX Admin Code 25/I/37/M/ 37.254: Statewide Oversight of the Perinatal Care System and Interstate Cooperation, calls on the TX Dept. of Health to develop & maintain a reporting and analysis system to monitor outcomes of the statewide perinatal system, collect information , facilitate organization and operations of perinatal resource coordinating groups, and facilitate cooperation and coordination with perinatal providers in adjoining states. Rule 37.255 establishes 8 perinatal planning areas (PPAs) for planning and QI purposes, but "not intended to restrict decisions concerning client referral or transfer." Rule 37.256 establishes a Perinatal Resource Coordinating Group (PRCG) in each PPA to examine outcomes and develop plans to improve them, including transfer protocols. Per Rule 37.257, state must approve PRCG's annual plan.	no	Carrot & stick: get perinatal mortality reports, links to PRAMS data, after participate in state survey. TX Admin Code 25/I/37/M/Rule 37.259 states that each facility shall select its level designation, and may report it to the state, which will publish the list of all facilities that report. The Dept. may appoint a review team to confirm the facility's self-designated category. The Dept. does not officially license NICU levels.
Utah	Voluntary/informal designations. Generally agreed that there are 6 Level III NICUs.		Univ. has faculty at each Level III center, this helps control where babies go. No penalties. Occasional problems are noted when reviewing IMR reports; perinatal center for that area alerted, asked to raise the issue with the facility. No monitoring to report whether they discuss it or not. Occasional problems, but no recurring ones. Centers are pretty committed.
Vermont	Unknown		

TABLE II: PROCESS FOR DETERMINING AND ENFORCING NICU LEVELS BY STATE

State	Process to determine levels	Is reimbursement tied to NICU level designation?	How is compliance with NICU rules assured?
Virginia	State licenses.	Medicaid uses license categories to determine services for reimbursement.	State inspects hospitals every 2 years, will investigate a complaint at any time. Regs and statues allow for penalties: financial, limits on admissions, revocation or suspension of license. But most frequent tool is to cite the hospital for non-compliance and require plan of correction; plan is monitored.
Washington	Statewide Perinatal Advisory Committee convened by state, recommends guidelines for each level. Hospitals self-identify. They are encouraged but not compelled to comply with guidelines. Guidelines recognize that rural hospitals may need to differ, for reasons of access, but don't offer special guidance to rural hospitals.		Voluntary
West Virginia	State designates own reimbursement rate	No association; each insurers sets	No mechanisms for compliance
Wisconsin	Hospitals self-identify. No state regulation. Wisconsin Association for Perinatal Care (WAPC) gets Title V funds, partners with state Div. of Public Health. Has been strong since 1970s. Focus is on regional organization of services.		There have been recent problems with referrals to distant hospitals. WAPC would try to resolve through a work group; wouldn't go to state. MCOs might prefer to keep relatively healthy babies at a cheaper facility. But hospitals don't refer outside established networks; would disrupt protocols & working relationships.
Wyoming	Unknown		

