PERSPECTIVE

Beyond "In the Red": Building the Business Case for a Post–COVID-19 Clinic

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I squinted at the many columns in the Excel spreadsheet before me, showcasing intricate financial calculations. It was hard to see how the ones and zeroes, the dollars and cents, told the study of what we were trying to do for our patients in the new multidisciplinary post–coronavirus disease (COVID-19) clinic I had started. Images flashed before my eyes of the inspiring patients I had cared for: the elderly woman who had adamantly declined intubation and came to the clinic wearing bright red lipstick, the young man who had been prone for weeks and now was chopping wood. But how could the joy from longitudinally taking care of these patients translate to the business plan before me? In the end, was our high-value care seen as just a low-return investment?

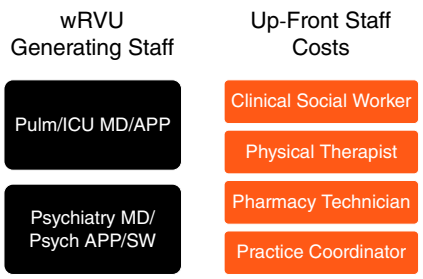

Figure 1. Graphical depiction of revenue-generating and up-front costs in setting up a post–COVID-19 clinic. APP = advanced practice provider; COVID-19 = coronavirus disease; ICU = intensive care unit; MD = doctor of medicine; Psych = psychiatry; Pulm = pulmonologist; SW = social worker; wRVU = work relative value unit.

Last year, we launched a multidisciplinary and interprofessional post–COVID-19 clinic to understand and address the persistent symptoms that some COVID-19 survivors were experiencing (1). We were naive in believing that the recent literature showing that survivors of COVID-19 are prone to myriad long-term complications in multiple organ systems, leading to high health care use (2, 3), would be enough to justify the numerous costs incurred in the development of a multidisciplinary post–COVID-19 clinic. The cancers detected, arrhythmias prevented, and hospitalizations averted seemed impactful enough to convince our health system of the clinic's value. Surely those cost savings would offset the need for patient coordinators, new multidisciplinary team members, and physician faculty support (Figure 1)? Ultimately, however, it required the development of a business plan and a complex series of calculations justifying financial solvency that would determine whether our newly founded post–COVID-19 clinic would be viable.

To our patients, these comprehensive visits and the issues we discover matter, as does the validation that we can provide to patients whose symptoms might have been dismissed by others. However, these issues do not necessarily make a good business case. In fact, the literature has been quite mixed on the cost-effectiveness of post–intensive care syndrome clinics (4–7), on which many post–COVID-19 clinics are based. We wondered if we could make the case that this question of cost-effectiveness should be revisited in the time of COVID-19.

Whether post–COVID-19 clinics have a 30-day mortality benefit—and whether that metric itself is even valuable for this population—is uncertain. Some studies have shown that post–intensive care unit (ICU) clinics can prevent hospital readmissions (8), but post–COVID-19 and post-ICU populations don't necessarily always overlap, and these populations may have unique and specialized needs. Although our post–COVID-19 clinic hasn't demonstrated cost-effectiveness yet, how do we measure the adverse outcomes that might never have happened, the crises averted, the Swiss-cheese holes plugged up? The *Pneumocystis* pneumonia that never happened because I stopped the prednisone that had been continued after discharge indefinitely, without an end date? The torsade de pointes that never occurred because I deprescribed the atypical antipsychotic that was no longer necessary after discharge? The emergency department visit and hospital stay for a new diagnosis of stage 4 colon cancer that thankfully didn't materialize because I avoided anchoring bias and recommended a colonoscopy rather than attributing it to post–COVID-19 symptoms? Patients themselves report that ICU recovery clinics not only treat ongoing physiologic problems but also alleviate symptoms, normalize experiences, help manage expectations, validate progress toward recovery, and reduce feelings of guilt. How do we capture or convey the monetary value of these truly "priceless" patient-centered outcomes?

