A research report released in December 2014 by Ameritox, a national leader in medication monitoring services including urine drug tests, revealed that nearly 34% of 400,000 unique patients on chronic opioid therapy tested positive for a drug not prescribed by their doctor while 11.6% tested positive for an illicit drug. Marijuana (78%), cocaine (16.7%) and heroin (4.6%) were the most common substances detected among the samples testing positive for illicit drugs.

The new research shines a spotlight on 10 states with the greatest number of troubling statistics in each of three categories of concern – “prescribed drug not found,” “non-prescribed drug found” and “one or more illicit drugs found.”

Alabama, Arizona, Arkansas, Connecticut, Florida, Georgia, Kansas, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, North Carolina, Oregon, Rhode Island, Tennessee, Washington and Wisconsin all scored among the worst performers in one of the three main categories.

California, Colorado, Michigan, and Maryland ranked among the worst in two categories. Clearly, treating pain is a major challenge in our society, and so is the potential for misuse of prescription medications and the abuse of illicit drugs. Pain practitioners utilize urine drug testing to provide information on patients’ compliance in taking their prescribed medication as well as monitoring for the presence of non-prescribed or illicit drugs. Medication monitoring can provide insight into whether patients are taking their prescribed medication or taking other drugs, prescribed or illicit. This added information can lead to improved care for the millions of people across the country taking prescribed medications for their chronic pain, and help prevent the tragedies too often associated with pain medication: misuse, abuse, and diversion. The street value of diverted oxycodone is often $1 per milligram, making the street value of a 120 mg tablet $120!

The study reported some startling and disturbing data. Over 32% of the 400,000 patients tested showed no trace of the drug prescribed by their pain management specialist. While this could be due to a variety of valid reasons, including miscommunication on dosage or unwanted side-effects, diversion for financial reasons remains a likely explanation.

Another disturbing statistic: nearly 34% of the 400,000 patients’ samples showed the presence of a prescription drug not prescribed by their pain management specialist. Interviews with a small sample of such patients revealed that they received the prescription drugs from family or friends, and many patients experienced untoward side-effects of such co-ingestion. It is imperative that patients inform their pain management specialist of all drugs consumed, legitimate or not.

Perhaps the most disturbing finding in the study is that 11.6% of patients showed evidence of one or more illicit drug(s). The three most common illicit drugs were: marijuana (78%), cocaine (16.7%) and heroin (4.6%). The federal government’s Substance Abuse and Mental Health Services Administration (SAMHSA) most recent survey found that in the past year, the illicit drugs with the greatest incidence of dependency were marijuana and cocaine. Clinicians prescribing drugs for pain relief, anxiety or to treat mental illness must be concerned about numerous issues: is the patient taking the prescribed drug, is the patient acquiring other prescription medications elsewhere and is the patient taking illicit drugs? Prescription drugs combined with illicit drugs can potentially have deadly consequences. Consistent, appropriate monitoring for the presence of prescribed, non-prescribed and illicit drugs not only enables clinicians to provide better care, but can also help reduce misuse, abuse and diversion. Medication monitoring should spark a conversation between the prescribing clinician and the patient, which should lead to the improved health and wellbeing of the patient.
Results Are In For Recent Mupirocin Surveillance Study

By Russell A. Rawling, MS, M(ASCP)SM, RM(NRM)SM
Microbiology Manager

Mupirocin has been used for a number of years to reduce colonization prior to surgery or after treatment for a *Staphylococcus aureus* infection, especially methicillin-resistant *S. aureus* (MRSA).

A surveillance study conducted by Laboratory Alliance’s Microbiology Department from January through March 2015 screened for *S. aureus* high-level resistance to mupirocin. High-level resistance is defined as isolates having a minimum inhibitory concentration (MIC) greater than 256 mcg/ml. The E-test methodology was used to determine MICs.

A total of 120 methicillin-susceptible *S. aureus* (MSSA) and MRSA isolates were tested. There were 30 MSSA and 30 MRSA isolates recovered from *S. aureus* screening pre-admission patients. In addition, 30 MSSA and MRSA isolates from in-patient positive cultures were tested.

