

Secretary's Advisory Committee on Infant Mortality

Meeting Minutes of January 23–24, 2008

**Westin Washington D.C. City Center
Washington, DC**

GENERAL SESSION

WEDNESDAY, JANUARY 23, 2008

WELCOME AND OPENING REMARKS

James W. Collins, Jr., M.D., M.P.H., Professor of Pediatrics, Northwestern University Medical School, Chairperson, SACIM

Elizabeth M. Duke, Ph.D., Administrator, Health Resources and Services Administration

Garth Graham, M.D., M.P.H., Deputy Assistant Secretary for Minority Health, Department of Health and Human Services

Dr. Collins welcomed the participants to the meeting of the Secretary's Advisory Committee on Infant Mortality (SACIM) and thanked the committee members, especially those for whom this is the last meeting, for their hard work on the subcommittees. After the participants introduced themselves, Dr. Collins called for a motion to approve the minutes from the June 2007 meeting. The minutes were approved by a unanimous vote.

Dr. Duke updated the SACIM members on activities at the Health Resources and Services Administration (HRSA). In 2007, HRSA celebrated its 25th anniversary as an agency by reflecting on the past at a celebratory picnic and anticipating the future at a forum on HRSA programs. Dr. Duke listed a number of HRSA accomplishments since the last time she addressed SACIM. She announced that HRSA has established 1,237 new health center sites across the country, 80 of which are targeted to high-poverty areas, both urban and rural. HRSA also created the Bureau of Clinician Recruitment and Service, which includes the Nurse Education Loan Repayment program, Faculty Loan program, and National Health Service Corps. In addition, a new leadership team was installed in the Bureau of Health Professions.

Another area of change and development at HRSA involves the creation of the Office of Health Information Technology, whose purpose is to establish nationwide the use of electronic medical records and new technologies to improve the quality and safety of care.

Dr. Duke announced that HRSA's efforts in its organ transplantation and donation program have resulted in a 30-percent increase in organ donation.

The agency's emphasis on quality of care can be seen in its project to promote patient safety through linking quality pharmacy services in the health centers.

In the maternal and child health area, HRSA's brochure on depression during and after pregnancy has been widely disseminated. Another publication, *Bright Futures*, addresses the mental health needs of young women.

Dr. Duke concluded her presentation by noting that HRSA's 2008 operating budget includes \$77 million in increases in the health center program, as well as increases in the HIV/AIDS program and the rural health program.

Dr. Graham explained that the Office of Minority Health (OMH) advises the Office of Public Health and Science, which serves as the Secretary's direct adviser on issues related to medical or public health matters. Stating that OMH's emphasis is on disparities related to infant mortality, Dr. Graham pointed out that the 10 leading causes of infant death disproportionately affect minority populations. In fact, the most recent data reveal that the African American infant mortality rate is still about 2.4 times higher than the rate in the general population.

The Closing the Health Gap on Infant Mortality initiative, led by OMH, began about 3 years ago and involves HRSA/MCHB, the Indian Health Service (IHS), and a number of other agencies within the Department of Health and Human Services (HHS). The multipronged approach of this initiative involves research coordination and translation into practice, risk reduction, and collaboration. The initiative targeted Illinois, Michigan, Mississippi, and South Carolina for pilot interventions involving infant mortality in the African American population. After mentioning some interim successes that resulted from the pilot interventions, Dr. Graham described a broader national awareness campaign on infant mortality called Healthy Baby Begins With You, which was launched in Washington, DC, in April 2007. He listed the three goals of the campaign, which include (1) drawing communitywide attention to the issue of infant mortality; (2) helping organizations, health departments, and the private sector to pool their resources; and (3) bringing additional media attention to the issue. Dr. Graham described the intensity with which the public responds to the topic of infant mortality and noted that the issue is "an American problem."

Discussion

The remarks of Drs. Duke and Graham prompted the following comments and questions:

- Dr. Maxine Hayes expressed her concern about a perceived lack of accountability regarding consideration of SACIM's recommendations. She asked about the progress made as a result of the committee's work and for advice about how SACIM can be more effective in ensuring the success of its work. Dr. Duke stated that SACIM's reports influence her conversations with Dr. van Dyck about budget, committee representation, and staff time. She explained that advisory committee reports are very influential in the priority-setting process for the allocation of resources. Two examples of the success of SACIM's recommendations are the creation of the Closing the Health Gap initiative and the funding of research to address the issues of early birth and low birthweight.
- Dr. Joyce E. Roberts asked about the extension of the four pilot efforts in the Closing the Gap initiative. Dr. Graham responded that expansion into other areas is a challenge because of budget restrictions. OMH is attempting to extract best practices from the pilot projects and apply that information to other localities given the limited resources. He stated that African American men, in particular, have expressed a desire for more involvement in efforts to reduce infant mortality. Dr. Roberts referred to a recent dissertation that addresses the disparities in maternal and child health and, in particular, the outcome of low birthweight. One significant finding is that the

women with the lowest incidence of low birthweight had partners who supported their involvement in prenatal care. This finding could be extended into prenatal care programs, and fathers, husbands, and partners could be more deliberately involved in pregnancy programs at the centers. Dr. Graham expressed his interest in learning more about the dissertation under discussion.

- Dr. Collins commented on OMH's commitment to alleviating the problem under the leadership of Dr. Graham. More research is needed on male involvement. Focus groups within communities are an effective way to gain knowledge about possible solutions to the problem.
- Dr. Robert E. Hannemann stated that the initial recommendations from the low birthweight subcommittee resulted in the establishment of the Interagency Coordinating Council on Low Birthweight and Preterm Birth. Specific recommendations for research were made by the original subcommittee and the Coordinating Council, but the process has bogged down in the Office of the Secretary and SACIM's specific research recommendations have not been implemented. The work of the March of Dimes has brought the issue to its current level of importance. Dr. Hannemann stated that the level of awareness of maternal and children's issues must be maintained in the forefront as one of the country's highest priorities.
- Dr. Yvonne Bronner mentioned the complexity of the issue of infant mortality and the problem of the application of knowledge gained through research. SACIM's Subcommittee on Eliminating Health Disparities pointed out that, although infant mortality rates have been lowered, focus is lacking on the gap between different racial and ethnic groups. The subcommittee recommended that scientists be convened to develop a strategic plan focusing only on the gap, establish the measures that should be looked at over time, discuss implementation of the plan, and determine the way in which to monitor the progress of closing the gap.
- Dr. Hayes suggested that Drs. Duke and Graham create a dashboard of SACIM recommendations and report back to the committee about the ways in which the recommendations are being utilized.

AWARDING CERTIFICATES OF APPRECIATION FOR SACIM MEMBERS WHOSE TERMS ARE EXPIRING

James W. Collins, Jr., M.D., M.P.H., Chairperson, SACIM

Garth Graham, M.D., M.P.H., Deputy Assistant Secretary for Minority Health, Department of Health and Human Services

Elizabeth M. Duke, Ph.D., Administrator, Health Resources and Services Administration

Peter C. van Dyck, M.D., M.P.H., Associate Administrator for Maternal and Child Health, Health Resources and Services Administration, Executive Secretary, SACIM

The following individuals were awarded certificates of appreciation for their service on SACIM: Drs. Yvonne Bronner, Robert Hannemann, Yvonne Moore, Joyce Roberts, Robert Sapien, and James Collins.

Dr. Collins announced that four other committee members not in attendance also will receive certificates of appreciation: Drs. Robyn Arrington, Fredric Frigoletto, Ann Miller, and Ms. Renee Hollan.

MCHB UPDATE

Peter C. van Dyck, M.D., M.P.H., Associate Administrator for Maternal and Child Health, Health Resources and Services Administration, Executive Secretary, SACIM

Dr. van Dyck presented information about publications, the strategic plan process, a new accountability system, the budget, and a new historical timeline.

Publications

Dr. van Dyck noted that the January 2008 issue of the *Journal of Pediatrics* contains a clinical report on newborn screening, with recommendations for pediatricians and implications for medical homes. He also reported that, in October 2007, the Academy of Pediatrics issued a policy statement and position statement on principles and guidelines for early hearing detection and intervention programs. The 2007 edition of *Women's Health USA* is now available, to be followed by *Child Health 2007*. Other HRSA publications include the National Survey for Children With Special Health Care Needs, a booklet on depression, and two versions of *Bright Futures: A Woman's Guide to Emotional Health and Wellness*. A health care provider's guide, poster, and community guide supplement the emotional health and wellness guides. SACIM members will receive copies of these materials.

Strategic Plan

Dr. van Dyck reported that the Maternal and Child Health Bureau (MCHB) is currently devising a new strategic plan for 2008 to 2012. SACIM members will receive a draft copy of the plan in the next 2 to 3 months for comments. The strategic plan contains MCHB's guiding principles, mission, goals, and objectives.

Accountability System

The Title V Information System (TVIS) is used by States to report their progress on a set of performance measures. In addition, MCHB issues individual grants across the Nation to nonprofits, States, universities, and others. These grants have performance measures attached to them. A new computerized system called the Discretionary Grant Information System (DGIS) offers public access to performance data, budget data, patient account data, abstracts, and progress toward objectives and performance among discretionary grantees, not the Title V grantees. SACIM members will be notified when DGIS becomes available in the spring.

Budget

In addition to the Maternal and Child Health Services Block Grant program, MCHB provides grants in programs involving traumatic brain injury, Healthy Start, emergency medical services for children, and newborn hearing screening. MCHB also funds a sickle cell service demonstration program and family-to-family health information centers.

Dr. van Dyck explained that as the budget ebbs and flows, program allocations can change dramatically. He described the 1.75 percent across-the-board rescission in the 2008 budget and the resulting change in appropriations between 2007 and 2008. Earmarks, which are funded by Congress from year to year, include programs in oral health, sickle cell, epilepsy, genetics, mental health, and prevention of fetal alcohol syndrome. About \$6.5 million of new funding has been allocated for a first-time motherhood/doula program and about \$5 million for a preparation for childbirth program.

