



## Summary

### CUSTOMER

Charlotte Radiology

### CHALLENGE

Improve customer satisfaction by reducing study turnaround time, reducing time to create interfaces, and automating communication with referrers.

### OUTCOME

Less than one day to interface with new systems, median turnaround time for emergency department studies now 11 minutes, business growth from 60 radiologists to more than 95.

## Charlotte Radiology + InterSystems

# Charlotte Radiology Removes Barriers to Business Growth with InterSystems HealthShare

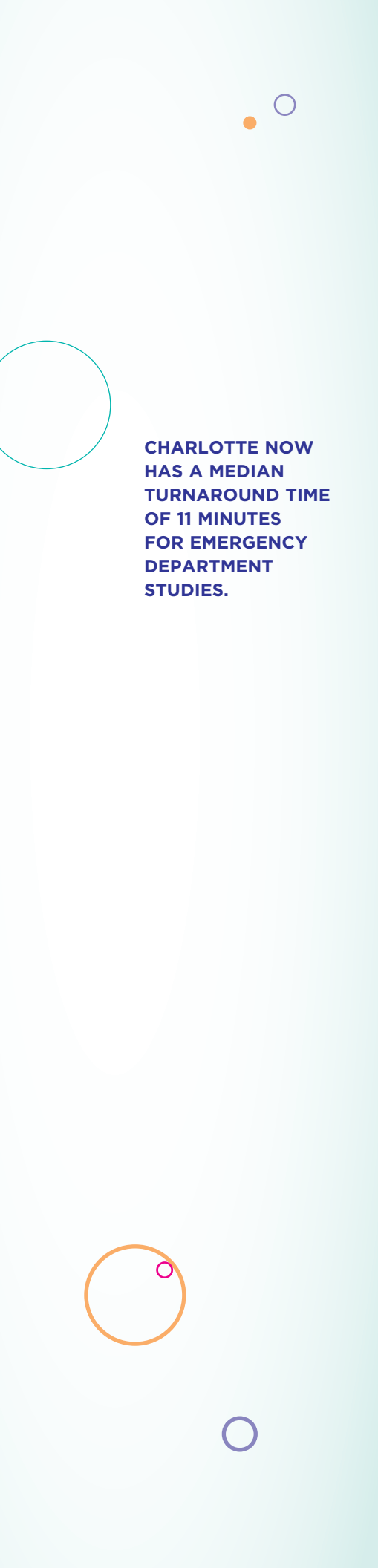
Charlotte Radiology (Charlotte), a major radiology group based in North Carolina, completed a tri-annual survey of referring physicians in 2009. At that time, Charlotte had about 60 board-certified radiologists, owned and operated 12 breast imaging centers, was joint owner and reader for Carolinas Imaging Services, and served 10 hospitals in North and South Carolina. The survey showed 83.4% of referring physicians rating themselves as satisfied or very satisfied with Charlotte's service. Good, but for an organization with ambitious plans to expand its business, a change was in order.

## Setting the Stage for Business Expansion

Charlotte identified several barriers to growth, among them:

- Turnaround time on studies
- Communication with referring physicians
- Delays in integrating computer systems and workflow to bring new customers on board

To address these challenges, Charlotte adopted the InterSystems integration platform, now part of the HealthShare family of connected health solutions.



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“We had been looking at HL7 messaging hubs for help in integrating systems and workflows with our partners,” said John Frazer, IT Development Team Lead. “Not everyone was using HL7 the same way, and incoming and outgoing messages typically had to be translated... InterSystems technology did that very well.” Frazer also found an advantage in InterSystems healthcare market presence, and the potential to leverage the expertise of other IT staffs on Charlotte’s projects.

### **Increasing Productivity and Service, Reducing Costs**

In February 2009, the HL7 hub went live with information flowing in from the first hospital in Charlotte’s network. The data feeds typically included patient demographics, test orders, and dictated X-ray report results, according to Frazer. The input messages were converted to a standard data feed via HealthShare and routed to the appropriate internal application for processing, with test results and billing transactions sent back from the hub to the hospitals and health centers.

The resulting productivity increase, “Enabled us to expand without hiring more people to handle back-end data entry processes,” noted Mark Jensen, Chief Executive Officer. “From a business perspective, going with InterSystems opened up new opportunities for Charlotte Radiology by minimizing the costs of connecting to other healthcare organizations.”

### **Interfaces in Under a Day**

Those costs were kept low through rapid integration and high performance on commodity hardware. Today, according to Frazer, “Our typical timeframe for implementing interfaces is less than a day of effort on our part and is usually constrained by the schedule of the site and vendor we are interfacing with.” Using HealthShare for interface development has never caused delays for Charlotte. “Usually it’s network connectivity and VPN tunnel setup that causes delays,” Frazer said. “What typically happens is that everybody gets on the phone and we spend an hour or two debugging the VPN connectivity, then we send a test message for each use case and determine what isn’t right ... adjust the transform and it’s done.”

## Growing with Speed and Efficiency

By the time an imaging study reaches a radiologist for interpretation, it carries along the patient's and doctor's hopes and fears. Everyone wants fast and accurate results reporting. Charlotte now has a median turnaround time of 11 minutes for Emergency Department studies. **Over 90% of studies performed at hospitals and outpatient imaging sites receive a final report in the electronic health record in less than an hour.**

Charlotte has grown into one of the largest and most progressive radiology groups in the U.S. The group now offers 24/7 coverage for 18 hospitals, and operates 15 breast imaging centers, 13 outpatient imaging centers, three vein centers, two vascular and interventional clinics, and several mobile imaging units. The organization employs more than 95 radiologists and reads over 1.5 million studies annually.

## Frictionless Workflow, Higher Customer Satisfaction

Charlotte's 2015 survey of referring physicians reflected the improvements made possible by HealthShare. **92% now report being satisfied or very satisfied with Charlotte's service. HealthShare has removed much of the friction that impedes rapid integration with customer or partner systems and future growth.** "When our partner's vendor says, 'We can't make that change,' or 'That will cost \$X'", Frazer said, "we often can take care of the change on our side with HealthShare, with little effort, allowing it to work anyway."

The power behind what matters.

