

## **APPENDICES**

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## **APPENDIX 1: Explanation of the Indication Hierarchy**

### **Appendix 1: The Indication Hierarchy**

Wallach Kildermoes (6) constructed a hierarchy of indications for which statins were prescribed. The hierarchy consisted of myocardial infarction (MI), ischaemic heart disease (IHD), stroke, peripheral arterial disease (PAD), other potential atherosclerotic disease (PAC), diabetes, primary hypertension, as well as a group with no markers of diagnosis. The cohort examined were discharged patients from Danish hospitals who had been given discharge diagnoses, according to the International Classification of Diseases (ICD). The TILDA participants, in contrast, self-reported their doctor diagnoses of the various indications and so these may not correspond perfectly with ICD or the Wallach Kildermoes hierarchy. The diagnosis peripheral arterial disease (PAD) was omitted as only those who reported heart attack were asked if they had angioplasty or stent (ph208) and it is not clear whether these procedures were carried out on peripheral blood vessels or coronary. However, for the purpose of this study, the reported diagnoses are classified into a hierarchy of indication largely corresponding with that of Wallach Kildermoes (see Supplementary Table A1.1).

**Table A1: TILDA self-reported doctor diagnoses, corresponding hierarchy of indications and ICD codes**

	<b>Diagnosis on the hierarchy</b>	<b>Diagnosis</b>	<b>ICD 10 code</b>	<b>TILDA self reported doctor diagnoses</b>	<b>TILDA code</b>
<b>1</b>	MI	Myocardial infarction	I21-23, I241, I252	Heart Attack	ph201_3
<b>2</b>	IHD	Ischaemic heart disease	I20, I24-25 (not I241, I252, I253, I254)	Angina	ph201_2
<b>3</b>	Stroke	Stroke	I63-66, I693-94, G45-46	Stroke Ministroke or TIA	ph201_6 ph201_7
<b>4</b>	PAC	Potential artherosclerotic conditions	I50, I11-15, I34-35, I44-45, I46-49	Congestive heart failure Heart murmur Abnormal heart rhythm	ph201_4 ph201_9 ph201_10
<b>5</b>	Diabetes	Diabetes	E10-14	Diabetes	ph201_5
<b>6</b>	Hypertension	Primary hypertension	I10	High blood pressure	ph201_1
<b>7</b>	High cholesterol	High cholesterol	E78	High cholesterol	ph201_8
<b>8</b>	No diagnosis	None of the above diagnoses		None of these (none of the above)	ph201_14

Note: Wallach Kildemoes also includes a category for peripheral artery disease (PAD) but there is no equivalent indication in TILDA. Therefore, this category was excluded.

## Appendix 2: TILDA Variables, Survey Weights Description and Analysis by Gender

**Table A2.1: Variable Definitions**

Variable Name	Variable Description	Recoding
Statins	Statins (ATC code C10AA and C10B)	Recoded from TILDA data which records ATC codes of medications being taken by participants. Generated variable 'MDStatins' from those drugs classified as C10AA (statins alone) and C10B (statins in combination)
Sex	Gender: Male or Female	
Education	Highest educational level achieved: Primary or none; Secondary; Third or higher	
Social class	Social class. These are classified in TILDA as variable 'SESsocial_class' which has nine categories: Not applicable; Professional workers; Managerial and technical; Non-manual; Skilled Manual; Semi skilled; Unskilled: unknown and refused; Farmers. Participants were assigned to one of these categories following responses to questions regarding their job description, nature of business or occupation and farm ownership during the CAPI.	The nine social class categories described in TILDA were recoded into six social class categories: <ol style="list-style-type: none"> <li>1. =Professional workers; Managerial</li> <li>2. =Non-manual; Skilled manual</li> <li>3. =Semi skilled; Unskilled</li> <li>4. =Farmers</li> <li>5. =Not applicable</li> <li>6. =Unknown and refused</li> </ol>
Income	Describes six levels of income. The variable income5 is a recode of si408, a question in the CAPI, which asks how much total income a person earned in the last 12 months.	Recoded within TILDA from the variable si408 "How much income in total have these people received in the previous 12 months, i.e. total income of the household after tax" For respondents who provided a point estimate at si408, this value is used. For respondents who did not provide a point estimate at si408 but provided an "unfolding bracket" at si409, the information from si409 is used. The mid-point of the bracket is used, so someone answering "More than €10,000 but less than €20,000" at si409 would be assigned a value of €15,000.  The categories of income are: <ol style="list-style-type: none"> <li>1. = &lt; €10,000</li> <li>2. = ≥ €10,000, &lt; €20,000</li> <li>3. = ≥ €20,000, &lt; €40,000</li> <li>4. = ≥ €40,000, &lt; €70,000</li> <li>5. = ≥ €70,000, &lt; €2,000,000</li> <li>6. Missing</li> </ol>
Medical Insurance	Three categories describing whether the person has: No medical costs cover; Medical insurance; Medical card	
GPvisits	Number of GP visits in the previous year: 0;1-2;3-4;5-6;7 and over	Recoded from a continuous variable in TILDA (hu005) that recorded the number of GP visits in the previous year.
Polypharmacy	Polypharmacy is defined by TILDA as taking 5 or more medications, excluding supplements. This is a	We created a new polypharmacy variable which excluded statins from the medications that accounted for

	binary variable	polypharmacy, i.e. polypharmacy is now defined as five or more medications, excluding statins
Location	Describes three categories, whether the person: Lives in Dublin city or county; Lives in another urban area; Lives in a rural area	
Lives With	Describes three categories, whether the person is: Living alone; Living with spouse/partner; Living with others	
Indication	A hierarchy of mutually exclusive diagnostic indications for which statins may be prescribed. See Appendix 1	
SCORE	Binary variable describing whether a person's risk SCORE is < 5% or ≥5%. SCORE estimates the probability of a person experiencing a fatal coronary event within the next ten years and is used to inform decision making on interventions to prevent this, such as the prescription of a statin	Risk factors recorded in TILDA are used to calculate SCORE. These are: cholesterol level, systolic blood pressure, smoking status and age.

## Appendix 2: Estimation of the Health Assessment Survey Weights

The estimation of the health assessment weights is described in the TILDA report “Fifty Plus in Ireland - First Results from the Irish Longitudinal Study on Ageing” (24) (page 300). It was calculated using the CAPI weight divided by respondents’ subsequent probability of having completed a health assessment. The CAPI weights were estimated by comparing the numbers of individuals in the sample with a given combination of characteristics with the same number in the population, estimated using the Quarterly National Household Survey (QNHS 2010). The characteristics compared were age, sex and educational attainment. The probability of attending a health assessment was estimated using logistic regression and is based on the characteristics shown to significantly affect participation in the health assessment: those with higher education; people with better health and; those in the youngest age group.