USING INNOVATIVE TECHNOLOGIES TO HELP COMBAT COVID-19

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Cerner is offering expanded telehealth solutions to support clients with information about COVID-19 pandemic. Following the first reported cases of COVID-19, Cerner has updated its EHR platform by expanding its telehealth capabilities, implementing disease screening tools and updating its EHR dashboards.

Can you share additional details about this support to your clients?

In response to the COVID-19 pandemic, Cerner has expanded virtual care offerings for clinicians and patients by empowering health facilities to use telehealth within the acute care setting. This helps to lessen the impact and spread of the virus and allows patients to get access to care while at home.

In the Middle East, the pandemic accelerated the need for an immediate solution to limit physical visits to hospitals while still being able to provide the required care to the patients.

> CERNER HAS ALSO CREATED DASHBOARDS AND DATA ANALYTICS TO INFORM QUICK DECISION MAKING AND OPERATIONAL MANAGEMENT ASPECTS (E.G., VENTILATOR CAPACITY, BED MANAGEMENT, INFECTION RISK SCREENING, COVID 19 LAB RESULTS).

Cerner has been in discussion with our clients about telehealth and e-visit to find the best approach considering the patient experience, clinical workflow and related cost. However, the pandemic made this a priority. Cerner has been able, in a very short timeframe, to connect our clients with different partners to implement the right solution enabling enable clinicians to virtually communicate with their patients and help ensure continuity of care.

Cerner continues to support health organizations around the world as they combat the COVID-19 pandemic. Cerner has taken steps to introduce and improve new technology offerings, waive fees for expansion of hospital beds and collaborate with other companies to offer supporting solutions during this critical time. In addition, Cerner has developed a dedicated COVID-19 taskforce to make health, safety and business continuity decisions for its associates and clients across the world.

How is Cerner using EHR optimization and what other measures are being considered to combat COVID-19?

Cerner has been working closely with clients in the region optimize our clients' electronic health record (EHR) systems with the most recent and applicable developments and implementations from across the globe. This includes operational readiness, screening, testing, treating, monitoring, public health surveillance and other clinical activities. The optimized solutions cover each health organization's requirements to respond to the pandemic.

- **Operational readiness:** Isolation bed tracking dashboards and providing the digital foundations to turn operating theaters and rooms into ICU and isolation rooms.
- **Screening:** Intelligent rules and documentation tools to alert clinicians to the risk of a patient testing positive to the virus. This is part of an end-to-end process that goes beyond a single facility to on-the-ground mass screening efforts, either through proactive community campaigns or drive-through testing facilities.
- **Testing:** Tracking dashboards for all tested patients with clear indications of results and recommendations for effective management plans.
- **Treating:** International guidelines and protocols are translated into easy-to-use and intelligent documentation, as well as patient management templates, to ensure a standard and up-to-date management of COVID-19 patients.
- **Surveillance:** Near-real-time dashboards that track the status of all tested, positive and recovered patients for strategic decision making and action.

Over the past few weeks, Cerner completed numerous measures to make it easier for our clients to perform life-saving work. As a part of its EHR optimization, Cerner's clients are now able to access updated population health management dashboards that help track trends and manage patients that have tested positive for coronavirus symptoms. From EHR to telehealth

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solutions, Cerner has expanded its technology to meet the needs of clients delivering care during this critical time. Recently, Cerner launched a dedicated resource site giving clients access to new and updated offerings. This site is a testament to the true global collaboration on practices, pathways and knowledge content between Cerner and our clients.

Health care facilities have various projects and initiatives to help protect their communities during this critical time. How is Cerner supporting its clients around the globe and in the ME region?

Many of Cerner's associates are on the frontlines supporting our clients in combatting this pandemic worldwide. As clinicians and even volunteer paramedics, all of us play an important role in supporting our clients as they respond to COVID-19. A few global examples include: Our associates are helping to set up field hospitals, allowing a health care system to increase their bed capacity. In UAE, multiple health care, hospitality and residential facilities have been turned into isolation and quarantine centers using an extension of Cerner Millennium® domain from existing clients managing those centers. Linking these new facilities to an existing clinical information system has resulted in establishing a well-integrated pandemic response service.

In addition, Cerner has developed customized modules to support these facilities, suitable to their special functions. These include new user-friendly and intuitive documentation, ordering, patient management and tracking tools to cater for clinicians and other health care providers who are interacting with the system for the first time.

Moreover, we have implemented end-to-end Cerner solutions to help clinicians monitor, track and discharge patients. Custom-built solutions are being used to quicken the nursing assessment and physician documentation at these field hospitals.

Cerner has also created dashboards and data analytics to inform quick decision making and operational management aspects (e.g., ventilator capacity, bed management, infection risk screening, COVID 19 lab results).

Other similar initiatives across the globe include:

- **Standing up a 4,000-bed field hospital in a London convention center:** Cerner is providing the EHR platform that will help health care professionals access and record relevant information for COVID-19 patients. This is an extension of the Cerner Millennium domain already in place at one of Cerner's clients in London.
- **Standing up a field hospital in Madrid over a weekend:** Cerner's solution, Selene, which is already being used at 18 hospitals in Europe, has been chosen as the EHR for this temporary facility.
- Working with our clients on creative offerings like laser-printing and the unique use of Ring cameras for patient-monitoring and desktop team rounding.

As one of the HIT market leaders worldwide, how will this pandemic impact how health care is delivered in the future?

The doctor-led approach of health care in most countries has been swept away in a stroke. The only way of receiving health care for patients used to be by contacting their doctor, meeting them face-to-face, explaining their symptoms, being examined and ultimately diagnosed and treated. Within a few short weeks, patients have found other mechanisms to receive care. Patients have found themselves interacting via apps, online tools and video conferences, in many cases, with a more responsive approach. Telemedicine and virtual care have become a new vital tool in health care that clinicians and patients truly value during this pandemic. We believe this will become the new norm, rather than the exception.

Clinicians who have held out persistently for a more hands-on approach to care have found that the clinics that said could never go virtual have practically transformed overnight to remote working, with only minor numbers of patients being seen in person, and only after much of the investigation has been done.

The value of joined up data and interoper-

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ability across a population has been highlighted by this pandemic. It's crucial for the care providers to be able to see full records, and have a greater sense of previous conditions, treatments and potential infection risk. The value of being able to open data up to both give to and receive from third parties that operate in an agile way to create smart, condition-specific apps and analytic algorithms will be seen as a vital way to deliver care.

Digital has been at the forefront of the battle against the coronavirus; it's just not acceptable now to say that paper will do or that interoperability isn't necessary. There will be increasing questions asked about scalability to add beds and users, reconfigure facilities and even stand up new hospitals. Systems will be expected to be more 'elastic' to handle those unforeseen loads.

In your opinion, how do you think this pandemic will change, in the future, an individual's health care perspective. How will organizations think about the importance of population health management and having a robust health care infrastructure among other factors?

The COVID-19 pandemic has exposed the 'walls' within global health and care systems, both between acute care providers, government and other stakeholders in public health. It has also exposed the growing importance of population health management and mobility. The pressing need to see patterns and infection rates has encouraged decision makers to take a more realistic view about the use of personal data for the greater safety of all.

Health care is not a primarily hospital-based activity and the pandemic has highlighted this fact to a broader audience, who may request to take a greater personal ownership of their health and wellbeing in the future. With true population health records, it will become easier to identify and protect the vulnerable or at-risk populations, including the elderly, those with chronic diseases and underlying health conditions. In addition, a better understanding of this population's mobility and living arrangements will allow the brakes to be released in an intelligent way.