Making the case for integrating physical and mental health services in England

The physical health of people who use mental health services; life expectancy, acute hospital use and opportunities to improve service quality and efficiency.

The Strategy Unit.

NHS
Midlands and Lancashire
Commissioning Support Unit

Contents

The Strategy Unit.

Summary of key findings

Life expectancy

The life expectancy of mental health services users across the whole of England is **63.1** (males) and **69.2** (females).

This represents a gap to the rest of the population of **19.1** years in men and **16.1** years in women. These gaps have decreased by a small but significant amount since 2006.

Mortality patterns

Age-adjusted mortality rates are higher for mental health services users than the rest of the population for all underlying causes of death.

The largest differentials in mortality are for external causes (injury, poisoning, suicide), digestive diseases and endocrine diseases. For the biggest killers (circulatory disease and cancer) death rates for mental health service users are 2-3 times higher.

Acute utilisation

Mental health services users use acute hospital services disproportionately. This is particularly so for attendances to A&E and emergency admissions to hospital. The use of diagnostics is also relatively high, as are the 'did not attend' (DNA) rates for outpatient appointments.

Saving and re-investment opportunities

By investing in evidence-based interventions for improving access and health outcomes for mental health patients, there is the potential to reduce spend on acute care by up to **£65m** on activity in Emergency Departments and by up to **£1.45bn** for emergency inpatient admissions – around 9.3% of total CCG spend on Mental Health disorders according to programme budgeting data.

This represents the gap in acute healthcare utilisation compared to non-mental health services users for just a small sub-set of hospital activity that is particularly amenable to preventative or demand management strategies.

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Introduction and purpose of national report

Introduction and purpose

The Strategy Unit, implementing novel analysis of national linked datasets on mental and physical health, have been working with the Black Country STP partners to address the inequalities in outcomes and patterns of acute hospital utilisation for mental health service users.

In January 2017, NHS England commissioned the Strategy Unit to develop and repeat the analysis for each of the 44 STPs in the country under the umbrella of the **five year forward view for mental health**.

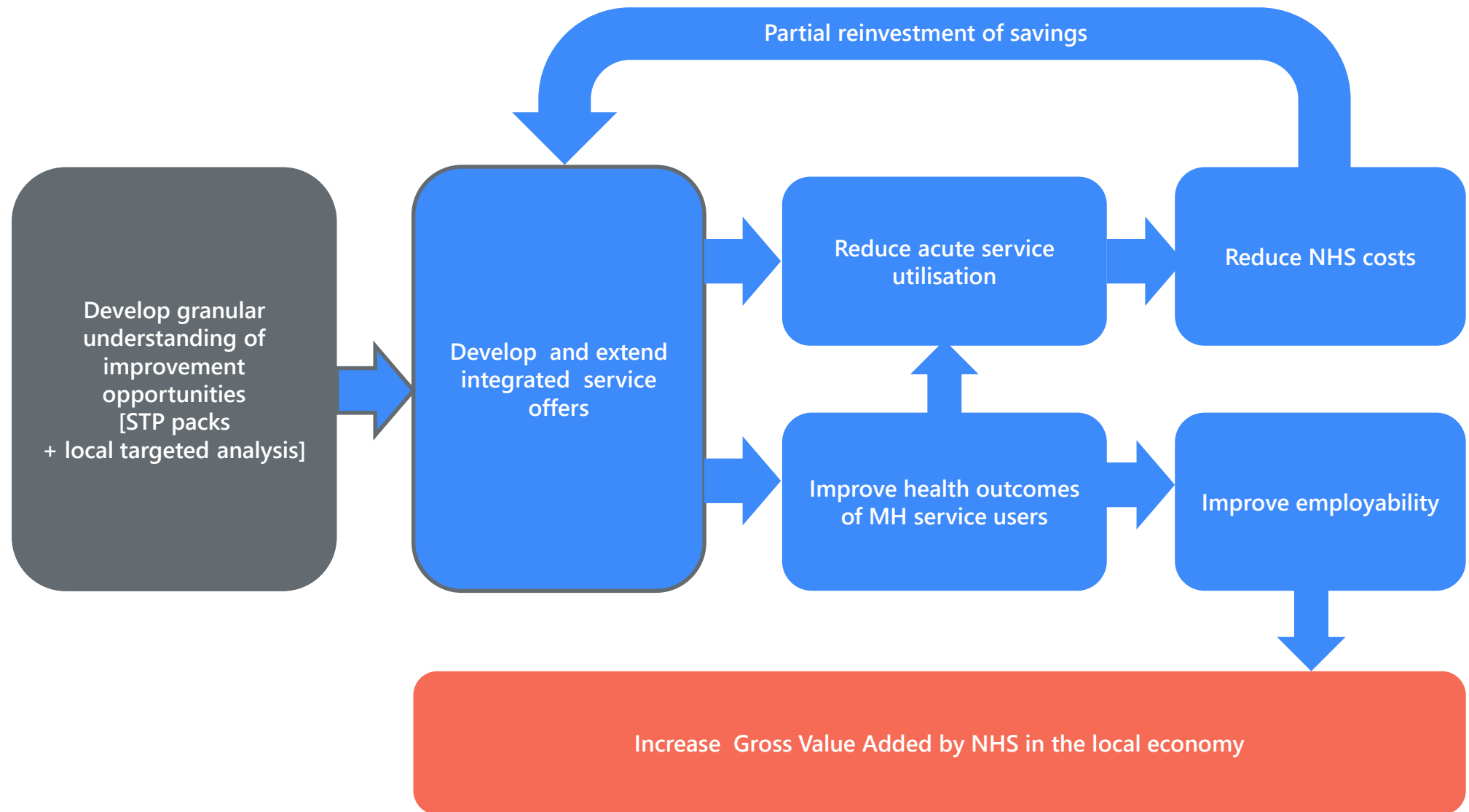Those reports are now completed and available to STPs and any other interested parties upon request from:

http://www.strategyunit.co.uk/publications/making-case-integrating-mental-and-physical-health-care-full-report

This report takes an aggregated look at the key information contained in the STP reports for the country (England) as a whole whilst also exploring the variation in outcomes and metrics across the STPs. It is intended to support national level discussion on the most appropriate strategy for improving the lives and care of specialist mental health service users and key areas to focus on for the integration of mental and physical health care services.

This supplementary report may also provide a baseline for the long-term measurement of the impact of the five year forward view priorities, new national and local strategies and other work in this important area over the coming years.

The following pages represent a simple logic model for responding to this report and clarifying for the reader what the full STP report does and doesn't do.

Suggested logic model for response to integrating mental and physical health care STP reports

Partial reinvestment of savings

Develop granular understanding of improvement opportunities [STP packs + local targeted analysis]

Develop and extend integrated service offers

Reduce acute service utilisation

Reduce NHS costs

Improve health outcomes of MH service users

Improve employability

Increase Gross Value Added by NHS in the local economy

What the STP-level report does and doesn't do

What it does

- Aims to set out a compelling case for change and for collective prioritisation of the gap between the physical health of those using mental health services and the rest of the population.

- Provides data-linked intelligence on the physical health challenges facing people with mental health conditions.

- Gives insight to STPs on how their mental health service users are using acute hospital services.

- Groups service users into several high level sub-groups (cohorts) that could benefit from targeted interventions.

- Identifies some areas of hospital care that, if targeted, may improve patient outcomes and commissioning budgets.

- Provides a summary of effective interventions for improving the physical health of specialist mental health service users.

- Provide a platform for clinical engagement on integration in STPs.

What it doesn't do

- Tell the whole story...it is a significant piece of analysis but it has limitations; some by design, some because of data availability. We have tried to be very clear about such limitations.

- Include insight into Children and Young People (CYP), those with substance misuse or utilisation of Primary Care services – national datasets don't permit this currently.

- Tell STPs what to put into their plan submissions.

- Tell STPs what to specify for follow-up deep-dive analysis to support local decision making.

- Provide a detailed analysis of mental and physical health care pathways, in that it does not include data on primary care, social care or CYP services.

- Model the likely health improvements or economic impacts of implementing a range of interventions.

