



Herb Steward
Executive Vice President
and General Manager,
bioMérieux North America

Message from bioMérieux

Welcome to the first 2008 *Connection* newsletter. We are celebrating the New Year with a fresh approach to the microbiology industry with new initiatives and a revitalized approach to customer service.

bioMérieux has a renewed focus on being a strong partner within every community where we live and work. In this issue, you will learn more about our "Green Teams" and what bioMérieux is doing to conserve water, be more energy efficient and increase recycling efforts. For example, we are now printing this newsletter on recycled paper. We are excited about what the future holds for our industry and will do everything we can to protect and preserve the environment in which we live.

As a valued customer, you can count on bioMérieux to bring

solutions to challenges you face in the laboratory every day. We're focusing on minimizing emerging resistance, food safety, reducing healthcare-associated infections, and better productivity in your lab. We will bring you more educational opportunities online and at trade shows to increase information sharing that fits into your busy schedule.

We hope you have been pleased with your experience with bioMérieux and look forward to exceeding your expectations in 2008. We are embracing

Sustainable Development and are excited about many new innovations and product introductions for the coming year.

We thank you for your dedication and support for bioMérieux products. We appreciate your business and wish you a safe and successful year.

Sincerely,

Herb Steward
Executive Vice President,
bioMérieux, Inc.

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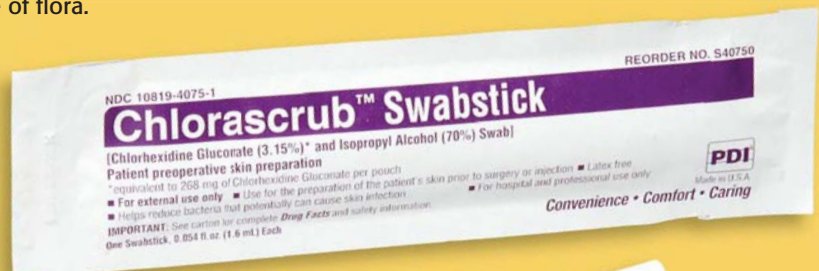
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Skin Disinfection: Chlorhexidine Gluconate, The Science Behind The Practice

One of the most important processes to reduce the possibility of healthcare associated infections is proper skin antisepsis. Hand Hygiene and skin antisepsis minimize the possibility of contracting a healthcare associated infection as a result of an invasive procedure or surgery. First, using a skin antiseptic protects open wounds and other vulnerable sites on the skin from contamination from the hands of healthcare personnel. Next, skin antiseptics such as Chlorhexidine Gluconate protect the patient's tissues against endogenous flora during surgery or other invasive procedures.

Two types of flora are found on the skin: Transient and Resident. Transient flora do not typically colonize the skin. Many times this type of flora is acquired on hands through contact with other sites of the same individual or the environment. Hand washing and proper skin antisepsis are key to reducing this type of flora.



Antiseptics are normally classified according to their chemical groups and properties. Chlorhexidine Gluconate (CHG) in combination with isopropyl alcohol (IPA) is a safe and efficacious skin antiseptic that is being used commonly in the United States as well as worldwide. Chlorhexidine is typically produced in either an aqueous or alcohol-based preparation. Two commercially available solutions are currently available in the United States and are approved by the Food and Drug Administration for use as skin antiseptics prior

CHG has persistence and residual anti-infective activity, which decreases the possibility of infection.

CHG's mechanism of action as an antimicrobial agent causes a cellular disruption of the cell plasma membranes. CHG is typically more effective against Gram-positive bacteria than Gram-negative bacteria. CHG has low skin irritation potential, demonstrates a chemical persistence of at least 6 hours and up to 7 days, and is minimally affected by organic matter such as blood. Chlorhexidine Gluconate may be

Chlorhexidine Gluconate should not be used on infants under two months of age because of the insufficient number of clinical studies to support this clinical application in this particular age group of patients and the potential for increased drug absorption and excessive skin irritation. Additionally, CHG should not be used during any procedure in which there will be potential contact with the meninges or for lumbar puncture. Patients with known allergies to CHG or Isopropyl alcohol should also have alternate skin antiseptics



