**Appendix F. Data Abstraction Tables**

Appendix Table F1. Characteristics of studies that used statistical methods to attempt to control for confounding or secular trends

| **Author,**  **Year,**  **Country** | **Design** | **MRSA Strategy** | **N** | **Control**  **(strategy, duration)** | **Intervention**  **(strategy, duration)** | **Study Setting** | **End Points** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Chaberny et al., 2008,1 Germany | QEX-BA | Expanded Vs Limited Screening | C + Int: (219,124 admissions; 1,987,676 patient-days) | Limited screening of high risk (roommates and known readmitted patients) using culture: 01/01/02 - 06/30/04 | Expanded screening of high risk patients plus major surgical wards and ICUs using culture: (07/01/04 - 12/31/04) | Hospital | Primary: incidence of nosocomial MRSA infections for the entire hospital. |
| Chowers et al., 2009,2 Israel | QEX-ITS | Screening of High Risk Pts Vs No Screening | C + Int: (n=377,945; 1,535,806 patient days) | No screening: 11/01 - 07/03 | Screening using culture of high risk patients in periods 1 and 2, using PCR in periods 3 and 4: 7/03-12/07 | Community hospital | Primary: nosocomial MRSA bacteremia rates  Secondary: number of MRSA-positive carriers per number of screened patients |
| Ellingson et al., 2011,3 USA | QEX-ITS | Screening of High Risk Pts Vs No Screening | NR | No screening: 10/99-10/01 | Screening using culture in surgical ward, surgical ward plus SICU, surgical ward plus SICU plus all remaining acute care wards: 10/01-05/08 | Veterans Affairs acute care hospital | Clinical incidence of MRSA colonization or infection.  Secondary outcomes included clinical incidence of MSSA colonization /infection, quarterly incidence of MRSA bloodstream infection, monthly proportion of all clinically incident *S. aureus* isolates that were resistant to methicillin. |
| Gould et al., 2007,4 UK | QEX-ITS | Screening of ICU Risk Pts Vs No Screening | C: (n=1232)  Int: (n=1421) | No screening: | Screening at time of ICU admission by culture: 05/01 - 04/03 | Mixed MICU/SICU | Acquisition and spread of MRSA in the ICU. |
| Harbarth et al., 2008,5 Switzerland | QEX-CG, X-OVER | Screening of Surgical Pts Vs No Screening | C: (83,120 patient days ; 10,910 admissions)  Int: (83,757 patients days; 10,844 admissions) | Standard IC alone:  Period 1 ((10/04 - 06/05): Urology, transplant & abd. surgery wards  Period 2 (09/05 - 05/06):Orthopedic, neurosurgery, plastic surgery, cardio, & thoracic surgery wards | Standard IC plus screening in surgical wards using PCR  Int 1: (10/04-06/05)  Orthopedic, Neurosurgery, plastic surgery, cardiovascular, & thoracic surgery wards  Int 2 (09/05-05/06): Urology, transplant, & abd. surgery wards | Abdominal surgery, orthopedics, urology, neurosurg, cardiovasc surgery, thoracic surgery, plastic surgery, and solid organ transplantation wards. | Primary: nosocomial MRSA infection rates;  Secondary: MRSA SSI rates; MRSA colonization infection rates |
| Harbarth et al., 2000,6 Switzerland | QEX-BA | Screening of High Risk Pts Vs No Screening | C + Int: (50,6012 admissions) | No screening: 01/89 - 12/92 | Screening in high risk wards using culture: 01/93 - 12/97 | Primary and tertiary care teaching hospital | Reservoir of MRSA patients and rate of MRSA bacteremia |
| Holzmann-Pazgal et al., 2011,7 USA | QEX-BA | Screening of ICU Risk Pts Vs No Screening | C: (n= 730)  Int: (n=2367) | No screening: 1/06-12/06 | Screening in PICU by culture: 1/07-12/09 | PICU | Incidence of MRSA transmission and nosocomial MRSA acquisition in the PICU |
| Huang et al., 2006,8 USA | QEX-ITS | Screening of ICU Risk Pts Vs No Screening | NR | No screening:  01/96 - 07/02 | Screening culture (on admission ICU and weekly through ICU stay): 09/03 - 12/04 | ICU | MRSA bacteremia |
| Huskins et al., 2011,9 USA | RCT | Screening of ICU Risk Pts Vs No Screening | C: (n=1615)  Int: (n= 2441) | No screening:  3/06-8/06 | Screening in ICU by culture: 3/06 - 8/06 | Adult ICUs: MICU/SICU | ICU-level incidence of new events of colonization or infection with MRSA or VRE.  Secondary ICU-level outcomes were the incidences of colonization or infection with MRSA and VRE calculated separately as well as several processes of care measures. |
