



IMPACT BRIEF

Implementation of a Better Way

“Why add a molecular system if we are not able to report results around the clock? That’s the only way we can truly impact patient care.”

Dr. Dawn Heagley,
Pathologist, Confluence Health (CH)

At the Amerinet Member Conference in 2014, Wendy Willey, the laboratory director for Confluence Health (CH), had the opportunity to see the Cepheid GeneXpert® System and upon her return she asked Dr. Dawn Heagley, a pathologist, and Charisma Hayes, the microbiology section lead at Central Washington Hospital (CWH), to commence a search on a potential testing solution, which could be a game changer for the hospital.

They were looking for a molecular testing system that was robust, easy to use and provided uninterrupted results to aid clinical decision making and patient management strategies. Charisma Hayes knew that many molecular testing platforms were complex, labor intensive and prone to problems if they were not managed by a highly trained staff. The hospital also needed flexibility in how and when staff were able to run tests that other systems could not offer.

➤ Why not mimic the patient workflow versus adhere to a workflow that is driven by the system?

As the search narrowed to two systems it became clear that the GeneXpert with its improved accuracy, ability to add new tests when needed by physicians and provide results 24x7 made it the number one choice for the laboratory. Dr. Heagley approved the decision and stated, “patients don’t arrive to the hospital in batches or predefined hours, so why not mimic the way our patients arrive?”

Jeri Winters, the Confluence Health (CH) infection prevention manager, understood that delayed results often contributed to a patient’s extended length of stay in isolation and impacted their satisfaction, along with healthcare worker burden. Since she had an excellent relationship with the laboratory, she shared these concerns with them.

She also worked with peers across the state and recognized that molecular diagnostic testing was becoming the standard for *C. difficile* and Methicillin-resistant *Staphylococcus aureus* (MRSA) diagnostics, due to its enhanced performance and speed. As a result, Jeri Winters played a major role in supporting the laboratory in acquiring this type of testing.

Institution

Confluence Health System is comprised of Central Washington Hospital, Wenatchee Valley Hospital and Wenatchee Medical Center. Established in 1940, Wenatchee Valley Medical Center (WVMC) is a large rural healthcare delivery system with a regional focus.

Challenge

Dedicated to continuous improvement of their patients’ health, CH undertook a search for technology that could fulfill their vision and not only within the laboratory, but across the patient care continuum.

Solutions

Nationally there was a drive towards reductions of *Clostridium difficile* (*C. difficile*) and Methicillin-resistant *Staphylococcus aureus* (MRSA). Having highly accurate test results and timely results could help support CH patient management challenges and desired goals.

Since the GeneXpert System is one of the most widely used and accurate molecular diagnostic platforms for *C. difficile* and MRSA testing, it was selected by the hospital. CH started with the following tests:

- Xpert® *C. difficile*/Epi*
- Xpert® MRSA*
- Xpert® SA Nasal Complete*
- Xpert® Flu/RSV XC*
- Xpert® GBS LB*



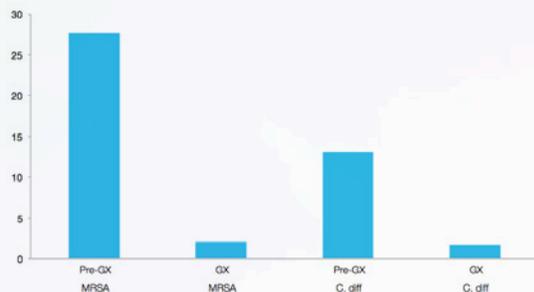
Central Washington Hospital

The Results

Turn-around Time:

As shown in Figure 1, the laboratory's MRSA testing improvements were dramatic: the turn-around time (TAT) decreased by 93% and for *C. difficile* by 81%. This demonstrated the ability for staff to provide timely test results on any given day or at any time.

Figure 1. Turn-around Time

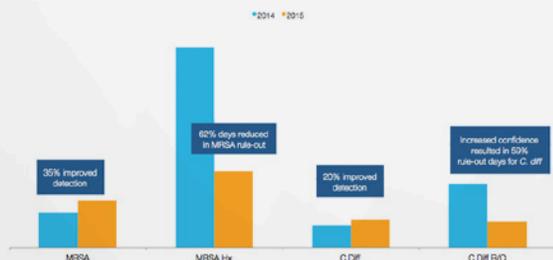


Isolation Days:

The impact on patient isolation days was examined in two ways: could a faster result allow MRSA or *C. difficile* to be ruled out faster, so that patients did not remain in isolation as long, and could the improved test performance give care providers more confidence in the results provided to them?

The graph in Figure 2 displays the reduction of isolation days from 62% for MRSA and 59% for *C. difficile* from 2014 to 2015. The improved testing accuracy allowed the laboratory to increase the detection of MRSA by 35% and *C. difficile* by 20%.

Figure 2. Testing Accuracy and Patient Isolation Days



* For In Vitro Diagnostic Use.

The research data mentioned in this impact brief was supplied by Confluence Health.

CORPORATE HEADQUARTERS

904 Caribbean Drive
Sunnyvale, CA 94089 USA

TOLL FREE 1.888.336.2743
PHONE 1.408.541.4191
FAX 1.408.541.4192

EUROPEAN HEADQUARTERS

Vira Soleih
81470 Maurens-Scopont France

PHONE 33.563.82.53.00
FAX 33.563.82.53.01

www.Cepheid.com

Patient Admissions:

With growing numbers of inpatient admissions, it is critical for facilities to clearly examine who occupied and why beds are occupied and readily target and put programs in place to reduce beds consumed by isolations to increase bed turnover and reduce hospital costs.

As seen in Figure 3 below, compared to 2014, CH had a total decrease of 33% of patient days in isolation. 13% of their hospital beds were occupied by patients in isolation in 2014 and there was a dramatic reduction to 8% in 2015.

Figure 3. Patient Admissions



Having the GeneXpert System allows CH to provide state-of-the-art diagnostics without having to worry about cumbersome and complicated technology.

According to Charisma Hayes, "It is very important for us to support our patients, community, physicians and infection prevention partners with the best technology possible. Our goal is to offer physicians and patients tests that will provide safety, comfort, satisfaction and the right answers precisely when they are needed. We are proud that we can offer the most leading edge molecular platform that rivals any large academic medical center in the world."