Opportunities for future (analytical) work

- Link with Primary Care long-term conditions data

- Detailed analysis of other specified sub-groups not covered e.g. CAMHS, substance misuse

- Link with IAPT data

- Describe mental health service utilisation and pathways experienced by service users

- Identify the sub-acute mental health population and opportunities for early interventions

- Modelling of demand for dementia and older people's mental health services

Report context – description of service users [1]

1.7 million people were in contact with specialist mental health services at some point during 2014/15 and many more with common conditions are managed (or perhaps not managed) in other primary care and community settings. The numbers appear to be increasing however some of this is likely due to improvements in the quality of data in minimum datasets and the increasing scope of those datasets over time.

It is estimated that the economic and social cost of mental health problems exceed £100 billion each year [Centre for Mental Health, 2010]. CCG programme budget returns account for around £16 billion of that [DOH, 2013/14].

There are slightly more women (54%) than men (46%) in contact with services, due in part to the larger number of elderly women with dementia. The average age of service users was 50 and 54 (male and female) respectively. The overall age profile differs to the general population with the dementia cohort again skewing the distribution.

Age profile of mental health service users and general population, England, 2014
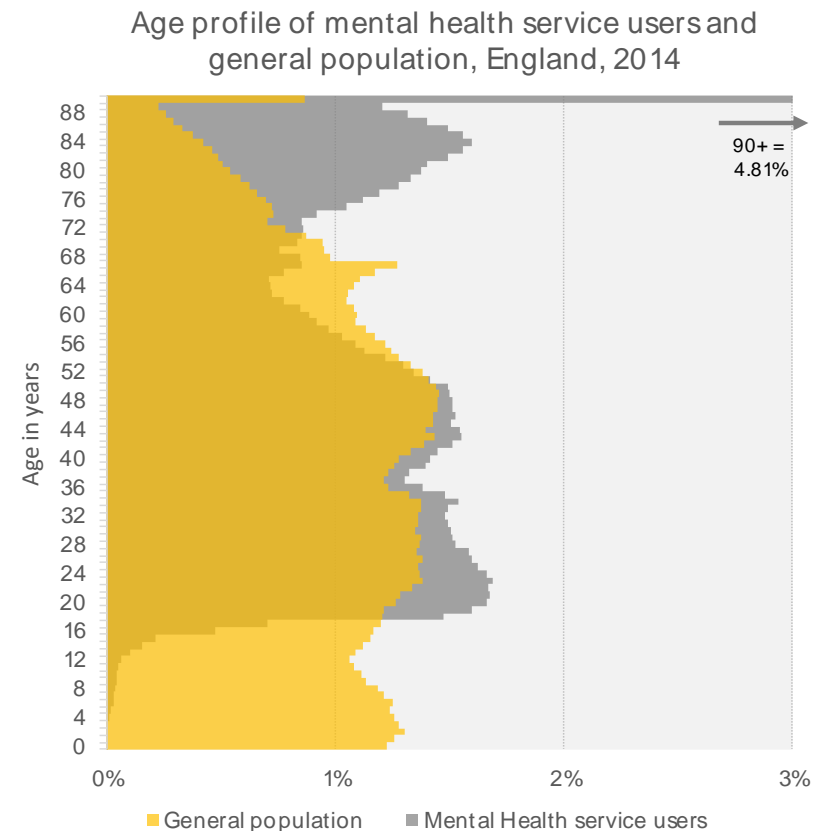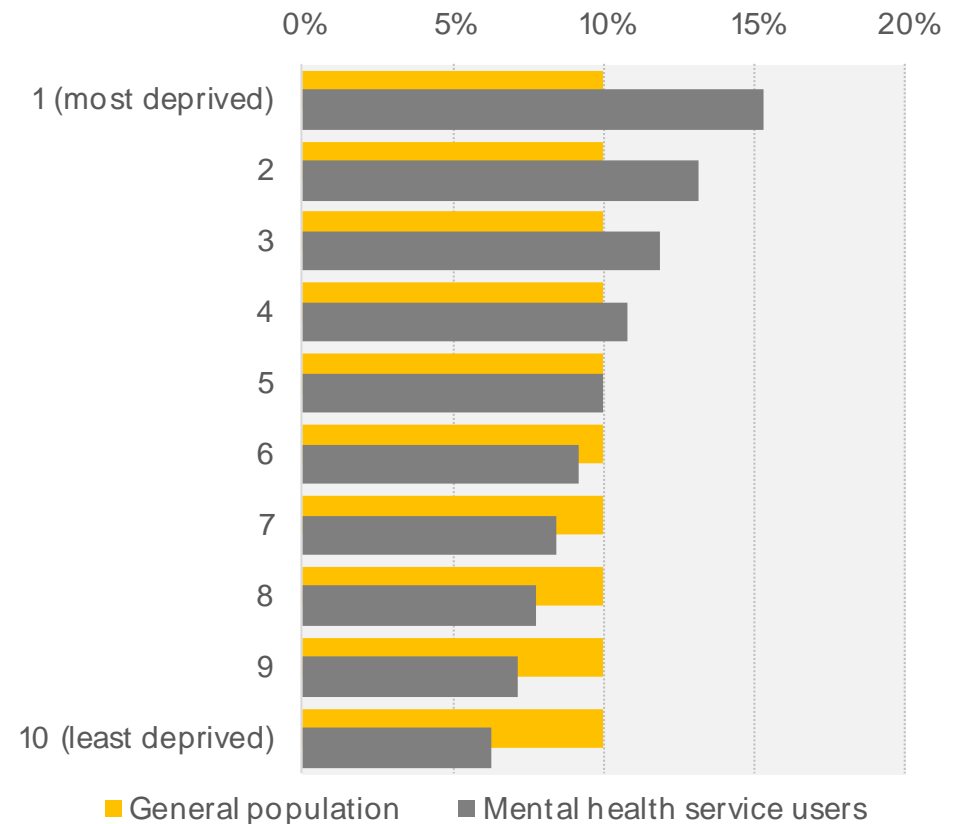
Report context – description of service users [2]

