

**Building Bridges for Child Health Research, Policy and Practice:
New Concepts and Paradigms**

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Introduction

“The evolution of a progressive society is dependent upon the application of new knowledge to address its problems and challenges.”

Shapiro and Coleman, 2000, pp. 896

The knowledge base related to child health is expanding rapidly. Concurrently, there is an increased emphasis on evidence-based practice in both clinical and population health. The devolution of accountability for health policy, systems, and services presents challenges and opportunities related to the application of research findings for state- and community-level child health policies and programs. Meanwhile, the social and political context for child health in the U.S. shifts continuously.

For these reasons, the Agency for Healthcare Research and Quality (AHRQ), the Maternal and Child Health Bureau (MCHB), and the Women's and Children's Health Policy Center at Johns Hopkins University (WCHPC) convened an invitational meeting to explore venues for strengthening science-based practice and policy through greater integration of efforts. Partners in convening the conference included the Association of Maternal and Child Health Programs (AMCHP), the Academy for Health Services Research and Health Policy (AHSRHP), and the Association of Teachers of Maternal and Child Health (ATMCH).

Seventy individuals participated in the one-day forum held October 16, 2000 in Baltimore, MD. Appendix A lists the participants who reflected a balanced representation of 1) state MCH program directors and state agency collaborators, 2) child health researchers, 3) relevant federal agencies, 4) national professional and trade organizations, and 5) foundations with a tradition of interest in child health concerns. The meeting was solution-oriented, and drew on participant expertise to craft a multi-organizational action agenda to realize the goal of enhanced child health research and practice collaboration and integration.

Meeting Objectives

1. Promote new and strengthen existing collaborations between public maternal and child health leaders at the State level and child health researchers;
2. Engage in focused discussion of specific contemporary challenges in child health research, practice, and policy as these relate to organization of clinical care, community interventions, system structures, and organization of services on a population basis; and to
3. Identify barriers to translating research into practice and develop strategies for overcoming these barriers.

Recent attention has focused on what Ernest Boyer termed in 1990 to be the “scholarship of application.” (Shapiro and Coleman 2000) This translation of new knowledge into practical

applications to solve problems of individuals and society appears to take on new meaning as we continue to witness the intended and unintended consequences of social experiments such as managed care, or welfare families being penalized for failure to vaccinate their children (Minkovitz, Holt et al. 1999). In the September 2000 issue of *Academic Medicine*, authors Shapiro and Coleman emphasize the importance of Boyer's ideas while recognizing both incentives (such as availability of funding for applied research) and disincentives (such as limitations in methodology and lesser prestige) to promoting such scholarship (Shapiro and Coleman 2000).

Today, diverse fields increasingly promote the use of "evidence-based" medicine and "prevention science." Researchers and practitioners alike are challenged more than ever to close the distance between practice and science. Stuart Cohen notes in a recent editorial published in *Medical Care* the abundance of efficacy trials and, until recently, the relative lack of attention focused on what is effective in the short run or sustainable in the long run.

The ideas discussed throughout the day perhaps were not groundbreaking or revolutionary; gaps between science and practice exist also in fields such as psychology, physics, chemistry, and education (Buetler, Williams et al. 1995). On the other hand, several examples of application of child health research can indeed be found. Stoddard cites Robert Guthrie's population-based screening of newborn infants for phenylketonuria (Stoddard 1997, pp. 325). Gordon Berlin notes how research conducted by the Manpower Demonstration Research Corporation was used in the design of changes to the welfare system. Zill et al. note the influence of the Family and Child Experiences Survey (FACES) study on helping Head Start programs incorporate more family literacy efforts into their curriculum in the future (Zill, Resnick et al. 1999). These cases can be studied to generate models applicable to other fields.

Jeffrey Stoddard writes that public policy is determined by social forces (such as economic, market, as well as social and political factors that influence public and private decisions on resource allocation and use), existing regulations, and, as available and not in conflict with the previous two, research findings. He further notes, however, that research findings that are not readily adopted upon release "may have an influence years later when the social and political landscapes have undergone change." (Stoddard 1997, pp. 326)

And others point out that while research is cited to some degree during legislative debates, reference is made to such studies to a greater extent in Conference committees and among the House and Senate staff (Haskins 1991). It is important to ensure that social science research studies are used appropriately and not misinterpreted as part of the political process. As Haskins notes, "The tendency of politicians to use research selectively places a special responsibility on researchers who leap into the policy fray." (Haskins 1991, pp. 629)

Research related to health of pediatric populations occurs in or is sponsored by many federal agencies. These include the National Institute of Child Health and Human Development and other units of the National Institutes of Health (Stiehm 1996), the Centers for Disease Control and Prevention, the Substance Abuse and Mental Health Services Administration, the Health Care Financing Administration (renamed to be the Centers for Medicare and Medicaid Services),

the Agency for Healthcare Research and Quality (AHRQ, formerly the Agency for Health Care Policy and Research), and the Maternal and Child Health Bureau (MCHB, HRSA, DHHS).

