

Table 1: Key characteristics of a learning health system.

Clear standards of service delivery, both operational and clinical, to make sure we are managing patients/ consumers through the process of healthcare service delivery effectively (where the patient/consumer is an active participant in their care and we are respectful of their time), as well as ensuring the clinical care provided is of the expected quality.
Timely assessment of non-adherence to standards (through feedback loops).
Communication processes that ensure prompt action can be taken in response to identified issues.
Clear operational management processes into which improvements can be embedded (resilience).
Training in new processes to support understanding and consistency of delivery.
Methods of monitoring known demand and changes in the environment that can alert us to issues (e.g., a disease outbreak) or opportunities arising (e.g., from research) so that we can prepare for them (ultra-stability).
<i>Ad hoc</i> monitoring processes to identify issues not captured by regular monitoring.
Processes for enabling issues or opportunities for improvement to be identified anywhere in the system at any time by anyone, and for potential solutions to be assessed/implemented.
Processes for the promulgation of lessons/innovations/improvements throughout the system.
Underlying information infrastructure designed to provide real- or near real-time data to support decision making. Data must be transformed into information that is accurate, timely, complete and relevant to the decisions that must be made, and presented in a digestible form to the receiver.

Table 2: Key characteristics of the Viable System Model (VSM).¹⁹

<p>According to the VSM, a viable organisation must include five sub-systems. The VSM is recursive (where each level contains all the levels below it). Viability requires each sub-system to be present, of good quality and in balance, along with communication and control channels, at each level of the system/organisation. The recursive nature of the VSM enables the management of complexity. Each lower level manages a smaller scope but in greater detail. Each lower level has autonomy to manage its operations within agreed controls, enabling decisions to be made closer to their source. This reduces bureaucracy. The sub-systems represent functions, not positions, in an organisation chart. Some functions may be carried out by the same person or people. The sub-systems are:</p>
<p>System 5: Governance/purpose—establishes the organisation’s purpose, identity, culture and values and ensures mechanisms are in place for the effective functioning of the entire organisation (i.e., for that level and its lower levels).</p>
<p>System 4: Planning/adaptation—considers the external environment for both known and unknown futures and includes links out to research. As the environment is ever-changing, this function is essential for the organisation to adapt.</p>
<p>System 3: Management control—manages the stability of the organisation, and brings together operational management, personnel, finance, IT and infrastructure to, for example, deliver to the current plan; and 3*: Audit and monitoring—monitors the performance of the operational units (System 1s) against the targets System 3 has set, ensuring the rules and regulations promoted by System 2 are being followed.</p>
<p>System 2: Coordination—coordinates the necessary resources across System 1s to ensure that they function harmoniously and promote the rules and regulations set by System 3.</p>
<p>System 1: Operations—concerned with implementation, with doing what the organisation exists to do, so what happens here is what matters.</p>
<p>Absorbing lessons learnt and necessary change</p> <p>System 3 will absorb changes that can be made within the current resourcing. System 4 will consider more significant changes. Plans for significant change must consider the capacity and capabilities of the organisation and its ability to absorb the change. When Systems 3 and 4 cannot agree, System 5 will intervene to help resolve the issue.</p>

Figure 1: Managing ophthalmology services using the Viable System Model—a learning system.

