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Healthcare

Transformation Services

# Increasing efficiency in the ultrasound department

Philips Healthcare Transformation Services enables performance improvement at Lakeland Regional Medical Center

## **Who/where**

Lakeland Regional Medical Center, Lakeland, FL.  
A regional hospital with a Level II trauma center and over 187,000 ED visits annually.

## **Challenge**

Improve examination turnaround time for diagnostic ultrasound services where demand varies significantly in one of the busiest and largest EDs in Florida.

## **Solution**

Philips completed a performance improvement consulting engagement which included data analysis, staff interviews, and onsite observations, followed by root cause analysis and prioritized change recommendations.

## **Results**

The Lakeland team acted on several of the Philips recommendations. As a result, the average length of stay in the ED is two hours and approximately 80% of patients are treated and discharged or admitted to an inpatient bed in fewer than three hours.

Lakeland Regional Medical Center (“Lakeland”) has made strong improvements to their ED processes and reduced the average patient time spent from door to disposition to less than 3 hours. The diagnostic ultrasound services department and supporting imaging services department wanted to reduce turnaround time and improve the overall patient experience for services provided in the ED on demand. They asked Philips to help them improve performance and increase efficiency for diagnostic ultrasound services in the ED.

While Lakeland had made investments, such as mobile Ultrasound (US) units with wireless capabilities, additional challenges remained for delivering services within the target timeframe.

Several issues were identified as possible causes of delay. Philips was asked to provide external validation of the identified issues and to make recommendations for additional improvements in ultrasound exam efficiency in the ED.

### Our approach

Following a project and scope review, our consulting team recommended a short-term performance improvement engagement to provide a rapid assessment. The proposal included data analysis, staff interviews, and onsite observations, followed by root cause analysis and prioritized change recommendations.

### Project deliverables:

A collaborative Philips-Lakeland project team including clinical staff and members of management agreed to the key project goals.

- Measure current performance
- Assess and identify operational inefficiencies
- Recommend change initiatives/programs to increase performance
- Prioritize the recommendations and present to management

### Data analysis

The first step was to complete a detailed analysis of the data the Lakeland team had gathered. This included metrics for the patient process, average wait times and duration of exam, physical environment, and patient and staff satisfaction. The team also collected two weeks of real-time data capturing key elements of the ED ultrasound flow. They compared both sets of data metrics to appropriate benchmark data.

### Interviews and observations

The team then interviewed key stakeholders including administrators, physicians, nurses, technicians, and support staff, and observed the department's relevant processes and operations to identify root causes of inefficiency. They reviewed the data analysis along with additional input gathered from the interviews and observations to map and quantify current state performance. After gaining a good understanding of current workflow process, next potential opportunities to increase efficiency and patient capacity were identified.

### Recommendations

Several improvement opportunities were identified, tested, revised, and prioritized leading to a final set of change recommendations. Project recommendations focused on mitigating delays while improving patient throughput and the overall patient experience. Initiatives targeted efficiency improvements for ultrasound exams performed in the ED and shortening exam times. Key recommendations were to:

- Improve alignment between triage and ultrasound to reduce non-value travel time, improve utilization of resources (people, technology), and increase patient throughput
- Relocate and reconfigure the technologist workstation, to allow two techs to utilize the space at once
- Modify the existing ultrasound room, bathroom, and probe cleaning area to streamline patient care and remove non-value added movement
- Improve the ultrasound area assets to reduce non-value added time and rework
- Divert patients to the level of most appropriate care to streamline workflow

### Results

Impressive, award winning\* results were achieved after Lakeland implemented many of the collaborative team's project recommendations. They established the use of single patient rooms which allowed them to 'go portable' and shorten exam times. They modified the ED ultrasound room, adding a dedicated restroom for ultrasound patients, thereby reducing delays and improving patient satisfaction. They moved the technologist workstation so that two techs can use the space simultaneously. Sonographers are using the 'sleep mode' on the new Philips EPIQ ultrasound systems which allows movement between rooms without the delay of having to shut down and restart the unit each time.

These changes have resulted in immediate improvements including a decrease in exam times and an increase in patient throughput, workflow efficiency, and enhanced patient satisfaction.

### Learn more

Philips Healthcare Transformation Services provide end-to-end, patient-centric solutions across the care continuum. Our customized consulting and education services are designed to improve clinical care and operational effectiveness while contributing to the financial stability of your enterprise. For more information, please visit [www.philips.com/healthcareconsulting](http://www.philips.com/healthcareconsulting).

“The Philips team provided a thorough analysis and astute performance recommendations. As a result, we made several changes that helped us to significantly improve our workflow and our patient care experiences.”

**Maureen Leckie, RN, MSN**

Associate Vice President of Clinical Operations  
Lakeland Regional Medical Center

\* Lakeland was the winner of EmCare's 2014 Genesis Cup Award for ED Innovations.

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