The Title V¹ statutory structure is specifically designed based on the interdependence of research and MCH programming in the states. Gontran Lamberty explained this further, noting specifically studies on infant mortality conducted during the early 1920s and, four decades later, the health services research study published in 1962 under the title *Illness Among Children*. “The collection of descriptive statistics, conclusions, and recommendations in *Illness Among Children* was the driving force that led in the late 1960s to the federal legislation that created the Children and Youth Projects, a national program of comprehensive outpatient services designed to reduce ‘the lag in the health care of children from low-income, from nonwhite, and from rural families.’” (Lamberty 1996, pps. 4, 5) The Fourth National Title V Maternal and Child Health Research Priorities Conference was held in 1994 (Lamberty, Papai et al. 1996). For this conference, the federal MCH agency brought together a broad range of constituents in order to review the current knowledge base (through 18 background papers), comment on areas needing further research, and recommend priorities for a Title V research agenda into the next century.

In the context of this 1994 MCHB conference, the Association of Maternal and Child Health Programs (AMCHP), representing the state public health policy and administrative leaders of Title V and associated MCH public programs, articulated the priorities of the state programs with respect to research to include: enhanced dissemination; coordinated federal research programs (internally, and across federal research agencies); technical assistance and other supports to enhance opportunities for states to link with academic communities to develop partnerships for research and evaluation. Applied, multidisciplinary studies of state and local community populations was promoted in AMCHP’s platform, as well as expanded MCHB capacity for policy research and research on the implementation and management of public health programs and interventions.

In recent years, therefore, MCHB has implemented several additional initiatives for sharing sponsored research findings with the state health departments. MCH Research Roundtable Seminars that inform professionals about findings from completed applied Title V-supported research projects are broadcast nationally. MCHB also publishes newsletters dedicated to the application of findings from MCHB supported research (“MCH Research Exchange” and “Title V Today”).

AHRQ also seeks connections with public health leaders at state and local levels. Through its User Liaison Program public health research concerns and current needs for public health programming are identified, although these needs and concerns are not circumscribed to child health issues. Among the most recent AHRQ sponsored meetings specific to children have been the May 1997 conference regarding quality of healthcare for children (Halfon, McGlynn et al.

¹ In 1935, Congress enacted Title V of the Social Security Act, which authorized the Maternal and Child Health Services Programs. Today, Title V is administered by the Maternal and Child Health Bureau (MCHB) as part of the Health Resources and Services Administration, Public Health Service, U.S. Department of Health and Human Services. The MCHB is charged with the primary responsibility for promoting and improving the health of our Nation’s mothers and children.

1998), and the June 1999 and 2000 meetings, which reaffirmed the need to promote a child health services research agenda.²

Connections between federal level researchers and the public health agencies that steward policy and programming on a population level within states and communities are less evident. Researchers from the different traditions have convened at times with a special focus on children (DeFriese, Hersh et al. 1985). AMCHP and the Association of Teachers of MCH (ATMCH) have met concurrently annually for the past 15 years. A major intent of jointly convened annual meetings of these organizations has been to bring the two sets of professionals and fields together to explore national concerns and dialogue towards creating a shared agenda.

Confronting child health services research challenges specifically, as noted by DuPlessis and colleagues (1998), requires the expertise of the state MCH program leaders as well as those scholars who can integrate principles of children's health with traditional health services research methods and community based orientations (DuPlessis, Inkelas et al. 1998). Moreover, state MCH program leaders may provide necessary access to populations of children and their families, a growing proportion of who receive care from a mix of office-based practices and providers practicing in non traditional settings. While MCH agency organizational efforts intend to bring the fields together, barriers to optimal interaction persist.

The Meeting

The day of the meeting was carefully structured to present the current status of both child health research and the translation of findings into practice and policy. The intent of the morning's presentations and discussions were to prepare participants with a common set of ideas in order to articulate a vision for developing bridges between research, policy, and practice for child health. Knowledge of where the field stands provided a basis for defining the challenge and for continuing the journey towards solving the problems that exist therein. Examples of collaborations contributed possible strategies for linking research and practice. Working groups afforded meeting participants the opportunity to tackle these challenges further. The resulting thoughts and ideas were then reported out in plenary, and expressed in commentary.

