**Appendix:**

**Table 1:** Summary of MRSA Guidelines and Publication by Year and Organization:

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| **Organization**  | **Year published** | **MRSA Guidelines** |
| Institut national de santé publique du Québec (INSPQ)  | 2006 | Publication 2nd ed. Of INSPQ MRSA prevention measures 35 |
| Ministry of Health and Social Services, Government of Québec | 2006 | Action Plan on the Prevention and Control of Nosocomial Infection (2006-2009)12 |
| Center of Disease Control and Prevention (CDC) | 2006 | CDC Contact Precautions 36 |
| Center of Disease Control and Prevention (CDC) | 2007 | CDC Standard Precautions 37 |
| The Society for Healthcare Epidemiology of America/ Infectious Diseases Society of America (SHEA / IDSA) | 2008 | Strategies to prevent transmission of methicillin-resistant *Staphylococcus aureus* in acute care hospitals 38 |
| Institut national de santé publique du Québec (INSPQ) | 2009 | Study on prevention and control measures (MRSA) applied in hospitals acute care Québec 14 |
| World Health Organization (WHO) | 2009 | Hand Hygiene Campaign 31 |
| Ministry of Health and Social Services, Government of Québec | 2011 | Prevention and Control of Nosocomial Infections- Action Plan 2010-2015; Progress of Work - Summary and Highlights 13 |

**Table 2:** Description of Poisson segmented regression models variables, time intervals, and breakpoints with corresponding guidelines publication dates:

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| The full equation is denoted by the following (the successive 4-week periods are in subscripts): Y(t) = ßo + ß1(t1-16) + ß2(t17-52) + ß3(t53-120) + ß4(tint1) + ß5(tint2) |
| **Time Intervals** | **Temporal Association** | **Major guideline/ policy correspondence** |
| **Interval 1** | Time between January 1st, 2006 to March 31st, 2007Periods 1 to 16 | Pre-MRSA guidelines and MHSS Action Plan 2006-2009 in effect |
| **Interval 2** | Time between April 1st, 2007 to January 2nd, 2010Periods 17 - 52 | MRSA Guidelines published and MHSS Action Plan 2006-2009 in effect |
| **Interval 3** | Time between January 3rd, 2010 to March 31st, 2015Periods 53 - 120 | MRSA Guidelines Update Published and MHSS Action Plan 2010-2015 in effect |
| **Interval 3B** | Time between January 3rd, 2010 to March 31st, 2013Periods 53 - 94 | Period of HA-MRSA BSI surveillance in which definition includes up to 4 weeks post-discharge |

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| **Variables:** |  |
| **ßo** | Baseline rate at outset of interval 1.  |
| **ß1** | Rate change per period during interval 1. |
| **ß2** | Projected rate per period increase for interval 2. |
| **ß3** | Projected rate per period increase for interval 3. |
| **ß3B** | Projected rate per period increase for interval 3B. |
| **ß4**  | Change in baseline incidence from interval 1 to 2. |
| **ß5** | Change in baseline incidence from interval 2 to 3.  |
| **ß5B** | Change in baseline incidence from interval 2 to 3B. |

**Table 3**: Incidence rate ratio (IRR) for HA-MRSA and CLABSI incidence for A) all facilities, B) teaching facilities, and C) non-teaching facilities. Interval 1 spans from January 1st, 2006 to March 31st, 2007 (periods 1-16). Interval 2 spans from April 1st 2007 to January 2nd, 2009 (periods 17-52). Interval 3 is from January 3rd 2010, to March 31st, 2015 (periods 53-120). Int 2 represents the change in baseline rate going from interval 1 to 2, and Int 3 represents change in baseline rate going from interval 2 to 3.

**3A:**

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| **All facilities: HA-MRSA** | **Full Dataset (January 1st, 2006 to March 31st, 2015)** |  | **Abridged Dataset (January 1st, 2006 to March 31st,, 2013)** |  | **Breakpoint: April 1st, 2013 to full dataset** |  |
| **Jan.2006 to April 2015** | **IRR** | **p** | **IRR** | **p** | **IRR** | **p** |
| ßo‡ (Intercept) | - | <0.001 | **-** | **<0.001** | **-** | **<0.001** |
| Interval 1 (ß1, pre-guidelines) | 1.00 (0.972, 1.033) | 0.89 | **0.984 (0.919, 1.053)** | **0.64** | **1.01 (0.944, 1.07)** | **0.84** |
| Interval 2 (ß2, post-guidelines)  | 0.991 (0.982, 1.00) | 0.04 | **0.971 (0.953, 0.99)** | **0.003** | **0.970 (0.952, 0.987)** | **0.001** |
| Interval 3 (ß3, post-guidelines update)  | 0.990 (0.986, 0.995) | <0.001 | **0.99 (0.971, 1.01)** | **0.33** | **0.987 (0.970, 1.01)** | **0.16** |
| **Interval 3B (ß3B, April 2013-March 2015)** |  |  |  |  | **0.983 (0.934, 1.03)** | **0.50** |
| Int 2 (ß4, level change post-guidelines) | 0.841 (0.628, 1.128) | 0.25 | **0.773 (0.480, 1.25)** | **0.29** | **0.736 (0.467, 1.16)** | **0.19** |
| Int 3 (ß5, level change post guidelines update) | 0.910 (0.595, 1.393) | 0.66 | **0.814 (0.403, 1.64)**  | **0.56** | **0.834 (0.429, 1.62)** | **0.59** |
| **Int 3B (ß5B, April 2013-March 2015** |  |  |  |  | **0.363 (0.156, 0.846)** | **0.019** |

