

MRSA Hospital Change Package

INTRODUCTION

Hospital acquired infection is an extreme issue in healthcare today. These infections create huge consequences on the quality and cost of acute and post acute care in the United States. Unfortunately, in spite of many steps that have been proven effective in evidence-based studies, hospitals and healthcare providers have not always taken the actions needed for effective prevention. Compelling data does exist that could significantly improve patient care quality and reduce healthcare costs.

The business case for Infection Prevention has grown to the point it's difficult to ignore. In this document, we will present planned strategies and interventions and positive actions designed to, over time, optimize quality and aid in the prevention of healthcare acquired infections (HAI).

The recommendations are based on successful strategies from The Institute for Healthcare Improvement (IHI), Centers for Disease Control and Epidemiology (CDC), Healthcare Infection Control Practices Advisory Committee (HICPAC), Association for Professionals in Infection Control (APIC) and The Society for Healthcare Epidemiology in America (SHEA) that have been tested and documented. Many of the action items, including those bolded, have been taken from recommendations or multiple hospitals that have used these strategies successfully.

A majority of the initiatives can be found in the SHEA Position Paper in Infection Control and Hospital Epidemiology, October 2008 Supplement of Volume 29, No 10, pp 901-994

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I. Hand Hygiene	1. Initiate an attention-grabbing Hand Hygiene program.	<ol style="list-style-type: none"> 1. Discuss the type of patient care activities that result in hand contamination as well as regular education activities. -O 2. Discuss with clinical staff the relative advantages and disadvantages of hand washing and use of alcohol-based hand rubs at point of care. -O 3. Emphasize the important role that contaminated hands play in transmission of health-care associated pathogens, including multidrug-resistant pathogens and viruses. -O 4. Inform clinical staff of the morbidity and mortality caused by health-care associated infections. -O <p>There was 22% mortality within one year after one surgical infection site cohort. Volansky, “Community hospitals often fail to treat MRSA adequately” <i>Infectious Disease News</i> June 2008.</p> <ol style="list-style-type: none"> 5. Have staff demonstrate ability to use proper hand cleansing technique. -O 6. Conduct live demonstrations of correct techniques for using alcohol-based hand rub and hand washing during educational sessions for healthcare workers. -O 7. Provide videotape presentations of correct hand washing and hand rubbing technique in educational material for healthcare workers. -O 8. Emphasize the appropriate volume of hand rub or soap for effective hand hygiene. -O 9. Use fluorescent dye-based training methods to demonstrate correct hand hygiene techniques to clinical staff. -O

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		<p>10. Periodically monitor the adequacy of hand hygiene technique among clinical staff, and giving them feedback regarding their performance. –O</p> <p>11. Initiate a program with posters, tray cards and room cards that assure the patient that it’s “OKAY to ask” staff to wash their hands. Empower your patients to remind staff and physicians regarding Hand Hygiene practices.-O</p> <p>Pittet D, Hugonnet S et al. Effectiveness of a hospital-wide program to improve compliance with hand hygiene. (Lancet 2000;356: 1307-1312.)</p> <p><u>Hand Hygiene Resource</u></p> <p>12. Make certain staff wear gloves according to recommendations listed in CDC’s Standard Precautions. - O</p> <p>13. Incorporate indications for hand hygiene and use of gloves in educational material. -O</p> <ul style="list-style-type: none"> a. Present periodic lectures given by knowledgeable personnel, including interactive audience response software. b. Provide videotapes and PowerPoint presentations that demonstrate the importance of proper hand hygiene techniques. <p>14. Initiate a multi-component publicity campaign (e.g. posters with photos of celebrated hospital doctors/staff members recommending hand hygiene and use of gloves, drawings by children in pediatric hospitals; screen savers with targeted messaging. -O</p>

