


# Rebooting the ambulatory enterprise in a community medical group in Kentucky following the initial surge of COVID-19

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## Abstract

The novel coronavirus disease 2019 (COVID-19) pandemic has intensified globally since its origin in Wuhan, China in December 2019. Many medical groups across the United States have experienced extraordinary clinical and financial pressures due to COVID-19 as a result of a decline in elective inpatient and outpatient surgical procedures and most nonurgent elective physician visits. The current study reports how our medical group in a metropolitan community in Kentucky rebooted our ambulatory and inpatient services following the guidance of our state's phased reopening. Particular attention focused on the transition between the initial COVID-19 surge and post-COVID-19 surge and how our medical group responded to meet community needs. Ten strategies were incorporated in our medical group, including heightened communication; ambulatory telehealth; safe and clean outpatient environment; marketing; physician, other medical provider, and staff compensation; high quality patient experience; schedule optimization; rescheduling tactics; data management; and primary care versus specialty approaches. These methods are applicable to both the current rebooting stage as well as to a potential resurgence of COVID-19 in the future.

**Abbreviation:** COVID-19 = coronavirus disease 2019.

**Keywords:** communication, coronavirus, coronavirus disease 2019, rebooting, telehealth

## 1. Introduction

Since the first 4 cases of “pneumonia of unknown etiology” were recognized in Wuhan, China on December 29, 2019 and subsequently identified as the novel coronavirus or the severe acute respiratory syndrome coronavirus 2,<sup>[1-5]</sup> this pandemic has ravaged the world in a shockingly accelerated pace, affecting a total 220 countries with a total of 179,686,071 confirmed cases and 3,899,172 deaths as of June 24, 2021.<sup>[6]</sup> The Commonwealth of Kentucky has documented 465,052 positive cases of

coronavirus disease 2019 (COVID-19) with 7247 virus-related deaths as of June 24, 2021.<sup>[7]</sup>

Many medical groups have faced overwhelming clinical pressures from COVID-19 due to an elevated risk of exposure to infected patients, a paucity of personal protective equipment for physicians, other medical providers, and staff, and an influx of gravely ill patients who have inundated hospital capacities.<sup>[8]</sup> Medical groups have also experienced financial repercussions resulting from a drastic decline in clinical volumes with their associated revenues.<sup>[9-11]</sup>

We previously reported the proactive measures that our healthcare system implemented to manage COVID-19 with the primary goal of maintaining a safe environment for physicians, other medical providers, staff, and patients.<sup>[12]</sup> Our healthcare system established a multidisciplinary Central Command Center on March 13, 2020 in response to COVID-19 which consisted of infectious disease specialists, other medical providers, nurses, pharmacists, and representatives from clinical administration, Employee Health, Human Resources, and Supply Chain. Three main strategies were implemented, including innovative processes/operations; clear and transparent communication; and adaptations in infrastructure.

The first patient with confirmed COVID-19 was admitted to our facility on March 6, 2020 followed by a sharp decline in patient volume due to apprehension of leaving home (Fig. 1). Telehealth escalated rapidly with a large monetary investment in laptop computers, cameras, and software (Fig. 1). On March 14, 2020 our state's Governor ceased all elective medical procedures and childcare facilities<sup>[13]</sup> and, 9 days later, closed all nonlife-sustaining businesses.<sup>[14]</sup> Our medical group was 103% and 110% of its budgeted volume in January and February 2020, respectively. We were 78% of the budgeted volume in March 2020. Our medical group experienced a volume decline between

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All data generated or analyzed during this study are included in this published article [and its supplementary information files].

