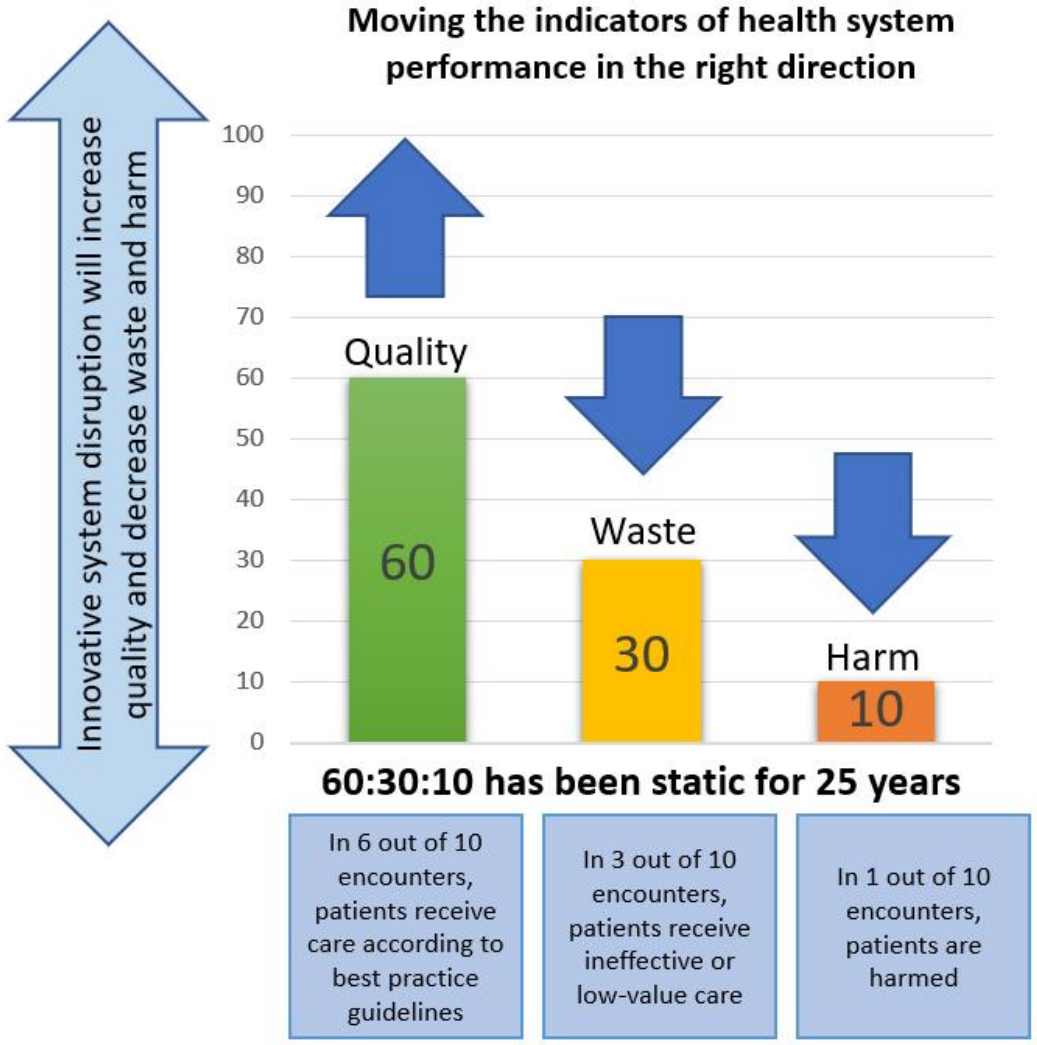
Leadership in Quality Journey – Global Experience

