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ARTICLE

Seeking Evidence-Based Covid-19 Preparedness: A FEMA Framework for Clinic Management

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Clinicians seek to use evidence-based guidelines. How should leaders respond when there are no best practices? An academic general medicine clinic in St. Louis, Missouri, adapted the Federal Emergency Management Agency's Incident Command System to manage its operations during the fast-changing Covid-19 pandemic. Originally used to fight wildfires, ICS guides a coordinated emergency response with common processes and resource management.

Six weeks ago, I started a new job as the medical director of an academic General Medicine clinic at Washington University School of Medicine. I had high energy to support my ambitious goals: hit the ground running, lead from the bottom up, create new processes to streamline the practice, impact employee engagement, and improve the bottom line! I never imagined my list would include leading a clinical pandemic response.

As an academic physician, I am used to guidelines, best practices, and evidence-based medicine. It gives me great comfort to know I am using treatments and recommending screenings that have been studied and shown to be effective. But preparing a clinic to cope with the demands of Covid-19 doesn't come with any guidelines. Across the globe, physicians are making choices that haven't been faced in our lifetimes. For a group of very evidence-driven people, this isn't just uncomfortable, it's scary. I have felt overwhelmed.

In response, I decided to do what I do daily, go to the guidelines — hoping there would be some sort somewhere. A few Google searches later, I found it: the Incident Command System (ICS) on the Federal Emergency Management Agency (FEMA) website.

ICS is a standardized approach to emergency management. Its goal is a coordinated response with common processes and resource management. It was initially used to manage wildfires in

California; now I use it to manage Covid-19 in St. Louis, Missouri. As a leader, having a framework makes the unknown seem more manageable. Being able to share a plan has brought comfort to my clinical team, both providers and staff. Creating a "Plan B" for possible threats assuaged anxiety, and enacting aspects of this plan on day 2 of preparation (more on that below) resulted in calm, efficient actions, rather than panic and chaos. While not all aspects of ICS were applicable to our clinic's response, we utilized the principles as the foundation of our new plan.

Management by Objectives

ICS emphasizes setting objectives ahead of time and then, during a crisis, identifying specific strategies and tactics to achieve the objectives. As primary care providers, our day-to-day objective is to care for our patients, providing first-line symptom assessment and diagnosis for both chronic diseases and acute symptoms. With the Covid-19 pandemic, we need to ensure we can continue to provide these services. Maintenance of our staff and providers' health is another key objective. Based on these needs, our objective for the pandemic period is to ensure patient and staff safety, primarily by reducing exposure to Covid-19 and meeting our patients' care needs. These objectives directed the bulk of our patient care plan.

