Appendix Table F7. Health care-associated MRSA infection: studies that used statistical methods to attempt to control for confounding or secular trends

| **Author, Year,**  **Country** | **MRSA Strategy** | **Control** | **Intervention** | **p value** | **Diff (I-C)** | **Statistical Test** | **Multivariate Analysis** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Chaberny et al., 2008,1 Germany | Expanded Vs Limited Screening |  |  |  |  |  | Segmented regression of interrupted time series, incidence density of nosocomial MRSA infected patients: slope before intervention 0.006 (0.003-0.009), P<0.000, change in level after intervention -0.122 (-0.204 to -0.040), p=0.004. Change in slope after intervention -0.008 (-0.013 to -0.003), p=0.004. |
| Harbarth et al., 2008,5 Switzerland | Screening of Surgical Pts Vs No Screening | 0.91 per 1000 patient days | 1.11 per 1000 patient days |  | 1.2 (95% CI 0.9-1.7) | Chi-square, Fisher's exact test, Wilcoxon rank sum test, Poisson regression with GEE approach | Number of patients with any type of nosocomial MRSA infection, No. (%): control periods 76(.7); intervention periods 93(.9)Total No. of MRSA infections (patients may have had multiple sites of infection): control periods 88; intervention periods 103 |
| Harbarth et al., 2000,6 Switzerland | Screening of High Risk Pts Vs No Screening | 2.25 per 10000 patient days | 0.87 per 10000 patient days | p<0.001 |  |  | Poisson regression |
| Jain et al., 2011,10 USA | Universal Vs No Screening | ICUs: 10/07: 1.64 per 1000 patient days | ICUs:  06/10: 0.62 Per 1000 patient days | p<0.001 for trend | -62% | Student's t-test, ANOVA with Duncan's multiple comparisons method | Poisson regression. Durbin-Watson statistic |
| Universal Vs No Screening | Non-ICUs: 10/07: 0.47 Per 1000 patient days | Non-ICUs: 6/10: 0.26 Per 1000 patient days | p<0.001 for trend | -45% | Student's t-test, ANOVA with Duncan's multiple comparisons method | Poisson regression. Durbin-Watson statistic |
| Leonhardt et al., 2011,11 USA | Universal Vs Screening of Selected Pts | Baseline period:  0.1%  Intervention period:  0.1%; | Baseline period: 0.27%  Intervention period: 0.15% | p=0.95; p=0.23; | Difference over time in control: 0.0% ;  Difference over time in intervention:  -0.12%, |  | Difference-in-differences analysis. Standard errors were tested for autocorrelation with the Durbin-Watson statistic  Difference-in-Difference: -0.12, p=0.34 |
| Muder et al., 2008,12 USA | Screening of Surgical Pts Vs No Screening | Unit A: 1.56 per 1000 patient days | Unit A: 0.63 per 1000 patient days | p=0.003 | -60% |  | Segmented Poisson Regression |
| Unit B: 5.45 per 1000 patient days | Unit B: 1.35 per 1000 patient days | p=0.001 | -75% |  | Segmented Poisson Regression |
| Muder et al., 2008,12 USA | Screening of Surgical Pts Vs No Screening  Screening of ICU patients vs no screening | 1.56/1000 patient-days  5.45/1000 patient-days | 0.63/1000 patient-days  1.35/1000 patient-days | P=0.003  P=0.001 | 60% reduction  75% reduction |  | Segmented Poisson regression |
| Robicsek et al., 2008,15 USA | Universal Vs Screening of Selected Pts | 3.88 per 10000 patient days (95% CI 3.18 to 4.69) | 7.45 per 10000 patient days (95% CI 6.13 to 8.96) |  |  |  | Segmented Poisson regression  Change 52.4% (CI -78.3% to -9.3%), p<0.05, adjusted prevalence density ratio 0.48 (0.22 to 0.91), p<0.05, time parameter estimate of regression line before intervention 1.00 (95% CI: 0.94 to 1.07), p>0.05, time parameter estimate of regression line during intervention 0.95 (95% CI: 0.89 to 1.02), p>0.05. |
| Robicsek et al., 2008, 15 USA | Screening of Surgical Pts Vs No Screening | 8.91 per 10000 pt days (95% CI 7.56-10.43) | 7.45 per 10000 pt days (95% CI 6.13 to 8.96) | p=0.149 | -1.46 (95% CI -3.43 to 0.51) |  | Segmented Poisson regression  Change: -36.2% (95% CI: -65.4% to 9.8%), p>0.05, adjusted prevalence density ratio 0.64 (95% CI: 0.35 to 1.10), p>0.05, time parameter estimate of regression line before intervention 1.00 (95% CI: 0.94 to 1.07), p>0.05, time parameter estimate of regression line during intervention 1.04 (95% CI: 0.95 to 1.12), p>0.05. |

C: Control; CI: Confidence Interval; Diff: Difference; GEE: Generalized estimating equation; I: Intervention; ICU: Intensive Care Unit; MRSA: Methicillin-resistant *Staphylococcus aureus;* Y: Yes