

MUSC'S Ambulatory Telehealth Journey

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Introduction

The COVID 19 pandemic brought significant changes to the world of medicine and clinical practice. One of the most notable lessons from this pandemic is that in an environment of rapid adoption, an approach focused on simplicity, both for the patient and clinician, holds far more benefits than more "sophisticated," i.e., complicated, telehealth strategies. Future investigations will undoubtedly review the telehealth experience of 2020 and provide a rich source of opportunities to refine ambulatory virtual care's place in the health system. MUSC's individual institutional experience validates the broader experience of health systems across the country attempting to improve care and may inform opportunities to enhance such care going forward.

In March 2020, MUSC's ambulatory clinic volumes declined by over 70% from pre-COVID baseline volumes. The MUSC experience included a steeper recovery and one that was more virtually driven compared to the national benchmarks. An initial goal of returning outpatient visit volumes to at least 80% of baseline was surpassed, thanks in large part to ambulatory visits conversion to virtual visits. While this is a bright spot in an otherwise very difficult year for health systems, the change management required was and continues to be difficult. We identified three distinct phases to describe MUSC's 2020 ambulatory virtual care experience: (1) Rapid Response, (2) Stabilization, and (3) Strategy Development. Within each of these stages, MUSC experienced several challenges that gave way to unique opportunities that are likely to have enduring impact on ambulatory operations. These distinct phases are described below, followed by a table outlining the opportunities and enduring impact of each phase.

Rapid Response

The Rapid Response phase marked the first months of the pandemic (March – April 2020), during which MUSC rapidly implemented virtual visits health system-wide to maintain continuity of care and restore clinic volumes at a time when strict social distancing measures were being implemented. It became immediately clear to MUSC's Center for Telehealth that the support processes currently in place for telehealth could not scale to meet the new demands of the clinical volume. A temporary, crisis-oriented governance structure was implemented and proved to be impactful early on. This governance structure assembled resources two to three times per week for rapid decision making and communication. Topics discussed included the virtual clinic workflow, the consent process, and the platform features available to enhance the patient experience. Additionally, each clinical unit was allowed the flexibility to adjust their manpower to their own specific needs and resources, which proved to be of equal if not of greater value in implementing the virtual visits rapidly. As a lasting impact, the ability to create and disseminate standardized workflows of staffs' roles and responsibilities was adopted, yet the implementation of these workflows across the enterprise proved to be diverse. Staffing deficits and appropriately converting care team roles to assist with virtual care coordination was an early issue during this phase and remains one to be addressed during the phase of Strategy Development.

Existing technology for ambulatory video visits was difficult or costly to scale, and the electronic health record integrations with patient portals often presented barriers to ease of use. In an academic setting, the ability to leverage learners, staff, and ancillary support, such as interpreters

and family members, made group calling or virtual waiting room functionality an essential element of the video platforms utilized by clinics. To meet these challenges, a secondary web-based platform was deployed with the ability to send a link directly to a patient via email or text. This platform quickly became the predominant platform of use among MUSC providers, although use of other platforms available also became common with privacy restrictions being eased. To support provider education, instructional materials were created and disseminated, and clinician advisory groups were formed. The scale of use indicated that most learning was done individually by clinicians themselves or in a peer-to-peer fashion. For real time clinic support, a help desk was setup to assist in the virtual transition, though this was underutilized. The Rapid Response phase of ambulatory video adoption was remarkably successful in terms of speed of adoption and the creativity of end users. However, there were many challenges ahead that came with diversified processes, multiple technologies, and the reintroduction of privacy and security policies.

Stabilization

Several months into the pandemic, MUSC had an unprecedented amount of data on telehealth operations, and we shifted our focus to enhancing the overall quality of the telehealth experience. Early findings provided insights into the drivers of provider and patient satisfaction. For MUSC, the opportunities for improvement were most prevalent in the areas of care team coordination and the technical success of an interaction. A common source of dissatisfaction related to the difficulties of converting in-person visits to telehealth visits. This issue was addressed through standardizing individual roles in a telehealth visit, which was informed in part by learning best practices from higher satisfaction-scoring clinics. Audio quality of the call also uniquely influenced scores and was adopted as a driving metric along with the video quality. The audio metric correlated with provider feedback about the loss of the conversational nature of the interaction when audio failed.

