



# The Future of Acute Care: Command Center Medicine

Facing the most rigorous care standards and fastest growing patient population in history, providers see Command Center Medicine as the optimal solution.



## What is Command Center Medicine (CCM) in the Acute Care Setting?

The deployment of physicians and other healthcare providers in centers with secure electronic connections to multiple acute care facilities, in order to provide real time oversight, management, coordination and interventions, and resulting in improved clinical and financial outcomes.

## Command Center Concept: Lessons from Other Industries

While the use of command centers is a relatively new concept for medicine – other industries have used command center approaches for years with significant benefits.

Military uses of command and control systems are pervasive. In this setting command center is defined as a facility from which a commander and his or her representatives direct operations and control forces. It is organized to gather, process, analyze, display, and disseminate planning and operational data and perform other related tasks.<sup>1</sup>

Hotel industry reservation and bed management centers, airline industry air traffic control systems, and system operations centers used to oversee manufacturing processes in factories, are all examples of the use of command center concepts to reduce errors and ensure high quality results. These industries all deploy customized software for enterprise resource planning and real time management to improve performance.

On the other hand, medicine's history is one of distributed care, based locally, nonintegrated, with highly variable services

provided by dedicated artisans who eschew standardization, and subject to limited oversight or coordination.<sup>2</sup> Only recently, and in many cases begrudgingly, have electronic medical records been deployed, and they are rarely integrated in a systematic way across facilities. Overall the use of command center oversight is rare.

There are of course exceptions. Prehospital emergency medicine systems (EMS) have used command centers for dispatch and coordinating communications for many years. And hospital incident command centers have been designed for response to disasters or other special situations, but are generally not thought of as a set of tools for routine use in providing clinical care. Command center medicine approaches have shown significant benefit in the specialties of critical care medicine<sup>3</sup> and radiology<sup>4</sup>, mitigating the limitations associated with staff shortages in some specialties and in some geographic locations.

EmOpti believes new thinking is needed to advance acute care medicine and optimize outcomes. The routine use of command center medicine in many healthcare situations provides an opportunity to reach new levels of performance, providing both clinical and financial benefits.

Effective standardized and optimized practice in emergency departments and other acute care settings requires interdisciplinary care. An invaluable consequence of fostering interdependence and the use of command center oversight is better teamwork that should lead to higher quality, safer care. Such cooperation can engender employee engagement and improve both the experiences of patients and the financial performance of practices and hospitals.<sup>2</sup>



## Examples of Command Center Medicine in Acute Care

Across the spectrum of acute care, expanded use of command center medicine approaches holds significant potential. Clinicians in command centers connected simultaneously to multiple facilities can provide meta-level oversight through a combination of analytics and dashboards, identifying bottlenecks in busy facilities, and using predictive algorithms to intelligently assess resources. Tools can be provided to dynamically adjust urgent care and emergency department staffing patterns, ensure availability of other staff, facilities and equipment, and to assist with load balancing of patients across care units.

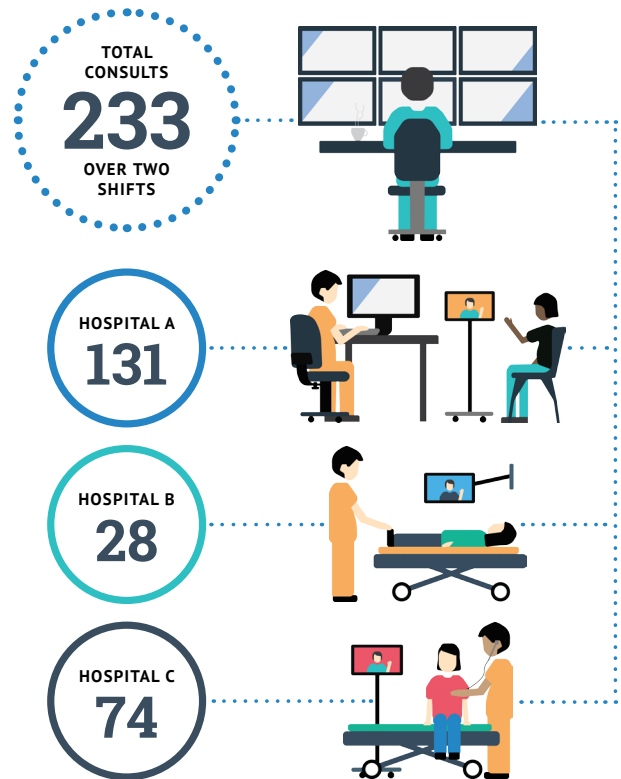
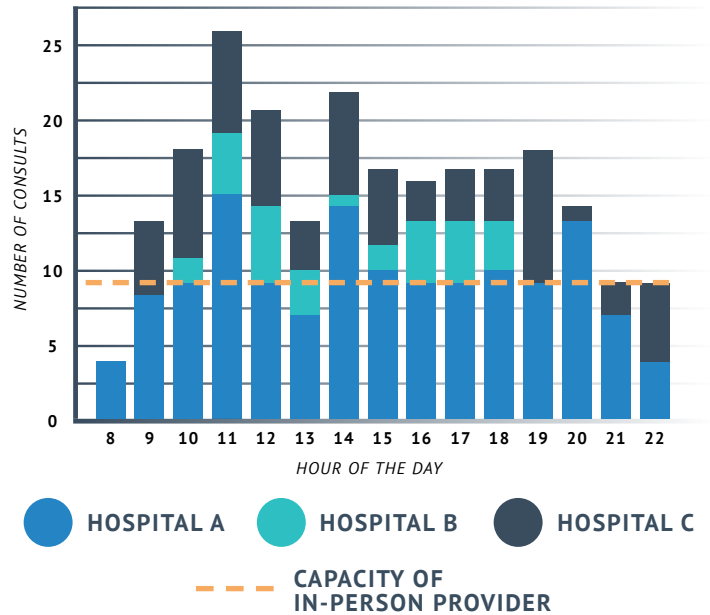
Connecting command center clinicians and support staff simultaneously to multiple facilities means the vision of a truly integrated delivery system can be realized. Management of patient care transitions can be optimized, helping patients decide where to go when they seek care, and assisting clinicians and local staff by coordinating transfers from one care location to another when it makes sense.

