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Background

"Like most health care systems in the country, the **COVID-19 pandemic posed a major challenge** to our health system's operations."

Major regulations, unforeseen external conditions, an unfamiliar disease and untested operating models built under more normal conditions were significant factors in how well we could manage new clinical and nonclinical workflows, staffing models and IT systems under prolonged operational stress.

In our organization, new clinical workflows, business processes and operating models were quickly built from scratch. Preexisting knowledge and preparation were used in as many cases as possible, but we quickly learned that we could be more prepared.

One situation that highlighted our need to operate differently was our need to count inventory and track usage of personal protective equipment (PPE) on an hourly basis due to major supply chain shortages and an increased usage of PPE that our health system has never seen. Our inventory-management processes functioned well during normal operations before the pandemic, but the increased pressure to understand real-time inventory of critical supplies like PPE required us to think differently about building the right workflows and processes to meet the new demands. While new workflows were created and iterated faster than ever, it wasn't without significant work and resources to do so amidst constant failure and learning.

This example applied broadly to every part of our organization, whether clinical or nonclinical, and because of these learnings, our Emergency Management team recommended that the organization launch an Enterprise Resilience Initiative focusing on proactively building strategies and workflows to manage clinical and nonclinical operations during times of prolonged operational stress. Emergency Management, Operations, and Information Technology (IT) partnered together to lead the initiative.
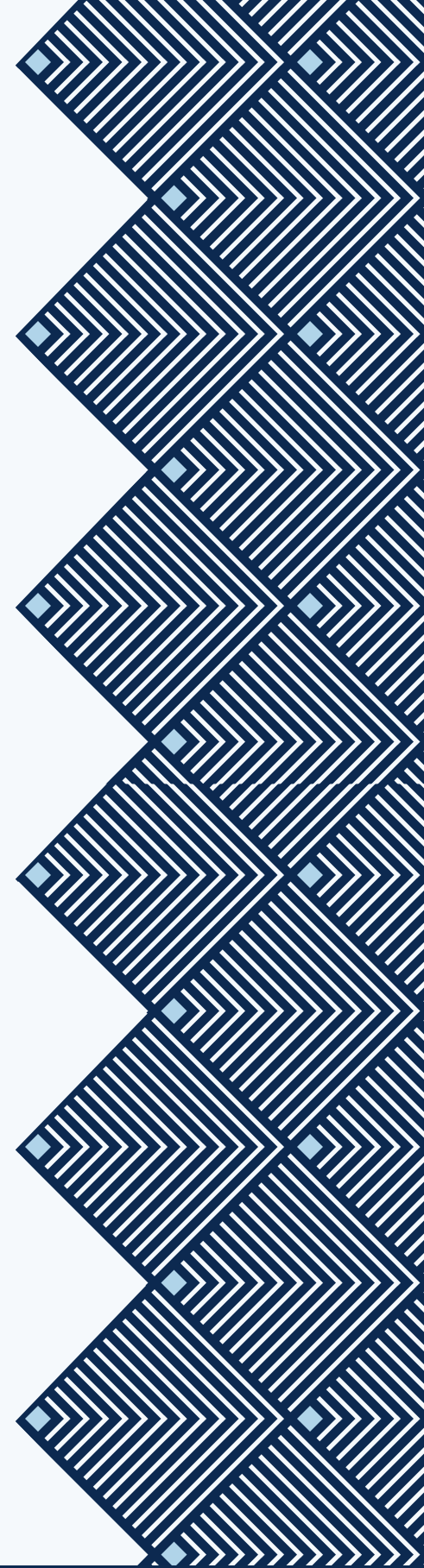
Approach

Based on expertise within our Emergency Management team, our approach and methodology consists of three phases.

1. Conduct a Business Impact Analysis (BIA) with each of the 37 core operational areas in the organization. The BIA is a combination of facilitated conversations and gathering of key operational information.

2. Synthesize the information and work closely with each operational area to build Business Continuity Plans (BCP), or strategies and best practices that could be leveraged during a prolonged crisis.

