

The Cure For Healthcare Associated Infections

Abstract:

Antibiotic resistance, touch point contamination, and superbugs present Hospitals with an uphill battle costing us dearly in both funds and patient's lives. Conventional disinfection procedures are not sufficient to address this problem as evidenced by the rising numbers of infections. The answer to the problem requires us to look past current best practices and conventional wisdom. It requires a shift in thinking from disinfecting to protecting.



The Cost of Healthcare Associated Infections

Hospitals play a vital role in aiding the health of our society, working often times around the clock to heal our sick and wounded. Even so, as a limited-access institution, special consideration needs to be given to how we are on the front lines of the microbial war and that means taking a hard look at why Healthcare Associated Infections are on the rise and who is responsible.

HAI's are not just something the press likes to bring up in a dry season, the threat of HAI's are real and the problem is only getting worse. They cost hospitals in more ways than one, but we see it clearly in the loss of human life. Infectious diseases caused by microbes are responsible for more deaths worldwide than any other single cause, and the World Health Organization reports that at any given moment, 1.4 million people worldwide are suffering from infections acquired in a hospital or assisted living facility¹. HAI's also costs hospitals dearly in resources, according to the CDC HAIs cost hospitals anywhere from 33 to 45 billion dollars per year.²

Extending The Cure, a research and consultative effort spreading awareness about the growing problem of antibiotic resistance, has this to say about the challenges hospitals face;

"Hospitals face even more daunting infection control challenges than other limited-access institutions. While schools and sports teams can ask sick students and athletes to stay home, hospitals must invite sick residents in. Some patients may bring infectious bacteria in with them, and others may be more susceptible to infections because illness or injury has compromised their immune systems. Because hospital staff must attend to both types of patients, hospital workers and equipment are often unintentional conduits for the spread of infection."³

There are many ways Hospitals can take the offensive and limit their unintentional contribution to the problem; ending the overprescription of antibiotics, eliminating the threat of touch point contamination and choosing an antimicrobial answer that works around the clock to protect staff and patients from the threat of HAIs.

The Problem Of Overprescription

One of the causes of HAIs is the overprescription of antibiotics. While antibiotics are a great medical triumph, their effectiveness is waning as they continue to be overprescribed. In

¹ [Clean hands leading to safer health care for half the world's population](#), WHO, 10 NOVEMBER 2006

² [The Direct Medical Costs of Healthcare Associated Infections in The U.S. and the Benefits of Prevention](#) by Author – R. Douglas Scott II, *Economist*, Division of Healthcare Quality Promotion National Center for Preparedness, Detection, and Control of Infectious Diseases Coordinating Center for Infectious Diseases Centers for Disease Control and Prevention March 2009

³ [Hospital Infection Control](#), Extending the Cure, Center for Disease Dynamics, Economics & Policy, Inc., 2011

fact, 1.1 billion dollars every year is spent on unnecessary antibiotics to treat upper respiratory infections. (extending) To make matters worse, the money we're pouring into developing new antibiotics is proving to be a slow and ultimately unviable option.

Dr. [Ramanan Laxminarayan](#), director of the Center for Disease Dynamics, Economics & Policy recently wrote a blogpost on the overprescription of antibiotics for the CDC.

"To many, antibiotic resistance may seem like an evergreen issue that reappears in the news cycle periodically. However, recent reports of the emergence and spread of carbapenem-resistant Enterobacteriaceae, described in CDC's March 2013 [Vital Signs Report](#) remind us that we stand at the threshold of the post-antibiotics era and that we have a responsibility to bring broader attention to this serious public health threat.

As a community of public health professionals, we have a responsibility to respond to this crisis as it unfolds. While CDC and healthcare experts are doing more every year to promote rational prescribing at US hospitals and primary care providers, initiatives like [Get Smart Week](#) are making sure consumers can meet them halfway and internalize the message of responsible antibiotic use. Let's not pass the buck. We are all responsible for whether future generations will have effective antibiotics."⁴

Dr. Laxminarayan and many others have taken up the cause of responsible antibiotic use for future generations to be sure, but there's another more immediate concern that make organizations like the CDC extremely nervous: superbugs.