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| **All facilities: CLABSI** | **FULL DATASET** |  | **To APRIL 2013** |  | **Breakpoint April 2013 to full dataset** |  |
| **Jan.2006 to April 2015** | **IRR** | **p** | **IRR** | **p** | **IRR** | **p** |
| ßo‡ (Intercept) | - | <0.001 |  | **<0.001** |  | **<0.001** |
| Interval 1 (ß1, pre-guidelines) | 0.957 (0.917, 1.00) | 0.05 | **0.893 (0.813, 0.981)** | **0.02** | **0.907 (0.829, 0.993)** | **0.034** |
| Interval 2 (ß2, post-guidelines)  | 1.00 (0.990, 1.014) | 0.75 | **1.00 (0.977, 1.03)** | **0.80** | **1.00 (0.977, 1.03)** | **0.87** |
| Interval 3 (ß3, post-guidelines update)  | 0.993 (0.987, 0.998) | 0.01 | **0.997 (0.971, 1.02)** | **0.81** | **1.00 (0.975, 1.02)** | **0.96** |
| **Interval 3B (April 2013-March 2015)** | - | - | **-** | **-** | **0.976 (0.916, 1.04)** | **0.46** |
| Int 2 (ß4, level change post-guidelines) | 0.965 (0.620, 1.503) | 0.88 | **0.996 (0.504, 1.966)** | **0.99** | **0.958 (0.499, 1.84)** | **0.90** |
| Int 3 (ß5, level change post guidelines update) | 0.861 (0.469, 1.582) | 0.63 | **0.63 (0.24, 1.64)** | **0.34** | **0.595 (0.239, 1.48)** | **0.26** |
| **Int 3B (April 2013-March 2015** | - | - | **-** | **-** | **0.638 (0.216, 1.89)** | **0.42** |

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| **Teaching facilities: HA-MRSA** | **FULL DATASET** |  | **To APRIL 2013** |  | **Breakpoint April 2013 to full dataset** |  |
|  | **IRR** | **p** | **IRR** | **p** | **IRR** | **p** |
| ßo‡ (Intercept) | - | <0.001 | **-** | **<0.001** |  | **<0.001** |
| Interval 1 (ß1, pre-guidelines) | 1.022 (0.995, 1.050) | 0.11 | **1.06 (0.995, 1.14)** | **0.07** | **1.04 (0.981, 1.10)** | **0.19** |
| Interval 2 (ß2, post-guidelines)  | 0.989 (0.979, 0.998) | 0.02 | **0.960 (0.941, 0.979)** | **<0.001** | **0.961 (0.943, 0.980)** | **<0.001** |
| Interval 3 (ß3, post-guidelines update)  | 0.987 (0.982, 0.992) | <0.001 | **0.980 (0.959, 1.00)** | **0.07** | **0.979 (0.959, 0.999)** | **0.04** |
| **Interval 3B (April 2013-March 2015)** |  |  |  |  | **0.955 (0.900, 1.01)** | **0.13** |
| Int 2 (ß4, level change post-guidelines) | 0.706 (0.522, 0.955) | 0.02 | **0.558 (0.338, 0.921)** | **0.02** | **0.589 (0.366, 0.948)** | **0.03** |
| Int 3 (ß5, level change post guidelines update) | 0.804 (0.512, 1.263) | 0.34 | **0.726 (0.340, 1.55)** | **0.40** | **0.751 (0.356, 1.55)** | **0.43** |
| **Int3B (April 2013-March 2015)** |  |  |  |  | **0.348 (0.133, 0.910)** | **0.032** |

