



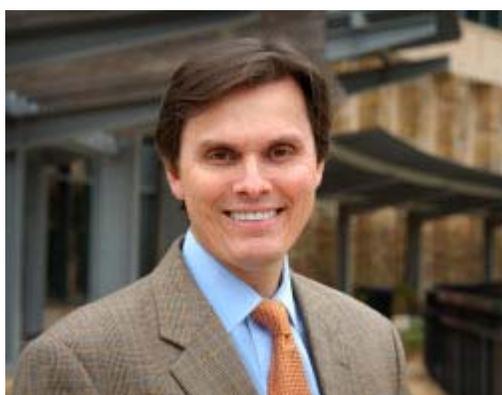
Safe Healthcare

Hosted by CDC's Division of Healthcare Quality Promotion

Preventing MRSA in healthcare – Is there a silver bullet? (Part 1 of 3) <http://blogs.cdc.gov/safehealthcare/?p=1542>

Categories: [Healthcare-associated infections \(http://blogs.cdc.gov/safehealthcare/?cat=89\)](http://blogs.cdc.gov/safehealthcare/?cat=89), [MRSA \(http://blogs.cdc.gov/safehealthcare/?cat=108\)](http://blogs.cdc.gov/safehealthcare/?cat=108)

April 13th, 2011 5:02 pm ET -



John Jernigan, M.D.

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The optimal approach to controlling MRSA in healthcare facilities has been a topic of ongoing controversy. Of particular interest is the question of whether the use of active detection and isolation of patients colonized with MRSA, also known as ADI, should be routinely used. Despite ongoing research and vigorous scientific debate, a simple answer has remained elusive. This week, two studies were published in the *New England Journal of Medicine* that illustrate the complexities of the scientific evidence surrounding ADI. One of these studies, the STAR*ICU Trial (*Intervention to Reduce Transmission of Resistant Bacteria in Intensive Care* (<http://www.nejm.org/doi/full/10.1056/NEJMoa1000373>)), found that ADI as implemented in the study was not effective in reducing transmission of MRSA or VRE. A separate observational study ("*Veterans Affairs Initiative to Prevent Methicillin-Resistant Staphylococcus aureus Infections*" (<http://www.nejm.org/doi/full/10.1056/NEJMoa1007474>)) involving the entire national VA hospital system, found that after implementing a multifaceted MRSA prevention program that included ADI, MRSA transmissions and HAIs decreased significantly. The fact that these studies seem to give different answers illustrates the challenge we as scientists face in making recommendations on how best to use limited prevention resources-sometimes the answers aren't simple as we would like.

I do think there are some lessons we can take away from these studies. Together, the study findings are consistent with current belief that MRSA is too complex a problem to be controlled with any single intervention. The VA study suggests that MRSA can be effectively controlled, even on a large scale involving hundreds of hospitals, using a multifaceted intervention strategy. While the strategy chosen by the VA did include use of ADI, the study design does not allow an assessment of the individual contribution of ADI to the overall success.

So what's the bottom line? The most important message from these studies is that MRSA control, while difficult, is achievable, even if experts may still argue about the best way to do it. In light of the conflicting evidence on the optimal role of ADI, some hospitals may choose strategies that do not include it. [Guidelines \(http://www.cdc.gov/hicpac/mdro/mdro_0.html\)](http://www.cdc.gov/hicpac/mdro/mdro_0.html) are available from CDC to help hospitals design an effective MRSA control program. But whatever strategy is chosen, rigorous measurement of the impact of the program should be in place, with the expectation that control of MRSA should be the result.

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1. July 2, 2011 at 1:38 am ET - Antonio

Dr Jernigan, Can anyone explain why a 470 nm blue light in a form of disinfection or treatment in hospitals, nursing homes, even patients, haven't been adopted yet?

A research was published back in January of 2009, which clearly demonstrated and reported a natural, visible and safe form of blue light Killed two strands of MRSA bacteria in-vitro. The Research suggested the same or similar results could be obtained in-vivo, meaning patients can be treated above or below the skin. Scientists, Doctors, Investigating Agencies and most of all, Drug Industry invest Millions of Dollars in studies, research and in the making of new antibiotics, which kill our immune system causing many side effects. Same as cleansers, procedures, measures and other adopted ways to prevent the bacteria from infecting people and no one has determined to try and see how this blue light can stop the bacteria from further resistance to antibiotics. Thanks.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-8589\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-8589)