TABLE III: CHANGES: RECENT AND CURRENT CHANGES IN STATES' NICU RULES

State	NICU Level Definitions (Summary)	Process to determine levels (Summary)	Is state experiencing or anticipating change?	Key Factors
Arizona	Birth center Hospital birth ctr Level I Perinatal Care Center Level I Enhanced Qualification Perinatal Care Center Level II Perinatal Care Centers Level II Enhanced Qualifications Level III: All levels of care	Hospitals self-designate. Statewide perinatal committee recommends new levels, includes state, and perinatal leaders.	Considering developing freestanding intermediate care facility and nursery/ pediatric intensive care facility at a children's hospital. Will use voluntary certification process.	One hospital that is part of a chain, and one independent hospital are seeking inclusion in the voluntary certification program. There is no opposition; the change is seen as mutually beneficial.
California	Intermediate (II) Community (II+) Regional (III)	Designation voluntary.	No. Printed new standards in 1999.	
Florida	Primary Secondary Tertiary Quaternary	NICUs approved by CON. Not licensed. Process now under review.	Reviewing standards and process for monitoring NICUs now. Hospitals and others have introduced bills to eliminate the current CON process; not successful so far but may be. All recognize the need to monitor tertiary care services, especially if CON abolished. State just completing a three-year process to develop standards for pediatric inpatient care, and is reviewing perinatal service including NICUs; expect it will take another year to complete.	Hospitals, clinicians (OBs, pediatricians, nurse midwives, MD and nurse anesthesiologists). Patients and parents supportive but not very aware that NICU standards are loose and not enforceable.
Georgia	Basic Specialty Subspecialty 6 regional perinatal centers	Formal designation of RPC's self-assessment, checked by state health agency.	Office of Regulatory Services (ORS) is currently revising its Rules and Regulations for Hospitals (Chapter 290-5-6), which will include a leveling system for newborn nurseries, consistent with the Guidelines for Perinatal Care in Georgia. ORS is responsible for licensing, certifying, inspecting and monitoring hospitals. Don't plan to add new levels.	
Hawaii	Not defined.		Hospital regulations adopted 5/92, no relevant pending amendments	

TABLE III: CHANGES: RECENT AND CURRENT CHANGES IN STATES' NICU RULES

State	NICU Level Definitions (Summary)	Process to determine levels (Summary)	Is state experiencing or anticipating change?	Key Factors
Illinois	I General II Intermediate II with Extended Capabilities III Intensive perinatal Perinatal Center	Public rule-making process	Not to change rules, but to change designations Added II+ in August, 2000; pressure from neo-natologists setting up a small NICU Smaller/lower level units have to demonstrate outcomes comparable to III to get higher designation. There are 22 Level IIIs. State reviews statistics annually. Ongoing morbidity and mortality reviews, exception logs. Standing committee of clinical experts reviews data, informs the state. Recommends level changes to Dir. of Public Health; usually concurs. Allow trial period for II/II+ to operate at higher level, so can evaluate. Comment: No structure nationally to bring together leaders of state programs to standard-ize quality issues; MOD TIOP projects have been useful. Nurses and AAP doctors meet, but not public health folks. Need more attention to perinatal systems, public health approach beyond just medical care. Data also an issue.	Managed care pressure: Hospitals want to provide comprehensive care to mothers & children to keep MCO contracts. Networks superimposed on state system for referral. If patient needs transfer but not stabilized, MCO may pressure to move out anyway. II/II+ may transfer pt to traditional III if not aware that patient belongs to MCO; MCO may then pressure to move patient to its own facility. Hospital ownership: State no longer assigns referral hospitals; just requires that Level II/II+ has an agreement with a III. Oversupply of neonatologists: Moving to suburbs, compete with city hospitals, which want to keep maternity patients.
Iowa	Levels define OB and newborn services Level I Level II Level II Regional Perinatal Centers Level III Perinatal Centers	Voluntary regionalized system.	None now, or anticipated. Three years ago there was a motion to designate a fourth level, a "comprehensive perinatal center," at the state medical university; another Level III center objected, felt it should also be so designated. Advisory committee dropped the proposal as divisive to the regionalized system. New edition of Guidelines for Perinatal Services issued by Iowa DPH in 1997. After public comment period, adopted new Chapter 150 of the Iowa Administrative Code, "Iowa Regionali-zed System of Perinatal Health Care, on January 13, 1999, to implement 1998 Iowa Acts, Chapter 1221, section 5, subsection 4"a" (2)(c).	"Many physicians and hospitals are operating in an environment quite removed from the era when the Standards for Perinatal Centers were first offered to the state. Now, physicians do not always have a choice of hospital when admission is required. Rather, they are encouraged to admit to the hospital specified by the patient's health insurance policy. This may serve the patient well if appropriate care is available but this is not always the case. Because of health insurance changes, and because the state's rural character has not changed, the committee continues to strongly support the concept of regionalized perinatal services for Iowa." (Guidelines 1997, p.2)
Kansas	Levels I, II, III	Self-designation by hospital.	No formal change since the inception of the program in the 1970s. Beginning to become apparent that the level of care at original self-designated Level II centers might differ depending on whether it was NICU, antepartum, or intrapartum, etc.	