3. Finally, as part of ongoing maintenance and sustainability, conduct annual simulations to ensure readiness and adjust BCPs based on any feedback.

We built our approach on top of robust and established Emergency Management structures that are vital to our health system's emergency preparedness and leveraged the already identified 37 operational areas and leaders that are a part of our command-and-control structure during crises.

To ensure that our work had the appropriate accountability structures, we established an Enterprise Resilience Steering Committee composed of site and system clinical and operational leaders and developed a core Project Planning and Execution team representing Emergency Management, Health System Operations and Information Technology .

Because this was a novel approach within our health system, we needed to customize the tools. For the first three months, we focused on building the BIA tool and framework that would be used in multiple facilitated sessions to identify the critical operational components of each of our 37 operational areas.

For each operational area, the goal was to:

- Identify their critical business services, IT applications, and upstream and downstream interdependencies that are critical to the organization.
- Identify the associated vulnerabilities.
- Understand the impact to our patients and organization if any of the above were not fully operational.

In addition to these elements, vital information was collected regarding key vendors, records and information, resources, personnel, facilities, communication plans and succession plans that would be critical during times of prolonged crisis.

The final step in our approach was to develop a health system-level BCP for each of the 37 operational areas, which will be enhanced with local operational plans for each hospital, ambulatory practice and/or site where those operational areas' services are located. The BCPs will be critical to enhancing emergency preparedness in conjunction with ongoing efforts to develop broad Emergency Operations Plans. In addition to informing the BCPs, output from the BIA will be used to enhance our IT infrastructure to bolster resilience.

Finally, a comprehensive project plan was developed that allowed us to engage and support each of the 37 operational areas and enabled us to outline the process and expectations of working with them.

Outcomes

As of this writing, we were able to engage our first operational area, Communications and Marketing, and have started planning with other services. We conducted three facilitated sessions as part of the BIA: (1) identifying critical business services; (2) identifying critical IT applications; and (3) defining key interdependencies. Each session was facilitated by experts from our Emergency Management, Operations and IT teams. The Communications and Marketing team is gathering additional information for the assessment.

In three facilitated sessions, we started by identifying the key business services that Communications and Marketing provide for our organization, and ranked and prioritized these key services based on how critical they were for our patients and our organization and identified vulnerabilities for each service.

We then identified critical IT applications needed to operate and deliver these business services and prioritized them in terms of what needed to be recovered first in case of mass downtime.

Finally, we identified the upstream and downstream stakeholders that were critical to our Communications and Marketing team.

While we will not be able to immediately test the value that this information will provide, the Communications and Marketing team felt strongly that thinking through and ranking their own internal operations would help them focus on resources and effort needed to be operational during a prolonged crisis, and ensure they are prioritizing the appropriate stakeholders.

They emphasized the fact that the vulnerabilities that were identified for critical business services would be resolved in internal improvement efforts.

As we approach the next phase of developing BCPs, we want to ensure that these plans allow operational areas to:

- Focus effort and resources into the recovery of critical business services.
- Have pre-developed strategies for when critical business services are not fully operational.
- Easily and quickly access critical information during a prolonged crisis, e.g., communications plans, key personnel, important and alternate vendors, etc.

> "We know that these interventions will allow us to **provide the same level of service to our community and patients** that we provide in normal operating conditions."

Lessons Learned

As we conducted our first enterprise resilience assessment with Communications and Marketing, **the following key lessons were learned:**

- Champions for each of the 37 operational areas are needed, particularly to help in difficult prioritization discussions around identifying critical business services and IT applications.
- We underestimated the time and effort required to have each of these conversations. Proactive planning and prioritization conversations take time.
- Because we won't be able to anticipate every possible prolonged disaster or crisis, we know that by creating best-practice strategies and workflows to manage during a prolonged crisis with a continuous-improvement mindset, we would be able to manage daily operations successfully during a prolonged crisis.

Next Steps

Our next steps are to conduct a BIA with each of the 37 operational areas. Equally important is the need to work iteratively with our operational areas to develop BCPs so that they are effective and integrate seamlessly into each area's operations, and to finalize our sustainability plans.