Child Health Services Research: Accomplishments, Opportunities, Challenges and Strategies. Dr. Lisa Simpson³ presented information on accomplishments, opportunities, challenges and strategies within child health services research (CHSR). First she documented how research in the field of CHSR has resulted in new knowledge to improve the delivery of health care to children. Studies have shown, for example, the positive role health insurance plays in the number of visits children make for primary and specialty care, the equivocal effect managed care systems

² These meetings were held in conjunction with the Academy for Health Services Research and Health Policy and were cosponsored by National Association of Children's Hospitals and Related Institutions and the American Academy of Pediatrics. More information about these meetings is available on the AHRQ child health web page at <<http://www.ahrq.gov/child/>>.

³ Lisa Simpson, MB, BCh, MPH, Deputy Director of the Agency for Healthcare Research and Quality (AHRQ)

have on children's access to health care services, and the improvement of health outcomes for children who receive care in hospitals with a high volume of patients.

A review by Simpson and Fraser (1999) showed that there is no systematic difference in access to and use of health care services dependent upon type of managed care plan. However, little is understood regarding children's satisfaction with their managed-care-based health care, or access to and/or use of care within the managed care system by children with special health care needs (Simpson and Fraser 1999).

Outcomes research is defined by Clancy and Eisenberg as the study of the end results of health services that takes patients' experiences, preferences, and values into account, and is intended to provide scientific evidence relating to decisions made by all who participate in health care (Clancy and Eisenberg 1998). Such research has shown, for example, that hospitals with high volumes of patients have significantly better outcomes than those with lower volumes (Dudley, Johansen et al. 2000). Outcomes research delves into the many types of interventions that can and have been used to achieve the desired end results. In addition to clinical interventions, organizational, public health, and other interventions that are social, economic or educational in nature should be studied.

Another topic for research was first studied by Haggerty and colleagues in the early 1970s, with support from AHRQ, among others. The Community Child Health Studies assessed the impact of the organization of health care on health outcomes, specifically the effects of Medicaid on health behaviors, and the impact of the Rochester Neighborhood Health Center on children's hospitalization rates. There has been a rebirth of this type of research of late, in the form of the Child Health Insurance Research Initiative (CHIRI) grants, research on outcomes of referral patients in Medicaid, and the impact of regionalization and market forces on neonatal death, further expanding the knowledge base.

While much has been accomplished in child health research, Dr. Simpson noted that the tools and talent are available to accomplish even more. Databases are available from the Federal and State governments as well as private sources that provide large sample populations. AHRQ released planning grants for 19 primary care practice based research networks, three of which are pediatric networks such as Pediatric Research in Office Settings (PROS),⁴ providing another source of information. Opportunities exist for further training, provided to either institutions or individuals and funded through innovation grants, grants with a focus on minorities, or career development grants given by AHRQ, HRSA, the National Institute of Mental Health (NIMH) and foundations.

A major challenge for research is its translation into practice. Dr. Simpson quoted Congressman John Porter as saying "What we really want to get at is not how many reports have been done, but how many people's lives are being bettered by what has been accomplished. In other words, is it being used, is it being followed, is it actually being given to patients?... [W]hat effect is it having on people?" (1998) This is the basis of AHRQ's TRIPP (Translating Research into

⁴ PROS receives core funding from the MCHB, and project funding from multiple sources, including AHRQ and AAP. For further information, go to <<http://www.aap.org/pros/funding.htm>>.

Practice and Policy) program. Translation into practice focuses on ensuring that, for example, based on the research, appropriate services are being provided or quality is being improved

Dr. Simpson emphasized that information dissemination is an important precursor to translation. AHRQ has established several mechanisms for disseminating information, including the User Liaison Program (ULP) that is driven by states' interests, the National Guidelines Clearinghouse, and Evidence Report Partnerships. State and local health agencies make use, for example, of the Clearinghouse, Evidence-Based Practice Center Reports, and CAHPS (Consumer Assessment of Health Plans) information on SCHIP and Medicaid to support and improve their policies and practice.

The question remains, "How can we improve partnerships between research and communities?" For the future, changes are needed in public policy and the health care market and system that will enhance our ability to pursue the appropriate research questions and apply the findings in daily practice. "Users" of research have cited a focus on vulnerable subgroups as one of several issues where additional studies are needed. Focusing research on topics identified by the "users" who are faced with the challenge of translating the findings into practice may be a good first step towards achieving our goal of research informing action.

