Monash Partners
ACADEMIC HEALTH SCIENCE CENTRE

CULTURE
STANDARDS
INFRASTRUCTURE
RESOURCES
PEOPLE

EVIDENCE: IMPLEMENTATION
EVIDENCE: STAKEHOLDERS
EVIDENCE: RESEARCH
EVIDENCE: DATA

CLINICIAN, RESEARCHER, COMMUNITY AND CONSUMER PARTNERSHIP

8 HEALTHCARE IMPROVEMENT
1 ENGAGEMENT/ PARTNERS
7 IMPLEMENTATION
2 PRIORITIES
6 BENCHMARKING
3 EVIDENCE GENERATION
5 DATA SYSTEMS
4 SYNTHESIS/ GUIDELINES

Learning together for better health

Learning Health System User Guide

"Learning together for better health"

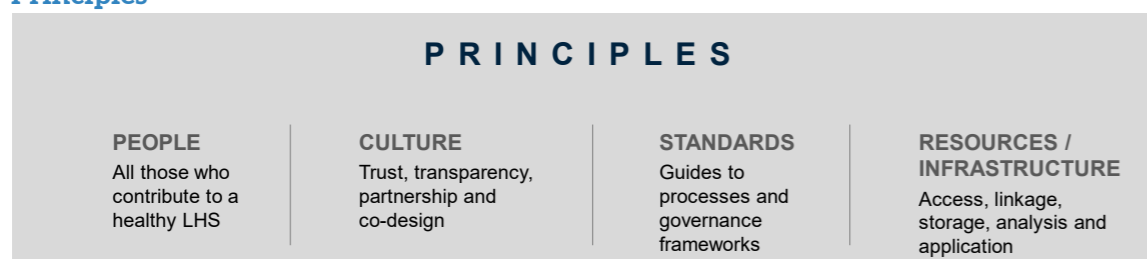**monashpartners.org.au**

Monash Partners Learning Health System Framework

The vision of the Monash Partners Learning Health System is 'learning together for better health'. In line with the findings of our systematic review and qualitative research, and co-design processes, four principles underpin all aspects of the Learning Health System: People, Culture, Standards, and Resources/Infrastructure.

Principles

PRINCIPLES			
PEOPLE All those who contribute to a healthy LHS	**CULTURE** Trust, transparency, partnership and co-design	**STANDARDS** Guides to processes and governance frameworks	**RESOURCES / INFRASTRUCTURE** Access, linkage, storage, analysis and application

People: a healthy Learning Health System requires people with a broad range of capabilities including:

· Frontline clinical and non-clinical staff

· Patients, consumers and carers

· Health information experts

· Technologists

· Researchers

· Health service leaders and executives.

Culture: a culture of trust, transparency, partnership and co-design, underpin the Learning Health System with:

· The commitment, or buy in, of clinicians and senior management

· Senior management support to integrate new approaches into standard care processes, and achieve sustainable, scalable change.

Standards: transparent and agreed processes and governance, including:

· Compliance with legal and legislative requirements for sharing and linkage of data

· Transparent processes for consent to use healthcare data

· Robust data governance systems and processes.

Resources and infrastructure: including:

· Systems and processes to enable timely access, linkage and analysis of data

· Agreed terminology/algorithms to link data terms

· Information technology infrastructure and support

· Single entry data systems wherever possible

· Linkage of differing software programs with the electronic medical record

· Meaningful interpretations and visualisations readily available at point of care

· Access to data that is as close to live as is accurately and logistically possible

· Provision of meaningful end-user targeted reports (routine, scheduled, or ad hoc).