The isolates were recovered from patients at Upstate University Hospital Community Campus, Crouse Hospital, or St. Joseph’s Hospital Health Center. No pre-admission testing isolates were found to have high-level resistance.

For in-patients, only two isolates, one from each of two hospitals, were found to have high-level resistance. One other isolate had an MIC of 128. The other 117 isolates had MICs less than 0.5 mcg/ml. The data is summarized in the chart below.*

<table>
<thead>
<tr>
<th>Percent Susceptible</th>
<th>PAT MSSA</th>
<th>PAT MRSA</th>
<th>IP MSSA</th>
<th>IP MRSA</th>
<th>All Isolates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>93</td>
<td>98</td>
</tr>
<tr>
<td>MIC (mcg/ml)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;0.5</td>
<td>30</td>
<td>29</td>
<td>30</td>
<td>28</td>
<td>117</td>
</tr>
<tr>
<td>128</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>&gt;1024</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>120</td>
</tr>
</tbody>
</table>

*The testing was performed by Brenda Alkins, medical technologist, and Jennifer Lillie, medical laboratory technician.

End of an Era for the Pap Test?
By John Fazio, M.D., Medical Advisor, Cytology Department

The Pap test has been wildly successful in preventing cervical cancer over the years, and it has protected millions of women from this dreadful disease, both in the United States and throughout the world.

In the 1990’s, it became evident that persistent infection with high-risk (oncogenic) types of human papilloma virus (HPV) was necessary for the development of cervical cancer. Accordingly, HPV testing was added to our cervical cancer prevention armamentarium. HPV testing was used to triage equivocal Pap test findings (especially atypical squamous cells of undetermined significance/ASC-US), and was also used as an adjunct to PAP testing in screening women over the age of 30 years (called “cotesting”).

Since HPV infection is necessary for the development of cervical cancer, people started wondering whether HPV testing alone would be sufficient to screen women for cervical cancer. In other words, is the Pap test really necessary anymore?

It seems that we are on the road to finding out. In April 2014, the FDA approved an HPV assay (Roche Cobas HPV Test) for primary (stand alone) screening for cervical cancer. At the time it was initially approved, there were no professional guidelines available, so nobody knew how to incorporate primary HPV testing into our screening protocols. However, that has all changed. A consortium of professional organizations involved in cervical cancer screening (including ASCCP, SGO, ACOG, ACS, CAP, ASCP and ASC) has produced an interim guidance report, titled “Use of Primary High-risk HPV Testing for Cervical Cancer Screening: Interim Clinical Guidance.”

The recommendations/conclusions of the expert panel are as follows:

1. A negative high-risk HPV test provides greater reassurance of low CIN III risk (a cervical cancer precursor lesion) than a negative Pap test result.
2. Because of equivalent or superior effectiveness, primary high-risk HPV screening can be considered as an alternative to current US cytology-based Pap test cervical cancer screening methods in women over 25 years of age. Cytology alone and cotesting remain the screening options specifically recommended in major guidelines (such as the ASCCP consensus guidelines), at least at this point in time.

A primary HPV screening algorithm was proposed in the interim guidelines, and this would work as follows:

• If the HPV test is positive for types 16/18 (the highest of the high-risk types), the patient would get a colposcopy.
• If the HPV test is positive for high-risk HPV types (but negative for types 16/18), a Pap test would be used to triage the patient. In this case, patients with abnormal Pap test findings would get a colposcopy, and patients with negative Pap test findings would get follow-up HPV test in 12 months. In this algorithm, the Pap test has been relegated to a second line triage function to a positive HPV test.

So here we have it. We are at a crossroad for cervical cancer screening, and it is not looking good for the Pap test. This may be the beginning of the end for one of the best cancer prevention tests the world has ever known. Only time will tell.

As Yogi Berra said, “The future ain’t what it used to be.” Stay tuned.

References:
2. ASCCP Website (ASCCP.org).
Human respiratory infections may be caused by a wide variety of microbial pathogens including bacteria, fungi, viruses and even some parasitic worms. Among the viruses, influenza virus and respiratory syncytial virus (RSV) are two common causes of pulmonary infection, causing disease in all patient age groups especially during the winter months. Early diagnosis of these infections is often necessary to insure the prompt administration of antiviral therapy and/or to institute appropriate infection control measures in hospitalized or nursing home patients to minimize the risk of disease transmission.