Generally speaking, the white population of England are over-represented in mental health services and those from Asian ethnic groups are under-represented somewhat. This is contrary to the evidence on the prevalence of mental health disorders in those communities and suggestive of barriers to access for some of these groups.

As with many other measures of healthcare demand, the more deprived sections of the country are over-represented in specialist mental health services. Relatively speaking, around twice as many patients from the most deprived areas are experiencing a spell of specialist care compared to the least deprived.

Deprivation profile of mental health service users and general population, England, 2014

■ General population   ■ Mental health service users

Report context – description of service users [3]

Recording of mental health PbR cluster assignment (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/499475/Annex_B4_Mental_health_clustering_booklet.pdf, for v5.0) is poor, although improving in national datasets. In 2014/15 only 32% patients had a cluster recorded at the end of the reporting period.

Of those that did have a cluster recorded, the most frequent individual cluster was 18, 'Cognitive Impairment (Low Need)', with 13.8% of patients.

The split of patients across broad cluster groupings was roughly equal for Cognitive Impairment, Psychosis and Non-Psychotic Disorders. A small sub-set (cluster 0, <1%) were considered to have specialist needs but were not suitable for assignment to a particular cluster.

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Chapter 1

Life expectancy of Mental Health Service Users in England

Brief description of methods

This section of our analysis utilises and links the national minimum datasets for mental health, HES data for deriving additional administrative information and ONS death registrations between April 2006 and March 2015.

GP practice registrations and historic attribution data sets for Primary Care Organisations were used to form overall STP population denominators over time.

The life expectancy is calculated using abridged life tables and the Chiang II method.