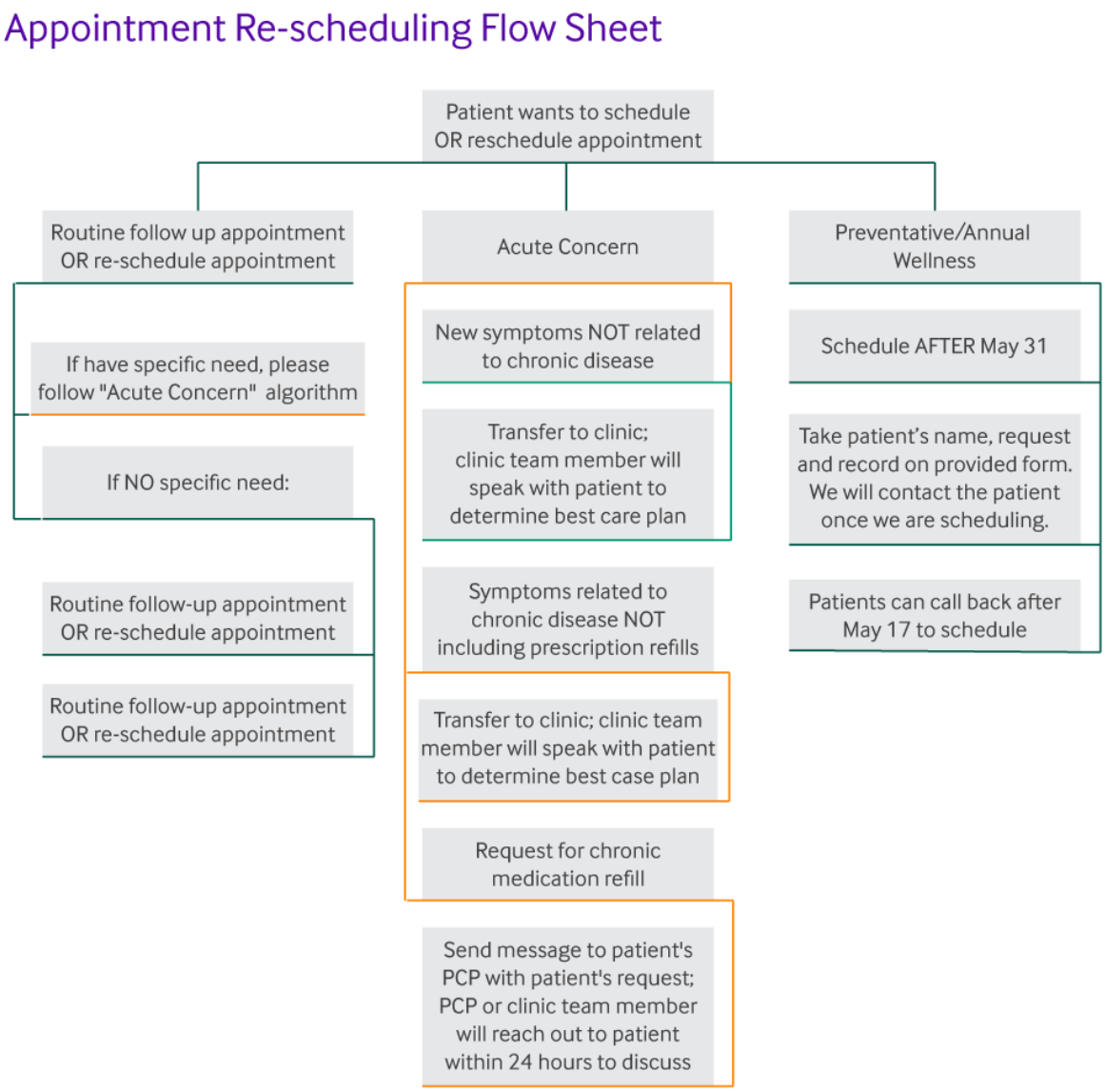
> *"We have found that many 'urgent needs' are related to worries about what would happen if patients become ill and need care."*

Our clinic includes four physicians and three nurse practitioners. We are located about 15 miles west of our main medical center near an affiliate hospital, along with a collection of medicine specialty clinics. We utilize a shared central scheduling hub with in-clinic triage.

Triaging Appointments

We began by creating a flow sheet for managing and rescheduling patient appointments, breaking out different types of appointments by urgency — routine follow-up appointments, preventative/wellness visits, and acute concern (Figure 1). This flow sheet is used by providers, clinic staff, and the scheduling hub. New patients present the biggest challenge to reschedule. To ensure patients' medical needs are met, if any patient expresses an urgent need, a physician calls to discuss if an inpatient appointment is required. We have found that many "urgent needs" are related to worries about what would happen if patients become ill and need care.

