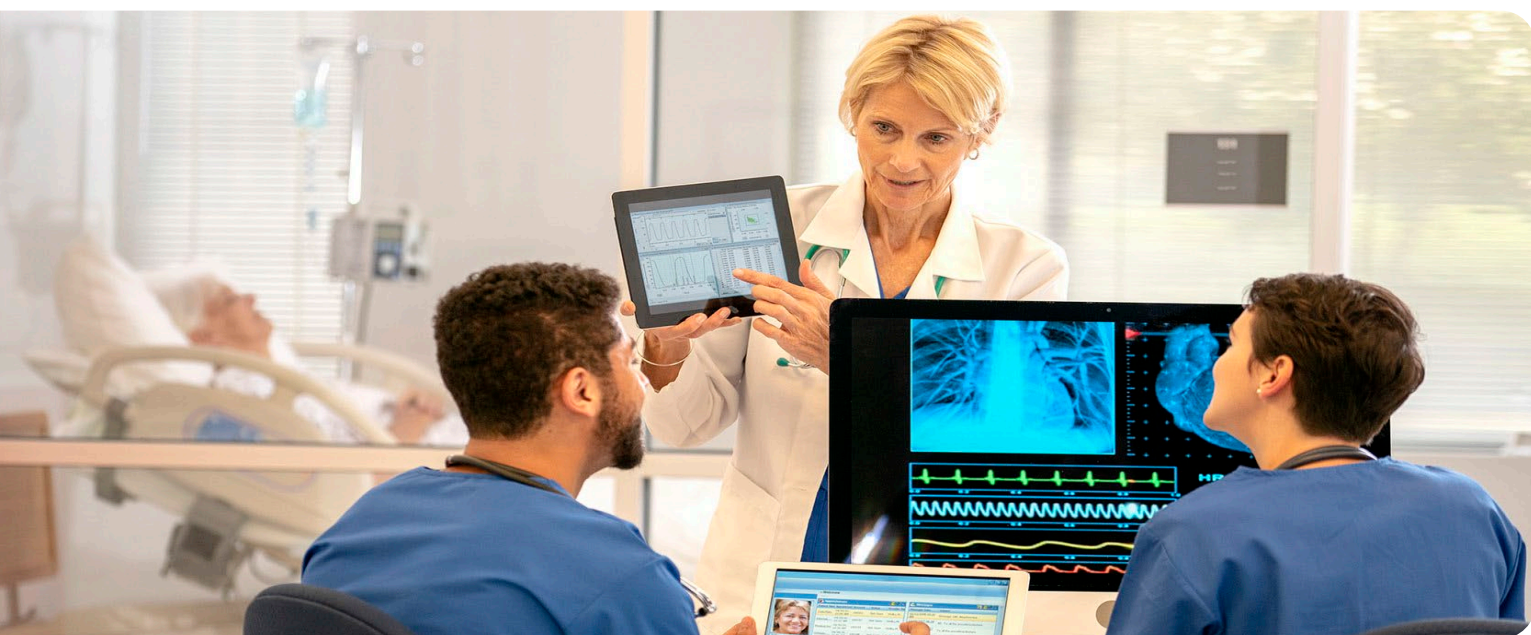


**CASE STUDY**

## Ochsner Health

# Implementing predictive modeling to improve sepsis treatment and outcomes

How Ochsner Health's predictive model decreased primary sepsis mortality by 20 percent



## Ochsner Health

Ochsner Health is an integrated healthcare system with a mission to serve, heal, lead, educate and innovate. It has 37,000+ employees and 4,700+ physicians in 90+ specialties and subspecialties. It operates 46 hospitals and 370+ health and urgent care centers across Louisiana, Mississippi, Alabama and the Gulf South. Its Connected Health digital medicine program cares for patients beyond its walls.