MCHB Historical Timeline

Dr. van Dyck described a new Web-based timeline of MCHB history (www.mchb.hrsa.gov/timeline). He noted that a coordinated, factual, easily accessible history can provide a common frame of reference and shared identity to those who work in the maternal and child health field.

Discussion

Dr. van Dyck's presentation prompted the following comments and questions:

- In response to a question from Dr. Hayes regarding the lack of funding for autism, Dr. van Dyck mentioned that funding in that area will come from the Combating Autism Act. Regarding funding for preconception care, MCHB is exploring the possibility of working with the Centers for Disease Control and Prevention (CDC) and the National Institute of Child Health and Human Development (NICHD).
- In response to a request from Dr. Kevin J. Ryan, Dr. van Dyck explained the concept of rescission. A rescission, generally speaking, is exercised across all governmental agencies and programs and meets a congressional cap.
- Ms. Deborah L. Frazier expressed her disappointment with the budget. She was expecting that some new money and resources would be attached to SACIM's recommendations. Dr. van Dyck stated that MCHB shares this frustration.
- Dr. Hannemann asked for an explanation of the failure of the budget to allocate funds to mental health. Dr. van Dyck explained that the mental health earmark was eliminated altogether by the House and the Senate. At Dr. Hannemann's request, outgoing SACIM members will be included in the mailing of MCHB's new strategic plan.

Dr. Collins asked Ms. Jean D. Moody-Williams for a brief report from the Centers for Medicare and Medicaid Services (CMS). Ms. Moody-Williams reported that the Neonatal Outcomes Improvement Project was not funded in the 2008 budget and, therefore, will not move forward. However, a 2-year Medicaid transformation grant will fund a pilot

project in Ohio. Furthermore, a number of States have indicated their intention of carrying out neonatal outcomes improvement projects despite the lack of Federal funding. Ms. Moody-Williams also announced that the February meeting of the Medicaid medical directors will focus on perinatal health care issues. In addition, CMS is participating in an NIH smoking cessation project for low-income women. Ms. Moody-Williams also announced that CMS is publishing a prenatal care brochure and that, for the next several months, CMS will be working with States on oral health care site-visit projects.

HEALTHY START UPDATE

Maribeth Badura, M.S.N., R.N., Director, Division of Healthy Start and Perinatal Services, Maternal and Child Health Bureau, Health Resources and Services Administration

Ms. Badura described MCHB's latest funding cycles. Seven communities are involved in the Eliminating Disparities in Perinatal Health grants that focus on the U.S./Mexico border, Alaska, and Hawaii. Two grantees are recompeting for funds in 2008–2012, three grantees will recompete next year, and two grantees will recompete in 2011. A larger group comprises 92 communities. Six grantees are recompeting this year; next year, 72 grantees will recompete; and in 2010, 12 grantees will recompete. During the current open competition, a preference is given to current and former grants with expiring project periods. Given the present budget situation, eight current grants will be funded and there will be no expansion of any Healthy Start projects. It is not yet known if a preference will be given during future competitions.

Ms. Badura described some upcoming projects. A knowledge path on preconception and pregnancy will include resources for both professionals and consumers. It will include (1) a database of electronic publications, (2) a database of data sources on infant mortality and preconception, (3) databases for tracking indicators, and (4) links to electronic newsletters and online group discussions. It also will include information on risk factor areas and general health promotion areas, such as childbirth, depression, drug and alcohol use, environmental concerns, fertility and infertility, nutrition, oral health, and tobacco use. SACIM members will receive a copy of the 20-page draft document for comment.

A synthesis report has been completed on 35 demonstration projects that focused on interconception health from 2001 to 2005. Best practices were culled from the 35 projects. Based on material from the synthesis report, the national evaluations on interconception health, and the select panel on preconception health, a collaborative will be created with the Healthy Start projects over the next 3 years. Ms. Badura described the learning collaborative and its potential for translating research into practice. In addition, MCHB will work to implement the first-time mothers program and the doula program.

Discussion

Ms. Badura's presentation prompted the following comments and questions:

- Ms. Frazier asked about the timeframe involved in discovering the impact of the budget cuts on the Healthy Start projects. Ms. Badura responded that 12 grants have a project start date of February 1. The commitment is to use unobligated balances from projects to fund all of the grantees at the current level. Referring to the belief that Healthy Start is the gap-filler for the Title V grant, Ms. Frazier noted her disappointment that both core maternal and child health services and gap-filler programs are being cut at the State level. She stated that MCHB should be applauded for the work it does on behalf of mothers, babies, and families and asked whether SACIM members can do anything to shore up those resources.

NATIONAL FETAL AND INFANT MORTALITY REVIEW PROGRAM

Kathleen Buckley, M.S.N., C.N.M., NFIMR Program Director, American College of Obstetricians and Gynecologists

Jodi Shaefer, Ph.D., R.N., Assistant Professor, Johns Hopkins University School of Nursing

Ms. Buckley’s presentation focused on the ways in which the National Fetal and Infant Mortality Review (NFIMR) addresses health disparities in the community. Since 1990, NFIMR has been a resource center working with States and communities to develop fetal and infant mortality review programs. The result of a cooperative agreement between the American College of Obstetricians and Gynecologists and MCHB, NFIMR comprises about 220 programs in 42 States. Ms. Buckley explained that NFIMR has developed a new program manual, published a new data abstraction system, worked with the National Center for Cultural Competence to develop a cultural competence assessment tool, worked with CDC and City Match to develop a maternal and child health morbidity sentinel event model, and produced newsletters and a listserv.

Ms. Buckley described the FIMR process as a cycle of continuous quality improvement that uses local, deidentified review of cases as a springboard to improve services and resources for women, infants, and families. Quoting Julia Lathrop, Ms. Buckley stated that “the infant mortality studies are concerned with economic, social, civic, and family conditions surrounding young babies.”

In 2004, Johns Hopkins University’s national evaluation of FIMR found that it significantly improves a community’s performance of public health functions as well as the existing perinatal care system’s goals, components, and communication mechanisms. FIMR works in the community to develop community actions that take information one step further than vital statistics. The national evaluation also found that local health departments in communities with FIMR, compared with those without FIMR, were more likely to report improved performance of the following core public health functions: data collection and analysis, client services and access, quality improvement for systems of care, partnership and collaboration, population advocacy and policy development, and enhancement of the labor force.

To reduce disparities, community actions must be local, community specific, and culturally appropriate. FIMR includes standardized, voluntary home interviews with

mothers who have lost their babies. During the interviews, the mothers' stories are conveyed to the FIMR team members, who consider this information important to understanding the community issues related to disparities. Ms. Buckley emphasized that communities most at risk often have the least information about their risk and might not trust the usual health education messengers.

Dr. Shaefer listed the most frequent issues addressed by FIMR programs: access to care, bereavement, perinatal care, preterm labor and delivery, postpartum depression, SIDS risk reduction, smoking cessation, and substance abuse. FIMR teams have learned that many health messages are not culturally and linguistically appropriate, do not reach all of the ethnic groups in any given community, and are not delivered by a trusted messenger specific to each group. FIMR has created diverse coalition and community partnerships, listens to the voice of local families who have lost infants, and bases interventions on decisions of the whole community and local families.

Fifty-five racial and ethnic groups turn to FIMR for answers about infant deaths. Sixty percent of FIMR programs are located in communities with three or more ethnic groups. The majority of the programs develop culturally relevant educational materials for their communities.

Dr. Shaefer offered a number of examples of FIMR's work:

- When the Northern Virginia Perinatal Council faced the problem of serving a multicultural community, it provided educational materials about preterm labor and other topics in various languages. It also cross-trained child health workers.
- The Magnolia Project in Jacksonville, Florida, worked closely with Healthy Start on preconception care and services for at-risk African American women. The Magnolia Project focused on identifying and improving the preconception health of African American women who were at risk for poor outcomes. The project improved medical health, treated infection, and helped with child spacing.
- In Sioux City, Iowa, American Indian mothers did not have cribs for their newborns, so FIMR started a Where Will Your Baby Sleep program that provided cribs and offered education to health workers.
- When Oakland County, Michigan, experienced a 5-to-1 disparity in deaths due to preterm labor, FIMR raised awareness about preterm birth through church-based messages in a program called Save Our Babies. Save Our Heritage.
- In Virginia, FIMR workers discovered that Spanish-speaking bereaved mothers did not tell their health care providers about preterm labor because of a lack of knowledge and communication barriers. FIMR partnered with the March of Dimes to help solve this problem.
- In Contra Costa County, California, when bereaved mothers in a diverse population reported not understanding health messages, FIMR developed and translated patient education materials from local and national resources in eight languages.
- Project Moses in Florida made baskets for babies to sleep in.

These examples demonstrate that FIMR has been effective in disseminating health messages in communities to reduce disparities in infant mortality.

Ms. Buckley concluded the presentation by noting that FIMR makes a difference by (1) building community partnerships, (2) including the voice of culturally diverse women who have experienced a loss, (3) identifying locally specific and cultural issues associated with disparities, and (4) developing locally significant and culturally competent solutions to address issues related to infant mortality.

