

Report of the Infant Mortality and Child Health Task Force of the Commission on Improving the Status of Children in Indiana

Approved Sept. 15, 2014

The Infant Mortality and Child Health Task Force (Task Force) of the Commission on Improving the Status of Children in Indiana assists the Commission with its statutory duties to study and evaluate services for vulnerable youth and to promote information-sharing concerning vulnerable youth. The Commission's enabling statute, Ind. Code 2-5-36-1 et seq., defines "vulnerable youth" as a child who is served by the Department of Child Services (DCS), the office of the Secretary of Family and Social Services (FSSA), the Department of Correction (DOC), or a juvenile probation department.

The Commission is charged with studying and evaluating, among other things:

- Access to services for vulnerable youth
- Barriers to service for vulnerable youth
- Communication and cooperation by agencies concerning vulnerable youth
- Implementation of programs or laws concerning vulnerable youth
- Data from state agencies relevant to evaluating progress, targeting efforts, and demonstrating outcomes.

The Commission is to review and make recommendations concerning pending legislation, promote information sharing concerning vulnerable youth across the state, promote best practices, policies and programs and cooperate with other child-focused commissions, the judicial and executive branches of government, stakeholders and members of the community.

The Infant Mortality and Child Health Task Force was formed by the Commission on October 16, 2013 to help the Commission fulfill its mission by considering a number of topics, most involving Indiana's serious problem with infant mortality. The Task Force includes the following membership:

- Co-chairs:
 - Jane Bisbee, deputy director for Field Operations, DCS
 - Art Logsdon, assistant commissioner for health and human services, ISDH
- Other members:
 - Morella Dominguez, director of multicultural affairs, Indiana Minority Health Coalition
 - Charles Ford, Indianapolis EMS
 - Andrea Hern, assistant director, DMHA
 - Kristen Kelley, Attorney General's Office
 - Spencer Grover, Indiana Hospital Association
 - Jolene Bracale, program coordinator for student health, DOE
- Staff support:
 - Bob Bowman, Maternal and Child Health director, ISDH
 - Ted Danielson, M.D., medical director for health and human services, ISDH
 - Kelly Moore, fatality team, DCS
 - Jeena Siela, Maternal and Child Health deputy director, ISDH
 - Gilbert Smith, assistant deputy director of field operations, DCS

The Task Force has met five times and heard presentations from the following:

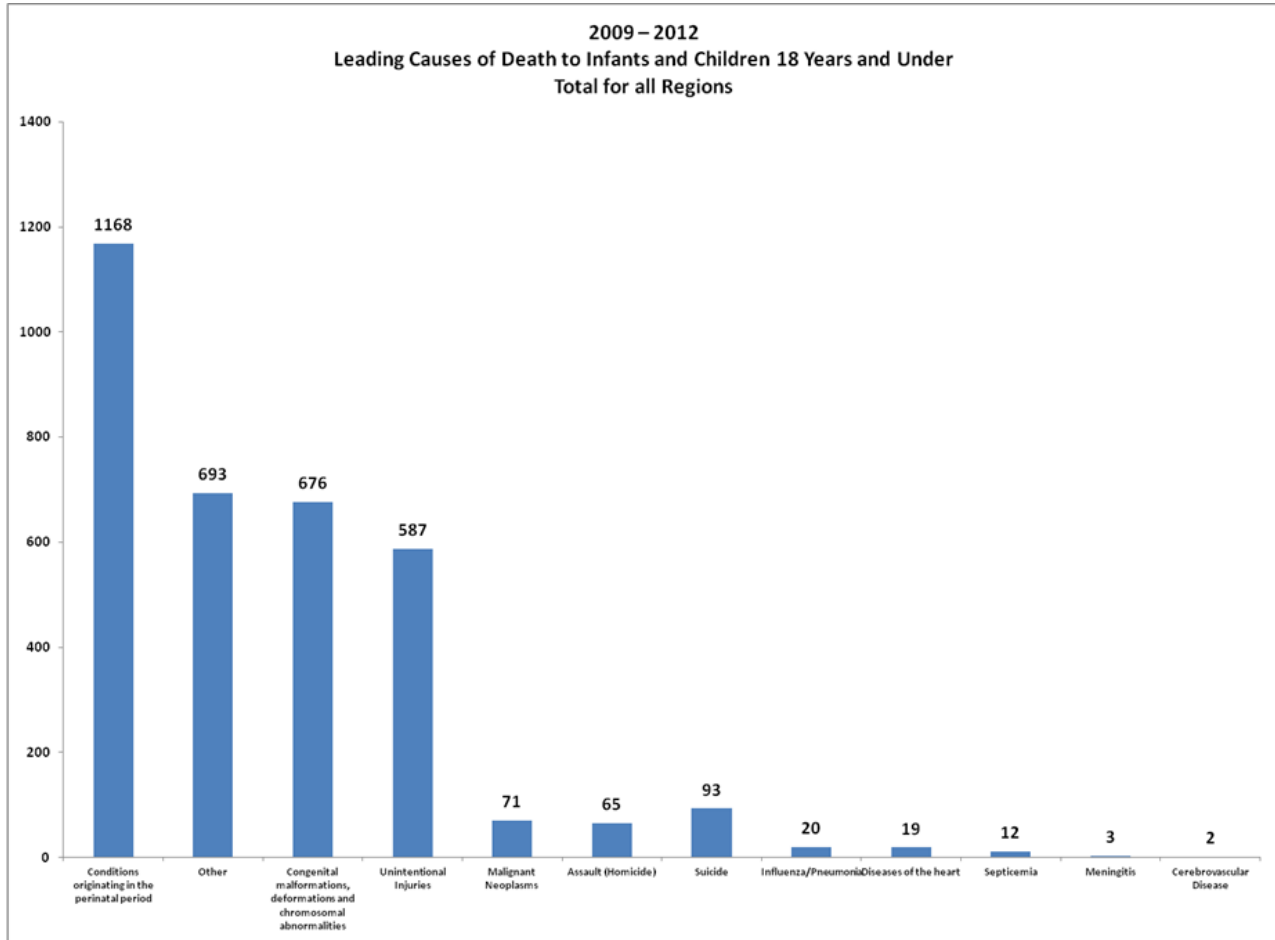
- September 15, 2014
 - Safe Sleep Campaign
 - Joseph Combs, DCS assistant deputy director
 - Toni Elzy, DCS nurse supervisor
 - Nurse-Family Partnership
 - Keith Reissaus, Indiana state director, Nurse-Family Partnership
 - Baby & Me, Tobacco Free program
 - Carolyn Runge, ISDH Maternal and Child Health Division
- July 8, 2014
 - Leading causes of death for Indiana children
 - Joe Haddix, ISDH epidemiologist
 - Neonatal Abstinence Syndrome (NAS)
 - Maria Del Rio Hoover, M.D., Newborn Services, St. Mary's Hospital for Women and Children, Evansville
- May 19, 2014
 - Tobacco and Infant Mortality
 - Katelin Ryan, ISDH Tobacco Prevention and Cessation Commission
 - Medicaid Presumptive Eligibility
 - Erin Walsh, FSSA Office of Medicaid Policy and Planning
- March 17, 2014
 - Child Fatality Review and Fetal and Infant Mortality Review
 - Gretchen Martin, ISDH coordinator, Child Fatality Review program
 - Infant Morbidity and Mortality/Institutional Remedies to Help Save Hoosier Babies
 - Maureen Greer, consultant, Indiana Perinatal Quality Improvement Collaborative and Emerald Consulting
- February 3, 2014
 - Task Force/Commission Overview and Charge to the Task Force
 - Mary Beth Bonaventura, DCS director
 - William C. VanNess, Jr., M.D., ISDH commissioner
 - Overview of Infant Mortality
 - Bob Bowman, ISDH director of Maternal and Child Health

Leading causes of death for Indiana children

The leading cause of death to Indiana children under the age of 18 are those that occur in the perinatal period, or around the time of birth (1,168 in the years 2009-2012). The second leading cause of death (693 for the years 2009-2012) is "Other," which includes various diseases such as those affecting:

- Blood and blood-forming organs, endocrine, nutritional and metabolic diseases
- Mental, behavioral and neurodevelopmental disorders
- The nervous system
- The eye and adnexa
- The ear and mastoid process
- The digestive system, and many others.