An Ideal Maternal and Child Health Research Enterprise. Dr. Gontran Lamberty⁵ contrasted the "Year 2010 National Health Promotion and Disease Prevention Objectives" with the "OBRA 89" revision of the Title V legislation. These two documents are the sources of responsibility and accountability under which the States and the central office of MCHB operate. From there he described an ideal MCHB research enterprise that would offer a platform from which to carry out the responsibility and accountability charges of these documents. He concluded his remarks with a plea for the States to be more realistic about payoffs in research and for them to seek changes in their organizational culture from "research aversive" to "research embracing."

2010 Goals and Objectives and OBRA '89. The Year 2010 national health objectives (U.S. Department of Health and Human Services November 2000) set an ambitious agenda that seeks to integrate the efforts of a vast cast of players with conflicting priorities. It requires that we adopt a proactive approach to the health of mothers and children by instituting a national planning process that assesses needs, coordinates resources, plans, executes, and monitors courses of action, and evaluates at set intervals the effectiveness of the courses of action taken. What the Year 2010 document explicates and requires is essentially what the OBRA '89 revision of the Title V legislation expounded a decade or so ago. Whether by design or coincidence, these two documents are very much supportive of each other. They are supportive in the proactive orientation they assume and in placing responsibility and accountability at all levels. The majority of the responsibility, however, seems to be placed on the State Health Departments and the Federal agencies charged with safeguarding the health of mothers and children, particularly the Maternal and Child Health Bureau.

Research often has been viewed as the instrument for solving the seemingly intractable maternal and child health problems that the Year 2010 and OBRA '89 documents have given the States

⁵ Gontran Lamberty, DrPH, Chief, Research Branch, Maternal and Child Health Bureau, HRSA, DHHS.

and the MCHB responsibility to ameliorate. A case in point is the current racial and ethnic differential in infant mortality. Differences have existed among the States and between the States and the Federal offices on how favorably this view of research is held. Differences also have existed on how to go about using research to inform service delivery and policy, and on what type of research the MCHB should be supporting.

Many in the service professions view research as a luxury, partly because they feel that research uses scarce resources needed to support services. Others see research as a necessity—one that requires a long-term commitment of resources and realistic expectations about payoffs. Without research, the complexities underlying most human problems might never be exposed, efforts toward solutions would be more likely to miss their target, and scarce resources would be expended with little or no payoffs.

Nowhere is support for the latter view of research more convincing than in the private sector, particularly in the high tech and biomedical industries. Today, as in the past, the world's most successful companies in these two industries spend a sizable part of their profits in research and new product development, and allow the investigative process within their organization to proceed reasonably unfettered. In addition, these companies have a more realistic long-term view of research than their less successful counterparts. They know that expansion of the scientific knowledge base through research does not materialize overnight, and that at the research project level the activities subsumed under them often do not produce more than small gains in knowledge. This measured approach to research keeps payoff expectations realistic. The realism, unbelievable as it may seem, fosters rather than hinders risk taking and the pursuit of excellence and innovation. Over time, these pursuits lead to the creation of new products, improvement of existing ones, and retention and expansion of markets necessary for surviving in today's competitive world economy.

Based on this example of the private sector, Dr. Lamberty's ideal MCHB research enterprise would have as a minimum three components: (1) an extramural research program; (2) a "knowledge synthesizing unit;" and (3) one or more MCH research and development laboratories.

The extramural research program, using the investigator-initiated approach, would focus on applied and basic MCH science research. The program would study such topics as: (1) cost-effective approaches for delivering integrated MCH services; (2) factors influencing the decision-making processes of patients seeking care; (3) interactions between the caregiver and patient during the health care encounter; (4) best practices for reaching out to program target populations and bringing them into care; and, (5) determinants of preventive health action behaviors such as those surrounding prenatal care, intended and unintended injuries.

The "knowledge synthesizing unit" would be engaged in conducting state-of-the-art assessments of the scientific knowledge base in areas relevant to MCH programmatic concerns, and would also act as the evaluator and synthesizer of the published findings deriving from the research funded by the extramural research component. A central role of this unit would be responsibility for mining existing Federal and private databases and special surveys. Keeping abreast includes the ability to detect emergent problems, being able to define the nature of the problems and, in

conjunction with the synthesized knowledge, to conceive the first iteration of “concept programs” that would be further developed and formally tested by the research and development laboratories.

The MCH research and development laboratories would undertake long-term, carefully integrated programs of health service delivery and research in preconceptional, prenatal, infant, child, and adolescent populations, including services for children with special health care needs. The laboratories further would develop the first iteration of concept programs conceived by the “knowledge synthesizing unit.” These first iteration concept programs would be modified in place per continuous evaluation in order for them to reach the prototype stage. Using experimental and quasi-experimental study designs to establish internal validity and generalizability, each prototype would then be tested formally at the MCH laboratory of origin and/or other health care delivery settings. Formal testing of prototypes could take place singly or as part of a larger effort. Prototypes that meet successfully the rigorous experimental and quasi-experimental evaluation conditions, and that, under the gradual lessening of experimental controls are seen to be effective and generalizable in real world organizational contexts, would be promoted for wide scale use in state, county and city MCH programs under a controlled demonstration initiative.