FIGURE 1



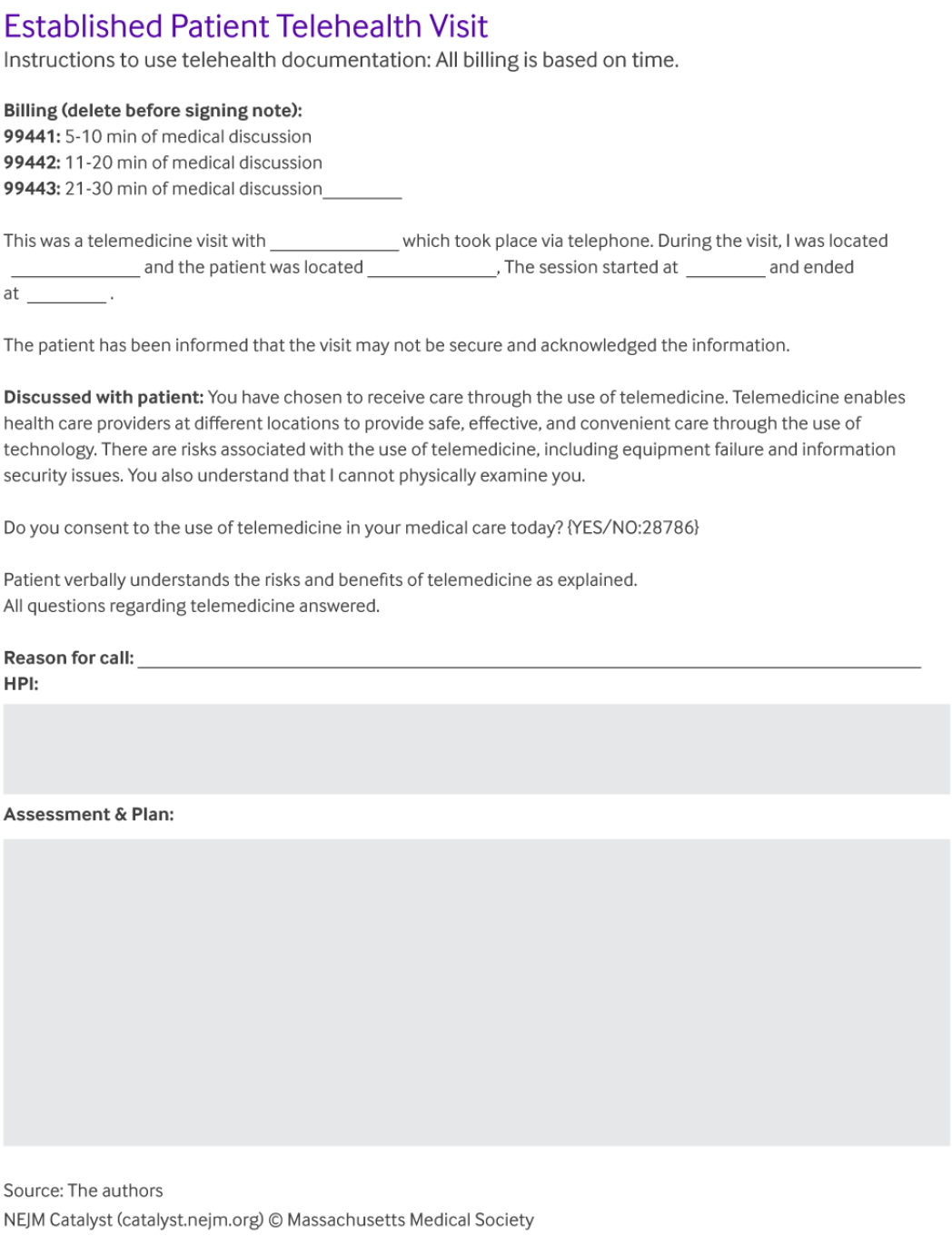
Source: The authors

Telehealth

Established visits are being transitioned to telephone visits. Providers contact patients during their regularly scheduled visit times via phone. Visits are documented using a template developed by our clinic (based off a template shared through social media by University of Washington Medicine) and billed per CMS guidelines. (We decided to submit billing because, regardless of reimbursement, we would be able to discretely search for these billing codes, allowing us to study our response post-pandemic.)

In such a swift transition to telehealth, obtaining consent is a potential risk. Typically, written consent is required for telehealth visits, but as our clinic had not previously provided telehealth, we had not collected written consents. I reached out to colleagues across the country to determine what "pandemic best practice" is. Responses varied but primarily fell into two categories: accepting verbal consent and waiving written consent, or "we're trying to figure it out with the general counsel." We decided to manage this risk by incorporating verbal consent statements into our telehealth visit template from the start (Figure 2). While we (and providers in the rest of the United States) are working out the details of telehealth billing and consent, we want to ensure that we are consistently informing patients of the risks and benefits of televisits via verbal consent, even if we need to later obtain additional written consent.

FIGURE 2



Established Patient Telehealth Visit

Instructions to use telehealth documentation: All billing is based on time.

Billing (delete before signing note):
99441: 5-10 min of medical discussion
99442: 11-20 min of medical discussion
99443: 21-30 min of medical discussion_____

This was a telemedicine visit with _____ which took place via telephone. During the visit, I was located _____ and the patient was located _____, The session started at _____ and ended at _____ .

The patient has been informed that the visit may not be secure and acknowledged the information.

Discussed with patient: You have chosen to receive care through the use of telemedicine. Telemedicine enables health care providers at different locations to provide safe, effective, and convenient care through the use of technology. There are risks associated with the use of telemedicine, including equipment failure and information security issues. You also understand that I cannot physically examine you.

Do you consent to the use of telemedicine in your medical care today? {YES/NO:28786}

Patient verbally understands the risks and benefits of telemedicine as explained.
All questions regarding telemedicine answered.

