Computed Tomography Technologist Staffing Model Analysis as a Measure to Decrease Cost

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Background

- Cost per unit modeling
  - Define expense categories composing a single cost unit
  - Determine primary and secondary drivers of each unit
  - Identify modifiable drivers
  - Modify individual drivers to reduce cost
Purpose

- Decrease CT cost per unit by modifying our labor cost

Optimize efficiency of the CT technologist staffing model

increase productivity

reduce labor costs

Staffing Model

Productivity Overtime

Labor Cost
Materials and Methods

• Cost per CT unit of service calculated for fiscal year 2016 at our institution

• Attribution analysis assigned costs associated with a CT unit of service

• Labor costs were identified as a main expense
  – Primary driver – Productivity
  – Secondary driver - Staffing model
Materials and Methods

• Focused analysis of the staffing model for CT technologists for fiscal year 2017 performed
• A new shift structure was implemented based on the data collected
• Continuing analysis of productivity outcomes
Results

- Technologist labor cost accounting for 26% each CT unit of cost
Results

• CT technologist shift length was non-standardized
  – Shift Range: 8, 10, 12, and 16 hours
    • Based on an individual technologist’s preference

• Unavoidable scheduling gaps created requiring per diem, or ‘pool’, technologists
Results

- Standardized schedule with 8-hour shifts, there was an **immediate 50% and sustained 32.64%** reduction in technologist overtime hours.
Conclusions

• Attribution analysis of the cost per unit of service for a CT revealed **labor costs** as a primary expense influenced by **productivity**, which in turn was affected by our **staffing model**

• Identification of the inherent inefficiencies in our variable non-standard shift length model necessitated the need for a standardized shift system leading
Conclusions

• Optimizing our staffing model led to an
  – Immediate 50% and sustained 32.64% reduction in overtime
  – increased productivity
  – 7% decrease in labor costs