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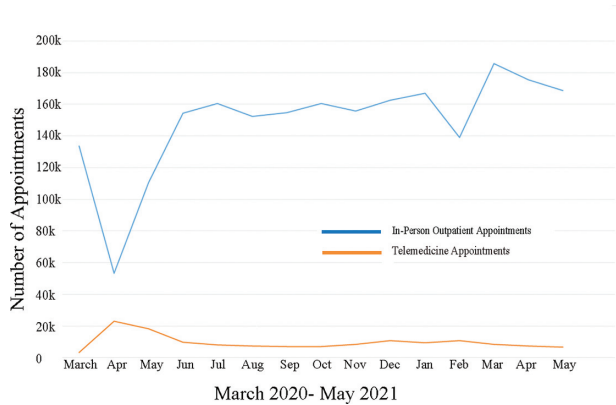
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**Figure 1.** In-person patient appointments and telehealth appointments at our medical group (March 2020–May 2021).

March and May 2020 with a subsequent volume recovery. Budgeted visits were calculated at the physician and other medical provider levels and were based on historical run rates along with planned changes that operations anticipate will occur, such as expected changes in productivity as well as new practices, physicians, and other medical providers joining our medical group.

Our medical group was 44% of its budgeted volume in April 2020. On April 20, 2020 the Governor closed all public schools for the remainder of the school year.<sup>[15]</sup> With the opening of nonurgent healthcare services on April 27, 2020 (Phase 1), outpatient/ambulatory surgery and invasive procedures on May 6, 2020 (Phase 2), and nonurgent inpatient surgery and procedures at 50% of pre-COVID-19 shutdown volume (Phase 3),<sup>[16]</sup> we were able to attain 79% of the budgeted volume in May 2020. Our medical group achieved 97% of its budgeted volume in June 2020 which was up 42,249 visits over the prior year for the same period. The medical group achieved 91% of its budgeted volume in July 2020 and again was up 39,152 visits over the prior year for the same month.

The current study reports how our medical group in a metropolitan community in Kentucky rebooted our ambulatory and inpatient services following the guidance of our state’s phased reopening. Ten strategies were incorporated in our medical group, including heightened communication; ambulatory telehealth; safe and clean outpatient environment; marketing; physician, other medical provider, and staff compensation; high quality patient experience; schedule optimization; rescheduling tactics; data management; and primary care versus specialty approaches (Table 1). The chair/vice-chair of the Institutional Review Board at the University of Louisville determined that this study did not meet the “Common Rule” definition of human subjects’ research.

**2. Our healthcare system**

Our healthcare system includes a medical group with 300 clinics, 4 adult hospitals, and a pediatric hospital. Our medical group consists of 1657 physicians and other medical providers (924 physicians, 668 advanced practice providers [nurse practitioners and physician assistants], and 65 other licensed providers [all other billable providers such as social workers, psychologists, and genetic counselors]) as of June 1, 2021. Our medical group

**Table 1**

**Strategies implemented at our medical group to reboot following COVID-19.**

- Heightened communication
- Ambulatory telehealth
- Safe and clean outpatient environment
- Marketing
- Physician, other medical provider, and staff compensation
- High quality patient experience
- Schedule optimization
- Rescheduling tactics
- Data management
- Primary care versus specialty approaches

represents 90 specialties/subspecialties across adult and pediatric care including a large primary care presence with more than 3 million visits annually. As of June 23, 2021, a total of 350,000 COVID-19 tests were completed for 240,000 patients, of whom 36,000 tested positive.

**3. Communication**

Communication between leadership, physicians, other medical providers, other employees, and patients was a vital component when our medical group was initially faced with COVID-19 and continued to play a pivotal role during the rebooting process (Fig. 2). The primary goal of communication was to address anxiety and boost morale and stamina among providers, staff, and patients. The executive team convened daily, the command center leads met 2 to 3 times per week, and all managers, directors, and vice-presidents assembled 2 to 3 times per week. The medical group leadership also conducted weekly debriefing telephone calls with all providers. An employee health hotline and confidential employee emotional support line were established at the onset of COVID-19 and continued throughout the rebooting to respond to employees’ questions and offer coping tools, respectively.

