



# Building Technology Capabilities to Aggregate Clinical Data and Enable Population Health Measurement

## *Learning Guide Executive Summary*

A variety of provisions included in the Affordable Care Act (ACA), as well as similar efforts in the private sector, are promoting provider accountability for the cost and quality of care delivered to a population of patients. With the goal of developing a more complete view of patient health and care, several Beacon Communities invested in new technology capabilities to enable clinical data aggregation and population health measurement. This Learning Guide distills the experiences and lessons learned from six Beacon Communities<sup>1</sup> as they set goals, engaged community partners, invested in a technology infrastructure, and developed a strong foundation for measuring and improving population health. This Guide is designed for communities and learning collaborative organizers that are interested in aggregating and using data from multiple sources to improve the health of populations of patients.

While there is no standard definition for *population health*, the definition used in this Learning Guide is “the level and distribution of disease, functional status, and well-being of a population or all the inhabitants of a given geography.” Population health *measurement* uses tools to analyze data about care provided to patients and clinical outcomes and to predict future health events and outcomes (‘predictive analytics’). Physicians and other care givers can use this information to create and implement patient intervention strategies that target high risk patients, with the goal of reducing the risk of a potential negative health event, ultimately helping to improve health outcomes and “bend” the health care cost curve.

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**A Learning Guide describes a promising IT-enabled intervention that can be deployed in a community to accelerate health care transformation.**  
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<sup>1</sup> The six Beacon Communities who contributed to this Learning Guide are: Bangor Beacon Community (Maine), Colorado Beacon Consortium, Crescent City Beacon Community (Louisiana), Greater Cincinnati Beacon Collaboration (Ohio), Tulsa Beacon Community (Oklahoma), and Southeast Minnesota Beacon Community.

## Inside the Learning Guide

**Setting the Stage for Success.** As communities consider developing and implementing population health measurement activities, they need to examine how prepared they are. The Beacon Community experience has shown the importance of several foundational elements that supported success, such as strong leadership, vision and project goal alignment, and technical capacity to implement the analytics necessary to measure population health. Communities with a history of collaboration, strong leadership, and an existing understanding of their high-priority population health challenges are well-positioned to take on the objectives enumerated in this guide.

**Lessons from the Beacon Community Experience.** Six Beacon Communities provided in-depth information about their experiences measuring population health through the aggregation of clinical data for this Learning Guide. These communities are located in a wide range of markets, including densely populated communities with multiple large physician and hospital organizations as well as less populated areas with fewer and smaller physician and hospital organizations. The lessons from the contributing communities are organized into five Strategic Objectives:

### 1. Build collaboration, consensus, and commitments among key stakeholders.

Buy-in, a feeling of ownership, and commitment by the leadership of each stakeholder organization are critical for successfully creating the technology capability to enable population health measurement. Achieving this requires consensus about the community's goals for improving population health and a clear understanding of the technological and financial feasibility of the program for each stakeholder organization. This section focuses on engaging community stakeholders and building consensus around population health measurement goals.

### 2. Identify and engage data sources and owners to obtain access to required data.

Although high-level strategic stakeholder engagement and planning is essential, tactical work is needed to access the data needed for measurement activities. This section discusses the importance of identifying data elements and sources, ensuring appropriate data sharing agreements are in place, and engaging data owners.

### 3. Design and implement data access, transmission, and analytics processes.

Once a community has selected the vendor and IT solutions, the work to build the data extraction, exchange, storage, and analytics capabilities can begin. Communities often engage in pilot efforts to ensure that the technical architecture meets all data extraction and transmission objectives and can be rolled out across the community. This section addresses how to develop and prioritize vendor selection criteria, determine product function and scope, and implement analytics capabilities to support measurement goals.

#### **4. Continuously monitor and improve data quality.**

Monitoring data quality is important to ensure that incoming data used for population health measurement are reliable, accurate, and actionable. Population health measurement initiatives should incorporate an ongoing monitoring process that can be adapted to new measures and use cases. This section focuses on developing a process for continuously monitoring data quality, building a feedback program to communicate findings, and resolving data quality issues at their source.

#### **5. Develop and implement reporting on population health measures.**

While implementing the infrastructure, a community must also undertake the development of their reporting program. Depending on the community's population measurement goals and access to data, reporting can be directed to a variety of audiences with varying levels of granularity. Users should provide input on report design as well as on training for how to access and use reports. This section focuses on creating reporting tools and templates, determining reporting specifications and training programs, and developing the processes that will allow appropriate access to data and reports.

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The full Learning Guide is available at <http://www.healthit.gov/policy-researchers-implementers/beacon-community-program/learning-guides>