Given the pervasive staffing shortages in acute care<sup>5</sup>, command center physicians can provide expert oversight in some situations, allowing advanced practice providers (APPs) the opportunity to fill local roles, while still ensuring they have adequate back up should complex situations occur. Command center physician oversight of APPs provides a cost effective staffing option in particular for urgent care or rural emergency medicine settings. EmOpti is working with organizations across the country to deploy innovative software and telemedicine technology that enables remote command center clinicians to serve as providers-in-triage (PIT) at multiple hospital emergency departments simultaneously.

This approach allows all the benefits of PIT programs – lower door to provider times, decreased overall throughput times, and improved patient and staff satisfaction – but at a significantly lower cost to provide the service. The advanced technology platform leads to high productivity by command center clinicians. An example command center physician shift providing over 130 remote consults spread across three emergency departments is depicted to the right.

A further example of improving acute care through command center medicine is through the coordination and standardization of discharge planning and patient instructions. In a busy emergency department setting this phase of care can be cut short and incomplete, and at best is often inconsistent.

One Physician, Two Shifts, Three Hospitals:  
Hourly Remote Triage Consults





By augmenting the local providers with a remote discharge planning service, including telemedicine communication and video-based standardized instructions for common recurrent problems, patients will be well served.

Finally, academic center teaching programs have a separate set of requirements that can be addressed by incorporating telemedicine and command center oversight. Faculty responsibilities include the direct observation of interactions between students or residents and patients during the course of patient care, which generally requires a 1:1 allocation of time. By designating specific treatment rooms as teaching rooms and incorporating effective technology, a faculty member can potentially observe multiple students and residents interacting with patients simultaneously, and can also record these interactions and play them back with the students and residents to identify teaching points.

## How to Incorporate Command Center Medicine at Your Practice

A classic approach to solving business problems is to (1) identify the current state and problems, (2) envision a better future state, and (3) create a plan to move from current to future. This approach can easily be applied to the use of command center medicine in acute care.

Understanding the current state of a practice environment and the associated problems can be more difficult than it seems. Acute care settings have faced crowding and staff shortages for years, and in many cases a sense of learned helplessness has developed. The emergency medicine industry features a two percent left without being seen (LWOBS) rate across the country, and in many facilities this percentage is far worse. But the industry needs to reframe thinking so that LWOBS rate of two percent is no longer acceptable, but is interpreted as a failure to provide adequate service. Zero percent should be the goal.

A commitment to continuous improvement means preparation for the future. Demographic forces being as they are, acute care settings are virtually certain to see increasing patient volumes as the baby boomer generation continues to grow older. New care models will need to be entertained as the demand for care continues to stress staff and physical plants. Consultants and other experts can help providers to create computerized patient flow models and simulations that can permit testing of hypotheses around new care models, and what-if testing to help guide future decision making.

As the current state is better understood and a future state is envisioned, teams can identify and rank priorities for change, and develop a roadmap for how to achieve that change. Technology partners should be chosen based on their capability, experience and innovation. Strong leadership will be needed, including support from physicians, nurses and administrators. Leaders must clearly understand what it takes for change management to be successful and then pursue best practices to improve probabilities for success.<sup>6</sup>

As with any change in care model, the deployment of command center medicine approaches to acute care will require perseverance. Medicine is a conservative industry and resistance from some quarters is to be expected. Leaders must understand and communicate a sense of urgency, emphasizing the benefits to be obtained by staff and patients alike. EmOpti is prepared to help these leaders move into a new high performance age where command center medicine of the future is delivered today.



**Dr. Paul Coogan**  
Physician President  
of multi-hospital  
emergency medicine  
staffing organization

“Imagine how the airline industry would function if they did not use an air traffic control system to coordinate flights and use of airports. Yet this is how much of the health care system operates today. We decided to leverage lessons learned in the airline industry and use a command center approach, **providing meta-level real-time reporting and oversight of acute care patient flow, and intervention using telemedicine to help speed the care process.**”



## References

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