**4. Ambulatory telehealth**

Ambulatory telehealth was launched by our medical group on March 25, 2020 in response to COVID-19 and expanded to all



**Figure 2.** Organizational chart depicting communication between leadership, physicians, other medical providers, other employees, and patients at our medical group.

medical specialties within 2 weeks. During the rebooting phase, ambulatory telehealth continued to be supported and promoted as a way to receive medical care while practicing safe distancing. The Primary Care Physician Executive Medical Director created an ambulatory telehealth task force to catalogue and remove barriers for patients, physicians, and other medical providers. The daily completed telehealth appointments stabilized in June 2020 and averaged 350 to 400 per weekday, which was 14 to 16 times higher than the averages before COVID-19. Additionally, information technology leaders partnered with the telehealth task force to upgrade the platform and launch a new dedicated patient-facing help desk model to support patients with technology barriers or deficits.

## 5. Outpatient environment and electronic registration

Several measures were implemented to ensure the safest outpatient environment possible for physicians, other medical providers, and patients during the rebooting process. In addition to greatly enhanced cleaning of waiting rooms in outpatient offices, they were also redesigned for social distancing, with 1 chair every 150 sq ft apart to confirm  $6 \times 6 \times 6$  ft distance around each patient. All patients were screened for COVID-19 symptoms before entering the waiting rooms and were required to wear masks at all times.

At the initiation of COVID-19, electronic registration was performed during a connection phone call 1 to 2 days prior to their telehealth or outpatient appointment. Patients electronically checked in (eCheck-In) prior to their visit or registered over the phone before their appointment. There was a 120% increase in eCheck-In at our medical group comparing May to July 2020 to January to March 2020. Patients had the option of either eArriving or calling upon arrival so that they entered the facility when we are ready for them. Patients remained in their cars before their appointment or, if unable, proceeded to the socially-distanced waiting room. Electronic registration reduced in-person contact and expedited the patient flow. During the rebooting phase, connection phone calls and electronic registration remained in place and were integral in encouraging telehealth when appropriate.

The medical group leadership performed audits of practices by implementing increased intentional rounding to observe and discuss opportunities or recognize teams. Executive leadership calls continued to re-emphasize the daily “must dos” to ensure continued compliance with mask donning and safe social distancing when entering buildings, riding elevators, and during breaks.

## 6. Marketing

Our medical group broadcast to our community that we were prepared, safe, and accessible to return for elective inpatient procedures and outpatient visits. This message was publicized through social media, television, and myChart, our medical group’s personalized electronic platform that allows patients to communicate with their physicians and other medical providers, request prescription refills, access test results, and manage their appointments. An additional aspect of marketing was informing our community that serology and reverse transcription polymerase chain reaction testing was available at our medical group with enhanced drive-thru opportunities and community testing.

