

eSupplement 1. Search Strategy

Data bases Medline, PsychINFO and Embase

Dates January 1945 and 31 March 2017:

Limits. English Language

Search Terms 1. ((suicid*).ti AND (hospital or discharg* OR inpatient or in-patient OR admit*). ab

Search Terms 2. ((mortality OR outcome* OR death*) AND (psych* OR mental*).ti. AND (admit* OR admis* or hospital* OR inpatient* OR in-patient* OR discharg*).ab

| eSupplement 2. Strength of reporting items of included studies | | | | | |
|--|-------------------|-------------------|--------------------|------------------------------|-----------------------------|
| Study name | Coronial Verdicts | Counts admissions | Defined Population | Includes Undetermined deaths | Strength of Reporting Score |
| Castelein 2015 | 0 | 0 | 1 | 0 | 1 |
| De Leo 2007 | 0 | 0 | 0 | 0 | 0 |
| Erlangsen 2006 | 1 | 0 | 1 | 0 | 2 |
| Deisenhammer 2016 | 1 | 1 | 1 | 0 | 3 |
| Geddes 1997 | 1 | 0 | 1 | 1 | 3 |
| Goldacre 1993 | 1 | 1 | 1 | 1 | 4 |
| Hayashi 2012 | 0 | 0 | 0 | 0 | 0 |
| Healy 2006 | 1 | 0 | 1 | 0 | 2 |
| Ho 2003 | 1 | 0 | 1 | 1 | 3 |
| Isometsa 2014 | 1 | 1 | 1 | 0 | 3 |
| Johansson 1996 | 1 | 0 | 0 | 1 | 2 |
| Kessler 2015 | 1 | 1 | 1 | 0 | 3 |
| Lee 2009 | 1 | 1 | 1 | 0 | 3 |
| Links 2012 | 0 | 0 | 0 | 0 | 0 |
| Luxton 2013 | 1 | 0 | 1 | 0 | 2 |
| Madsen 2013 | 1 | 0 | 1 | 0 | 2 |
| Naik 1997 | 1 | 0 | 0 | 0 | 1 |
| Nyman 1986 | 1 | 1 | 0 | 0 | 2 |
| Olfson 2016 | 1 | 0 | 1 | 0 | 2 |
| Park 2013 | 1 | 0 | 0 | 0 | 1 |

| | | | | | |
|-----------------|---|---|---|---|---|
| Pedersen | 1 | 0 | 1 | 0 | 2 |
| Pirkola 2007 | 1 | 0 | 1 | 0 | 2 |
| Pokorny 1983 | 1 | 0 | 0 | 0 | 1 |
| Qurashi 2006 | 0 | 0 | 0 | 0 | 0 |
| Riblet 2017 | 1 | 1 | 1 | 0 | 3 |
| Ruengorn 2011 | 0 | 0 | 0 | 0 | 0 |
| Sani 2011 | 1 | 0 | 0 | 0 | 1 |
| Seemuller 2014 | 0 | 0 | 0 | 0 | 0 |
| Tejedor 1999 | 0 | 0 | 0 | 0 | 0 |
| Tsai 2002 | 0 | 0 | 0 | 0 | 0 |
| Tseng 2006 | 0 | 0 | 0 | 0 | 0 |
| Valenstein 2009 | 1 | 0 | 1 | 0 | 2 |
| Winkler 2015 | 1 | 0 | 1 | 0 | 2 |
| Yim2004 | 1 | 0 | 1 | 1 | 3 |

| eSupplement 3 – Suicide rates in one month following discharge from psychiatric hospitalisation | | | | | | |
|---|--------------|----------|----------|------------|--------|--------|
| Study | Person years | Suicides | Observed | Fitted | LL | UL |
| Castelein | 36.01 | 1 | 0.0278 | 0.024 0 | 0.0048 | 0.1196 |
| De Leo | 5.00 | 0 | 0.0000 | 0.018 6 | 0.0023 | 0.1521 |
| Deisenhammer | 5471.00 | 51 | 0.0093 | 0.009 5 | 0.0055 | 0.0162 |
| Geddes | 44634.2 0 | 367 | 0.0082 | 0.008 2 | 0.0051 | 0.0132 |
| Goldacre | 1875.00 | 44 | 0.0235 | 0.023 4 | 0.0134 | 0.0407 |
| Hayashi | 8.83 | 0 | 0.0000 | 0.017 | 0.0023 | 0.1342 |