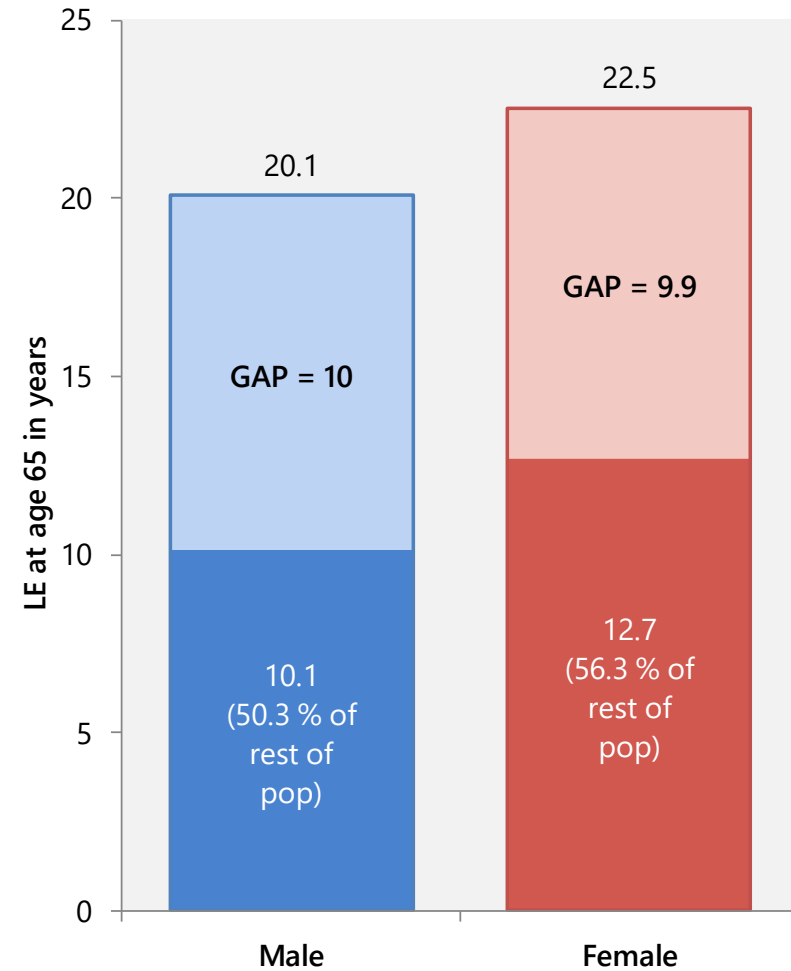Cause-specific mortality rates are directly standardised and calculated using Byar's method.

Three-year pooled periods are used to generate sufficient counts across age groups and for different causes of death at STP level.