Provider satisfaction was more difficult to assess with the use of diverse platforms, though it was clear that while providers were embracing telehealth, technology issues were prevalent. The web-based platforms provided ease of use but introduced personal device and web-browser related issues for the users that were dynamic and compounded by common internet connectivity deficits. Staffing limitations and the scope of demand for providing patient-focused technical support proved to be an ongoing challenge as much of the troubleshooting during encounters was falling on the clinician. Mitigation efforts included enhancements of patient-support resources where possible (help desk and websites references) and recommendations of pre-visit technology checks between patients and clinic staff if capacity allowed. Improving on digital literacy support remains critical and something to be considered in Strategy Development. Additional workflow concerns related to non-integrated solutions began to surface. MUSC launched an internal review of available video clients and patient portal options, with the goals of establishing a set of standard platforms and revised processes for the near term. The team also began to explore the longer-term technology approach that might balance the need for improved patient assistance, ease of use for providers, and health system workflow needs.

Strategy Development

In late fall, MUSC shifted the ongoing stabilization concerns to more long-term planning around the role of ambulatory telehealth in the health system's strategy, which we refer to as Strategy Development. We began to see telehealth clinical strategies shift as many clinics have decreased the use of telehealth, influenced by reimbursement uncertainty and productivity concerns. Other areas have embraced a longer-term vision and have begun to shift away from seeing telehealth

as a replacement for in-person visits and now see telehealth as part of the continuum in which virtual care is additive. As a first step in establishing a consistent, enterprise-wide telehealth strategy, a set of guiding strategic principles were established and approval was sought from enterprise level governance committees. These principles provided enterprise guidance on patient preference, standards of care, increasing access and cost efficiencies including the planned use of clinic space. Subsequently, individual clinical departments were given the charge to establish their own telehealth utilization goals and the strategies to obtain them.

Despite all challenges, MUSC leaders understand the ongoing need for telehealth as we enter a new era of healthcare, one in which we better pivot to meet the needs of our patients and improve patient and provider satisfaction alike. Patients are preferring more frequent, shorter visits, which can be best accomplished via ambulatory video visits. To that end, MUSC leadership is exploring a new structure in which every service line incorporates aspects of telehealth. Having rapidly operationalized telehealth throughout our health system, MUSC's focus is now on the future and developing an enterprise telehealth strategy that positions us well in this new era of digital health.

For more information on MUSC's ambulatory telehealth journey or questions about the COE, please contact us at telehealthcoe@musc.edu.

Pandemic Response Phase	Opportunity Identified	Enduring Impact
<i>Rapid Response</i>	Shared governance needed across telehealth, ambulatory, and information solutions teams	Formal committee structure established
	Existing telehealth platforms would require extensive expansion to accommodate scale of use	Low cost, internet browser-based telehealth clients introduced and rapidly adopted
	Early impact of large-scale telehealth use on ambulatory operations is uncertain	Dashboard data reporting established at enterprise level for utilization, visit show rates, payment charge returns and patient satisfaction
	Ease of use of stand-alone telehealth platforms accelerated adoption over health record integrated solutions	Standard workflows established with flexibility allowed for type of video platform
	Multidisciplinary and educational teams find innovative ways to adjust workflow with video technologies	Highly accessible telehealth platforms with flexible virtual room sharing or multi-party calling see wide adoption among academic center providers with minimal training
<i>Stabilization</i>	Care team coordination and telehealth technical success drive patient willingness to recommend the service	Perception of how well team worked together, video quality and audio quality established as core metrics for improvement
	Technical success improvements hindered by multiple platforms use with variable reporting capabilities	Telehealth platform goals redefined, and available platforms reviewed for retention
	Combined goals of ease of patient entry into virtual visit and integration with patient portal functionality highlight a technical deficit in available platforms	Virtual visit triage technologies exploration as potential differentiator for consistent successful patient encounters
	Scheduling changes between in-person and virtual visits are a source of patient dissatisfaction	Process improvement team formed to leverage best-practices of high performing clinics
<i>Strategy Development</i>	As provider comfort with telehealth increases, desire for stable video technologies and integrations is balanced against ease of use	Short- and long-term strategies on telehealth platforms emerge
	Providers begin to appreciate the virtual and in-person visit types as distinct opportunities in a care continuum	Protocols for use of telehealth in the care continuum begin to emerge
	As long-term reimbursement uncertainty persist, variability exists between how clinical units perceive their telehealth strategies	Enterprise telehealth principles established to facilitate consistent telehealth goals and strategies across clinical units
	Care access disparities can be exacerbated with use of telehealth	Connectivity improvements and patient digital literacy actions needed throughout populations served