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Clinical Guidance and the Delivery of Care for Patients With Coronavirus Disease 2019

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Coronavirus disease 2019 (COVID-19) is challenging medical communities worldwide. As the contagious severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection spread rapidly across countries and continents, innovations beyond traditional health care delivery were needed to provide patient care. For large health care institutions such as Mayo Clinic, the development of institutional management guidance is essential to standardize and monitor clinical practice. We describe our strategies for developing and successfully implementing a clinical guidance that assists our health care professionals in caring for patients with SARS-CoV-2 infection.

DEFINING OUR NEEDS

The creation of a standardized management approach for a recently identified infectious disease with no known effective drug therapy has been our biggest hurdle. This hurdle was complicated by the urgency for institutional guidance in the face of a rapidly expanding pandemic. Because SARS-CoV-2 is a communicable infection that threatens the safety of our health care professionals, we also needed to develop innovative means of patient care delivery.

DEVELOPING OUR STRATEGY

Learning From Others

Continuous real-time assessment of the rapidly expanding medical literature is a core component of our task of developing our clinical guidance. Our partnership with the Rapid Literature Review Task Force, a group assigned to review and appraise the

evolving literature about COVID-19, has been instrumental in our workflow. The initial data that served as our framework were gathered from publications originating from China, where the pandemic began. From clinical experiences of other countries and communities that were ahead of the pandemic curve, we learned what treatment regimens were used and which drugs had failed or held promise.¹ Furthermore, the initial reports on the epidemiology, clinical course, and outcomes of COVID-19 helped us develop strategies aimed to prevent, diagnosis, and treat the disease.² The clinical guidance continues to evolve as more data emerge from the US experiences in New York City and the Seattle, Washington, area.

Engaging Stakeholders and Building Consensus

From the outset, it was evident that a successful institutional response to the viral pandemic would be achieved only through multidisciplinary collaboration.² We therefore engaged with multiple medical specialties to develop our clinical guidance, including hospital medicine, general internal medicine, anesthesiology, pulmonary critical care medicine, clinical microbiology, infectious diseases, infection prevention and control, radiology, cardiovascular medicine, hematology, nephrology and hypertension, pharmacy, and nursing, among others. Each group was delegated to brainstorm and develop their best general and specialty-specific practices in COVID-19 management. For example, what initial diagnostic tests are needed? What is the best management of respiratory failure? When

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do you suspect cytokine-release syndrome, acute myocarditis, and thromboembolism? How do we provide care to our patients while protecting our health care professionals from exposures? Leveraging the specific expertise of medical professionals and subspecialists afforded us the ability to develop a comprehensive multidisciplinary approach to the management of COVID-19 for patients, while keeping our health care professionals safe.^{2,3}

Real-time Data Inform Practice Guidance

Because no drug therapy has proven effective against COVID-19, our preferred approach for determining the best therapy for patients has been to utilize data from clinical trials of investigational compounds, including trials being conducted at Mayo Clinic.¹⁻³ We partnered with 2 task forces to ensure that our patients would benefit from potentially effective therapies: the Research Task Force, a group that coordinates all COVID-19 research at the institution, and the COVID-19 Treatment Review Panel, a group of 5 faculty members tasked with overseeing our clinical trials. Likewise, we developed a COVID-19 Treatment Registry that allows us to monitor our clinical practice and optimize our management guidance on the basis of our evolving clinical experience.

IMPLEMENTING THE CLINICAL GUIDANCE

Effective Communication

Acceptance by frontline medical professionals is critical to the successful implementation of the COVID-19 clinical guidance. We sought to gain its acceptance through effective communication by using various channels, including divisional and departmental conferences, conference calls, and group emails. The clinical guidance has been continually updated and made available to health care professionals on a dedicated institutional COVID-19 Web page. Later on, our partnership with AskMayoExpert, an online resource that delivers Mayo Clinic-vetted medical knowledge, ensured

greater visibility within the institution and elsewhere.³

Continued Partnerships

Developing a collaborative team approach started early during conceptualization of the clinical guidance.^{2,3} In the process, our medical professionals took ownership and implemented the guidance recommendations, which encompassed various aspects of COVID-19 medical care from the time of disease diagnosis until patient recovery.

Innovative Delivery of Care

A dedicated COVID-19 infectious diseases consultation service was created to directly assess and advise other health care professionals on the medical care of patients with suspected or confirmed COVID-19. This clinical team rapidly developed expertise in COVID-19 care because they served as consultants to frontline health care professionals. This team also facilitated access to investigational drugs undergoing clinical trials through partnership with the COVID-19 Treatment Review Panel.

Promotion of telemedicine is central to the clinical guidance. The practice of inpatient telemedicine has been a preferred method of health care delivery in selected situations to limit exposures of our health care professionals and to preserve personal protective equipment. The availability of outpatient telemonitoring services allowed patients with COVID-19 to receive medical care and monitoring while in quarantine in the safety of their own homes.

Feedback, Monitoring, and Readjustment

The COVID-19 clinical guidance continues to evolve as new information is gathered from our clinical experience and as updated management strategies are published in the literature. This ongoing reappraisal and updates to our real-time clinical guidance document ensures that it remains relevant to the rapidly evolving field.

CONCLUSION

The clinical guidance for the treatment of COVID-19 is a product of a multidisciplinary collaborative effort. The preparation of this management guidance started well in advance of the anticipated arrival of SARS-CoV-2 in our community. Support from divisional, departmental, and institutional leadership was instrumental in its successful implementation. Learning from the experiences of others, engaging stakeholders, building consensus, providing support, and real-time reassessing and continued adjusting of the clinical guidance were the key strategies in its ongoing development. Successful implementation of the clinical guidance involves effective communication, continued collaborations, feedback, and monitoring. Our perspectives should serve as a framework in the development of management strategies for novel, emerging, and reemerging infections.

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