These leading causes of death are followed by congenital malformations, deformations and chromosomal abnormalities (676), unintentional injuries (558), assaults (126), suicide (93), malignant neoplasm (71), influenza and pneumonia (20), heart diseases (19), septicemia (8) and meningitis (3). These causes of death (which are depicted in the chart below) do not vary significantly by region in Indiana.



Institutional remedies to improve our ability to save Hoosier babies

Improving Indiana’s infant mortality rate will involve a lot of behavior change on the part of mothers and their loved ones, as they stop smoking, seek prenatal care earlier and generally lead more healthy lives. But it’s not all on the shoulders of mothers and their families: Some of our more trusted institutions, like hospitals, also have a role to play. Indiana hospitals are already doing their part in adopting early elective delivery (EED) policies to comply with Medicaid’s new EED policy that prohibits payment for deliveries before 39 weeks if there is no medical necessity for the early delivery.

But there’s more to do on this front as we seek to make sure all of Indiana’s babies are born when the time is right for the mother and the baby, and that all Hoosier women of child bearing age receive risk-appropriate health care during and after pregnancy.

Child Fatality Review Program

IC 16-49 requires each county to establish either a county or regional child fatality review team, which decides the child deaths in that county eligible for review and conducts such a review. Essentially, each childhood death that is not medically expected is subject to review. A report of the local team's review is submitted to the state, which is then incorporated into an annual statewide review of childhood deaths in Indiana. The law moved supervision of the program from the Division of Child Services to the ISDH in 2013.

The theoretical basis for the program is that by conducting reviews of these deaths each year, the State will better be able to prevent childhood deaths in the future—so, injury prevention is the primary goal of the program. The goal is not finding fault—whether with the child's parents, or with the police, or the local hospital—but simply, injury prevention. Injury is the #1 cause of death among children ages 1-17. In the period 2007-2011, there were 1,216 injury deaths among Hoosier children, an average of 243 preventable deaths per year.

Neonatal abstinence syndrome (NAS)

Fetal exposure to NAS usually occurs for one of three reasons:

- Mothers are dependent/addicted to opioids, either prescribed or illicit
- Mothers require prescription opioids for another disease process
- Mothers receive methadone therapy to facilitate safe withdrawal from addiction to prescription or illicit opioids.

The incidence of NAS nationwide has increased from 1.20 per 1,000 hospital births per year in 2000 to 3.39 per 1,000 hospital births in 2009. The maternal use of opiates in that same time period has jumped from 1.19 per 1,000 hospital births per year to 5.63 per 1,000 hospital births per year. It should come as no surprise then that the national cost of health care for infants diagnosed with NAS has climbed from \$190 million in 2000 to \$720 million in 2009. Specifically, Indiana ranks 9th nationally in prescribing rate per 100 persons for opioid pain relievers.

The neonatal complications arising from NAS include:

- Respiratory distress
- Tremors
- High-pitched cry
- Irritability
- Seizures
- Poor feedings
- Vomiting and diarrhea

Senate Enrolled Act 408 (2014 session) directs the ISDH to form a task force and meet with specialists and representatives of various associations to define NAS and to develop a process to report the incidence of NAS, which has occurred over the summer. The bill defined NAS as “the various adverse effects that occur in a newborn infant who was exposed to addictive illegal or prescription drugs while in the mother's womb.”

Members of the task force were specifically listed as those from:

- Indiana Hospital Association
- Indiana Perinatal Network
- The Indiana State Medical Association
- The Indiana Chapter of the American Academy of Pediatrics
- The Indiana Section of the American College of Obstetricians and Gynecologists
- Indiana Chapter of the March of Dimes.

Tobacco control interventions to improve infant mortality and children's health status

Presently, Indiana has the 6th highest smoking rate in the U.S., and it's no different among pregnant women here: 16.6% of Hoosier women smoke during their pregnancy and 30% of women on Medicaid smoke during their pregnancy. These rates of smoking are nearly twice the national average, and play a significant role in Indiana's abysmal infant mortality standing.