The Learning Health System diagram
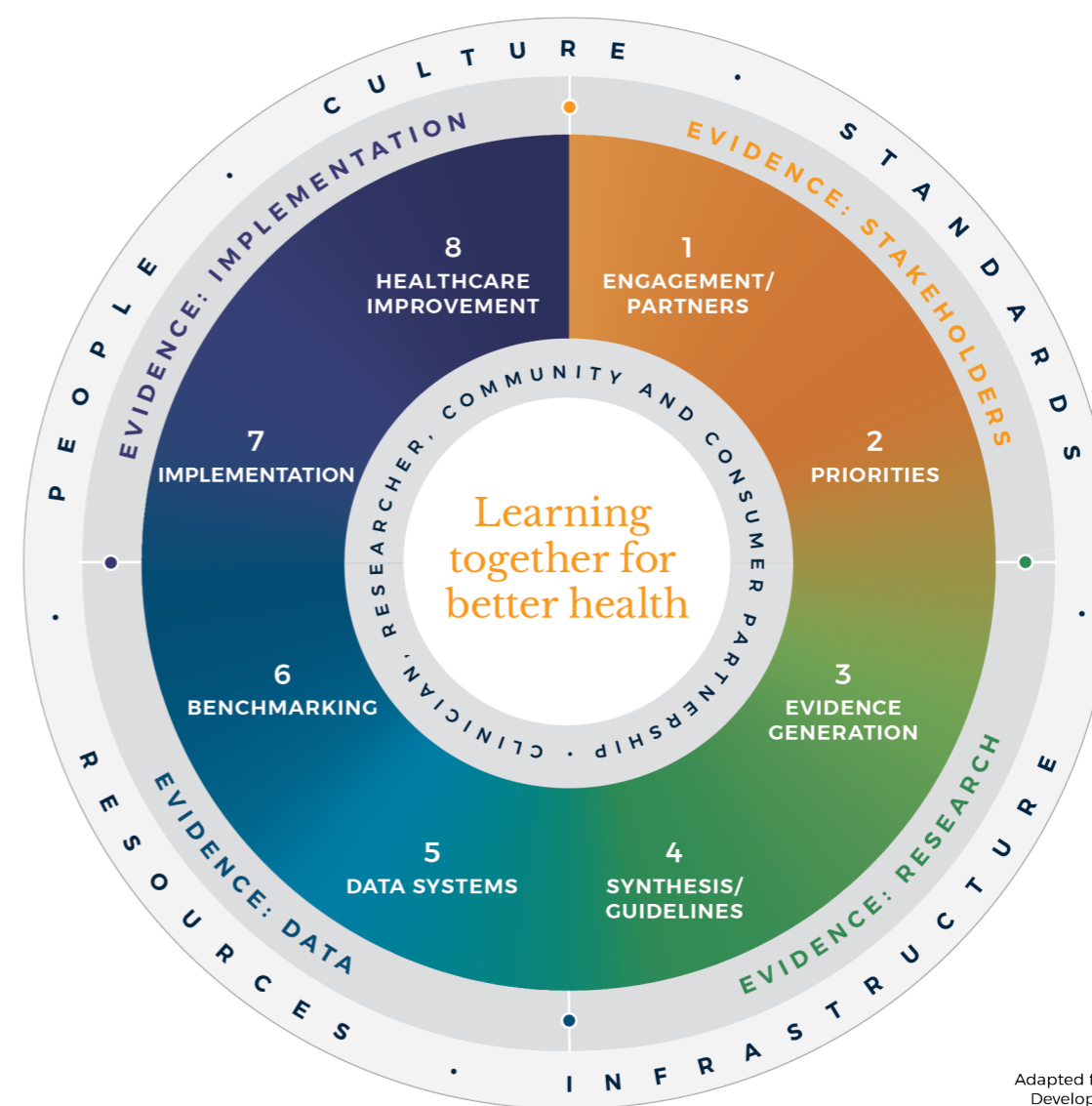
C o m p o n e n t s

1 ENGAGEMENT
OF PEOPLE

- Consult
- Engage
- Involve
- Collaborate
- Empower
- Inform

2 IDENTIFYING
PRIORITIES

- Formal engagement
- Agreed priorities
- Ranked priorities
- Prioritised outcome measures

3 EVIDENCE BASED
INFORMATION

- Cohort trials
- Randomised and pragmatic clinical trials
- Epidemiology based research
- Economic analysis
- Qualitative and Quantitative research

4 EVIDENCE SYNTHESIS AND
GUIDELINES

- Systematic reviews
- Meta- analysis: aggregate and individual data
- Secondary research
- Consideration of stakeholder and evidence based priorities
- Guidelines, standards and policies

*Five Safes: Safe Projects, People, Settings, Data and Outputs
** FAIR data principles: Findable, Accessible, Interoperable and Reusable

5 DATA AND INFORMATION
SYSTEMS

- Quality, timely, harmonised, meaningful and actionable data
- Data from health care and other sources
- Patient reported experience and outcome measures
- Compliance with 5 safes*, FAIR data principles** and legislative and privacy requirements
- Governance, data sharing, linkage, analysis and interpretation
- Big data analytics, machine learning
- Technology and infrastructure

6 BENCHMARKING

- Transparency and equity
- Adjustments for service variation
- Real time visual representation at individual, service and organisational levels
- Measurement to iteratively and continuously drive improvement
- Evaluation
- Learning feedback

7 IMPLEMENTATION

- Leadership
- Theory driven
- Economically sound
- Methodologically rigorous
- Addressing barriers and enablers
- Capability in change management
- Consideration of the Burden of data collection
- Sustainable and scalable
- Demonstrating healthcare improvement

8 HEALTHCARE IMPROVEMENT

- Leadership
- Pragmatism
- Contextual/ local
- Outcome improvement
- Quality improvement
- Change management
- Evaluation

The evidence quadrants

The Monash Partners Learning Health System encompasses four different sources of evidence, with each represented diagrammatically in a quadrant of the wheel (see below):

· Stakeholder's evidence

· Research evidence

· Data evidence

· Implementation evidence

Each is essential to capture, identify and address health service and community priorities and emergent challenges and need to be integrated to create the systems level intervention needed for a Learning Health System to deliver health impact.

