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Long-term health conditions, multiple conditions and multiple risks: methodological innovations on the Scottish Health Survey

Health Survey Users Group

July 2018

Contents

- Background

- Measuring long-term and multiple health conditions in SHeS including prevalence

- Measuring multiple risk factors for health and the association with long-term health conditions

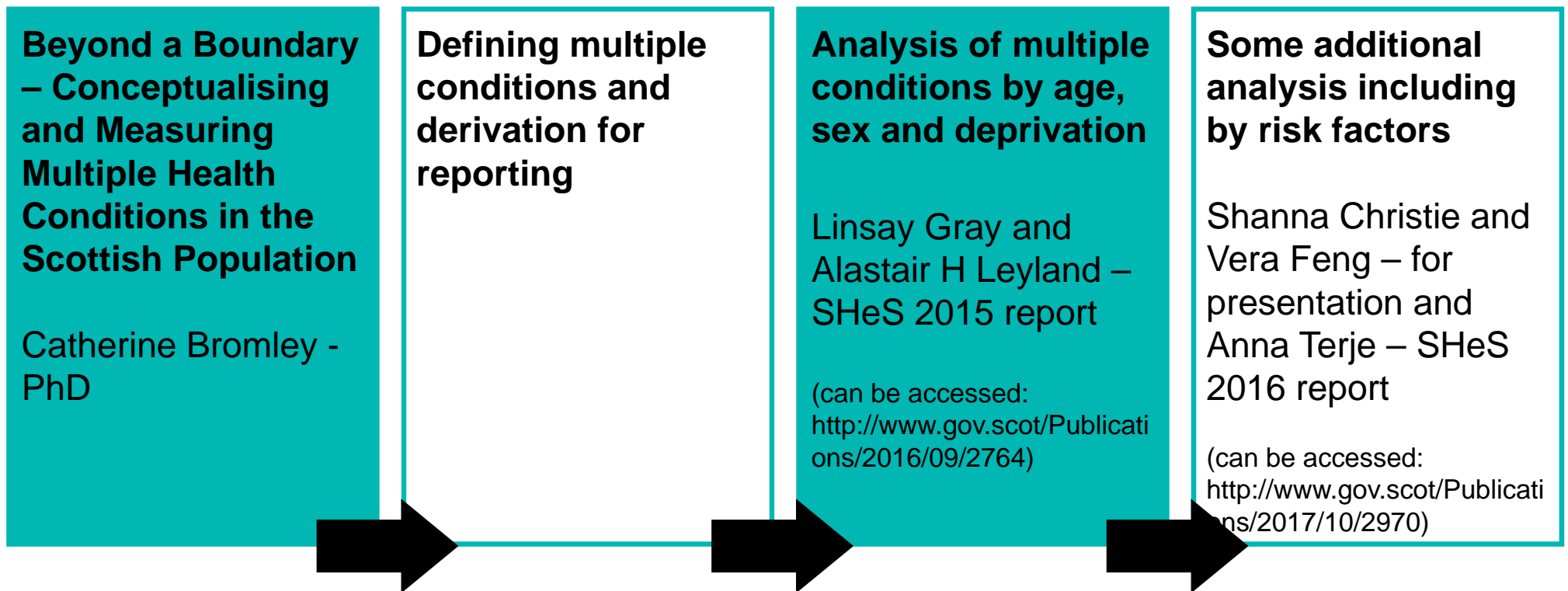- Accessing SHeS data and potential for further research

Background

1.

Background: measuring long-term and multiple health conditions using SHeS

Beyond a Boundary – Conceptualising and Measuring Multiple Health Conditions in the Scottish Population

Catherine Bromley - PhD

Defining multiple conditions and derivation for reporting

Analysis of multiple conditions by age, sex and deprivation

Linsay Gray and Alastair H Leyland – SHeS 2015 report

(can be accessed: http://www.gov.scot/Publications/2016/09/2764)

Some additional analysis including by risk factors

Shanna Christie and Vera Feng – for presentation and Anna Terje – SHeS 2016 report

(can be accessed: http://www.gov.scot/Publications/2017/10/2970)

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Long-term and multiple health conditions

2.

Long-term health conditions

In the Scottish Government's National Action Plan for long-term conditions they were defined as:

Health conditions that last a year or longer, impact on a person's life, and may require ongoing care and support.

Conditions include:

■ Mental health problems

■ Wide range of physical conditions including:

- ■ Chronic pain
- ■ Arthritis
- ■ Inflammatory bowel disease

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Long-term and multiple health conditions in Scotland – the context

Account for **80%** of all GP consultations

(www.gov.scot/Publications/2009/12/03112054/11)

Account for **60%** of all deaths

(www.gov.scot/Publications/2009/12/03112054/11)

Twice as likely to be admitted to hospital and stay **disproportionately** longer

(See: www.gov.scot/Topics/Health/Services/Long-Term-Conditions)

Older people more likely to have more than 1 condition

(www.gov.scot/Publications/2009/12/03112054/11)

Scotland has an **ageing population** (http://www.gov.scot/Topics/People/Equality/Equalities/DataGrid/Age/AgePopMig)

More recognition of co-morbidity of **mental** and **physical health** problems

(www.kingsfund.org.uk/publications/long-term-conditions-and-mental-health)

Mental wellbeing poorer among younger age cohorts

(http://www.gov.scot/Publications/2016/09/2764)

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Measuring long-term health conditions in SHeS including prevalence

3.

Do you have a physical or mental health condition or illness lasting, or expected to last 12 months or more?