Chlorhexidine Gluconate, when applied topically, appears to have a more immediate bactericidal effect than similar topical preparations containing povidone-iodine.

to injection or surgery. Both solutions consist of CHG and IPA to ensure both immediate log reduction of bacteria on the skin, as well as persistence on the skin to prevent re-introduction of bacteria. Chlorhexidine Gluconate is used topically as an anti-infective skin cleanser for surgical hand antisepsis, preoperative skin preparation, routine hand hygiene in healthcare personnel, and skin and wound general cleansing. Chlorhexidine Gluconate, when applied topically, appears to have a more immediate bactericidal effect than similar topical preparations containing povidone-iodine.

either bacteriostatic or bactericidal depending upon the actual concentration of the solution and the susceptibility of the microorganisms that it contacts on the skin. CHG is applied to the skin using a back and forth scrubbing motion to produce friction to remove transient flora from the skin prior to the start of the procedure. This allows for maximize log reduction on the prepped site and removal of these potentially dangerous microorganisms from the skin, thereby reducing the patient's possibility of developing a healthcare associated infection.

utilized as a precaution. CHG should not be used on open wounds or a general skin irritation. When safety precautions are followed, CHG provides clinicians with an excellent skin antiseptics solution.

Chlorhexidine Gluconate has a proven track record of clinical success as demonstrated in many source of peer-reviewed literature. When used properly, CHG provides clinicians with an efficacious and safe solution to skin antisepsis, with the overall goal being reduction of healthcare associated infections.



Forecasting Climate Change Effects on Infectious Diseases – Not Simple

By Jeffrey L. Fox

Many experts expect global climate change to have a substantial impact on infectious diseases. However, predicting the direction or extent of those anticipated changes is not so clear-cut, according to the participants of a two-day forum on microbial threats, convened last December in Washington, D.C., by the Institute of Medicine Board on Global Health.

Part of that difficulty stems from the uncertainties that are inherent to climate change. Once called “global warming,” this phenomenon now sometimes is referred to as “global ‘weirding,’” an amusing but apt reference to the irregularities of climate change. Yes, temperatures are on the rise in some parts of the globe, and ice caps are melting rapidly. However, elsewhere, the ferocity of storms—and other “extreme weather events”—are what worry officials, including those charged with protecting public health.

Why such uncertainty about the shifting climate and its impact on infectious diseases? These are “dynamic, non-linear processes,” says forum participant Donald Burke of the University of Pittsburgh in Pittsburgh, PA. Indeed, even without accounting for seasonal effects or more substantial climate effects, epidemics “tend to oscillate...spontaneously and inherently,” he says. For example, outbreaks of dengue fever in Thailand not only follow a seasonal pattern but also show a three-year periodicity. Further, outbreaks tend to launch in Bangkok and then travel in waves to outlying areas, following patterns that “had not been recognized before,” he points out. Poorly understood, if at all, such patterns complicate any effort to account for the effects of climate change on dengue.

Similar uncertainties attend other infectious diseases, with occasional exceptions where changes in disease

pattern seem instead to coincide neatly with changes in weather patterns, according to Andrew Haines of the London School of Hygiene and Tropical Medicine in London, England. For instance, the incidence of diarrheal diseases among young children increases in parallel with decreases in rainfall—

In other cases, changes in vectorborne infectious disease patterns appear to depend on habitat changes but, here again, observations range widely. Tickborne encephalitis in Sweden seems to be marching steadily northward, following increases in average temperatures, Haines says.

to settle many of the scientific uncertainties underlying questions about the impact of climate change on infectious diseases, a separate strategy is taking shape to address some attendant policy issues, according to Diarmid Campbell-Lendrum of the World Health Organization (WHO) in Geneva, Switzerland. Climate change is adding pressure to already “intolerable burdens” from global infectious diseases, he says.

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possibly because reduced rainfall in underdeveloped countries leads to less-frequent hand washing, he says. Meanwhile, sporadic cases of salmonellosis in industrialized countries rise in parallel with temperature increases, while rising meningitis case numbers in West Africa “match with the dry winds of winter.”

