Editorial

Immunization Information Systems

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Four articles on immunization information systems are being published ahead of print by the *Journal of Public Health Management and Practice.* Three of these articles are related to findings of a recent systematic review by the Community Preventive Services Task Force. A fourth article, from the Centers of Disease Control and Prevention, by Daniel Martin "Immunization Information Systems: A Decade of Progress in Law and Policy" is a study of laws, regulations, and policies governing Immunization Information Systems (IIS), also known as immunization registries.

A Community Guide systematic review, "Immunization Information Systems to Increase Vaccination Rates," synthesized evidence from studies that evaluated IIS capabilities to (1) create or support interventions to increase vaccination rates; (2) identify patient vaccination status to inform health care decisions; (3) aid population-based responses to vaccine-preventable disease; and (4) provide other information relevant to vaccine administration and aid vaccine management. Review of 240 papers and abstracts demonstrated a positive association between IIS activities and improvements in vaccination coverage.

A companion article from the Community Preventive Services Task Force, "Recommendations for Use of Immunization Information Systems to Increase Vaccination Rates," concluded that there was strong evidence that immunization information systems are "effective in increasing vaccination rates and reducing vaccine preventable disease" based on the findings from 108 published articles and 132 conference abstracts.

Another Community Guide systematic review, "Economic Review of Immunization Information Systems to Increase Vaccination Rates," evaluated the costs and benefits associated with using these systems. IIS require funding for implementing and operating the system and providers and the IIS incur costs for data exchange. The benefits include reduced duplicative vaccination, improved vaccination coverage, fewer administrative burdens, and allocation of less public and private resources to administer vaccines. Economic evaluations, including those published in this study, are complex because of the speed of technology change, including growing use of electronic health records. Although IIS functions and features and available technologies continue to expand, it is anticipated that benefits to providers, public health and the general population will outweigh costs associated with these advancements.

In addition to traditional immunization partners such as vaccination providers and schools, the rise in electronic data exchange and other technologies has expanded the number and type of entities interfacing with IIS (eg, health information exchanges, pharmacy networks, etc). In addition, federal agencies such as Centers for Medicare and Medicaid Services and Office of the National Coordinator, which support the management and execution of Meaningful Use initiatives, are interested in IIS capacity to support clinical and public health data exchange. Expanded stakeholder involvement in IIS has increased the need for standardization of both IIS operations and technical capacities. Publication of HL7 implementation guides for immunization messaging, Clinical Decision Support for immunization guidelines, and the adoption of 2-dimensional barcode technology for recording vaccination information in electronic health records and IIS are examples of standardization movements. The adoption and implementation of such standards only serves to further increase the number of IIS stakeholders and the ability of these partners to use IIS information to benefit the health of the public.

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The author declares no conflicts of interest.

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DOI: 10.1097/PHH.0000000000000111

Begun in the 1970s, IIS now operate in all but one US state and most serve children, adolescents, and adults. The articles now being published demonstrate substantial progress in participation of patient and immunization provider in IIS and enhanced system functionalities that serve a broad set of immunization stakeholders. As new technology develops, standards for data exchange and data use are established and implemented, and IIS stakeholders expand, the effectiveness of IIS to serve the immunization needs of clinicians, public health, the general population of all ages will also increase.