

INTRODUCTION

THE LEARNING NETWORKS GUIDE: BUILDING A LEARNING HEALTHCARE SYSTEM NETWORK

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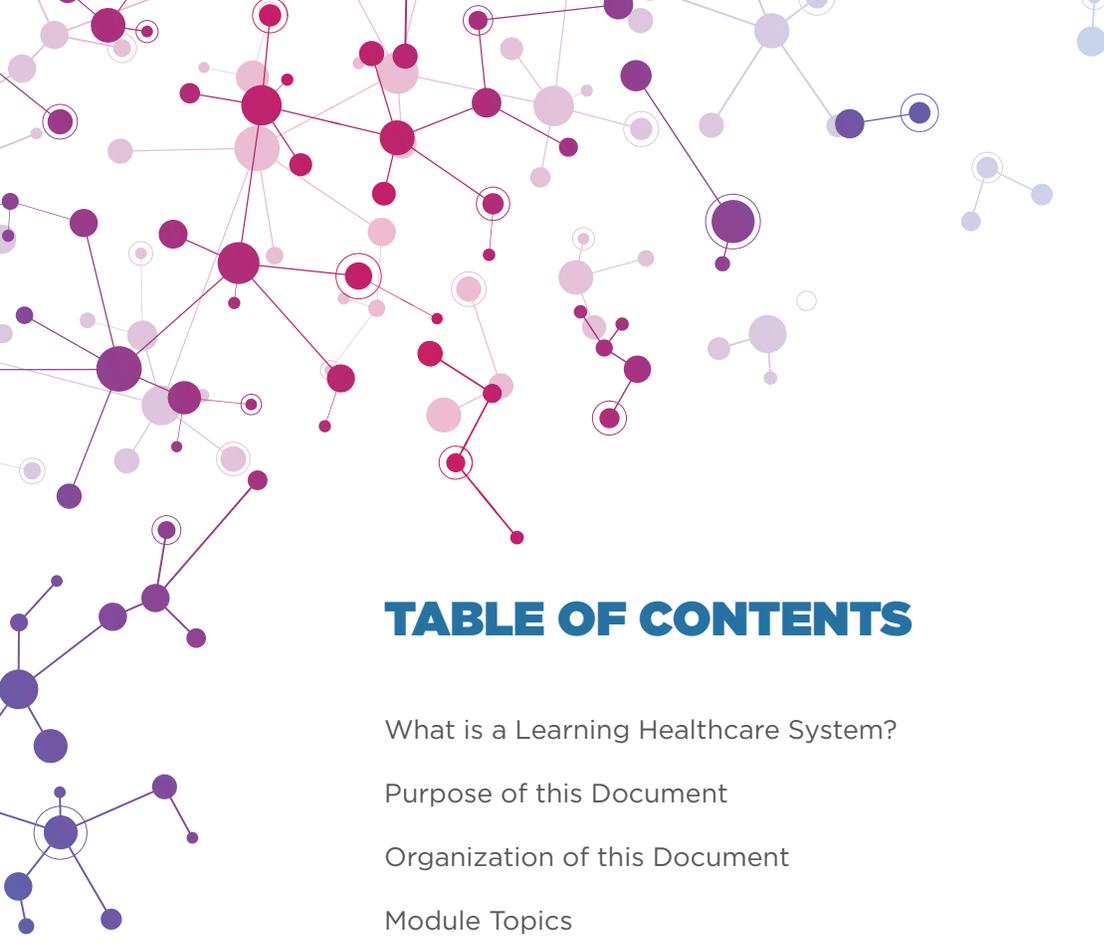


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WHAT IS A LEARNING HEALTHCARE SYSTEM?

The National Academy of Medicine describes a learning healthcare system (LHS) as one in which science, informatics, incentives, and culture are aligned for continuous improvement, innovation, and equity, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral byproduct of the delivery experience.

In a learning network, patients, families, clinicians, researchers and health system leaders work together across multiple sites to solve particular health problems, using data for clinical care, improvement, and research. Learning networks are considered by the American Academy of Pediatrics as one of the best ways to achieve population outcomes at scale. They are particularly important in pediatrics and rare conditions because of the limitations posed by having small numbers of patients at any one site.

Learning networks align participants around a common goal; use standards, processes, policies and infrastructure to enable multi-actor collaboration; and use a commons to create and share resources to achieve goals. The networks also act as “learning labs” for ongoing improvement and research, both on individual conditions and the learning network model itself.

PURPOSE OF THIS DOCUMENT

The purpose of this guide is to help organizations interested in developing a learning network progress from design and development, through network implementation and yearly cycles of improvement, toward ongoing network sustainability.

ORGANIZATION OF THIS DOCUMENT

The six individual components within this document are referred to as “modules.” Each module includes a high-level “how to” guide as well as other supplemental resources. The modules address 6 domains or capabilities that networks need to develop:

1. Systems of Leadership
2. Governance and Management
3. Financial Sustainability
4. Quality Improvement
5. Engagement and Community Building
6. Data and Analytics

These modules mirror the categories used in the Network Maturity Grid; a tool developed to enable networks to plan how to develop key network capabilities. The Network Maturity Grid is described in detail in Module 1: Systems of Leadership. Each module is organized around the life cycle of a typical learning network (see Figure below). Resources and examples are provided as appendices at the conclusion of each module. For information on how to access module appendices and tools, please contact learningnetworks@cchmc.org.



