

# Antibiotic Commonsense

“An investment in knowledge always pays the best interest.” Benjamin Franklin

## What are we doing about MRSA in Pierce County?

Methicillin-resistant *Staphylococcus aureus* (MRSA) causes skin and soft tissue infections (SSTIs) among otherwise healthy adults and children in our community. Less frequently, MRSA causes invasive infections such as bacteremia/sepsis syndrome, bone and joint infections, and necrotizing pneumonia.

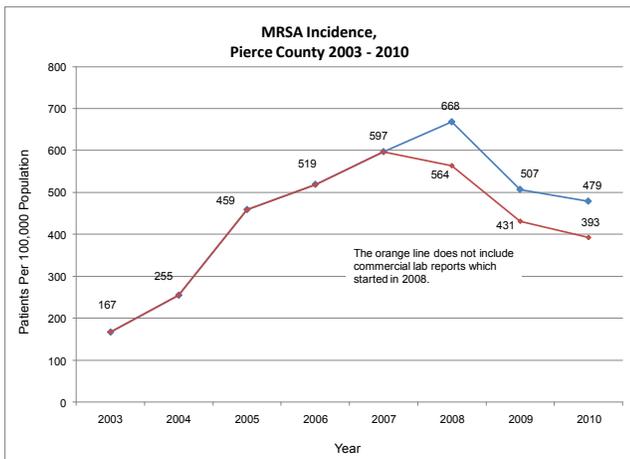
### Risk Factors/Transmission

MRSA is transmitted by close skin-to-skin contact with an infected person, or by contact with a fomite or surface contaminated with the bacteria. Risk factors for MRSA include frequent skin-to-skin contact, having abraded or injured skin, sharing personal hygiene items or sports equipment, injection drug use, and overusing or taking antibiotics incorrectly.

### Pierce County MRSA Reporting

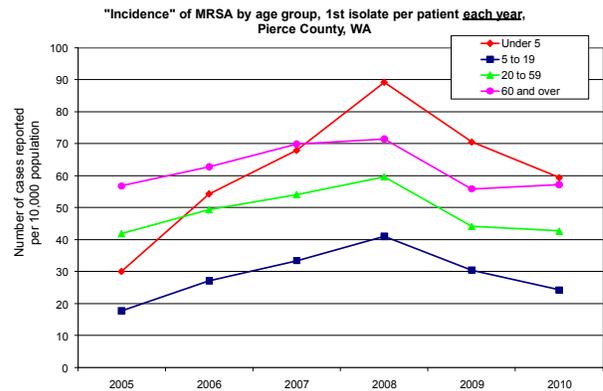
In 2000, Tacoma-Pierce County Health Department asked all hospitals and selected medical offices/clinics and long-term care facilities to voluntarily report Methicillin-resistance *Staphylococcus aureus* (MRSA) cultures. In 2008 two private commercial laboratories, Quest and LabCorps, also agreed to report all positive cultures.

### MRSA Incidence\*



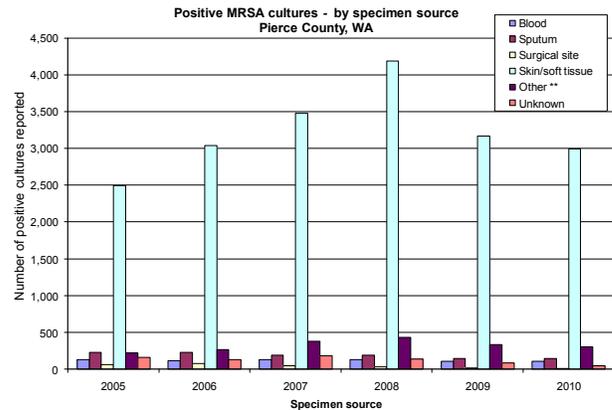
MRSA incidence decreased significantly between 2008 and 2010.

### MRSA Incidence by Age Group\*



MRSA incidence began to decrease across all age groups in 2009.

### Common MRSA Infection Sites



In 2010, 83% of all reported MRSA infections were skin and soft tissue infections (SSTI).