## 7. Compensation

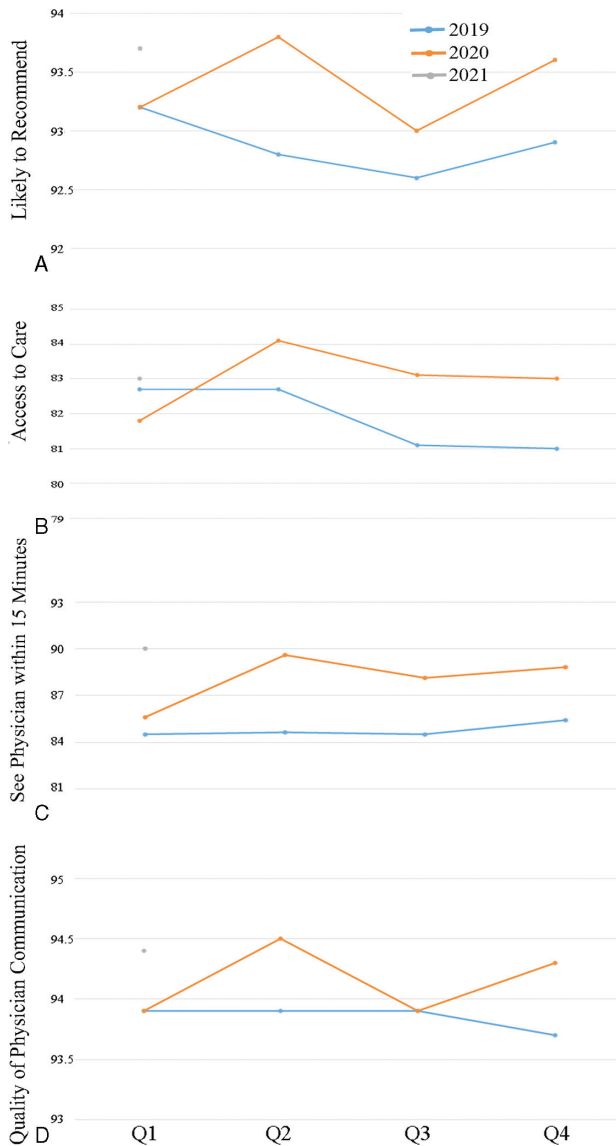
Despite the low patient volume treated by our medical group before rebooting, none of the physicians, other medical providers, or staff were laid off, and their compensation remained “whole”. The physicians and other medical providers on a productivity model were paid according to 2019 productivity rates. The compensation of physicians and other medical providers who were on salary and employees who worked 40 hours per week remained intact. Furthermore, the part-time and as needed staff were kept “whole”, based on average hours worked prior to COVID-19. By investing in our physicians and staff, they were incentivized and rewarded to continue working during the rebooting stage.

## 8. Patient experience

Our medical group placed an emphasis on patient experience during the rebooting process. The official “Smile Behind the Mask” campaign was launched to promote meaningful human interactions while practicing social distancing. We pivoted from in-person to virtual training regarding “Practicing Empathy” for front line staff and “Physicians and Other Medical Provider Communication” for physicians and other medical providers. Additionally, an ambulatory telehealth patient survey was established with an outside vendor, and we have garnered 700 to 1000 surveys per month in 2020 and hundreds of comments relating to their experiences. An overall patient satisfaction survey was also performed which gathered 5000 to 7000 surveys monthly in 2020. Figure 3 highlights the quarterly performance of our medical group as measured by Press Ganey via Clinical & Group Consumer Assessment of Healthcare Providers and Systems surveys between 2019 and 2021. The 4 metrics included office recommendation, access to care, seeing the physician within 15 minutes, and quality of physician communication. Patients appreciated our medical group’s efforts during the rebooting stage, as reflected by their complimentary comments: “I am always happy with this office, but I do have to say the way they have changed things due to COVID was exceptional” and “I couldn’t have asked for a better experience. From the moment I arrived at valet parking to the ease in finding the doctor’s office, to the COVID precautions, cleanses, wait time, and courteousness. It was all a positive experience. I’m proud to be a patient of [this Medical] Care Group. Thank you very much.”

## 9. Schedule optimization

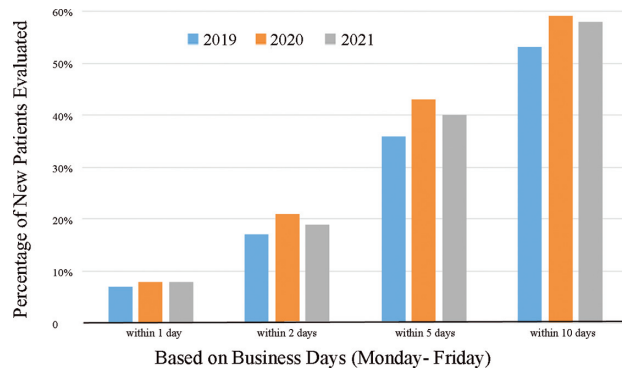
During rebooting, the medical group’s executive team held daily and weekly care recovery plan meetings with each of the service lines and associated operational leaders to trace the total available appointment slots by location and physician/other medical provider. Each medical specialty submitted a formal care recovery plan that included myriad options to increase the number of available slots such as extra physician/other medical provider clinic days, extended hours and weekend options, additional slots per day, and specific tactics by visit type. The goal was to ensure additional availability for new patients who were strategically moved up and offered sooner appointments if they were on the waitlist. Figure 4 depicts the percentage of new patients evaluated within 1, 2, 5, and 10 days for our medical group between 2019 and 2021.