Source: Scottish Health Survey

What else is the matter with you?
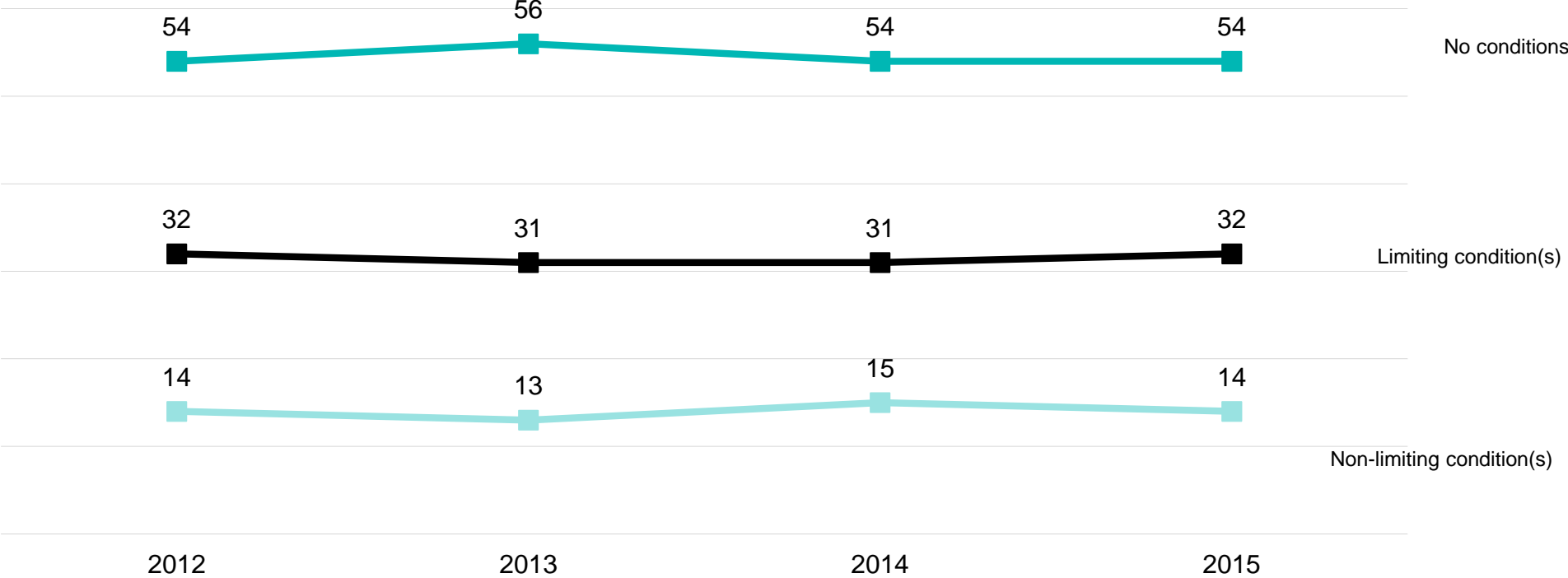
Source: Scottish Health Survey

Analyst coding of self-reported conditions

Conditions coded according to the International Classification of Diseases (ICD10)

42 codes collapsed into 15 chapters

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Analyst coding – 15 chapters (ICD)

- Certain infectious and parasitic diseases
- Neoplasms
- Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
- Endocrine, nutritional and metabolic
- Mental and behavioural disorders
- Diseases of the nervous system
- Diseases of the eye and adnexa
- Diseases of the ear and mastoid process
- Diseases of the circulatory system
- Diseases of the respiratory system
- Diseases of the digestive system
- Diseases of the skin and subcutaneous tissue
- Diseases of the musculoskeletal system and connective tissue
- Diseases of the genitourinary system
- Other long-term conditions

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Trends in prevalence of long-term conditions in adults, 2012-2015

No conditions

	2012	2013	2014	2015
No conditions	54	56	54	54
Limiting condition(s)	32	31	31	32
Non-limiting condition(s)	14	13	15	14

Base: Adults aged 16 and over

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Prevalence of type of condition in adults, 2012-2015 combined

Musculoskeletal system	17.6%
Respiratory system	8.5%
Mental Disorder	7.5%
Hypertension	6.7%
Digestive system	6.0%
Diabetes	4.7%
Other endocrine & metabolic	4.9%
Nerve system	4.4%
Other heart problems	3.5%

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Prevalence of type of condition in adults, 2012-2015 combined: cont.

Neoplasms & benign growths	2.2%
Eye complaints	2.0%
Ear complaints	1.8%
Angina	2.2%
Genito-urinary system	2.2%
Skin complaints	2.0%
Stroke	0.9%
Blood and related organs	1.1%
Other circulatory system	1.4%
Infectious diseases.	0.2%
Other complaints	0.3%

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Prevalence of long-term conditions in adults, 2012-2015 combined, by age and sex

■ Men   ■ Women

Base: All adults aged 16 and over

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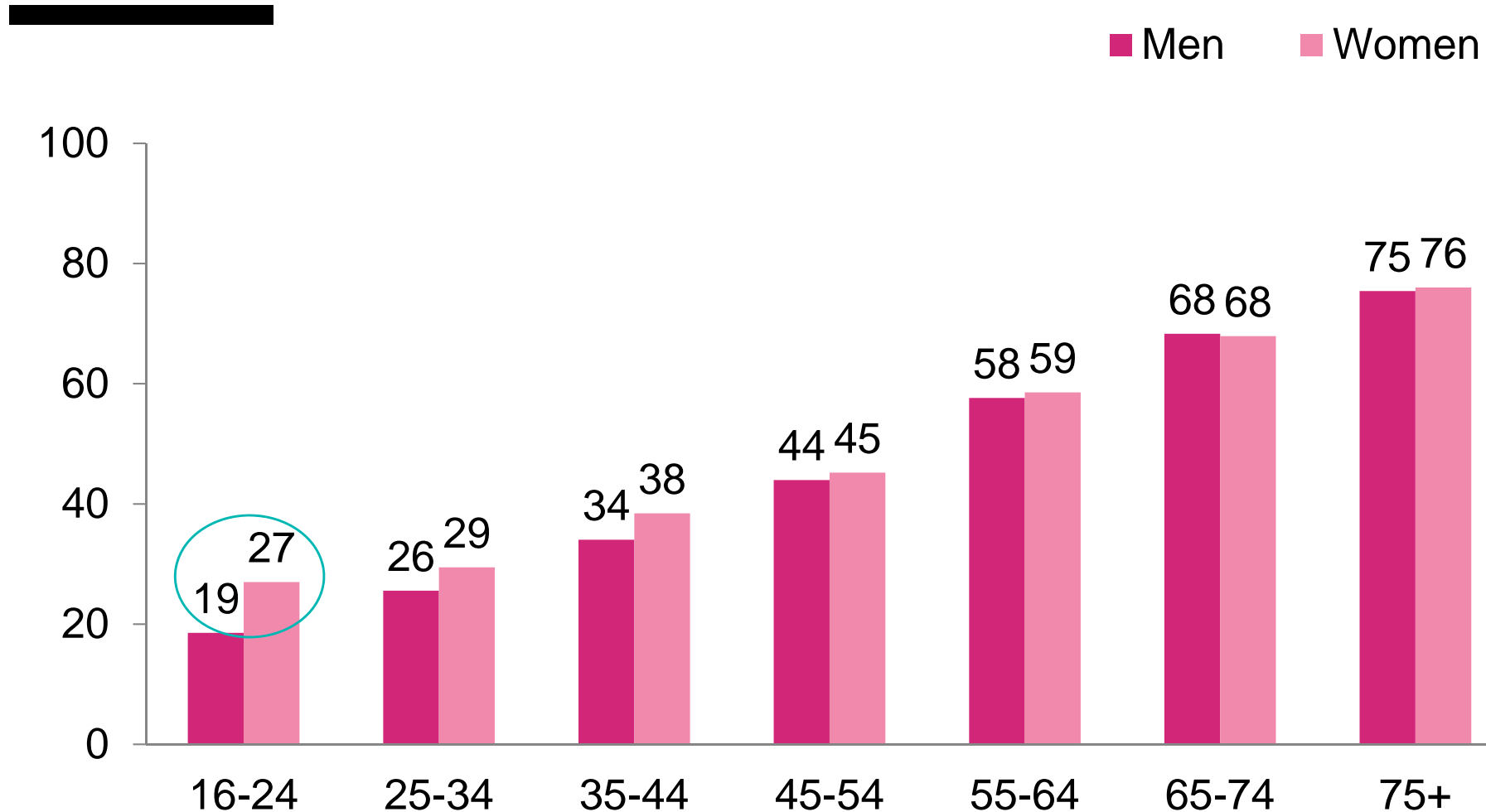
16-24

