**Supplementary data**

**Table 1. Number of inpatients and prevalence of coercive treatment methods among inpatients by admission year: raw data**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Admission year | All inpatients | Female, % | Any coercive methodsPatients (%) | SeclusionPatients (%) | Limb restraintsPatients (%) | Forced injectionPatients (%) | Physical restraintsPatients (%) |
| 1995 | 24979 | 45.5 | 2441 (9.77) | 1529 (6.12) | 873 (3.49) | 545 (2.18) | 260 (1.04) |
| 1996 | 25886 | 45.3 | 2571 (9.93) | 1625 (6.28) | 1023 (3.95) | 606 (2.34) | 267 (1.03) |
| 1997 | 26003 | 45.5 | 2367 (9.10) | 1533 (5.90) | 964 (3.71) | 576 (2.22) | 241 (0.93) |
| 1998 | 26000 | 45.9 | 2512 (9.66) | 1651 (6.35) | 1127 (4.33) | 679 (2.61) | 262 (1.01) |
| 1999 | 25901 | 46.7 | 2707 (10.50) | 1791 (6.91) | 1222 (4.72) | 754 (2.91) | 265 (1.02) |
| 2000 | 28503 | 47.3 | 2881 (10.10) | 1894 (6.64) | 1320 (4.63) | 779 (2.73) | 238 (0.84) |
| 2001 | 27951 | 47.6 | 2896 (10.04) | 2001 (7.16) | 1333 (4.77) | 794 (2.84) | 248 (0.89) |
| 2002 | 28235 | 46.8 | 2590 (9.17) | 1728 (6.12) | 1061 (3.76) | 745 (2.64) | 220 (0.78) |
| 2003 | 28028 | 48.9 | 2844 (10.20) | 1998 (7.13) | 1064 (4.09) | 743 (2.65) | 204 (0.73) |
| 2004 | 26586 | 48.2 | 2704 (10.20) | 1868 (7.03) | 1031 (3.88) | 702 (2.64) | 161 (0.61) |
| 2005 | 26200 | 48.9 | 2758 (10.50) | 2010 (7.67) | 1035 (3.95) | 675 (2.58) | 168 (0.64) |
| 2006 | 26084 | 50.1 | 2750 (10.50) | 2021 (7.75) | 1114 (4.27) | 640 (2.45) | 153 (0.59) |
| 2007 | 25615 | 49.3 | 2722 (10.60) | 2095 (8.18) | 924 (3.61) | 630 (2.46) | 127 (0.50) |
| 2008 | 26170 | 49.0 | 2575 (9.84) | 1961 (7.49) | 958 (3.66) | 597 (2.28) | 141 (0.54) |
| 2009 | 24689 | 48.7 | 2435 (9.87) | 1809 (7.33) | 820 (3.32) | 514 (2.08) | 107 (0.43) |
| 2010 | 23132 | 49.6 | 2219 (9.59) | 1668 (7.21) | 731 (3.16) | 492 (2.13) | 104 (0.45) |
| 2011 | 22630 | 49.5 | 2062 (9.11) | 1502 (6.64) | 650 (2.87) | 489 (2.16) | 140 (0.62) |
| 2012 | 22187 | 50.0 | 1989 (8.96) | 1426 (6.63) | 620 (2.79) | 572 (2.58) | 179 (0.62) |
| 2013 | 21096 | 50.8 | 1959 (9.29) | 1353 (6.41) | 645 (3.06) | 763 (3.62) | 337 (1.60) |
| 2014 | 19300 | 50.2 | 1745 (9.04) | 1257 (6.51) | 516 (2.67) | 597 (3.09) | 122 (0.63) |
| **Total** | **505169** | **48.1** | **49731 (9.84)** | **34720 (6.87)** | **19113 (3.78)** | **12892 (2.55)** | **3944 (0.78)** |