Reason for call: _____
HPI:

Assessment & Plan:

Source: The authors
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Trigger Symptoms

As with our clinic's standard practice, we continue to use "trigger" symptoms for patient triage escalation, with the addition of upper respiratory symptoms to screen for Covid-19 (Figure 3a, Figure 3b). Nurse practitioners complete triage calls to assess the need for an in-person clinic visit as well as provide additional guidance on Covid-19 screening and testing. Rapid access to provider

triage has helped us more quickly assuage patient anxieties and, we hope, get patients the care they need faster, preventing worsening symptoms that might require a clinic or emergency room visit.

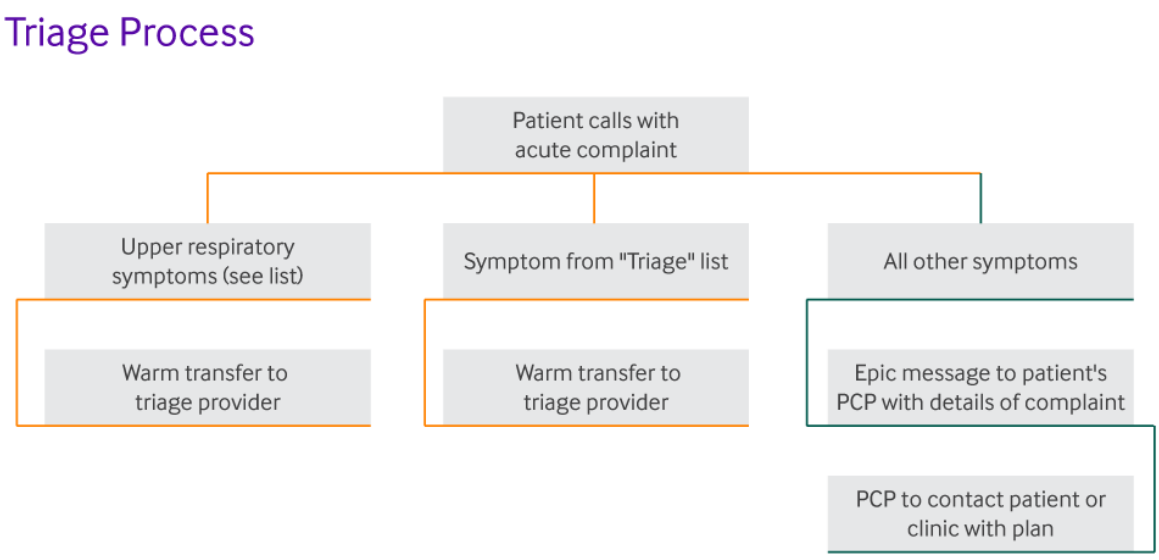
FIGURE 3A

Triage Symptom "Trigger Words"

Abdominal/Urinary Symptoms	OB Specific Symptoms
• Abdominal Pain - severe or sudden onset • Blood in the urine or stool • Vomiting blood • Sudden loss of bowel/bladder control • Vomiting or diarrhea - If severe or persistent causing weakness, dry mouth, or confusion	• Vaginal bleeding • Vaginal discharge • Abdominal or back pain/contractions
Breathing Symptoms	**Psychiatric**
• Coughing up blood • Shortness of breath • Cough • Wheezing (audible)	• Suicidal thoughts • Suspected abuse • New onset depression, anxiety, panic attacks
Cardiac Symptoms	**Eye Symptoms**
• Medical, dental office, eye doctor calling re: patient with elevated blood pressure in office • Chest pain or pressure	• Injury to the eye • Loss of vision • Double vision • Sudden change in vision
Other	
• Allergic reaction • Uncontrolled bleeding • Post-surgical complications • Fever	• Sudden, severe pain • Overdose/poisoning • Trauma to back, head, or neck
Neurologic Symptoms	
• Active seizure like activity in last 12 hours • Numbness/tingling/weakness in body part • Fainting • Facial droop	• Difficulty speaking or swallowing • Worst headache ever • Dizziness • Confusion