### MRSA Clinical Practice Guidelines

Clinical Practice Guidelines by the Infectious Disease Society of America (IDSA) for the Treatment of MRSA Infections in Adults and Children<sup>1</sup> are evidence-based and were published in January 2011 ([cid.oxfordjournals.org/content/early/2011/01/04/cid.ciq146.full](http://cid.oxfordjournals.org/content/early/2011/01/04/cid.ciq146.full))

Reviewed by the Pierce County Antibiotic Resistance Task Force, Antibiotic Utilization Committee members

\*Note: Data does not reflect true incidence because the county of residence is not known for the cases reported by LabCorp. They report to us on Pierce County-based providers. The first culture per patient *per year* is reported by all civilian hospitals; the first culture per person *ever* is reported by the military hospital. Nares cultures and nasal screenings are excluded.

## Antibiotic Commonsense

### What are we doing about MRSA in Pierce County? (continued)

Additionally, a treatment algorithm called Management of Suspected *Staphylococcus aureus* Skin and Soft Tissue Infections<sup>2</sup> Infectious Diseases Society of Washington, Tacoma-Pierce County Health Department, Public Health - Seattle and King County and Washington State Department of Health: [www.tpchd.org/files/library/37cdc74cac9cb379.pdf](http://www.tpchd.org/files/library/37cdc74cac9cb379.pdf)

#### Table

IDSA recommends the use of antimicrobial therapy after incision and drainage of an abscess due to CA-MRSA *under the following conditions*<sup>1</sup>

- Severe or extensive disease (e.g. involving multiple sites of infection) or rapid progression in the presence of associated cellulitis
- Signs and symptoms of systemic illness
- Associated co-morbidities or immunosuppression (diabetes mellitus, HIV/AIDS, neoplasm)
- Extremes of age
- Abscess in area difficult to drain completely (e.g. face, hand, genitalia)
- Associated septic phlebitis
- Lack of response to incision and drainage alone

*Remember that doubling the dose of antibiotics or adding additional agents does not improve the patient's outcome.*

#### Infection Control and Prevention

Effective hand washing is still the seemingly simple, most important method of preventing MRSA transmission. Cleaning and disinfecting high-touch surfaces/fomites regularly is also recommended to mitigate the risk of transmission.

Recently a group of researchers reported on a study they completed where they assessed the survival and transmission of CA-MRSA USA300 from nine fomites (razors, plastic toys, ceramic, soap, wood, vinyl, towels, bed sheets and shoulder pads).<sup>3</sup> Fomites were inoculated with MRSA, then briefly pressed on to sterile pigskin several time for the first 10 days, then weekly for 10 weeks. The experiment was then repeated with MSSA and HA-MRSA strains.

The results showed that bacteria could be transmitted to skin from all fomites except soap. Transmissibility decreased over time, but decreased more rapidly from porous towels than from non-porous fomites. CA-MRSA strains were transmissible from many fomites to pig skin with contaminated nonporous fomites showing transmissibility for many weeks after contamination, unlike HA MRSA strains which were transmittable for shorter time periods.<sup>3</sup>

#### Infection Control Resources

The Task Force continues to develop and update educational materials for healthcare providers/workers and key populations within our community.

- New—*What to do about MRSA and other MDROs in Adult Family and Boarding Homes* (manual and posters) available at: [www.tpchd.org/MRSA/AFH](http://www.tpchd.org/MRSA/AFH)
- Developed in 2010—*Moving to a hospital or skilled nursing facility-What to expect when you have MRSA* (booklet for patients, residents, family members, and care givers) available at [www.tpchd.org/MRSA](http://www.tpchd.org/MRSA)
- Soon to be updated—*What to do about MRSA and other MDROs in Medical Offices/Clinics Toolkit* available at: [www.tpchd.org/MRSA/Medical](http://www.tpchd.org/MRSA/Medical)
- Soon to be updated—MRSA Toolkits for childcare settings, middle/high schools, elementary schools, and shelter service sites available at: [www.tpchd.org/MRSA](http://www.tpchd.org/MRSA)

#### Resources

1. Catherine Liu, et al. *Clinical Practice Guidelines by the Infectious Diseases Society of America for the Treatment of Methicillin-Resistant Staphylococcus aureus Infections in Adults and Children*. *CID* 2011;52 (1 February); 1-38.
2. The Infectious Diseases Society of Washington, Public Health-Seattle & King County, Tacoma-Pierce County Health Department, and Washington State Department of Health. *Management of Suspected Staphylococcus aureus Skin and Soft Tissue Infections*. December 2007.
3. Desai Rishi, et al. *Survival and transmission of community-associated methacillin-resistant Staphylococcus aureus from fomites*. *AJIC*:39 (3) April 2011. 219-225.