Section D

Does ST398 Cause Disease?
Mostly in contact with livestock (cattle and pigs)

Can cause skin and soft tissue infections; invasive disease
  - Ventilator-associated pneumonia; bacteremia; endocarditis; multi-organ failure; deaths reported
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ST398: A Rural Pathogen?

- Survey conducted of pork producers nationwide
- Six of 88 (4%) reported physician-confirmed MRSA infections in their workers
- Seven of 85 (8%) reported employee concerns regarding MRSA

Source: Leedom Larson et al.
Livestock and Farmers

19 million

65 million

4 million

4 million

3 million

Current Projects

- More general study of MRSA in rural Iowa; additional farmers and community members (AHRQ-funded)
  - Enrolled 1,400 rural Iowans, including swine, cattle, poultry, and crop farmers
  - Swabbing for *S. aureus*
  - Follow for 18 months for infections
Current Projects

- Additional studies on MRSA-positive farms—longitudinal, families (NIOSH-funded)
- MRSA in poultry and poultry workers

June 6, 2011

**UI investigators awarded $1.2 million grant to study bacteria in raw meat**

The U.S. Department of Agriculture has awarded investigators in the University of Iowa College of Public Health a $1.2 million grant to study *Staphylococcus aureus* bacteria in raw meat.

The grant is one of 24 research, education and extension grants from the Agriculture and Food Research Initiative competitive grants program of the USDA National Institute of Food and Agriculture. The grants are aimed at reducing food-borne illnesses and deaths through a safe food supply.

Tara Smith, Ph.D., interim director of the UI Center for Emerging Infectious Disease and assistant professor of epidemiology, will lead an investigation of whether *Staphylococcus aureus* is present on meat and may colonize individuals who handle raw meat.
Summary

- MRSA is present in US swine and swine workers
- First identification of ST398 strain in the United States
- Potential for transmission to community via farmers, air, meat products, water/manure—risk uncertain
Collaborators and Team Members

- Mike Male, Anne Dressler, Shylo Wardyn (MS students)
- Blake Hanson, Jennifer Kroeger, Kerry Leedom Larson, Dwight Ferguson, Abby Harper (PhD students)
- Loreen Herwaldt, MD; Dan Diekema, MD (UIHC)
- Kelley Donham, DVM (OEH)
- Funding: National Pork Board, NIOSH, AHRQ, NIEHS, USDA