Influenza, or the flu, is a contagious viral infection of the respiratory tract. Transmission of influenza is primarily airborne (i.e., coughing or sneezing); the peak of transmission usually occurs in the winter months. Symptoms commonly include fever, chills, headache, muscle aches, malaise, cough, and sinus congestion. Gastrointestinal symptoms (i.e., nausea, vomiting, or diarrhea) may also occur, primarily in children, but are less common in adults. Symptoms generally appear within two days of exposure to an infected person. Pneumonia may develop as a complication of influenza infection, causing increased morbidity and mortality in pediatric, elderly, and immunocompromised populations.

Influenza viruses are classified into types A, B, and C, of which the former two cause most human infections. Influenza A is the most common type of influenza infection in humans, and is generally responsible for seasonal flu epidemics and occasionally for pandemics. Influenza A viruses can also infect animals such as birds, pigs and horses. Infections with influenza B virus are generally restricted to humans and are less frequent causes of epidemics.

Respiratory syncytial virus (RSV), a member of the Paramyxoviridae family consisting of two subgroups (subgroups A and B), is also the cause of a contagious disease that affects primarily infants and the elderly who are immunocompromised, e.g., patients with chronic lung or heart disease or undergoing treatment for conditions that reduce the strength of their immune system. The virus can live for hours on countertops and toys and causes both upper respiratory infections, such as tracheobronchitis, and lower respiratory infections manifesting as bronchiolitis and pneumonia. By the age of two, most children have already been infected with RSV, but because only weak immunity develops following infection, both children and adults can become reinfected. Symptoms usually appear four to six days after exposure to infection. The disease is typically self-limiting, lasting about one to two weeks in infants. In adults, the infection lasts about five days and presents with symptoms consistent with a cold, such as rhinorrhea, fatigue, headache and fever. The RSV season overlaps with influenza season somewhat as infections begin to rise during the fall and continues through early spring. RSV infections, however, also occur at other times of the year, although rarely.

Norovirus and a New Test for its Laboratory Diagnosis

Norovirus, sometimes called the “winter vomiting bug,” is the most common cause of gastroenteritis in humans, affecting people of all age groups. The virus is transmitted by the ingestion of fecally contaminated food or water, person-to-person contact, or aerosolation of the virus with subsequent contamination of inanimate surfaces.

Worldwide, the virus infects approximately 270 million people yearly resulting in over 200,000 deaths. In the United States, norovirus accounts for an estimated 23 million cases of gastroenteritis representing approximately 60% of all cases of acute gastrointestinal disease.

Norovirus is frequently involved in large outbreaks of infection in communal facilities, such as nursing homes, hospitals, daycare nurseries, prisons and cruise ships. Characteristic symptoms of infection include nausea, forceful vomiting, watery diarrhea and abdominal pain. Flu-like symptoms of general lethargy, weakness, muscle aches, headaches and low-grade fever may occur. The disease is usually self-limiting and severe illness requiring medical intervention with fluid replacement is rare. Most patients make a full recovery within a few days of onset of symptoms.

Norovirus is classified into five different genogroups (GI to GV) of which genogroup I and genogroup II cause the great majority of human infections. Norovirus is rapidly inactivated by exposure to sufficient heating or exposure to a chlorine-based disinfectant (i.e., 1:10 dilution of household bleach). The virus is less susceptible to alcohol and detergents. There are no antiviral medications for the treatment of norovirus infection.

Until recently, the laboratory diagnosis of norovirus infection was problematic because the virus cannot be easily grown using conventional viral culture methods and the use of electron microscopy to visualize the virus in stool specimens is insensitive. Now, a new real-time PCR assay has been developed for the direct detection of norovirus GI and norovirus GII in stool specimens. The PCR assay represents one of the most sensitive methods for detecting these viruses in stool with a sensitivity of 100% and 98.5% for norovirus GI and norovirus GII respectively. Test results may be available within a few hours of specimen receipt instead of days using traditional methods.

Laboratory Alliance’s Microbiology Department is pleased to announce the availability of the norovirus PCR assay as a new test service. Healthcare providers are referred to the Norovirus Technical Bulletin found in the Laboratory Alliance Test Directory for guidelines on test ordering and specimen submission.

