

Critical Considerations for Reopening Scheduled Surgical Care in the Setting of the COVID-19 Pandemic

A Framework for Implementation

Christy E. Cauley, MD,*†✉ Rachel Smith, MS,* Keith D. Lillemoe, MD,† Gerard M. Doherty, MD,‡ Lawrence Scott Levin, MD,§ Steven D. Wexner, MD,¶ Yves Sonnay, MPH,* and Mary Brindle, MD*

Keywords: implementation, pandemic, resource limitation, surgery

(Ann Surg 2020;272:e303–e305)

The COVID-19 pandemic has caused delays and cancellations of surgical procedures across the United States and the world. The full impact of these delays is unknown. What is known is that widespread surgical postponements create a significant burden of patient suffering across populations. Marinage et al noted that there would be “substantial increases in the number of avoidable cancer deaths” in England secondary to this pandemic induced diagnostic delays.¹ Currently, there is nation-wide variability in practices related to the reopening of operating rooms. Some hospital systems have recovered from the initial surge of COVID-19 infections. Still others face ongoing resource constraints and concerns for the safety of healthcare providers and patients in the setting of rising community rates of COVID-19.

Public health, health system policies, hospital resources, economic and political considerations, and community infection rates will influence decisions to reopen operating rooms. A Joint statement was published on April 17, 2020 to help health systems resume elective surgery in a collaboration between the American College of Surgeons, American Society of Anesthesiologists, Association of periOperative Registered Nurses and the American Hospital Association.² The statement lists critical considerations for hospital systems including the timing of reopening, testing for COVID-19, personal protective equipment needs, case prioritization issues, and concerns for safety and risk mitigation. Adapting and implementing policies derived from these principles is crucial to expanding the scope of surgical care during the pandemic and complex for any healthcare system.

Health systems are faced with a difficult task of rescheduling a backlog of patients and preventing further delays in care. In addition, health systems will be expected to provide the same quality of surgical care, despite new safety concerns and resource constraints caused by the pandemic. An additional challenge is rapidly recognizing subsequent surges in Covid-19 infection with relaxation of physical distancing, lockdowns, and quarantine regulations. A

qualitative study performed by Ariadne Labs performed after release of the Joint Statement identified critical considerations and challenges to reopening scheduled surgery. This assessment revealed concerns among surgeons, anesthesiologists, health system leaders, and patients regarding the safety of surgical patients and perioperative staff. These concerns fell into a number of problem areas. Patient advocates described breakdowns in communication between providers and patients, which worsened concerns about receiving surgical care. In addition, several healthcare providers identified concerns with maintaining equity in rescheduling cases in vulnerable patient populations even when standardized prioritization policies were developed. The surgeons, anesthesiologists, and perioperative care leaders described that their institutions rapidly developed and disseminated new policies. Several interviewees identified modifiable barriers to implementation of these policies within the hospital and across health systems.

DESCRIPTION OF THE IMPLEMENTATION FRAMEWORK

Implementation frameworks may help health systems translate policies and recommendations into practice. The Surgical Reopening Implementation Framework (SRIF) was created by Ariadne Labs partnering with national surgical leaders to aid health systems in implementing the elements of the joint statement amid ongoing concerns due to the pandemic (Fig. 1). It is based on the Exploration, Preparation, Implementation, Sustainment (EPIS) framework widely used in implementation science.³ We built upon this framework using policies recommended within the Joint Statement and themes identified in qualitative interviews performed at Ariadne Labs. To ensure face validity, we reviewed and modified the framework based on feedback from 4 surgical leaders at institutions affected by the COVID-19 pandemic.

Application of the recommendations within the Joint Statement requires thoughtful planning that can be executed quickly. Certain factors will impact every phase of implementation. Local and national policies and community disease epidemiology have broad reaching implications on all elements of the framework. The modifications reflect the implementation needs in times of crisis. The SRIF is designed for sustained cycles of reevaluation and adaptation with an eventual return to normalcy. There is also the addition of a pause phase which is crucial when there are time and resource constraints.

