

## Supplementary Online Content

Katon W, Pedersen HS, Ribe AR, et al. Effect of depression and diabetes mellitus on the risk for dementia: a national population-based cohort study. *JAMA Psychiatry*. Published online April 15, 2015. doi:10.1001/jamapsychiatry.2015.0082.

**eAppendix 1.** Information on Depression Obtained From the Danish Psychiatric Central Research Register and the Danish National Prescription Registry

**eAppendix 2.** Information on Severe Mental Illness Obtained From the Danish Psychiatric Central Research Register

**eAppendix 3.** Information on Diabetes Mellitus Obtained From the Danish National Diabetes Register

**eAppendix 4.** Information on Dementia Obtained From the Danish Psychiatric Central Research Register, the Danish National Patient Register, and the Danish National Prescription Registry

**eAppendix 5.** Information on Marital Status Obtained From the Danish Civil Registration System

**eAppendix 6.** Information on Chronic Diseases and Diabetic Complications Obtained From the Danish National Patient Register

This supplementary material has been provided by the authors to give readers additional information about their work.

**eAppendix 1. Information on depression obtained from the Danish Psychiatric Central Research Register and the Danish National Prescription Registry**

***A diagnosis of depression was identified if at least one of the following criteria applied:***

1. Registration of a diagnosis of depression in the Danish Psychiatric Central Register.

**And/or**

2. Registration of at least one prescription of antidepressants redeemed in the Danish National Prescription Registry

|   |               |
|---|---------------|
| <b><i>Diagnosis according to a record of depression in the Danish Psychiatric Central Register:</i></b> |               |
| <b>ICD-8</b>  | <b>ICD-10</b> |
| 296.09, 296.29, 296.99, 298.09, 300.49, and 300.19  | F32, F33      |

***Diagnosis according to a record of prescriptions for antidepressants in the Danish National Prescription Registry:***

| <b>Name</b>                                     | <b>Drug</b>  | <b>ATC-codes</b> |
|---|--|------------------|
| SSRI (Selective serotonin re-uptake inhibitors) | Fluoxetine, citalopram, paroxetine, sertraline, fluvoxamine, and escitalopram  | N06AB            |
| MAOIs (Monoamine oxidase inhibitors)            | Isocarboxazid and moclobemide  | N06AF, N06AG     |
| Other antidepressants                           | Mianserin, nefazodone, mirtazapine, venlafaxine, reboxetine, duloxetine, and agomelatine   | N06AX            |
| Tricyclic antidepressants (TCAs)                | Desipramine, imipramine, imipramine oxide, clomipramine, opipramol, trimipramine, lofepramine, dibenzepin, amitriptyline, nortriptyline, protriptyline, doxepin, iprindole, melitracen, butriptyline, dosulepin, amoxapine, dimetacrine, amineptine, maprotiline, quinupramine | N06AA            |

**eAppendix 2. Information on severe mental illness obtained from the Danish  
Psychiatric Central Research Register**

|                             | <b>ICD-8</b>           | <b>ICD-10</b> |
|-----------------------------|------------------------|---------------|
| Schizophrenia               | 295 (excluding 295.79) | F20           |
| Schizoaffective disorders   | 295.79, 296.8          | F25           |
| Bipolar affective disorders | 296.19, 296.39         | F30, F31      |

**eAppendix 3. Information on diabetes mellitus obtained from the Danish National Diabetes Register**

**Algorithm: *Individuals were classified as having diabetes on the day where at least one of the following six criteria was met:***

1. A diagnosis of diabetes made at any Danish hospital as registered in the Danish National Patient Register (ICD-8:249, 250; ICD-10:E10-14, H36.0, O24, excluding O24.4).
2. A referral to chiropody of diabetic patients as registered in the Danish National Health Service Register. [REMOVED HYPERLINK FIELD][REMOVED HYPERLINK FIELD]
3. Five blood glucose measurements within one year as registered in the Danish National Health Service Register.
4. Two blood glucose measurements per year for five consecutive years as registered in the Danish National Health Service Register.
5. Two redemptions of oral anti-diabetic drugs within six months as registered in the Danish National Prescription Registry.
6. Two redemptions of prescribed insulin as registered in the Danish National Prescription Registry.

