Shared Commitments for Health and Health Care:
A Trust Framework from the Learning Health System

J. Michael McGinnis, MD, MPP, National Academy of Medicine; **Harvey V. Fineberg, MD, PhD,** Gordon and Betty Moore Foundation; and **Victor J. Dzau, MD,** National Academy of Medicine

December 16, 2024

Introduction

The 21st century has already experienced stunning developments in biomedical science and medical care, ranging from heralded advances in genomic science and informatics technology to influential improvements in the prevention, treatment, and management of chronic diseases (e.g., heart disease, stroke, diabetes, and cancer) and infectious diseases (e.g., HIV, COVID-19, and mpox). On the other hand, achieving the full potential for progress from these breakthroughs has been thwarted. Advances in discovery and etiologic understanding have simply not translated into overall health system performance gains or superior health outcomes that would be expected and should have been achieved. These persisting performance deficits reflect both the inability to overcome systemwide fragmentation in the development, financing, and provision of services, and the delays in advancing the generation and application of actionable evidence. An especially key factor is the impact of profoundly misaligned incentives that shape how individual and population health are valued, prioritized, financed, and improved.

At the turn of the century, the National Academy of Medicine (NAM, then the Institute of Medicine or IOM) in coupled reports, *To Err is Human* and *Crossing the Quality Chasm*, called attention to surprising shortfalls in the quality and safety of medical care (IOM, 2000; IOM, 2001). A significant contributor was not only the failure to apply available evidence, but also a failure to keep up with the evidence needed on new medical interventions introduced. The NAM therefore initiated a review of the challenges and concluded that improving the productivity of investments in health evidence development in the United States required two basic changes. First, a shift was needed to loosen a dependence on the serial, episodic, and expensive evidence development approach prevalent for decades by expanding evidence generation and continuous learning made increasingly possible by advancements in larger and larger health databases, digital informatics and technology, and advanced analytics. Second, the necessary changes would require support, engagement, leadership, and collaboration from multiple sectors throughout the health system. As a result, in 2006 the NAM commissioned a group of key leaders from major health system sectors to work collaboratively as a stakeholder roundtable to advance evidence-based medicine (the initial name for the NAM Leadership Consortium or LC). To capture and emphasize the collective commitment to speeding both the generation and application of best evidence, the group's Charter defined and grounded its mission in what it termed a Learning Health System (*Box 1*) (NAM LC, n.d.).

Anticipating the development of revolutionary capacities inherent in health database expansion, statistical tools, and artificial intelligence (AI), the NAM LC has been stewarding progress on building out the vision and foundational elements

BOX 1 | Learning Health System Definition

A learning health system is one in which science, informatics, incentives, and culture are aligned for continuous improvement, innovation, and equity—with best practices and discovery seamlessly embedded in the delivery process, individuals and families active participants in all elements, and new knowledge generated as an integral by-product of the delivery experience.

NAM Leadership Consortium Charter

of a learning health system (LHS) for nearly two decades, and the prospects are now greater than ever. For example, the potential for practical application of generative AI in health and health care sets the stage for accelerated real-time learning, evidence generation, and expedited application for continuous improvement in outcomes.

NAM Learning Health System Program

As indicated in *Box 1*, the LHS is comprised of four interrelated foundational components—science, informatics, incentives, and culture—that are purposefully aligned to support a virtuous cycle, in which knowledge (i.e., evidence) is seamlessly generated by capturing the results of the routine delivery of health interventions, evaluating them, and promptly mobilizing the lessons to improve individual and systemwide performance. Because all health is ultimately personal, the direct and ongoing engagement of individuals, families, and communities in LHS activities and processes is a core starting point (McGinnis et al., 2021).

The LHS Series

Even before the introductory publication, *The Learning Healthcare System*, the NAM began stewarding assessment and strategy development for an LHS by convening topical workshops and producing materials and strategic studies to inform and guide progress (IOM, 2007). Through the LHS Series of publications, now numbering more than 30, the NAM has explored in detail the various arenas and dimensions important to progress:

- Vision: Articulating the need for an LHS to enable transformed health system effectiveness, affordability, equity, and continuous learning.
- Science: Building the capacity and tools for translating real-world experiences into valuable data and findings that are expeditiously applied to improve population and individual-level health.
- Informatics: Fostering innovation and application of the digital architecture, infrastructure, technology, data storage and retrieval, and analytics to enable seamless learning interfaces for improved population and individual-level health.
- Incentives: Supporting payment accountability that rewards health system performance on delivery of services that are effective, affordable, and equitable, with continuous learning and improving outcomes.
- Culture: Advancing a culture that values, at its core, continuous improvement and the equitable and inclusive attention to the health goals of people and communities.

