

Table DS1 Details of included studies

| Authors                          | Location | Type of Mental illness  | Diagnostic criteria                          | Participants   | Time frame for mammography | Results  | NOS summary score |
|----------------------------------|----------|---|--|--|----------------------------|--|-------------------|
| <i>Carney &amp; Jones (2006)</i> | USA      | Psychotic disorders (low, medium and high severity)<br><br>Mood disorders (Low-high severity).<br><br>Any MI (low-high) | ICD 9 code                                   | 191356 women aged 40-64                                      | five years                 | <u>Psychosis</u> :<br>Low adj OR 0.59 (0.45-0.78)<br>Med adj OR 0.56 (0.26-1.21)<br>High adj OR 0.47(0.33-0.67)<br><u>Mood disorder:</u><br>Low adj OR 0.93 (0.89-0.97)<br>Med adj OR 0.63 (0.57-0.69)<br>High adj OR 0.34 (0.28-0.42)<br><u>Any MI:</u><br>Low adj OR 0.98 (0.95 - 1.01)<br>Med adj OR 0.62 (0.59-0.66)<br>High adj OR 0.38 (0.33-0.43) | 8                 |
| <i>Chochinov et al (2009)</i>    | Canada   | Schizophrenia   | physicians coding in the healthcare database | 108792 women aged 50-69                                      | two years                  | adj OR 0.64 (0.58-0.71)  | 8                 |
| <i>Druss et al (2002)</i>        | USA      | Dual diagnosis (ICD9 290-302 + 306-319)<br>Other MI   | ICD 9  | 5912 women aged 50 - 69                                      | two years                  | Dual diagnosis OR 0.52 (95% CI 0.34-0.79)<br><br>Other MI OR 0.78(95% CI 0.67-0.91)  | 8                 |
| <i>Lindamer et al (2003)</i>     | USA      | Schizophrenia   | Medical records                              | 65 women with schizophrenia, 51 women without all aged 50-79 | two years                  | OR 0.04 (0.005- 0.32)  | 4                 |
| <i>Werneke et al. (2006)</i>     | UK       | Psychosis<br><br>Any other MI   | ICD10 recorded diagnosis of                  | 53 340 women aged 50-64                                      | 3 years                    | Psychosis OR 0.33 (95% CI 0.18 - 0.61)<br><br>Any MI OR 0.91 (95% CI 0.8-1.04)   | 7                 |

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| Author (Year)                              | Country  | Condition           | Assessment  | Sample Size   | Duration  | Results  | Number of Studies |
|--|--|---------------------|---|---|---|--|-------------------|
| <i>Lezzoni et al (2001)</i>                | USA  | SMI                 | Clinical interview  | 77762 women aged 18+  | two years                                       | Any MI on enhance care OR 0.40 (95% CI 0.29-0.55)<br>OR 0.6 (95% CI 0.4 – 1.1)                             | 7                 |
| <i>Druss et al (2008)</i>                  | USA  | Depression          | CIDI-SF for DSMIIIR Major Depression                                | 17, 565 women   | One year  | Depression -adj OR 0.819 (0.794 to 0.847)<br>Depression treated in primary care-adj OR 1.35 (1.16 to 1.61) | 7                 |
| <i>Green and Pope (2000)</i>               | USA  | Depressive symptoms | simple, validated, screening tool for depression                    | 3472 women of all adult ages  | Lifetime  | Depression treated in specialist care-adj 0.819 (0.694 to 0.971)<br>OR 1.37 (95% CI 1.04-1.81)             | 6                 |
| <i>Patten et al (2009)</i>                 | Canada   | Depression          | CIDI composite international diagnostic interview short form for MD | 50 – 69 years, n = 1868   | two years                                       | Adj OR 0.8 (0.4-1.6)   | 6                 |
| <i>Peytreman n- Bridevaux et al (2008)</i> | Multicentre study across 10 European countries | Depression          | Score of >3 on the EURO-D questionnaire                             | 9964 women from total of 15380 non-institutionalised adults over 50 years old | two years                                       | OR 1.0 (95% CI 0.8-1.2)  | 6                 |
| <i>Pirraglia et al (2004)</i>              | USA  | Depression          | CES-D (Centre for epidemiologi                                      | 3302 women aged 42-52   | one year (the subsequent year to the interview) | High depression OR 0.84 (95% CI 0.73- 0.97)<br>Moderate depression   | 6                 |