Italy experienced an outbreak of mosquito-borne Chikungunya virus infections affecting more than 200 people during 2007 that was likely of African origin, according

to Jean-Paul Chretien of the U.S. Department of Defense Global Emerging Infections Surveillance and Response System in Silver

Spring, MD. A Chikungunya virus outbreak earlier reached epidemic levels along the east coast of Africa and on several nearby islands in the western Indian Ocean. However, at least for the limited outbreak in Italy, the question remains open whether “climate played a role,” he says. “The summer was drier and warmer than usual, but rapid international travel was also a factor.”

However, details about changes in malaria patterns in Africa and in parts of South America are “controversial” despite general agreement that climate change is affecting the range of this disease while exposing different human populations to the mosquitoes that carry malarial parasites. While it is safe to expect changes, sometimes they may lead to decreases instead of increases in this disease—for instance, when storms or other changes “wash out vector-breeding areas,” he points out.

“WHO has to be careful not to redirect attentions away from these...issues just to those that are new and interesting. Even boring, everyday killers are sensitive to climate variation, [while] many other disease determinants are climate-independent.”

Nonetheless, WHO is no longer treating climate change as merely a matter of risk assessment and now considers it an “operational interest” in terms of its effects on health, according to Campbell-Lendrum. That shift entails recognizing that climate change threatens “health security,” he says. “Health is a topic



Despite such “uncertainty,” Haines says, “we [need to] look at economic impacts because the cost of inactivity is far greater in the long run. We can [try to] meet the emerging needs of the poor, and help them to reduce the impact of and adapt to climate change, [and] we may get health cobenefits.”

Even while lacking the “firm evidence” that would be needed

moving to the center of the climate change debate,” and recognizing how it can threaten “health security has a great deal of traction among the general public.”

Jeffrey L. Fox is the Microbe Current Topics and Features Editor. Reprinted with permission from ASM. As appeared in ASM Microbe Magazine February 2008.



Going Green

**Terry Jo Gile, MT (ASCP) MA Ed.
The Safety Lady®**

As Kermit the Frog says, “It not easy being green.” Global warming, drought, greenhouse gases, unpredictable weather patterns and a decrease in the ozone layer are just a few of the issues facing the world to day, but how does “going green” impact the day-to-day operation of the laboratory?

There are arrays of green products available to consumers and corporations alike. A few examples that are used in the laboratory are energy efficient appliances such as refrigerators and freezers, windows/doors that maximize the sun’s energy and keep out the cold, products made from eco-friendly materials, and fluorescent light bulbs that utilize less electricity per watt. These products are just a snapshot of the products available that can positively impact the environment while also reducing your energy costs and emissions in the long-term.

Older labs often don’t have the luxury of improving their energy efficiency through proper energy conserving buildings; however, remodeling and new construction should take into account the U.S. Green Building Council’s (GBC) Leadership in Energy and Environmental Design (LEED) standards for all major buildings. The cost may add an extra 2-4% to construction costs; however, LEED standards do not necessarily cost more. Well-designed sustainable buildings can be heated and cooled with smaller mechanical systems and may require fewer light fixtures that are used less frequently, to name just two possible cost advantages. Smaller mechanical systems, in addition to being less expensive than larger ones, consume less energy and take up less space. Since most commercial buildings are built to the maximum allowable floor area, less space devoted to mechanical systems means more space for the laboratory.

in the Laboratory

Smaller mechanical systems weigh less than larger ones, so structural engineers can design a lighter structure, significantly lowering the cost of construction. LEED standards invariably cost less to own. They consume less energy for heating, cooling, and lighting, and typically use significantly less water by integrating waterless or low-flow toilets, flush-free urinals, and rainwater capture and storage systems for irrigation. They are built of materials and equipment that are more likely to last longer, requiring less maintenance and less frequent replacement. Light-emitting diode (LED) light fixtures, for example, can last decades while using only a fraction of the electricity of incandescent bulbs. Sustainable buildings are often healthier buildings. Early studies have shown that workers in LEED buildings have lower absentee levels due to illness and higher productivity. And green roofs can help improve the health of the entire community, by reducing the volume of rainwater that enters the sewage system or that runs off into local streams and rivers. As sustainable design becomes more common, the benefits to the broader community continually increase. Entire city blocks of green or reflective roofs

would help lower the outdoor air temperature—mitigating the “urban heat island effect”—and further lower the air conditioning load for all buildings in the neighborhood while improving outdoor comfort on hot summer days.

