CASE STUDY

Backline®

Catawba Valley Medical Center Reduces ED-to-Bed Throughput Time with Backline

CATAWBA VALLEY MEDICAL CENTER

Catawba Valley Medical Center, Hickory NC

Total Beds – 258
Total Employees – 2000

CATAWBA VALLEY HEALTH SYSTEM

Catawba Valley Health System

- Catawba Valley Medical Center
- 15 family medicine practices
- Two urgent care centers
- Fitness Plus
- Five employer-based clinics
- Seven specialty practices
- Center for Wound Healing & Hyperbarics
- Center for Sleep Disorders
- Community Health Services Center
- Imaging Center
- Viewmont Ambulatory Surgery Center

Challenge

Catawba Valley Medical Center (CVMC), widely recognized in the region for its medical excellence and 5-year-running Magnet Award for nursing excellence, wanted to address the lengthy time patients spent in the Emergency Department (ED) waiting to be transferred to an open bed on the hospital floor upon admission.

Prolonged wait times spurred patient discomfort, dissatisfaction, and treatment delays. Worse, they caused an unacceptable throughput issue for physicians, nurses, and transport staff who work diligently to get patients into a room expeditiously for continued care.

At CVMC, the Administrators on Duty (AODs) are responsible for finding a bed for a newly admitted patient. AODs are highly mobile throughout the day, making it difficult for them to receive alerts of a new patient admission promptly, and making it even more difficult for the AODs to identify and respond with a bed assignment. Traditional means of communications (pagers and phones) did not provide the level of efficiency needed to bend the curve on ED-to-bed wait times.

For their ED-to-Bed Wait Reduction initiative, CVMC defined three objectives:

1. Timely notification to the AODs when a patient is to be admitted
2. Tie to ADT feed to ensure AODs get admission requests for their business groups only
3. Streamline workflow for various types of admissions to reduce ED wait times

Technology Solution

In 2019, CVMC implemented the Bed Management desktop module in the Admission section of its MEDITECH 6.0 EHR as the first step toward resolving ED patient throughput. With this tool, an AOD can log into a computer and see bed requests as well as available beds in their units. Then, the AOD can match the request to the bed and facilitate transferring the patient to a room.

The Bed Management tool solved part of the throughput problem (matching a new patient admission to a bed), but the core issue remained: How to alert the AODs promptly as they move about the facility throughout the day.

Enter DrFirst's Backline® care collaboration tool. CVMC began using Backline in 2015 to enable physicians and advance practice providers (APPs) to chat with each other securely throughout the day. It became clear that Backline, with its mobile functionality, could be used to alert the AODs no matter where they are in their day. Once notified, the AOD can quickly respond with a bed match and transition the patient to an inpatient room.

Corporate Headquarters
9420 Key West Avenue, Suite 230
Rockville, MD 20850

Satellite Offices
Mesa, AZ
Germantown, MD

866.263.6511
sales@drfirst.com
www.drfirst.com

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Awards and Recognition

- Five-time Magnet-recognized hospital for nursing excellence
- Region's only level III Neonatal Intensive Care Unit (NICU)
- "Women's Choice" Award winner for "America's Best 100 Hospitals for Patient Experience" for six consecutive years
- American College of Surgeons Accredited Comprehensive Community Cancer Center

Point-and-Click Notifying the AODs of a New Patient Admit

To make it easy for the ED staff to request a bed for a newly admitted patient, CVMC added an "Admit Request" button within the Emergency Department module of their MEDITECH EHR. Now, with one click, staff can send a request for a bed to the Bed Management module, which immediately notifies the AODs of the need via Backline.

Unit-Specific ADT Feed

CVMC has eight clinical units, each one managed by a Charge Nurse. To that end, CVMC needed to ensure that the Backline admission notifications were only sent to the appropriate unit in real time. For instance, a cardiac unit should only receive bed requests for the cardiology unit, and so forth.

Collaborating with DrFirst, CVMC created a "virtual printer" to separate and send Backline notifications to the correct unit. Splitting admission requests to each of the eight units turned out to be the most challenging part of the implementation. Once accomplished, room requests specific to other units were removed from their Backline feed to save the Charge Nurses' time filtering through requests that were unrelated to their unit. Now each unit/Charge Nurse receives only their admission notifications in real-time.

Fast, Efficient, Streamlined Workflow

CVMC looked at the devices the hospital staff was currently using, including the charge phones. With its HIPAA security, the decision to begin enabling Backline on the personal mobile devices of select staff was clear. Now, Backline is implemented on CVMC inpatient units' and AOD's smartphones.

With MEDITECH 6.0 EHR and Backline, Charge Nurses can use hospital-provided smartphones, replacing their SpectraLinks, CVMC's previous mobile device tool. In these days of BYOD (bring your own device), knowing that MEDITECH and DrFirst offer a secure solution provides peace of mind to hospital leadership that communication is efficient, timely, and HIPAA compliant whether on a hospital-provided mobile device or a personal smart phone.

A Positive, Overall Impact in Bending the ED-to-Bed Time Curve

CVMC has experienced significant improvement in ED-to-bed throughput. Additionally, clinicians and nurses have noted substantial improvements in workflow efficiencies as well.

Within two months of implementing Backline for the ED throughput initiative, the time from ED arrival to departure to a room decreased by nearly 97 minutes per patient.

Calls to the AOD decreased from 274 before electronic notifications to 149 since implementation, eliminating approximately 125 calls per day to the AOD.

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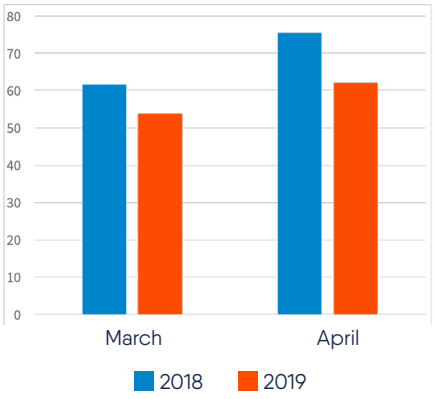
ED-to-Bed Throughput Initiative Results

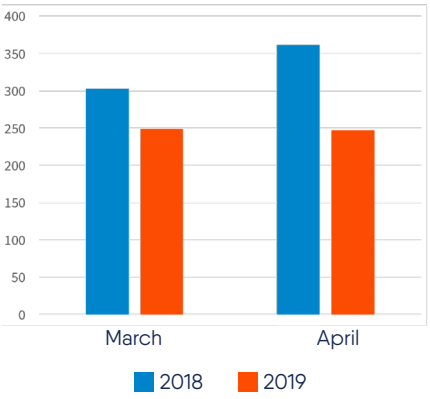
Decision to Admit a Patient to Departure from the ED (in Minutes)

- March 2018 (674 patients) 62 min.
- March 2019 (599 patients) 54 min. (8 min. decrease)
- April 2018 (656 patients) 75 min.
- April 2019 (630 patients) 62 min. (14 min. decrease)



Arrival at the ED to Departure for Admitted Patients (in Minutes)

- March 2018 (674 patients) 303 min.
- March 2019 (599 patients) 249 min. (54 min. decrease)
- April 2018 (656 patients) 362 min.
- April 2019 (630 patients) 247 min. (97 min. decrease)



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