The current gap in life expectancy

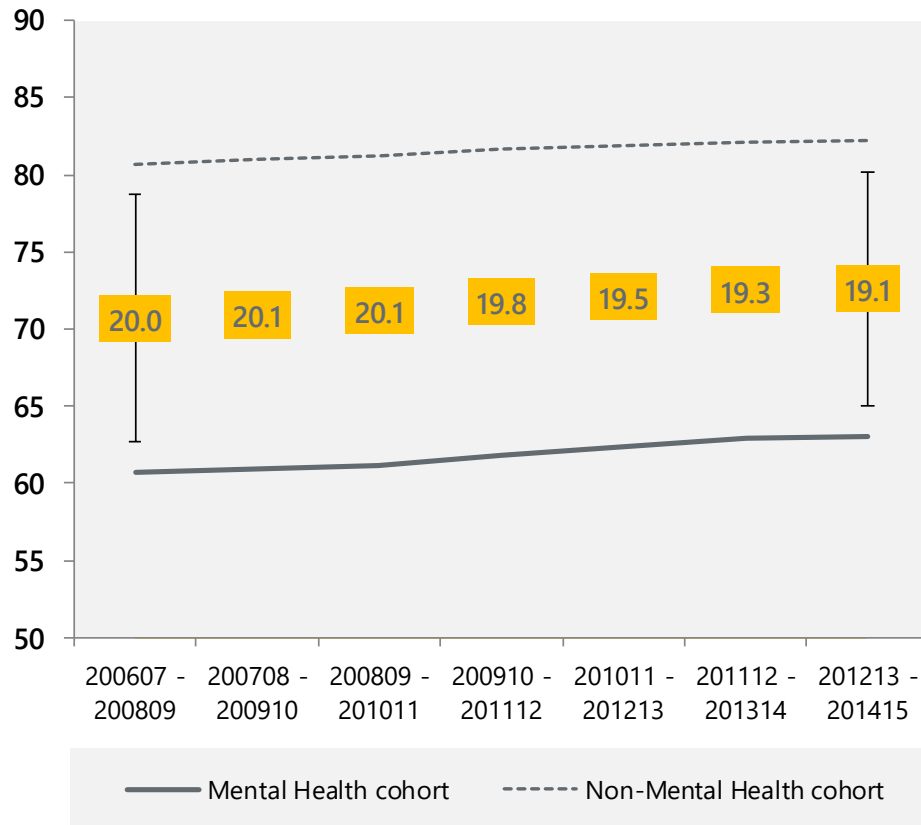**Life expectancy at birth in years | mental health and non-mental health populations | 2012/13 to 2014/15 pooled**
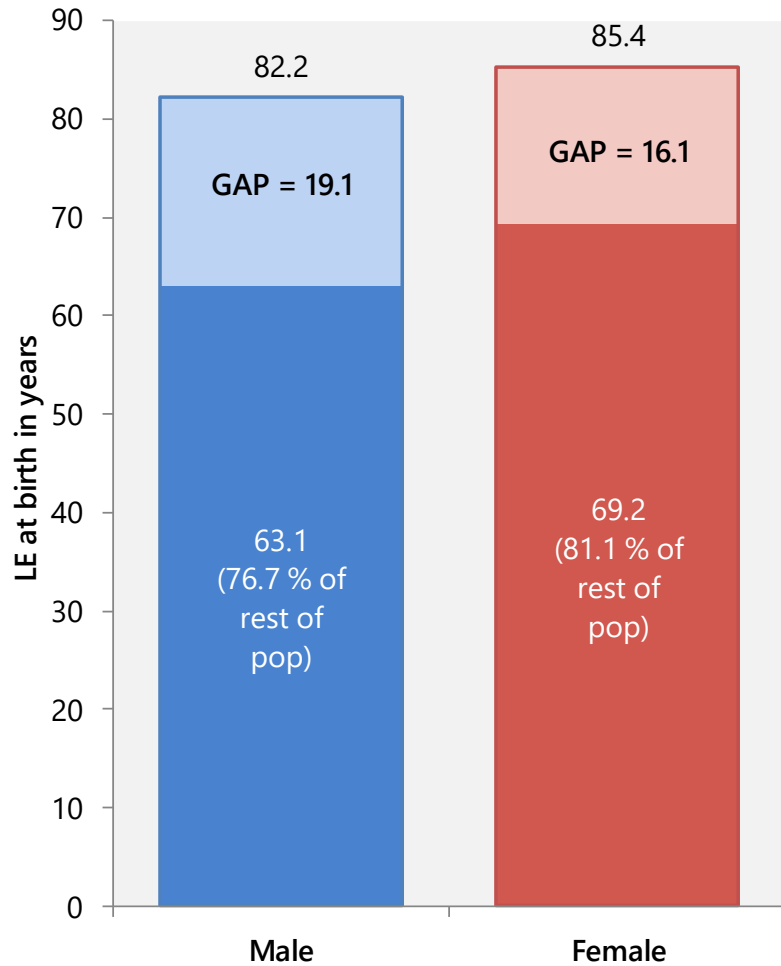
Life expectancy at age 65 in years | mental health and non-mental health populations | 2012/13 to 2014/15 pooled

Chart 1 — LE at birth in years:
- Male: 82.2 total; Mental health service users 63.1 (76.7 % of rest of pop); GAP = 19.1
- Female: 85.4 total; Mental health service users 69.2 (81.1 % of rest of pop); GAP = 16.1

