Using Technology to Promote On-Time Vaccination

Population Health Sciences

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This blog post is adapted from a recent commentary by Dr. Alex Fiks in *JAMA Pediatrics*. Find the original commentary here.

Through the promotion and adoption of electronic health records (EHRs), health information technology is increasingly available and able to support the delivery of high-quality health care. With nearly 80% of pediatric practices having adopted EHRs, physicians can now use EHRs to support preventive care and disease management. As we have written before, the Federal Meaningful Use (MU) Program guidelines will allow physicians to use EHRs not only to capture data, but also to use these data to drive improvement of health outcomes.

In particular, EHRs hold promising value as tools to trigger reminders to clinicians and families to support on-time vaccination. In a previous blog post, PolicyLab researchers discussed overcoming barriers to vaccination, specifically HPV vaccination, by supporting primary care providers through education, EHR vaccine alerts, and feedback on missed opportunities. By using the HPV vaccine as a case example, the blog post demonstrated that vaccinations are a prime example of a health intervention that can use EHRs to improve outcomes.

Even before widespread use of EHRs, pediatricians captured vaccine data as a set of discrete doses, dates, and lot numbers. Moreover, public health laws in many areas mandate the sharing of vaccination data, overcoming barriers posed by the Health Insurance Portability and Accountability Act. Immunization information systems, formerly known as registries, have been implemented in all 50 states, though the quality of these registries varies.

In the current issue of *JAMA Pediatrics*, Kempe and colleagues conducted a randomized clinical trial at the county level. They targeted families of more than 18,000 children, comparing traditional practice-based vaccine reminders through telephone or mail versus multiple telephone and mail reminders delivered centrally by health departments working in collaboration with practices and using the Colorado Immunization Information System as a data source. The study found that those who received the collaborative centralized reminder not only had higher rates of vaccination, but also lower costs per child vaccinated. Of importance, vaccination rates were higher when reminder messages were specifically endorsed by a child's practice. For more on the results of the study and its limitations, see my commentary in *JAMA Pediatrics*.

With nearly 80% of pediatric practices now capturing data in EHRs, a remarkable opportunity exists to use these data to improve health outcomes. As the *JAMA Pediatrics* commentary demonstrates, in certain settings, especially ones where the interests of the practice and public health care systems coincide, collaboration with health departments or other outside groups may prove most effective. Even so, we must remember that as these collaborations develop, they benefit from building on existing relationships between families and clinicians.

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