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|-----------|--------------|------|--------|------------|--------|--------|
| | | | | 4 | | |
| Healy | 11.08 | 2 | 0.1805 | 0.075 1 | 0.0149 | 0.3795 |
| Ho | 5314.00 | 124 | 0.0233 | 0.023 3 | 0.0142 | 0.0383 |
| Isometsa | 4769.00 | 158 | 0.0331 | 0.033 0 | 0.0202 | 0.0540 |
| Johansson | 321.00 | 12 | 0.0374 | 0.035 8 | 0.0171 | 0.0753 |
| Kessler | 4480.75 | 17 | 0.0038 | 0.004 1 | 0.0021 | 0.0079 |
| Lee | 6250.00 | 39 | 0.0062 | 0.006 4 | 0.0037 | 0.0112 |
| Links | 9.92 | 3 | 0.3025 | 0.132 9 | 0.0312 | 0.5653 |
| Luxton | 6050.13 | 35 | 0.0058 | 0.006 0 | 0.0034 | 0.0106 |
| Madsen | 23911.9 2 | 374 | 0.0156 | 0.015 7 | 0.0097 | 0.0252 |
| Naik | 7.25 | 0 | 0.0000 | 0.017 9 | 0.0023 | 0.1409 |
| Nyman | 9.17 | 0 | 0.0000 | 0.017 3 | 0.0023 | 0.1328 |
| Olfson | 63288.6 0 | 151 | 0.0024 | 0.002 4 | 0.0015 | 0.0039 |
| Park | 700.25 | 26 | 0.0371 | 0.036 4 | 0.0198 | 0.0670 |
| Pirkola | 29583.3 3 | 1698 | 0.0574 | 0.057 4 | 0.0360 | 0.0914 |
| Pokorny | 400.00 | 16 | 0.0400 | 0.038 6 | 0.0194 | 0.0766 |
| Ruengorn | 19.58 | 1 | 0.0511 | 0.031 5 | 0.0056 | 0.1763 |
| Seemuller | 79.25 | 1 | 0.0126 | 0.015 7 | 0.0036 | 0.0683 |

| | | | | | | |
|------------|---------------------|-----|--------|-------------------|--------|--------|
| Tejedor | 12.50 | 1 | 0.0800 | $\frac{0.037}{3}$ | 0.0061 | 0.2272 |
| Tsai | 177.75 | 24 | 0.1350 | $\frac{0.125}{8}$ | 0.0672 | 0.2357 |
| Tseng | 5.58 | 1 | 0.1791 | $\frac{0.046}{8}$ | 0.0066 | 0.3289 |
| Valenstein | $\frac{13149.4}{7}$ | 127 | 0.0097 | $\frac{0.009}{7}$ | 0.0059 | 0.0160 |
| Winkler | $\frac{11440.8}{3}$ | 258 | 0.0226 | $\frac{0.022}{5}$ | 0.0140 | 0.0364 |
| Yim | 524.33 | 20 | 0.0381 | $\frac{0.037}{1}$ | 0.0194 | 0.0710 |

| eSupplement 4. Suicide rates in one week following discharge from psychiatric hospitalisation | | | | | | |
|---|--------------|----------|----------|--------|--------|--------|
| Study | Person years | Observed | Observed | Fitted | LL | UL |
| Castelein | 8.14 | 1 | 0.1229 | 0.0548 | 0.0085 | 0.3523 |
| DeLeo | 5.00 | 0 | 0.0000 | 0.0255 | 0.0031 | 0.2109 |
| Deisenhammer | 1262.54 | 25 | 0.0198 | 0.0201 | 0.0103 | 0.0390 |
| Erlangsen | 1058.72 | 77 | 0.0727 | 0.0720 | 0.0404 | 0.1283 |
| Hayashi | 8.83 | 0 | 0.0000 | 0.0234 | 0.0030 | 0.1796 |
| Isometsa | 974.00 | 53 | 0.0544 | 0.0539 | 0.0296 | 0.0980 |
| Johansson | 74.08 | 4 | 0.0540 | 0.0481 | 0.0158 | 0.1461 |
| Kessler | 1034.00 | 5 | 0.0048 | 0.0062 | 0.0024 | 0.0157 |
| Lee | 1442.00 | 22 | 0.0153 | 0.0156 | 0.0079 | 0.0308 |
| Madsen | 5518.13 | 175 | 0.0317 | 0.0317 | 0.0183 | 0.0550 |
| Naik | 7.25 | 0 | 0.0000 | 0.0242 | 0.0031 | 0.1911 |
| Nyman | 9.17 | 0 | 0.0000 | 0.0232 | 0.0030 | 0.1773 |
| Olfson | 14776.80 | 49 | 0.0033 | 0.0034 | 0.0019 | 0.0063 |
| Park | 161.60 | 10 | 0.0619 | 0.0581 | 0.0253 | 0.1336 |
| Pedersen | 187.40 | 6 | 0.0320 | 0.0317 | 0.0123 | 0.0819 |
| Pirkola | 6826.92 | 1164 | 0.1705 | 0.1703 | 0.1001 | 0.2896 |
| Pokorny | 92.30 | 10 | 0.1083 | 0.0968 | 0.0417 | 0.2252 |
| Qurashi | 1.33 | 1 | 0.7536 | 0.0803 | 0.0095 | 0.6766 |

