

**International Poster 4**  
**Risk Factors for Colonization**  
**with Livestock-Associated Methicillin-**  
**Resistant *Staphylococcus aureus*, Germany**  
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**BACKGROUND:** Northwestern Germany has intensive livestock farming. Screening studies in pigs reported high prevalences of methicillin-resistant *Staphylococcus aureus* (MRSA) of a special lineage (spa types t011, t034, t108). We screened for MRSA in hospitals to estimate MRSA prevalence, characterize spa types and identify risk factors.

**METHODS:** During 23rd-27th May 2011, we interviewed all patients admitted to acute-care hospitals in 13 districts using a standardized questionnaire on risk factors for MRSA colonization, including exposure to livestock farming. We tested nasopharyngeal swabs and determined spa types. We defined livestock-associated(LA)-MRSA as spa type t011, t034 and t108. We examined the association between pig stock and LA-MRSA prevalence at district level using binomial regression. At individual level, we assessed risk factors in multivariable analysis and calculated Odds Ratios (OR).

**RESULTS:** In 33 hospitals, 4,939 (85%) patients participated (median age: 60 years, 53% female). MRSA prevalence was 2.6% (Range among districts 0.9-5.2%), of which 21.3% were LA-MRSA (Range 0-50%). Number of pigs per resident was positively associated with prevalence ( $p=0.003$ ) of LA-MRSA per district. Persons working in agriculture (OR=13, 95% confidence interval (95% CI) 4.9-36), in contact with livestock (OR=7.6, 95% CI 3.0-20) or with recent antibiotic use (OR=2.7, 95% CI 1.2-6.0) were at higher risk for LA-MRSA. Non LA-MRSA was associated with catheters (OR=3.3, 95% CI 2.0-5.5) and chronic wounds (OR=3.8, 95% CI 2.0-7.0). History of MRSA infection was associated with both LA-MRSA (OR=5.5, 95% CI 1.5-21) and non LA-MRSA (OR=9.3, 95% CI 5.3-16).

**CONCLUSIONS:** Districts with intensive livestock farming may have a higher LA-MRSA prevalence suggesting an introduction of LA-MRSA into hospitals. A regular screening of livestock farmers on admission to hospitals should be considered.

**KEYWORDS:** MRSA, livestock farmers, pig stocks, LAMRSA