TABLE III: CHANGES: RECENT AND CURRENT CHANGES IN STATES' NICU RULES

State	NICU Level Definitions (Summary)	Process to determine levels (Summary)	Is state experiencing or anticipating change?	Key Factors
Louisiana	Levels define OB and neonatal services. Level I, II, III, III-Regional	Levels defined by regulation.	Regs changed in 1991 to tie level to reimbursement. Revisions to state perinatal plan completed in June, 2001, expect public hearing in September, publication in state register, and enactment by Jan. 2002. Louisiana has high number of Level IIIs, which explains why their % of risk-appropriate births is also high. Only one hospital in New Orleans is not a Level III. 28 hospitals in state are III or III-R, accounting for 67,000 deliveries.	State perinatal commission very active. OB/Gyns, nurses, and perinatologists are most actively seeking change. Under the current plan, OBs have been able to avoid receiving transfers of uninsured and Medicaid patients by avoiding the required level of staffing: for a Level III unit, when the neonatologist is not in the hospital, an MD who is NRP certified must be present (anesthesia, emergency MD, etc.) In new rules, must be pediatrician with specialty training. Expect some hospitals without this coverage to seek change.
Maryland	I II III III+ IV	Active Perinatal Clinical Advisory Committee updates and enforces Maryland Perinatal System Standards. Hospitals voluntarily self-designate.	None foreseen. New standards adopted in 1999.	Perinatal Clinical Advisory Committee members represent: hospitals, AAP, ACNM; Assoc. of Women's Health, Obstetric, and Neonatal Nurses; Blue Cross and Blue Shield of MD, State Dept. Health, MD Assoc. of County Health Officers, HMO Assoc.
Massachusetts	I: Community-Based Maternal-Newborn Service - Level IB Continuing Care Nursery II: Community-Based Maternal-Newborn Service - Special Care Nursery. III: Perinatal Center and/or Neonatal Intensive Care Unit	Licensure regulations, promulgated by the MA Dept. of Public Health.	Regulations revised 1989-90. No current effort to expand or change. Dept. reviews all regulations periodically to assure they reflect current practice, including technological advance and changing health care systems. Regs state that the Dept. recognizes the continuing evolution of care and plans to convene a multidisciplinary Perinatal Advisory Committee to advise the Dept. on ongoing issues related to the licensure of hospital maternal-newborn services.	Standing Perinatal Advisory Committee includes clinicians (neonatology, pediatrics, OB/Gyn, midwifery, nursing), hospital administration, consumer advocates, MA Hosp Assoc., Mass Nurses Assoc, others. Reviews regs, recommends to the Dept.