Recommendations

Institutional remedies to save Hoosier babies

- **Levels of Care certification:** In 2004, the American Academy of Pediatrics defined levels in three categories of hospitals that deliver babies:
 - Level I basic care
 - Level II specialty care
 - Level III subspecialty care

Published literature demonstrates improved outcomes for very low birthweight (VLBW) infants and infants less than 32 weeks gestation who are born in Level III hospitals. Furthermore, VLBW infants born at non-level III hospitals had a 62% increase in odds of neonatal or pre-discharge mortality, and the risk of death for VLBW infants born in Level I or II facilities remained higher than those born in Level III hospitals.

The Indiana Perinatal Quality Improvement Collaborative, which includes healthcare leaders from across the state, has recommended to the ISDH that it propose by rule a Levels of Care system to assure that babies are born in risk-appropriate settings. The set of rules which the Collaborative recommended were previously proposed by the American Academy of Pediatrics (AAP) and the American College of Gynecology (ACOG).

Under these Levels of Care rules, hospitals will self-designate the Level they wish to be (Levels I-III for OB units, and Levels I-IV for NICUs) and the ISDH will survey them for compliance with the rules that IPQIC recommended the ISDH adopt.

We recommend that the Commission support, and the State of Indiana create, a Levels of Care certification program for all Indiana birthing hospitals.

- **Inter-facility transport of mothers and babies:** This is a critical component of ensuring risk-appropriate care for high-risk pregnant women and babies, as many mothers and babies are initially transported by ambulance from home or elsewhere to a hospital that is not able to care for the mother's and/or babies' needs and they must then be re-transported to hospitals which can deliver a higher level of care. Currently, Indiana has more regulations that govern the transport of animals than the transport of pregnant women and their babies.

The ISDH and the Indiana Department of Homeland Security, along with EMS providers and hospitals, have worked together over the last few months to develop standardized procedures for the stabilization, consultation and transport of high-risk pregnant women and their babies.

We recommend that the Commission support, and the State of Indiana adopt, standards for maternal-fetal and neonatal inter-facility transport.

- **Perinatal coordinated centers of care:** Not all hospitals are able to provide the highest level of risk-appropriate care for Hoosier moms and babies, but these lower-level hospitals can provide great care to moms and babies especially if they are part of a system of perinatal care. Other states that have already adopted formalized perinatal center systems have achieved lower infant mortality rates, better outcomes, have made better use of their resources and spent less on health care for moms and babies.

Indiana is undergoing a change in its health care environment, as there is decreasing "regionalization" and increasing formation of hospital networks. For this reason, IPQIC's recommendation to the ISDH is to form its perinatal coordinated centers of care system around these existing networks—and to loosely form them where they don't exist. The lead facility for each networked perinatal center would be a Level III obstetric unit and either a Level III or Level IV neonatal unit. Coordinated perinatal care such as this achieves goals such as:

- Providing risk-appropriate, timely care for patients
- Decreased isolation for referring providers
- Decreased maternal, fetal, neonatal morbidity and mortality
- Affording an opportunity to pool and share resources and reduce redundancy
- Improving perinatal outcomes
- Providing education for affiliated hospitals
- Monitoring outcome data for resource allocation

We recommend that the Commission support, and the State of Indiana establish, Perinatal Centers of Excellence that build on existing hospital networks and their affiliate hospitals.

Neonatal Abstinence Syndrome (NAS)

The task force directed by SEA 408 began its work earlier this year, and has been reviewing national guidelines, current practices from other states, relevant literature and identifying promising/best practices for identification, treatment and follow-up of infants with NAS. The task force is to deliver a report to the legislative council by November 1 that includes the following:

- The appropriate standard clinical definition of Neonatal Abstinence Syndrome
- The development of a uniform process of identifying NAS

- The estimated time and resources needed to educate hospital personnel in implementing an appropriate and uniform process for identifying NAS
- The identification and review of appropriate data reporting options available for the reporting of NAS data to the state department, including recommendations for reporting NAS using existing data reporting options or new data reporting options
- The identification of whether payment methodologies for identifying NAS and the reporting of NAS data are currently available or needed

In addition, SEA 408 directs the task force to make recommendations by December 31 regarding the feasibility of the ISDH establishing one or more pilot program before June 1, 2015, with hospitals that agree to participate in a pilot program to implement appropriate and effective models for Neonatal Abstinence Syndrome identification, data collection, and reporting. Recommendations should include:

- Definition of NAS
- Indicators to be collected
- Strategy for development of data collection system
- Personnel and resources necessary for maintenance of data collection system
- Cost of implementation
- Plan for ongoing collaboration with the Indiana Perinatal Quality Improvement Collaborative (IPQIC), an advisory group that works with the ISDH on infant mortality-related issues.