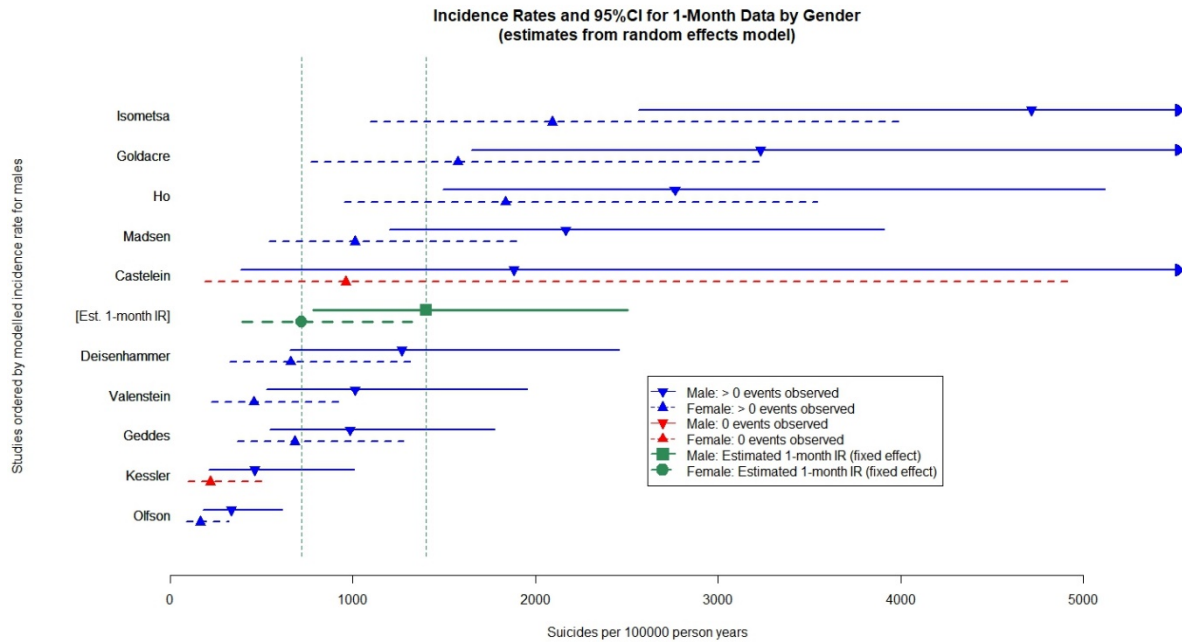
| | | | | | | |
|------------|----------|-----|--------|--------|--------|--------|
| Riblet | 21657.30 | 141 | 0.0065 | 0.0066 | 0.0038 | 0.0115 |
| Ruengorn | 4.52 | 1 | 0.2212 | 0.0650 | 0.0091 | 0.4651 |
| Sani | 85.31 | 2 | 0.0234 | 0.0251 | 0.0069 | 0.0919 |
| Seemuller | 18.29 | 1 | 0.0547 | 0.0399 | 0.0073 | 0.2194 |
| Valenstein | 3026.18 | 50 | 0.0165 | 0.0167 | 0.0091 | 0.0304 |
| Winkler | 2640.19 | 131 | 0.0496 | 0.0494 | 0.0283 | 0.0863 |

eSupplement 5 – Suicide rates in one month following discharge from psychiatric hospitalisation with gender subgroups.