TABLE III: CHANGES: RECENT AND CURRENT CHANGES IN STATES' NICU RULES

State	NICU Level Definitions (Summary)	Process to determine levels (Summary)	Is state experiencing or anticipating change?	Key Factors
New Jersey	Community Perinatal Center: Basic Community Perinatal Center: Intermediate Community Perinatal Center:Intensive Regional Perinatal Center	CON review required to designate.	None now. CON adopted for perinatal services in 1974, amended 1980, 1984, 1989,1992, 1999. Most thorough review in 1991, many CON provisions dropped then. Regular review due shortly, not expected to gain much attention, since most births covered by Medicaid, which doesn't pay that well. There will be more contention over cardiac cath and surgery, both well reimbursed by Medicare. Level IIA was added in 1980s; large hospitals didn't want to transfer out high-risk neonates. Currently two hospitals want to upgrade from II to IIA, and from IIA to III. Hospital view: Having NICU helps distinguish a hospital for marketing; keeps hospital full with OB patients. Hospitals aren't advocating changing CON regs for NICUs, but are interested in shifting which consortium they are assigned to and perhaps the consortium system, so that they can transfer across county. NJ hospitals point to PA which eliminated CON for cardiac surgery and did ok, but state is reluctant to do this since it could draw MDs away from inner city hospitals. The real competition is for OB patients, not NICU patients; hospitals are marketing to the community and other docs for OB patients.	Hospital networks. No proprietary chains, but 4-5 networks, want to keep transfers and patients within the system. Hospital: A hospital might want to upgrade to Level III to accept transfers within its own network, not have to transfer out surgery patients. Could also offer NICU services to other hospitals, get reimbursement for NICU care; helps spread the cost of the NICU. NICU upgrades not financially driven; hospitals want to upgrade for professional-ism, market better to women. Women prefer to go to Virtua, with volume of 5,000/year; next level down delivers only 1,200/year. Few transfers out of Virtua, only for ECMO and surgery, to Beth Israel in NY, & Philadelphia. Virtua was created out of 4 hospitals, all in the same region. If hospital chains are in several counties, want to make referrals across counties. Want to compete for suburban patients; don't want to compete with city hospitals by attracting inner city patients. Hospitals have more power than MCOs in New Jersey; too small to exert muscle. Virtua working to integrate OB staff at all 4 hospitals, farm out neonatologists.
New York	I - Basic II - Specialty III - Subspecialty Regional perinatal center (RPC)	Levels defined in regulations. Hospitals apply to change level per regs.	Regulations being revised. State is moving away from thinking of regionalization only in terms of NICUs, and broadening it to address appropriate care for high-risk mothers as well as infants. Also want to reflect changes in health care system, particularly growth of managed care and corporate mergers among hospitals. State is surveying all birthing hospitals to review their current capabilities and re-designate levels of care.	State is involving independent hospitals, MCOs, neonatologists and other health care professionals, regulators, March of Dimes, NY Academy of Medicine. Hospital associations in particular are nervous about the outcome, though there is not outright opposition.

TABLE III: CHANGES: RECENT AND CURRENT CHANGES IN STATES' NICU RULES

State	NICU Level Definitions (Summary)	Process to determine levels (Summary)	Is state experiencing or anticipating change?	Key Factors
Ohio	I II III	CON review to add beds or change level. Dept. approves affiliation agreement.	Rules regularly revised every 4 - 5 years. Do not expect to change levels, or definitions	Changes based on newer concepts No demand from hospitals or others for change.
South Carolina	Levels define OB and neonatal care Community Perinatal Center (Level I) Specialty Perinatal Center (Level II) Enhanced Perinatal Center (Level IIE) Subspecialty Perinatal Center (Level III) Regional Perinatal Center (RPC)	Must request amended license from state to change level	Major dispute over levels. Two level II hospitals want to become IIE. Level II hospitals in larger cities have been keeping babies who should be transported to III or RPC. They have legally challenged the state's right to enforce the statutes. Cross-state border issues; can transport from Level II in SC to Level III in NC.	The Level IIs are each across the street from a Level III. They are for-profit hospitals. One is part of a Care Alliance chain, which is competing with the Medical University of South Carolina, a Level III. Political links between the state Dept. of Health board and the Level IIs may play a role. Level IIs claim regionalization is antiquated, competition will be better way to improve the infant mortality rate, and neonatologists will be better. Claim current system limits access geographically. Likely that ability to attract and keep privately insured also influential. Not sufficient financial support or patient volume to support new neonatologists, new building. Only 700-800 babies in state need NICU annually. 50% of births and 75% VLBW are covered by Medicaid.
Tennessee	Level I Level IIA Level IIB Level III Regional Perinatal Center	Regions designated by Commissioner of TN Dept. of Health. Hospitals self-designate levels.	Review Guidelines every five years. Fourth edition published June 1997. Next review in 2002. Problems with transfers, because managed care organizations are rigid about where pts can be sent. Some private doctors at Level II and III hospitals in the western region would like to send patients to hospital of their choice, but hospitals aren't on all MCO contracts. MCO networks don't always conform to state guidelines. Some health plans geographically based, so have limited contracts. Blue Cross is statewide. Shortage of pediatric specialists in some areas; hard to attract and retain.	MD can decide where to send patient. Liability is countervailing pressure to MCO networks. If mother wants to go to an RPC, MD declines, and there's a bad outcome, lawsuit is possible. Until recently, Level IIIs took care of their own inborn babies, without accepting transfers or developing transport systems. Currently, some Level III hospitals affiliated with networks are taking patients who wouldn't have gone there to deliver based on geographic boundaries established by the state's regional system. Mostly good working relationships among competing hospitals.
Texas	I: Basic II: Specialty III: Subspecialty	Hospitals self-designate levels. State sets regions.	Legislation was passed in 1998-99 to update MCH regs. Department engaged in a campaign for voluntary compliance with regionalization.	Concerned about disparities. 90% of infant mortality rate is attributed to African Americans. Margaret Mendez, Bureau Chief of Women's Health, initiated campaign.