Dr Carsten Engel, CEO, ISQua

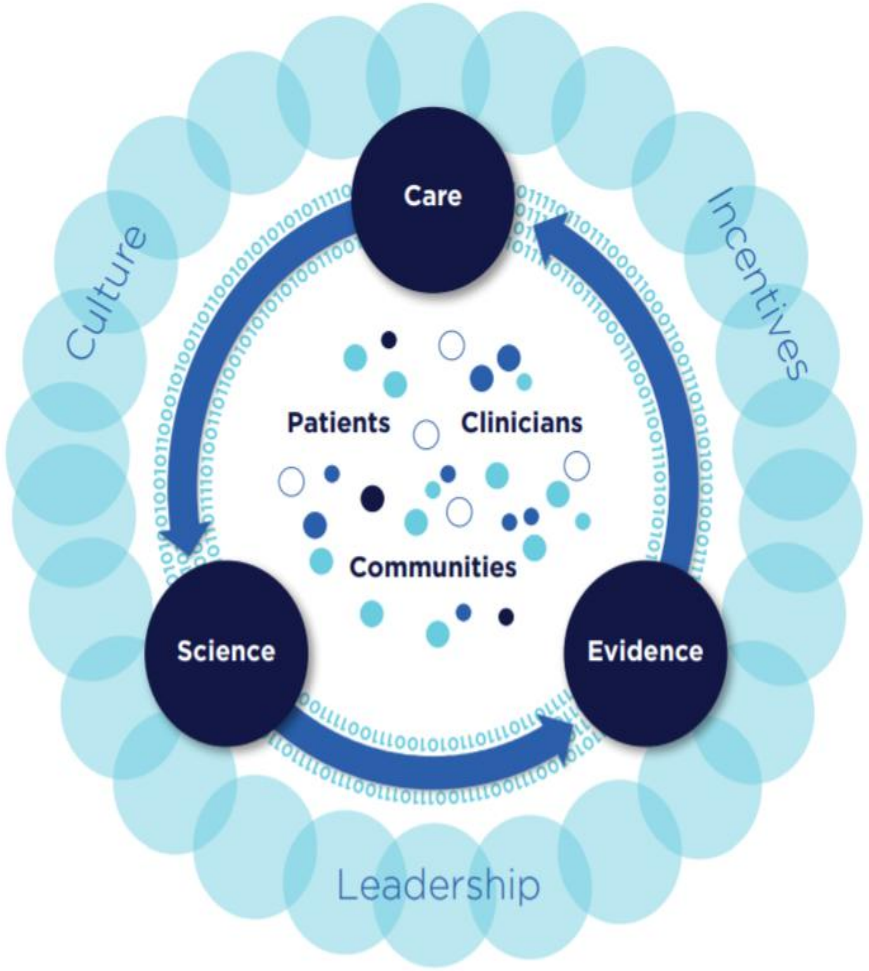
Leadership is about nurturing a learning health system

Why do we need Learning Health Systems?



Source: AUSTRALIAN INSTITUTE OF HEALTH INNOVATION | MACQUARIE UNIVERSITY

Defining a Learning Health System



A Learning Health System is a system in which *"Science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the care process, patients and families active participants in all elements, and new knowledge captured as an integral by-product of the care experience".* (Institute of Medicine, 2007)

Source: Institute of Medicine. Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. Washington (DC): The National Academies Press; 2013.


complexity
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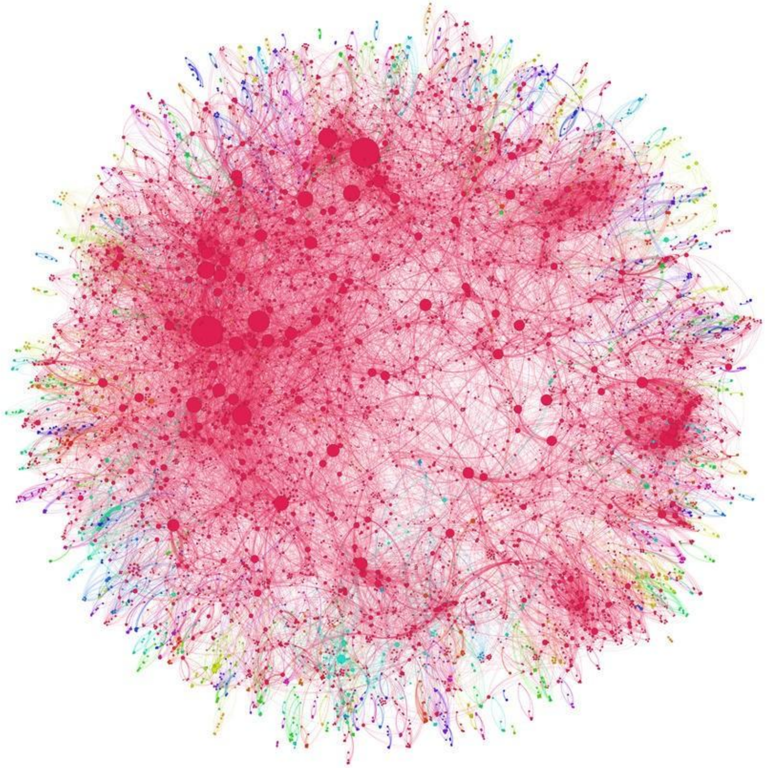


