

EMR Embedded Communication Improves Efficiency



Hospital

The University of Tennessee Medical Center

Location

Knoxville, TN

Implemented Solution

Clinical Communication & Collaboration (CC&C)

Integration

Cerner



76.3%

Decrease in
Time to Initiate
Communication

The University of Tennessee Medical Center (UTMC) is East Tennessee's only academic medical center and Level I trauma center. With nearly 700 beds and seven Centers of Excellence, UTMC is Magnet® recognized and known for a strong commitment to high-quality care.

Challenges

Communication breakdowns have been identified by the Joint Commission as a top contributor in sentinel events,¹ with other consequences including clinician frustration, reduced productivity, and care delays. Additionally, poor communication is detrimental to organizations' bottom line, costing approximately \$12 billion across healthcare systems each year.²

In 2015, the leadership team at UTMC recognized communication challenges, evaluated solutions, and decided to implement PerfectServe's industry-leading Clinical Communication and Collaboration (CC&C) solution across their hospital and ambulatory sites. Adoption was strong with nearly 35,000 communications every month.

In 2020, UTMC sought to build upon the strong performance of PerfectServe's CC&C solution by integrating it with the electronic medical record (EMR) to further streamline communication workflows. The primary goals were to increase clinician satisfaction and speed up patient care—objectives underscored by the COVID-19 pandemic.

“In the midst of the global pandemic, UT Medical Center has been running at more than 100% capacity for months. We simply don't have time to waste.”

– Clay Callison, MD

Chief Medical Information Officer, UTMC

Care teams spend approximately

40%

of their shift working in the EMR.³

“Making it easier and faster for our care teams to connect with each other is vitally important. The impact of this embedded tool made a huge difference.”

– **Clay Callison, MD**

Chief Medical Information Officer,
UTMC



Solution

To measure the impact of embedding PerfectServe within the EMR, UTMC created a quality improvement initiative with two study groups chosen specifically for the high volume of communication they send and receive throughout the organization.

Two Study Groups:

1. Large Nursing Unit – Nearly 40 Nurses
2. UT Hospitalist Group – More Than 60 Providers

Implementation

The study period began six weeks prior to go-live with the collection of baseline utilization, time measurement, and satisfaction surveys.

Data Collection:

- **Provider and nurse satisfaction** with UTMC’s communication processes—including paging, calls, and PerfectServe secure texting—were quantitatively evaluated based on six of the ten domains of satisfaction.⁴
 1. Quality
 2. Ease of Access
 3. Timeliness
 4. Efficiency
 5. Innovation
 6. Commitment to the Customer (Patient)
- **Time** it took to initiate a PerfectServe message was evaluated pre-deployment (outside the EMR) versus post-deployment (inside the EMR) using timed observational studies of more than two dozen nurses communicating throughout their shift.
- **Utilization** metrics were evaluated via the PerfectServe analytics dashboard, including:
 - Total number of PerfectServe communications each month.
 - How many originated from the web interface vs. the new embedded EMR access point.
 - Overall communication volume trends.

Superusers represented each clinical area and received comprehensive training, as did the expert user group led by UTMC’s Nursing Coordinator. Go-live was supported by an onsite team that rounded throughout the day in all patient care and ancillary areas.

Results

The care team response was overwhelmingly positive across the organization and user groups.



Nurse Satisfaction

When evaluating overall satisfaction with communication processes, the nurses expressed a 28% increase in satisfaction, which is statistically significant with $p < .001$. Both the pre- and post-implementation surveys received a nurse response rate of more than 70%.