Chart 2 — LE at age 65 in years:
- Male: 20.1 total; Mental health service users 10.1 (50.3 % of rest of pop); GAP = 10
- Female: 22.5 total; Mental health service users 12.7 (56.3 % of rest of pop); GAP = 9.9
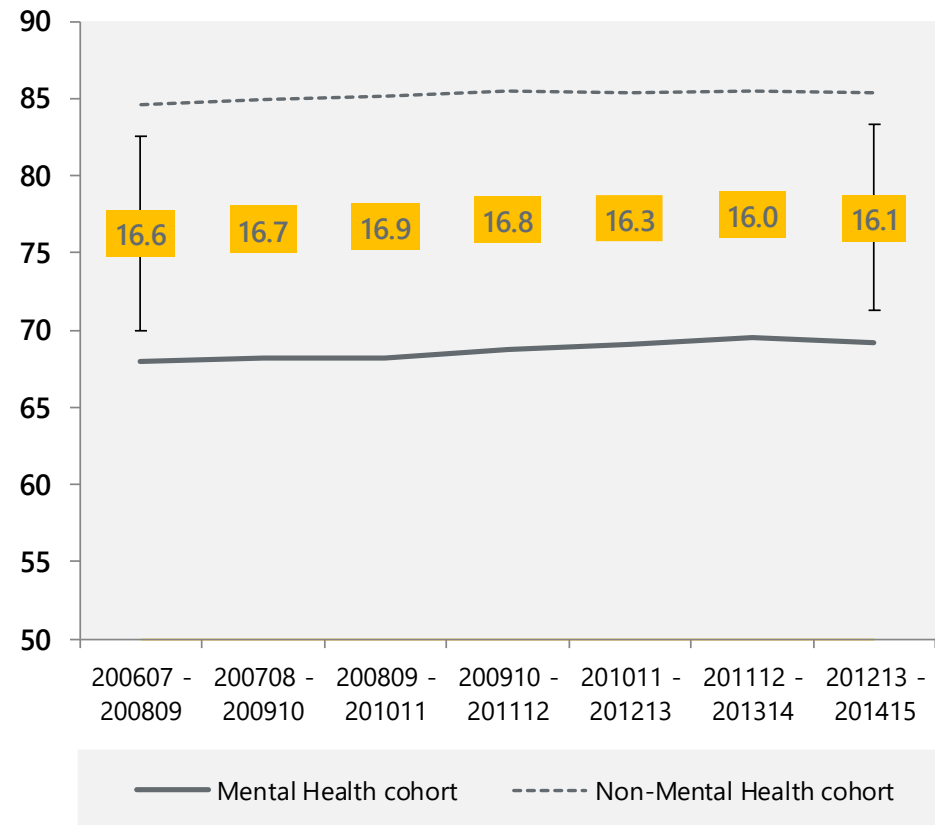
Legend:
- Mental health service users
- Non-mental health service users

Trends in life expectancy

Life Expectancy at Birth for Mental Health and Non-Mental Health cohorts | **MALES** | 3-year pooled periods 2006/07 to 2014/15

Life Expectancy at Birth for Mental Health and Non-Mental Health cohorts | **FEMALES** | 3-year pooled periods 2006/07 to 2014/15

The life expectancies at birth for both male and female mental health services users have increased at a slightly higher rate then in the rest of the population over time. Although small, the reduction in the gap (inequality) is statistically significant for both genders.

Life expectancy at birth by STP area
Mental health service users: 2012/13 to 2014/15: Females