Because achieving the alignment envisioned for people, processes, policies, and data requires the collective engagement on the part of all invested parties, presented in *Table 1* are the shared commitments for the LHS, providing a trust framework for organizational and system alignment and action for health, health care, and biomedical science.

The LHS Shared Commitments

Stewarded by the multi-sector stakeholders and experts involved in the NAM LC and LHS publication series (IOM, 2013), the shared commitments build upon the tenets advanced in *To Err is Human* and *Crossing the Quality Chasm*—that quality health care is safe, effective, patient-centered, timely, efficient, and equitable—and expand the focus in recognition of the importance of a scope that includes population health and the clear significance of system performance related to accessibility, transparency, accountability, adaptability, and security. *Table 1* presents the shared commitments as a trust framework for health and health care services, clearly expressing the primacy of priorities for all health and health care stakeholders, hence the service as drivers of organizational culture and synergy.

These shared commitments represent features reasonably expected by recipients of health and health care services, and they therefore comprise the essential, mutually reinforcing products of the activities of learning health organizations. Applicable across, and adaptable to, various settings and contexts of the health system, the shared commitments provide common ground and common cause, using alignment as an antidote to fragmentation. Organizations elevating the shared commitments can use them as both a compass—a declaration of their values and expectations—and a mirror—a template to engage and tailor their operationalizing to accelerate progress. Finally, collaborative and synergistic implementation of the shared commitments throughout the field will produce accelerated discovery, health and medical care effectiveness, improved system and organizational performance, and identification of policy opportunities and priorities. They are adaptable as touchstone reference points for any health sector stakeholder seeking to be a learning and leading health organization.

Related LHS Field Activities

The LHS has served as a catalyst for improving health systems across the United States and globally. The dedicated journal *Learning Health Systems* is an interdisciplinary compendium of research and scholarship around continuous improvement in health and health care. Development of the shared commitments has benefited from, and been shaped by, shared values and field building efforts by many throughout the learning health community (Rubin et al., 2018). Additionally, numerous fellowship programs and academic initiatives are embedding

TABLE 1 | The Shared Commitments for a Learning Health System: A Trust Framework

Health and health care that is...	
ENGAGED	Gives primacy to understanding, caring, and acting on people's goals
SAFE	Deploys verified protocols to safeguard against risk from unintended harm
EFFECTIVE	Applies continuously updated evidence to target goal achievement
EQUITABLE	Advances parity in individual opportunity to reach full health potential
EFFICIENT	Delivers optimal outcomes and affordability for accessible resources
ACCESSIBLE	Provides timely, convenient, interoperable, and affordable services
ACCOUNTABLE	Identifies clear responsibilities, measures that matter, and reliable feed-back
TRANSPARENT	Displays full clarity and sharing in activities, processes, results, and reports
SECURE	Embeds safeguards in access, sharing, and use of data and digital/AI tools
ADAPTIVE	Centers continuous learning and improvement in organizational practices

SOURCE: National Academy of Medicine. Table created by the authors.

LHS concepts into the training of the next generation of leaders, with, for example, investment from the Department of Veterans Affairs, the Agency for Healthcare Research and Quality, the Patient-Centered Outcomes Research Institute, and the Canadian Institute for Health Research (Agency for Healthcare Research and Quality, 2017; Canadian Institutes of Health Research, 2023; Kilbourne et al., 2022).

Although large-scale efforts on the LHS and the accompanying shared commitments face barriers to realization (e.g., limited and unevenly distributed resources, workforce capacity, varying perceptions of urgent priorities, the distortion of short-term business models, solution fatigue, and local barriers to scaling or replicating successes), examples of progress are increasing in number and impact across sectors. The NAM LC members and their colleagues throughout the networks of the LC action collaboratives are brought together by a common commitment to steward advances in science, informatics, incentives, and culture necessary for a health system that continuously learns and improves in support of healthier people and a healthier nation. As leaders of pathbreaking public and private organizations throughout the health sector, together they constitute powerful potential to exemplify and catalyze the activities within and across sectoral stakeholders from patients and families, public health, care delivery, health financing, product innovators, information technology, and standard-setting and research organizations. Elevating promising strategies from these efforts and fostering a culture of continuous learning are keys to better understanding the barriers, opportunities, and approaches for alignment across health-related sectors.