Healthcare is a complex adaptive system

Relations between causes and effects are not linear but include positive and negative feedback loops and cross-links between different processes.

- The effect of a given action can’t always be predicted precisely.
- An action at one place may have unforeseen consequences at another place.

The system can’t be understood just by understanding all its components.

Healthcare is a complex adaptive system (2)

People in the system will adapt their actions to deviate from what is expected.

- Sometimes, this is what saves the day.
- At other times, it can trigger problems or even disaster.

- Complexity renders the system the ability to develop and learn – improve – but also to drift into failure.

Braithwaite J, Churruca K, Ellis LA et al. Complexity Science in Healthcare –Aspirations, Approaches, Applications and Accomplishments: A White Paper. 2017, Australian Institute of Health Innovation, Macquarie University: Sydney, Australia.

Sidney Dekker. Drift into failure. Ashgate, 2011.

As a complex system, healthcare is inherently "learning"

- The system is embedded in an environment of rapidly growing knowledge and rapid technological innovation
- Secular trends for improvement are seen
- Implementation can be exceedingly slow
  - Leaving a considerable gap between the actual and the possible
- Drift into failure is a risk

So – laissez faire is not an option…

You cannot manage a complex system top-down

Micromanagement, trying to “capture performance into rules”,
is also not an option.

Ride the wave

Implementation science made (too) simple:

- Evidence-based practice / Innovation / Clinical measure = THE THING.
- Implementation strategies = The stuff we do to help people/places DO THE THING.

Curran GM. Implementation science made too simple: a teaching tool. Implement Sci Commun 1, 27 (2020).

Successful implementation – a 4-step approach

- Who needs to do what differently?
  - Behaviour must change! What is the supporting evidence?
- What factors determine whether or not they do it?
  - Barriers and facilitators
- Which strategies can be effectively used to target those factors?
- How can we robustly measure the outcome?

French et al (2012) Implementation Science.

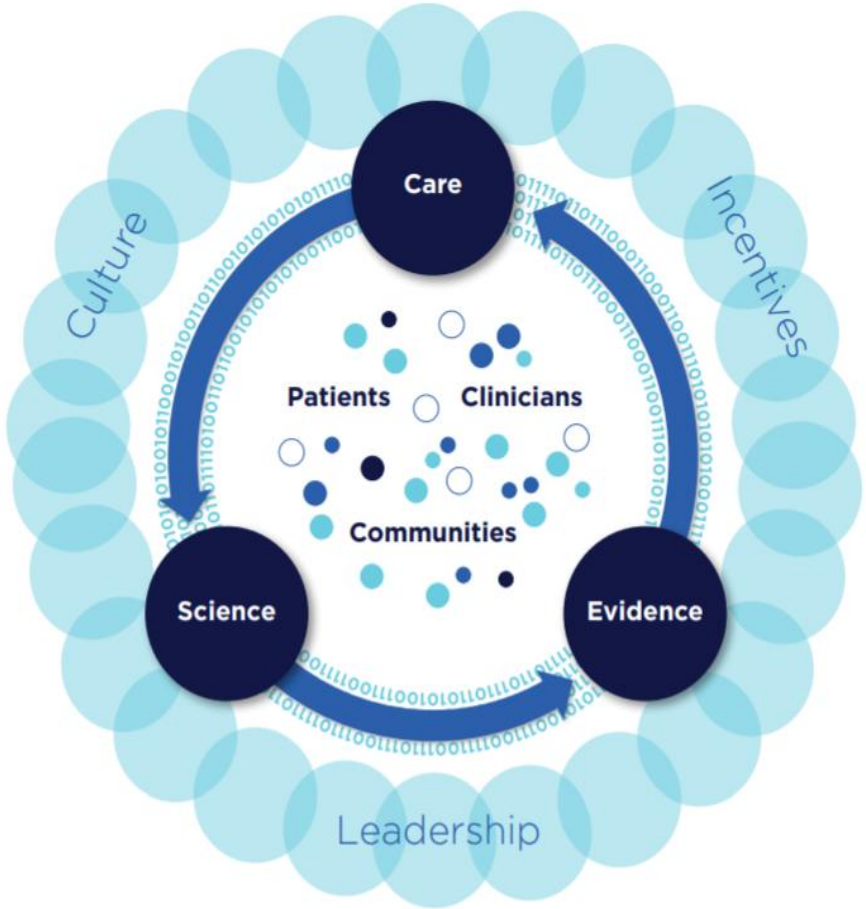
Learn from successes – and from failures