bioMérieux recently announced its intention to construct new highly-energy efficient building at both the Durham, NC and Hazelwood, MO plant sites. Both facilities will incorporate many emergency efficient features such as grass roofs, geothermal passive heating and cooling and reverse osmosis water treatment systems that allow the facility to capture and reuse water that had previously been sent to the drain.

Best-selling author, professional speaker and safety consultant Terry Jo Gile has helped thousands of laboratorians create safety savvy laboratories. Her book, Complete Guide to Laboratory Safety – Second Edition, is considered the consummate safety reference tool that is specific for clinical laboratories. You can contact Terry Jo at www.safetylady.com.

Can't build a new building but are still concerned for the environment? Here are a few ideas that will help:

- Reduce, reuse and recycle—everything possible. Encourage and support recycling of materials in break rooms and other common areas. Segregate paper, aluminum, glass and plastics in their own bins for recycling. bioMérieux employees have begun an intensive recycling effort. The revenue generated is placed into a special fund that is donated to local charities at the end of each year.
- In the winter lower the lab thermostat a few degrees especially when the lab is not in use. It will save energy as well as money.
- Conserve water
- Use low energy consuming, low mercury containing light bulbs.
- Minimize the need to print and photocopy whenever possible. If a hard copy is necessary, make only one and send other copies electronically.
- Seek out manufacturers of energy efficient laboratory products and equipment.
- Support vendors that recycle and use less packaging.
- Review processes to determine where changes can be made to generate less waste.
- Use less solvent or use an alternative solvent that is environmentally friendly.
- Turn off fume hoods when not in use.
- Turn off lights at the end of the day or for prolonged periods of non-use.
- At home you can also conserve water by taking a shorter shower, turning off the water when shaving and turning off the water when brushing your teeth rather than leaving the water on while brushing.
- Establish a “green” committee as part of your safety committee or as a separate group that can consider ideas and prioritize projects creating an effective green program in your laboratory. Then you will be able to admonish Kermit the Frog and tell him...it IS easy being green.

bioMérieux CONNECTION

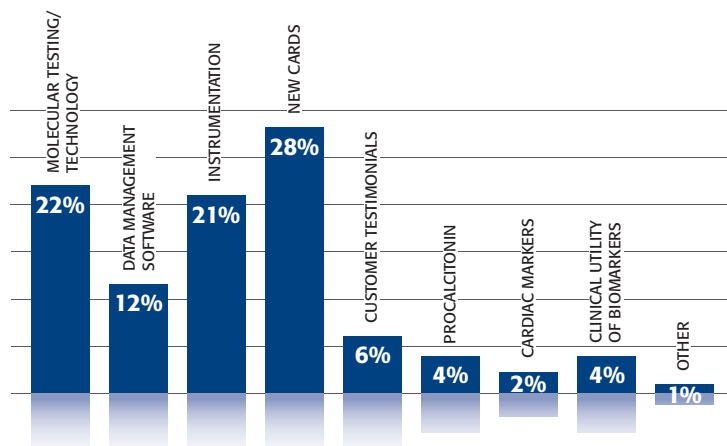
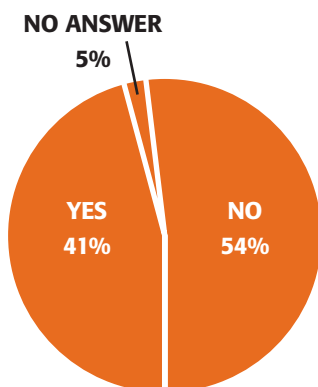
2007-2008 SURVEY

2007-2008 Survey Results

Thank you for participating in the December 2007 *bioMérieux Connection* newsletter survey, and congratulations to the PNA FISH laboratory timer winners. We are excited to present some key findings from the survey and look forward to better serving you in 2008.

