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Hospital for Special Surgery: Returning to a New Normal? (A)

Early on the morning of April 27, 2020, Justin Oppenheimer stood outside the entrance to the lobby of the Hospital for Special Surgery (HSS) Pavilion Building with mixed emotions. On one hand, Oppenheimer, HSS' Enterprise Chief Operating Officer and Chief Strategy Officer, was excited that HSS was only two weeks away from resuming in-person outpatient office visits (i.e. physician visits not requiring admission to the hospital). Since the middle of March 2020, the global COVID-19 pandemic had forced HSS and other hospitals in New York to suspend nearly all outpatient office visits in an effort to slow the spread of respiratory illness.

The Outpatient Care Task Force (OCTF) chaired by Oppenheimer had anticipated the difficulty of reopening while the future of the pandemic was still uncertain and made various accommodations, including dramatically limiting physicians' schedules. Simulations run by the OCTF, however, suggested that even with these accommodations, several patients would be forced to wait outside of the Pavilion building. Given HSS' reputation for patient experience and that many patients seen at HSS suffered from ailments that made it painful to stand, Oppenheimer knew that asking people to wait outside of the building would not (and should not) be tolerated for long, particularly during inclement weather. Oppenheimer opened his phone and sent an urgent meeting request to OCTF to see what further adjustments could be made to alleviate this problem.

HSS Background

Since its founding in 1863 as the Society for the Relief of the Ruptured and Crippled, HSS was dedicated to orthopedics, the branch of medicine that diagnosed and treated diseases of the musculoskeletal system. With its long-term partnership with Cornell University's Weill Medical College, HSS established itself as a leading institution for academic training, clinical care, and research on all aspects of musculoskeletal health.

The health system offered a wide range of services including joint replacement, spinal procedures, hand and foot surgeries, limb lengthening, physiatry, sports medicine, pediatric orthopedic care, and

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physical therapy. HSS entered March 2020 as the top orthopedic hospital in the United States according *U.S. News and World Report*—a position that it had held for ten years in a row.

Geographic Footprint

In addition to its main campus on the Upper East Side of Manhattan, HSS operated numerous satellite outpatient and ambulatory surgical facilities throughout New York, New Jersey, Connecticut, and Florida (**Exhibit 1**). In total, HSS' facilities included 53 operating rooms and approximately 200 hospital beds, while providing over 500,000 outpatient visits per year. The main campus had numerous outpatient locations spread across several buildings near the hospital (**Exhibit 2**). The primary office locations for most HSS physicians were spread across the East River Professional Building (ERPB), Belaire, and the Pavilion on the main campus.

With its broad geographic footprint, HSS was able to provide many outpatient visits, physical therapy, and ambulatory surgeries (i.e., those not requiring inpatient stays) close to patients' homes. Beyond New York, New Jersey, and Connecticut, HSS opened a campus in West Palm Beach, Florida and maintained partnerships with providers around the world. Still, many patients would come to the main campus in Manhattan to consult with a specialized physician or to have a surgical procedure.

Physician Practice Model

At the heart of the HSS community were its 6,000 employed staff, approximately 500 of whom were physicians. With a "mixed model" medical staff, HSS also had over 75 physicians who were in private practice (i.e., not employed by HSS for clinical services) but leased office space in HSS-owned buildings. The physicians served as critical voices in all major organizational decisions, taking on formal leadership roles to run clinical service lines or key functional areas in partnership with non-physician executives. Regardless of practice model, most HSS-affiliated physicians maintained heavy patient loads and cherished their ability to see patients according to their own schedules —a flexibility that was crucial to their satisfaction and, by extension, HSS's ability to attract and retain top specialists.

In a typical week, a surgeon was scheduled for two days in the operating room (OR), two days for office visits either on the main campus or in a satellite location, and one day for conducting research, teaching or administrative duties. Non-surgical physicians would typically see patients in their offices on the main campus three days per week and would split the remaining two days between office visits at satellite locations and research, teaching, or administrative duties.

Doctors at HSS relied on the common practice of "block scheduling" their office visits. A block was a continuous period—typically four to eight hours—when a physician would see patients scheduled in back-to-back appointments (with occasional short breaks between appointments). Physicians had historically retained complete control over (and responsibility for) how patients were scheduled within their designated blocks. Given varying needs and preferences, physicians maintained different practice schedules, seeing anywhere from two to six patients per hour during their morning or afternoon office blocks. Though HSS' billing systems allowed the hospital to determine, after the fact, how many patients a provider saw in each office block, HSS did not have advance visibility into how patients were scheduled within a physician's *future* office blocks.