Discussion

The presentation on the FIMR program prompted the following comments and questions from SACIM members:

- Dr. Roberts expressed concern about the completeness of the data, confidentiality issues, and the identification of cases for followup. She asked where the data originate and how they are handled. Ms. Buckley replied that FIMR guarantees confidentiality by deidentifying information from the records and maternal interviews. FIMR case summaries are devoid of institutional identifiers, agency identifiers, provider identifiers, and family identifiers. The data come from medical records, both prenatal and pediatric, and maternal interviews. Dr. Shaefer added that FIMR's goal is systems change rather than child mortality review. The information it compiles is deidentified and comes from child welfare records, emergency room records, first-responder records, hospital records, and the maternal interview. Data are collected by a data abstracter and a home interviewer. FIMR finds out about infant deaths through the medical examiner's office, hospital death records, or health departments, depending on the location. Ms. Buckley also stated that the qualitative information from the interviews is linked to the vital record data.
- Dr. Robert E. Sapien asked about the type of followup support offered after the maternal interview. Ms. Buckley noted that grieving mothers appreciate the fact that the interviewers are sympathetic listeners and that FIMR identifies services (including mental health) in the community to help during followup.
- Dr. Bronner mentioned her work in Baltimore with the Baby Leadership in Action Program (Baby LAP) and asked whether FIMR systematically reports to a community of providers. Ms. Buckley noted that the community action team should issue an annual report of its findings and interventions to the community. Dr. Shaefer mentioned recent changes within the Baltimore City Health Department and noted that FIMR reports to the Maryland Department of Health and Mental Hygiene. She pointed out the decentralized nature of FIMR; that is, local communities decide what actions they will take and their decisions often vary within a State.
- Ms. Christina M. Ryan noted that effective communication through annual reports is lacking in Indiana. She pointed out that, given budget cuts in the area of mental health, the need for bereavement support presents an opportunity to collaborate with providers and request funding from foundations or institutions. Therefore, information from FIMR should be disseminated on a consistent basis.
- In response to a question from Dr. Hayes about what FIMR has learned regarding stillbirths, Ms. Buckley stated that autopsies related to stillbirths pose budget problems. Dr. Hayes suggested integrating the Pregnancy Risk Assessment Monitoring System (PRAMS) and FIMR. Ms. Buckley noted that FIMR's community-specific information might not be easily integrated with the much larger

aggregate of PRAMS information. Dr. Hayes suggested asking questions on PRAMS that might be implied by aggregate information. Dr. Shaefer stated that she would take Dr. Hayes' suggestion to the Maryland PRAMS committee. She also pointed out that FIMR is not intended to be a research study; instead, it is designed for service delivery in local communities.

FINAL REPORT ON THE HEALTHY START NATIONAL EVALUATION

Deborah Klein Walker, Ed.D., Abt Associates, Inc.

Margo Rosenbach, Ph.D., Mathematica Policy Research, Inc.

Dr. Walker gave an overview of the Healthy Start evaluation; reported on the second phase of the evaluation, which entailed site visits and participant surveys; explained the use of performance measures; and described lessons learned from the evaluation.

The Healthy Start evaluation was a multiyear effort. The first phase focused on the full universe of grantees and entailed a survey of project directors. Those findings were reported to SACIM in November 2006. Phase II was an indepth look at a subset of grantees in the national program. During the evaluation process, input and feedback came from a variety of stakeholders, the Healthy Start panel, Healthy Start federal program staff, and SACIM. The Phase I findings are compiled in a soon-to-be-released chartbook. In addition, a benchmarks paper concerning the literature available on disparities will be released soon. Phase II culminated in two papers that have been submitted to the *Maternal and Child Health Journal*. In addition to this information, Dr. Walker listed a number of presentations given in the past year on the national evaluation of Healthy Start.

The goals of Phase II of the evaluation were to (1) obtain a more indepth understanding of a small group of the grantees; (2) determine the methods used by the grantees to achieve the Healthy Start program objectives, with a particular focus on those related to the context, culture, and system of care in the community; (3) learn about Healthy Start from the participants' voice; and (4) reflect on the advice from the grantees.

The evaluation approach was to conduct site visits and surveys in a case study format. For eligibility, sites were required to have (1) completed the national survey of Healthy Start programs, (2) implemented all nine of the required components in the Healthy Start guidance, (3) demonstrated the ability to track referrals to providers within and outside of Healthy Start, and (4) maintained electronic records. These criteria limited the possible site visits to 26 of the 95 sites. The eight selected sites were required to reflect the census area; show a mix of urban and rural; display different funding levels; range in size, especially of the number of live births; and include one border State and one indigenous population. Dr. Walker emphasized that the eight selected sites are not a representative sample of all of the Healthy Start sites.

Site Visits

The site visits used the best of qualitative methodologies to understand the way in which (1) the programs were designed and implemented to improve perinatal outcomes, (2) the

program features were associated with success, and (3) the grantees implemented culturally competent services and systems. Another goal was to understand more about community voice and the perceptions of challenges, strengths, and accomplishments as linked to the logic model. The indepth methodology included interviews with project directors, case managers, and local evaluators; group interviews with outreach and lay workers; a mapping exercise with project directors; and document reviews. Individual site visit reports were completed, and the summary report took the form of two articles.

Dr. Walker presented detailed information about the nine required components at each site and two other particularly important components—cultural competence and community voice. She also cited what the grantees reported as their achievements and what the project directors reported as the most influential components and challenges.

Five of the nine components involved the service area: (1) outreach, (2) case management, (3) health education, (4) depression screening, and (5) interconception care. The respondents revealed that paraprofessionals play a critical role in conducting outreach, during which they employ multiple strategies and use incentives, such as tangible goods and transportation, to retain clients. Case management, the main link between participants and needed supports and services, includes multidisciplinary approaches, multiple strategies, and participatory and flexible service planning. Another critical component, health education, is often linked with outreach and case management. It is provided individually and in group settings, offered in homes and community settings, and covers a range of topics. Depression screening is often administered by case management staff, who use the screens in various ways and locations and adapt screening practices to meet cross-cultural needs. Interconception care focuses on maintaining participants rather than gaining new enrollees. The evaluation found that, in general, home visits and health education focused more on infants than mothers.

In addition to the five service area components, the evaluation covered four system area components: (1) consortium, (2) coordination and collaboration, (3) local health system action plan, and (4) sustainability. The requirement of a consortium resulted in different models among the sites, including separate community and consumer groups, advisory bodies, and task forces under the local health department. A consortium might be made up of a wide range of community members from housing, health care, civic groups, etc. The focus of the consortium varied from strategic planning to service enhancement to health policy changes. The evaluation found that all of the consortia worked on cultural sensitivity and awareness in the community.

The component of coordination and collaboration entailed the way in which Healthy Start worked with Title V to develop common health messages, share assessment protocols, promote data sharing, and plan for sustainability. Other frequently cited evidence of collaboration included work with hospitals, providers, community health centers, WIC, Medicaid, and mental health providers.

All of the projects fulfilled the requirement for a local health system action plan, but it did not always entail a separate report. Sometimes the projects built on other community

efforts, such as a Title V plan or a local health system action plan. Local public health agencies, consortia, and task forces were involved in the development of the plans, and project staff involvement was common.

The evaluation found that sustainability was less implemented across the board. The projects used a combination of strategies to sustain services, such as seeking supplemental State funding or foundation funding, transferring services to local providers, and working with partners to reduce duplication. The evaluation revealed that consortium involvement is key to identifying funding opportunities.

All of the sites provided staff training in cultural competence. Most projects had established relationships within the community to help them with cultural competence; for example, faith-based organizations, traditional healers, and ethnic associations were able to provide guidance on cultural competence. Engaging bilingual staff and interpreters and translating written materials were common efforts. However, the evaluation found that it was a challenge for many of the sites to keep up with changing demographics.

Community or consumer voice was also found to be very important. Many projects had developed mechanisms for obtaining consumer voice, whether through focus groups, involvement on the consortium, or other methods. Focus groups helped to identify community needs. The projects, across the board, noted the importance of community input and consumer voice.

Grantees reported achievements on both the services and systems levels. The systems-level achievements were mentioned more frequently in the case studies than the service-level achievements. Many sites reported improved birth outcomes and noted several intermediate outcomes related to improvement in birth outcomes. Service-level highlights included the provision of enabling services, such as transportation and child care. Five projects reported enhanced entry into prenatal care and increased service use. Systems-level highlights included increased community awareness, culturally diverse staff, improved consumer involvement, and better coordinated systems and services.

When asked about the most influential components of their achievements, the project directors mentioned the combination of outreach, case management, and health education. In terms of systems-level components, the project directors most often noted that the consortia helped them to achieve their successes.

The grantees reported both contextual and organizational challenges, including service availability, especially mental health services; lack of funding; maintaining culturally competent care; staff capacity; and mobile populations.

To summarize, Dr. Walker stated that the site visits reveal, from a qualitative perspective, the unique contextual and community issues that influence a project's design, implementation, and successes. It is clear that no single magic bullet exists for reducing disparities. Service provision and systems development are both critical for Healthy Start

projects, and systems-level achievements are more likely to be identified by qualitative data collection rather than surveys at this time. Outreach, case management, and health education are interconnected, and the consortium relies heavily on the involvement of multiple collaborations. Sustainability is less a priority than the other efforts. Finally, cultural competence, consumer involvement, and community voice are key to reducing disparities.

A major caveat of this phase of the evaluation is that the findings from the site visits are based solely on the perceptions of the people who were interviewed. There was no local evaluation report conducted at the local site level. The findings cannot be generalized to other projects.

Survey

Dr. Rosenbach pointed out that the survey provided another venue for consumer voice in the evaluation. The overall goal was to gain insight into the implementation of Healthy Start from the participant perspective, thereby complementing the site visits. The specific aims of the survey were to (1) develop a detailed profile of Healthy Start participants, (2) describe the services that participants receive during the prenatal and interconception periods, (3) assess the satisfaction with Healthy Start services, and (4) measure participant outcomes.

The survey was fielded from October 2006 to January 2007. Interviews lasting, on average, 30 minutes were conducted using CATI (computer-assisted telephone interviewing). The sample included Healthy Start participants with infants between the ages of 6 and 12 months at the time of the interview. The interviews were conducted in English and Spanish, and interpreters were available for other languages. Inability to speak English was not a barrier to the completion of the survey. The response entailed 646 completed cases across the 8 sites, ranging from 24 to 155 per site. Results were reported only in the aggregate. The overall survey response rate was 66 percent.

Dr. Rosenbach reported on the demographic characteristics, health status and risk factors, access to and utilization of services during both the prenatal and interconception periods, satisfaction with services, and outcomes. She explained the analytic strategy that developed a benchmark to place Healthy Start results in a national context.

