



Lab Update



LABORATORY PHONE 585-LABS

February 2015

Vol. 7 No. 2

In this issue:**Microbiology/Molecular Diagnostics-**

- Celebrating 3 years of growth

LabUpdate is a periodic publication of the Clinical Laboratory of UC Health. By way of this publication, lab users are provided: 1) updated operational information relevant to the practice of laboratory medicine within UC Health facilities, and 2) didactic material generally applicable to laboratory medicine.

Microbiology and Molecular Diagnostics Laboratory

Celebrating 3 Years of Growth

UC Health Microbiology and Molecular Diagnostics Laboratory celebrated its third anniversary on January 5, 2015. As the Laboratory moves into its fourth year of full service for UCMC, WCH, Drake, and many UCP Physician Offices, it seems like a good time to look back on what has been accomplished in the past five years.

UC Health began in 2010 to evaluate a plan to in-source the Microbiology Laboratory after a 14 year absence. Once the plan was in place, the decision was made to proceed and a projected opening date of January, 2012 was established. The space that had previously housed the Microbiology Laboratory for University Hospital stood frozen in time. Unfortunately, it was frozen in a time that was no longer appropriate for a modern Microbiology lab and all of the associated molecular diagnostic tests that are now an essential part of Infectious Diseases diagnostic testing and patient management algorithms. Also, the data handling capability had changed dramatically, and now every work station required a computer and data port. In addition to transforming a large part of the previous laboratory into a

new molecular suite, the laboratory needed a Biosafety Level-3 suite, in order to provide culturing for acid fast bacilli, such as TB. A major renovation project began along with the need to hire highly trained, specialized Medical Technologist as well as developing testing protocols and writing all new policies and procedures.

By July of 2011, the Laboratory had a full time Director, Dr. Judy Rhodes, and a Technical Specialist, Vicki Stegner. It was up to them to find, hire, and train Technologists and Technical Associates in the protocols, which still had to be written. Much of this was performed in a construction zone. By the fall of 2011, the laboratory physical structure was beginning to take shape. A staff of excellent people had been assembled, the basic protocols were in place, and people were busy with trainings, competencies, and validations.

After a race to meet the deadline, the lab opened its doors on January 5, 2012, and started performing blood cultures and urine cultures for UC Health. Almost every month for the first year, a new type of bacteriology culture was added to the menu. In 2013, Mycology was in-sourced, followed by Mycobacteriology. Going into 2014, the traditional Microbiology Laboratory had evolved into a full-service lab (see Figure 1) and saw its test volume increase from 76,334 to 105,042 billable tests (see Figure 2).



In addition, between the grand opening of the Microbiology Lab in 2012 and today, the Molecular Diagnostics menu has grown from two tests, *C. difficile* and HIV viral loads, to the current Molecular menu which includes over 20 stand-alone tests, including rapid Flu PCR, viral loads for four additional agents, and a multiplex Respiratory Viral panel.

In support of the Microbiology side of the lab, a direct amplified test for TB and a rapid identification/drug resistance test on positive blood cultures have been brought on line. This latter test, run on the Verigene platform, uses microarrays to identify most of the common blood isolates and several common resistance markers within 3 hours after the gram stain results are available. The availability of accurate rapid tests in Infectious Diseases diagnostic testing provides UC Health physicians with cutting edge tools to drive best practices in antibiotic escalation and de-escalation, isolation of patients, and monitoring response to treatments.

The overall volume increase in Molecular testing, on a percentage basis, has been even more remarkable. The increase from 18,505 to 44,378 represents an increase of 140%! This really has been a story of “build it and they will come”.

But the most amazing part of this whole story is the people who were involved at the bench. On a per FTE basis, they have learned new procedures, on new instruments, using new technology, and increased their productivity by 23% in the first three years of operation.

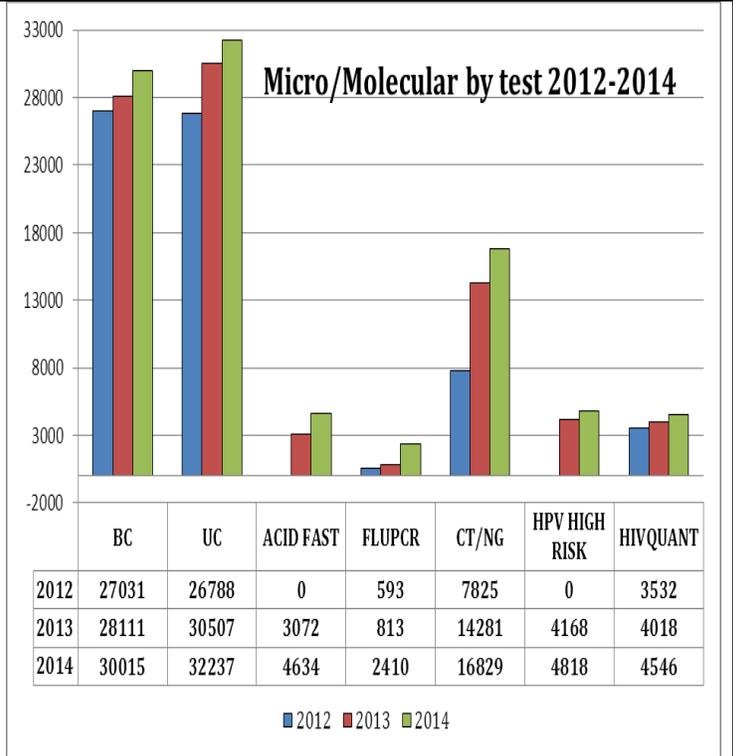


Figure 1.

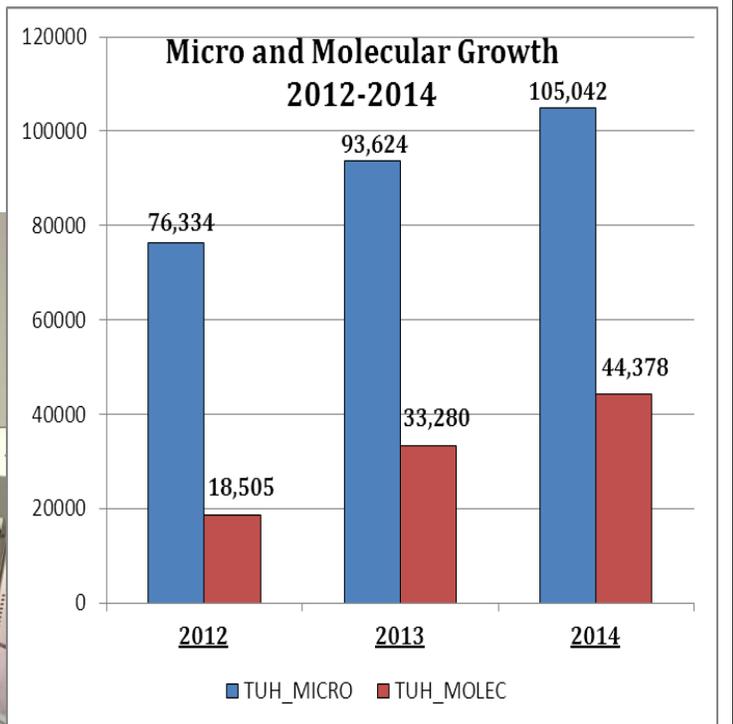


Figure 2.