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Setting up a Covid-19 care site

12 Essential Points to Improve Covid-19 Care Site Readiness

Planning and operational recommendations

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12 Essential Points to Improve Covid-19 Care Site Readiness

The exponential increase in infections during the Covid-19 pandemic imposes healthcare systems and hospitals to act even faster. All over the world, governments are seeking to increase Covid-19 care capacity by expanding public hospital infrastructure and facilitating private investments into new care sites. Simultaneous worldwide efforts have led to other challenges: lack of availability of key experts and resources, and insufficient time to plan.

Reacting upon these developments, the Siemens Healthineers hospital planning and activation team has extracted the key lessons learned to help healthcare providers in the design and planning of new Covid-19 care sites. In this article, we would like to discuss the 12 key points to be considered to improve Covid-19 care site planning and operational readiness.

When designing and planning a Covid-19 care site, we recommend that project managers consider the following essential points:

1 **Partner with key institutions to reduce internal gaps**

Do you have trusted partners in place?

Emergency care sites need a wide range of fast acting partners. Planning partners support facility design and operational planning. Construction and equipment companies ensure rapid activation and continuous service support. Ongoing operations largely depend on a wide range of external support companies covering laundry services, catering, cleaning and waste management. Finally, a Covid-19 care site cannot cover all medical and diagnostic services a patient might require. We suggest that you consider partnering with medical institutions and private practices that could enable you to close internal gaps and ensure holistic patient care.

2 **Keep strict separation of pathways when designing a facility**

Do your workflows and pathways ensure maximum infection prevention?

The key to infection prevention is keeping dirty and clean areas as distant as possible. In times of crisis, healthcare institutions need to protect their workers in every possible way. Aside from PPE, this can only be achieved by designing a workplace with separate corridors for staff and patients. Once a certain size of the facility is reached, the isolation area should be divided into separate wards with minimum staff moving in between wards. Patient with unclear infection status should be kept in one-bed-rooms isolation to avoid cross-infection. For facilities covering non-Covid-19 patients, separate facility wings and access routes need to be organized.

3 **Allow for separate access routes and wayfinding**

Does the site and layout allow separate access routes?

Separation of pathways starts at the entrance. Patient admission, emergency entrance, staff entrance and supply and disposal access need to have distant routes into the facility with enough space to accommodate cars, ambulances and trucks. Planning of additional space will also allow facility expansion, if needed.

To ensure efficient workflows, pathways need to be clearly labeled for wayfinding. There is no time for giving directions in a Covid-19 care site.

4 **Plan for effective overall building airflow**

Have you ensured effective ventilation, filtration, and purification of air?

Depending on budget and climate conditions a customized natural, mechanical or hybrid ventilation system needs to be planned. Ventilation must run 24/7 with enough air exchange rate and filtration depending on the functional unit to efficiently remove virus particles. The overall airflow in the building should always be from clean to dirty zones. HEPA filters, portable air purification systems and UV germicidal irradiation can be used to treat and filter exhausted air.

5 Arrange for adequate laboratory testing
Do you have a suitable laboratory infrastructure in place?

“You can’t fight a virus if you don’t know where it is”, said the WHO director general, Tedros Adhanom Ghebreyesus. Timely and accurate Covid-19 testing is an essential part of the management of Covid-19 pandemic. Covid-19 care sites need to provide enough testing capacity to secure efficient patient triaging and monitoring, and regularly screen facility staff. Both nucleic acid and antibody detection techniques need to be implemented to diagnose active infection and immunization status. An equipped referral laboratory facility needs to be identified for each collective site and its surrounding host community. Additional blood and urine testing capacity should be provided either on site or via partnering with clinical laboratories in the vicinity.

6 Establish an Activation and Operations Planning Core Team
Are you able to make decisions efficiently?

As soon as the decision is made to open a Covid-19 care facility, an Activation and Operations Planning (AOP) Core team should be established. This team will serve as the Command Center and has responsibility for oversight of all project elements, serve as central communicators, facilitate swift information exchange, and provide the common thread to coordinate and integrate the various work streams. The Command Center serves as the central location for the reporting, prioritization, tracking, and resolution of issues that arise during the activation and opening process, as well as patient placement, logistics, communication, finances, and workforce management post-hospital opening, and it provides staff support to resolve issues.

When operating a Covid-19 care site, we recommend that project managers consider the following key points:

7 Determine a clear communication structure and guidelines
Are you prepared to run efficient operations with clear communications in an ad-hoc care site?

While the command center is the center piece monitoring all activities in a care site, a clear communication structure is the key to efficient operations while ensuring good workplace dynamics. Covid-19 care sites can be hectic places managing access of patients, external supplies and disposal processes as well as all medical decisions. To guarantee a fast response, a clear communication map needs to be established from the start offering escalation options, informative messaging and easy decision making.

8 Set up the right digital tools
Do you have the right data and tools for effective process management?

It is crucial to continuously analyze data, update forecasts and optimize processes. How is the status of intensive care beds? How many patients are in mild, moderate and critical conditions? How much staff is available? Which and how many supplies must be ordered? Setting up the right digital tools for dashboards and data analytics helps to create a future-proof facility able to rapidly adapt to a changing environment.

9

Adjust procurement schedule to the facility's needs**Do you feel well prepared to avoid running out of supplies unexpectedly?**

Exploding worldwide demand for healthcare supplies has caused dangerous bottlenecks. Faced with scarcity, it is in our nature to hoard supplies. Assuming many people follow this logic, the health systems will not be able to sustain themselves. Healthcare providers must form partnering frameworks, stay in close contact with suppliers and daily monitor their stocks. Close tracking of demand further allows to run predictions and adjust procurement schedule to the facility's needs.

10

Optimize suitable supervision, appropriate training, and checklists availability**Do you currently have safe and smooth workflows across the organization?**

The Covid-19 pandemic has challenged health systems with both lack of experienced staff and the need to expand critical care capacity. How can healthcare facilities ensure safe and successful care in a situation with no trained staff? The key is a combination of few supervisory positions and strict virtual and in person training of care site staff before they enter their future workspace. Once the staff has received a focused training, telehealth monitoring and checklists ensure compliance in the core patient care workflows.

11

Guarantee implementation of safety measures**Did you plan for enough security staff?**

Patients and families struggle with a wide range of insecurities when faced with Covid-19. Can relatives accompany their loved ones? Can they visit the facility at all? Can the patient exit the isolation ward? To ensure infection control and prevention, security staff needs to guard entrance and exit routes and guide the patients according to expectations and guidelines. The shortage of supplies especially with regards to PPE and disinfection solutions even increase the importance of limiting the access to essential stocks.

12

Learn from peer-to-peer exchange and best-practice sharing**How do you manage patient safety and operational quality?**

With expanding information on the Covid-19 pandemic, it is important to continuously adapt the processes of the patient care. Strong and flexible quality management systems can handle the new challenging environment and learn from daily updated information on patient care. The key is continuous information exchange across providers: It is as important to receive information as it is to give information about challenges and successful solutions. Use national or international networks to learn from each other and promote progress.

We have accompanied and offered support to healthcare providers designing and implementing Covid-19 care sites all around the world. We have seen and felt the pressure and insecurity when faced with these unprecedented challenges and critical situation. If you are currently planning, implementing or already operating a Covid-19 care site, it is never too late to revise your facility and incorporate new solutions, as suggested above.

The scientific overlay on the title is not that of the individual pictured and is not from a device of Siemens Healthineers. It is modified for better visualization.

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