



THE OHIO STATE
UNIVERSITY

Improving Central Sterile Supply Productivity

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Background

- The Central Sterile Supply (CSS) performs instrument sterilization for the entire Ohio State Wexner Medical Center campus
- The CSS processes the instruments for an average of 113 surgeries every day

Project Statement

Problem: Bottlenecks and delays in the sterilization process can result in the use of suboptimal sterilization methods

Goal: Provide key insights, tools, and recommendations regarding productivity and workflow to help reduce inefficiencies and bottlenecks

Key Objectives:

1. Create and implement tools that improve key tracking processes
2. Analyze capacity and demand data to make staffing recommendations for the decontamination process
3. Provide qualitative recommendations for improvement based on observations

Solution Constraints

- Inflexible process
- Constrained layout
- Lack of space
- Can't interrupt operations while implementing solution

Process Tracking Tools

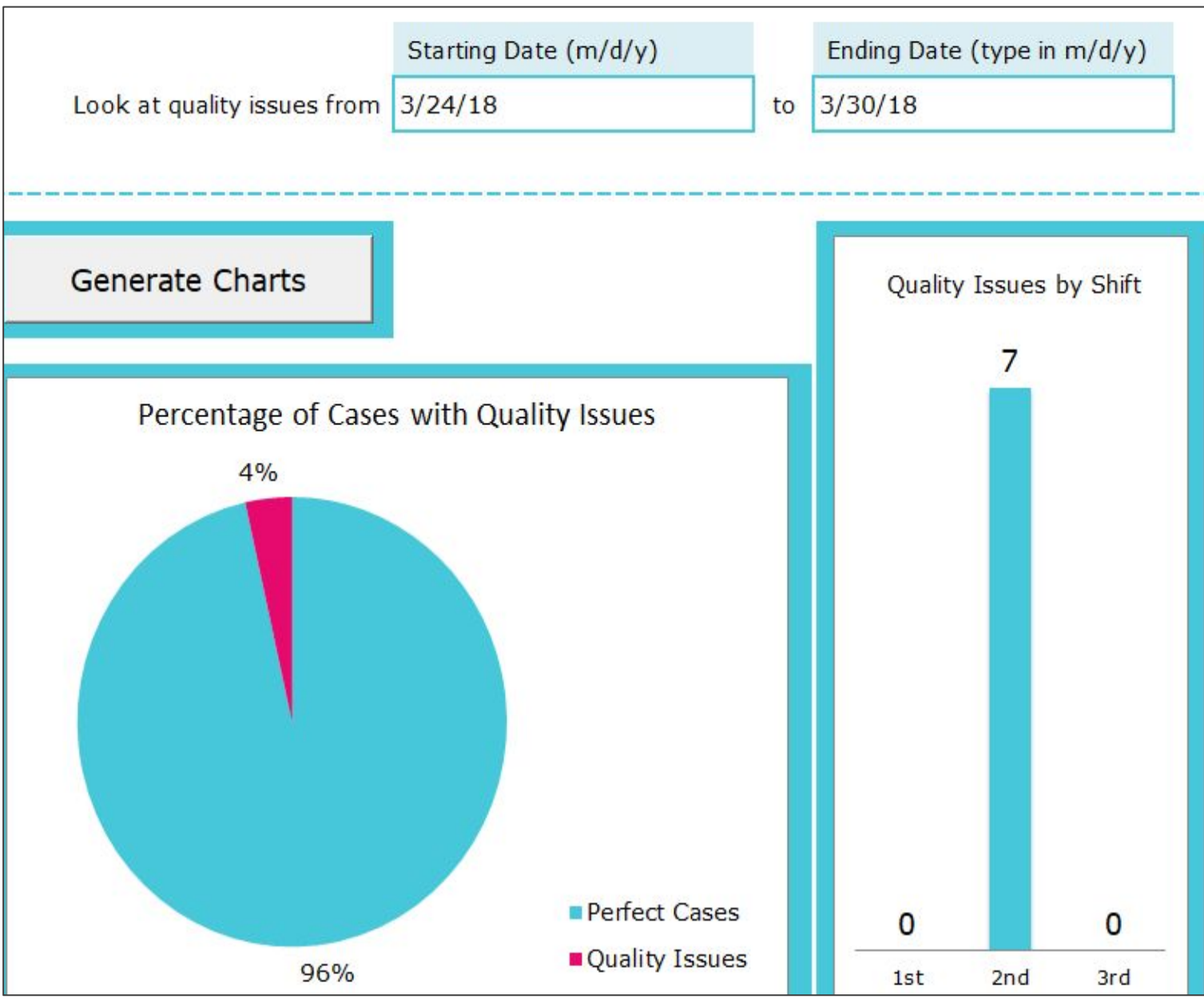
Two Excel VBA tools were created to improve key tracking processes within the CSS

Needs List

Tracks cases needed for upcoming surgeries

CSS Scorecard

Tracks quality deviations and provides analysis



Capacity and Demand Analysis

The decontamination process was analyzed to see how staffing levels impact bottlenecks

Methods

Arena simulation model was built using process knowledge, time study data, and demand data

Results

Several staffing scenarios were analyzed

Scenario	Cart Workers	Washing Workers	# of Sinks	Max # of Stringers	Cart Washers	# Case Carts Finished	# Trays Finished
Current	1	4	4	1	2	18	138
Add 1 Cart Worker	2	4	4	1	2	18	116
Build 1 Cart Washer Machine	1	4	4	1	3	22	138
Build 1 Cart Washing Machine, Add 1 Cart Worker	2	4	4	1	3	27	116
Add 2 Cart Workers, 2 Stringers	3	4	4	2	2	18	90
Build 1 Sink, Add 1 Washing Worker	1	5	5	1	2	18	144
Build 1 Sink, Add 1 Washing Worker, Add 1 Cart Worker	2	5	5	1	2	18	186
Build 1 Sink, Build 1 Cart Washing Machine, Add 1 Washing Worker, Add 1 Cart Worker	2	5	5	1	3	27	186
Build 1 Sink, Add 1 Washing Worker, Add 2 Cart Workers, 2 Stringers	3	5	5	2	2	18	144
Build 1 Sink, Build 1 Cart Washing Machine, Add 1 Washing Worker, Add 2 Cart Workers, 2 Stringers	3	5	5	2	3	27	144
Build 1 Sink, Add 1 Washing Worker, Add 1 Cart Worker, 2 Stringers	2	5	5	2	2	18	180
Build 1 Sink, Build 1 Cart Washing Machine, Add 1 Washing Worker, Add 1 Cart Worker, 2 Stringers	2	5	5	2	3	27	180
Average total during peak demand (5 hrs)							
Carts						Trays	
54						308	

Recommendation

Increasing staffing or equipment provides modest improvement, but another satellite department is needed to keep up with demand

Process Observations & Recommendations

- Lack of SOP compliance— retrain and reinforce
- Poor use of floor space— remove unused items
- Low morale— implement rewards program
- Alarm fatigue— incorporate visual signal

Impact

- CSS has tools that will improve key tracking processes and reduce inefficiencies
- CSS has a better understanding of their capability and what they can do to improve it