Source: The authors

FIGURE 3B



Source: The authors

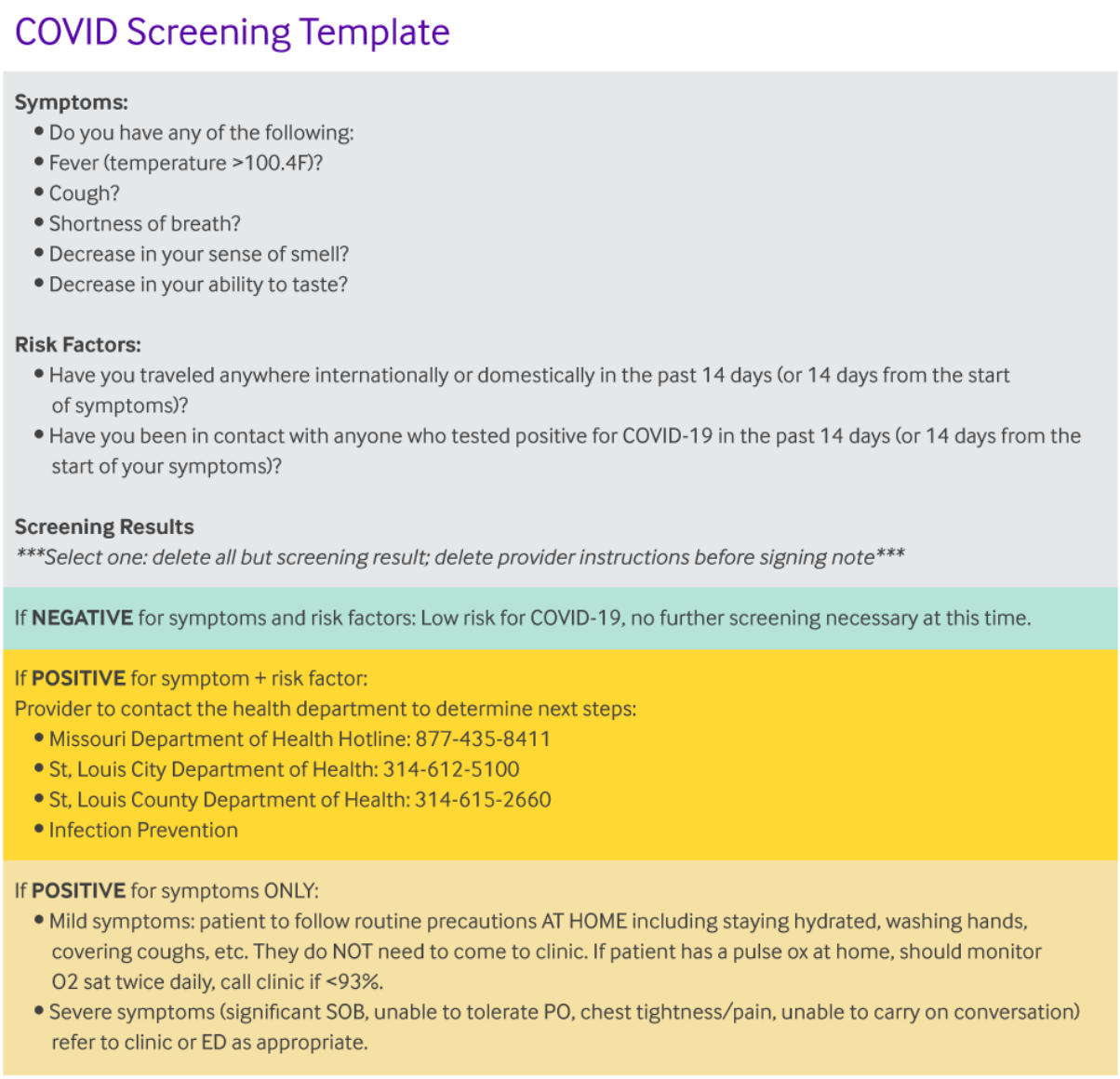
> *These efforts have significantly decreased our urgent/acute care clinic visits while ensuring our patients continue to receive the care they need."*

Many of us (rightly so) are adamant about *not* prescribing antibiotics and many other medications over the phone. During this pandemic, however, the risk-benefit analysis of an over-the-phone prescription leans toward minimizing risk of both patient and staff exposure, thereby resulting in a temporary relaxation of our normally stringent prescribing practices. These efforts have significantly decreased our urgent/acute care clinic visits while ensuring our patients continue to receive the care they need.