After reviewing information about the race and ethnicity, age and education, employment status, and health status and conditions of the survey respondents, Dr. Rosenbach reviewed cigarette and alcohol use among the respondents, reported on the access and utilization of services, and reviewed selected health education topics. In terms of unmet need for selected health care services, dental services were mentioned along with child care and housing. The topic of access to care for women and infants used measures involving insurance, medical home, postpartum or well-baby checkup, and unmet health care needs. On all four measures, women were less likely to have access compared with infants. Measures of interconception care included birth control, advice about birth

spacing, and multivitamin use. The level of satisfaction with Healthy Start services was found to be universally high.

The survey evaluation studied prenatal outcomes, birth outcomes, and infant health outcomes. The interpretation of the Healthy Start outcomes was based on comparing Healthy Start rates with Early Childhood Longitudinal Study program (ECLS) rates and then with the Healthy People 2010 goals. On prenatal outcomes, the survey found very similar results (86 percent) on receipt of prenatal care during the first trimester. Elimination of alcohol during pregnancy was very close to the Healthy People 2010 goal and similar between the two populations. Forty-six percent of the respondents eliminated smoking during pregnancy, which is very similar to the ECLS rate, and both rates fall short of the Healthy People 2010 goal.

In terms of birth outcomes, Healthy Start respondents reported an 8-percent low birthweight rate, similar to the ECLS rate, with both falling short of the Healthy People 2010 goal of 5 percent. In another measure of birth outcomes—longer hospital stays among infants due to medical problems at birth—the rates are again very similar between Healthy Start and ECLS. However, low birthweight by race and ethnicity shows a striking disparity in the African American population compared with the White and Hispanic population.

In terms of infant health outcomes, breastfeeding is higher in Healthy Start than nationally and very close to the Healthy People 2010 goal. Also, the percentage of women in Healthy Start who report putting their infants to sleep on their backs is at the Healthy People 2010 goal. Regarding both breastfeeding and back-sleeping, the rates are higher than in the ECLS sample of low-income women. Infant health outcomes as determined by the well-baby visit are very similar between the two samples.

To summarize, Dr. Rosenbach stated that the survey found that Healthy Start participants received health education on many topics. Their highest unmet need was for housing, child care, and help with dental appointments. Infants had higher levels of access to care than their mothers. Satisfaction with the program was high for all measures. In terms of outcomes, compared with the ECLS sample of low-income mothers, Healthy Start participants in the eight sites were more likely to breastfeed their infants and put them to sleep on their backs. Compared with the national population of low-income mothers, Healthy Start participants had similar rates of low birthweight.

A major caveat attached to the survey results is that the survey does not reveal causal relationships. Also, differences might represent selection into the program rather than the impact of the program per se. What would have happened in the absence of Healthy Start cannot be determined. However, the results are compelling in that they suggest that Healthy Start has played an important role in the lives of women and their babies.

Performance Measures

Dr. Walker mentioned the five service-oriented performance measures (percentage of children with a medical home, percentage of women with an ongoing source of primary care, percentage of pregnant women with prenatal care in the first trimester, number of program participants who receive a completed referral, and degree to which the programs facilitate screening for risk factors) and the four systems-oriented performance measures (degree to which programs ensure family participation, degree to which programs incorporate cultural competence, degree to which programs include a morbidity and mortality review, and percentage of communities with comprehensive systems of women's health services). The programs also reported on outcomes: percentage of very low birthweight infants, percentage of live singletons, and infant mortality. The dilemma is that these performance measures were not reported consistently during the years of the evaluation; therefore, they could not be used in the evaluation.

In summary, the key take-home lessons about Healthy Start are as follows: (1) both services and systems are important, (2) there is no magic bullet for how to structure services and systems that work for all sites, (3) implementation of program components must be tailored to the culture and resources of the community, (4) Healthy Start fills important gaps for vulnerable women and infants—it is the glue and support for very vulnerable populations, (5) services must be provided from many sectors to address the root causes of health disparities, (6) outreach and case management are interconnected and serve as the heart of the programs, (7) health education is an integral link to outreach and case management, and (8) there is no one model of service delivery. The national evaluation also found that Healthy Start is the first national program to emphasize the interconception period, during which the focus remains on the infant. Furthermore, developing systems of care is considered as important for achieving improved birth outcomes as are individual services. Collaborations, especially through a consortium, are critical for success and, ultimately, sustainability. In fact, the consortium is the glue in creating a system of care and a major way of promoting consumer involvement. Service integration with other partners, such as Title V, is important for developing sustainable systems. Consumer or community voice is the hallmark of Healthy Start and is necessary for addressing cultural competence. Sustained consumer involvement needs support from individual projects—it does not just happen.

Discussion

The report on the Healthy Start evaluation prompted the following questions and comments:

- Dr. Hayes called for ongoing monitoring of the performance measures and continued evaluation of Healthy Start. In spite of the caveats, the findings of the evaluation can inform policy. At the local level, those who are serious about the determinants of health know that systems improvement goes beyond maternal and child health. Policies regarding improved pregnancy outcomes must ensure women's health long before pregnancy. Information from the national evaluation of Healthy Start must be shared with an audience that can inform policy in these areas. Dr. Walker noted that

the following day's agenda includes presentations that address the idea of the audience for recommendations in this area.

- Dr. Moore referred to the survey results that indicate the success of interconception care and asked about the percentage of women who already had experienced another pregnancy at the time of the interviews. Dr. Rosenbach noted that the percentage was in the range of the Healthy People 2010 goal.
- Dr. van Dyck commented on the demographic comparison between ECLS and Healthy Start concerning married and unmarried participants. Half as many of the Healthy Start women are married and many fewer have English as their primary language and were born in the United States. Nevertheless, Healthy Start participants have the same percentage of low-birthweight infants as the ECLS group. Dr. van Dyck suggested that, given the fact that the Healthy Start sites have more vulnerable or high-risk participants, it is an achievement that the rate is equal. Dr. Rosenbach agreed but noted that the study was not designed to examine causal relationships; therefore, the design precludes drawing such conclusions.
- Dr. Ryan asked about the generalizability of the survey sample to the Healthy Start population as a whole. Dr. Rosenbach explained that the sample was drawn from a list of all of the women who were enrolled in the program, even if they were not currently receiving services. The challenge was to locate the women who might no longer be participating. Nevertheless, the response rate was high in all but one of the sites. Dr. Rosenbach reiterated that a major caveat concerns the generalizability from the eight sites to the rest of the Healthy Start sites. An attempt was made to include women from border communities, indigenous populations, and urban and rural settings, but the evaluation team does not claim that the findings are generalizable to all Healthy Start participants. An electronic dataset of all Healthy Start participants nationally, or some larger scale sampling, would allow for replicating this study. Dr. Rosenbach noted that the study results are very compelling in the way that they array relative to ECLS and that the implications for policymakers are compelling.
- Dr. Ryan restated that the sample frame and the response rate were based on a subset of all of the Healthy Start participants who had participated at any time. He noted that the sites with the best data collection systems might have been the most functional in other respects as well, in which case they are not characteristic of the whole group. Dr. Walker stated that the study results are rich and can be used for policymaking in the programs. Many intermediate outcomes that had been hypothesized in the logic model are important. Dr. Rosenbach added that the risk factors of the women surveyed confirm that they are a higher risk population than women nationally.
- In response to a question from Ms. Moody-Williams regarding the use of performance measures, Dr. Rosenbach noted the advantages of using record reviews from a program improvement perspective, which involves comparing programs over time against themselves according to performance measures. Dr. Walker noted the importance of considering context, using a monitoring strategy, repeating indepth surveys of program directors, and, in general, employing an overall quality improvement process. Ms. Moody-Williams added that instituting technical assistance early would help improve the process.
- Dr. van Dyck noted the Title V use of a common set of performance measures across the 59 States and territories. MCHB has used the strategy of convening the 10 most

improved States in individual performance measures to determine a model for improvement.

- Dr. Ryan mentioned that CMS has promulgated a proposed rule whose implications have been broadly debated. The rule would limit targeted case management in a variety of programs. In a worse case scenario, such a rule will be very problematic.
- Dr. Hayes noted the importance of context in comparing the success of various sites on individual performance measures. An example is the anti-smoking message, which should be delivered long before pregnancy, not just during it. Healthy Start has provided an awareness of the importance of context in this regard. Dr. Rosenbach remarked on the context of Healthy Start participants' lives in terms of domestic violence and drug abuse and the relative unimportance of smoking in the face of those issues. She stated that smoking cessation has not been a high priority in Healthy Start because of other issues that must be addressed in women's lives.
- Dr. Bronner stated that she is encouraged by the qualitative and quantitative work of the national evaluation team. She asked whether contextual issues can be included in the performance measures in the future; for example, can the survey questions address the extent of changes in housing, employment, and violence? Limiting the performance measures to the medical model will prevent movement in the contextual model. Dr. Bronner also expressed concern about the use of averaging in data analysis. Dr. Walker responded that the program directors' annual reports incorporate some of the contextual questions.
- In response to a question from Dr. Bronner, Dr. van Dyck noted that the original goal of Healthy Start was to reduce infant mortality by 50 percent in the program areas. Dr. Walker mentioned that a comprehensive framework must be in place to address the program's original goal. Nevertheless, progress has been reported on key issues indicated in the logic model. Dr. Hayes noted the high, and possibly unrealistic, enthusiasm of the originators of Healthy Start. Since that time, a better understanding of the social determinants of women's health has been achieved. It is now clear that "a 9-month investment in women's health is not enough."
- Ms. Frazier agreed that tobacco use is at the bottom of the list of women's concerns, but tobacco is also a coping mechanism in the face of stress. Dr. Rosenbach remarked that the life course perspective ties in with the social determinants perspective and addresses the complexities of the infant mortality continuum that contribute to the outcomes. The survey revealed all of the stressors that women face.
- Dr. Hannemann mentioned the need to use new techniques such as modeling systems to examine complex problems. Investigators are now discovering the frequently overlooked overlay of behavioral, emotional, mental health, and role model factors, which play a significant role in affecting the behaviors of individuals who are involved in programs such as Healthy Start. These motivational factors must be included in complex modeling systems, and funding must be forthcoming to accomplish this task. Dr. Walker mentioned that 50 percent of health outcomes are due to behavior, and multicomponent systems are needed to change those outcomes.
- In response to a question from Dr. Moore about teen pregnancies, Dr. Rosenbach stated that teens were included in the sample; in fact, 15 percent of the respondents were younger than age 20. However, teens were not a separate subgroup for analysis.