The COVID-19 Pandemic: Lockdown and Restart

In December 2019, a mysterious respiratory illness, which later became known as SARS-CoV-2 or COVID-19, struck Wuhan, China. On March 11, 2020, the World Health Organization declared COVID-

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19 a global pandemic. By mid-March, it became clear that New York City was one of the early U.S. "hotspots" of COVID-19 infections, with thousands of new hospitalizations every day. HSS made the difficult decision to cancel all elective (i.e. non-urgent) procedures and outpatient visits, representing 95%+ of its volume, on March 17, two days before the State of New York mandated such cancellations.

Approximately six weeks after shutting down non-urgent, in-person care, HSS was ready to allow limited surgeries and outpatient visits to resume. Louis Shapiro, the CEO of HSS, asked Oppenheimer and Dr. Larry Gulotta, Vice Chair of Ambulatory Services and Chief of the Shoulder and Elbow Division of the Sports Medicine Institute at HSS, to co-chair the newly formed OCTF that was tasked with planning how to restart the flow of in-person office visits at HSS.

The pandemic led to strict physical distancing and COVID-19 screening rules mandated at the state and local level. In addition, Oppenheimer realized that, at a time when many patients were still reluctant to be seen in-person and staff were at risk of becoming sick themselves, the re-opening of in-person office visits would need to occur at a much lower volume than HSS was experiencing before the pandemic. For these reasons and others, the team decided to consolidate all activity from HSS' numerous outpatient locations into the seven-story Pavilion building as the first phase.

Consolidated Practice at the Pavilion

The top six floors of the Pavilion were dedicated to physician offices and attached exam rooms. The back half of the ground floor included diagnostic radiology and lab services, and the front half of the ground floor housed the lobby with a greeting station and a waiting area for arriving patients.

To maintain appropriate social distancing, the OCTF allowed 36 physicians and 72 clinical and administrative support staff to practice in the building simultaneously. On any given weekday, patients could be seen between 9 AM and 5 PM. Oppenheimer worked with the team to map out a process for moving patients through the Pavilion (see **Exhibit 3**).

Patients would enter the lobby and proceed to a COVID-19 screening desk in the lobby. Approximately 50% of patients arrived with a companion. Each patient and companion would be screened by one of the three nurses at the desk to ensure that they did not have COVID-19 symptoms or recent exposures of concern. Each would also be given a fresh mask to wear throughout their time in the building. The entire screening process typically took 30 seconds to complete for each patient. If a patient arrived with a companion, the screening questions were asked to both individuals simultaneously (i.e., the screening process for the pair still typically took 30 seconds to complete).

After being screened, individuals were asked to sit – spaced at least six feet apart – in one of the 24 designated waiting chairs in the lobby. They were not allowed to congregate anywhere else in the lobby. To ensure appropriate distancing, companions were also required to sit in one of the chairs. If waiting space was available on the floor of the patient's physician, the patient and their companion would then take one of the two elevators up to the designated floor. Both elevators were exclusively used by patients and companions—employees used separate elevators that were not available to transport patients and companions. Further, patients' orthopedic ailments prevented them from taking the stairs. Each elevator could transport up to 12 people on a single trip. Due to COVID-19 distancing requirements, however, the elevators were limited to 6 people per trip.

When patients arrived on their physician's office floor, they would check in one-by-one with another receptionist, who would verify insurance and provide the patient with forms to complete. In total, there were six such receptionists—one serving each of the physician office floors—and the check-in process typically took three minutes per patient. Companions did not require a separate check in.

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After check in, patients and their companions would be directed to a waiting area with chairs spaced six feet apart; there were five such seats per floor. The typical physician visit would last 15 minutes, after which the patient would typically need to have follow-up diagnostic testing, including lab tests and/or radiology studies, on the ground floor before leaving the building. Based on the typical mix of patient needs, diagnostic testing had the capacity to serve up to 150 patients per hour, and guests were permitted to stay with the patient during these tests.