**Figure 3.** Quarterly performance as measured by Press Ganey via CGCAHPs surveys comparing 2019 to 2021 for our medical group. (A) Likely to recommend. (B) Access to care. (C) See physician within 15 minutes. (D) Quality of physician communication. CGCAHPs = Clinical & Group Consumer Assessment of Healthcare Providers and Systems.

### 10. Rescheduling tactics

Our medical group instituted several methods to track patient reschedules due to COVID-19. We implemented a specific cancellation reason called “COVID-19” that enabled us to track any patient who cancelled his/her outpatient appointment due to our state Governor’s orders to eliminate nonurgent visits or due to the patient’s concern about the spread of COVID-19. Patients could be placed on either a recall or manual list. The former was located in Epic, our electronic medical reporting system that tracked patients who needed a future appointment. The latter was developed at some outpatient clinics that manually tracked patients and allowed the physician/other medical provider to



**Figure 4.** Percentage of new patients evaluated within 1, 2, 5, and 10 days at our medical group (2019–2021).

review and contact patients to determine the appropriate next steps.

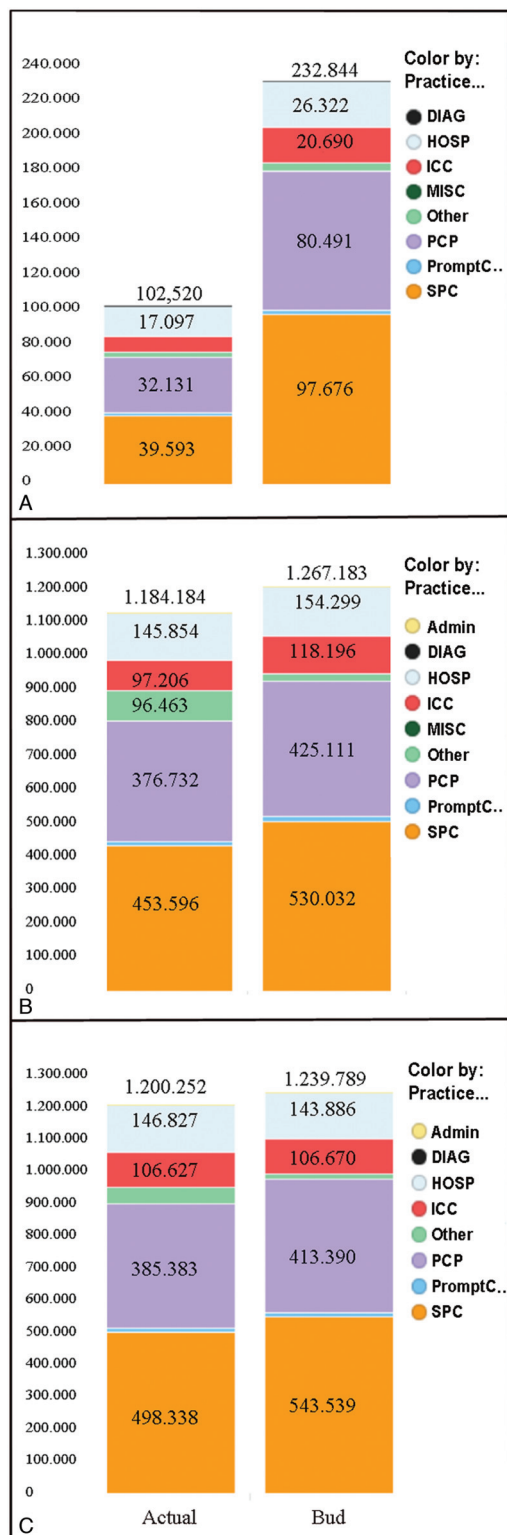
### 11. Data management

Our medical group implemented the McKesson Performance Analytics Explorer 4 years ago which has allowed us to witness unprecedented growth. By updating metrics daily, this tool was instrumental in observing the impact of COVID-19 by each cost center within each service line at the start of COVID-19. We observed the pent-up demand for wellness visits, missed vaccination appointments, and procedures such as colonoscopies, mammograms, and other diagnostic procedures. With the Phase 1 reopening of healthcare services, our medical group was prepared and rapidly scheduled patients for COVID-19 preadmission testing procedures within 72 hours of their outpatient appointments. A total of 175 to 250 patients were evaluated daily at the COVID-19 preadmission testing center. The practice managers, operational directors, and executive teams all had access to and were trained with the same data management. This tool coupled with proactive leadership facilitated a quick recovery, as reflected by our medical group’s attaining 97% and 91% of its budgeted volume in June and July 2020, respectively. The number of outpatient visits greatly increased between the lowest volume in April 2020 and May 2021 (Fig. 5).