| Study | Sex | Person years | Suicides | Residual | Observed | Fitted | LL | UL |
|--------------|-----|--------------|----------|----------|----------|--------|--------|--------|
| Castelein | F | 10.36 | 0 | -0.447 | 0.0000 | 0.0096 | 0.0019 | 0.0491 |
| Castelein | M | 25.65 | 1 | 0.646 | 0.0390 | 0.0188 | 0.0039 | 0.0921 |
| Deisenhammer | F | 3006.00 | 20 | 0.026 | 0.0067 | 0.0066 | 0.0033 | 0.0133 |
| Deisenhammer | M | 2465.00 | 31 | -0.045 | 0.0126 | 0.0127 | 0.0066 | 0.0246 |
| Geddes | F | 24113.30 | 171 | 0.477 | 0.0071 | 0.0068 | 0.0037 | 0.0128 |
| Geddes | M | 20520.90 | 196 | -0.456 | 0.0096 | 0.0099 | 0.0055 | 0.0178 |
| Goldacre | F | 1072.00 | 16 | -0.205 | 0.0149 | 0.0158 | 0.0077 | 0.0322 |
| Goldacre | M | 803.00 | 28 | 0.383 | 0.0349 | 0.0323 | 0.0165 | 0.0633 |
| Ho | F | 2582.00 | 53 | 0.830 | 0.0205 | 0.0184 | 0.0095 | 0.0354 |
| Ho | M | 2732.00 | 71 | -0.543 | 0.0260 | 0.0276 | 0.0149 | 0.0512 |
| Isometsa | F | 2614.00 | 52 | -0.352 | 0.0199 | 0.0209 | 0.0110 | 0.0400 |
| Isometsa | M | 2155.00 | 106 | 0.413 | 0.0492 | 0.0471 | 0.0256 | 0.0867 |
| Kessler | F | 887.64 | 0 | -2.004 | 0.0000 | 0.0022 | 0.0010 | 0.0050 |
| Kessler | M | 3593.11 | 17 | 0.096 | 0.0047 | 0.0046 | 0.0021 | 0.0101 |
| Madsen | F | 12533.41 | 125 | -0.171 | 0.0100 | 0.0101 | 0.0054 | 0.0189 |

| | | | | | | | | |
|------------|---|----------|-----|--------|--------|--------|--------|--------|
| Madsen | M | 11378.51 | 249 | 0.157 | 0.0219 | 0.0217 | 0.0120 | 0.0391 |
| Olfson | F | 35113.50 | 58 | -0.181 | 0.0017 | 0.0017 | 0.0009 | 0.0032 |
| Olfson | M | 28175.10 | 93 | -0.069 | 0.0033 | 0.0033 | 0.0018 | 0.0061 |
| Valenstein | F | 1065.11 | 2 | -1.504 | 0.0019 | 0.0046 | 0.0023 | 0.0092 |
| Valenstein | M | 12084.36 | 125 | 0.215 | 0.0103 | 0.0101 | 0.0053 | 0.0196 |

eSupplement 6. Forest Plot of studies reporting suicides by men and women in one month following discharge from psychiatric hospitalisation

