Diagnostics Are Trending, But Are You Watching?

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Saint Luke's HEALTH SYSTEM

KANSAS CITY, MISSOURI

Background

- Antimicrobial stewardship programs are critical to ensure best practice application of infectious disease (ID) therapeutics in all care settings
- An emerging area of focus for antimicrobial stewardship programs include embracing diagnostics as a core program component to deliver clinical and operational efficiencies and sustainability
- Significant advancements have been made in ID testing over the last 1-2 decades including rapid diagnostics becoming the standard of care (e.g., polymerase chain reaction (PCR))
- In 2020, the Saint Luke's Health System Antimicrobial and Diagnostic Advisement Program (ADAP) began hosting and leading a Diagnostic Stewardship Summit (DSS) focused on ID-related diagnostic enhancements
- DSS events hosted through 2022 are as follows:

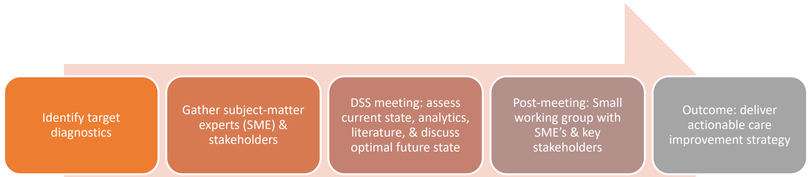
Test	Strategy	Launch Date
Upper respiratory PCR panel	Use criteria/restrictions	February 2021
Urine cultures	Urine culture test required indications	March 2021
Gastrointestinal (GI) PCR panel	New GI PCR order set	July 2021
C. difficile PCR	Change to two-step testing	August 2021
Meningitis/encephalitis PCR panel	Reflexive, pleocytosis-based ordering process in lab	July 2022

- Diagnostic analytic dashboards were developed using external peer compactor data through Vizient and internal data on ordering trends using electronic medical record data for each DSS target, when available. Internal diagnostic use data is updated daily with a 24-hour lag.
- Analytics should be viewed as essential to drive diagnostic stewardship efficiencies for all health care entities and not limited to just inpatient settings
- SLHS includes academic, community, and critical access hospitals, long-term care, and ambulatory clinics in the Kansas City region

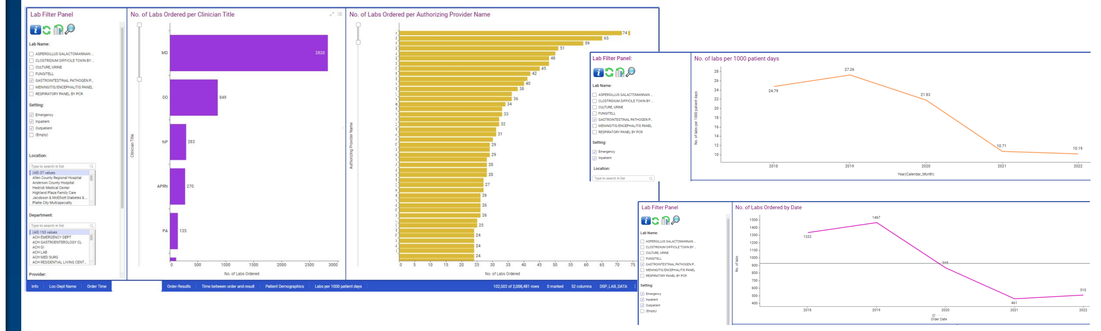
Objectives

- Outline strategies for developing functional analytic tool frameworks for diagnostic tests
- Understand how infectious disease diagnostics are an important clinical and operational target for health care sustainability and stewardship

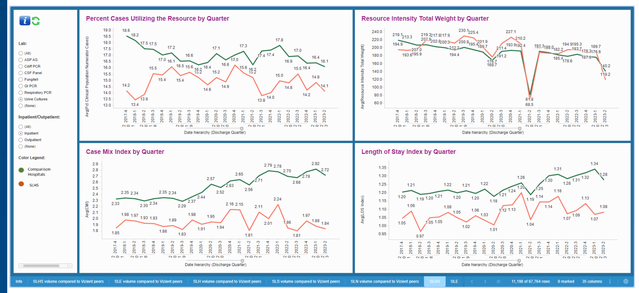
Diagnostic Stewardship Summit Workflow

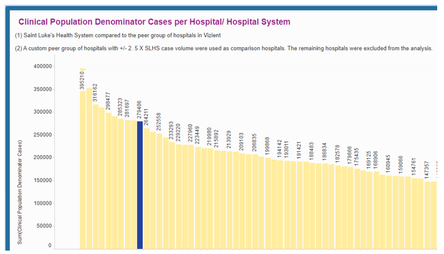


Internal Analytics



Peer Analytics





Diagnostic Stewardship Results

DSS event	Target diagnostic	Meeting hosted	Improvement launched	Impact data available	Results
October 2020	Upper respiratory PCR	X	X	X	61.8% ↓, $900,392 savings*
	GI PCR	X	X	X	72.6% ↓, $263,900 savings*
	C. diff PCR	X	X	X	Normalized use ↓ by 21.9%, ↓ HA-CDI by 84%*
	Urine cultures	X	X	X	Normalized use ↓ by 4.3%, negligible savings*
November 2021	Meningitis-encephalitis PCR	X	X	Partial	Total year-over-year increase of 11.3%, increased cost^

*2021-2022 cost savings relative to 2020 data
^Aggregated volumes, July 2021-June 2022 vs July 2022-June 2023

- Late 2023: targeting invasive fungal infection diagnostics

Conclusion

- Diagnostics remain an underappreciated clinical and operational target and are becoming essential in a cost-constrained health care environment
- Antimicrobial stewardship programs should embrace diagnostics as a core program component and lead initiatives to improve use
- Analytics, when strategically constructed, can be instrumental in identifying areas of opportunity at a micro and macro level, and assessing use trends after improvement strategies implemented
- Analytics should leverage both internal and external (e.g., Vizient) data
- Saint Luke's Health System has found significant clinical and fiscal gains through prioritization of diagnostic stewardship initiatives

Contact Information & Disclosures

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