Matching Michigan

- Isomorphic pressures, bottom-up change – Sense of community – Shared sense of purpose and motivation – OR
- "Just another" top-down government-led initiative, perceived by staff as "harsh and coercive" – Local leaders failed to develop consensus and coalition.

Bion J, Richardson A, Hibbert P et al. Matching Michigan. BMJ Qual Saf 2013; 22: 110-123.

Defining a Learning Health System



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The Learning Health Systems Framework

Dimensions	Characteristics	Description
Science and informatics	Real time access to knowledge	Best available evidence incorporated into clinical decision-making processes to improve the quality of care and patient safety.
	Digital capture of the care experience	Digital platforms (e.g., eHRs, disease registries, mobile devices) utilised for the real-time capture, production, and application of knowledge based on best available data
Patient-clinician partnerships	Engaged, empowered patients	Patients, families, and caregivers are full partners in a patient-centred system.
Incentives	Incentives aligned for value	Policies actively encourage ongoing evaluation of care given and improvement of processes and support the provision of high-value care and reduction in wasteful practices.
	Full transparency	All aspects of care, including safety, quality, processes, costs, and outcomes are recorded and available to stakeholders (patients, health professionals, managers) to improve patient care and decision making.
Continuous learning culture	Leadership-instilled culture of learning	Leaders instil a culture of collaboration and adaptability to support the learning process.
	Support system competencies	Staff training, skill building, and support to enable continuous refinement of processes and system improvements is implemented.

Source: AUSTRALIAN INSTITUTE OF HEALTH INNOVATION | MACQUARIE UNIVERSITY

The IoM/Zurynski-Braithwaite model adds a fifth dimension to the four

Dimensions	Characteristics	Description
Structure and Governance	Organisation	Policies, governance, and regulations aligned to facilitate research, collaboration, and learning