**Table 2 Prevalence of coercive treatment methods among inpatients by gender by admission year: raw data**

|  |  |  |  |
| --- | --- | --- | --- |
| Admission year | Male inpatients |  | Female inpatients |
|  | Any coercive % |  Sec- lusion % | Limb restraint % | Forced inject-ion % | Physical restraint % |  | Any coercive % |  Sec-lusion % | Limb restraint % | Forced injection % | Physical restraint % |
| 1995 | 10.90 | 6.82 | 4.31 | 2.05 | 1.1 |  | 8.42 | 5.29 | 2.52 | 2.34 | 0.97 |
| 1996 | 10.81 | 6.95 | 4.85 | 1.95 | 1.03 |  | 8.87 | 5.46 | 2.87 | 2.82 | 1.03 |
| 1997 | 9.87 | 6.58 | 4.52 | 1.95 | 0.90 |  | 8.18 | 5.08 | 2.74 | 2.54 | 0.95 |
| 1998 | 10.50 | 6.95 | 5.27 | 2.47 | 1.01 |  | 8.72 | 5.58 | 3.23 | 2.78 | 1.01 |
| 1999 | 11.40 | 7.62 | 5.89 | 2.67 | 1.10 |  | 9.42 | 6.11 | 3.38 | 3.19 | 0.93 |
| 2000 | 10.90 | 7.38 | 5.53 | 2.34 | 0.84 |  | 9.21 | 5.83 | 3.63 | 3.17 | 0.82 |
| 2001 | 11.40 | 7.93 | 5.61 | 2.67 | 0.89 |  | 9.26 | 6.30 | 3.85 | 3.03 | 0.89 |
| 2002 | 9.85 | 6.87 | 4.44 | 2.31 | 0.72 |  | 8.40 | 5.27 | 2.98 | 3.01 | 0.85 |
| 2003 | 11.10 | 8.31 | 5.04 | 2.42 | 0.73 |  | 8.83 | 5.89 | 3.09 | 2.89 | 0.73 |
| 2004 | 11.99 | 8.61 | 4.86 | 2.6 | 0.54 |  | 8.22 | 5.33 | 2.82 | 2.68 | 0.68 |
| 2005 | 12.70 | 9.46 | 5.31 | 2.48 | 0.60 |  | 8.25 | 5.80 | 2.53 | 2.67 | 0.68 |
| 2006 | 12.47 | 9.36 | 5.55 | 2.40 | 0.50 |  | 8.63 | 6.15 | 3.00 | 2.51 | 0.67 |
| 2007 | 12.93 | 10.14 | 4.73 | 2.59 | 0.53 |  | 8.26 | 6.16 | 2.45 | 2.33 | 0.46 |
| 2008 | 11.25 | 8.69 | 4.57 | 2.09 | 0.55 |  | 8.37 | 6.24 | 2.72 | 2.48 | 0.52 |
| 2009 | 11.75 | 8.85 | 4.30 | 1.88 | 0.36 |  | 7.88 | 5.72 | 2.29 | 2.30 | 0.51 |
| 2010 | 11.42 | 8.68 | 4.15 | 2.03 | 0.45 |  | 7.74 | 5.72 | 2.15 | 2.22 | 0.44 |
| 2011 | 10.93 | 7.91 | 3.78 | 2.23 | 0.67 |  | 7.26 | 5.34 | 1.95 | 2.09 | 0.56 |
| 2012 | 10.73 | 8.08 | 3.64 | 2.63 | 0.73 |  | 7.20 | 4.77 | 1.95 | 2.52 | 0.88 |
| 2013 | 11.00 | 7.76 | 4.04 | 3.69 | 1.77 |  | 7.66 | 5.12 | 2.11 | 3.54 | 1.43 |
| 2014 | 10.60 | 8.10 | 3.42 | 3.16 | 0.47 |  | 7.50 | 4.94 | 1.93 | 3.03 | 0.80 |
| **Total** | **11.23** | **8.02** | **4.75** | **2.41** | **0.78** |  | **8.35** | **5.63** | **2.74** | **2.71** | **0.79** |

**Table 3. Number of inpatients and prevalence of any coercive treatment methods among inpatients by admission year and region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Admission year | Southern FinlandPatients (%) | Western FinlandPatients (%) | Eastern FinlandPatients (%) | Northern FinlandPatients (%) | ÅlandPatients (%) |
| 1995 |

