

Editorial

Integrating Child Health Information Systems

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We believe that health and health care can be improved by the timely provision of accurate, patient-centered, effective, and comprehensive information. In both the health service and public health arenas, however, information often is not timely, is usually fragmented, and is often categorical in nature. The consequences are seen in missed opportunities for preventive services or health promotion activities, patients lost to follow-up, errors in medications, and duplicative provision of services because of lack of information. Many things are happening now in the development of information systems to support both health care services and public health services for persons of all ages. This supplement is an opportunity to summarize the unique informational needs for children's health care and some of the recent progress toward developing integrated child health information systems at the state and local level.

Informational needs about children's health status are different from those about adults' health status. Particularly in infancy and early childhood, children have frequent contacts with both the health care services and public health systems for health promotion, preventive (eg, immunization), and therapeutic interventions. They are growing and developing rapidly and might frequently change health care providers. The necessity to monitor their development makes it essential that all health providers have access to comprehensive information. The immunization schedule is quite complex and changes frequently. Additionally, the dosage of medications for children typically is based on weight and may be very difficult for health care provider staff to remember. Consequently, having an information system that, in addition to summarizing the child's medical/health experiences, can also provide guidance on age-based normal ranges, immunization schedules, alerts for periodic screening (such as vision screening), dosing of medications, and care coordination information between health care providers or between public health programs, such as newborn

screening and the child's health care provider, would be very helpful.

A number of clinical information systems have been developed and many of them can bring together information from a variety of sources (eg, nursing, pharmacy, laboratory, radiology, physician notes). In the public health arena, a number of separate (often program specific) child health information systems have been developed. Some examples include immunization registries and information systems supporting newborn dried blood-spot screening and early hearing detection and intervention. Very few child health information systems, whether in the clinical or public health arena, currently can communicate with another. Integrating child health information systems would enable authorized users of information (parents, providers, programs) to see "at-a-glance" comprehensive information about a child's health status and health needs.

Several national initiatives are underway to develop comprehensive health information systems. The National Health Information Infrastructure (NHII) has a global view, encompassing clinical medicine and public health, as well as providing information to individuals. The Public Health Information Network (PHIN) is a standards-based approach to the public health component of NHII. The eHealth Initiative aims to drive improvement in the quality, safety, and efficiency of health

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care through information and information technology and has the support of many key private health care, public health, and technology organizations. The appointment, in May 2004, of a National Health Information Coordinator in the Office of the Secretary of Health and Human Services underscores the level of national attention to developing integrated health information systems in this country.

This supplement of the *Journal of Public Health Management and Practice* includes articles that collectively provide a snapshot of the evolution and current status of integration of child health information systems, with particular emphasis on public health activities. The first two articles describe the history of two initiatives in developing integrated child health information systems, one governmental (supported by Maternal and Child Health Bureau, Health Resources and Services Administration) and the other nongovernmental (supported by The Robert Wood Johnson Foundation). Following the realization that they were pursuing the same goals, these two initiatives have worked together very closely. The next several articles summarize the current status of integration, lessons learned, and principles and functions of integrated child health information systems. Following descriptions of differing perspectives on integrated child health information systems, there is a description of how a Community of Practice can facilitate the sharing of lessons learned among state and local integration projects. Three case studies are then presented describing different aspects of integrating child health information systems at a state public health agency, a local health department, and a community nonprofit organization.

Activities to develop information systems in both clinical and public health arenas have similar objectives but are proceeding, to a certain extent, independent of one another. To foster development of a shared vision of integrated child health information systems and an action plan to develop them, All Kids Count hosted an invitational conference "Developing Child Health Information Systems to Meet Medical Care and Public Health Needs" in Atlanta, Georgia, on December 3–4, 2003. An article in this supplement of *JPHMP* summarizes some of the background information presented at the conference, as well as the recommendations made by conference participants. Finally, a vision is presented of the near-term future of integrated child health information systems and what the major tasks are for the next 3–5 years.

There are many different strands coming together around integration of health information systems in general. Because of the special circumstances and needs of children, we believe it is both important and timely to highlight issues around integrating child health information systems.

We think this issue will be a useful reference for those who are involved in integrating child health information systems or contemplating integration. The issues faced in integrating child health information systems are likely to be the same as those faced in integrating health information systems dealing with adults. We hope the lessons learned and presented here will help others avoid having to learn the same lessons again and will encourage states and local health departments to move forward on efforts to improve information systems for children.