While the task force has not yet completed its work, the group has decided on the following:

- **Recommended obstetric protocol:**
 - At the initial prenatal visit: As part of routine prenatal screening, the primary care provider will conduct:
 - One standardized and validated verbal screening; and
 - One toxicology screening (urine) with an opt out.
 - At the discretion of the primary care provider, INSPECT and/or repeat verbal and toxicology screenings may be performed at any visit.
 - At presentation for delivery: When the laboring woman arrives at the hospital for delivery, hospital personnel will conduct:
 - A standardized and validated verbal screening on all women;
 - Toxicology screening (urine) on women with positive or unknown toxicology screening results;
 - Toxicology screening (urine) on women with a positive verbal screen at presentation for delivery; and
 - Toxicology screening (urine and meconium) on babies whose mothers had positive or unknown toxicology screening results.
- **Recommended Neonatal Protocol:**
 - For newborns with no identifiable risk (mother has had all negative verbal and toxicology screens)—No testing recommended at birth.

- For newborns at risk for NAS (i.e., mother has had a positive verbal screen and/or a positive toxicology screen)—Perform urine and meconium toxicology screening at birth and perform a Modified Finnegan scoring.
- For newborns with unknown risk (i.e., the mother has not had either verbal or toxicology screen during pregnancy)—Perform urine and meconium toxicology screening at birth and perform Modified Finnegan scoring.
- **Recommended NAS definition:** Babies who are:
 - Symptomatic
 - Have 2/3 consecutive Modified Finnegan scores equal to or greater than 24; and
 - Have one of the following:
 - A positive toxicology test, or
 - A maternal history with a positive verbal screen or toxicology test.
- **Recommended staff training for NAS identification:**
 - State level—one-day training for hospital perinatal educators
 - Facilitated by program author
 - Break-out sessions and peer discussions
 - Hospital level—the perinatal educator develops a training plan and materials purchased
 - NAS included as a topic in designated/budgeted education days
 - NAS included in future competency evaluations
 - NAS included in nursing orientation curriculum

Tobacco interventions

To address this problem, the Task Force recommends that the State adopt the following policies:

- What works to reduce smoking during pregnancy is what works to reduce smoking among all populations.
 - Smoke free environments-everywhere: 100% smoke free workplaces
 - A woman (and the child’s family) cannot become tobacco-free if their worksite policy continues to allow smoking; or if there is still smoking in the home.
Policies in all worksites and multi-unit housing locations must be 100% smoke free.
 - Program support and infrastructure
 - If smoke free air policies and price increases are implemented, state and local program supports must be in place to meet the demands for quitting resources. The Indiana Tobacco Quitline is set up to serve any tobacco user ready to quit.
 - Local community coalitions and state partners are ready to get people to resources. They are ready to help providers meet this demand as well. *More resources are needed for state and local programming. State program funding is currently at 7% of what the CDC says Indiana needs to address its tobacco problem.*

- Health care providers need to know how to talk to patients about quitting and what resources to refer them to:
 - Integration of electronic or fax referrals to the Indiana Tobacco Quitline, local cessation program, or Baby and Me Tobacco Free program (if available) are necessary.
 - Providers need training to know what to do as well as policies (perhaps from payers) that encourage them to actively refer to an evidence based resource to help with quit.

The bottom line in reducing tobacco use is to limit the AVAILABILITY, AFFORDABILITY and ATTRACTIVENESS of tobacco products. Pursuing policies that limit the number of tobacco retailers and/or the marketing of tobacco products in the retail environment are also recommended interventions in reducing availability and attractiveness of tobacco products.