|  |
| --- |
| 987 (8.03) |

 |

|  |
| --- |
| 611 (11.18) |

 |

|  |
| --- |
| 558 (14.11) |

 |

|  |
| --- |
| 285 (8.99) |

 |

|  |
| --- |
| 0 (0.00) |

 |
| 1996 |

|  |
| --- |
| 1073 (8.32) |

 |

|  |
| --- |
| 640 (11.49) |

 |

|  |
| --- |
| 575 (14.40) |

 |

|  |
| --- |
| 275 (8.29) |

 |

|  |
| --- |
| 8 (7.62) |

 |
| 1997 |

|  |
| --- |
| 1008 (7.74) |

 |

|  |
| --- |
| 560 (10.00) |

 |

|  |
| --- |
| 514 (12.84) |

 |

|  |
| --- |
| 280 (8.52) |

 |

|  |
| --- |
| 5 (5.68) |

 |
| 1998 |

|  |
| --- |
| 1179 (8.96) |

 |

|  |
| --- |
| 563 (10.15) |

 |

|  |
| --- |
| 488 (12.53) |

 |

|  |
| --- |
| 279 (8.41) |

 |

|  |
| --- |
| 3 (3.41) |

 |
| 1999 |

|  |
| --- |
| 1382 (10.54) |

 |

|  |
| --- |
| 581 (10.33) |

 |

|  |
| --- |
| 472 (12.21) |

 |

|  |
| --- |
| 271 (8.52) |

 |

|  |
| --- |
| 1 (0.83) |

 |
| 2000 |

|  |
| --- |
| 1595 (10.29) |

 |

|  |
| --- |
| 549 (9.98) |

 |

|  |
| --- |
| 466 (11.01) |

 |

|  |
| --- |
| 271 (8.31) |

 |

|  |
| --- |
| 0 (0.00) |

 |
| 2001 |

|  |
| --- |
| 1577 (10.55) |

 |

|  |
| --- |
| 584 (10.45) |

 |

|  |
| --- |
| 455 (11.68) |

 |

|  |
| --- |
| 279 (7.98) |

 |

|  |
| --- |
| 1 (4.00) |

 |
| 2002 |

|  |
| --- |
| 1461 (9.90) |

 |

|  |
| --- |
| 472 (8.10) |

 |

|  |
| --- |
| 396 (9.94) |

 |

|  |
| --- |
| 257 (7.32) |

 |

|  |
| --- |
| 4 (2.48) |

 |
| 2003 |

|  |
| --- |
| 1666 (11.22) |

 |

|  |
| --- |
| 534 (9.04) |

 |

|  |
| --- |
| 450 (11.67) |

 |

|  |
| --- |
| 195 (5.96) |

 |

|  |
| --- |
| 3 (2.04) |

 |
| 2004 |

|  |
| --- |
| 1375 (10.80) |

 |

|  |
| --- |
| 597 (9.53) |

 |

|  |
| --- |
| 495 (12.16) |

 |

|  |
| --- |
| 229 (6.77) |

 |

|  |
| --- |
| 8 (5.71) |

 |
| 2005 |

|  |
| --- |
| 1388 (11.32) |

 |

|  |
| --- |
| 651 (10.36) |

 |

|  |
| --- |
| 487 (11.85) |

 |

|  |
| --- |
| 222 (6.56) |

 |

|  |
| --- |
| 10 (6.21) |

 |
| 2006 |

|  |
| --- |
| 1393 (11.35) |

 |

|  |
| --- |
| 608 (9.88) |

 |

|  |
| --- |
| 478 (11.79) |

 |

|  |
| --- |
| 265 (7.69) |

 |

|  |
| --- |
| 6 (4.00) |

 |
| 2007 |

|  |
| --- |
| 1379 (11.46) |

 |

|  |
| --- |
| 647 (10.52) |

 |

|  |
| --- |
| 466 (12.14) |

 |

|  |
| --- |
| 225 (6.53) |

 |

|  |
| --- |
| 5 (3.42) |

 |
| 2008 |

|  |
| --- |
| 1243 (10.08) |

 |

|  |
| --- |
| 641 (10.19) |

 |

|  |
| --- |
| 453 (11.66) |

 |

|  |
| --- |
| 231 (6.58) |

 |

|  |
| --- |
| 7 (4.58) |

 |
| 2009 |

|  |
| --- |
| 1275 (10.68) |

 |

|  |
| --- |
| 604 (10.38) |

 |

|  |
| --- |
| 339 (9.44) |

 |

|  |
| --- |
| 199 (6.22) |

 |

|  |
| --- |
| 18 (13.14) |

 |
| 2010 |

|  |
| --- |
| 1185 (10.55) |

 |

|  |
| --- |
| 547 (9.87) |

 |

|  |
| --- |
| 298 (9.37) |

 |

|  |
| --- |
| 178 (5.84) |

 |

|  |
| --- |
| 11 (8.27) |

 |
| 2011 |

|  |
| --- |
| 1100 (10.13) |

 |

|  |
| --- |
| 478 (8.56) |

 |

|  |
| --- |
| 285 (9.67) |

 |

|  |
| --- |
| 187 (6.04) |

 |

|  |
| --- |
| 12 (8.28) |

 |
| 2012 |

|  |
| --- |
| 975 (9.31) |

 |

|  |
| --- |
| 520 (9.45) |

 |

|  |
| --- |
| 260 (9.01) |

 |

|  |
| --- |
| 222 (7.03) |

 |

|  |
| --- |
| 12 (7.14) |

 |
| 2013 |

|  |
| --- |
| 925 (9.23) |

 |

|  |
| --- |
| 507 (9.87) |

 |

|  |
| --- |
| 275 (9.56) |

 |

|  |
| --- |