The LHS at Work: Connecting Concepts, Commitments, and Continuous Improvement

Coupled with the four foundational pillars of the LHS definition—science, informatics, incentives, and culture—the trust framework of the commitments provides understandable organizing elements for institutional clarity and motivation, and to unify expectations among organizational leaders and those they serve. Inasmuch as these two components offer the "what" and the "why" of the LHS, a start on the "how" is offered in *Figure 1*'s presentation of the anchor features, the building blocks necessary to move from concepts to actions to results.

Through the assessments conducted and published in the LHS Series, the NAM has systematically explored the ways in which the foundational elements of the LHS can be translated into the tools and levers necessary for transformed generation and application of evidence, moving closer and closer to a "real-time" improvement modus operandi. *Figure 1* expresses insights from the work of NAM expert working groups, committees, and meeting discussions as an illustration of the input to output flow in a transformative Learning Health System at Work. Central to this depiction are the 12 anchor features shown in the center. Organizations identifying as learning health enterprises leverage these features and engage operational and clinical leadership to ensure that their organization can:

1. *Generate and use* evidence through intelligent, rigorous learning architecture;
2. *Ensure* that information systems are interoperable, secure, and accessible at the point of need;
3. *Reward* improved outcomes, reduced costs, and deep engagement by both the workforce and the recipients of care; and
4. *Promote and reinforce* an openness to learning, inclusivity, and connection to the individuals and communities served.

While each of these anchor features encompasses richer detail and significant implementation requirements, creating a through-line between the foundational elements, anchor features, and shared commitments illuminates their interplay in service to learning at scale.

Building a Path to the Future: A Strategic Vision for LHS Spread and Scale

Extraordinary advances in digital health capacity—along with the development of new research approaches and a growing appreciation of the need to identify and much more rapidly adopt lessons learned about effective interventions—offers the nation both an opportunity and pressing imperative to provide common ground for systematic, sustained, and focused improvements.

The shared commitments build on considerable understanding gained from multiple quarters over the past two decades and leverage the advances mentioned. Their service as a trust framework can guide health organization decisions and, in so doing, help foster progress against the challenges of system