TABLE III: CHANGES: RECENT AND CURRENT CHANGES IN STATES' NICU RULES

State	NICU Level Definitions (Summary)	Process to determine levels (Summary)	Is state experiencing or anticipating change?	Key Factors
Utah	TIOP Levels I, II, III One Level IV	Voluntary, informal designations.	Rural doctors need help. All Level IIIs are in Wasatch Front area, 90 mile corridor around Salt Lake; reluctant to refer/consult. Hospitals divided geographically, but some have upgraded, & referral patterns have changed. Hospital buy-outs are frequent, changes whether Level II refers out, and where to.	Intermountain Hospital Corporation, a key medical corporation; goes to Idaho, centered in Utah. Medicaid population mandated into managed care. No MCOs in rural areas. Don't believe MCOs a factor in change. No problem with failure to transport.
Virginia	General Intermediate Specialty Subspecialty	State licenses.	Not now. Substantial process to develop regs in 1995, included community and teaching hospitals, state attempted to address their concerns.	
Washington	Proposed: I (Basic) II A (Intermediate) II B (Intermediate) III A (Intensive Care) III B (Intensive Care) III C (Intensive Care)	State convenes committee, recommends guidelines for each level. Hospitals self-designate.	Levels of care now under review; expect final adoption shortly. Statewide Perinatal Advisory Committee began work on Levels of Care in June, 2000. Previous revision in early 1990s. Public had opportunity to review and comment on Committee's proposals.	20 committee members: perinatologists, obstetricians, nurse educators from the 4 perinatal centers; a community pediatrician and neonatologist; a family practice physician, certified nurse midwife, MCH staff, and specialists from nutrition, anesthesiology and pharmacy.
Wisconsin	1. Primary/community-based 2. Perinatal Center: Specialized high risk	Hospitals self-designate. Active Perinatal Committee.	Issues related to both managed care and hospital ownership. One Milwaukee chain has a relationship with many insurers; where infant goes depends on hospital ownership, not the MCO.	

TABLE IV. SOURCES: STATE CONTACTS, WEBSITES, AND STATUTES

State	Survey Respondents	Sources: Rules. References, Websites
Arizona	Chris Rogers, RN, BSN Program Manager, High Risk Perinatal Program Arizona Department of Health Services Office of Women's and Children's Health Newborn Intensive Care Program Maternal Transport Program 2927 North 35th Avenue, Suite 300 Phoenix, Arizona 85017 602-364-1453 crogers@state.az.us	www.hs.state.az.us Recommendations and Guidelines for Perinatal Care Centers in Arizona, Arizona Perinatal Trust/Arizona Perinatal Regional System,, Inc. (APT/APRS, Inc.), Revised 1999. apt@azperinatal.org
Arkansas		HRSA/ Strobino et al. report, June 2000
California	Steve Sproger, social work consultant Children's Medical Services Branch Department of Health Services 714 P St., Sacramento, CA 95814 SSproger@dhs.ca.gov David Beebe Dept. of Health Services, License and Certification, 916-323-5511 dbeebe@dhs.ca.gov Melissa Reyes, Manager, Standards & Quality Div of Licensing and Certification, DHS 916-327-4317 mreyes@dhs.ca.gov	California Children's Services Manual of Procedures, Issues 1/1/99 Chapter 3. Provider Standards Chapter 3.25 Standards for Neonatal Intensive Care Units
Colorado	Jan Goldberg, Coordinator Colorado Perinatal Care Council 4300 Cherry Creek Drive South Denver, CO 80222-1530 303-692-2422	Self assessment questionnaires present list of services for each levels that are: Required; Highly Recommended (if not available, alternative plans for providing service, such as transport, must be documented; Recommended; Non-designated (optional or not applicable).
Connecticut		HRSA/ Strobino et al. report, June 2000
District of Columbia		No online info
Florida	Debby Walters 850-488-8394 walters@fdhc.state.fl.us	Report by LuAnn Miles, South Carolina Dept. of Health and Environment Control
Georgia	Rosalyn K. Bacon, MPH Director, Family Health Branch Georgia Department of Human Resources 2 Peachtree Street, NW Suite 15-470 Atlanta, GA 30303-3142 404-657-2700, rbacon@dhr.state.ga.us Carol Massey Director of Women's Health Services	Recommended Guidelines for Perinatal Care Georgia; website of Georgia State Legislature
Hawaii		Hawaii Department of Health website defined in Hawaii Administrative Rules Title 11, Sec. 93-20, and special care units in 11-93-34; general language