Superbugs and Nightmare Bacteria

According to Extend the Cure, superbugs alone infect over 2 million people in healthcare facilities. In 2012 this resulted in 99,000 deaths in the US alone. If 99,000 doesn't shock you - it should, that's more deaths than AIDS, traffic accidents and the flu combined.⁵ In fact the CDC states that MRSA causes an estimated 95,000 infections each year and 19,000 deaths; In other words, the mortality rate for a patient who acquires MRSA is 20%.

Superbugs didn't just arise from the overprescription of antibiotics. On March 6th, 2013, the Director of the CDC, Dr. Thomas Frieden, told CBS that hospital sanitization procedures were to blame for the widespread of CRE now currently afflicting 42 states with a mortality rate of 50%.⁶

⁴ [Preserving Antibiotic Effectiveness: Everybody's Responsibility](#) by Dr. Ramanan Laxminarayan

⁵ [How Can Everyone Help Preserve Antibiotics?](#), Alison Buki, Extend the Cure, Center for Disease Dynamics, Economics & Policy, Inc., April 30, 2013

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⁶ [Nightmare bacteria: "Superbugs" in U.S. hospitals](#), Dr. Thomas Frieden, director of the Centers for Disease Control, talks to Charlie Rose and Norah O'Donnell. March 6, 2013 5:18 AM

“It is spread from person to person, generally because the healthcare workers haven’t decontaminated the bed and the equipment or haven’t washed their hands adequately.” said Frieden.

He even went so far to say that this bacteria is from a post-antibiotic era and is virtually untreatable for most patients.

According to the Director of the CDC a superbug he refers to as a nightmare bacteria easily transmitted from patient to patient and even bacteria to bacteria with a mortality rate of 50% in a post-antibiotic era could have been prevented by healthcare workers adhering to disinfectant procedures.

The solution he’s referring to sounds deceptively easy. In actuality this is an extremely arduous task with no room for error.

The Threat of Touch Point Contamination

According to the CDC 80% of cross-contamination comes from human touch-points. A doorknob, a blood pressure cuff, a needle, and IV site, a bed rail, a reassuring hand and a thousand more examples. There are endless opportunities for touch point contamination across a facility and while healthcare staff should always adhere to their disinfecting procedures, that alone cannot account for the spread of germs by patient’s visitors.

Additionally, current methods of disinfecting can only go so far. Even if the disinfectant is 100% effective, that surface is only safe until someone touches it; turning a disinfected site into a contaminated one can happen minutes after the cleaning procedure.

Our methods are only as thorough as the tools we use to apply them, can your facility guarantee that every inch of every surface is disinfected between patients? More importantly can they ensure that the tools, instruments and equipment used are completely disinfected before every use - every time?

The CDC is holding hospitals responsible for the spread of HAIs and they believe the solution is as simple as following procedures requiring hospitals to fight on two fronts - fighting what’s ailing them and fighting off the HAI’s that threaten them.

We at Vexall believe Hospitals are doing all they can with current best practices, and that it is time they were presented with a viable offensive to a relentless opposition. A new best practice, that hasn’t been available until now.

Disinfecting Down To A Science

At Vexall we believe your patients and resources are precious. Instead of just relying on best practices we provide an offense that when combined with your current procedures keeps every surface of your facility 99.96% disinfected for 90 days.

Vexall coats every inch of every surface with an invisible blanket of molecular spikes, safe for humans and sensitive equipment, deadly for microbes. By attracting microbes Vexall spikes help you protect between cleanings, killing microbes instantly with their deadly one-two punch; rupturing the cell wall and imparting an electric shock as a result of their opposite charge. Microbes cannot survive this biomechanical kill or adapt to become resistant, keeping your staff safe and your patients safe from superbugs to the common cold and everything in between.

EPA registered and USDA approved, Vexall is no smoke and mirrors solution. It's a biomechanical kill tough enough to face Healthcare Associated Infections head on and dramatically reduce the threat to your institution.

Additional Sites Consulted:

1. [Hospital Infection Control](#) - Extending The Cure
2. [Detect and Protect](#) - CDC
3. [U.S. Department of Health & Human Services](#) on Healthcare Associated Infections
4. [The Centers for Disease Control and Prevention](#) on Healthcare Associated Infections