

## Impact Brief

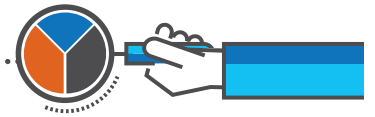
### Create a Ripple

## Mercy Health Saint Mary's in Grand Rapids, MI reduces time to result and improves treatment accuracy through the use of Xpert® CT/NG and antimicrobial stewardship.\*<sup>1,2</sup>

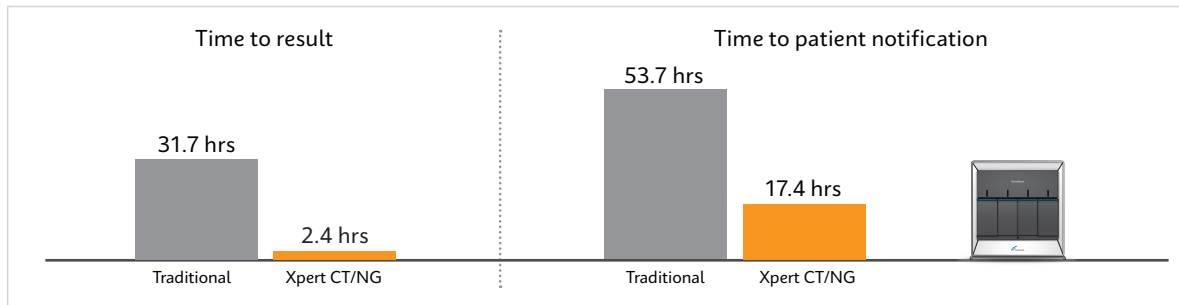


- Median time to result decreased by over 29 hours
- Initial treatment accuracy increased by 12.5%
- No change in time to test order or length of stay in the Emergency Department (ED)
- Increased utilization of less invasive specimen types (urine and self-collected vaginal swab)
- Estimated annual cost savings of \$37,000 in costs of testing, antimicrobial utilization, and decreased need for ED readmission

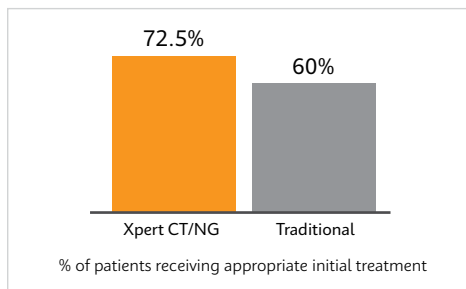
## Impact



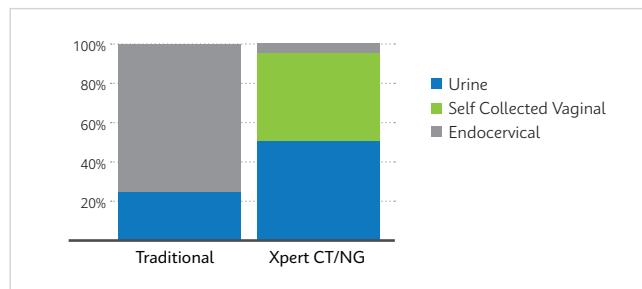
### CT/NG Turnaround Time (TAT)



### Appropriate Initial Treatment



### Sample Type



\* Quasi-experimental study comparing 200 patients over a 2 month period pre-intervention (Dec 2013-Jan 2014) with 200 patients over a two month period post-intervention (Dec 2014-Jan 2015).

## ● ● ● Profile .....

Mercy Health Saint Mary's, a member of Trinity Health, has been serving the western Michigan community since 1893. Located in Grand Rapids, the 350-bed acute care facility drives transformation through continuous improvement and a commitment to deliver high quality, coordinated care. Recognized as a high-performing hospital in nine areas by U.S. News & World Report and as one of the best regional hospitals in West Michigan, Mercy Health Saint Mary's stands out as a leader in innovative healthcare.

## Summary .....

The laboratory at Mercy Health Saint Mary's works closely with the pharmacy and infectious disease teams to identify opportunities to decrease the use of inappropriate or unnecessary antibiotics. Under the direction of the antimicrobial stewardship committee, an opportunity was identified to improve treatment accuracy for patients presenting to the ED for suspected sexually transmitted infections. Overall, the ED averages 70,000 visits per year and submits 200 tests per month for detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* (CT/NG). Historically, testing for CT/NG was sent to an off-site reference laboratory and required 24-72 hours for result turn around. The delayed turnaround time led to a reliance on empiric antimicrobial therapy and resulted in 40% of patients receiving antibiotics that were not needed.

US-IVD. For *In Vitro* Diagnostic Use.

Data provided by Mercy Health Saint Mary's.

### REFERENCE:

- 1 Rivard et al, Impact of Rapid Diagnostic Testing for Chlamydia and Gonorrhea on Appropriate Antimicrobial Utilization in the Emergency Department, Diagnostic Microbiology and Infectious Disease (2016), doi:10.1016/j.diagmicrobio.2016.10.019.
- 2 Rivard KR, Bucher KL, Draper H, DeYoung GR, Egwuatu NE, Whalen D, Dumkow LE. Impact of point of care chlamydia and gonorrhea screening on antimicrobial stewardship efforts within the Emergency Department. ID Week 2015. San Diego, California. Oral Abstract Presentation #689.

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## Challenge .....



- Current testing sent to an off-site reference laboratory
- Extended TAT for current test methods was highly undesirable
- Overuse of antibiotics due to reliance on empiric therapy
- Need for on-demand testing in order to impact the patient pathway

## Vision .....



Implementation of on-site CT/NG PCR testing with the GeneXpert® Infinity system

- Random access platform allowing for on-demand testing of CT/NG from a wide range of specimen types
- ED process to remain the same (patients not held for test results)
- Offer self-collected vaginal swabs in addition to urine and endocervical swab
- Integrate on demand CT/NG results with the existing ED and Pharmacy follow-up process

## Implementation .....



Xpert® CT/NG was implemented on the GeneXpert Infinity system in the Microbiology laboratory at Mercy Health Saint Mary's. **With 90 minutes of instrument time, the Xpert CT/NG test was easily integrated into laboratory workflow.** Paired with Pharmacy intervention in the ED, the benefits of the improved time to detection resulted in an increase in treatment accuracy and an overall cost savings compared to traditional methods.