Dr. Lamberty contends that the ideal MCH research enterprise is doable and ultimately likely to be cost-effective. States would receive “a substantial piece of the pie” through Federal and State partnerships, and through the development of their own capability for conducting research and interpreting scientific research findings. States will have to create an organizational culture promoting rather than hindering scientific research and formal evaluation of the programs they administer. States would have to view research as a long-term investment whose payoffs will surely come, although at a lower rate of accrual than may be desired.

Research Can and Should Inform Public Health Practice and Policy. Picking up the thread of Dr. Lamberty’s assertions about the need for state MCH leaders to attend to science in the practice of their professional posts, Edward Schor, MD,⁶ noted the routine and frequent opportunities present. By reviewing a typical week’s work schedule of a state Title V Program Director, Dr. Schor highlighted several examples of how research can and should inform public health practice and policy. Scientific data ideally should lead to, for instance, new strategies for encouraging families to enroll their children in Medicaid and SCHIP, encouraging proper sleep position across child care settings to prevent SIDS, promoting fatherhood initiatives, and decreasing perinatal risk factors among minority women. Given the breadth of activities consuming the work week, it was clear from this presentation that timely application of research required that: 1) practitioners receive updates of latest scientific evidence in usable and digestible formats; and that 2) research be designed, in part, to address local needs. In particular, Dr. Schor highlighted the limited application of national statistics on children’s health to describe the health status and needs of local communities.

Dr. Schor outlined a paradigm contrasting public health practice with public health research in academia with regard to work activities, training, and relevance to public health.

⁶ Edward Schor, MD, Medical Director, Family and Community Health, Iowa Department of Public Health.

Domains	Public Health Practice	Public Health Academia
Work Activities	<ul style="list-style-type: none"> - Apply knowledge - Work directed by legislature - Data used for change - All work applied, needs to be effective - Programs may need to start quickly in absence of information - Depend on others to implement 	<ul style="list-style-type: none"> - Create new knowledge - Work guided by scientific inquiry and funding - Data used to understand what is happening - All work investigative, needs to be efficacious - Work builds directly on prior information
Training	<ul style="list-style-type: none"> - Great variability in training and SES 	<ul style="list-style-type: none"> - Highly educated and generally well paid
Relevance to Public Health	<ul style="list-style-type: none"> - Opportunity to make difference - Educate the public 	<ul style="list-style-type: none"> - Sometimes make difference in public health - Education of professionals

Notwithstanding the many differences noted between public health practitioners and academic faculty, several similarities with subtle distinctions were noted as well. Both researchers and academicians are subject to accountability; the former through public scrutiny and accountability, and the latter by peers and academic promotion committees. In addition, both serve as educators; public health workers often are charged with educating the public and may rely on marketing techniques to complete their assignments, while faculty are responsible for student learning and rely on more traditional methods of teaching. And finally, both public health practitioners and academicians are users of data with practitioners focused on data to change or evaluate programs and academicians relying on data to explain observed phenomena.

Partners in Prevention Study. Dr. Peter Margolis⁷ presented an example of a project involving researchers, policy makers and practitioners in the North Carolina area. The University of North Carolina aligned with several stakeholders to begin the task of improving the delivery of preventive health services to some of the state’s most needy children. The collaborative included such organizations as the Children’s Primary Care Research Group, the North Carolina Division of Medical Assistance, the North Carolina Office of Rural Health, and the North Carolina Area Health Education Centers.

As backdrop, Dr. Margolis outlined some of the difficulties that exist in the clinical practice of prevention in pediatric populations. These barriers fall into three general areas: patient-related barriers, practitioner-related barriers, and those related to the actual practice itself. Processes that could aid in addressing certain of those barriers include: establishing guidelines for care, the screening of charts and provider prompting of patients, tracking systems, counseling, and more actively involving patients in their care.

Dr. Margolis next briefly described the randomized controlled trial study, the goal of which was to evaluate the role of certain specified interventions on increasing the rates of preventive services in pediatric and family practices. The main hypothesis for the study was that the implementation of “office systems” would produce dramatic results in preventive services in

⁷ Peter Margolis, MD, PHD, University of North Carolina Healthcare System

those participating practices. The interventions were designed to circumvent some of the identified barriers to preventive services. The researchers measured rates of preventive services received, the processes of care delivery, and organizational factors such as practice, physician, and staff characteristics and culture.