To accommodate as many physicians as possible in the Pavilion space, Oppenheimer limited each physician to one, six-hour office block each week. To simplify overall staffing, Oppenheimer also assigned physicians to one of two block times for each office day—the morning block ran from 9 AM to 3 PM and the afternoon block ran from 11 AM to 5 PM. Each day, 36 physicians had a block, with 18 physicians seeing patients in the morning and 18 physicians seeing patients in the afternoon. The physicians were also allocated evenly across the six floors. To ramp up operations gradually, the team required each physician to see no more than 20 patients during their block, with the maximum number of patients in each hour of the block limited as shown in **Exhibit 4.** Prior to the pandemic, physicians routinely scheduled four patients per hour for a total of 24 patients over a 6-hour block, with some physicians booking up to eight patients per hour. The team hoped this reduced load would lessen the impact of any unanticipated issues before running the consolidated Pavilion operations at scale.

In anticipation of elevator capacity issues due to distancing requirements, the OCTF decided to dedicate one elevator to serve floors 2 through 4 and the other to serve floors 5 through 7. Both elevators served the ground floor (see **Exhibit 5**). This modified elevator operation reduced the average roundtrip time of each elevator (i.e., from when it left the lobby for one trip until it left the lobby for the next trip) to 4.5 minutes.

Realizing the complexity and novelty of running consolidated operations at the Pavilion, the OCTF asked all physicians to share the detailed schedule for their office blocks during first week of operations (i.e., precisely when each patient was scheduled to be seen). This allowed the task force to run simulations of the Pavilion's operational flow to anticipate any issues during the first few days.

Despite the reduced flow of patients and the dedicated floors for each elevator, the OCTF's simulations revealed that, by a certain point in the day, patients would be waiting to be screened at the entrance to the Pavilion building. In fact, due to distancing restrictions, those patients and their companions would need to wait in the outdoor plaza in front of the building. Having patients wait outside was not possible for some patients and, for others, did not represent the level of customer service they had come to expect from HSS.

Oppenheimer and his colleagues were puzzled that patients would have to wait before even being screened. One task force member suggested that there were too many patients being seen per hour and that HSS should further reduce the total possible visits per hour. Oppenheimer was concerned about pursuing that option and noted, "Many patients have already been waiting months for their outpatient visits. We had to work very hard with the surgeons to bring everyone onboard with the current reduced schedule, so further reducing appointment volume is not a feasible plan."

With such feedback, members of the OCTF offered a wide range of new ideas. There was a suggestion to expand the hours of operation for the Pavilion to provide additional patient capacity, but staff balked at the idea of changing their work schedules even further. Other suggestions included adding another nurse at the lobby screening station or adding a total of up to 18 seats (i.e., three per floor) in the waiting rooms near physician offices on the upper floors of the Pavilion. While Oppenheimer appreciated the proposals, he was worried that they might not solve the backup problem and require more space than the Pavilion had available under the physical distancing guidelines.