Dr. Walker added that the program directors did not address the problem of pregnancy prevention for teens, a fact that is interesting in and of itself.

RELATED CAUSES OF INFANT MORTALITY IN THE POSTNEONATAL PERIOD

*Mary Overpeck, Dr.P.H., Manager MCH Epidemiology Program, New Mexico
Department of Health*

*Joseph L. Wright, M.D., M.P.H., Executive Director, Child Health Advocacy Institute,
Children's National Medical Center*

What We Know About the “Other” Deaths

Dr. Overpeck addressed the causes of infant mortality in the neonatal period outside of preterm delivery and low birthweight. These “other” deaths do not fall into easy categories. The traditional other causes are the conditions related to birth defects, prematurity, problems of labor and delivery, SIDS, and respiratory distress. These are classified as “natural” deaths under the International Classification of Diseases (ICD) category system. Unintentional injury is the only traumatic death cause ranked in the top ten. After listing the ten leading causes of infant death in 2004 in the United States, Dr. Overpeck noted that, for the first time, unintentional injury moved up to take precedence over conditions related to the placenta, cord, and membranes primarily through labor and delivery. Deaths from unknown cause are a high proportion of deaths.

A number of recent approaches are used to assess “other” causes, including a reassessment within ICD categories, death scene reenactments, death scene investigations, and the Child Death Review Process. Dr. Overpeck explained the diagnostic shift across “natural” and “traumatic” ICD categorizations and the development of new terminology in these categories. Since 1999, the term “sudden unexpected infant death” (SUID) was suggested as an option to SIDS, but the term is not part of the ICD. It recognizes the diagnostic shift away from SIDS so that both SIDS and SUID classify manner of death as “natural” events. Asphyxiation and suffocation are classified as “traumatic” (injury) events. The ICD infant death classifications considered for SUID are (1) unknown or unspecified causes, (2) accidental suffocations and strangulations in bed, (3) other accidental suffocation and strangulation, and (4) neglect, abandonment, and other maltreatment syndromes.

After explaining how the research focus defines the definition of SUID, Dr. Overpeck listed the “known causes” other than SIDS and SUID. The known causes include transportation-related, drowning, bites or stings by animals, fire and burns, poisoning, environmental exposures, inhalation of gastric contents, inhalation of food and obstructive objects, other obstructions of the respiratory tract, and caught, crushed, jammed, or pinched. Shaken baby syndrome or abusive head trauma is included in multiple other causes due to the lack of a specific ICD category. There are other causes for which the lack of specificity of ICD categories leads to missing or miscategorized information on death certificates.

The data sources for “other” causes include, on the national level, the 1999 to 2004 mortality files and, on the State level, the multistate Child Death Review Web-based data system for Pennsylvania, Ohio, and Michigan. The data show that 15 percent of infant deaths are unexpected and unexplained.

Dr. Overpeck explained that the intersection and interaction of natural and traumatic deaths is biologically intertwined. The research on causes includes the basic biological research, case control studies and common findings, death scene investigations, and the Child Death Review. Basic biological research involves autopsies of small samples of infant deaths diagnosed as SIDS, simulated causes in laboratory conditions, and the triple risk model postulated by Filliano and Kinney in 1994. The triple risk model, which depicts the intersection of natural and traumatic causes, entails (1) the infant in the critical developmental period, (2) the infant being vulnerable, and (3) outside (exogenous) stressors.

Dr. Overpeck stated that a summary of SIDS research in 2000 revealed that postmortems explained about 20 percent of the cases as infections, unintentional injuries, congenital anomalies, and metabolic disease. Because of diagnostic shifts on death certificates that recognize the interaction between traumatic and natural deaths, more jurisdictions require mandatory autopsies of unexpected infant deaths, medical certifiers are shifting designations to categories other than SIDS, multiple mechanisms are being recognized as involving vulnerable infants and environment, and most mechanisms involve asphyxia of some form.

After reviewing the national data using death certificates from 1991 to 2004 and injury rate changes from 1999 to 2004, Dr. Overpeck noted that deaths from assault and abuse taken together far outnumber deaths from transportation-related causes. The injury rate increased by 12 percent in the given time period. When looking at the age of death for prevention purposes, it becomes clear that interventions must be directed by the end of the second month because about 70 percent of the deaths occur within that period. In terms of research and intervention derived from studies on SIDS, SUID, and suffocations, for purposes of counting, demonstrating trends, and targeting prevention efforts, the overlap needs clarification, but for purposes of prevention, the interventions are similar for exposures and environment.

Risk factors in the environment are issues for vulnerable infants. The research on causes relies on supportive investigations of the manner and mechanisms of sleep-related deaths, including injuries. The investigations include those of infant death scenes, scene reenactments for infant deaths occurring in sleeping environments, and the Child Death Review. Dr. Overpeck mentioned CDC’s SUID investigation initiative and scene reenactments using dolls to simulate sleep-related deaths. The Child Death Review investigative processes involve reviews performed at both the State and local levels in most States. The majority of the reviews focus on the public health prevention model rather than on child abuse. Dr. Overpeck stated that the National Center for Child Death Review promotes, supports, and enhances review methodology and activities at the State

and local levels. A Child Death Review multistate data tool has been developed that focuses both on prevention and systems improvement.

Dr. Overpeck concluded by stating that her presentation focused on deaths in the first 4 months of life due to high prevalence. “Other” deaths are associated primarily with interactions in the larger environment. Little information is available on injuries, including poisoning, that do not result in death. In summary, Dr. Overpeck stated the inadvisability of relying on death certificates and standard classifications and called for improvements in death scene investigations. Prevention models enhance the understanding of death circumstances and systems involvement, and Child Death Review teams improve our ability to save infant lives.

Infant Morbidity and Mortality: The Role of Regionalized EMS and Trauma System Response

Dr. Wright explained that his presentation would focus on the nexus and intersection of three worlds: (1) child health advocacy and injury prevention, (2) pediatric emergency medicine, and (3) prehospital pediatrics and emergency medical services for children (EMSC). The presentation focused on the following topics: definitions, case examples, evidence, and protocols.

Definitions

The epidemiologic model of injury applies to the response to injury in infancy. Infants are unique in that intrinsic factors related to anatomy and physiology clearly drive their response to injury. Also, environmental factors, such as system readiness, and provider factors, or extrinsic factors, are involved in the model. Haddon’s matrix provides a framework to organize preventive approaches to injury. Emergency medical response fits into the postevent physical environment category of the matrix. One technical strategy for injury control in the postevent phase is to begin to counter the damage already done by the environmental hazard, for example, by placing emergency response teams near areas with high injury rates.

The EMSC continuum of care begins with prevention and includes bystander, prehospital, transport, definitive care, rehabilitation, and “postvention.” The goal of prehospital care is to minimize further systemic insult or injury through a series of well-defined and appropriate interventions and to embrace principles that ensure patient safety. Integral to this process is medical oversight of prehospital care by preexisting evidence-based protocols (indirect medical oversight) or by physician via voice and/or video communication (direct medical oversight). A regionalized or systematized approach is a geographically organized system of services that ensures access to trauma care at a level appropriate to patient needs while maintaining efficient use of the available resources. An inclusive trauma system refers to a model in which all acute care hospitals participate in providing care to all injured patients. An exclusive system limits treatment of seriously injured patients to a restricted number of centers.

Although injury mortality in children is one-third the rate of trauma deaths in adults, the case fatality for children is higher. With the equivalent trauma severity, children are more likely to die in transport and during resuscitation than adults. Another important feature of trauma fatality in children is that a higher proportion is caused by severe central nervous system injury than in adults. Intrinsic factors, such as unique infant head and neck anatomy, make the young child particularly vulnerable to head injury. As a result, central nervous system trauma drives injury severity in infants.

Case Examples

One recommendation of the Institute of Medicine (IOM), published in a 2006 report and related to the incorporation of pediatric concerns, was that Congress should establish a demonstration program, administered by HRSA, to promote regionalized, coordinated, and accountable emergency care systems throughout the country. Recognizing the importance of regionalization, the IOM report highlighted the Maryland Institute for Emergency Medical Services Systems (MIEMSS) as an example of a regionalized approach to trauma. The system is predicated on the idea of “the golden hour,” which relates survival to severity and duration. The transport approach in MIEMSS relies on a fleet of eight helicopters. After explaining compensated (reversible) and uncompensated (irreversible) shock in young children, Dr. Wright stated that infants represent about 10 percent of approximately 40,000 annual EMSC transports. About 75 percent of the infant transports are medical, and 7 percent of the injury-related infant transports are due to motor vehicle crashes with 6 percent due to falls. In 2007, 35 percent of the trauma transports of infants to the Children’s National Medical Center had severe head injury.

Dr. Wright gave a case example in which blood loss due to an animal bite was estimated at about 100 cc. In this particular case, hypovolemic shock resulted from a scalp laceration, intense peripheral vasoconstriction challenged intravenous vascular access, and there was loss of chronotropic-dependent compensatory mechanisms and limited ventricular compliance of immature myocardium—all unique physiologic features that put infants at particular risk. Case progression began with a consultation with the Pediatric Trauma Center, after which a helicopter was dispatched, and ongoing assessment was provided.

Evidence

The National Study on Costs and Outcomes of Trauma (NSCOT) found that injured patients receiving care at designated trauma center hospitals had a significantly lower risk of death. The study, which recommended further regionalization, was limited to patients ages 18 to 84, and the principal outcome measure was survival. Dr. Wright suggested the consideration of outcomes other than mortality when assessing the efficacy of regionalization in the EMSC system.