Respiratory	7.2%
Mental disorders	5.2%
Musculoskeletal system	4.1%
Skin complaints	2.8%
Digestive system	2.5%

75+

Musculoskeletal system	38.3%
Hypertension	16.0%
Other heart problems	13.6%
Respiratory system	10.6%
Diabetes	10.0%

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Measuring multiple health conditions in SHeS including prevalence

4.

Analyst coding: ICD Chapters

- Certain infectious and parasitic diseases
- Neoplasms
- Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
- Endocrine, nutritional and metabolic
- Mental and behavioural disorders
- Diseases of the nervous system
- Diseases of the eye and adnexa
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- Diseases of the skin and subcutaneous tissue
- Diseases of the musculoskeletal system and connective tissue
- Diseases of the genitourinary system
- Other long-term conditions

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Analyst coding: Extension of chapters

- Certain infectious and parasitic diseases
- Neoplasms
- Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
- Endocrine, nutritional and metabolic
- Mental and behavioural disorders
- Diseases of the nervous system
- Diseases of the eye and adnexa
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- Other long-term conditions

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Endocrine, nutritional and metabolic

- Diabetes
- Other endocrine and metabolic illnesses

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Diseases of the circulatory system

- Stroke
- Angina
- Hypertension
- Other heart problems
- Other circulatory problems

Additional specific health condition information

Were you told **by a doctor or nurse** that you had high blood pressure?
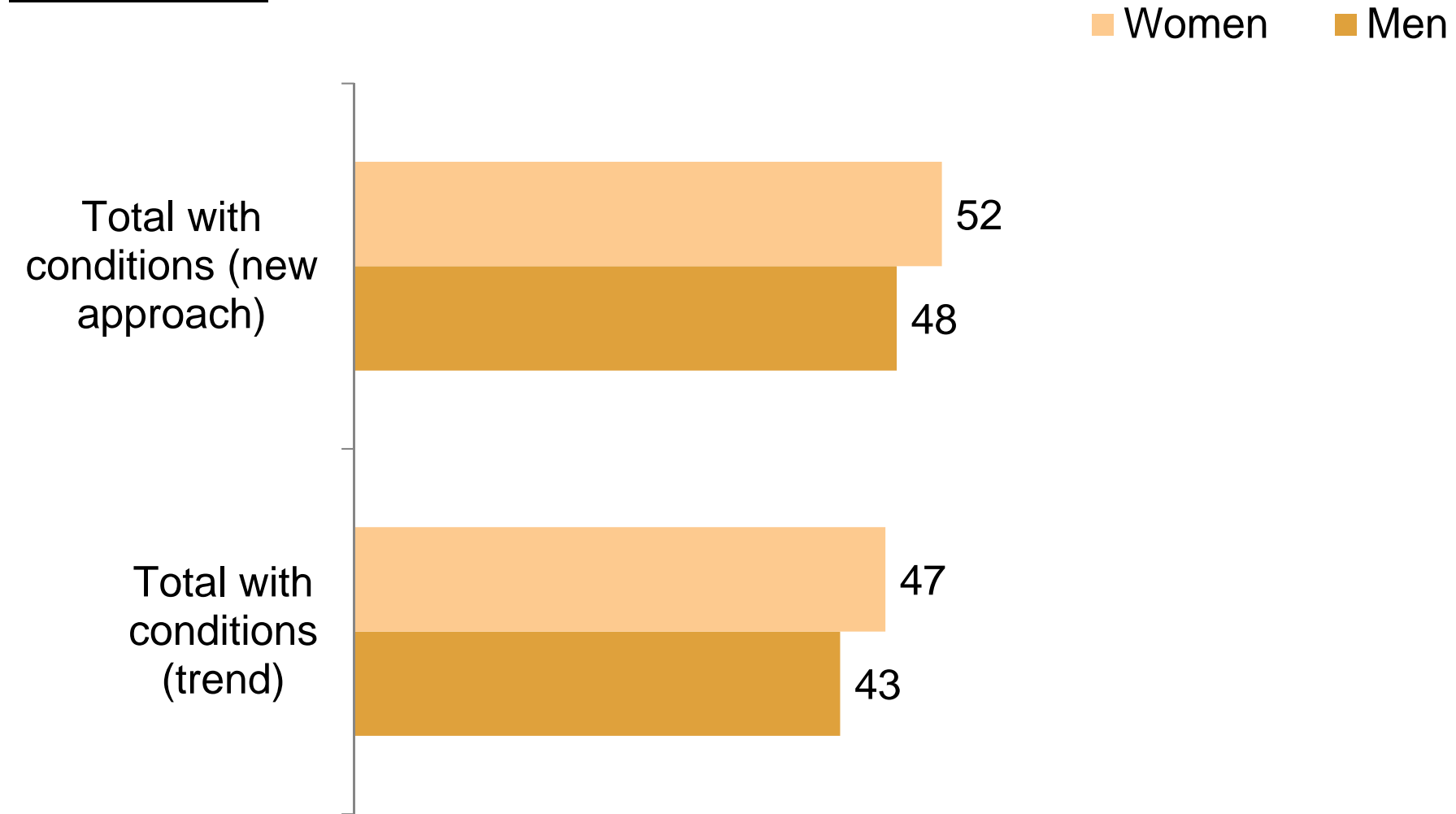
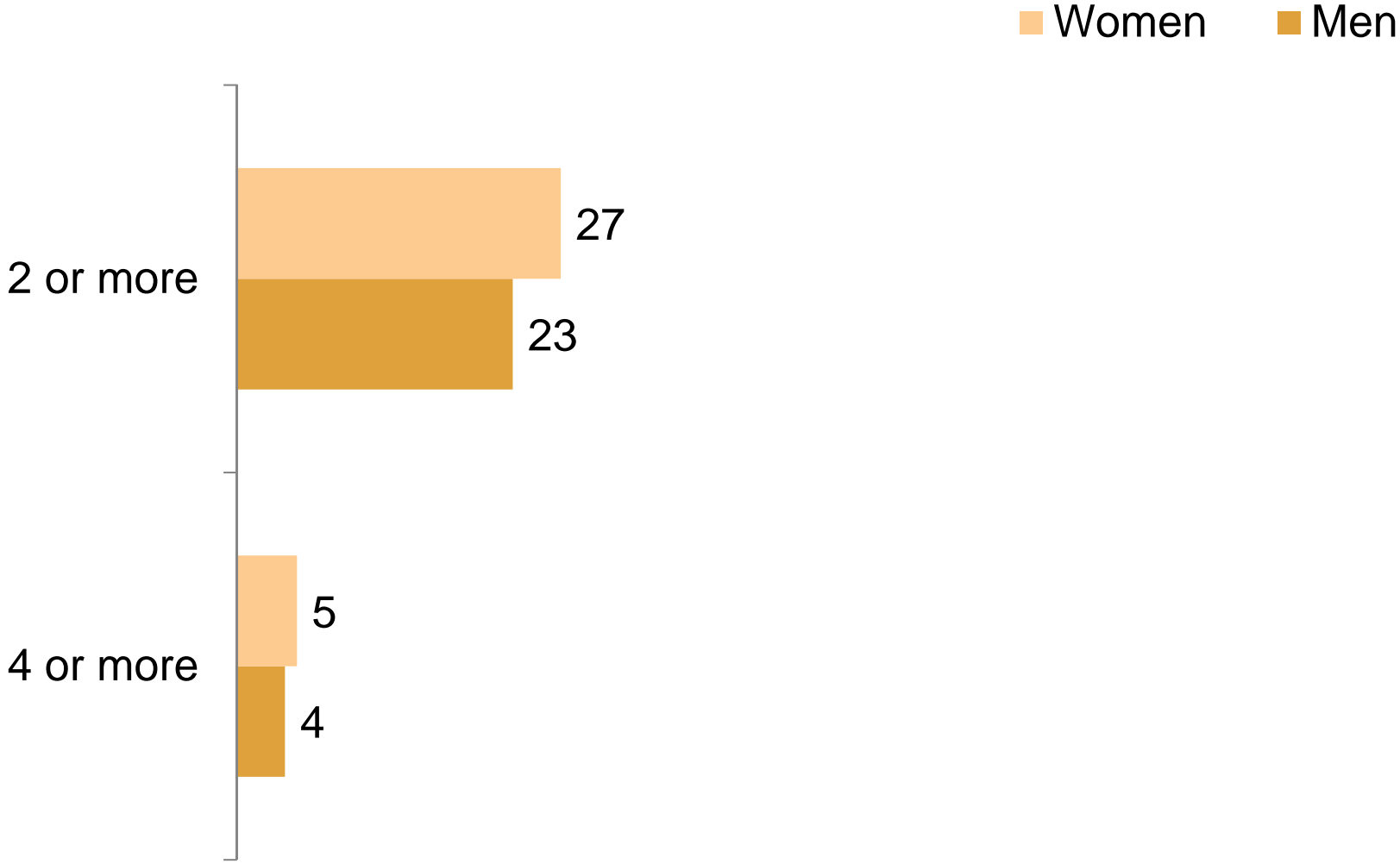Were you told by a doctor that you had diabetes?