State	Survey Respondents	Sources: Rules. References, Websites
Illinois	Robert Sabich State of Illinois, Department of Health Services 217-524-6089 dhshp@dhs.state.il.us	Illinois Statewide Quality Council Enhancing Prevention Services to Mothers and Infants in Illinois: Regionalized Perinatal Health Care System as a Platform for Implementing Public Health System Change; Discussion Document, August 2000 Rules of the Illinois Department of Public Health Regionalized Perinatal Health Care Code 77 ILL. Adm. Code 640; issued August 2000 Sec. 640.30: Perinatal Advisory Committee Sec. 640.40: Standards for Perinatal Care Sec. 640.50: Designation of Levels 640.80 Regional perinatal networks - composition and funding 640.90 Perinatal reporting system 640.100 High-risk follow-up program
Indiana		HRSA/ Strobino et al. report, June 2000
Iowa	Kimberly Piper Maternal Health Consultant Iowa Department of Public Health 515-281-6466 kpiper@idph.state.ia.us Iowa Administrative Code Chapter 150	New Chapter 150 of the Iowa Administrative Code, "Iowa Regionalized System of Perinatal Health Care," adopted on January 13, 1999, to implement 1998 Iowa Acts, Chapter 1221, section 5, subsection 4"a" (2)(c). Sections 641 -150.1 through 150.12 set guidelines to determine levels. Guidelines for Perinatal Services, Seventh Edition, 1997. Iowa Department of Public Health.
Kansas	Rita Davenport Perinatal Consultant, State of Kansas Rdavenpo@kdhe.state.ks.us Dr. RitaKay Ryan	
Louisiana	William M. Gill, MD Head, Section of Neonatology Tulane Medical Center SL-37 1430 Tulane Avenue New Orleans, LA 70112 wgill@tulane.edu 504-588-5315 Dr. Jean Takenaka, Louisiana Dept. of Health 325 Loyola Ave. #612 New Orleans, LA 70112 jtakenak@dhh.state.la.us 504-568-5073	State Perinatal Plan, Louisiana State Register; became official Oct. 20, 1994 Louisiana Perinatal Plan, Proposed Revision, March, 2001; Louisiana Commission on Perinatal Care and Prevention of Infant Mortality. Authority Note: Promulgated in accordance with R.S. 40:2100-2115. Historical Note: Promulgated by the Department of Health and Hospitals, Office of the Secretary LR21
Maine		State of Maine website: www.state.me.us Rule Chapters for Department of Human Services, 10-144; Chapter 112: Regulations for the Licensure of General and Specialty Hospitals in the State of Maine