A trauma outcome study emerged from a 1998 conference to evaluate evidence regarding the efficacy of trauma systems. The only definitive evidence relative to the value of a regionalized approach for children was that regionalized trauma systems reduce the risk

of mortality from motor vehicle crashes by 9 percent. Age-stratified analysis reveals that the most beneficial effect of trauma system presence is conferred in the 0-14 year age group at 17 percent for motor vehicle crashes. An in-place system of EMSC response contributes to reduced mortality. However, it takes at least 13 years for a system to mature enough to make a difference on a population basis.

Over the past several years, a number of reviews have attempted to answer the question of whether regionalized pediatric trauma systems make a difference. Injured infants and children treated at pediatric trauma centers appear to have better outcomes and overall survival rates compared with adult trauma centers, particularly for isolated head injury and in the youngest age groups. However, the evidence is neither conclusive nor methodologically rooted in functional outcomes that may be most germane to pediatric quality of life.

In March 2007, the Agency for Healthcare Research and Quality and HRSA sponsored a consensus conference on pediatric trauma care. The proceedings were published in the December 2007 *Journal of Trauma* supplement. The conference focused on appropriate outcomes and design for a pediatric NSCOT-like study of measures of morbidity, functional outcomes following traumatic brain injury, and family-level quality-of-life measures.

Protocols

Dr. Wright described the interplay between prehospital pediatrics and medical oversight. Medical oversight can take the form of prehospital care by preexisting evidence-based protocols or by physician via voice and/or video communication. The area of most concern is the issue of severe central nervous system trauma (traumatic brain injury) in terms of prevention and intervention.

Since 1998, MIEMSS has instituted a pilot protocol that permits flight paramedics to intubate children in the field without medical direction. Rapid sequence intubation for infants and children who are hypoventilating was instituted in 1998. Ninety patients met the criteria for this protocol. Over the course of the past 9 years, it has been demonstrated that a well-trained group of prehospital providers have the ability to perform definitive interventions in the field. Ninety-six percent of the children successfully received endotracheal tubes in the field. Therefore, early intervention makes a difference.

The most recent protocol is the approach to the child with an apparent life-threatening event (ALTE). The infant almost always appears well, and there is a refusal of transport. However, if there is a history of ALTE, these babies must be transported to an emergency department regardless of their appearance at the time of assessment in the field. If the parent or guardian refuses medical care or transport, the provider contacts a pediatric baby station physician.

In summary, Dr. Wright stated that the epidemiologic impact of traumatic injury in infancy is not trivial and there is a disproportionate burden of severe central nervous

system injury. Unique anatomic and physiologic attributes render infants at particular risk for adverse outcomes in systems of response inadequately prepared to address these special needs. The HRSA/MCHB/EMSC program is suitably positioned to advocate for research, evaluation, promotion of infrastructure development, and policy support to ensure the proper care and safety of infants in the national EMS system.

Discussion

The presentations by Drs. Overpeck and Wright prompted the following comments and questions:

- Dr. Hayes stated that the presentations emphasized the tremendous amount of systems work that remains to be done in all of the States. SACIM should begin to ask questions about the national infrastructure in regard to regionalization. Dr. Wright responded that the EMSC program supports three grant categories, including one called State partnerships. All of the States are eligible to receive grant dollars for infrastructure development.
- Dr. Ryan noted that the systems issues described by Dr. Wright are analogous to systems issues regarding maternal and neonatal transport. The evidence is definitive that high-risk mothers and infants do better at tertiary centers that are well equipped to care for them.
- Dr. Collins pointed out that postneonatal deaths are clearly preventable and the racial disparities in postneonatal deaths are apparent.
- Ms. Barnes stated her appreciation for Dr. Overpeck's use of photos of scene reenactments to overcome maternal perceptions about sleeping with infants. She also stated her appreciation for Dr. Wright's inclusion of the Haddon framework in his presentation.
- Dr. Sapien asked Dr. Overpeck to comment on the variability in the way in which Child Death Reviews are funded and supported nationally. Dr. Overpeck responded that, although the majority of States have legislative mandates for Child Death Review, very few of the States support the Child Death Review process with any form of funding. The efforts of the Child Death Review Resource Center to develop a data tool as part of its technical support are largely unfunded. The teams have very little support to sustain them.
- Dr. Hannemann asked about the training of emergency room physicians in pediatrics emergency procedures. Dr. Wright responded that the training is variable. The Accreditation Council for Graduate Medical Education (ACGME) guidelines for training in emergency medicine call for 3 distinct months devoted to pediatrics in the course of a 36-month residency. In the District of Columbia's regionalized system, a very strong emergency medicine group sees no children. The emerging trend in suburban communities is to develop pediatricians who work in emergency departments.
- Regarding intubating infants, Dr. Hannemann asked whether an attempt is made to use bag-and-mask resuscitation prior to intubation. Dr. Wright explained that the protocol calls for bag-and-mask ventilation to address hypoxia before resorting to rapid sequence intubation.

- Dr. Sapien noted that in community hospitals children make up about 30 percent of the emergency room population. Therefore, emergency room doctors see 30 percent of their patients with just 3 months of training.

THURSDAY, JANUARY 24, 2008

PRESENTATIONS FROM THE HEALTHY START COMMUNITIES

Update From the National Healthy Start Association

Peggy Sanchez Mills, M.P.A., CEO, National Healthy Start Association

Ms. Mills began her presentation by thanking SACIM for its hard work, diligence, commitment, and level of knowledge regarding the issue of infant mortality. She explained that the National Healthy Start Association (NHSA) comprises 100 sites in 37 States, the District of Columbia, and Puerto Rico and serves more than 80,000 pregnant women. Forty-four percent of the sites are nonprofits, 37 percent are local health departments, 11 percent are State health departments, and 8 percent are foundations or universities. NHSA is governed by a board of directors of up to 25 members.

The mission of NHSA is to promote the development of community-based maternal and child health programs, particularly those addressing the issues of infant mortality, low birthweight, and racial disparities in perinatal outcomes. As part of its mission, NHSA supports the expansion of a wide range of activities and efforts that are rooted in the community and actively involve community residents in their design and implementation. Healthy Start projects have the power to vote for the members of the board of directors and are actively involved in every aspect of the organization's governance.

Ms. Mills described some of NHSA's accomplishments over its 10-year history. NHSA was incorporated in Maryland in 1998 and achieved authorization of the Healthy Start program in 2000. In 2001, NHSA received its first Annie E. Casey grant to create toolkits to support the organization. In 2005, NHSA secured a partnership grant administered by HRSA that allowed NHSA to partner with 16 other organizations. In 2006, NHSA was awarded a HRSA grant to design and implement the Leadership Training Institute. The first Infant Mortality Awareness Month campaign was launched in September 2007. Another key initiative involves male involvement. NHSA had its first Capitol Hill briefing in 2007.

Ms. Mills ended her presentation by asking for SACIM members' support in working for the reauthorization of NHSA.

Update From a Rural Healthy Start Project

Rick Haverkate, M.P.H., Health Services Director, Intertribal Council of Michigan

Mr. Haverkate presented information about one of the three Healthy Start programs nationwide that focus solely on American Indians. The Intertribal Council of Michigan, based in Sault Sainte Marie, Michigan, serves the federally recognized tribes in the State across 27 rural counties at 7 Healthy Start sites.

Mr. Haverkate described some of the demographic characteristics of the 849 women currently served at the 7 Healthy Start sites. Eighty-four percent of the clients are

American Indian or Alaskan Native, and 90 percent are in the age group 18 to 35. About 42 percent of the women were smokers at intake into Healthy Start, and the program has seen some success in smoking cessation. About 2,500 people have been served since program inception. Mr. Haverkate stated that the program has experienced a 50-percent decrease in infant mortality along with increases in prenatal care, client satisfaction, and prenatal depression screening.

The Native People's Healthy Start Council produced a booklet that contains information about reducing barriers and increasing access to high-quality, culturally competent maternal and child health care. Mr. Haverkate ended his presentation by stating that Healthy Start works—it fulfills the needs of the Native American population it serves.

Update From an Urban Healthy Start Project

Mario Drummonds, M.S.W., Northern Manhattan Perinatal Partnership, Inc./Central Harlem Healthy Start

The purpose of Mr. Drummonds' presentation was to (1) document the public health crisis in Harlem in 1990 and how it was resolved by 2005, (2) reveal the direct practice and systems changes instituted that brought about dramatic changes in maternal and birth outcomes in Harlem by 2005, and (3) define and describe the maternal and child health lifespan organization and movement that ushered in change.

Public Health in Harlem Between 1990 and 2005

Harlem is a historically poor and working class community that is undergoing many demographic and socioeconomic changes. Women of childbearing age in Harlem have taken control of their health and brought about successful birth outcomes by changing their behavior and consciousness.

The Northern Manhattan Perinatal Partnership (NMPP) was established 18 years ago as a not-for-profit organization comprising a network of public and private agencies, community residents, health organizations, and local businesses. NMPP's mission is to save babies and help women take charge of their reproductive, social, and economic lives. NMPP achieves this mission by offering a number of programs to help reduce the infant mortality rate and increase the self-sufficiency of poor and working class women throughout the community. NMPP is a complex maternal and child health organization with about 26 funding streams and 4 or 5 sites in the central and east Harlem area. NMPP is active in a number of arenas, including early childhood, Head Start, and perinatal health.

Infant mortality data from central Harlem reveal 27 deaths per 1,000 live births in 1990. By 2001, infant mortality rates had fallen below 10 deaths per 1,000 live births. Core clinical interventions brought the rates down, but systems interventions also played a role in the steady decline in infant mortality. In 1990, there was a border baby crisis due to the crack epidemic and 321 newborns were infected with the HIV virus. Low birthweight rates hovered around 20 percent, and only 25 percent of women entered prenatal care in

the first trimester. The local health system was fragmented, access-to-care issues abounded, and no plan or political will existed to address the crisis. By 2005, the infant mortality rate had fallen to 7.4 deaths per 1,000 live births. In 2003, only five babies were born with the HIV virus, and the current low birthweight rate is 11.3 percent. Ninety-two percent of central Harlem women access prenatal care during the first trimester, and a new birthing center has been built at Harlem Hospital. Mr. Drummonds declared that a social movement has resulted in the entire community taking responsibility for infant and maternal care.