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Summary derivation

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potential conditions

Physical conditions
Including all conditions with the exclusion of the mental behavioural disorders chapter of ICD.

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Prevalence of long-term conditions (1 or more) in adults, 2012-2015 combined, by sex

Legend: ■ Women ■ Men

Category	Women	Men
Total with conditions (new approach)	52	48
Total with conditions (trend)	47	43

Base: All respondents

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Prevalence of multiple conditions (2 or more) in adults, 2012-2015 combined, by sex

Legend: Women, Men

2 or more
- Women: 27
- Men: 23

4 or more
- Women: 5
- Men: 4

Base: All respondents

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Prevalence of multiple (2+) conditions in adults, 2012-2015 combined, by age and sex

■ Men ■ Women

Base: All adults aged 16 and over

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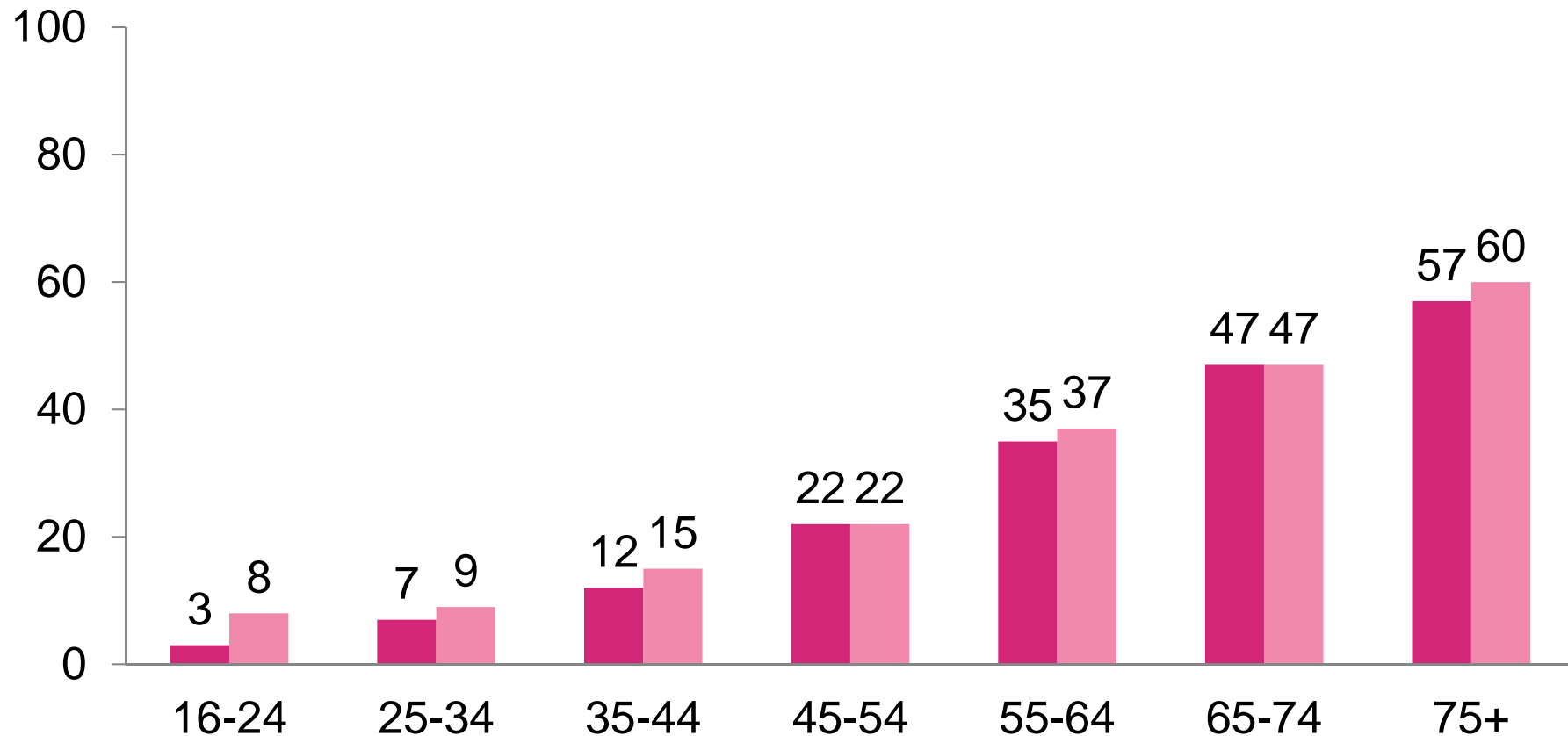
Mean number of conditions in adults, 2012-2015 combined, by age and sex
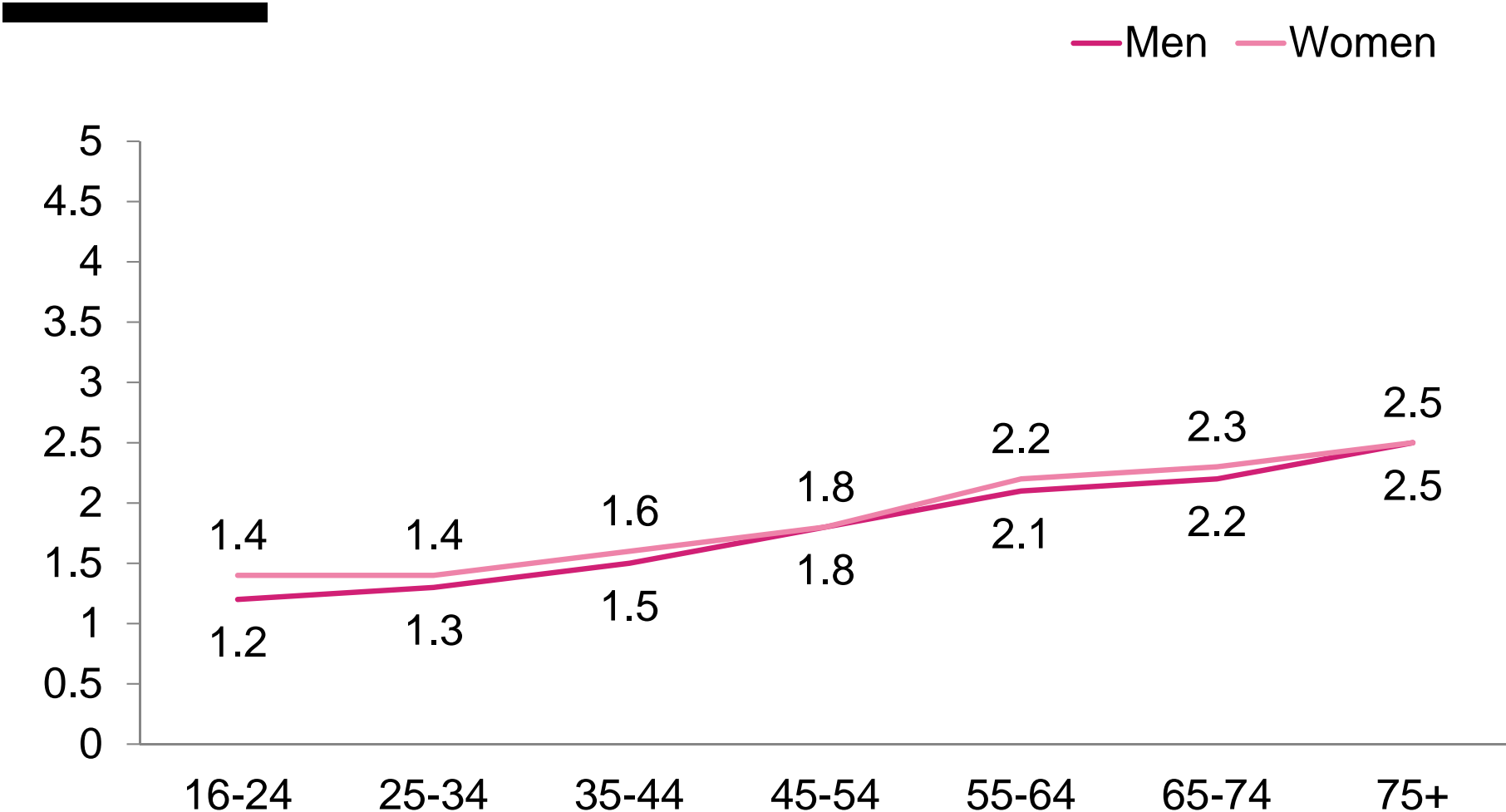
Men —— Women ——

Base: All respondents

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Prevalence of multiple (2+) conditions in adults, age-standardised, 2012-2015 combined, by area deprivation and sex

■ Men **■ Women**

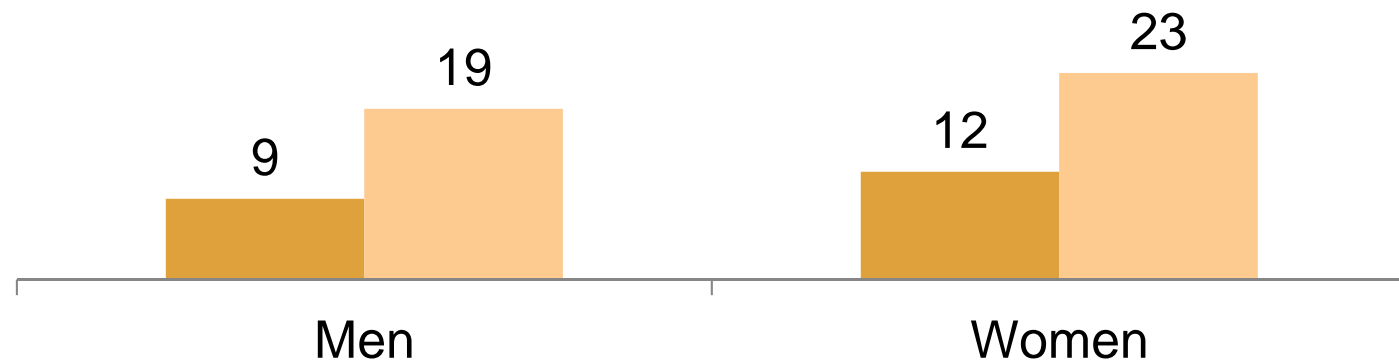| Deprivation	Men	Women
5th (least deprived)	17	20
4th	20	20
3rd	24	27
2nd	26	32
1st (most deprived)	32	36

