

Developing Performance Measures for Immunization Registries

One of a series of case studies on strategic application and management of health information systems.

Information systems are important tools for protecting and promoting the health of individuals and communities. Because acquiring, implementing, and maintaining a health information system requires considerable investment of both monetary and human resources, public health agencies and health care organizations ultimately must be able to measure the impact of these systems. Performance indicators are an integral part of a results-based accountability system.

Performance indicators enable stakeholders of an information system—policymakers, funding agencies, users, and the organizations and programs developing the system—to assess progress towards the achievement of intended outputs, outcomes, goals, and objectives. Because information systems are often implemented incrementally, indicators that are measured regularly provide important feedback that can be acted upon to improve current program operations, as well as to inform the design of subsequent stages of the information system implementation.

Challenge

In 1998, All Kids Count, a program of The Robert Wood Johnson Foundation charged with fostering development of immunization registries, developed performance measures for registries as one method of monitoring their progress. At that time, the All Kids Count National Program Office oversaw 16 state- and community-based registry projects that had been awarded grants and were working toward the goal of becoming fully operational by January 1, 2000 (defined as having 95% of children aged 0-2 years in the registry with immunization histories and 90% of providers participating).

Previous evaluation efforts for immunization registries were predominantly descriptive and process-oriented. Quantitative indicators were successfully being used in many public health departments to measure progress on programmatic outcomes such as immunization coverage. However, most programs, including immunization registries, had not developed and

tested indicators for their information systems. All Kids Count sought to answer three questions: Which indicators can measure immunization registry operational progress and immunization coverage progress? Are the indicators valid across the 16 All Kids Count projects, given the wide range of registry models being implemented? Can other immunization registries also use the indicators used by All Kids Count projects?

Solution

All Kids Count convened a meeting of registry grantees in August 1997 to discuss the concept and utility of developing quantitative performance measures for registries. Through a series of facilitated meetings, the group reached agreement about the value of developing a set of indicators, outlined areas that could be measured, and produced a draft of proposed indicators and definitions for measurement. The measures were refined by the group and pilot tested in June 1998. After the pilot test, the indicators were further modified to a final set of

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eight indicators that was used through the duration of the program, which ended in June 2000. The eight indicators measured registry development in four broad areas: database maturity (comprehensiveness and completeness of data in the system), timeliness of data capture, provider participation, and immunization coverage levels.

Impact

The All Kids Count immunization registry indicators project showed that indicators can be used to measure progress of an individual registry, that some indicators results can be compared across projects, and that the indicators used by All Kids Count projects can also be used by other immunization registries, that is, they can be widely adopted. Results of the project were published so that other information systems projects could learn from this effort.¹

From the individual and aggregate data provided by the indicators, All Kids Count and the registry community gained understanding of the barriers to, and solutions for, providing immunization registry data that are comprehensive, complete, and timely; ensuring provider participation; and increasing coverage levels. With this information, All Kids Count staff was able to better target technical

assistance to grantees to improve their registries. All Kids Count immunization registry projects that participated in the indicators project received valuable feedback that enabled them to better understand opportunities for improving aspects of their operations and technical tool. Participation also enabled registry managers to learn from those whose performance measures ranked them among the most successful. In effect, performance measures became professional benchmarks.

Conclusion

The All Kids Count performance indicators project demonstrated the value of performance indicators to show progress towards an information system's stated goals and to guide an organization's efforts to refine its operations and public health programmatic impact.

Performance indicators enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals, and objectives.

Building on this approach, the Public Health Informatics Institute began working with the Genetic Services Branch, Maternal and Child Health Program, Health Resources and Services Agency in 2002 on a similar project. Stakeholders of integrated child health information systems (defined as systems that integrate newborn dried blood spot screening systems with immunization registries and newborn hearing screening systems) have developed core principles and functions for integrated information systems and are developing performance indicators that measure the ability of these systems to perform those principles and functions. The information provided by the measures will guide the development and use of state child health information systems by focusing on the most relevant program outcomes.

Notes

¹ Saarlas, K. N., Edwards, K. C., Wild, E., & Richmond, P. (2003). *Developing Performance Measures for Immunization Registries*. *Journal of Public Health Management and Practice*, 9(1), 47-57.



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