Practice and Systems Changes

“Outcome” case management was used to follow 8,000 high-risk women from 1990 to 2006. NMPP launched an intensive campaign using private-sector marketing tactics to (1) recruit thousands of women into case management programs, (2) foster health behavior change on the individual, group, and mass media level, (3) transform the local health system through regionalization of perinatal care, opening up access, and building a new birthing center at Harlem Hospital, (4) build a health care mass movement in which infant mortality reduction became the number one public health and political issue throughout the city, and (5) raise more than \$52 million to supplement Healthy Start funding from 2000 to 2007 using tax levy dollars.

Mr. Drummonds quoted a 2002 SACIM statement regarding the insufficiency of direct practice interventions in reducing infant mortality rates. Core interventions, community coalitions, and case management alone are not enough to decrease infant mortality rates in urban and rural communities. Systemic elements such as insurance coverage, hospital practices, unemployment, poverty, and violence must be addressed. Healthy Start interventions must occur simultaneously with systemic changes that remove barriers to care.

Mr. Drummonds described six system transformation strategies used in central Harlem. First, through a direct-mail campaign, door-to-door campaign, and phone followup work, NMPP built a base at the St. Nicholas Housing Development, which became a living laboratory, or maternal and child health base area of public health and social service programs, built by community organization tactics. Second, NMPP partnered with Harlem Hospital to building the Harlem Birthing Center, which opened in September 2003. Third, the regionalization of perinatal care moved very sick babies to the best level of care. Fourth, the maternal and child health, child welfare, and early childhood systems of care were integrated when NMPP acted as a bridge between the systems to develop a perinatal focus to child welfare and early childhood practices. Fifth, development of a maternal and child health poverty strategy on a case level, city level, and national level addressed the fact that being poor is hazardous to women’s health. Finally, NMPP worked to develop a public health social movement through a maternal and child health lifespan organization.

Maternal and Child Health Lifespan Organization

A maternal and child health lifespan organization builds programmatic capacity at each stage of a woman's life to manage her health over the lifespan. If the organization is unable to build internal capacity, it must collaborate with outside agencies and systems to create an integrated system of care to manage women's health. Such an organization can respond to trends before they affect the target population. It also understands the role and importance of organizational or movement strategies. In addition, this type of organization has a deep appreciation for data analysis and research but also views practice as another means to produce theory. A lifespan maternal and child health organization is decentralized, which allows for maximum flexibility for leaders to experiment with new partners and use human and financial resources to produce improved results for mothers and babies.

Mr. Drummonds summarized his presentation by stating that successful community mobilization campaigns demand focused and determined leadership. NMPP defines leadership as the self-defined capacity to communicate vision and values while providing programs, structure, and core services that satisfy human needs and aspirations and transform people, organizations, and society in the process. To reduce infant mortality in central Harlem, NMPP built a social movement. Once HRSA invested in NMPP's ideas, NMPP had a responsibility to execute those ideas and produce results.

Discussion

The presentations from the Healthy Start communities prompted the following questions and comments:

- Dr. Hayes asked Mr. Drummonds about the role of demographic changes in the recent trends in child welfare cases. Mr. Drummonds responded that demographic changes definitely played a role in declines in child welfare placements and victimization rates as well as in infant mortality rates.
- In response to a question from Ms. Barnes about placement rates, Mr. Drummonds stated that the term refers to the number of children placed in foster care per 100 youth 17 and younger in the population. The term "placement of families" refers to the management of the health of families; the term is used because a service plan covers more than just children.
- Dr. Bronner praised the relational approach of the American Indian communities described by Mr. Haverkate and asserted that the rapid assessment, response, and evaluation (RARE) approach can result in the type of innovations described by Mr. Drummonds.
- Dr. Hayes commented that the theme of the presentations involved the consideration of all of the determinants of health. SACIM should be concerned that the assistant secretaries in HHS are not around the table during its conversations. Policymakers involved in the areas of economics, housing, child care, and welfare have the power to influence some of the determinants of health over the lifespan.
- Dr. Roberts asked Mr. Haverkate about the role of the Indian Health Service (IHS) in the Upper Peninsula of Michigan. Mr. Haverkate replied that the Intertribal Council

of Michigan works closely with IHS; however, some tribes have successfully embraced self-determination, which allows them to maintain, manage, and fund their own health care systems without the involvement of IHS. In response to a question about health care coverage issues, Dr. Judith Thierry (IHS representative to SACIM), who works in the States with tribal programs, stated that 90 percent of the maternal and child health population is covered by Medicaid for pregnancy and interconception care. She explained that IHS receives discretionary funds that are appropriated through the Department of the Interior and administered through HHS. Rescissions have affected IHS funding and left the agency with several unfunded mandates, in particular, those involving maternal and child health and youth populations.

- Dr. Bronner asked Mr. Drummonds to explain the success of NMPP. Mr. Drummonds credited his staff and board with giving him a great deal of freedom and latitude to try new strategies to reduce infant mortality. He also described Mayor Bloomberg as a results-driven leader. Ms. Mills added that Mr. Drummonds' leadership also has been a major factor in the success of NMPP.
- Dr. Wendy DeCoursey asked Mr. Haverkate to expand on some of the action goals decided on in the American Indian communities. Mr. Haverkate responded that the recommendations need further development and more specificity.
- Ms. Barnes asked Mr. Drummonds about commitment at the individual level and asked what sparked a shift in consciousness among the women served by Central Harlem Healthy Start. Mr. Drummonds referred to a video (*Collard Greens for the Ghetto Soul 2: Transforming Vision and Hope into Realty*) he distributed to all of the SACIM members that depicts the personal stories and motivations of women who decided to take charge of their economic, social, and health lives. Women of childbearing age in both rural and urban areas must be mobilized to effect changes in infant mortality rates. Mass communication tactics were used in Harlem to explain infant mortality, its impact, and what stakeholders must do to participate in the overall movement to prevent infant mortality.
- Dr. Hayes stated that individuals are motivated by their environments to make better decisions, for example, about breastfeeding and smoking. The Healthy Start programs reported on by Mr. Haverkate and Mr. Drummonds have been successful in creating environments that empower individuals to change their behavior. Ms. Rasheda Moore, a participant in the Central Harlem Healthy Start program, spoke about individuals being empowered to change. She urged SACIM to continue to push for change to improve individuals' environments.
- Dr. Roberts asked Mr. Drummonds about the use of nurse-midwives in the Harlem Birthing Center. Mr. Drummonds stated that the use of midwives was declining in New York City when the birthing center was in the planning stages. Because midwives were viewed as an important part of the clinical team, the Health and Hospital Corporation was convinced to allow them to be hired for the birthing center.
- Dr. Moore asked about the programs' encouragement of parental involvement on the part of fathers. Mr. Haverkate replied that his program attempts to make the entire family unit part of its system. It brings in male partners, for example, by holding baby powpows to honor the entire family unit. Ms. Mills stated that at the national level a proposal has been submitted to gain funding for a number of projects to implement

fatherhood/male involvement programs. Mr. Drummonds stated that, from its inception, Central Harlem Healthy Start encouraged the involvement of fathers. A male involvement consortium of governmental agencies, nonprofits, and local fatherhood programs has strategized about a system of care for fathers. The consortium has sponsored job fairs, organized fathers' rights forums, developed relationship workshops, and submitted a proposal to the city to develop a case management program geared to the needs of men. In addition, the Mankind Fatherhood Program encourages men to be faithful, healthy, and "there." Mr. Drummonds displayed a number of posters and flyers that convey the theme of male involvement.

PRECONCEPTION HEALTH AND HEALTH CARE: A LIFE-COURSE PERSPECTIVE

Michael C. Lu, M.D., M.P.H., Associate Professor, Obstetrics and Gynecology, Associate Director, Child and Family Health Training Program, University of California at Los Angeles

Dr. Lu explained that the life-course perspective is a way of looking at life, not as disconnected states, but as an integrated continuum. This contextual framework, or paradigm shift, recognizes that each stage of life is influenced by all of the stages that preceded it and in turn influences all of the stages that follow it. Closing the gap in racial and ethnic disparities in birth outcomes depends on recognizing the risk factors resulting from cumulative disadvantages and inequities over the life course of women and families. To improve pregnancy outcomes and reduce racial disparities, women and families must be cared for long before pregnancy begins. The life-course perspective entails two major components: early programming and cumulative pathways.

Early Programming

The early programming model posits that experiences early in life can influence one's health and function for life. The Barker hypothesis posits an association between low birthweight and coronary heart disease, hypertension, and diabetes. During sensitive or critical periods of development, fetal organs or systems are programmed to function over the life course. For example, under-nutrition in the second trimester of pregnancy, when the pancreas is developing rapidly, might result in a smaller-than-average, low-functioning pancreas, which might increase susceptibility to diabetes later in life. Over the past decade, a growing body of evidence has strengthened the notion of fetal programming as posited by the Barker hypothesis.

Recent research demonstrates that maternal stress results in stress hormones crossing the placenta and affecting the fetal brain. Dr. Lu explained the effect of these hormones in the fetal hippocampus and amygdala, sites of learning and memory and anxiety and fear, respectively. A growing body of evidence links maternal stress and anxiety during pregnancy to the development of psychopathologies, including attention deficit hyperactivity disorder (ADHD), in childhood.

Fetal programming also involves the phenomenon of epigenetics. Dr. Lu explained the role of methylation in turning off gene expression and the role of demethylation in turning on gene expression and related both to prenatal stress and fetal development. He also explained the way in which early nutrition can influence DNA methylation and cause epigenetic changes in offspring, with a lifelong, and perhaps even intergenerational, impact on health and development.

Another area related to fetal programming involves childhood overweight and obesity. Research has revealed a number of prenatal risk factors related to childhood obesity, including gestational diabetes, poor maternal nutrition, and maternal smoking. Dr. Lu used the example of gestational diabetes to explain the way in which biological mechanisms mediate these associations. Excess glucose can cross the placenta, causing the fetus to produce a large amount of insulin. Fetal hyperinsulemia during critical periods of development lays down excess fat cells, causes insulin resistance, and results in leptin resistance. By the time the child is born, he or she is predisposed to a lifelong struggle with overweight and obesity, which is exacerbated by the marketing forces behind a super-size, fast-food mentality. A preventive strategy includes prenatal action, that is, improved nutrition, smoking cessation, and blood sugar control.