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| **Teaching facilities:****CLABSI** | **FULL DATASET** |  | **To APRIL 2013** |  | **Breakpoint April 2013 to full dataset** |  |
|  | **IRR** | **p** | **IRR** | **p** | **IRR** | **p** |
| ßo‡ (Intercept) | - | <0.001 | **-** | **<0.001** |  |  |
| Interval 1 (ß1, pre-guidelines) | 1.004 (0.964, 1.047) | 0.84 | **1.00 (0.914, 1.10)** | **0.95** | **1.01 (0.911, 1.08)** | **0.88** |
| Interval 2 (ß2, post-guidelines)  | 0.996 (0.983, 1.009) | 0.55 | **0.983 (0.956, 1.01)** | **0.22** | **0.978 (0.958, 1.01)** | **0.22** |
| Interval 3 (ß3, post-guidelines update)  | 0.992 (0.986, 0.998) | 0.01 | **0.976 (0.947, 1.00)** | **0.10** | **0.978 (0.951, 1.00)** | **0.11** |
| **Interval 3B (April 2013-March 2015)** | - | - | **-** | **-** | **0.953 (0.888, 1.02)** | **0.18** |
| Int 2 (ß4, level change post-guidelines) | 0.827 (0.532, 1.286) | 0.40 | **0.859 (0.426, 1.74)** | **0.67** | **0.875 (0.444, 1.72)** | **0.70** |
| Int 3 (ß5, level change post guidelines update) | 0.768 (0.410, 1.439) | 0.41 | **0.825 (0.296, 2.30)** | **0.71** | **0.811 (0.303, 2.17)** | **0.68** |
| **Int3B (April 2013-March 2015)** | - | - | **-** | **-** | **0.678 (0.208, 2.20)** | **0.51** |

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| **Non-teaching facilities: HA-MRSA** | **FULL DATASET** |  | **To APRIL 2013** |  | **Breakpoint April 2013 to full dataset** |  |
|  | **IRR** | **p** | **IRR** | **p** | **IRR** | **p** |
| ßo‡ (Intercept) | - | <0.001 | **-** | **0.27** |  | **<0.001** |
| Interval 1 (ß1, pre-guidelines) | 0.980 (0.909, 1.056) | 0.60 | **0.967 (0.825, 1.13)** | **0.68** | **0.969 (0.833, 1.13)** | **0.68** |
| Interval 2 (ß2, post-guidelines)  | 0.990 (0.976, 1.005) | 0.20 | **0.983 (0.951, 1.02)** | **0.30** | **0.983 (0.953, 1.01)** | **0.27** |
| Interval 3 (ß3, post-guidelines update)  | 0.995 (0.989, 1.001) | 0.11 | **1.00 (0.974, 1.03)** | **0.85** | **1.00 (0.975, 1.03)** | **0.87** |
| **Interval 3B (April 2013-March 2015)** |  |  |  |  | **1.03 (0.958, 1.10)** | **0.44** |
| Int 2 (ß4, level change post-guidelines) | 1.196 (0.678, 2.110) | 0.53 | **1.26 (0.526, 3.02)** | **0.60** | **1.25 (0.547, 2.88)** | **0.59** |
| Int 3 (ß5, level change post guidelines update) | 1.350 (0.630, 2.893) | 0.44 | **1.10 (0.339, 3.56)** | **0.87** | **1.10 (0.366, 3.34)** | **0.86** |
| **Int3B (April 2013-March 2015)** |  |  |  |  | **0.371 (0.102, 1.35)** | **0.13** |

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| **Non-teaching facilities: CLABSI** | **FULL DATASET** |  | **To APRIL 2013** |  | **Breakpoint April 2013 to full dataset** |  |
|  |  |  |  |  |  |  |
|  | **IRR** | **p** | **IRR** | **p** | **IRR** | **p** |
| ßo‡ (Intercept) | - | 0.27 |  | **0.28** |  | **0.27** |
| Interval 1 (ß1, pre-guidelines) | 0.997 (0.877, 1.134) | 0.97 | **1.02 (0.803, 1.29)** | **0.89** | **1.02 (0.804, 1.28)** | **0.90** |
| Interval 2 (ß2, post-guidelines)  | 1.013 (0.990, 1.037) | 0.26 | **1.02 (0.972, 1.08)** | **0.38** | **1.02 (0.973, 1.08)** | **0.37** |
| Interval 3 (ß3, post-guidelines update)  | 0.994 (0.985, 1.003) | 0.21 | **1.02 (0.981, 1.06)** | **0.29** | **1.03 (0.988, 1.07)** | **0.18** |
| **Interval 3B (April 2013-March 2015)** |  |  |  |  | **0.980 (0.879, 1.09)** | **0.71** |
| Int 2 (ß4, level change post-guidelines) | 0.905 (0.308, 2.661) | 0.86 | **0.777 (0.213, 2.83)** | **0.70** | **0.775 (0.216, 2.78)** | **0.69** |
| Int 3 (ß5, level change post guidelines update) | 0.835 (0.225, 3.099) | 0.79 | **0.46 (0.090, 2.35)** | **0.35** | **0.422 (0.085, 2.10)** | **0.29** |
| **Int3B (April 2013-March 2015)** |  |  |  |  | **0.810 (0.123, 5.31)** | **0.82** |