Telehealth Service Implementation Model (TSIM™): A Framework for Telehealth Service Development, Implementation, and Sustainability

Overview

Telehealth is experiencing exponential growth and substantial resources are available to guide early-stage adoption (e.g. infrastructure, regulation), including tools outlining the basic steps to develop a telehealth service. Yet, telehealth programs are not widespread, small scale services are poorly integrated into health systems, and a majority of successful pilots are ultimately not sustained. At the Medical University of South Carolina, as our telehealth service portfolio expanded, we began experiencing a variety of growing pains related to increasing demand, planning challenges, resource needs, knowledge concentration risk, and the ongoing need to demonstrate value for telehealth through robust evaluation. We developed numerous tools including checklists and protocols but ultimately identified the lack of a comprehensive and systematic framework as a major impediment to ongoing telehealth service design and sustainment. We recognized a need for practical resources for telehealth service development and implementation beyond the startup phase and sought to develop a solution. The Telehealth Service Implementation Model (TSIM) is a guiding framework intended to support health systems and providers in navigating the complexities of telehealth service development and implementation. TSIM provides a phased approach with core processes and a common terminology to help teams accelerate their clinical transformation efforts. This novel approach to telehealth service development has enabled our institutional goal of comprehensive telehealth integration. What follows is a description of the phases of TSIM along with their requisite components, followed by an infographic summarizing the framework (**Figure 1**).

Strategy Phase

Strategy is the phase in which a new service is aligned with overall organizational clinical strategy. This increases provider engagement and mitigates mission creep. A driving question asked in this phase is "what is the exact problem that the telehealth service is attempting to solve?" Subsequently, the scope of the new service is developed, accounting for factors that will affect operational and clinical workflows such as the condition(s) being treated, patient location, and providers delivering care. A standardized scoring tool is utilized to assist with prioritizing services in the development process. Performance metrics are identified, and the high-level technical approach is determined. Finally, a timeline is drafted, and a charter is executed with key stakeholders.
Key steps/processes include: *Pipeline (pre-Strategy phase), Intake, Prioritization Scoring, Performance Metrics, Technology and Timeline, Charter Formation*

Development Phase

During the Development Phase, the 'build' of the telehealth service begins and follows key pathways to ensure all applicable tasks are accounted for and completed. The core clinical pathway includes developing a standardized clinical workflow and operational protocols, accounting for factors that impact that workflow (e.g. patient registration/scheduling, clinical documentation, billing). In this phase, electronic health records are adapted, compliance/legal personnel are engaged, and credentialing occurs. Performance metrics are refined and built into data reporting tools. Engaging multiple stakeholders during Development can be extremely challenging. A responsibility matrix is used in TSIM to clearly identify who is responsible, accountable, consulted, and informed for each step.
Key steps/processes include: *Pre-Check, Clinical Pathway, Technology Pathway, Legal & Regulatory Pathway, Outcomes Pathway, Launch Status Brief*

Implementation Phase

The Implementation Phase is the period of training, testing, and going live. Providers are trained on workflows and equipment, mock calls are practiced, and launch dates are established. Meticulous communication and robust technical and operational support are imperative, as any initial frustration has significant long-term impacts on provider engagement and implementation success. New services will remain in the Implementation Phase post go-live until a predetermined patient volume and/or time interval has been met and consensus has been achieved to move the service into the Operations Phase.

Key steps/processes include: *Implementation Roundtable, Training and Mock Calls, Pre Go-Live Brief, Go-Live, Post Go-Live Debrief*

Operations Phase

Once a service reaches the Operations Phase, alignment between strategy and operations is evaluated from multiple stakeholder perspectives. The goal is to deliver highly reliable, high quality services that continue to improve quality of care and the patient and provider experience. Service delivery management maintains a focus on the people, process, and performance of the telehealth services to drive operational efficiency. Operational technology management ensures the telehealth infrastructure, systems, software, and devices are reliable, and there is a team that will rapidly respond to and resolve "incidents" defined as any unplanned events that adversely impact the delivery of the telehealth service.

Key steps/processes include: *Service Delivery Management – People, Process, and Performance, Operational Technology Management – Infrastructure Reliability, Incident Response, Technical Resolution Management*

Continual Quality Improvement

Throughout the framework, Continual Quality Improvement provides a formal mechanism to improve processes and ensure the telehealth service maintain alignment with the evolving needs of the customer. This occurs through recurring assessment of the key performance metrics and the establishment of process improvement tools. Identified service optimizations are prioritized and communicated through an internal brief. The optimization is reviewed at a pre-check meeting in Development to identify and assign tasks. The completion of these tasks follow the normal route through Development and into Implementation where new training, mock calls, and a go-live is established.

Key steps/processes include: *High-Reliability, PDSA Cycles, Fishbone Diagram (Cause and Effect)*

To learn more about TSIM, please contact the MUSC Telehealth Center of Excellence (TelehealthCOE@musc.edu).

Figure 1: Telehealth Service Implementation Model (TSIM)