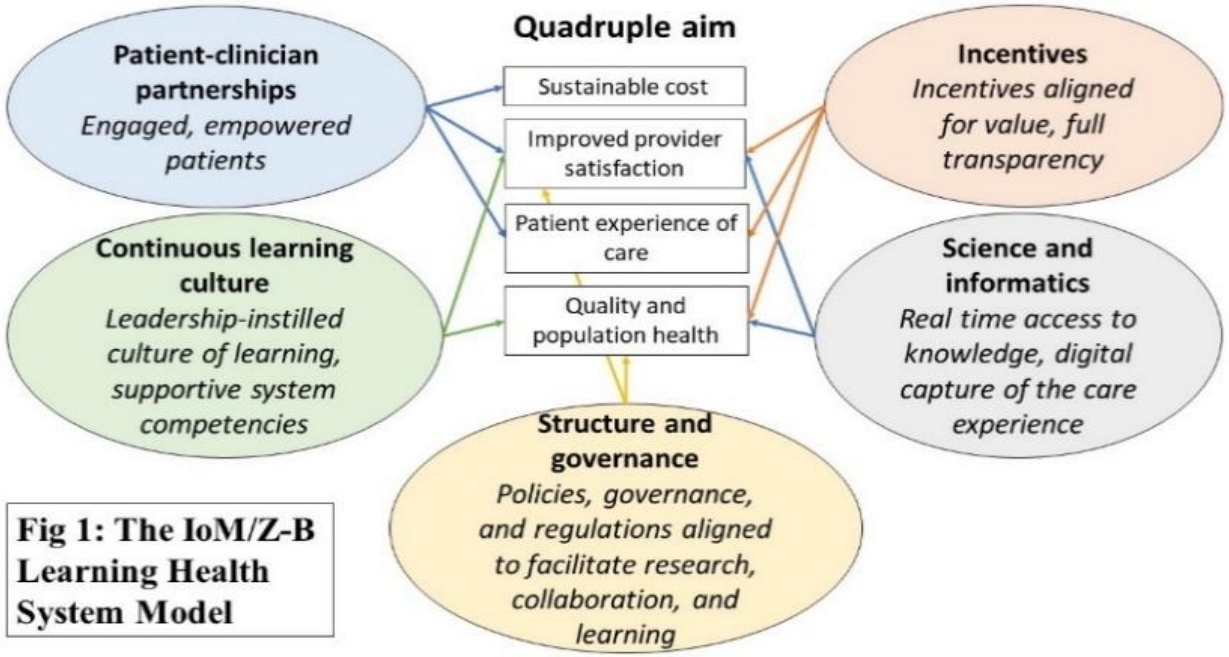

Fig 1: The IoM/Z-B Learning Health System Model

Source: AUSTRALIAN INSTITUTE OF HEALTH INNOVATION | MACQUARIE UNIVERSITY

Good use of science and informatics

Science and informatics	Real time access to knowledge	Best available evidence incorporated into clinical decision-making processes to improve the quality of care and patient safety.
	Digital capture of the care experience	Digital platforms (e.g., eHRs, disease registries, mobile devices) utilised for the real-time capture, production, and application of knowledge based on best available data

The AI Revolution!

Patient-clinician partnership

Patient-clinician partnerships	Engaged, empowered patients	Patients, families, and caregivers are full partners in a patient-centred system.

Coproduction!

Well-aligned incentives

Incentives	Incentives aligned for value	Policies actively encourage ongoing evaluation of care given and improvement of processes and support the provision of high-value care and reduction in wasteful practices.
	Full transparency	All aspects of care, including safety, quality, processes, costs, and outcomes are recorded and available to stakeholders (patients, health professionals, managers) to improve patient care and decision making.

Continuous learning culture

Continuous learning culture	Leadership-instilled culture of learning	Leaders instil a culture of collaboration and adaptability to support the learning process.
	Support system competencies	Staff training, skill building, and support to enable continuous refinement of processes and system improvements is implemented.

Structure and governance

Policies, governance, and regulations aligned to facilitate research, collaboration, and learning

- Frame local decision making
- Goals and means
- Standards and performance indicators

Learning Health Systems: A review of key topic areas and bibliometric trends (2022)

Received: 8 November 2020 | Revised: 3 March 2021 | Accepted: 4 March 2021
DOI: 10.1002/lrh2.10265

RESEARCH REPORT

Learning Health Systems

Learning health systems: A review of key topic areas and bibliometric trends

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Funding information
National Health and Medical Research Council, Grant/Award Numbers: 9100002, APP1176620AQ6

Abstract

Introduction: The emergent field of learning health systems (LHSs) has been rapidly evolving as the concept continues to be embraced by researchers, managers, and clinicians. This paper reports on a scoping review and bibliometric analysis of the LHS literature to identify key topic areas and examine the influence and spread of recent research.

Methods: We conducted a scoping review of LHS literature published between January 2016 and May 2020. The authors extracted publication data (eg, journal, country, authors, citation count, keywords) and reviewed full-texts to identify: type of study (empirical, non-empirical, or review), degree of focus (general or specific), and the reference used when defining LHSs.