Base: All adults aged 16 and over

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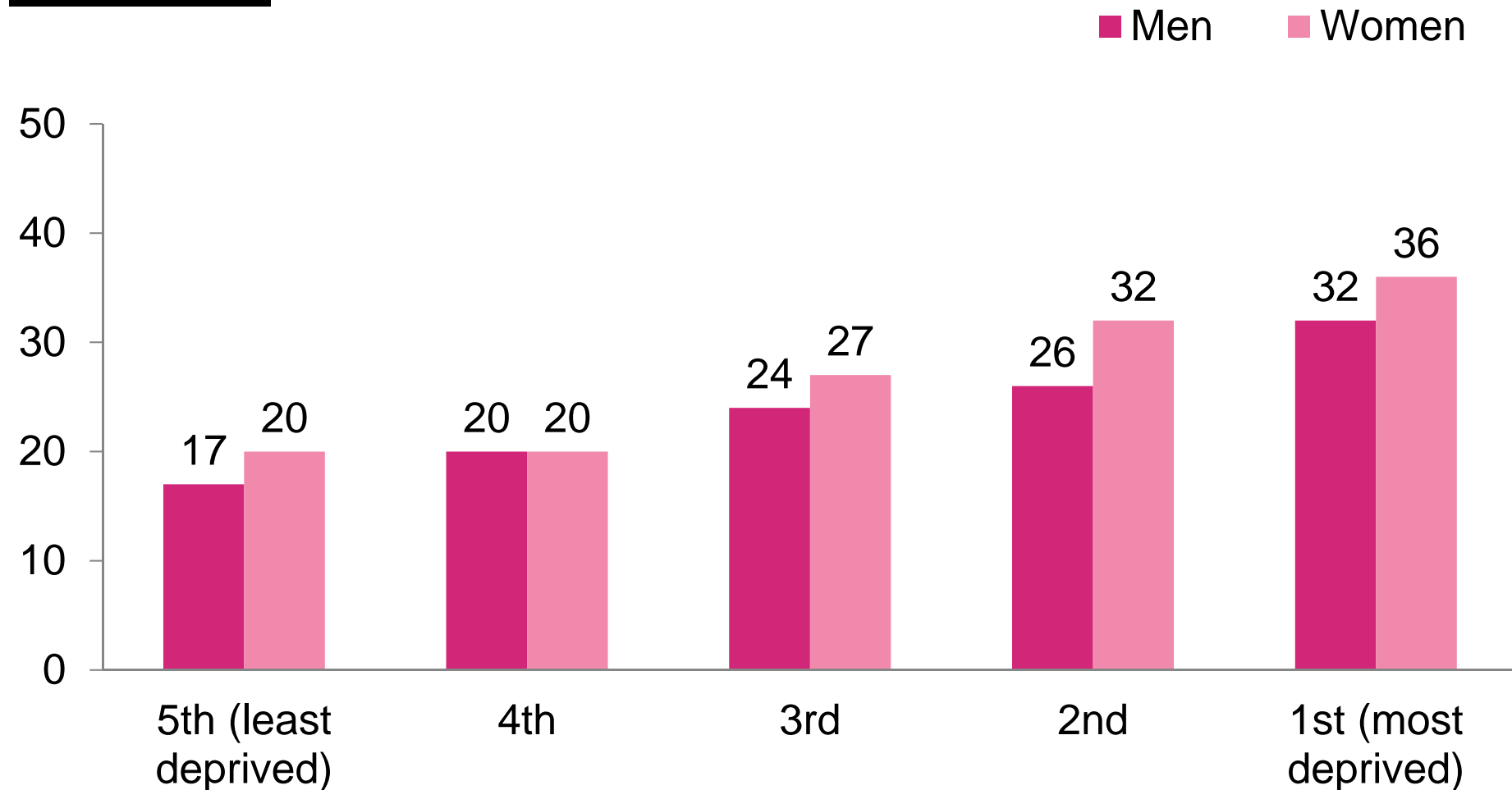
Prevalence of multiple (4+) conditions in adults, age-standardised, 2012-2015 combined, by area deprivation and sex
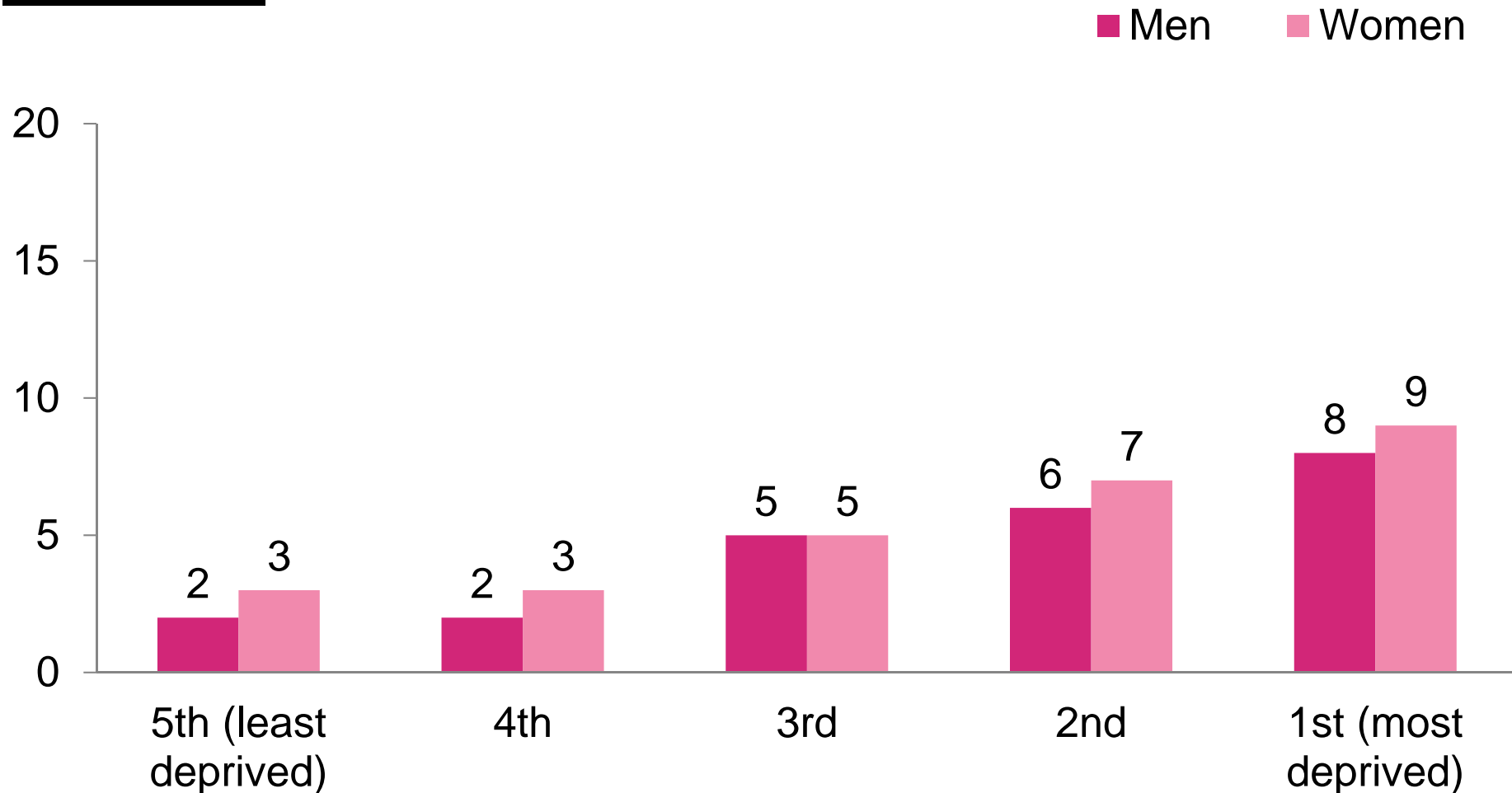
■ Men ■ Women