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		<p>15. Use opinion leaders as role models and educators. -O</p> <p>16. Create a culture where reminding each other about hand hygiene and use of gloves is encouraged and makes compliance the social norm. -O</p> <p>17. Set clear aims, quantitative time-specific improvement targets, and post compliance results for staff to see. -E, O, http://www.cdc.gov/handhygiene/index.html -CDC Hand hygiene</p> <p>http://www.who.int/gpsc/5may/en/ World Health Organization –Save Lives Clean your Hands</p> <p>http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf Another WHO resource: Guidelines on Hand Hygiene in Healthcare</p> <p>http://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf</p> <p>http://blogs.cdc.gov/safehealthcare There’s an App for this.</p>
II. Barrier and Environmental Issues	<ol style="list-style-type: none"> 1. Establish Barrier Precautions guidelines. 2. Eliminate Patient Use 	<ol style="list-style-type: none"> 1. Review the CDC guidelines for Controlling Resistant Organisms Guidelines. -O 2. Encourage units to write guidelines for their specific units, even if more strict than standards and guidelines, involving unit line staff, not simply administration. –O <ol style="list-style-type: none"> 1. Investigate and strongly encourage the use of disposable, single use equipment for all patient

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	<p>Equipment Sharing.</p> <p>3. Institute strict Environmental Decontamination Processes.</p>	<p>care units. -O</p> <ol style="list-style-type: none"> 2. Promote the use of equipment dedicated to one patient for all units. -O 3. Ascertain that any equipment that goes from room to room adheres to strict “cleaning between patients” policies if single use is not possible. -O 1. Review existing housekeeping policies. -O 2. Review CDC standards. -O 3. Complete a checklist for each cleaning, documenting that all areas were cleaned, including those that are “high touch.” 4. Specify in the checklist the order in which items should be cleaned, starting with areas farther from the door so staff does not recontaminate items during the process. 5. Educate and encourage staff regarding the importance of cleaning and proper methods of decontamination and cleaning. 6. Verify competence in cleaning and disinfection procedures. 7. Schedule cleaning times for rooms of patients in isolation or on contact precautions. 8. Use immediate feedback mechanisms to assess cleaning and reinforce proper technique. -O <p>75% of surfaces in patient rooms are contaminated with MRSA or VRE-<i>Infection Control and Hospital Epidemiology</i> (v.9 1997) 622-627</p> <p>“Importance of the environment in methicillin-resistant</p>

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	<p>4. All patients entering your facility with positive MRSA cultures or history of positive MRSA cultures are placed on Contact Precautions.</p>	<p><i>Staphylococcus aureus</i> acquisition: the case for hospital cleaning.” <u>Lancet</u> (vol 8, Issue 2, 2008)101-113</p> <ol style="list-style-type: none"> 1. Train staff on the importance of adhering to all precautions and proper barrier technique. (Include gowning and gloving, hand washing and proper isolation.) -O 2. Ensure that adequate supplies are stored at the point of care for easy access. (e.g. alcohol gel at each room door and by the elevators)-O 3. Check and replenish supplies (gloves, gowns, masks) regularly; consider scheduled times for checking supplies. -O 4. Educate families about contact precautions. (e.g. Cards posted in each room with isolation instructions. One on one family education for those families who have a relative in isolation.)-O 5. Instruct patients about precautions and hand hygiene. Encourage them to question personnel who do not comply. -O 6. Use visual cues when a patient cannot be placed in a private room, such as red tape on the floor around the patient area—gowns and gloves for anything that requires crossing the line. -O 7. Ensure that patients on precautions have the same standard of care as other patients (frequency of entering the room, monitoring vital signs, etc.) to prevent adverse events and ensure patient/family-provider