## Challenge and opportunity

Early identification and treatment of sepsis is vital to improved patient outcomes, including mortality, sepsis bundle compliance and speed of care. During 2019, Epic introduced a sepsis predictive model to help alert providers about possible septic patients. Ochsner Health had previous experience with predictive modeling, but using an artificial intelligence tool applied to large-scale quality improvement for sepsis care was new.

The team began with an inventory of their previous actions to increase sepsis identification/treatment and decrease mortality. The organization had four key goals: tackle the treatment problem first; create a tool that produces a “pull” vs. a “push” system; design a tool that focuses on what actions the providers can do; and keep it human by avoiding electronic pop-ups/alerts. The tool also needed to work across the system—from its smallest critical access hospital to its large academic medical and trauma centers.

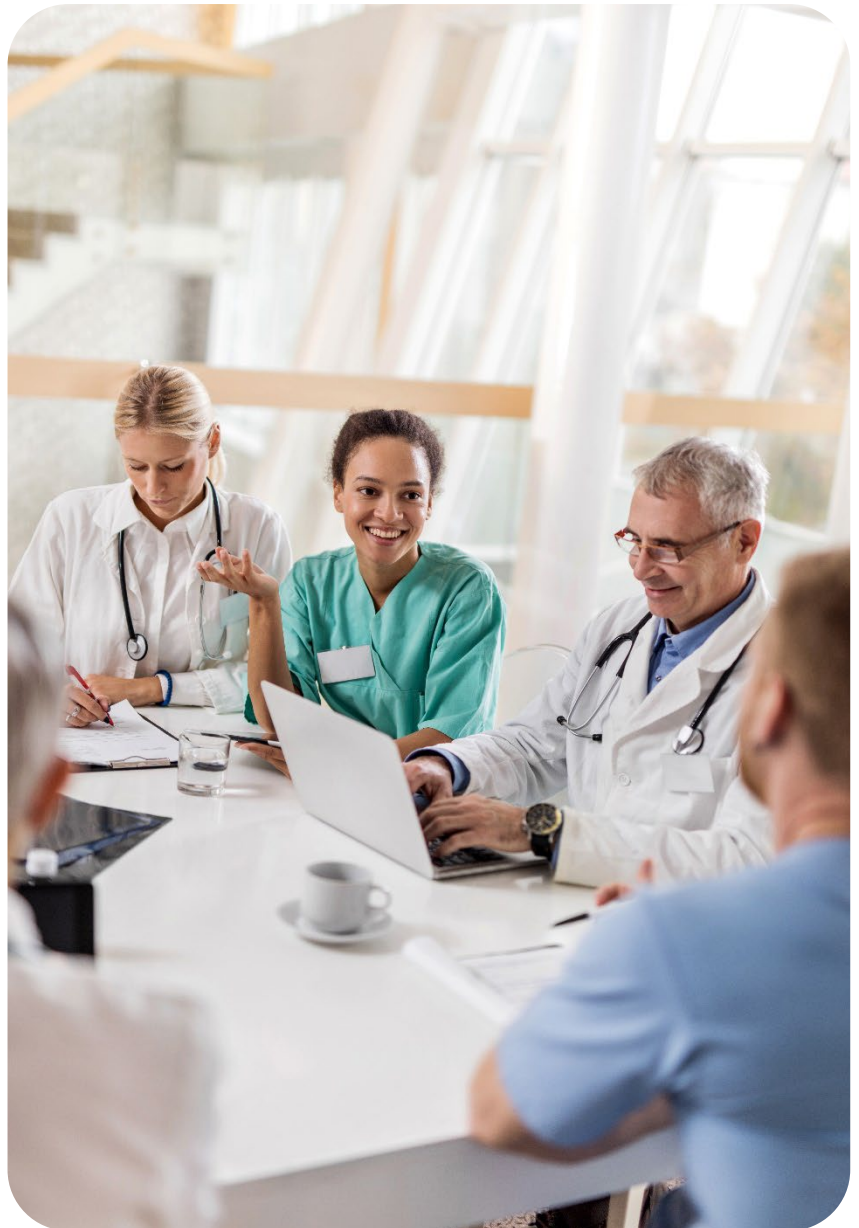
## Approach

As the team began its work, they kept the core group small, with four key team members (hospitalist, emergency department physician, change management professional and analytics team member) while also working with key system nursing and physician leaders and the EHR vendor as needed. The approach helped manage the receipt and implementation of feedback and eliminated much of the “red tape” that may occur working with a larger group.