| 241 (8.22) |

 |

|  |
| --- |
| 11 (8.66) |

 |
| 2014 |

|  |
| --- |
| 871 (9.29) |

 |

|  |
| --- |
| 420 (9.14) |

 |

|  |
| --- |
| 242 (9.18) |

 |

|  |
| --- |
| 201 (7.89) |

 |

|  |
| --- |
| 11 (7.80) |

 |

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Table 4 Estimates of all parameters by multilevel logistic regression models with random effects (SE in brackets)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Any coercive method** | **Seclusion** | **Limb restraints** | **Forced injection** | **Physical restraints** |
| **Fixed Part** |  |  |  |  |  |
| Intercept | **-5.43(.795)‡** | **-5.92(.907) ‡** | **-6.49(1.04)‡** | **-7.62(.919)‡** | **-5.55(.757)‡** |
| Year | -.0014(.0136) | .012(.014)  | -.014(.020) | .016(.016) | **-.043(.022)\*** |
| Year^2 | **-.0057(.0019)†** | **-.0072(.0020)†** | **-.014(.0006)‡** | **-.0057(.0023)\*** | **-.0089(.0026)†** |
| Region\_2 | -.500(.323) | -.588(.367) | -.693(.400) | -.458(.366) | **-.149(.318)†** |
| Region\_3 | .276(.339) | .263(.384) | .915(.415) | .071(.378) | .363(.337) |
| Region\_4 | **-.898(.374)** | **-1.85(.433)** | -.436(.462) | **-1.46(.428)†** | -.639(.374) |
| Region\_5 | -.293(.920) | -.306(1.07) | -1.03(1.20) | .255(1.07) | .317(.996) |
| Year.Region\_2 | .0006(.026) | .0021(.026) | -.015(.040) | -.0062(.028) | .039(.037) |
| Year^2.Region\_2 | .0045(.0037) | .0065(.0040) | **.010(.0010)\*** | .0077(.0043) | **.018(.0044)†** |
| Year.Region\_3 | .0031(.028) | -.0066(.029) | -.0086(.039) | -.025(.031) | -.039(.041) |
| Year^2.Region\_3 | .0025(.0038) | .000032(.0041) | **.014(.0009)‡** | .0054(.0045) | .0031(.0048) |
| Year.Region\_4 | .0085(.030) | .0309(.032) | .029(.044) | -.044(.034) | -.032(.042) |
| Year^2.Region\_4 | .0068(.0041) | **.0092(.0046)\*** | **.015(.001)‡** | **.010(.0045)\*** | **.014(.0051)\*** |
| Year.Region\_5 | .079(.078) | .081(.080) | .220(.131) | .111(.084) | -.111(.097) |
| Year^2.Region\_5 | .011(.011) | .011(.011) | .015(.012) | .012(.012) | .017(.012) |
| Female | **-.357(.014)‡** | **-.396(.017)‡** | **-.608(.022)‡** | **.093(.027)‡** | .012(.050) |
| Year.Female | **-.013(.002)‡** | **-.016(.002)‡** | **-.013(.003)‡** | **-.017(.003)‡** | .0063(.0055) |
| Year^2.Female | **.0008(.0003)†** | **.0009(.0004)†** | .0005(.0006) | -.0007(.0062) | -.0008(.0011) |
| Age | **-.0028(.0003)‡** | **-.0079(.0004)‡** | **-.0113(.0005)‡** | **.0036(.0006)‡** | **.0083(.0010)‡** |
| Treatment periods | **.380(.094) ‡** | **.394(.107)†** | **.414(.122)†** | **.433(.108)†** | .038(.088) |
| **Random Part** |  |  |  |  |  |
| **Level: Care provider** |  |  |  |  |  |
| Intercept/Intercept | 1.14(.186)**‡** | 1.45(.238)**‡** | 1.68(.281)**‡** | 1.31(.227) **‡** | 0.931(.176)**‡** |
| Year/Intercept | -.018(.011) | -.032(.012) | .0087(.019) | -.0071(.013) | -.014(.015) |
| Year/Year | .0057(.0011)**‡** | .0056(.0012)**\*** | .129(.025)**‡** | .0058(.0013)**†** | .010(.002)**‡** |
| Year^2/Intercept | .0018(.0015) | .024(.0018) |  | -.0055(.0020)**\*** | .0063(.0019)**†** |
| Year^2/Year | -.0006(.0001)**‡** | -.0004(.0001)**\*** |  | -.0004(.00015)**†** | .00017(.00019) |
| Year^2/Year^2 | .00012(.00002)**‡** | .00013(.00003)**‡** |  | .00013(.00003)**‡** | .00011(.000031)**†** |

 **‡p<0.001, †p<0.01, \*p<0.05.**