The study encountered several challenges but ultimately, through the collaboration effort, was able to demonstrate that: (1) “office systems” approaches were feasible to implement and could be effective; (2) practice-based assistance blended quality management with continuing medical education; and (3) this effort could serve as a model for collaborative learning that involves practicing physicians, policy makers and academic researchers. This effort demonstrated that there are ways and means by which we can improve the outcomes of care for children and collaboration.

Longitudinal Study Research as a Collaborative Endeavor. Dr. Penny Hauser-Cram⁸ presented a second example of a collaboration integrating child health research and practice citing the Early Intervention Collaborative Study, a longitudinal study of children with developmental disabilities and their families.

In this study, data were collected from 178 children with Down Syndrome, motor impairment and developmental delay during infancy, toddlerhood, and ages 3, 5, and 10 years. Data are currently being collected at age 15 years. Although data on a wide range of constructs relating to child development and parental well-being have been collected, the presentation focused on a subset of variables, specifically mastery motivation, cognitive performance, mother-child interaction and parent stress. The results indicated that children who had higher levels of mastery motivation and whose mothers had more positive levels of mother-child interaction at age 3 (the time of departure from early intervention services) showed stronger cognitive development over the middle childhood period. Discussion focused on the way in which children who are more highly directed by adults become less self-directed and thus diminish their problem solving ability. In terms of parent well-being over time, results based on parent reports indicate that stress was within normative levels for both mothers and fathers during the infant and toddler years. Stress of both parents increased significantly during the middle childhood years, with levels of paternal stress exceeding those of maternal stress. Discussion focused on the value of early intervention and school-age programs for children with disabilities understanding the needs of fathers and paying attention to parental adaptation during the school-age years.

Collaboration was central to the success of this project and was essential at several key points including the project’s inception and during children's transitions from one service system to another. Further, collaboration was beneficial for acquiring a range of perspectives about the study results and a broad base for dissemination of study findings. Collaboration occurred with policymakers in the Massachusetts Department of Public Health, early intervention service providers, public school teachers, advocacy organizations, and parents. The parent advisors to this project had children with special needs only slightly older than those in the study. Therefore, parents provided reflection on and elaboration of the study findings and assisted in anticipating the important questions to include during the next phase of the study. The collaborative efforts taken within this project also stimulated further collaboration with agencies

⁸ Penny Hauser-Cram, EdD, Associate Professor of Developmental Psychology at the Lynch School of Education at Boston College

not initially involved. For example, the findings on the relation between mastery motivation (measured during the preschool years) and children's later development prompted a series of discussions with individuals in the Massachusetts Department of Education Bureau of Early Childhood. Those discussions resulted in collaboration in the development of a series of workshops held throughout the state for preschool teachers which focused on ways of encouraging children's mastery motivation and self-agency.

In conclusion, a collaborative stance is essential to facilitate the research-to-practice relationship. Because collaborators are good consumers of research, it is important for stakeholders to develop a sense of ownership early in the collaborative process. Collaboration around dissemination often results in a national and regional approach. Regional and local meetings are important (and often overlooked) ways of disseminating information. Dr. Hauser-Cram emphasized that collaboration, although difficult, is necessary to ensure that meaningful questions are studied, a range of perspectives are included, and a deeper understanding of the research is achieved.

When Research Makes a Difference: A Case Study. Mr. Gordon Berlin⁹ drew on examples of MDRC's research projects to highlight how "timely findings based on convincing research methods, employed by an organization regarded as impartial, and lucid, persistent presentation" can be used to make a difference in the realms of policy and practice. MDRC is a research and demonstration intermediary organization that tests new approaches to the nation's social welfare problems.

Elements of success for the research include a clear research question, for example, "What effect do mandates and incentives have on work, welfare, income, and children?" Mr. Berlin indicated that the results of research are successfully adopted into policy for several reasons, including: presence of a strong study design; results are reproducible across studies; results are policy relevant; results receive community, agency, and political buy-in; and, information is persistently disseminated. Results from the MDRC's Minnesota's Family Investment Program (MFIP) study were replicated in the study of Self Sufficiency Project (SSP), a demonstration program in Canada that began in 1992 in New Brunswick and British Columbia. Findings from MFIP and SSP both demonstrated that rate of employment, earnings and income rise, while poverty declines.

MDRC studied, for example, how children might be affected when parents transition from welfare to work. Negative effects may include parents' increased levels of stress from the job and having less time available for their children. Positive impacts on the children may include increased family incomes, reduced parental stress from the increased income, improved home or care environments, and provision of good role models.