State	Survey Respondents	Sources: Rules. References, Websites
Maryland		Web site for Maryland Perinatal Health Partnership Maryland Perinatal System Standards, Revised January 1998. Recommendations of the Perinatal Clinical Advisory Committee Maryland Health Improvement Plan 2000-2010 Draft, August 2000. Maternal and Infant Health, pp. 90-94
Massachusetts	Janet Leigh MS, RN Bureau of Family and Community Health Massachusetts Department of Public Health 250 Washington St., 5th floor Boston, MA 02108 617-624-6015 janet.leigh@state.ma.us	The Commonwealth of Massachusetts, Department of Public Health 105 CMR 130.600 Hospital and Licensure Regulations Maternal and Newborn Services
Michigan	The Michigan Department of Consumer and Industry Services, Division of Health Facility Licensing and Certification. 517-241-2638	
Minnesota	Mary A. Rossi, CNM, MS Perinatal and Women's Health Nursing Consultant, Division of Family Health Minnesota Department of Health P.O. Box 64882, St. Paul, MN 55164-0882 phone: 651-281-9941 fax: 651-281-8952 mary.rossi@health.state.mn.us	
Mississippi		Minimum Standards for Hospitals Legislative Authority: Mississippi State Department of Health, Mississippi Code Annotated 43-11-1 through 43-11-27 (Supplement 1986) Online: state statutes 902.1, 902.1, 902.3
Missouri		HRSA/ Strobino et al. report, June 2000
New Jersey	John Calabria, Director CON & Acute Care Licensure Program State of New Jersey Dept. of Health and Senior Services PO Box 360 Trenton, NJ 08625-0360 609-292-8773 jcalabria@doh.state.nj.us Henry Gerding, Divison of Planning Virtua Memorial Hospital of Burlington County 175 Madison Ave., Mt. Holly, NJ 08060 609-261-7097 hgerding@virtua.org	www.state.nj.us/health New Jersey Administrative Code 8:33C, Certificate of Need and Licensure: Regionalized Perinatal Services and Maternal and Child Health Consortia List of Licensed New Jersey Hospitals with Perinatal Designations

State	Survey Respondents	Sources: Rules. References, Websites
New Mexico		
New York	Mary Applegate, MD MPH Medical Director Bureau of Women's Health, NYSDOH Corning Tower 1882, Empire State Plaza Albany, NY 12237 518-474-1911 msa04@health.state.ny.us	Perinatal Designation Matrix, 7/6/00 www.health.state.ny.us, Public Health Forum, Title 10 NY Code of Rules and Regulations, Sections 405.21 and 708.5(f)
North Carolina		LuAnn Miles, DHEC, South Carolina
North Dakota	Roger R. Unger, ND Dept. of Health runger@state.nd.us	
Ohio	Mary Quansah Perinatal Nurse Consultant Ohio Department of Health, Maternity Licensure 246 North High St., 2nd floor Columbus, OH 43216 614-466-0680	Ohio Administrative Code Chapter 3701-84, Certain Health Care Services' (HCS) Standards: Facilities, Personnel, Patient Selection Criteria, Reports Chapter 3701-12, Certificate of Need Program Website: www.odh.state.oh.us/Rules/Final/ Chap84
Oklahoma	Gary Glover, Chief Medical Facilities Protective Health Services gary@health.state.ok.us	
Oregon		HRSA/ Strobino et al. report, June 2000
Pennsylvania	Commonwealth of Pennsylvania Department of Health PO Box 90 Harrisburg, PA 17108-0090	Rules and Regulations Chapter 139. Neonatal Services
Rhode Island		Online: Rhode Island regulations Rules and Regulations for Licensing of Hospitals (R23-17-HOSP), August 1973, last amended November 2000 (E)