Please contact the Microbiology Department at 315-410-7067 for more information.
The widespread, unchecked dispensation of antibiotics is doing the population far more harm than good. When healthcare providers respond to patient requests by issuing prescriptions without ever knowing if the patient has a bacterial infection, simply to keep patients happy, they are contributing to the escalating number of antibiotic resistant bacteria.

Centers for Disease Control and Prevention Director Tom Frieden, M.D., MPH, has said, “It’s clear that we’re approaching a cliff with antibiotic resistance. But it’s not too late. Clinicians and healthcare systems need to improve prescribing practices. And patients need to recognize that there are both risks and benefits to antibiotics — more medicine isn’t best; the right medicine at the right time is best.”

In March, an aggressive plan was announced by The White House titled “National Action Plan to Combat Antibiotic-Resistant Bacteria.” Below we highlight three websites with valuable information on this topic for healthcare providers and patients:

1. A WebMD/Medscape Special Report: “Too Many Antibiotics! Patients and Prescribers Speak Up.” This survey is a collaboration between Medscape’s professional division and WebMD’s consumer group and examines the critical problem of antibiotic misuse and the serious health concerns that result from both the consumer and healthcare professionals’ perspectives. Conducted last June, 796 clinicians and 1,174 patients were surveyed and the results are detailed in an 18-slide presentation at http://www.medscape.com/features/slideshow/public/antibiotic-misuse#1.

2. The World Health Organization (WHO) has valuable information on its website, including infographics for public use and guidelines for antimicrobial resistance: www.who.int/drugresistance/WHO_Global_Strategy_Recommendations/en/

The WHO was asked to draft a global action plan to combat antimicrobial resistance, to be submitted to the World Health Assembly in May. The development of this draft global action plan on antimicrobial resistance reflects a global consensus that antimicrobial resistance poses a profound threat to human health.

3. The Centers for Disease Control and Prevention has an awareness campaign titled “Get Smart: Know When Antibiotics Work,” available at www.cdc.gov/getsmart.

The site reads: Antibiotics, the most important tool we have to combat life-threatening bacterial diseases, don’t work as well as they once did against some infections. In fact, antibiotic resistance is one of the world’s most pressing public health threats. CDC has three programs specifically designed to educate key partners and the public about the importance of appropriate antibiotic prescribing in doctors’ offices, healthcare facilities, veterinary medicine and animal agriculture.

We urge our LabLines readers — those in the healthcare industry and patients — to be informed on this topic and diligent in the appropriate use of antimicrobials and antibiotics. As evidenced in the WebMD/Medscape survey, healthcare providers are looking for support in the areas of diagnostics, accessibility to antibiograms, clear clinical guidelines and patient education.
More than 40 staff members provide our phlebotomy services at our 11 patient service centers and at 11 nursing facilities. In addition, the team pictured to the right performs 800 home draws each month.

The phlebotomists were together on April 15 at our Corporate Offices to celebrate Medical Laboratory Professionals Week with a dinner followed by a training program.

Pictured right, front row left to right, are Oleh Klishch, Kathy Scrimale, Stacy Williams and Valerie Rouse. The back row includes Erin Aungier-Markoff, Meredith Weaver, Katherine Cushman and Stephanie Weber.

Seated in the front row are Margaret Light, Mary Cavino, Kate McCrohan and Kelly Costello. Standing from left are Phlebotomy Supervisor Joan Riffanacht, Kelly DePasquale, Melissa Ronk and Kimberly Hayes.

Pictured here in the front row are Janet Roberts, Brenda Milliman, Judy Ranieri and AJ Davis Jr. Standing in the back row are Director of Support Services Jeff Coyne, Rebecka Russo, Stephen Champlin and Melanie Bergman.