Results: A total of 272 publications were included in this review. Almost two thirds (65.1%) of the included articles were non-empirical and over two-thirds (68.4%) were from authors in the United States. More than half of the publications focused on specific areas, for example: oncology, cardiovascular care, and genomic medicine. Other key topic areas included: ethics, research, quality improvement, and electronic health records. We identified that definitions of the LHS concept are converging; however, many papers focused on data platforms and analytical processes rather than organisational and behavioural factors to support change and learning activities.

Conclusions: The literature on LHSs remains largely theoretical with definitions of LHSs focusing on technical processes to reuse data collected during the clinical process and embedding analysed data back into the system. A shift in the literature to empirical LHS studies with consideration of organisational and human factors is warranted.

KEYWORDS
bibliometrics, healthcare, learning health systems, learning healthcare systems

1 | INTRODUCTION

Contemporary health systems are not fit for purpose. Even in the most developed countries less than two-thirds of healthcare delivered is in line with evidence-based guidelines (60%); one third of care is some form of waste (30%) and one tenth (10%) of it is associated with an adverse event.[1] These numbers have persisted for decades despite substantial efforts and resources dedicated to improving the safety

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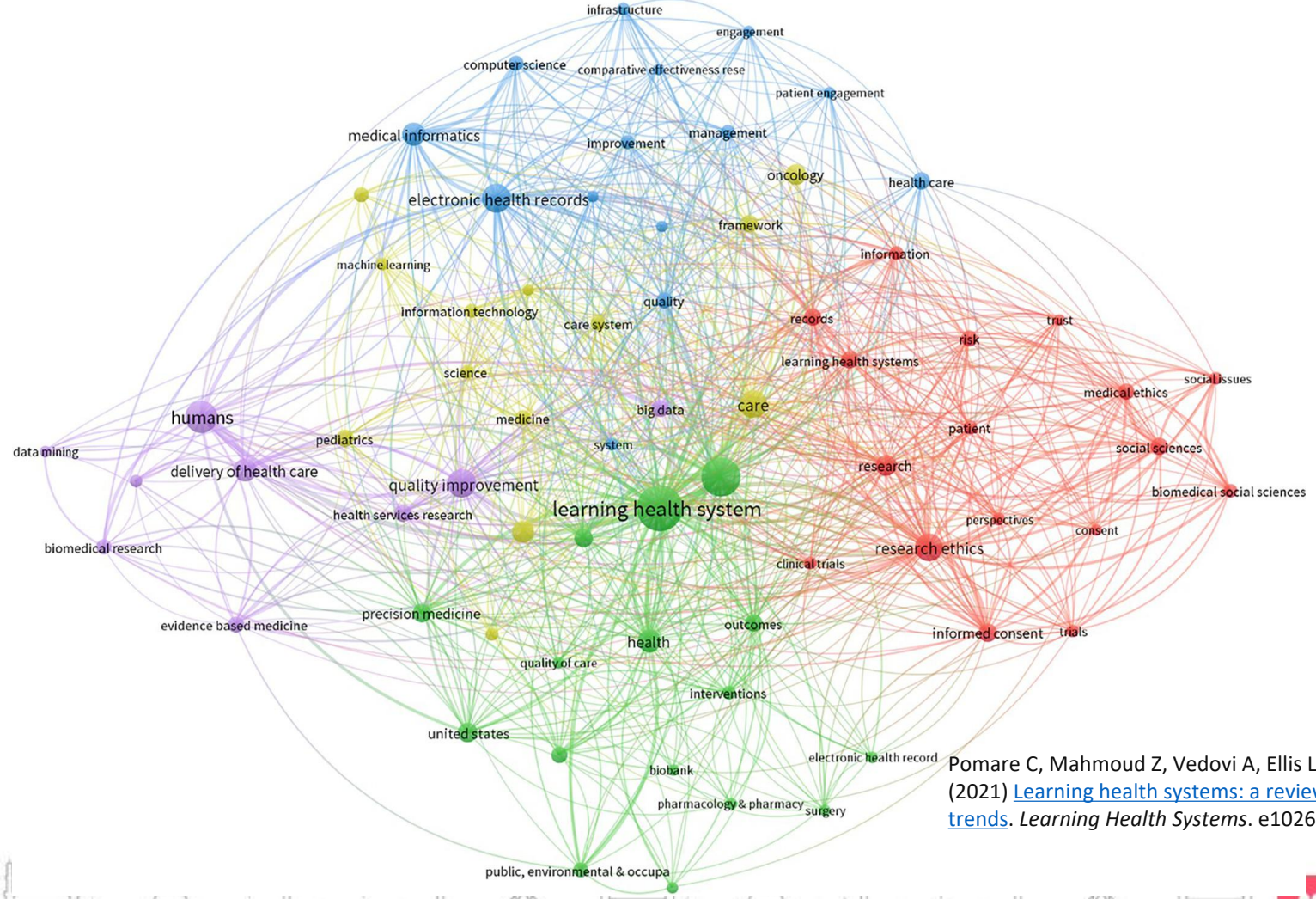
- A scoping review of 272 included papers
- 65.1% of articles were non-empirical
- 68.4% from US-based authors
- Definitions of the LHS are converging
- Most papers focus on data platforms, rather than organisational and behavioural factors