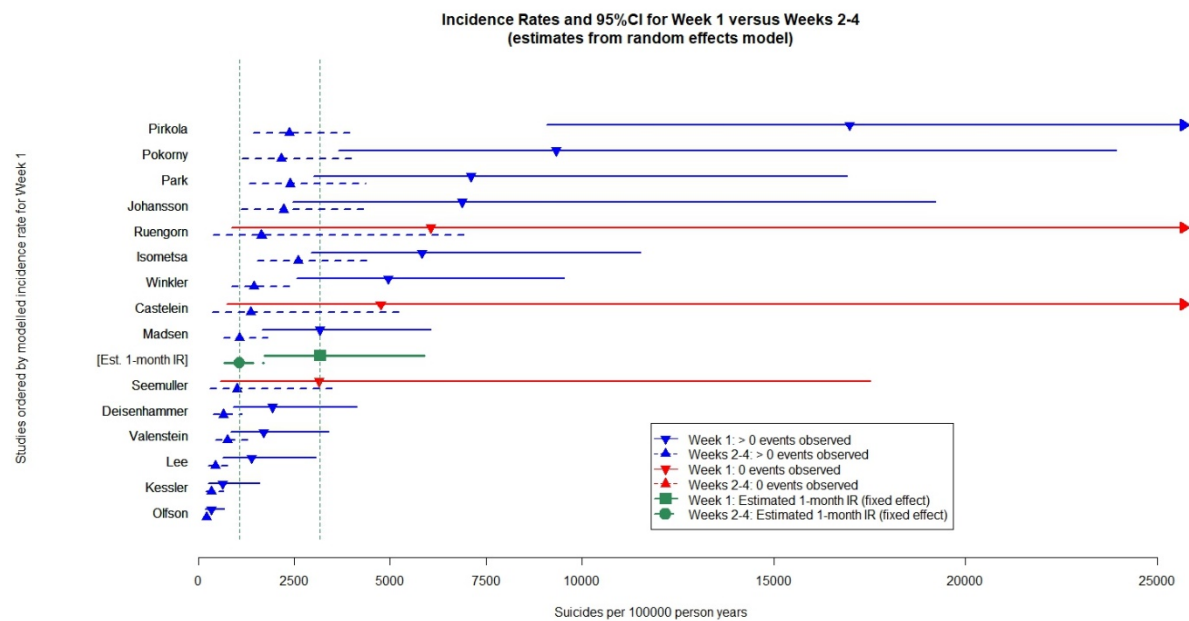


| eSupplement 7. Suicide rates in one week and two-four weeks following discharge from psychiatric hospitalisation | | | | | | | |
|--|------|--------------|----------|-------------|-----------|----|----|
| Study | Week | Person years | Observed | IR Observed | IR Fitted | LL | UL |