Cumulative Pathways

The second component of the life-course perspective is cumulative pathways. The cumulative pathways model states that chronic stress, either psychological or biological, creates wear and tear on the body's adaptive systems, which over time causes a decline in health and function. Dr. Lu explained that a stress-induced fight-or-flight response is followed by relaxation, or allostasis, the maintenance of stability through change. Allostasis works well for acute stress, but not for chronic stress. In the face of chronic and repeated stress, an individual loses the ability for self-regulation. Chronic stress also depresses the immune function and makes an individual more vulnerable to infections like bacterial vaginosis, which can increase the risk for preterm labor.

Acute stress leads to increased cardiac output, increased available glucose, enhanced immune functions, and growth of neurons in the hippocampus and prefrontal cortex. In contrast, chronic stress can lead to hypertension and cardiovascular diseases, glucose intolerance and insulin resistance, infection and inflammation, and atrophy and death of neurons in the hippocampus and prefrontal cortex. Dr. Lu explained the difference between allostasis and allostatic load and demonstrated the eventual negative impact of the wear and tear from chronic stress on an individual's health and function.

Dr. Lu emphasized the need to rethink the causes and prevention of preterm birth. The sequelae of preterm birth are perinatal mortality and neurologic disabilities. Preterm birth is the leading cause of racial and ethnic disparities in infant mortality. Compared with a white baby, an African American baby born today is about 1½ times more likely to be born preterm and about 2½ times more likely to be born very preterm. The 2½-fold difference in very preterm birth contributes to about two-thirds of all African American infant deaths. Although preterm birth was once thought to be the consequence of some

precipitating event—either a stressful life event or an infection—researchers now hypothesize that the causes of preterm labor might predate pregnancy. Vulnerability to preterm delivery might be traced not only to exposure to stress or infection during pregnancy but also to the host response to stress and infection (e.g., stress reactivity and inflammatory dysregulation) patterned over the life course through early programming and the cumulative allostatic load. By the time prenatal care is started, it may be too little too late to prevent preterm birth. An important objective of prenatal care should be to optimize a woman’s health and restore allostasis in her systems before pregnancy. In addition, research shows that preterm birth might herald the development of chronic diseases, such as maternal ischemic heart disease and hypertension, later in life. Therefore, preterm birth is both a women’s issue and a children’s issue.

A Life-Course Perspective on Preconception Health and Health Care

Dr. Lu presented three points regarding a life-course perspective on preconception health and health care. First, preconception is a critical period for children’s health. Even early prenatal care is too late to optimize children’s health. Dr. Lu explained that, once a pregnancy has begun, it might be too late to prevent some birth defects, to prevent implantation errors, and to restore allostasis. He also described the importance of preconception care for men and the role of the placenta in fetal programming. Second, Dr. Lu made clear that preconception care is not a “quick fix” for women’s health. To repair the wear and tear from chronic stress requires a continuum of care over the life course. To promote preconception health, women’s health must be addressed long before preconception. Dr. Lu raised a question about the role of adolescent health as the precursor of preconception health. He added that sustainable development, human development, economic development, and community development must all be promoted across the life course. Third, Dr. Lu stated that preconception care is not a silver bullet for disparities in birth outcomes. A 12-point plan has been developed to close the racial gap in birth outcomes. Whereas the first four points focus on prenatal care and the second four points focus on community, the last four points (closing the education gap, reducing poverty, supporting working mothers and families, and undoing racism) go beyond the medical model to address the economic and social inequities that underlie health disparities.

Dr. Lu concluded his presentation by quoting John F. Kennedy and calling for “unwarranted optimism” in moving toward a life-course or ecological approach to solving public health problems such as infant mortality.

Discussion

Dr. Lu’s presentation prompted the following comments and questions:

- Dr. Hayes noted that people are beginning to embrace the ecological model. She asked about the 12-point plan and noted that SACIM has addressed a number of the issues listed there. Dr. Lu responded that the article on the life-course approach will be published in *Ethnicity and Disease* this year. He stated that he would forward copies of the article to SACIM members.

- Dr. Hannemann asked whether any retrospective attempt has been made to delineate or correlate dramatic changes in lifestyle or environment (e.g., women returning to work during World War II) with specific birth outcomes. Dr. Lu stated that this type of research, which is in its very early stages, is impeded by the lack of a database regarding clinical life-course measures. More and better research is needed in this area. Some European countries have longitudinal databases, and the National Children's Study will enhance the understanding of intergenerational birth outcomes. Dr. Hannemann mentioned mathematical modeling techniques that can facilitate the research in this area. These techniques could be used to delineate the most significant areas where data are available. Research is needed to uncover the reason for the recent increased incidence of ADHD and autism.
- Dr. Bronner noted that current funding structures work against the life-course approach because they prevent long-term planning. She also noted that the medical model is very deeply entrenched, and she asked what can be done at the local level to reverse the trend toward thinking only in terms of short-term interventions. Dr. Lu stated that clinical interventions are easy to implement compared with the difficulty of addressing systems and structural deficits. Leadership is needed to articulate a vision to move forward.
- Dr. Ryan thanked Dr. Lu for his emphasis on epigenetics. He added that pregnancy should be thought of as a physiologic stress test and asked about the degree to which birth outcomes are influenced by a woman's general physiological capacity to sustain a pregnancy. Dr. Lu noted that women can be exposed to biological stressors, nutritional stressors, and inflammatory stressors that can affect birth outcomes and fetal and childhood development. Potential environmental triggers and toxins also play a role in birth outcomes.
- Dr. Hayes mentioned the importance of the placenta, and she suggested that a representative from the chronic disease community be recruited to participate on SACIM.
- In response to a question from Ms. Frazier about bacterial vaginosis being a result of stress and a case of preterm birth, Dr. Lu called for focusing on the host factors and the environment as well as the agent in order to close the gap in preterm birth.
- Dr. Moore stated that parents are diligent about getting health care for their children at the elementary school level but youth between 13 and 17 years of age seldom see a doctor. Adolescents should receive better health care, and the public should be educated about the importance of adolescent health.

COMMITTEE BUSINESS: NEXT STEPS AND DISCUSSION

James W. Collins, Jr., M.D., M.P.H., Chairperson, SACIM

In the absence of any public comment, Dr. Collins opened a discussion about the next steps for SACIM. Dr. David S. de la Cruz noted that 10 members will rotate off the committee after this meeting and the other 11 will rotate off on September 30, 2008. If the next SACIM meeting is not held before September 30, 2008, the terms for the 11 members will be extended to allow for them to attend this last meeting. Dr. Hayes called for strategizing about the next cycle and expressed her concern that the new group should understand SACIM's commitment to the social determinants of infant mortality. She

called for the involvement of all of the assistant secretaries. Dr. van Dyck stated that the assistant secretaries do not attend meetings on a regular basis; rather, they attend, or send a staff representative to attend, if a meeting covers a topic that is especially related to their individual issues and interests.

Ms. Frazier asked about ways in which SACIM can bring policymakers together to be educated about the connections between their areas and the issue of birth outcomes and to translate that knowledge to the local level. Dr. van Dyck responded that the policymakers in question already know about the issues under discussion and interact with one another to address the problems.

Dr. Ryan asked about the strategy for dropping and adding SACIM members and the term lengths of the committee members. Dr. de la Cruz mentioned the recent decision to enforce the term limits and the subsequent large turnover that will result. The charter calls for 4-year terms that overlap on a 2-year basis, which will occur once the process gets back on schedule. Ms. Frazier expressed her concern with the loss of momentum, continuity, and knowledge as a result of 50 percent of the members leaving at one time. Dr. van Dyck remarked that, in the past, one-quarter or one-third of the committee rotated off every 3 or 4 years, so that more than half of the committee was retained with each turnover. However, during a change of administration, it took some time for new members to be vetted, resulting in a less than effective cycle. Terms should be staggered, but to do so means shortening terms rather than lengthening them. To ease the transition, new members will review the minutes and agendas. Current members also can write a 2- or 3-page thought piece as part of the new members' package. In addition, current members can make presentations to the new members as a way of orienting them to SACIM's work. Dr. Hayes and Ms. Frazier will work with Dr. de la Cruz on the new member orientation. The Secretary will decide who will chair the next SACIM meeting, which will probably take place before the end of the fiscal year.

Dr. Ryan asked about the nomination process. Dr. van Dyck explained that MCHB solicits nominations from organizations, universities, staff, and others in the community. A list that includes double the number of needed replacements is compiled and sent to the Secretary's office, where other nominees can be proposed. The Secretary selects the best candidates for the committee. Dr. de la Cruz added that the charter sets forth criteria regarding the selection process and representation on SACIM. The charter will be up for renewal on August 14, 2009, and changes can be proposed to the charter before that time.

The Surgeon General's Conference on Preterm Birth will occur June 16–17, 2008, at the Bethesda Marriott Conference Center in Rockville, Maryland. A multiagency committee is working on the conference, and, as a member, Ms. Badura is available for updates on the committee's work. Ms. Badura reported that SACIM's recommendations are being incorporated into the conference; for example, three work groups will be established on the basis of IOM and SACIM recommendations. Dr. Hayes suggested inviting SACIM members, both past and present, to the Surgeon General's conference.

Noting that the transition with new members will be the most important aspect of the next SACIM meeting, Dr. Collins took the following members' suggestions for other topics: adolescent health, followup from the Surgeon General's conference, new members' experience and interest related to infant mortality, geographic disparities in infant mortality rates, a broad overview of the data related to infant mortality, and review of the structure of HRSA.

Dr. van Dyck expressed his appreciation to the members leaving the committee and offered a special thanks to Dr. Collins as outgoing chair of SACIM.

The meeting adjourned at 2:20 p.m.

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