As they developed the tools, they kept a focus on what they want individuals to do once they were alerted that a patient is possibly septic.

While COVID hit in 2020 and paused the team’s efforts, Teresa Arrington, system quality and patient safety program manager, served as project liaison for Ochsner Health’s participation in the Vizient® Sepsis Early Recognition Performance Improvement Collaborative and brought valuable lessons learned from the project into their predictive modeling work.

The team rolled out the predictive modeling tool as a pilot on its Kenner community hospital campus in June 2021. During the rollout, the team met every day to discuss what was working well, not working well and feedback from the front lines. The team continued to meet every two weeks. The EHR vendor liked the customization that they implemented so much that they worked some of the system’s tools such as an interactive checklist, sepsis timer and patient list build into its national platform.



"It's always inspiring to hear about what other organizations are doing. It helps to fan the flame of improvement for the sake of our patients."

### **Teresa Arrington**

System Quality and Patient Safety Program Manager, Ochsner Health, referring to Vizient PI Collaboratives

## Lessons learned

During its two-year journey, Ochsner Health identified several lessons learned:

- **Start slow**—Ochsner first rolled out its predictive modeling tool at a smaller community hospital (Kenner) and then, after revisions or changes were made and showed success, it rolled it out at other campuses.
- **Keep it human**—people respond better when spoken to versus multiple electronic pop-ups and alerts. Virtual nurses would call and speak with providers and staff when it was identified that patients met certain criteria and were possibly septic.
- **Implement a dashboard**—according to Dr. Hill, “if you don’t have a way to track, you don’t know how you are doing as a system.” Having a way for everyone to see how other campuses are doing with identification and treatment of sepsis has been beneficial as well.

## Results

Ochsner Health’s work has yielded impressive results. Specifically, the organization has seen its primary sepsis mortality (RAMI) decrease 20 percent, from 1.01 in 2022 to 0.88 YTD in 2023. Ochsner also increased its system-wide three-hour sepsis perfect care, MD sepsis order panel usage, antibiotics received within one-hour of time zero and nurses placing lactate orders by about 3% for each measure since 2022.

# 20%

decrease in primary sepsis mortality

## Next steps

Ochsner Health is looking to take its lessons learned in its sepsis predictive modeling and spread to other areas such as health equity and other serious conditions. Dr. Lisa Birdsall Fort, Ochsner Health’s quality director, emergency services, noted that she wants to ensure Ochsner is offering equitable care to all patients as well as see if implementing similar modeling can assist in the treatment of other serious conditions such as stroke.

## Additional resources

### Information:

- Moving from identifying opportunities to reducing clinical variation in healthcare [newsletter story](#)
- Leveraging insights to improve sepsis care [case study](#)
- The impact of sepsis diagnosis and documentation podcasts [part 1](#); [part 2](#)
- Using AI for early detection of sepsis [podcast](#)
- Sepsis Awareness Month 2022: Sepsis Early Recognition [podcast](#)
- Sepsis Early Recognition Collaborative Knowledge Transfer Webinar 2021 [recording](#) and [guidebook](#)

### Solutions:

- [Vizient Clinician Decision Analytics](#)
- [Vizient Clinical Data Base](#)

Click [here](#) to learn about Vizient solutions or reach out to our team.

As the nation’s largest member-driven healthcare performance improvement company, Vizient provides solutions and services that empower healthcare providers to deliver high-value care by aligning cost, quality and market performance. With analytics, advisory services and a robust sourcing portfolio, we help members improve patient outcomes and lower costs.