Pomare, C, Mahmoud, Z, Vedovi, A, et al. Learning health systems: A review of key topic areas and bibliometric trends. *Learn Health Sys*. 2022; 6:e10265. https://doi.org/10.1002/lrh2.10265

Learning Health Systems: A review of key topic areas and bibliometric trends (2021)



Pomare C, Mahmoud Z, Vedovi A, Ellis LA, Knaggs G, Smith CL, Zurynski Y, Braithwaite J. (2021) Learning health systems: a review of key topic areas and bibliometric trends. *Learning Health Systems*. e10265.

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Learning Health Systems: A review of key topic areas and bibliometric trends (2021)

- LHS generally referred to **an LHS as achieving healthcare quality improvement by using big data and embedding data analysis and decision-making into routine care delivery processes**.

- This focus on information technology was at the expense of discussions around human and organisational factors.

Some case studies: Examples of learning health systems

Thanks to Prof. Jeffrey Braithwaite, AUSTRALIAN INSTITUTE OF HEALTH INNOVATION | MACQUARIE UNIVERSITY and President of ISQua

Case study: Veterans Health Administration (VA)

- The VA provides healthcare to 9 million military veterans each year and is the largest publicly funded healthcare delivery system in the USA.
- It consists of 1,293 healthcare facilities including 171 medical centres and 1,112 outpatient sites

Case study: Veterans Health Administration (VHA)

Science and informatics		Patient-clinician partnerships	Incentives		Culture	
Real time access to knowledge	Digital capture of the care experience	Engaged, empowered patients	Incentives aligned for value	Full transparency	Leadership-instilled culture of learning	Supportive system competencies
National Corporate Data Warehouse enabling performance tracking Providing clinicians with access to multiple dashboards to track quality relative to their peers.	Systemwide eHRs Daily processing of more than two million lab results 500,000 pharmacy fills, and 400,000 patient encounters	My HealtheVet web portal allows patients to access and update their health records, schedule appointments, and refill prescriptions	Clinicians are paid a salary so that remunerations is not based on care volume	Public reporting of large amounts of data on quality for both self-auditing purposes and for the benefit of unaffiliated researchers. Providing clinicians with access to multiple dashboards to track quality relative to their peers	Academic affiliations in larger VHA hospitals, with many clinicians holding dual appointments	Diffusion of Excellence Program seeks to discover how VHA facilities are rewarded for sharing their best practices and to what degree such innovations are adopted elsewhere in the system

Zurynski Y, Smith CL, Vedovi A, Ellis LA, Knaggs G, Meulenbroeks I, Warwick M, Gul H, Pomare C, Braithwaite J. Mapping the Learning Health System: A Scoping Review of Current Evidence. Australian Institute of Health Innovation, and the NHRMC Partnership Centre for Health System Sustainability, Sydney, Australia, 2020

Geisinger Health System

- Geisinger Health is based in Pennsylvania and services over 3 million patients across the state, predominantly in rural areas.

- Geisinger aims to deliver high quality care at a low cost, with a focus on population health.