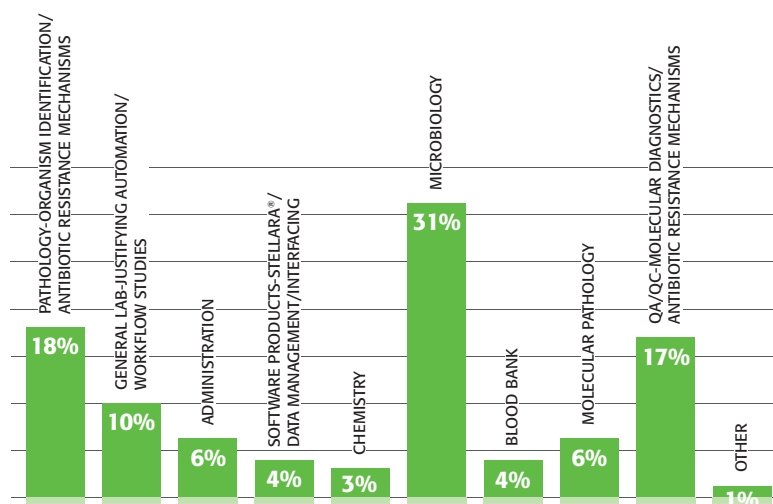
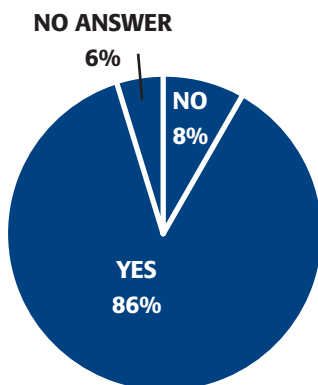


Do you wish to receive an e-version of the *bioMérieux Connection* newsletter?



Which highlights would you like to see more of in the upcoming *bioMérieux Connection* newsletter?

Are you interested in interactive online/web-based training?



What educational topics would be of most interest to you?

bioMérieux recognizes that being a successful company is more than producing innovative products and achieving sound financial results. As a global company dedicated to fighting infectious diseases and promoting public health, it is quite fitting that one of the guiding principles of our company is "We belong to a Community." In keeping with this belief, the company recognizes that we have a vital responsibility towards the social, environmental and economic concerns in the communities in which we operate. To guide the company's global efforts in this area, bioMérieux has formed an executive level Sustainability Development Committee. Demonstrating the highest level of commitment towards furthering the sustainability practices at bioMérieux facilities around the world, the Sustainability Committee is lead by Stephane Bancel, the company's CEO.



bioMérieux Embraces Sustainable Development

by Paul Hutter, Director, Health, Safety & Environment, bioMérieux, Inc.

In response to this global sustainability initiative, "Green Teams" have been formed at each of bioMérieux's U.S. operating locations. When the call for Green Team "volunteers" was announced, bioMérieux employees responded with great enthusiasm and energy. In short order, several projects are already underway with the goals of reducing energy use, preserving water resources, and minimizing the wastes coming from the company's facilities. Some examples include:

At the bioMérieux facility located in Durham, North Carolina, where BacT/ALERT® bottles are produced, modifications were made to the company's reverse osmosis (RO) water treatment systems that allowed the facility

to capture and reuse water that had previously been sent down the drain. This creative measure, along with some other operational changes, has resulted in reducing the Durham plant's daily water consumption by nearly 50 percent. These water saving measures are especially important in Durham as the southeast region is currently experiencing one of the worst droughts on record.

The company recently announced its intention to construct new highly-energy efficient buildings at both the Durham, North Carolina and Hazelwood, Missouri plant sites. The Durham building will house a state of the art customer-training center along with Commercial Operations staff.





The Hazelwood, Missouri building will serve as a new Research & Development center. Both facilities will incorporate many energy efficient features such as grass roof, geothermal passive heating and cooling, and other innovative features that exemplify the company's commitment to sustainability.