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|-------------------------------|--------|---------------------------------|--|--|------------|--|---|
| <i>Stecker et al (2007)</i>   | USA    | Depression                      | Primary care diagnosis of depression   | 860 women  | five years | OR 1.01 (95% CI 0.86-1.18)<br>Adj OR 0.775   | 6 |
| <i>Masterton et al (2010)</i> | USA    | Depression<br>Anxiety<br>Any MI | Self-reported depressed days "During the past 30 days, for about how many days have you felt sad, blue, or depressed?" | 2781 females aged >40years   | two years  | <u>All are odds of not receiving mammography</u><br><u>Depression:</u><br>Moderate 1.21 (0.62-2.38)<br>Severe OR 1.49 (0.93-2.40)<br><u>Anxiety:</u><br>Moderate 1.59 (0.85-2.96)<br>Severe 1.46 (0.96-2.23)<br><u>Any MI:</u><br>Moderate 0.94 (0.57-1.56)<br>Severe 1.68 (1.08-2.63) | 6 |
| <i>Ludman et al (2010)</i>    | USA    | Depression                      | Patient health questionnaire, (PHQ- 9)   | 2163 women 40-65 year old  | two years  | OR=0.49, (95% CI =0.31, 0.76)  | 6 |
| <i>Vigod (2011)</i>           | Canada | Depression                      | WMH-CIDI   | 1403 women aged 50-68  | two years  | Depression Adj Or 0.68 (0.29-1.59)   | 6 |
| <i>Aggarwal et al (2008)</i>  | USA    | Distress<br>Depression          | CES-D (Centre for epidemiological studies)   | 93,676 women postmenopausal aged 50-79 of whom 12,621 had symptoms of depression | One year   | Distress adjOR 0.63 (0.40-0.97)<br>OR 0.845 (0.8128 to 0.878)  | 8 |

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|                               |                |            |   |  |             |   |   |
|-------------------------------|----------------|------------|---|--|-------------|---|---|
| <i>Blackwell et al (2008)</i> | Canada and USA | Depression | CIDI  | 471 Canadian women aged 50-69<br>782 American women aged 50-69 | two years   | Canada OR 2.14 (95% CI 0.88-5.20)<br>USA OR .78 (95% CI 0.37-1.65)  | 6 |
| <i>Kempe (2013)</i>           | USA            | Depression | Medical records register                                      | 47,946 women age 52 to 69 years                                | two years   | Adj OR 0.901 (0.855-0.943)  | 7 |
| <i>Schwartz et al (2003)</i>  | USA            | Distress   | Distress: Intrusion subscale of the Impact Event Scale (IES), | 200 females  | one year    | High conscientious<br>adj OR 2.79 (95% CI 0.73 - 10.72).<br>Low conscientious<br>adj OR 0.31 (95% CI 0.10 - 0.96) | 6 |
| <i>Thorpe et al (2006)</i>    | USA            | distress   | SF12 mental component subscale                                | 19,462 women over the age of 65                                | 2 years     | adj OR 0.68 (0.34-1.37)   | 7 |
| <i>Leiferman et al (2006)</i> | USA            | Distress   | Mhi-5   | 426 women 18 or older  | three years | OR 0.61 (0.35 to 1.06)  | 6 |
| <i>Lasser et al (2003)</i>    | USA            | Any MI     | Prime MD questions  | 526 women aged 40-70   | two years   | OR 0.35 (0.24 - 0.51)   | 6 |
| <i>Yee et al. (2011)</i>      | USA            | Any MI     | ICD9 code   | 606 women with mean age of 57 years                            | 3 years     | adj OR 0.79 (0.5-1.25)  | 6 |
| <i>Koroukian (2012)</i>       | USA            | Any MI     | ICD9 code   | 130,088 women 50-64  | 6 years     | Adj OR 0.68 (95% CI .66, - 0.70).   | 8 |

**Key :** MI= mental illness, SMI= severe mental illness, OR odds ratio, CI=confidence interval, adj = adjusted, NOS= Newcastle Ottawa Scale

Table DS2. Summary of estimates of excess mortality.

|  | Prevalence<br>(12month)<br>41-42 | OR                           | Relative Risk (RR)              | Missed<br>Estimate               | Screening | Excess<br>estimate    | mortality |
|--|----------------------------------|------------------------------|---------------------------------|----------------------------------|-----------|-----------------------|-----------|
| <i>Any mental illness</i>              | 27%*                             | 0.71<br>(95% CI: 0.66-0.77)  | 0.914<br>(95% CI 0.894 – 0.936) | 45,047<br>(95% CI 33,523-55,523) |           | 90<br>(95% CI 67-111) |           |
| <i>Mood Disorders</i>                  | 9%*                              | 0.83<br>(95% CI: 0.76-0.90)  | 0.955<br>(95% CI 0.932 - 0.975) | 7,857<br>(95% CI 4,365-11,873)   |           | 16<br>(95% CI 9-24)   |           |
| <i>Severe Mental<br/>Illness (SMI)</i> | 4%*                              | 0.544<br>(95% CI: 0.45-0.65) | 0.838<br>(95% CI 0.781 – 0.890) | 12,571<br>(95% CI 8,536-16,994)  |           | 25<br>(95% CI 17-34)  |           |

Legend Calculation assumes 77.0% general population screening uptake and 1.94million screens. \* Prevalence figures from Baumeister H1, Härter M. Prevalence of mental disorders based on general population surveys. Soc Psychiatry Psychiatr Epidemiol. 2007 Jul;42(7):537-46. and Wittchen HU, Jacobi F (August 2005). Size and burden of mental disorders in Europe--a critical review and appraisal of 27 studies. Eur Neuropsychopharmacol 15 (4): 357–76.