EXPLORE

Quality implementation begins by exploring how local contextual factors influence uptake of new policies. The organization leadership structure should be evaluated to determine necessary stakeholders. Consistent approaches to reopening and sharing of resources between hospitals should be coordinated. In the setting of

From the *Ariadne Labs: A Joint Center of the Harvard School of Public Health and Brigham and Women's Hospital, Boston, Massachusetts; †Department of Surgery, Massachusetts General Hospital, Boston, Massachusetts; ‡Department of Surgery, Brigham & Women's Hospital, Boston, Massachusetts; §Department of Surgery, University of Pennsylvania, Philadelphia, Pennsylvania; and ¶Department of Surgery, Cleveland Clinic Florida, Weston, Florida.

✉Ccauley@ariadnelabs.org.

Part of this work was funded by the Argosy foundation.

The authors declare no conflicts of interest.

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ISSN: 0003-4932/20/27206-e303

DOI: 10.1097/SLA.0000000000004503

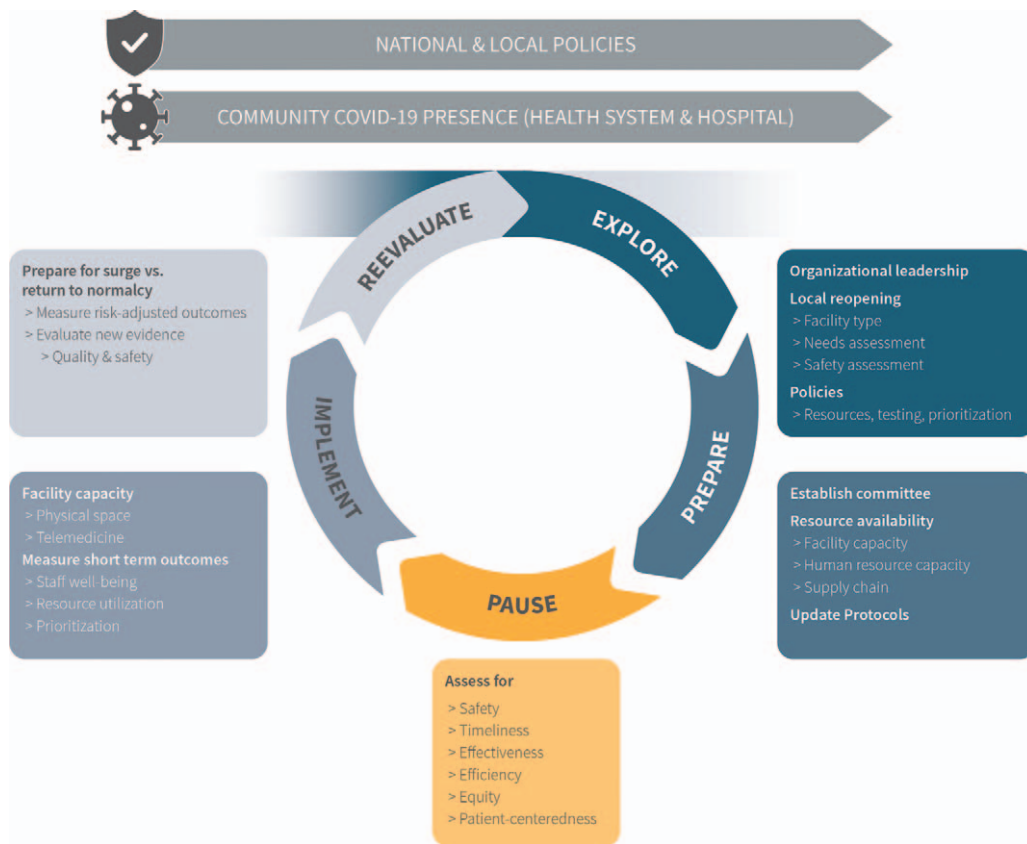


FIGURE 1. Surgical Reopening Implementation Framework (SRIF).

COVID, rapid needs and safety assessments should be conducted, accounting for facility type and protocols including resources, testing, and prioritization. These findings will provide guidance regarding the timing and constraints for local reopening plans throughout a community and within the health system.