2. May 23, 2011 at 11:21 am ET - Luke R. watson, M.D.

Transmission of MDRO's including MRSA is complex. We believe that clinical outcomes should be the major focus of any intervention. Given the mixed results with current intervention strategies, alternative methodologies should be considered.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7931\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7931)

3. May 13, 2011 at 4:29 pm ET - Beth Barrows

I'm a former patient, I don't know what ADI or the Star Study is, but I do agree that the answer to MRSA is right under your nose and mine and because you need "evidence based" studies to prove it you will never see it, you are the blind leading the blind. Its pretty simple, washing hands is great and common sense, using all the other precautions mentioned is also great and common sense and if you get healthcare workers, patients and family members to do them they will work in the long term, but if a health care worker does not clean up after themselves leaving used syringes, syringe caps and bloody swabs on the floor of a patients room (extrapolate from there and fill in the blanks, this happens all the time) what do you think is going to happen to that patient? They are at very high risk of getting an infection. So, a very fundamental step in preventing disease is the most simple of all, get people to clean up after themselves after doing anything that involves a patient.

I don't know why this simple solution hasn't occurred to any of you scientific types but I can tell you from personal experience. I've been living for many years with Fibromyalgia as a result of medical contamination and I'm living proof that this was preventable. If you want better numbers, lower costs and better results just get HCW's to clean up after themselves like adults are supposed to do. Yes, I know they are busy but patients deserve better and it should not be left to "environmental services" which is just a nice name for housekeeping. Its everyone's responsibility to do everything they possibly can to prevent infections and give patients and HCW's a good outcome.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7717\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7717)

4. May 10, 2011 at 7:52 pm ET - Kathy Day RN

Last week I watched helplessly while the Maine Hospital Association and Maine hospital leadership including an hospital epidemiologist proclaimed that the Star Study PROVED that ADI doesn't work. It was so appalling to listen to that. Anyone with a 5th grade level reading skill can point out the faults in that study. The Star study shows that if you don't comply with the rules of a study, it won't work. It was a failure on many levels. And now, in States where independent activists are working very hard to improve MRSA prevention, "experts" are using the Star study to fight against the most consistently effective MRSA prevention, ADI.

I hate to think that this is by design, but I am very suspicious. I will never understand why my family and I can't be as safe as a VA patient from MRSA. The State of Maine took a step back last week when the HHS committee rescinded the 2009 law to screen all high risk patients. As far as I can see, it was the only mandate for improved MRSA prevention in the State.

I think it is time to take away choice for hospitals....to chose effective prevention or not. I think it is time for mandates, on the State and Federal level. They have had long enough to prevent MRSA. When they fail, as most do, it means more death and disability.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7644\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7644)

5. May 6, 2011 at 7:30 am ET - Michael Bennett

So then why, Dr. Jernigan, does the CDC recommend as catagory 1A a plethora of interventions none of which have ever been subjected to a RCT, such as SCIP? And if you are going to rely on the admittedly faulty STAR-ICU study insofar as ADI is concerned, why do you place so much reliance on hand hygiene since that was ineffective according to the STAR study as well?

These questions are what give rise to a perception that CDC is simply anti ADI for reasons other than science.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7532\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7532)

6. AUTHOR COMMENT May 5, 2011 at 6:12 am ET - CDC/DHQP Communication

We believe that the value of our guidelines is maximized when we use rigorous criteria to categorize recommendations. We do not believe the current body of evidence warrants a recommendation that all hospitals use ADI for control of MRSA due in part to scientific uncertainty about the effectiveness of ADI in every hospital. This uncertainty is illustrated by the recent randomized controlled trial published in NEJM. We do recommend that all hospitals monitor trends in the incidence of target MDROs, such as MRSA, in the facility over time and, if incidence rates are not decreasing using other prevention strategies, ADI should be implemented.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7509\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7509)

7. AUTHOR COMMENT May 3, 2011 at 7:24 am ET - CDC/DHQP Communication

We at CDC believe that healthcare facilities in the US should indeed strive for results like those demonstrated by the VA health system. Over the last decade, it has become evident that successful, large, multicenter demonstration projects have been instrumental in challenging the status quo and have lead to a sea change in expectations about prevention of certain healthcare-associated infections. A case in point is central line-associated bloodstream infections. In the early 2000's there was a prevailing skepticism about whether the majority of such infections could be prevented. Following publication of stunning CLABSI prevention successes involving hundreds of hospitals in Michigan and Pennsylvania who openly adopted the audacious goal of eliminating such infections, healthcare facilities across the nation seemed to follow suit. We hope that the VA experience can in the same way help challenge the status quo regarding control of multi-drug resistant organisms, including MRSA, in healthcare. Taken together, the two studies published in the New England Journal of Medicine remind us that when it comes to controlling MRSA, we now know we can get there-even if we still have a lot to learn about the most efficient pathway to take.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7469\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7469)

8. April 29, 2011 at 3:32 pm ET - Lori Nerbonne

Dr. Jernigan,

We agree that “MRSA is too complex a problem to be controlled with any single intervention.”