The revenue generated as a result of their recycling efforts is placed into a special fund that, at the end of each year, is donated to local charities.

The bioMérieux facility located in Hazelwood, Missouri serves as a key production center for the company's analytical instruments and VITEK® identification and susceptibility test cards. As a result of employee suggestions at this site, waste materials that were formally sent to the landfill are now being collected and recycled. The revenue generated as a result of their

recycling efforts is placed into a special fund that, at the end of each year, is donated to local charities.

The company's Green Teams, through working together, have developed a quarterly newsletter called the "Sustainable News." The newsletter is distributed via email to all U.S. bioMérieux employees. It provides employees with updates, news, and developments on site sustainability projects, as well as ideas that employee can use at home to adopt a more sustainable lifestyle.

It's certainly a great time to be an employee of bioMérieux. Working for a company that is already a recognized leader in the worldwide fight against infectious diseases is very rewarding. Add to that the company's keen commitment towards becoming a global leader in sustainability practices and it becomes exciting to report to work each day!

WORD SEARCH

WORKSAFE™

E N Y T E F A S P G E B C E Q
R O Z V W W E A N N I O A F U
U I V J F P T I R O N L D A A
T T H M S I N O M T B A A S L
L C J I E I B E A A Q B P K I
U E S N A D R M N I N O T R T
C F T R O I I D E F U R E O Y
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O B X T G N I S R U N O M E L
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N Y C N E T E P M O C I F V N
H T R E L A T C A B V V Q L D
H O S P I T A L P L A S T I C

ADAPTER	NURSING	QUALITY
BACTALERT	PATHOGENS	SAFETY
BIOMERIEUX	PATIENT	SEPSIS
BLOODBORNE	PHLEBOTOMY	TRAINING
BLOODCULTURE	PLASTIC	WORKSAFE
COMPETENCY		
CONTAMINATION		
DVD		
HOSPITAL		
INFECTION		
LABORATORY		
MICROBIOLOGY		
NEEDLE		



bioMérieux Promotes Antibiotic Stewardship at American Society for Health-System Pharmacists Midyear Meeting



The 2007 American Society for Health-System Pharmacists (ASHP) Midyear Meeting was held in Las Vegas, and bioMérieux's underlying theme was promoting antibiotic stewardship. bioMérieux is committed to bridging the gap between evidence and clinical practice to enhance the knowledge, skills, and abilities of pharmacists and associated personnel in healthcare systems.



Erika Howle, a pharmacy resident at Northeast Georgia Medical Center, presented a poster titled, "Evaluation and Implementation of Stellara Intervention Applications in a Community Hospital."

bioMérieux hosted a number of educational events, including a focus group for clinical pharmacists to discuss managing bloodstream infections. This type of market research helps bioMérieux get direct feedback from our customers about what they need so we can provide the best possible products and services. Product demonstrations were available at the booth for STELLARA[®], the new AdvanDx PNA FISH[™] test, VIDAS[®] B-R-A-H-M-S PCT[®] assay and DiversiLab[®].

bioMérieux was excited for STELLARA to be highlighted in a poster session presented by Erika Howle, a pharmacy resident at Northeast Georgia Medical Center in Gainesville. The poster was titled, "Evaluation and implementation of Stellara intervention applications in a community hospital" and demonstrated the value of STELLARA for documentation of pharmacy interventions.

Northeast Georgia Medical Center does not currently have a standardized documentation system in place, and the poster presented a standard methodology for the roll out to the pharmacy staff. The methodology includes four phases: covering modification of the existing system, the Pilot intervention application, Pilot evaluation, and finally, pharmacy-wide implementation.

