

# Partnering to Improve Processes and Performance of a Cardiovascular Program: A Case Study

## HEALTHCARE SYSTEM D

Healthcare System D (HSD)\* is an 8-hospital regional system that is part of a larger, national integrated delivery network. It has a multi-disciplinary cardiovascular service line that includes three subspecialties: Cardiology, Cardiothoracic Surgery, and Vascular Surgery.

HSD Electrophysiology (EP) services performed >1600 cardiac ablations between 2013-2015 but wanted to grow their EP program across the system.

\*Case study data was gathered in partnership with the health system featured. The name and identifying details of the health system have been changed to protect the privacy of patients and practices. Source: Data on file, iRhythm Technologies, Inc.

The challenges they faced in achieving their program objectives included:

Through a partnership with iRhythm Technologies<sup>®</sup>, HSD was able to increase efficiency within their system-wide EP program:

### CLINICAL

Failure to obtain a diagnosis from cardiac monitoring:  
Frequent need for re-testing and a 9-week delay in diagnosis

Time to diagnosis decreased:  
9 weeks with Holter monitoring vs. 4 weeks with Zio XT monitoring

### OPERATIONAL

Poor staff morale due to burdensome workflow:  
High rate of staff turnover

Productivity of clinical staff increased:  
Workflow was reduced from 147 minutes with Holter monitoring to 44 minutes with Zio XT monitoring

### FINANCIAL

Inefficient FTE utilization across program:  
Resulted in financial challenges

Costs were reduced:  
Operating costs were reduced from \$115.33 per Holter monitor to \$31.33 per Zio XT monitor

	HSD PAIN POINTS	OPPORTUNITY TO DESIGN	ACTION TO IMPLEMENT	OUTCOMES
<b>CLINICAL</b>	Delayed diagnoses	Replace multi-step Holter monitoring	Implement 3-14 day Zio® monitoring service	Time from order to report interpretation was reduced to half the time from 9 weeks with Holter monitoring to 4 weeks with Zio XT monitoring
	Frequent need for repeat monitoring	Improve arrhythmia detection	Provide comprehensive Zio Service Reports that deliver clinically actionable data	Diagnostic yield increased to 79.5% with Zio XT monitors
	Insufficient inventory	Reduce 6-week backlog in cardiac monitors	Provide automated inventory PAR level to meet patient demand	Time to monitor application was reduced from 6 weeks to 1 week
<b>OPERATIONAL</b>	Poor operational efficiencies; high staff turnover	Transition from manual workflow to an electronic process	Help design workflow to streamline efficiency and reduce errors	Process time was reduced from 147 minutes with Holter monitoring to 44 minutes with Zio monitoring Zio monitoring process with EMR integration is only 21 minutes and less administratively burdensome A need for night/weekend overtime was eliminated
	Limited time for direct patient care	Address inefficiencies in care pathway	Help create a care pathway that allows for standardization of care and treatment	Patient satisfaction and staff morale increased resulting in a reduction of staff turnover
<b>FINANCIAL</b>	High operating costs	Develop actionable workflow that reduces impact on budget	Implement 3-14 day Zio monitoring service and model out additional efficiencies possible through full EMR integration	Operating costs were reduced from \$115.33 per Holter monitor to \$31.33 per Zio XT monitor Costs with EMR integration were reduced to \$22.00 per Zio XT monitor Future EMR integration will lead to a 6x reduction in time spent in the workflow and a 5x reduction in cost per patient
	Inefficient FTE utilization	Standardize FTE process across program	Leverage partnership with iRhythm® to provide billing support and financial solutions with iRhythm customer service	26% of patients paid less than \$100 for their out-of-pocket costs 58% of patients paid \$0

# Working Together to Improve HSD's Cardiovascular Monitoring Program

1.

## DISCOVER

Interview, align, and partner with stakeholders to understand current ambulatory cardiac monitoring program

---

Identify cardiovascular program goals and current challenges

---

Map current processes including ordering, applications, notification, reporting and interpretation

---

Perform time-motion analysis and record the current state of workflow

---

Identify ways to improve operational efficiency

---

Assess billing and the process of how charges are captured

2.

## DESIGN

Partner with stakeholders to further develop and align on a cardiovascular program that meets their clinical, operational and financial goals

---

Observe patient interactions and identify areas for improvement

---

Design a workflow that improves efficiency

---

Use a budget impact model to help increase efficiencies across their cardiovascular program

---

Create specific performance metrics to assess goals of the cardiovascular program based on current challenges

3.

## IMPLEMENTATION

Implement a program where the adoption of the 3-14 day Zio® monitoring service is coordinated and successfully rolled out across the health system

---

Ongoing Zio Service Review to monitor the performance of the cardiovascular program against metrics established in the design process