In the photo below, seated, are Lisa Jones, Wendy Radney, Leslye Ebert, Joan Hantke and Amy Dishaw. The back row includes Phlebotomy Manager Carrie Nappa, Vicki Nolan, Marj Robertson, Kim Sweatland, Heather Hoover, Kathy Males and Christian Janowski.
New Employees
Please welcome our new employees
At our Corporate Office
Matthew Spaulding – Customer Service Representative
At our Operations Center
Melanie Bergman – Phlebotomist
Conor Cosgrove – Laboratory Office Assistant
Jessica DeAngelis – Medical Technologist
Lisa Jones – Phlebotomist
Joan House – Customer Service Specialist
Kailey Kinsella – Technical Processing Assistant
Annie Knight – Laboratory Office Assistant
Megan Ormsby – Medical Lab Technician
Erin Thurston – Medical Technologist
Kristina Tripodi – Technical Processing Assistant
At our Rapid Response Laboratory
at St. Joseph’s Hospital
Tiana Dellapenna – Medical Lab Technician
Magenta Miller – Laboratory Office Assistant

Employee Anniversaries
April, 5 Years
Jaclyn Fehlman
June, 10 Years
Robin Corlis
Stanley Ferris
Jennifer Lillie
Shannon Nayyar
Susan Salerno
Tonya Woodard
May, 5 Years
Meriem El-Hassni
May, 10 Years
Krista Absalon
May, 15 Years
Antonietta Lane
James Trembley

Thanks, Laboratory Alliance
Laboratory Alliance employees collected $300 in donations for Hospice of CNY through contributions made on Jean Day. Jean Day was one of the company-wide activities celebrated during Medical Laboratory Professionals Week from April 19 through 25.

In The News
Clinical Lab Products (CLP) magazine featured Laboratory Alliance’s Lean projects in an article that ran in its March issue titled, “Managing Up — Top Management Issues for Designing or Upgrading a Clinical Lab.”
Lonnie D. Stallcup, Jr., BS, MT, continuous process improvement manager at Laboratory Alliance, was interviewed for the four-page feature, which was written by CLP contributing writer Gary Tufel. Photographs from Laboratory Alliance’s Lean projects were included. A second online article, “Professional Consultants Tackle Lab Improvement,” was published on March 27 and also includes input from Lonnie.
Lonnie presented on this topic at the CLMA Clinical Lab Managers Association’s (CLMA) National Conference, Knowledge Lab 2015, at the end of March. His presentations were titled, “Planning for the Implementation of a Lean Laboratory” and “Staffing to Workload in Central Receiving.”
The online versions of these articles can be found at www.clpmag.com/2015/03/professional-consultants-tackle-lab-improvement and www.clpmag.com/2015/03/managing/
Laboratory Alliance also was featured in a CLP article in April titled “Lab Informatics.” George Popp, vice president of information systems, and Lonnie were both quoted in this article. It is available online at www.clpmag.com/2015/04/lab-informatics/
Calendar of Events

Friday, May 29
St. Joseph’s Hospital Health Center Gala, Turning Stone Resort Casino. Laboratory Alliance is a sponsor.

Thursday, June 18
United Way of CNY Leadership Recognition Reception, The Hall of Fame at the Carmelo K. Anthony Center at Syracuse University. Laboratory Alliance is a sponsor.

Monday, July 20
Crouse Health Foundation Classic Golf Tournament, Bellevue Country Club. Laboratory Alliance is a sponsor.

Spring 2015
Community Connections

Our friends at Hospice of CNY are hosting two fun-filled events this spring. Consider supporting Hospice and other local non-profit organizations by attending their fundraisers in the coming months.

To find out what is going on, visit one of the many online calendars, including gotocnyarts.org, syracuse.com/events and events.visitsyracuse.org or pick up a weekly newspaper.

New PCR Combo Test for Influenza

During the viral respiratory season, it is often difficult to determine whether a pulmonary infection is caused by influenza or RSV since they may present with similar clinical symptoms. Laboratory Alliance’s Microbiology Department is pleased to announce the availability of a new PCR test that will detect the presence of influenza A and B viruses as well as RSV in nasopharyngeal specimens. This test is offered at our Operations Center as well as each of our hospital’s Rapid Response Laboratories. It allows for the generation of highly reliable test results within 90 minutes or less of specimen receipt.

Given the urgency of needing these test results for appropriate patient care and management, the combination Flu/RSV assay is offered at our Operations Center and each of our hospital’s Rapid Response Laboratories 24 hours per day, seven days per week. This new combination Flu/RSV test replaced our former influenza and RSV assays that were only available as separate orderable tests.