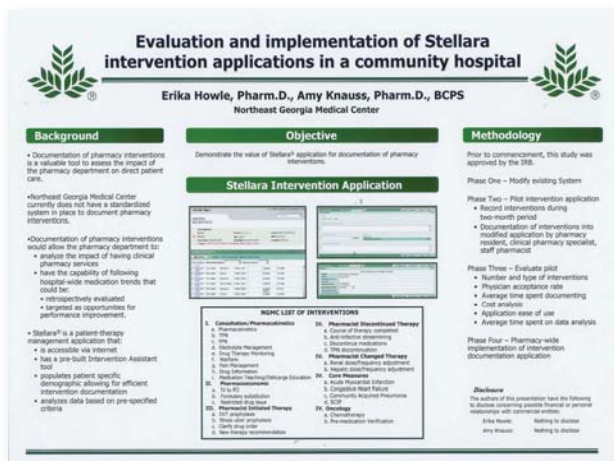
The authors of the poster session explained that when they roll it out, each pharmacist would be instructed on how to properly prepare documentation. They are making great efforts to be prepared so their pharmacists can be consistent in the way documentation is performed. The resulting reports and documentation will be much more meaningful this way.

Pharmacy Times magazine featured a pharmacy technology article [\[+\]](#)

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bioMérieux Promotes **Antibiotic Stewardship**
at American Society for Health-System
Pharmacists Midyear Meeting

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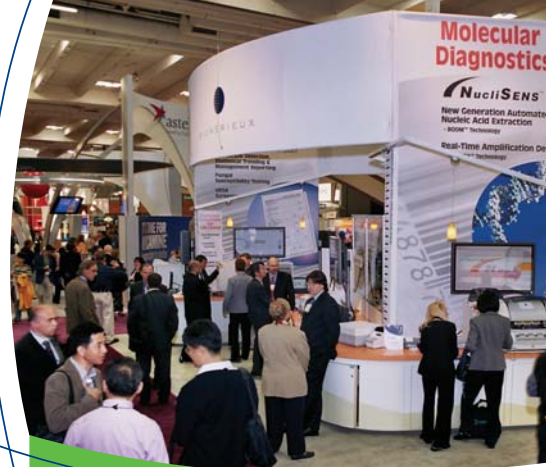


[-] in its ASHP show issue about STELLARA® at St. Elizabeth Hospital in Beaumont, Texas. In the article, the author estimated St. Elizabeth's total monthly interventions at a modest value of \$20,000. After implementing STELLARA, the total value of interventions surpassed \$80,000 per month.

"Improving antibiotic stewardship is essential to providing better patient care," said Herb Steward, Executive Vice President, bioMérieux, Inc. "STELLARA plays an integral role in managing the cumbersome process of collecting and analyzing data from multiple sources, interpreting a meaningful analysis and implement intelligent

policies. The software provides reports that show evidence-based outcomes, cost recovery and real savings."

Offering solutions that enable clinicians to make faster and more relevant therapy decisions can improve antibiotic management, reduce hospital mortality, and reduce costs associated with dangerous infections. At ASHP, bioMérieux took the opportunity to showcase its wide range of products that promote better patient care by delivering rapid, reliable results for timely treatment.



2008 SHOWS AND CONFERENCES

Society of Hospital Medicine
April 3-5 • San Diego, CA

**Society for Healthcare Epidemiology
of America**
April 5-8 • Orlando, FL

South Central Association for Clinical Microbiology (SCACM)
April 14-19 • Plymouth, MI

Clinical Virology Symposium
April 26-28 • Daytona Beach, FL

Association of Public Health Labs
May 18-21 • St. Louis, MI

American Society of Microbiology
June 1-5 • Boston, MA

American Society of Healthcare Pharmacists
June 8-11 • Seattle, WA

**Association for Professionals in
Infection Control**
June 15-19 • Denver, CO

**Annual Meeting of the American
Association of Clinical Chemistry (AACC)**
July 27-31 • Washington, DC

South West Association Clinical Microbiology (SWACM)
September 10-13 • St. Louis, MI

American College of Chest Physicians (CHEST)
October 25-28 • Philadelphia, PA

Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) – 47th Annual
October 25-27 • Washington, DC

American College of Emergency Physicians
October 27-30 • Chicago, IL

Association for Molecular Pathology
October 30-November 2 • Grapevine, TX

**Southeastern Association of
Microbiology (SEACM)**
November 3-6 • Myrtle Beach, SC

American Society of Healthcare Pharmacists
December 7-11 • Orlando, FL