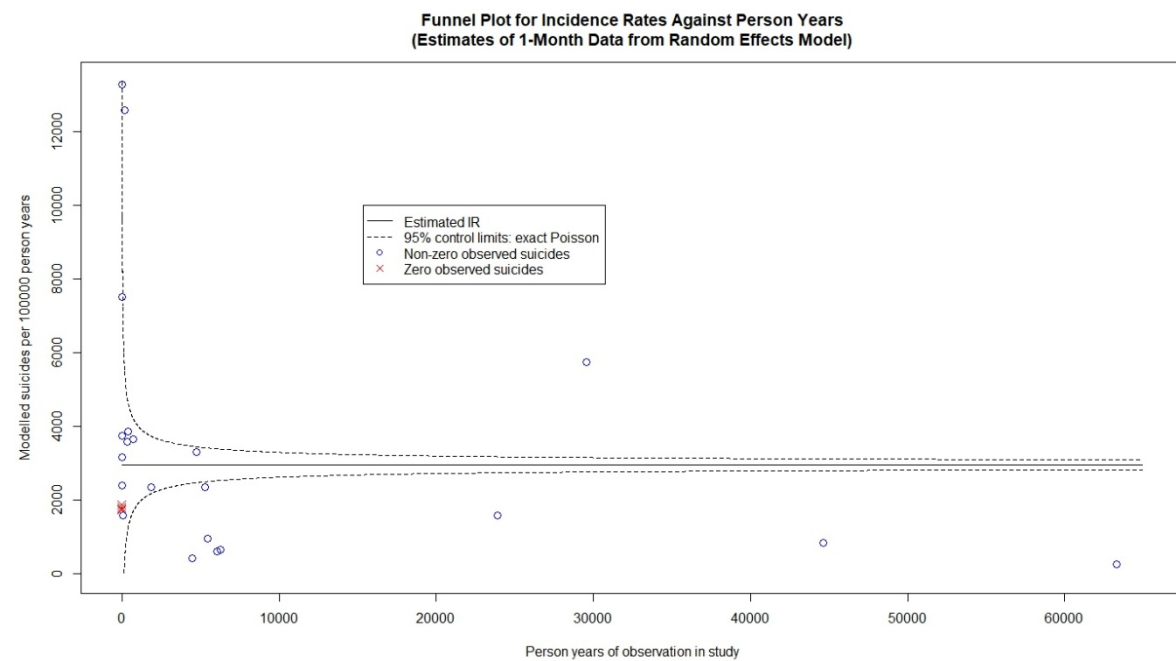
| | | | | | | | |
|--------------|-----|----------|------|--------|--------|--------|--------|
| Castelein | 1 | 8.14 | 1 | 0.1229 | 0.0475 | 0.0074 | 0.3028 |
| Castelein | 2-4 | 27.88 | 0 | 0.0000 | 0.0137 | 0.0035 | 0.0532 |
| Deisenhammer | 1 | 1262.54 | 25 | 0.0198 | 0.0192 | 0.0089 | 0.0413 |
| Deisenhammer | 2-4 | 4208.46 | 26 | 0.0062 | 0.0066 | 0.0038 | 0.0114 |
| Isometsa | 1 | 974.00 | 53 | 0.0544 | 0.0582 | 0.0294 | 0.1153 |
| Isometsa | 2-4 | 3795.00 | 105 | 0.0277 | 0.0261 | 0.0154 | 0.0443 |
| Johansson | 1 | 74.08 | 4 | 0.0540 | 0.0688 | 0.0246 | 0.1923 |
| Johansson | 2-4 | 246.92 | 8 | 0.0324 | 0.0223 | 0.0112 | 0.0444 |
| Kessler | 1 | 1034.00 | 5 | 0.0048 | 0.0063 | 0.0025 | 0.0160 |
| Kessler | 2-4 | 3446.75 | 12 | 0.0035 | 0.0034 | 0.0018 | 0.0064 |
| Lee | 1 | 1442.00 | 22 | 0.0153 | 0.0138 | 0.0063 | 0.0305 |
| Lee | 2-4 | 4808.00 | 17 | 0.0035 | 0.0043 | 0.0025 | 0.0076 |
| Madsen | 1 | 5518.13 | 175 | 0.0317 | 0.0317 | 0.0166 | 0.0605 |
| Madsen | 2-4 | 18393.79 | 199 | 0.0108 | 0.0108 | 0.0064 | 0.0181 |
| Olfson | 1 | 14776.80 | 49 | 0.0033 | 0.0034 | 0.0017 | 0.0068 |
| Olfson | 2-4 | 48511.80 | 102 | 0.0021 | 0.0021 | 0.0012 | 0.0036 |
| Park | 1 | 161.60 | 10 | 0.0619 | 0.0711 | 0.0299 | 0.1691 |
| Park | 2-4 | 538.65 | 16 | 0.0297 | 0.0240 | 0.0132 | 0.0435 |
| Pirkola | 1 | 6826.92 | 1164 | 0.1705 | 0.1698 | 0.0909 | 0.3173 |
| Pirkola | 2-4 | 22756.41 | 534 | 0.0235 | 0.0237 | 0.0142 | 0.0395 |
| Pokorny | 1 | 92.30 | 10 | 0.1083 | 0.0934 | 0.0364 | 0.2393 |
| Pokorny | 2-4 | 307.70 | 6 | 0.0195 | 0.0216 | 0.0114 | 0.0409 |
| Ruengorn | 1 | 4.52 | 1 | 0.2212 | 0.0606 | 0.0086 | 0.4286 |
| Ruengorn | 2-4 | 15.06 | 0 | 0.0000 | 0.0165 | 0.0039 | 0.0699 |
| Seemuller | 1 | 18.29 | 1 | 0.0547 | 0.0314 | 0.0056 | 0.1751 |
| Seemuller | 2-4 | 60.96 | 0 | 0.0000 | 0.0101 | 0.0029 | 0.0347 |
| Valenstein | 1 | 3026.18 | 50 | 0.0165 | 0.0170 | 0.0085 | 0.0339 |

| | | | | | | | |
|------------|-----|----------|-----|--------|--------|--------|--------|
| Valenstein | 2-4 | 10123.29 | 77 | 0.0076 | 0.0075 | 0.0044 | 0.0127 |
| Winkler | 1 | 2640.19 | 131 | 0.0496 | 0.0495 | 0.0256 | 0.0954 |
| Winkler | 2-4 | 8800.64 | 127 | 0.0144 | 0.0144 | 0.0086 | 0.0243 |

eSupplement 8. Forrest Plot Suicide rates in one week and two-four weeks following discharge from psychiatric hospitalisation



eSupplement 9. Funnel Plot of Suicide rates in one month following discharge from psychiatric hospitalisation



eSupplement 10. Funnel Plot of Suicide rates in one week following discharge from psychiatric hospitalisation

**Funnel Plot for Incidence Rates Against Person Years
(Estimates of 1-Week Data from Random Effects Model)**