	5th (least deprived)	4th	3rd	2nd	1st (most deprived)
Men	2	2	5	6	8
Women	3	3	5	7	9

Base: All adults aged 16 and over

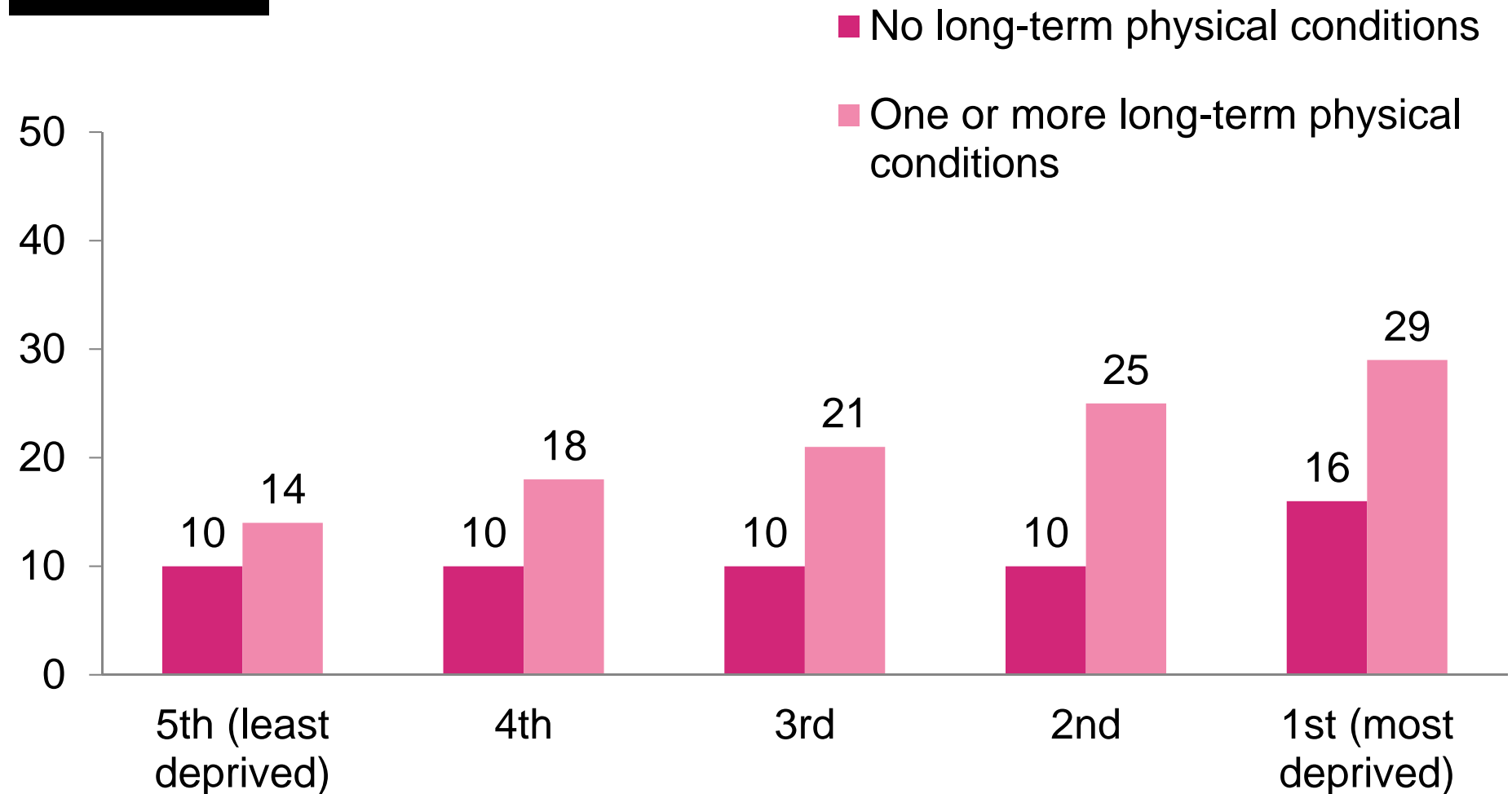**ScotCen**
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Symptoms of distress (using GHQ12)(score of 4 or more), age-standardised, 2012-2015 combined, by presence of physical conditions and sex

■ No long-term physical conditions

Men: 9, 19
Women: 12, 23

Base: All respondents

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Symptoms of distress (using GHQ12)(score of 4 or more), age-standardised, 2012-2015 combined, by presence of physical conditions and deprivation