Geisinger Health System

Science and informatics		Patient-clinician partnerships	Incentives		Culture	
Real time access to knowledge	Digital capture of the care experience	Engaged, empowered patients	Incentives aligned for value	Full transparency	Leadership-instilled culture of learning	Supportive system competencies
Robust eHR system that feeds genomic data back into the sequence and allows for data analysis to improve genetic variant annotation, creating a cycle.	Stable enrolment of patients into eHR system within a robust informatics infrastructure allowing for the tracking patient experiences and outcomes over the long term. Over 180,000 patients had consented to contribute their genomic data.	MyCode Community Health Initiative (biorepository) relies on opt-in consent, and of those approached, 85-90% agree to participate Informatics infrastructure with security requirements and stores patient data behind a system firewall to protect patient information	Paying clinicians a salary so that their remuneration is not based on care volume.	eHR and genomic data variants are reported back to patient participants, while also being deposited into publicly available databases.	The goal of establishing an LHS has been embraced by the organisation's leadership, who have aimed to develop conceptual and business models for moving toward a learning culture.	Emphasis on continual quality improvement and the promotion of best practices checklists for physicians.

The Ottawa Hospital

- The Ottawa Hospital is a three campus acute care facility in Canada and one of the main providers of cancer treatment in the Ottawa region.

- The Ottawa Hospital operates with a transformation model. It aligns several domains: people, processes and technology.

The Ottawa Hospital

Science and informatics		Patient-clinician partnerships	Incentives		Culture	
Real time access to knowledge	Digital capture of the care experience	Engaged, empowered patients	Incentives aligned for value	Full transparency	Leadership-instilled culture of learning	Supportive system competencies
Process monitoring and business intelligence tools allowed for the local generation of dashboards to visualise and track performance metrics at a provincial level, create alerts and queries to monitor individual and clinical team performance.	Process monitoring and business intelligence tools that integrate process-related data were also employed to establish a learning cycle and create insights on system performance.	Patients were among the stakeholder groups engaged – through interviews – in the system redesign.	N/A	Consensus approach to the initiative's creation led to general buy-in among most relevant stakeholders and their ability to access and benefit from the process monitoring and business intelligence tools implemented in the restructuring.	Reported buy-in from leaders of the academic and community hospitals.	Operating with a conceptual focus of a "health region" as a geographic unit of implementation, the OHTM brought about the establishment of a "regional Community of Practice" to engage stakeholders.

MQ Health General Practice

- MQ Health General Practice operates across two sites and is a department of MQ Health, a not-for-profit health enterprise.
- MQ Health includes a private hospital, specialist clinics, allied health clinics, digital mental health services and an affiliation with the university's medical faculty.

MQ Health
MACQUARIE UNIVERSITY
HEALTH SCIENCES CENTRE

MQ Health General Practice

Science and informatics		Patient-clinician partnerships	Incentives		Culture	
Real time access to knowledge	Digital capture of the care experience	Engaged, empowered patients	Incentives aligned for value	Full transparency	Leadership-instilled culture of learning	Supportive system competencies
Access to subscription only platforms through Macquarie University. Lunchtime teaching sessions on topical health issues. Access to clinical auditing tool to provide practitioners with overview of their patient cohort.	Trialling implementation of 'MyPractice' App which provides patients with access to referrals, prescriptions, certificates. Use of online booking system.	Opportunities for patients to leave Google reviews Patient focus groups to discuss the implementation of 'MyPractice' App	Paying clinicians a salary so that their remuneration is not based on care volume.	*In progress:* the practice is in the process of designing a way to publish metrics on patient health outcomes, centred around the Quadruple Aim.	Affiliation with University medical school providing teaching and learning opportunities for staff. Research opportunities for practice staff. Opportunities for learning through educational sessions and grand rounds.	Regular meetings involving clinical and non clinical staff that address quality improvement.

ISQua | International Society for Quality in Health Care

ISQua's Vision

Is to be the leader of transformation in health and healthcare worldwide

ISQua's Mission

Is to inspire and achieve improvement in health, and the safety and quality of healthcare worldwide

Our Action

Join us to improve your Knowledge, build your Network, and make your Voice heard

Action

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