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		<p>communication. -O</p> <p>Boyce JM, Potter-Bynoe G, Chenevert C, King T. Environmental contamination due to methicillin-resistant <i>Staphylococcus aureus</i>: Possible infection control implications. <i>Infect Control Hosp Epidemiol.</i> 1997;18(9):622-627.</p>
<p>III. Prevention</p>	<ol style="list-style-type: none"> 1. Assess all of the motivating tools available at sites like the CDC, SHEA, APIC, IHI and Other sites. 2. Create and empower multidisciplinary teams. 	<ol style="list-style-type: none"> 1. Access existing guidelines and recommendations to incorporate into your own policies. Some examples include. -O <ol style="list-style-type: none"> a. Society for Healthcare Epidemiology of America (SHEA) SHEA b. The Centers for Disease Control and Prevention (CDC) CDC c. Healthcare Infection Control Practices Advisory Committee (HICPAC) Guidelines d. Infectious Disease Society of America (IDSA) IDSA Guidelines 1. Establish Multidisciplinary teams to tackle issues like hand hygiene improvement, adding device bundles etc. -T 2. Give team members a stake in the program. -T 3. Encourage line staff to actively participate. -T 4. Empower staff to set their own guidelines after reading the existing ones from the past and from Shea and CDC, HICPAC and IHI. -E,T 5. Invite physicians to be vibrant, participating team members. -T

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	3. Produce exciting staff and patient education opportunities.	<ol style="list-style-type: none"> 1. Out of the ordinary newsletters with expert articles. -O 2. Just-in-Time Boards. -O 3. Motivating Self Study Modules for staff/competence training requirement. -O 4. Appealing Web-ex or conference calls and videos. -O 5. Creative On-line education. -O 6. Attractive Publications (Infection Control Today, Managing Infection Control). -O 7. Patient education to observe for hand washing compliance via posters, “It is ok to ask”.
IV. Strategies Promoting Change	<ol style="list-style-type: none"> 1. Use the TeamSTEPPS™ system as an agent of change. 	<ol style="list-style-type: none"> 1. Create a sense of urgency regarding changes needed. -E, O 2. Develop the change vision and strategy. -E, O 3. Communicate for understanding and buy-in. -E, O 4. Empower others to act. -E, O 5. Produce short term wins and celebrate them. -O 6. Implement Leadership Walkrounds™, a structured approach for senior leaders to talk directly with front-line staff about patient safety. -E 7. Train staff in the use of SBAR, a structured format for communication which stands for Situation-Background-Assessment-Recommendation and establishes a clear layout of information in a manner that is non-threatening and allows for appropriate assertion. -O

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	<p>2. Use Positive Deviance™ as an agent of change.</p>	<p>8. Conduct briefings on units to increase staff awareness by bringing them together for 5 to 10 minutes as part of the daily routine. Involve patients and families in processes, such as rounds. -O</p> <p>Educate Staff in the following principles:</p> <ol style="list-style-type: none"> 1. Evidence-based prevention practices are well established – most require people to consciously carry out behaviors, like hand-washing and following barrier precautions, that are NOT the BEHAVIORAL and CULTURAL norm. 2. The spectrum of people involved as possible transmitters goes far beyond the “doctor-nurse” construct typically considered. 3. Among the pool of “potential transmitting agents”, there are already examples of successful but “deviant” practices that are feasible and successful in the current environment. 4. The process of identifying “positive deviant” examples creates a setting for disseminated discovery and implementation of additional latent solutions and acts as the “process” stimulant for social and cultural change. 5. Involving the “potential transmitting agents,” that is, the people whose behaviors have to change, in identifying these existing positively deviant and latent practices and then having those people actively amplify them can lead to rapid, durable change. <p>“Regaining Control of MRSA Delmarva Foundation. Positive Deviance</p>

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	<p>3. Implement VHA MRSA Bundle. VHA has made an organizational commitment to a reduction in MRSA transmission and infection despite rates that are comparable to the national average.</p> <p>4. Assess the size of your MRSA/MDRO problem, MRSA Prevalence or incidence.</p>	<p>The national initiative focuses on implementing the VHA MRSA Bundle which consists of four essential elements:</p> <ol style="list-style-type: none"> 1. Initiate Active Surveillance (Admission/Transfer/Discharge Swabbing) 2. Follow Aggressive Hand Hygiene 3. Adhere to Strict Contact Precautions 4. Promote Cultural Transformation (Leadership and Staff Engagement) <p>Pittsburgh</p> <ol style="list-style-type: none"> 1. Sign up for the NHSN MRSA Prevention Module and determine a current baseline. NHSN -E 2. Initiate a retrospective review of patient infections with MRSA house-wide, unit specific, physician specific. -M 3. Compare the results to previous infection surveillance results. -O <p>1. Determine the number of Nursing homes in the</p>