28% Increase in
Nurse Satisfaction



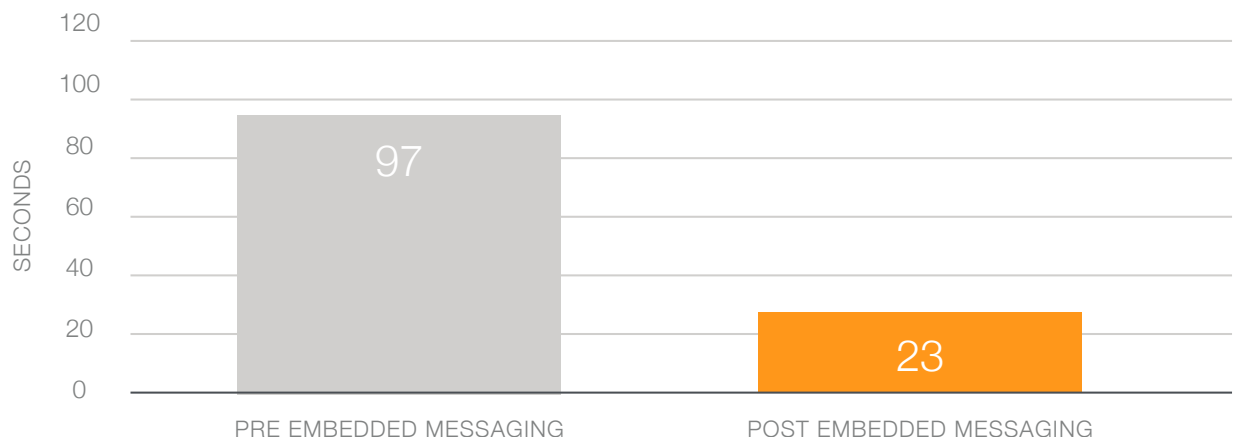
Provider Satisfaction

The provider group began the study with a very streamlined process, using the PerfectServe mobile app on their smartphones, but EMR embedded messaging still succeeded in increasing their satisfaction by 12% ($p = .08$). Provider survey engagement went from 45% pre-implementation to 73% post-implementation.

12% Increase in
Provider Satisfaction

Time to Initiate Messages

Exceeding the targeted 10% decrease in time taken to initiate asynchronous communication, UTMC saw a **76.3%** decrease. Each message sent using PerfectServe embedded within the EMR was 74 seconds faster on average, allowing UTMC to reclaim around 410 hours per month.



About PerfectServe

PerfectServe offers unified healthcare communication solutions to help physicians, nurses, and care team members provide exceptional patient care. PerfectServe's cloud-based solutions enhance patient safety and reduce provider burnout by automating workflows, speeding time to treatment, optimizing shift schedules, empowering nurse mobility, and engaging patients in their own care.

1. Sentinel Event Alert, The Joint Commission, Issue 58, Sep. 12, 2017: [jointcommission.org/resources/patient-safety-topics/sentinel-event/sentinel-event-alert-newsletters/sentinel-event-alert-58-inadequate-hand-off-communication](https://www.jointcommission.org/resources/patient-safety-topics/sentinel-event/sentinel-event-alert-newsletters/sentinel-event-alert-58-inadequate-hand-off-communication)
2. Quantifying the economic impact of communication inefficiencies in U.S. hospitals, Agarwal et al., Journal of Healthcare Management, PubMed, Jul.-Aug. 2010: pubmed.ncbi.nlm.nih.gov/20812527
3. Non-Value-Added Time The Million Dollar Nursing Opportunity, Storfjell, Ph.D., RN et al., The Journal of Nursing Administration, PubMed, Feb. 2009: pubmed.ncbi.nlm.nih.gov/19104286
4. (Un)Customer Service = Customer (Dis) Satisfaction Surveys, Nolinske, Ph.D., National Business Research Institute: nbrii.com/customer-survey-white-papers/uncustomer-service-customer-dissatisfaction

To learn more or schedule a demo, please contact us:

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Financial Savings

With UTMC's nurses and ancillary team members initiating nearly 20,000 messages each month, the 74 seconds per message given back to essential care tasks was profound, totaling approximately **\$117,675 in annual time savings**.

Adoption

Although COVID-19 measures hindered initial communication volume, adoption was 73.3% and climbing at the six-month study conclusion. Even better—PerfectServe communication was up more than 21% year over year with patient census remaining consistent.

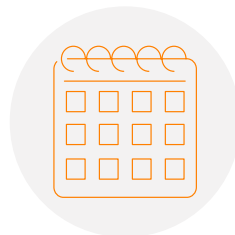
Clinicians who had never previously used PerfectServe engaged due to the simplicity provided by embedded EMR.

Conclusion

Communication has a tremendous, well-documented impact on hospitals, care teams, and patients. CC&C platforms have emerged in the past decade as a comprehensive solution for efficient and standardized healthcare communication. Embedding PerfectServe's CC&C solution within the EMR saves time, drives additional solution utilization, and increases clinician satisfaction.



\$117k in Annual Time Savings



73.3% Adoption at 6 Months



21% YoY Increase in PerfectServe Communication