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Adapted from MCHRI framework
Developed by Monash Partners
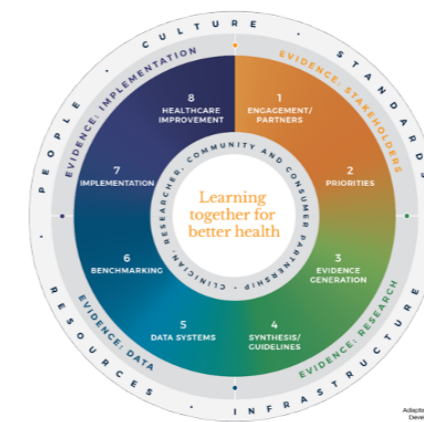
Stakeholder's evidence

Stakeholder's evidence in the Learning Health System is generated through engagement with end users, understanding of front-line health problems and identification of priorities. To achieve this the following is required:

· End-user engagement, partnership and transparent governance

· Genuine and ongoing engagement of all stakeholders at all stages

· Stakeholder engagement from the very beginning to understand the problem/issue from all perspectives; including front-line clinicians, patients and consumers with lived experience of the health condition and system

· Robust priority setting in partnership with all stakeholders including policy makers so that research and healthcare improvement efforts address what is most important.
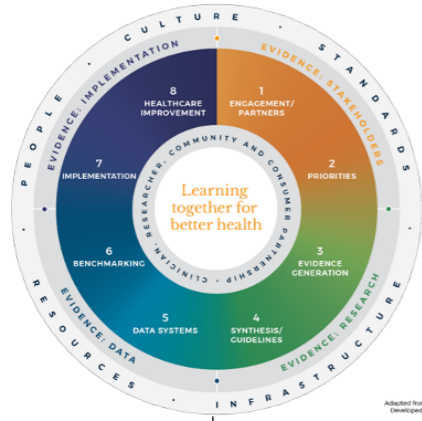
Research evidence

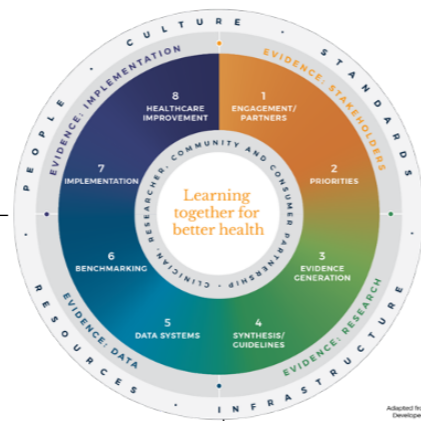In the Learning Health System, research evidence includes:

• Randomised clinical trials, systematic reviews and meta analyses

• Evidence based guidelines

• Data and relevant information from research/academic sources, reports and grey literature

• Economic and policy data

• Standards and policies as sources of best practice.

Implementation evidence

In a Learning Health System, data generated knowledge must then be translated into clinical practice and healthcare improvement to improve patient outcomes. Implementation evidence around how to create change, is generated through implementation research and sustainable change through health care improvement. Key considerations include:

• Effective leadership to support and drive implementation

• Building rigour and capacity for improvement programs through theory driven, methodological, rigorous and economically sound approaches

• Taking into account system level (external) and organisational (internal) perspectives

• Identifying and addressing barriers and enablers to implementation

• Ensuring the change is relevant across stakeholders and settings

• Capturing learnings on effective implementation and improvement practices

• Monitoring, audit and feedback, assessment of impact, and refinement.

Data evidence

Data evidence is generated from real time health data and benchmarking, aspiring to the following:

• Identifying existing data relevant to the problem/issue

• Identifying what, if any, additional data is needed

• Accessing quality, timely, meaningful and actionable data

• Compliance with FAIR data principles: Findable, Accessible, Interoperable and Reusable*

• Governance data sharing systems to support appropriate management and sharing of data

• Support for data linkage, data interpretation and data analysis

• Application of big data analytics, Natural Language processing and artificial intelligence

• Real time visual representation of data at individual, service and organisational levels

• Mechanisms for ongoing audit and feedback

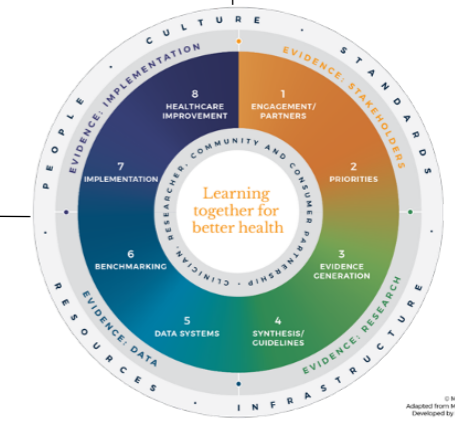• Benchmarking of data to evaluate the quality of data, health care provision and health outcomes.

* (See Australian Research Data Commons website:
https://ardc.edu.au/resources/working-with-data/fair-data/).