(Received in original form November 18, 2021; accepted in final form February 28, 2022)

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Ann Am Thorac Soc Vol 19, No 8, pp 1257–1259, Aug 2022

DOI: 10.1513/AnnalsATS.202111-1270PS
Internet address: www.atsjournals.org

As clinicians, we are taught to listen empathically, communicate effectively, and efficiently order the most appropriate tests in the most cost-effective way. The concept of "high-value care" was defined by the Institute of Medicine in 2013 as "the best care for the patient, with the optimal result for the circumstances, delivered at the right price" (9). Hospital walls are covered with posters describing our latest high-value care initiatives, from limiting excessive blood tests (10) to avoiding excessive nebulizers when inhalers might suffice (11). Yet the financial incentives to build a new outpatient clinic often focus on downstream impact, referrals, and diagnostic testing. Ironically, the high-value care aspects of a "cost-saving" new post–COVID-19 clinic may in fact paradoxically make the clinic less likely to generate new revenue for the larger enterprise.

Health systems may need to anticipate that survivors of COVID-19 may need not only a post–COVID-19 acute follow-up model but also a chronic disease management model, because of the long-term impacts of COVID-19 and critical illness in general (12, 13). In a chronic disease management model, the focus may be more on prevention of bad outcomes rather than any known cures for these persistent symptoms. Interventions focused on prevention and chronic disease care can be costly up front (14) yet ultimately extremely cost saving, as we have seen in multiple public health examples, ranging from vaccination to cancer screening. Deprescribing in and of itself can be a potent, and ultimately cost-saving, intervention (15), and post-ICU clinics place an emphasis on the high value of embedded pharmacists.

As pulmonary/critical care specialists, we can play a unique role in owning the expertise of post-ICU patients: we can anticipate and deal with management of complications related to critical care hospitalizations and refer accordingly for areas outside our expertise. Like post-ICU clinics, post–COVID-19 clinics benefit from the holistic care provided by a complex multidisciplinary team, with a dedicated mental health social worker, a physical therapist, and a pharmacist. A chronic disease management model can further incorporate home monitoring and home health and can be situated at the nexus of primary care and specialty care. To rapidly scale up the needs of the large volume of post–COVID-19 patients, newer and innovative models of care will be required. Successful post–COVID-19 care structures will need collaborations with primary care, depending on resources. Post–COVID-19 clinics can serve as hubs to disseminate knowledge about postacute sequelae of COVID-19 rapidly and to build capacity locally (16). Innovative health policy models will need to be explored, and significant federal investments in clinical centers of excellence for long COVID-19 could spur quality control and consolidated care of patients experiencing postacute sequelae of COVID-19. Ultimately, setting up these novel care models may have short-term up front costs but can produce long-term benefits, many of which are difficult to measure. Indeed, as the pandemic stretches to its third year, and the critical care workforce is suffering from record rates of burnout (17), post–COVID-19 clinics may be one way to restore joy in practice and prevent further burnout (18). Clinicians, health economists, and policy makers need to come together to align incentives to provide optimal care for our outpatient survivors of COVID-19.

As for now, our post–COVID-19 clinic has sustained funding as we strive to accommodate the latest surges of patients with COVID-19. We have expanded our team to include ICU advanced practice providers to see follow-up patients, enabling clinicians to see larger volumes of patients. When volumes are low, we have pivoted to seeing more post-ICU patients instead, serving as a hybrid post-ICU/post–COVID-19 clinic. Ours is but one example of how post–COVID-19 clinics across the country are fighting to sustain themselves in the face of this novel chronic disease. Although the financial ledger may still be in the red for now, some of the benefits described here remain to be studied, and some benefits, like clinician well-being and prevention of readmissions, are indeed priceless. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

Acknowledgment: The author thanks OPTIMAL Clinic collaborators Dr. Brian Block and Dr. Rupal Shah as well as Critical and Acute Illness Recovery Organization network leadership and Dr. Carla Sevin for their input on this manuscript.

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