Adjusting Screening

Like other regions across the country, St. Louis faces a lack of available testing. While our clinic has escalated screens of positive symptoms and contact/travel to the local health department, because of the lack of testing, much of our Covid-19 advice has centered around recommendations on social distancing and hand hygiene. We created a template for our providers to document Covid-19 screening, including instructions on next steps depending on the screen results (Figure 4). As our first week progressed, we noticed that our calls were increasingly focused on how to manage anxiety. Based on this, one of our providers started collecting mental health support resources such as websites, podcasts, and apps to share with patients for use at home (see Appendix).

FIGURE 4



Source: The authors

Incident Action Plan

A key step in ICS is creating a written plan that defines objectives and lists tactics to manage an incident. Identifying threats is a critical part of the ICS plan to ensure that when unexpected events occur, we can quickly adjust our operations and continue to provide necessary services. I used the Incident Action Plan (IAP) to assess threats specific to our processes, creating a business and patient care continuity plan. We determined a Plan B for multiple threats, such as staff exposure to Covid-19 (Figure 5).

FIGURE 5

Excerpt of Continuity Plan

Plan	Category	Threat	Plan B
Conduct chronic care management via telephone	Telephones	Phones go down	Activate phone tree to share communication with team; FFP to direct as will have practice-wide implications; will likely close clinic; essential team will need to be present in clinic should patients show up; Screen via paper protocol —> will screen through glass of check-in window; ONLY see urgent, non-COVID patients; keep paper log of any other patients that arrive; will need to post sign on door once clinic closes; Cindy to coordinate phone message that clinic is closed
Stagger staffing to limit exposure	Resources	Staff exposure	Staff affected on home quarantine; re-evaluated clinical needs; re-stagger staff to ensure limitation on further exposure; if no staff remaining–will need to post sign on door–providers to take triage calls at home; can continue chronic care via home, manage inbaskets, MA pool from home
PPE stewardship	Resources	Run out of PPE	Request PPE sharing from other clinical sites (Cindy, Clinical COVID-19 workgroup); consider further limiting staff
Utilize EHR for documenting patient interaction	IT	EHR goes down	Activate phone tree to share communication with team; depending on timing of downtime, duration practice admin to direct as will have practice-wide implications; screen via paper protocol; use printed script, appointment scheduling protocol; keep paper log of patients call to document

Source: The authors

In our initial conversation on threats, I brought up the threat of our electronic health record going down. Several staff asked if that was even possible. Our answer came on day 2 of the IAP when the electronic health record became unresponsive late in the afternoon. Luckily it was late in the day and we received only one patient call, and service was restored about an hour later. Because we had already identified this event as a threat, we were prepared. We rescheduled the patient's appointment using a printed script and flow chart. There was no panic about what we should do; clinic staff seamlessly applied their preparation and took care of the patient.

Comprehensive Resource Management

ICS Comprehensive Resource Management is a process for determining key needs, ordering and restocking, and tracking resources.

Non-Personnel Resources

We were aware of personal protective equipment shortages already occurring worldwide. Our goal was to assess and protect our supply. We created an inventory log of all the PPE and cleaning supplies in our clinic, which is updated daily. Any use of PPE is documented on the log. We also secured these items to prevent possible tampering or theft, with access limited to clinical leadership. We are prepared to easily access our supply list (kept on our shared site) if our larger health care facility requires resource reallocation.

> *"Covid-19 is an unknown, which increases anxiety among the clinical team as well as patients. Having a standard approach for calls gives each conversation a framework."*

Personnel Resources

Clinical staff and provider presence in clinic is now staggered. Providers conduct calls and telephone visits off-site when not in clinic. Similarly, staff with Virtual Private Network access provide clinical scheduling and Epic support off-site when not in clinic. Staff contact patients and change scheduled clinic visits to telephone visits in Epic. A particular challenge in staggering clinic staff is that not everyone could obtain a VPN, meaning that they can only work if physically present in clinic. Knowing this, our site manager added these staff to a redeployment list shared among clinics. Designated staff are reallocated outside of our clinic to areas needing help.

Integrated Communications and Information/Intelligence Management

Two elements of ICS are robust communications and management of information related to incidents.

Internal Communication

Email was used for initial plan communication. A Microsoft Teams shared site was quickly developed to house Covid-19 information for our entire health systems as well as specific clinics. This single location for information minimizes the risk of using outdated protocols or documents. Our business manager was designated owner of the Teams site, tasked with removing outdated material and uploading new materials. The chat function is used to allow providers to share various other updates, often from the news or friends and colleagues across the globe. Additionally, a daily huddle call is scheduled for 12:15 p.m. via Zoom with providers, staff, administration, and

leadership. Meeting minutes are posted on the Teams site. Initial folders included system-wide and clinic-specific information. Additional folders were added for Patient Resources and Telehealth. In case our systems shut down, we created a phone tree to maintain clear lines of communication.