### 12. Primary care versus specialty approaches

There was a wide variability with rates of rebooting based on the particular service line at our medical group. We tracked service lines weekly to observe the trends in recovery. Pediatrics was slower to recover both in the ambulatory and inpatient settings during rebooting, particularly in general pediatrics where parents were slower to have their children undergo routine wellness and vaccination visits. Additionally, there were fewer illnesses among children during the initial surge of COVID-19 due to social distancing, less exposure to others, and use of masks. Furthermore, children sustained a smaller number of injuries since contact sports had been discontinued. Pediatric hospital services such as neonatology and the Emergency Department have not recovered. By July 2020, our pediatric medical group had only reached 70% of its budgeted volume.





**Figure 5.** Number of outpatient visits at our medical group: (A) April 2020: lowest volume point of COVID-19; (B) August to December 2020: first 5 months of rebooting; (C) January to May 2021: Last 5 months of rebooting. DIAG = diagnostics (MRI, CT, ultrasound, mammography), HOSP = hospitalists/critical care/emergency department, ICC = immediate care centers, MISC = miscellaneous, Other = occupational medicine, Respiratory Illness Testing Center (COVID-19), virtual hospital, pain management, PCP = primary care physicians, PromptC= prompt care clinics, SPC = specialty care, Bud = budget.

The immediate care centers were very slow to recover compared to the rest of adult primary care, having only reached 58% of its budgeted volume by June 2020. Obstetrics and maternal–fetal medicine stayed busy from the initiation of COVID-19 to the rebooting phase. Pregnant women still sought care through traditional means of face-to-face visits with their physician or other medical provider. Obstetrics and maternal–fetal medicine had reached 104% and 99% of its budgeted volume in June and July 2020, respectively. The orthopedic service line was also quick to recover, attaining 87% of its budgeted volume by June 2020.

### 13. Conclusion: “business as usual, but a new usual”

The strategies implemented during the first 3 months of COVID-19 (March-May 2020) at our medical group prepared us for the rebooting stage. In the first 3 months, flexibility and a nimbleness to adapt to a constantly evolving environment were the dominant themes. In the ensuing 3 months, we encouraged heightened communication and engagement while being vigilant to the emotional well-being and compensation needs of physicians, other medical providers, and staff. By ensuring a safe and clean outpatient environment, patients felt comfortable to resume in-person appointments. Through scheduling optimization and rescheduling tactics, patients were able to be evaluated in an expedited manner. Our approach may be effectively implemented at other medical groups in the United States and worldwide. The tactics that our medical group have incorporated are applicable to both the current rebooting stage as well as to a potential resurgence of COVID-19 in the future.

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