## **OUTCOME**

### **eAppendix 4. Information on dementia obtained from the Danish Psychiatric Central Research Register, the Danish National Patient Register, and the Danish National Prescription Registry**

***A diagnosis of dementia was identified if at least one of the following criteria applied:***

1. Registration of a diagnosis of dementia in the Danish Psychiatric Central Register or the Danish National Patient Register.

**And/or**

2. Registration of at least one prescription of anti-dementia drug redeemed in the Danish National Prescription Registry

***Diagnosis according to a record of dementia in the Danish Psychiatric Central Register or the Danish National Patient Register.***

|                                | <b>ICD-8</b> | <b>ICD-10</b>  |
|--------------------------------|--------------|--|
| AD (Alzheimer's disease)       | 290.10       | F00.0, F00.1, F00.2, F00.9, G30.0, G30.1, G30.8, G30.9 |
| VaD (Vascular dementia)        | 293.09-19    | F01.0, F01.1, F01.2, F01.3, F01.8, F01.9               |
| FTD (Frontotemporal dementia)  | 290.11       | F02.0  |
| Dementia without specification | 290.09-19    | F03.9  |

***Diagnosis according to a record of prescriptions for anti-dementia drugs in the Danish National Prescription Registry:***

| <b>Name</b>         | <b>Drug</b>  | <b>ATC-codes</b> |
|---------------------|--------------|------------------|
| Anticholinesterases |              |                  |
|                     | Tacrine      | N06DA01          |
|                     | Donepezil    | N06DA02          |
|                     | Rivastigmine | N06DA03          |

|                           |                         |         |
|---------------------------|-------------------------|---------|
|                           | Galantamine             | N06DA04 |
|                           | Donepezil and Memantine | N06DA52 |
| Other anti-dementia drugs |                         |         |
|                           | Memantine               | N06DX1  |

## COVARIATES

### **eAppendix 5. Information on marital status obtained from the Danish Civil Registration System**

|                            |  |
|----------------------------|--|
| Family type/marital status |  |
| Single                     |  |
| Partners/married           |  |

**eAppendix 6. Information on chronic diseases and diabetic complications obtained from the Danish National Patient Register**

|                                | <b>ICD-8</b>   | <b>ICD-10</b>   |
|--------------------------------|--|---|
| Ischemic heart disease         | 410–414  | I20–I25   |
| Congestive heart failure       | 427.09, 427.10, 427.11, 427.19, 428.99, 782.49                           | I50; I11.0; I13.0; I13.2  |
| Peripheral vascular disease    | 440, 441, 442, 443, 444, 445,  | I70; I71; I72; I73; I74; I77  |
| Atrial fibrillation or flutter | 427.93, 427.94   | I48   |
| Cerebrovascular disease        | 430-438  | I60-I69; G45; G46   |
| Traumatic Brain Injury         | 850.99, 851.29-854.99, 800.99–801.09, 803.99                             | S06.0, S06.1-S06.9, S02–S02.1, S02.7, S02.9                               |
| Chronic pulmonary disease      | 490-493, 515-518   | J40-J47; J60-J67; J68.4; J70.1; J70.3; J84.1; J92.0; J96.1; J98.2; J98.3  |
| Renal Disease                  | 249.02, 250.02, 403,404,580-583, 584, 590.09, 593.19, 753.10-753.19, 792 | I12; I13; N00-N05; N07; N08.3, N11; N14; N17-N19; Q61 E10.2, E11.2, E14.2 |
| Retinopathy                    | 249.01, 250.01, 377.00   | H33.4, H36.0, H43.1, H45.0, E10.3, E11.3, E14.3                           |
| Neuropathy                     | 249.03, 250.03   | G62.9, G63.2, E10.4, E11.4  |