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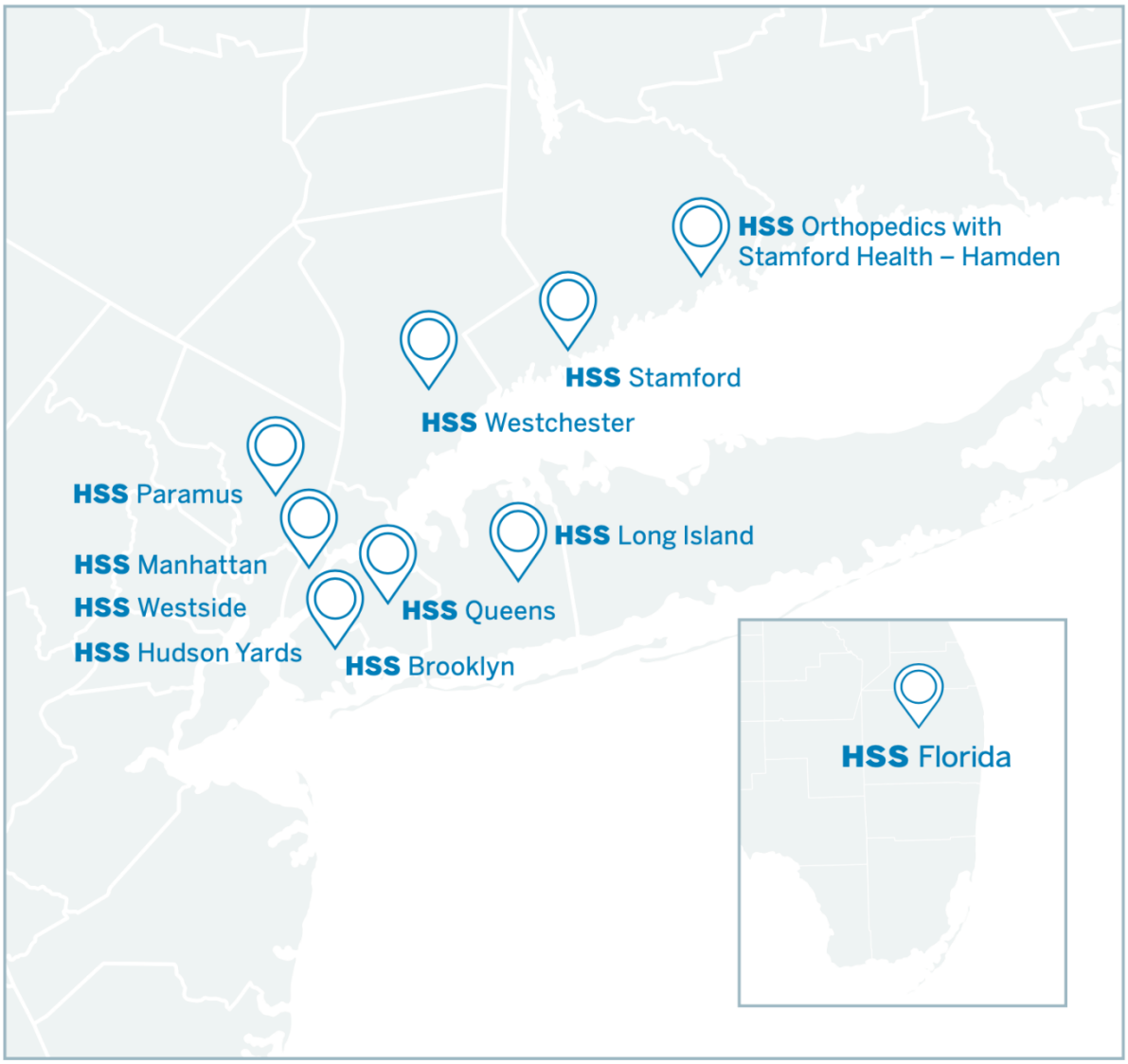
Exhibit 1 HSS Location Map



Source: Company documents.

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Exhibit 2 HSS Main Campus Map

Source: Company documents.

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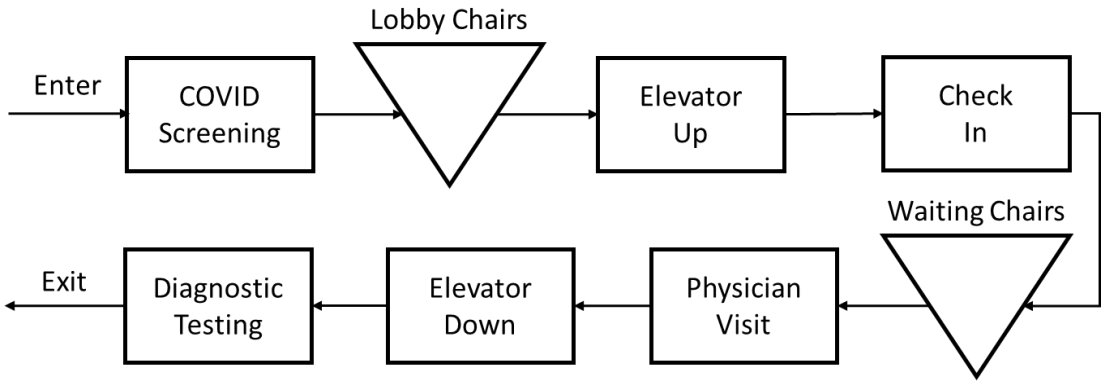
Exhibit 3 Process Flow for Patients Under Consolidated Pavilion Operations



Source: Company documents.

Exhibit 4 Maximum Allowed Number of Patients Per Physician for the 6-Hour Block During Initial Outpatient Operations at the Pavilion Building

Hour of Block	Total Patients Allowed Per Hour
Hour 1	2
Hour 2	4
Hour 3	4
Hour 4	4
Hour 5	4
Hour 6	2

Source: Company documents.

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Exhibit 5 Modified Elevator Operation in Pavilion Building

Floor	Modified Elevator Operation	
	Elevator 1	Elevator 2
7		
6		
5		
4		
3		
2		
G		

Source: Company documents.

Note: Shading denotes floor served by a given elevator.

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