This is why VA hospitals, hundreds of other research studies, and entire European countries are having success with significantly reducing MRSA and most US hospitals are not: They are using all the steps that US hospitals are BUT in addition, they have added Active Detection and Isolation (most US hospitals are not). ADI is the only intervention currently left out of the CDC's level I guidelines.

Hundreds of thousands of patients have died since the CDC last updated their guidelines in 2006. Hundreds of thousands more have been permanently injured from this completely preventable infection.

ADI is a simple, inexpensive prevention method. What would be the harm in elevating it to a level I CDC guideline so that ALL hospitals would use it?

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7411\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7411)

9. AUTHOR COMMENT April 21, 2011 at 6:11 am ET - CDC/DHQP Communication

We are in fact exploring the role of the environment in contributing to HAIs as well as the impact of novel methods for cleaning environment on HAI. This work is happening through the [CDC Prevention Epicenter program \(http://www.cdc.gov/HAI/epiCenters/\)](http://www.cdc.gov/HAI/epiCenters/), and additional mechanisms. Read the [press release publicizing this prevention project and others \(http://www.cdc.gov/media/releases/2011/p0314_healthcareinfections.html\)](http://www.cdc.gov/media/releases/2011/p0314_healthcareinfections.html).

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7197\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7197)

10. April 20, 2011 at 1:16 pm ET - Lisa McGiffert

The VA study joins a multitude of others that found screening incoming patients for MRSA colonization, paired with practices outlined by SHEA as far back as 2003, significantly reduces MRSA infections. The CDC guideline for MDROs, adopted in 2006, gave this active surveillance component a “category 1B” designation rather than the “category 1A” designation that would have translated into more hospitals using it. Further, the CDC and others have recognized for years that the bundle approach to prevention of infections works and the bundles that work for preventing MRSA infections include active surveillance screening, as well as practices used by the VA. Why doesn't the CDC move to this approach in their guidelines by giving various bundles of practices a Category 1A status?

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7177\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7177)

11. April 19, 2011 at 6:06 pm ET - Erica Desimone

I have lost two elderly relatives to MRSA after hospital stays that resulted in infection.

I recently read that there is technology that has demonstrated astronomical kill rates in hospital rooms for the causative agents of Hospital Acquired Infections (HAIs)—including MRSA.

Why aren't these methods of sterilization being publicized or explored to reduce the startling number of MRSA and other HAIs affecting hospitals worldwide?

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7158\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7158)

12. April 19, 2011 at 12:35 pm ET - Robert Oshel

As you noted: “the STAR*ICU Trial (Intervention to Reduce Transmission of Resistant Bacteria in Intensive Care), found that ADI >>> AS IMPLEMENTED IN THE STUDY <<< [my emphasis] was not effective in reducing transmission of MRSA or VRE.” That's the point; they didn't implement comprehensive and timely ADI. No wonder they got a different result than the VA. What they did wasn't comparable.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7153\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7153)

13. April 19, 2011 at 7:16 am ET - Kathy Day RN

Dr Jernigan, I believe the answer to MRSA prevention is right under your nose and mine. The VA study is positive and successful proof that ADI works. The Starr study is so flawed with non compliance to precautions, delayed isolation, etc the it shouldn't have even been published. Apparently, 3 years ago nobody would agree to publish it. I choose to believe that we can prevent MRSA with ADI and we need to heed the success of expansive studies like the VA study, the Evanston Illinois success with ADI, and the success of so many others with ADI. CDC needs to put Screening in the first level of recommendations. When we know what succeeds and we don't recommend it, that is irresponsible. The suffering and death from HA MRSA must stop.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7148\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7148)

14. April 18, 2011 at 10:19 pm ET - Kerry OConnell

I would like the CDC to explain to consumers the Scientific reason why any or all hospitals cannot replicate the same results that the VA did.

[Link to this comment \(http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7141\)](http://blogs.cdc.gov/safehealthcare/?p=1542&cpage=1#comment-7141)

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