For research results to have an impact on policy, the research must answer the policy relevant questions of what, how, and why. Research needs to have a "real world field test" component that demonstrates that the particular program, for example, is politically and operationally feasible. The research must be rigorously designed, with a large sample, and high quality data. Ownership in the results, in the form of community support, needs to be built. In other words,

⁹ Gordon L. Berlin, Senior Vice President for Work, Community, and Economic Security at the Manpower Demonstration Research Corporation (MDRC), New York, NY.

according to Mr. Berlin, “explain, explain, explain, and win the community over Contextualize and simplify the results, and actively disseminate the results without advocating for them.” He emphasized that model development is an iterative process and that small differences matter. Berlin made specific mention of the fact that it is possible to learn from failures. Further, he noted that replication is key.

A critical aspect of MDRC’s function and process is that it internalizes the traditional tension between operators (program managers and staff) and researchers. Operational issues are seen as MDRC’s problem, and are addressed before releasing the information in order to minimize the potential for challenges from the field that can distract attention away from the core message of the findings. Operational details, Berlin stressed, matter at all staff levels, including program directors, managers, and line staff.

Research conclusions must be clearly stated, and must differentiate between outcomes and impacts. Mr. Berlin used a simple example to illustrate this point. If Program A places 60% of its participants in jobs, but Program B placed only 30% of participants in jobs, Program A seems to be better than Program B. However, Program A may only have had a 10% differential impact beyond what occurs normally for the control population, while Program B had a 20% differential impact. Thus, the impact of Program B was greater than that of Program A.

In conclusion, Berlin stressed that information dissemination is a key aspect of translation from research into policy and practice. A media strategy for release should include stories and editorials in papers, radio, TV, and the trade press. All stakeholders should be targeted, including public interest groups, governors, and federal, state and local legislators.

Working Groups. Meeting participants convened in four working groups to outline an agenda for enhancing the use of child health research in MCH policy and practice. Group assignments ensured a balance of state MCH practitioners, researchers, and representatives from national organizations. Each group completed two tasks. First, each group discussed one of eight content areas identified as an urgent and emerging policy and program topic. Second, using this information, barriers were identified and each group identified specific opportunities for action as well as key players and/or constituencies who would need to be involved. Upon reconvening in plenary session, the working groups shared the results of their respective discussions, which identified several cross-cutting themes and potential improvement strategies. The perspectives shared during the working group sessions are reflected in the conclusion section of this document.

Concluding Commentary. Drs. Maxine Hayes¹⁰ and Modena Wilson¹¹ reflected on the day's presentations and discussions. Dr. Hayes highlighted issues regarding inclusivity in addressing child health issues, placing research issues and strategies in the context of how the health system is currently operating, and regarding the need to draw on what is already known about child health to address contemporary questions. She has served in leadership posts in both community health centers and State maternal and child health programs. Given this experience, she emphasized the need in future gatherings of child health researchers and program leaders to bring local health

¹⁰ Maxine Hayes, MD is the Health Officer for the State of Washington.

¹¹ Modena Wilson, MD is the Director of Committees and Sections at the American Academy of Pediatrics.

agencies and community health providers, health plan medical directors, and benefits managers into discussions about translating information to action. She further noted that a great deal of research on what constitutes the appropriate content of child health services has been conducted, and that defining research agendas to address the contemporary system structures should follow strategic synthesis of the existing evidence in this regard. We need not rediscover what is known, we need instead to better understand the application of that information at the community level, and with respect to health plan and care payment strategies. Further, Dr. Hayes recommended that we in the United States take a page from the international child health arena—that we pursue strategies guided by our intuition, as well as data.

With specific regard to data, Dr. Hayes pointed out that while national level data are plentiful, these data sets are not strategically designed to answer questions in the current context. Data routinely collected at the national level are difficult to combine in meaningful ways to provide the multidisciplinary perspective necessary to answer questions of child health. Moreover, these data are too rarely applicable to community populations. Information is needed from both public and private providers, but resources must be made available to support such data collection and reporting. Data collection further needs to reflect the composition of our country and communities; an example would be including more minority populations and providers in the Pediatric Research in Office Settings program.

Dr. Hayes proposed that a partnership of child health researchers, policymakers, and practitioners seize the opportunity this meeting provided to envision and pursue a well-focused research strategy. This strategy will need to view child health broadly in terms of health needs and consequent system challenges, but simultaneously provide results that are local and that can be applied by local constituents to community contexts.

Dr. Wilson challenged the group to recognize that the “bridges” connecting child health research, policy, and practice were in fact already present, though vastly underutilized. Constraints of time, costs, competing priorities, disparate goals among relevant stakeholders, and a history of unsuccessful collaborations were among the constraints identified as contributing to the “light traffic” on existing bridges.