State	Survey Respondents	Sources: Rules. References, Websites
South Carolina	Maureen Vicaria, March of Dimes 803-252-5200 LuAnn Miles, Director Bureau of Maternal and Child Health Division of Perinatal Systems Department of Health and Environmental Control 803-898-0727 <MILESLB@columb61.dhec.state.sc.us> Maureen Sanderson, USC SPH, 803-777-5001 Joseph E. Randall, Director of Operations Support, Division of Health Licensing, DHEC Debbie Brown, OB nurse consultant Professional Alternatives 803-808-7022	South Carolina Department of Health and Environmental Control, Regulation Number 61-16, Standards for Licensing Hospitals and Institutional General Infirmaries, promulgated by the Board of Health and Environmental Control, Published in the state register, volume 16, issue 4, April 24, 1992. Document No. 2518, revisions to R. 61-16, Sections 607-610, to create a level IIE enhanced facility designation. Copies of violations of perinatal regulations issued by South Carolina in 1999 and 2000.
South Dakota	Joan Bachman Joan.Bachman@state.sd.us 605-773-3737 Nancy Shoup, perinatal nurse, Office of Family Health, SD Dept. of Health 605-773-3778 Becky Seaverson, Women's & Children's Health Center, 605-322-4480	
Tennessee	Cheryl Major, Senior Associate in Pediatrics Neonatal Outreach Coordinator Newborn Regionalization Program Vanderbilt Children's Hospital, Division of Neonatology, A-0126 Vanderbilt Medical Center North, Nashville, TN 37232-2370 615-322-6798 cheryl.major@mcmail.vanderbilt.edu Margaret Major, Director, Women's Health mmajor@mail.state.tn.us	Tennessee Department of Health Tennessee Perinatal Care System: Guidelines for Regionalization, Hospital Care Levels, Staffing and Facilities (Fourth Edition), June, 1997 Guidelines for Transportation, Third Edition, July 1995 (Revision in progress)

State	Survey Respondents	Sources: Rules. References, Websites
Texas	Linda Boultman, Research Dept., Bureau of Women's Health. Linda.boultman@tdh.state.tx.us Margaret Mendez Chief, Bureau of Women's Health Texas Department of Health 1100 West 49th Street, M370 Austin, TX 78756-3199 phone: 512-458-7321; 458-7796; fax: 458-7203 Margaret.Mendez@tdh.state.ts.us Janet Kres <Janet.Kres@tdh.state.tx.us> John Evans Texas Hospital Licensing Division Health Facilities Licensing and Compliance for Medicare 512-834-6648	Levels defined in: Texas Administrative Code, Title 25, part I, Chapter 37, Subchapter M, Rule section 27.252 Texas health and safety code online at: www.capitol.state.tx.us/statutes/hstoc.html
Utah	Nan Streeter, MS, RN Director, MCH Bureau Utah Dept. of Health Division of Community & Family Health Services PO Box 142001, Salt Lake City UT 84114-2001 801-538-6869 nstreete@doh.state.ut.us	
Vermont		Department of Health website: www.state.vt.us
Virginia	Stephanie Sivert, Deputy Director Center for Quality Health Care Services Virginia Department of Health 804-367-2104 ssivert@vdh.state.va.us	
Washington	Dr. Maxine Hayes, MD MPH Assistant Secretary Washington State Department of Health Community and Family Health PO Box 47830 Olympia, WA 98504-7830 360-236-3721 mdh0303@doh.wa.gov Jeanette Zaichkin, RNC, MN Public Health Nurse Consultant Washington Department of Health Maternal Infant Health PO Box 47880 7171 Cleanwater Lane, Building 7 Olympia, Washington 98504-7880 E-mail: jeanette.zaichkin@doh.wa.gov Phone: (360) 236-3582 Fax: (360) 586-7868	Report: The Regional Care Program and the Statewide Perinatal Advisory Committee (PAC), and report from the Level of Care (LOC) Guidelines Document Subcommittee Washington State Perinatal Level of Care (LOC) Guidelines, February 2001 Revision

State	Survey Respondents	Sources: Rules. References, Websites
West Virginia	Robin Simmons, Director, WV Office of Maternal, Child and Family Health. West Virginia Department of Health and Human Resources, Bureau for Public Health 350 Capitol St. Room 427, Charleston, WV25301 1-800-642-8522; fax: 304-558-7164	
Wisconsin	Laurie Tellier Maternal and Perinatal Nurse Consultant Wisconsin Division of Public Health Tellib@dhfs.state.wi.us 608-267-9662	Position Statement: Guidelines for the Responsible Utilization of Neonatal Intensive Care. Online at www.execpc.com PeriScope On-Line - WAPC Activities (Wisconsin Association for Perinatal Care) Criteria for the Classification of Hospitals