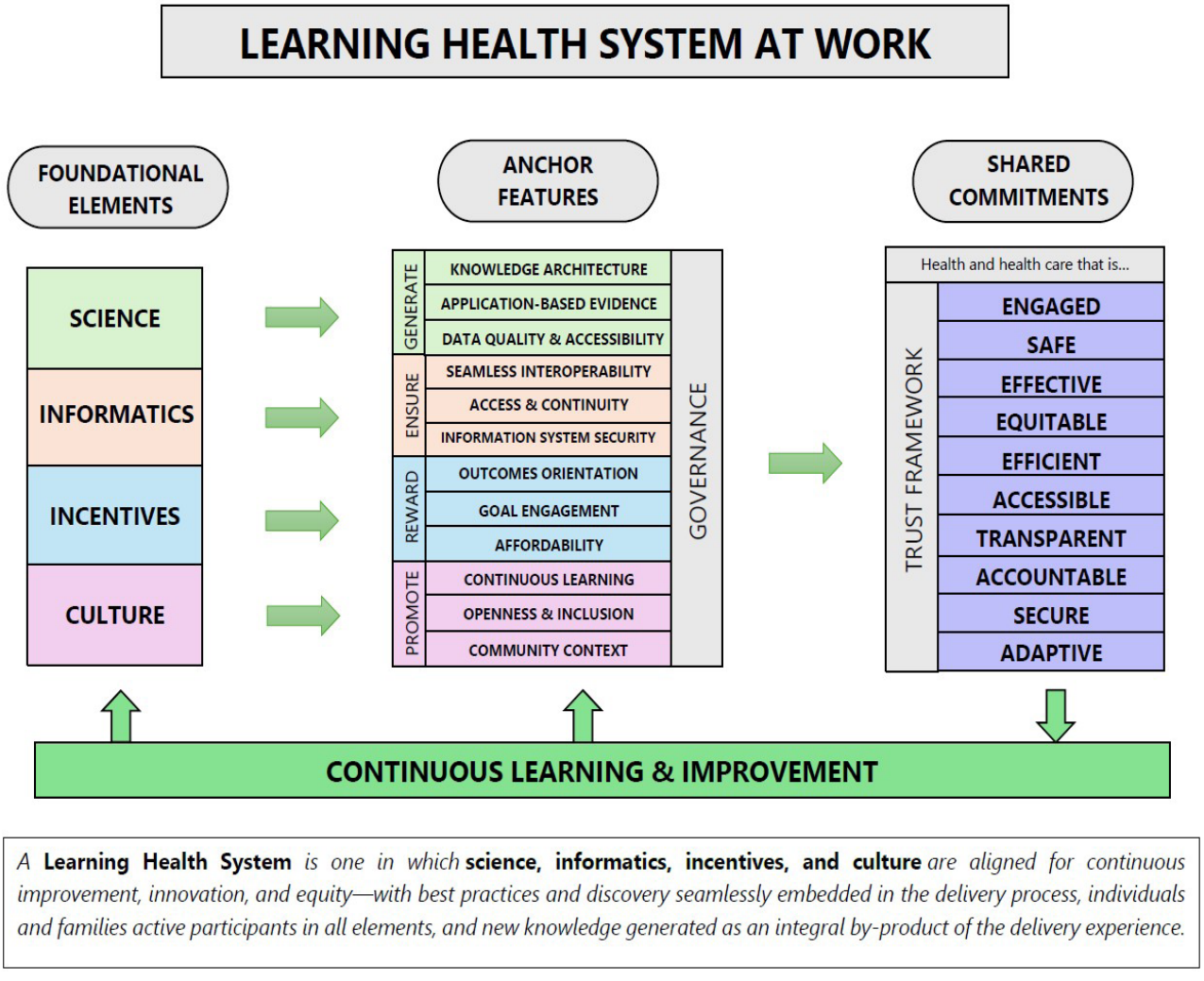

FIGURE 1 | The Learning Health System at Work
SOURCE: National Academy of Medicine. Figure created by the authors.

Published December 16, 2024

fragmentation and misplaced incentives that result in mistrust. The NAM's approach to spread and scale of the shared commitments is guided by an LHS Strategy Group that will provide a multi-year, multi-phase forum to help share real-world lessons learned, promote alignment and cooperation across organizations, and support dissemination of the commitments in their own sectors. The Strategy Group represents leaders within organizations who can offer experience and insight on barriers, opportunities, and approaches most effective for generating LHS commitment and best practices in various sectors. It seeks to ensure that the shared commitments are optimized for widespread dissemination and uptake, recruit organizations and individuals committed to action around the common ground promise of the LHS, share insights about persisting barriers to LHS spread and scale, and identify approaches to assessing and refining impact on outcomes.

Despite the inherent power and logic of the shared commitments as a trust framework for the nation's health system, taking advantage of them in a fashion that facilitates their incorporation as fundamental reference points for every health organization and their workforce will require dedicated, strategic partnerships. Thus, in addition to the Strategy Group, the NAM is continuing broad engagement with invested parties across health, medicine, and biomedical research enterprises, including clinicians and their teachers, patients and families, digital technology developers, payers, health product innovators and regulators, IT vendors, funders, state and local health authorities, policymakers, and leaders from health care and public health institutions, research organizations, and community-based organizations.

Spreading and scaling any change, intervention, or product entails deep work and enduring commitment. Already, the Strategy Group has identified potential challenges to widespread uptake of the shared commitments; namely, the need to articulate a compelling value proposition and business case for the LHS, thereby solidifying its relative utility to invested parties. This value proposition may be relative to the type of organization as well; for example, an academic health system and a rural community clinic may assign different values to a culture of learning. As implementation shifts gravity from academic theory to practice and policy, the importance of harmonizing the shared commitments with frontline needs, incentives, and reward systems is paramount. Another challenge identified by the strategy group is assessing the successful adoption of the shared commitments and of the LHS itself. This will entail the ability to measure changes made as a result of LHS work and share lessons via widely accessible knowledge hubs and communities of practice. Early adopters of the LHS can serve as exemplars for the field and for institutional leaders seeking to embrace the shared commitments as a tool for bolstering overall organizational culture.