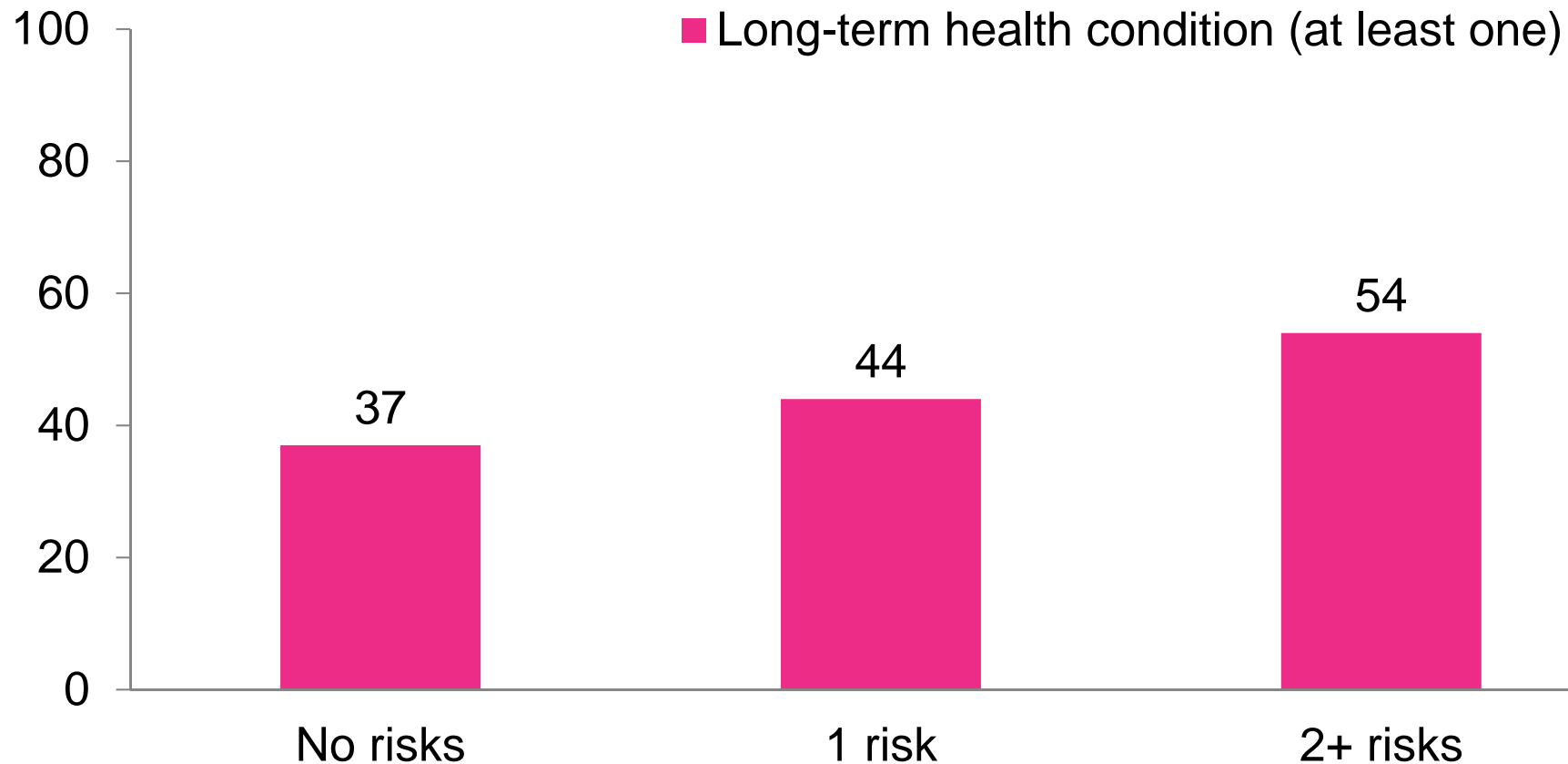Base: All adults aged 16 and over

Measuring multiple risk factors for health

5.

Health behavioural risk factors

Not meeting physical activity guidelines

+

BMI of overweight including obese

+

Drinking over weekly alcohol guidelines (14 or more units)

+

Current cigarette smoker

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Prevalence of long-term conditions in adults, age-standardised, 2016, by multiple risks

■ Long-term health condition (at least one)

Category	Value
No risks	37
1 risk	44
2+ risks	54

Base: All adults aged 16 and over

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Accessing SHeS data and potential for further research

6.

SHeS data access

Available through the UK Data Service (once registered).

Available data:

- Up to 2016

- Most recent 4 year dataset – 2013-2016 combined

- 2017 available Autumn 2018

- Derived variable syntax

- Bear in mind sample design means different weights are needed depending on variable of interest and not all variables included in every year of dataset

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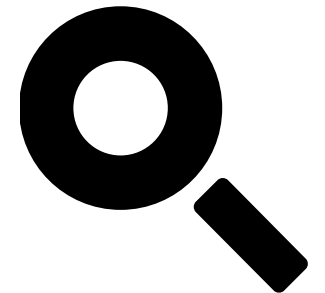
What linked data is there?

What Linked Data is Available?

Consent currently from around 85% of participants

We ask consent from all participants (adults and children) for linkage to NHS patient records:

In-patient and out-patient visits to hospital, length of stay, waiting time etc

Specific medical conditions, e.g. cancer, heart disease, diabetes

Registration with practitioner, date and cause of death

How to Access?

Contact Information Services Division (part of NHS Services Scotland)

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Follow-up research

Participants are asked at the end of the interview for their consent to be contacted to take part in further health related research.

- Scottish Government sample therefore apply to SG

- Useful if want to reach particular groups of people e.g. young people

- Possible for mixed-method research e.g. qual to find out how and why after found out what and who

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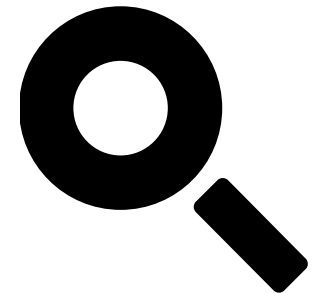
Summary

7.

Summary

- SHeS – unique, large-dataset, with thousands of variables of interest and readily available

- Long-term and multiple conditions as showcase to show its potential

- Measuring long-term and multiple conditions – both complex and necessary (due to scale of problem)

- Analysis shows:
  - Related to age, sex and level of deprivation (but not only older people!)
  - Physical long-term health conditions associated with mental health conditions
  - Long-term health conditions linked with poor lifestyle behaviours

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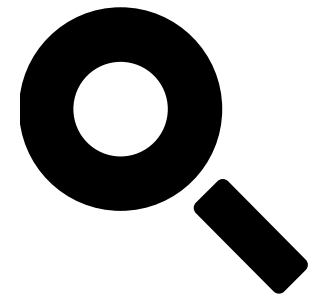
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