| Jain et al., 2011,10 USA | QEX-BA | Universal Vs No Screening | Int: 1,934,598 | No screening: 10/05-9/07 | MRSA bundle including universal screening using culture or PCR: 10/07-6/10 | Veterans Affairs hospitals | Health care-associated MRSA infections |
| Leonhardt et al., 2011,11 USA | QEX-CG (Case Control) | Universal Vs Screening of Selected Pts | C: (n= 5931)  Int: (n=9118) | Screening in high risk patients using PCR: 04/09 - 12/09 | Universal screening using PCR: 04/09 - 12/09 | Community hospital | Hospital-acquired MRSA infection; MRSA prevalence on admission |
| Muder et al., 2008,12 USA | QEX-BA | Screening of Surgical Pts Vs No Screening  Screening of ICU Pts Vs No Screening | C (year 2002): (9,796 person-time  Int (year 2006): (11,653 person-time) | No screening:  Surgical ward: (09/00 - 10/01);  Surgical ICU: (09/02 - 10/03) | Standard precautions emphasizing hand hygiene, contact precautions, active surveillance cultures, and a systems-engineering approach to infection control:  Surgical ward (10/01 - 09/26/06)  Surgical ICU (10/03 - 09/26/06) | Surgical ward  Surgical ICU | MRSA transmission and infection rates |
| Raineri et al., 2007,13 Italy | QEX-BA | Screening of ICU Risk Pts Vs No Screening | C: (n=667; 5,456 patient-days)  Int1: (n=1995 total admissions to the ICU; 13669 patient-days) Int2: (n=1316 total admissions; 8310 patient days) | No screening: 01/96 - 12/31/97 | Screening by culture in ICU: 01/01/98 - 2005 | MICU/SICU | MRSA infections diagnosed in ICU and acquisition of MRSA during ICU stay |
| Reilly et al., 2012,14 Scotland | QEX: Before/after | Universal screening vs no screening | 81,438 | No screening, duration 18 months prior to the intervention | Universal screening (screening of all admissions except psychiatric, obstetric and pediatric admissions), 8/08-7/09 | Three National Health Service boards including six acute hospitals | Colonization prevalence, infection incidence and infection incidence indicators (first clinical isolates from routine laboratory data) |
| Robicsek et al., 2008,15 USA | QEX-BA | Universal Vs No Screening | C: (n= 39,521)  Int: (n=73,464) | No screening: 8/03-8/04 | Universal screening using PCR: 9/05-9/07 | 3-hospital organiza-tion | Primary: Aggregate hospital-associated MRSA Infection rate; Secondary: Rate of health care-associated MRSA and MSSA bacteremia, rates of aggregate MRSA infection occurring up to 180 days after discharge, adherence to MRSA surveillance. |
| Universal Vs Screening of Selected Pts | C: (4392 ICU admissions)  Int: (n=73,464) | Screening in ICU using PCR: 9/04-8/05 | Universal screening using PCR + routine therapy for colonization: 9/01/05 - 4/30/07 | ICU |
| Screening of ICU Risk Pts Vs No Screening | C: (n=39,521)  Int: (n=40392) | No screening: 08/03 - 08/04 | Screening in ICU by PCR: 09/04 - 08/05 | ICU |
| Rodriguez-Bano et al., 2010,16 Spain | QEX-ITS | Screening of High Risk Pts Vs No Screening | NR | No screening:  Period A 1/95-12/96  Period B 1/9712/-98 | Period C: Screening using culture in patients + HCW in wards with suspected MRSA transmission and screening of roommates of patients with MRSA colonization in wards without active screening : 01/99 - 12/00  Period D: In addition to period C intervention, active screening in readmitted patients previously colonized with MRSA and patients admitted from other health care facilities: 1/01-12/08 | Tertiary teaching hospital | Rates of MRSA colonization or infection and rates of MRSA bacteremia |
| QEX-ITS | Expanded Vs Limited Screening | NR | Limited in high risk units using culture: period C 1/99-12/00 | Expanded screening of high risk units OR high risk units plus high risk patients via culture: Period D 01/01-12/08 | Tertiary referral hospital |

Abd: Abdominal; BA: Before after; C: Control; CG: Control group; HCW: Health care workers; IC: Infection control; ICU: Intensive care unit; Int: Intervention; ITS: Interrupted time series; MICU: Medical intensive care unit; MRSA: Methicillin-resistant *Staphylococcus aureus;* MSSA: Methicillin-sensitive *Staphylococcus aureus;* N: No;NR: Not reported; PCR: Polymerase chain reaction; PICU: Pediatric intensive care unit; QEX: Quasi-experimental; RCT: Randomized controlled trial; SICU: Surgical intensive care unit; SSI: Surgical site infection; X-over: Cross over; Y: Yes