NETWORK MODEL

Learning Health System Network Model

GROW COLLABORATIVE NETWORK
Research, Innovation and Improvement Portfolio

Design and Development

One Year Cycles

Design Meeting(s)

Subject matter & application experts
(Patients, Families, Clinicians, Scientists)

Identify Outcomes that Matter

Develop Framework
Select Prototypes and Changes
Prioritize Research
Develop Measurement Strategy
Build Registry

Recruit Participants and Participating Organizations;
Orientation and On-boarding



Network Supports
Monthly webinars, Virtual Meetings, Email, Listserv, Social Media;
Improvement Coaching, Assessments & Monthly Reports

Commons Repository

Data Infrastructure

IMPROVEMENT AND RESEARCH PROJECTS

ANNUAL GOAL AND PRIORITY SETTING

IDENTIFY GAPS IN OUTCOMES

Ongoing Development of Network Infrastructure, Processes and Protocols

- Systems of Leadership —
- Governance and Management —
- Data and Analytics —
- Quality Improvement —
- Community Building and Engagement —
- Science —

MODULE TOPICS

An overview of specific topics addressed in each module is provided below:

Systems of Leadership

A central role of network leaders is to facilitate the alignment of all participants around the common goal of improving the outcomes of a defined population. Leaders ensure that the mission, vision, and values are defined and visible, are understood by participants, and are used to align and guide the network's activities. Module 1: Systems of Leadership introduces the organizational architecture of a network and the key activities for leaders of networks.

Governance and Management

Network management becomes the hub where all activities of design, implementation, and ongoing yearly cycles of growth and improvement inside a learning network meet. Effective coordination and organization of these activities can help the network go farther, faster. This module provides initial requirements and a set of strategies that can be used as the network grows to monitor the capability of the infrastructure to absorb new members and deliver on its promises.

Financial Sustainability

Financial sustainability refers to the ability of a learning health system to cover all its expenses and planned initiatives without requiring supplemental investments from a host institution or other entity that is not an official participant, funder, investor, customer, or donor. The purpose of the financial sustainability module is to provide direction and tools to new learning networks in the development of their business structure that will enable long-term financial sustainability. These materials serve as consulting guidelines for the development of new networks and can also serve as resources for existing networks to improve or expand their financial sustainability efforts.

Quality Improvement

Learning networks should adopt a quality improvement (QI) method for doing improvement work across multiple centers. In healthcare, the [Model for Improvement](#), developed by Associates in Process Improvement, is widely accepted. This module describes the components necessary to develop the quality improvement activities within a learning health system.

Engagement and Community Building

Learning networks facilitate collaboration at scale among all stakeholders, to coproduce the information, knowledge, and know-how for improving health, care, and cost. "Engagement" is shorthand for being involved in this coproduction in a learning network. Engagement applies to all stakeholders: patients/families, clinicians, researchers, administrators, payers, and others. This module develops a shared understanding of "engagement" in the context of a learning network, describes key elements and standard processes at the three stages of network development, and offers supporting tools to use in facilitating engagement of all stakeholders in a learning network.

Data and Analytics

Quality improvement is inherently data-driven work. Data are used to determine if outcomes are improving and if processes are working as intended. Thus, a strong data and analytics strategy is essential for achieving the network's goals. This module provides an overview of the key elements, processes, and personnel necessary for a robust data system to support a learning health system.



CONTRIBUTORS

The work of several organizations has informed the development of this guide including: the Anderson Center Learning Networks Program, Associates in Process Improvement ([API](#)), and the Institute for Healthcare Improvement ([IHI](#)). The following individuals edited the various sections: Sandra Fuller, Christina Harding, Kristin Howe, DC, Peter Margolis, MD, PhD, K-T Overbey, Anne Paul, David Purcell, PhD, and Michael Seid, PhD with support from Jalea Stowers-Grimes and Jill Schlabig Williams.

THE ANDERSON CENTER LEARNING NETWORKS PROGRAM

As part of its work to speed and spread improvement in pediatric healthcare, the James M. Anderson Center for Health Systems Excellence (Anderson Center) builds and supports sustainable, collaborative learning networks. To date, researchers within the Anderson Center have launched a total of 11 learning networks focused on different health conditions and achieved substantial improvements in outcomes. Most of the resources and examples provided in these modules were developed by or for these learning networks. [The Anderson Center Learning Networks](#) webpage lists these learning networks and provides links for further information. As of May 2019, the program has grown to encompass 639 teams across 293 pediatric care organizations in 43 states, Washington, DC, and five countries. [Learn More](#).

In addition to its Learning Networks Program, the Anderson Center offers [educational programs](#) to train researchers and healthcare leaders to become change agents and innovative thinkers as well as opportunities to visit Cincinnati and learn directly from its teams through its [knowledge sharing program](#).