Citing the recent editorial by Chris Collins and Thomas Coates, Dr. Wilson encouraged the cohabitation rather than divorce of science and health policy to improve public health (Collins and Coates 2000). Rigorous science should inform public policy and conversely, researchers, should understand the political implications of their findings. She further indicated that true collaborative efforts required that discussion among the players begin before or at the time relevant scientific questions are being identified and study designs are being selected. Waiting until results are available and ready to be translated to other audiences will be too late.

Dr. Wilson suggested that true collaboration among researchers, practitioners and policy makers would require mutual respect for two different types of questions. Researchers were characterized as favoring tightly defined scientific questions and relying on longitudinal, costly, randomized study designs to provide the most precise scientific answers. Policy makers, on the other hand, were characterized as preferring questions relevant to a particular locale or subgroup of the population; as such, policy makers might prefer a quasi-experimental design and value

generation of more timely results to inform the question at hand. Dr. Wilson highlighted the need for researchers to remain autonomous but not isolated, and to seek the participation of community members and policy makers in identifying appropriate research questions. In turn, the general public, press, and policy makers share in the responsibility for translating findings and disseminating results.

Conclusions

During this meeting, a number of challenges were explored with respect to both enhancing the knowledge base related to child health and to translating what becomes known in ways that positively affect MCH policy and practice. Of particular concern to participants were research topics and challenges related to children's oral health and mental/behavioral health, and the wide range of issues specific to the population of children with special health care needs. Thorny research challenges for priority attention also were identified; these include school health, EPSDT, and care coordination services.

Each of the stakeholder professions and organizations represented at the meeting has a role to play in ensuring that current knowledge about child health and child health services is embraced by practitioners and policy makers. These same groups and individuals further can contribute to the development of new methods for studying the particularly complex research challenges specific to child health service delivery systems.

Researchers face many obstacles in developing studies that are practice- or policy-relevant. Many such barriers can be traced back to the rigors of the scientific method. The field of child health, like many others, is complex, involving a broad range of ideas, activities and individuals. This complexity makes it very difficult to define the specific questions that need to be answered. Within the community of child health, there is lack of consensus on the key research questions, indicators and outcomes. Also, the scientific paradigm often limits the pace of knowledge acquisition, with findings becoming available long after policies have been voted on or programs have been put into place. Further, the simultaneous involvement of multiple agencies or implementation of multiple interventions presents methodological challenges in systems level research.

Strategies to address the concerns identified above that emerged from the day's discussions involve enhanced communication venues, alleviation of structural barriers, and research methods development. Conferees noted that the child health research agenda needs to be formed collaboratively and to be focused, concentrating the energies of government agencies, foundations and researchers. The specific knowledge-base issues addressed should be prioritized with end-users in mind. In order to ensure that studies with the right ingredients/formula are undertaken, review panels need to include all relevant stakeholders. Given especially the current political culture emphasizing devolution of accountability from the national to more local levels, state and community child health leaders and families should be viewed and used as key participants in these processes.

Moreover, making all of the above a reality requires modifying the structures and processes of the academic paradigm. Faculty incentives in schools of public health and graduate training programs need to value the application of research to practice. As students enter doctoral and other programs of advanced study, their curriculum must emphasize these priorities as well. It will be especially important that academic deans embrace the goal of enhanced links between science and practice in children's health. In addition, agencies funding doctoral training can contribute by creating incentives and programs to foster development of a new type of academic researcher. Matching students with professionals in public health practice as research mentors and targeting dissertation grants to practice-related research topics were proposals in this regard.

Dissemination of knowledge once acquired is fundamental to a forward agenda. Practitioners and policy makers experience information overload, and a lack of consensus regarding the locus of responsibility for translation persists. The creation of "translation centers" might circumvent certain of these thorny issues, with groups of end-users consulting on the most useful/helpful means to communicate the findings. National professional organizations can play a key role. Requirements for inclusion of translation and dissemination plans as deliverables in research projects was identified as an important tool of funding organizations. Finally, joint conferences among national groups, professional organizations, and others should be pursued on a frequent and ongoing basis to enable enhanced interaction of child health research, policy and practice over time.

The goal of this meeting was to enhance child health research and practice collaboration and integration. Participating organizations and individuals expressed interest in implementing the strategies identified herein. Their commitment will be evidenced as the convening organizations develop specific concrete action steps to implement the recommendations articulated on October 16, 2000.

Appendix

Building Bridges for Child Health Research, Policy, and Practice: New Concepts and Paradigms

Johns Hopkins University ☪ Women's and Children's Health Policy Center
October 16, 2000 ☪ Baltimore, MD

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