As currently configured, our systems of health, public health, and health care are insufficient to yield transformed health outcomes, ensure equity, and bring down the burdensome costs of care. The shared commitments offer a paradigm for rethinking and renewing bedrock values, priorities, and expectations for the performance of the nation's health system. Embedded in the mandate and the vision are the notions of stewardship and cooperation that are foundational to the NAM and that serve as motivation to myriad partners as we join collaboratively to fashion and strengthen the trust fabric so vital to securing the nation's health future.

References

1. Agency for Healthcare Research and Quality. 2017. *Learning health system competencies: Training the next generation of researchers*. Available at: https://www.ahrq.gov/funding/training-grants/summary.html (accessed December 9, 2024).
2. Canadian Institutes of Health Research. 2023. *Integrated youth services network of networks initiative*. Available at: https://cihr-irsc.gc.ca/e/52912.html (accessed December 9, 2024).
3. IOM (Institute of Medicine). 2000. *To err is human: Building a safer health system*. Washington, DC: The National Academies Press. https://doi.org/10.17226/9728.
4. IOM. 2001. *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: The National Academies Press. https://doi.org/10.17226/10027.
5. IOM. 2007. *The learning healthcare system: Workshop summary*. Washington, DC: The National Academies Press. https://doi.org/10.17226/11903.
6. IOM. 2013. *Best care at lower cost: The path to continuously learning health care in America*. Washington, DC: The National Academies Press. https://doi.org/10.17226/13444.
7. Kilbourne, A. M., J. Schmidt, M. Edmunds, R. Vega, N. Bowersox, and D. Atkins. 2022. How the VA is training the next-generation workforce for learning health systems. *Learning Health Systems* 6(4):e10333. https://doi.org/10.1002/lrh2.10333.
8. McGinnis, J. M., H. V. Fineberg, and V. J. Dzau. 2021. Advancing the learning health system. *New England Journal of Medicine* 385(1):1-5. https://doi.org/10.1056/NEJMp2103872.

9. NAM LC (National Academy of Medicine Leadership Consortium). n.d. *Collaboration for a learning health system*. Available at: https://nam.edu/programs/value-science-driven-health-care/ (accessed December 9, 2024).
10. Rubin, J. C., J. C. Silverstein, C. P. Friedman, R. D. Kush.,W. H. Anderson, A. S. Lichter, D. J. Humphreys, J. Brown, L. Crawford, J. M. Walker, R. L. Tannen, K. Berry, M. H. Lopez, R. M. Kolodner, J. M. Marchibroda, and F. W. Rockhold. 2018. Transforming the future of health together: The learning health systems consensus action plan. *Learning Health Systems* 2:e10055. https://doi.org/10.1002/lrh2.10055.

DOI

https://doi.org/10.31478/202412c

Suggested Citation

McGinnis, J. M., H. V. Fineberg, and V. J. Dzau. Shared commitments for health and health care: A trust framework from the learning health system. *NAM Perspectives*. Commentary, National Academy of Medicine, Washington, DC. https://doi.org/10.31478/202412c.

Author Information

J. Michael McGinnis, MD, MPP, is the Leonard D. Schaeffer Executive Officer of the National Academy of Medicine and Executive Director of the NAM Leadership Consortium; **Harvey V. Fineberg, MD, PhD,** is the president of the Gordon and Betty Moore Foundation; and **Victor J. Dzau, MD,** is the president of the National Academy of Medicine.

Acknowledgments

Special acknowledgment is given in particular to the valuable contributions of the NAM staff leads: Julie Tarrant, NAM Program Officer, and Sarah Greene, NAM Senior Advisor. The members and participants in the NAM Leadership Consortium for a Learning Health System guided the activities shaping the content and strategies presented in this paper.

Conflict-of-Interest Disclosures

None to disclose.

Correspondence

Questions or comments should be directed to Dr. Michael McGinnis at MMcginnis@nas.edu.

Disclaimer

The views expressed in this paper are those of the authors and not necessarily of the authors' organizations, the National Academy of Medicine (NAM), or the National Academies of Sciences, Engineering, and Medicine (the National Academies). The paper is intended to help inform and stimulate discussion. It is not a report of the NAM or the National Academies.