PREPARE

The next phase requires formation of a multidisciplinary integrated committee to lead and sustain uptake of new policies. The committee must include a surgeon, anesthesiologist, and nurse leader at minimum; a patient advocate or ethics representative should also be included. Committee members should represent diversity in terms of color, sex, culture, specialty, and experience. An inventory of available resources must be conducted, including staff, facility (beds), supplies, and equipment in light of new potential constraints. This includes evaluation of the supply chain for sustainability. A standardized prioritization protocol should be used to inform rescheduling of surgical cases, avoid delays in time-sensitive operations, and ensure equity. An appeals process should be established to allow a patient's individual surgeon to account for patient variation related to disease impact on the patient's quality of life when appropriate. Existing protocols should be updated to reflect any new processes.

PAUSE

The rapid creation of new system processes during a crisis runs the risk of missing or not accounting for critical elements for

providing quality care. Creating a formal moment to pause before implementation allows review and revision of plans. The 6 domains of healthcare quality, identified by the Institute of Medicine,⁴ can provide a structure for guided inquiry before implementation. This step is important to identify potential harm, ensure evidence-based practice, provide patient reassurance through communication, evaluate for fairness and equity, exhibit stewardship of resources, and minimize delays or failures in roll-out.

IMPLEMENTATION

High-quality implementation requires monitoring of short-term critical outcomes to allow the system to be rapidly and iteratively improved. Assessments should focus on providing safe, timely, effective, efficient, equitable, and patient centered care. These outcomes should be reviewed at prespecified, short time intervals (ie, weekly or monthly) to ensure implementation goals are met and deficiencies addressed. Frequent communication and early data sharing are keys to success.

The following examples of short-term evaluations might be conducted. Supply of PPE should be assessed to anticipate shortages before a critical need develops. Staff well-being surveys might identify causes for staffing issues related to burn-out or unanticipated personal or family needs. Patient safety surveys can identify concerns of quality and safety that are unreported or under-reported by staff. A priority dashboard should be used to evaluate completion of time-sensitive or high priority cases within a prespecified time frame. Flexible scheduling could then be offered to vulnerable patients

whose time-sensitive care is being delayed. Reviewing this information regularly can improve a health system's ability to provide equitable and timely care.

REEVALUATE

The final phase of implementation is reevaluation to determine if the situation has stabilized. We should strive to provide high quality surgical care, just as we did in the prepandemic state. During the reevaluation phase, the system should evaluate risk-adjusted and long-term outcomes to identify new areas for improvement in patient safety and quality. Due to the novel nature of the COVID-19 pandemic, new evidence should be reviewed on a consistent basis and integrated into practice. The system needs to be prepared for one of more additional surges and can use this evidence to improve the system for a new cycle of implementation beginning at the explore phase. It is important to maintain vigilance, continue the dialogue among members of the interdisciplinary integrated leadership group, and continue to monitor the variables which influence reactivation of the COVID-19 management plan.

REOPENING SURGICAL CARE ACROSS SURGICAL HEALTH SYSTEMS

The COVID-19 pandemic affects different communities at different rates. Hospital systems and surgical centers across a community need to communicate and make consistent decisions to meet the local needs of patients in a community. Consistency in policies will help build patient and provider confidence in the decisions made by healthcare leadership. This consistency will also help ensure policy compliance by healthcare providers working at multiple health care sites. Finally, patients will be reassured that they are

receiving timely and equitable care if similar priority cases are being scheduled across hospitals in their community.

CONCLUSIONS

The timing of reopening operating rooms after the initial surge of COVID-19 has been affected by national and local policies and could lead to continued delays in surgical care. These delays impact surgical patients through prolonged suffering and delays in treatment of life limiting illness. The pandemic has provided new opportunities to explore surgical care delivery as hospital systems consider reopening to schedule operations. The implementation of new policies to ensure quality surgical care is challenging and poor implementation of new policies can lead to problems with safety, quality, and equity. The SRIF implementation framework can be used to aid healthcare systems in navigating patients and providers through this difficult time.

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