External Communication

To ensure consistent and clear messaging to our patients, we wrote a script for appointment rescheduling (Figure 6). We also created a one-page document outlining our clinic's response plan as a resource for providers and staff to answer patient questions (Figure 7). Covid-19 is an unknown, which increases anxiety among the clinical team as well as patients. Having a standard approach for calls gives each conversation a framework. Scripting also ensures that staff provide accurate, up-to-date communications, which is especially important with such a high influx of rapidly changing information.

FIGURE 6

Appointment Re-scheduling Script

New Appointment

Hello {patient name}, my name is {your name} and I am calling from the {clinic name} about your upcoming appointment with Dr. {doctor name}. Due to the current coronavirus outbreak, we are taking precautionary measures to ensure we are able to continue providing patient care while keeping our patients and staff safe.

At this time, we are rescheduling all NEW patient appointments after May 17. We can reschedule your appointment today or we can contact you after May 17.

Do you have any emergent medical issues that need to be addressed?

If no, continue to below.
If yes: We recommend you contact your most recent primary care provider to discuss this.
If they do not have a prior PCP: We will forward this message to one of our providers to review.

We recommend staying at home and avoiding large gatherings as well as washing your hands for at least 20 seconds.

Thank you for choosing {clinic name} We look forward to meeting you.

Established/Return Visit

Hello {patient name}, my name is {your name} and I am calling from the {clinic name} about your upcoming appointment with Dr. {doctor name}. Due to the current coronavirus outbreak, we are taking precautionary measures to ensure we are able to continue providing patient care while keeping our patients and staff safe.

At this time, we are contacting all patients with established appointments and working to transition their in-person visit to a telephone call. This means your provider will contact you during your scheduled visit time. They will take your history and create a plan with you; it will be similar to an office visit but without an exam. If you are not comfortable with this, we can reschedule an in-person appointment to a time after May 17.

{NOTE that patient was called and outcome of call; reschedule as needed}

Thank you for choosing {clinic name}.

Source: The authors

FIGURE 7

Patient Information Document

In the current health care climate, we at the {clinic name} are working together to slow the spread of the coronavirus while continuing to provide care to our patients. Below are some of the measures we are taking to keep you and our clinical team as healthy as possible. We truly appreciate your understanding and patience during this time.

Office visits:
To minimize exposure for our patients and staff, all preventative/wellness visits will be rescheduled. For patients with follow up visits, we are working to transition these visits to telephone visits, allowing patients to speak with their provider via phone during their regularly scheduled visit time. If you have a visit scheduled during March or April, you either have or will receive a call from someone on our clinic team to discuss rescheduling or changing your appointment.

All patients with urgent or acute symptoms contacting our clinic will under-go screening over the phone for COVID-19 (coronavirus) symptoms, travel and exposure history. Based on these symptoms, travel and exposure history, we will determine which patients are best served by coming to clinic, receiving telephone based supportive care at home from us, or who require additional conversation with the health department.

In the office: All patients will be screened for loss of smell or taste, fever, respiratory symptoms, travel and exposure history BEFORE an appointment is scheduled. Additional screening will occur at the front desk when they arrive.

- Any patient with loss of smell or taste, fever, or respiratory symptoms will have a mask put on them and be put in a private room with the door closed upon arrival to clinic.
- All patients will be roomed as quickly as possible upon their arrival to clinic. Our goal is to minimize your time in public spaces such as the waiting room and hallway. For this reason, you may not be weighed at your visit.
- All patients will be evaluated in the exam room. Your checkout process will also occur in the exam room, and you will be provided with your paper copy of your After Visit Summary and any labs/testing/referrals. Our office staff will contact you by phone after your visit to schedule a follow-up visit per your provider's instructions.
- All exam rooms are thoroughly cleaned between patient visits. A log tracking these cleanings are on the outside of each door. Additionally, our staff regularly cleans all surfaces in the common clinic areas including the waiting room, bathrooms, and frequently touched surfaces such as door handles.
- The visitor policy, like all {health system} facilities, has been updated:
  - o Each adult patient may have a maximum of one designated visitor
  - o Visitors will be screened before entering a waiting or patient care area. Children younger than age 16 will not be permitted except under extraordinary circumstances.
  - o No visitors will be allowed who meet any one of these criteria:
    - Signs or symptoms of acute illness (fever, cough, difficulty breathing)
    - Recent travel (within the last 14 days) from an area with community transmission of COVID-19
    - Recent contact (within the last 14 days) with someone suspected or confirmed to have COVID-19

What can YOU do?