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	<p>5. Analyze the Community/Facility MRSA Risk with an MRSA Risk Assessment.</p> <p>6. Carefully determine the cost of HAIs with MRSA.</p> <p>7. Dynamically present the prevention business case to the hospital Administrator, Board and Medical Staff.</p>	<p>community and their admission rate to your facility. -O</p> <p>2. Assess Colonization Pressure (#of MRSA carrier patient days to total patient-days). -O</p> <p>3. Community-associated MRSA.</p> <p>More than half patients who became colonized with MRSA after entering ICU acquired a strain not present on other patients there at the time. <i>Infection Control and Hospital Epidemiology (v.20.2,2006).</i></p> <p>1. Review the cost of a patient LOS with and without healthcare acquired MRSA. -E</p> <p>2. Assess the cost of adding an infection intervention program. -E</p> <p>3. Establish the difference between the cost of an intervention -program and the money saved when an infection is prevented. -E</p> <p>1. Present a MRSA Risk assessment and the Cost Review to the Administrator, the board and medical staff. -M</p> <p>2. Tailor your approach to your audience. -O</p> <p>3. Establish and maintain continuing communication lines with leadership. -O</p> <p>4. Present global, well documented information. -M,O</p> <p>University of Pittsburg initiated an infection intervention</p>

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	<p>8. Incorporate patient safety into environmental design</p> <p>9. Consider the use of Bundles for the</p>	<p>program which cost \$35,281 and saved up to \$1.9 million. Muto et al, Cost Avoidance Associated with Control of MRSA- Presented at SHEA’s 16th Annual Scientific Meeting (March 2006)</p> <ol style="list-style-type: none"> 1. Include evidence-based design principles to improve patient safety, including single patient rooms and decentralized nursing stations in hospital design and construction. 2. Address Infection control and emergency preparedness in hospital design and construction. <ol style="list-style-type: none"> 1. CBSI Infection Prevention <ol style="list-style-type: none"> a. Use Catheter insertion check list b. Hand hygiene before insertion c. Avoid using femoral vein for access d. Maximum sterile barrier precautions e. Chlorhexidine skin preparation 2. Ventilator related Pneumonia Prevention <ol style="list-style-type: none"> a. Non invasive ventilation when possible b. Minimize the duration of ventilation.

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	<p>prevention of Central Line Blood Stream Infections and Ventilator related Pneumonia.</p> <p>10. Surgical Care Infection Prevention</p>	<p>c. Maintain patient in semi-recumbent position</p> <p>d. Cuffed endotracheal tube with in-line suctioning</p> <p>1. SCIP Measures</p> <p>a. Prophylactic antibiotics within one hour of Cut-time.</p> <p>b. Discontinue antibiotics within 24 hours</p> <p>c. Give the appropriate antibiotics.</p> <p>2. Employ Chlorhexidine-based decolonization strategy for ICU patients to prevent MRSA transmission in the ICU.</p> <p>3. Use Chlorhexidine to disinfect skin surfaces before CL insertion.</p> <p>“Efficacy and Limitation of a Chlorhexidine-Based Decolonization Strategy in Preventing Transmission of Methicillin-Resistant <i>Staphylococcus aureus</i> in an Intensive Care Unit” <u>Clinical Infectious Diseases</u> (50)2010,p.210-217</p> <p>“Minimizing Surgical-Site Infections” <u>The new England</u></p>

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		<u>Journal of Medicine 362(1)Jan. 2010,p75-77</u>