CDC Reminds Clinical Laboratories and Healthcare Infection Preventionists of their Role in the Search and Containment of Vancomycin-Resistant *Staphylococcus aureus* (VRSA)

The Centers for Disease Control and Prevention (CDC) has recently confirmed the 11th case of vancomycin resistant *Staphylococcus aureus* (VRSA) infection since 2002 in the United States. This serves as a reminder about the important role of clinical laboratories in the diagnosis of VRSA cases to ensure prompt recognition, isolation, and management by infection control personnel. This is an important opportunity for all laboratories to revisit their step-by-step problem-solving procedure or algorithm for detecting VRSA that is specific for their laboratory. A sample algorithm is available and highlights the recommended testing methodologies for detecting VRSA and actions based on testing results.

Furthermore, because of exchange of genetic material from vancomycin-resistant enterococci (VRE) to methicillin-resistant *Staphylococcus auerus* (MRSA) in the emergence of VRSA, CDC is asking clinical laboratories, when patients are identified with suspected or confirmed VRSA, to ensure that all VRE, MRSA, and VRSA isolates from these patients are saved. Following confirmation of VRSA, CDC recommends that all three isolate types (i.e., VRE, MRSA, and VRSA) be shared with public health partners, including CDC.

Immediately, while performing confirmatory susceptibility tests, notify the patient's primary caregiver, patient-care personnel, and infection-control personnel regarding the presumptive identification of VRSA so that appropriate infection control precautions can be initiated promptly. It is also important to notify local and state public health departments.

Coordination with public health authorities is critical. CDC has issued specific infection control recommendations intended to reduce the transmission of VRSA. However, these may need to be customized to the healthcare settings (e.g., dialysis, home healthcare). Infection control precautions should remain in place until a defined endpoint has been determined in consultation with public health authorities.

VRSA infection continues to be a rare occurrence. A few existing factors seem to predispose case patients to VRSA infection, including:

- Prior MRSA and enterococcal infections or colonization
- Underlying conditions (such as chronic skin ulcers and diabetes)
- Previous treatment with vancomycin

Appropriate antimicrobial prescribing by healthcare providers, adherence to recommended infection control guidelines, and, ultimately, the control of both MRSA and VRE are necessary to prevent further emergence of VRSA strains.

For frequently asked questions on laboratory testing on VRSA visit: Laboratory Detection of Vancomycin-Intermediate/Resistant *Staphylococcus aureus* (VISA/VRSA)

Link to Recommendations for Preventing the Spread of Vancomycin Resistance Recommendations of the Hospital Infection Control Practices Advisory Committee (HICPAC) or Siegel JD, Rhinehart E,

Jackson M, et al. The Healthcare Infection Control Practices Advisory Committee (HICPAC). Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006

For assistance contact CDC's Division of Healthcare Quality Promotion by telephone 800-893-0485.

Historical U.S. VRSA case count and geographical information:

Case	State	Year	Age	Source	Diagnosis	Underlying Conditions
1	MI	2002	40	Plantar ulcers and Catheter tip	Plantar soft tissue infection	Diabetes, dialysis
2	PA	2002	70	Plantar ulcer	Osteomyelitis	Obesity
3	NY	2004	63	Urine from a nephrostomy tube	No infection	Multiple sclerosis, Diabetes, kidney stones
4	MI	2005	78	Toe wound	Gangrene	Diabetes, vascular disease
5	MI	2005	58	Surgical site wound after panniculectomy	Surgical site infection	Obesity
6	MI	2005	48	Plantar ulcer	Osteomyelitis	MVA, chronic ulcers
7	MI	2006	43	Triceps wound	Necrotizing fasciitis	Diabetes, dialysis, chronic ulcers
8	MI	2007	48	Toe wound	Osteomyelitis	Diabetes, obesity, chronic ulcers
9	MI	2007	54	Surgical site wound after foot amputation	Osteomyelitis	Diabetes, hepatic encephalopathy
10	MI	2009	53	Plantar foot wound	Plantar soft tissue infection	Diabetes, obesity, lupus, rheumatoid arthritis
11	DE	2010	64	Wound drainage	Prosthetic joint infection	Diabetes, end-stage renal disease, dialysis
12	DE	2010	83	Vaginal swab	Vaginal discharge	Chronic recurrent *C. difficile* infection, chronic UTIs, vesicoenteric fistula
13	DE	2012	70	Foot ulcer	ulceration of the (L) great toe	Diabetes, COPD, HTN, Parkinsonian syndrome