- WASH YOUR HANDS! Use soap and water; lather for at least 20 seconds. Wash early and often!
- Stay home. Limit outings to only truly essential needs (e.g. once weekly groceries). Limit your interaction with other people. Social distancing is hard but it works. Keep at least 6 feet away from other people. Do not share food, drinks, utensils etc. Work from home. Avoid large groups. Avoid exposure to sick people.
- If you cough or sneeze, use respiratory etiquette and cover your mouth and nose when coughing/sneezing. If you cover with a tissue, immediately throw the tissue into the garbage and then wash your hands. If you cover with your elbow, immediately wash your hands.

Thank you for your patience as we continue to work through this unprecedented event.

Source: The authors
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Establishment and Transfer of Command

ICS emphasizes clear command and, if necessary, a transfer process that captures essential information for continuing safe and effective operations. As the clinic medical director, I am the de facto emergency response leader or "incident commander" in ICS lingo. We created a succession plan to ensure clear leadership should I be pulled for surge coverage or quarantined

from clinic. Clinical staff report to the clinic manager, who reports to the site manager. Providers report directly to me. The three-person leadership group meets throughout the week to ensure clear communication between groups and unified messaging.

Our Covid-19 Trajectory

This plan was put into action on Monday, March 16, the same day the first Covid-19 case was confirmed in the city of St. Louis. There had already been 2 positive cases in St. Louis County, the first reported on March 7. A total of 170 total tests had been run by the state of Missouri at that point. By Friday of that week, there were 7 confirmed cases in the city and 12 in the county. Despite these positive screenings, none of the patients we spoke to had been tested as of March 20.

Testing availability has changed rapidly, however, and over the course of the first week, several testing sites in our community opened. We anticipate more to open in the coming weeks. These sites currently require a telephone pre-screen, so we are referring only those patients who meet testing criteria. As the weeks unfold, we anticipate continued changes around testing availability, which we can immediately reflect in our work and communication by using our templates. A city-wide shelter-in-place order is expected soon. I have heard from colleagues that local ICUs are starting to fill. It seems that Covid-19 is beginning to ramp up in our area.

> *"I could not be paralyzed and wait for guidance. We had to start moving. ICS was the perfect framework because it coordinates efforts yet is designed to incorporate information quickly and effectively and to accommodate change."*

Implementing this ICS-based plan was much easier than I anticipated. The weekend before implementation, "chatter" about Covid-19 was getting louder. On the morning of Sunday, March 15, I decided that our clinic needed to take action, and ICS provided me with a roadmap. On Sunday night, I communicated the plan and each person's role via email, as well as the expectation that all aspects would be initiated on Monday morning. When I arrived in clinic Monday, our staff was already at work contacting patients. We moved through the day efficiently and effectively. We continue to use our daily huddles to make changes — implement practice-wide instruction, discuss challenges that providers and staff encounter on the front lines, identify new threats, and problem-solve.

In medicine, we talk a lot about shared decision-making — among patients and providers, and among providers and clinic leadership. I wondered if the unilateral direction I provided might be difficult to accept, and if people in the clinic (providers especially) would push back. In fact, the opposite was true. My clinic team was looking for direction. They wanted a plan and to know what the next steps were. This was not the moment for shared governance; it was the moment for action. I could not be paralyzed and wait for guidance. We had to start moving. ICS was the perfect framework because it coordinates efforts yet is designed to incorporate information quickly and effectively and to accommodate change.

While this dictatorial style of leadership would not be effective in our day-to-day work, in a time of uncertainty it gives everyone a role and a focus, allowing us to work together as a team. This brings a sense of satisfaction. Our job is to take care of patients, and having this ICS-based process in place allows us to do just that. It has brought a calm, directed purpose to our clinic.

Looking outside the realm of medicine brought me to the ICS framework. In a time of so much unknown, it allowed me to create a plan. Now is the time to be decisive.

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Appendix: Covid-19 mental health support resources for patients

Disclosures: Jennifer M. Schmidt has nothing to disclose.