Virtual Care Technology Drives Patient Flow Optimization

Advocate Aurora Health's Innovative Approach to Decrease Wait Times and Improve Clinical and Financial Performance

About Advocate Aurora Health

Advocate Aurora Health is an integrated, not-for-profit, all-for-people health care provider serving communities throughout eastern Wisconsin and northern Illinois. They are the 10th largest health system in the U.S. with 25 hospitals and 350+ clinics.

Advocate Aurora Health is committed to supporting research that leads to new and improved ways to care for people and manage community health.

Challenge

Advocate Aurora Health emergency departments had seen increased challenges with crowding and long wait times as patient volumes had increased.

Although care alternatives to emergency departments continue to grow, the aging baby boomer population in the communities served by Advocate Aurora Health was and is expected to increase the number of visits to emergency departments for the foreseeable future.

Advocate Aurora Health initial focus was to implement an onsite provider-in-triage model to support the emergency department intake process, and aid with patient flow and throughput. An in-person model helped to improve metrics but was costly and inefficient for the providers working the provider-in-triage shifts.

In 2015 when a Milwaukee County policy went into effect prohibiting hospitals from diverting ambulances to other facilities, Advocate Aurora Health knew they had to find a more innovative way to handle the emergency department intake process.

Solution

Advocate Aurora Health did a search of potential process, workflow and technology solutions to help address the emergency department challenges they were facing.

Advocate Aurora Health looked for solutions internally and externally, considering technologies that already existed within their health system and new vendors and technologies available in the market. At issue was the ability to specifically address the
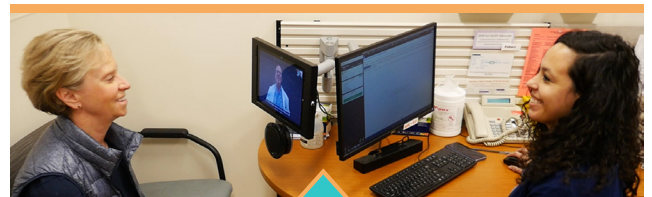
ADVOCATE AURORA HEALTH, INTEGRATED HEALTH SYSTEM

25 hospitals • 8,100+ physicians
350+ clinics • 500 total sites of care

Results at a Glance

LESS WAITING TIME
60 min. → 10 min.
Door-To-Doc Time
Decrease

BETTER OUTCOMES
88% → 98%
Patient Satisfaction
Ratings

MORE PEOPLE TREATED
8% → 2%
Decrease in Left Without
Being Seen Rate

FASTER TREATMENT & RESULTS
45 min. reduction
Length of Stay
Discharged Patients

Expanded Services to Scale

Increased the Reach of a Single Provider-in-Triage from 1 to 3 Hospitals in One Shift

clinical use case requirements and solve the problem of throughput and patient flow optimization in a way that improved satisfaction with patients and clinical staff. Advocate Aurora Health partnered with EmOpti to implement EmOpti's Virtual Care Platform for Patient Flow Optimization, a system purposefully designed for high-volume, acute care clinical scenarios.

The collaboration between Advocate Aurora Health and EmOpti included partnering with existing clinical staff to implement a command center infrastructure and software solution driven by advance analytics and telemedicine technology.

The solution enabled Advocate Aurora Health providers in the EmOpti command center to provide meta-level oversight of emergency department patient flow, and to provide telemedicine-based consultation services during the emergency department intake process across multiple facilities.

Additionally, by stationing the provider in a command center and servicing multiple hospitals simultaneously, the intervention-based emergency department intake process becomes much more cost-effective relative to alternative care models.

EmOpti worked with Aurora Health Care Medical Group - Emergency Physicians, the Aurora Operations Team, and Aurora Nursing Staff to model out patient arrival times and acuities to determine the most appropriate command center hours for providers to staff, and the necessary staffing level to support the consult demand. A careful analysis of ESI levels and before and after workflows was completed.

Lastly, the physical space constraints were taken into consideration during the implementation process. After the system was live, EmOpti and Advocate Aurora Health worked together during the post-implementation phase using real data to assess the impact of the solution and any incremental changes needed to optimize throughput.

Results

By implementing EmOpti, Advocate Aurora Health has been able to provide Virtual Care emergency department intake services to 3 facilities instead of the previous in-person model in which they could only provide services to 1 facility at a time.

Dr. Paul Coogan comments, "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 healthcare 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 process."

The impact on key metrics has been overwhelmingly positive. The average time to see a provider at the beginning of the emergency department encounter (door to provider time) has decreased from 40 minutes to 10 minutes. The average length of stay for discharged patients has decreased by 45 minutes. Patient satisfaction with the new process has increased beyond expectations, from 88% to 98%.

The clinical staff are thrilled with the technology as they no longer deal with patients being upset about long waits. Furthermore, the advancements toward delivering efficient, high quality care are professionally and personally rewarding.
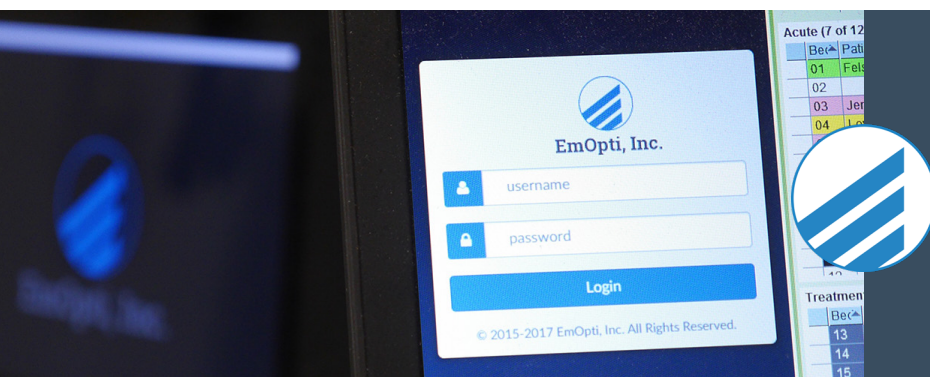
About EmOpti

EmOpti is a Virtual Care Platform for Patient Flow Optimization. EmOpti partners with clinicians to provide analytics and telemedicine technology that speeds flow through busy acute care facilities, improving staff and facility productivity. The result is improved experience for both patients and clinicians, and positive financial impact for provider organizations.