LE at birth

Females
- 66.0 - 68.5
- 68.5 - 69.6
- 69.6 - 70.6
- 70.6 - 73.5
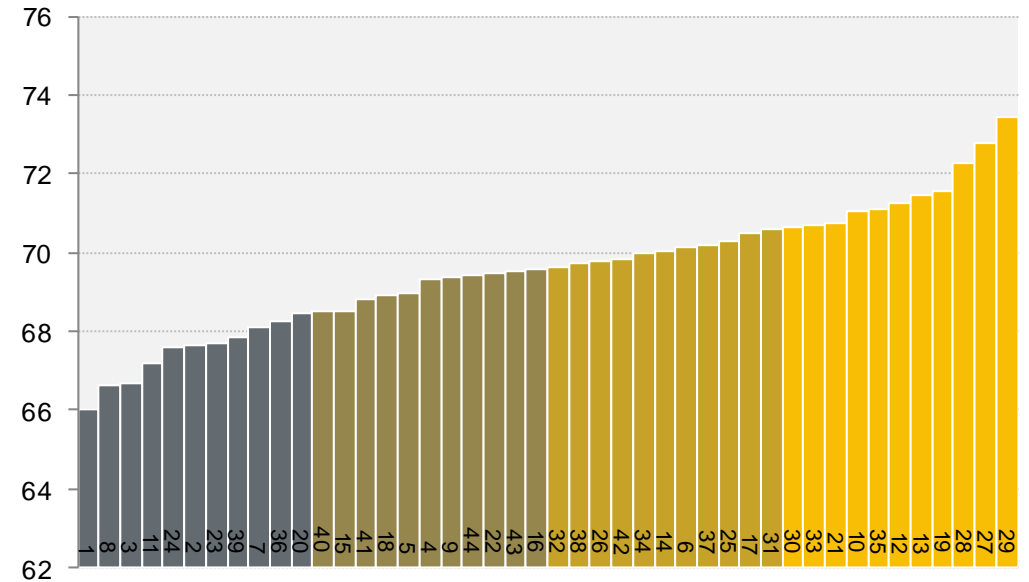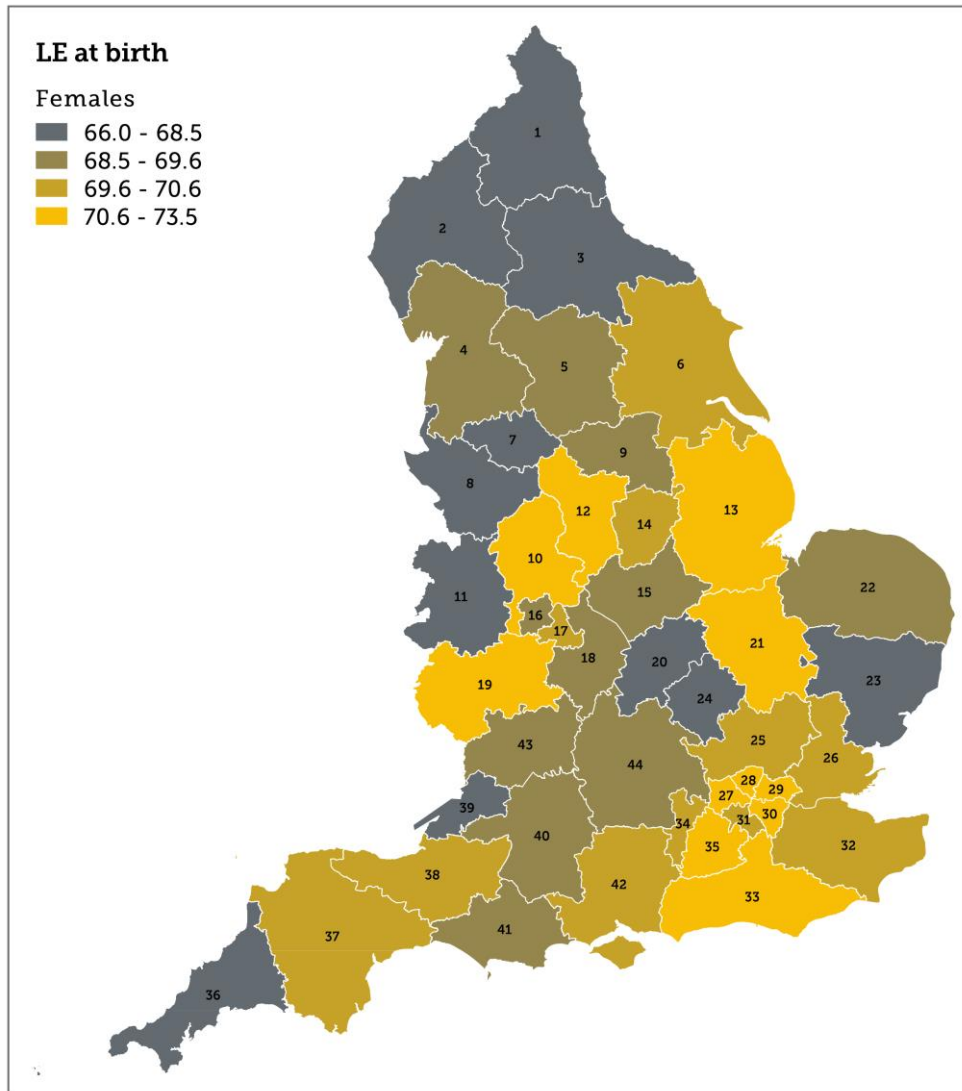
- There is a difference of around 7.5 years between the lowest (Northumberland Tyne & Wear) and the highest life expectancy (North East London) in females.

- Whilst there are no clear north-south or east-west patterns, there are certainly clusters of STP that have similar female life expectancies – exploring the relationship between socio-demographic, service provision information and these data would be a worthwhile exercise.
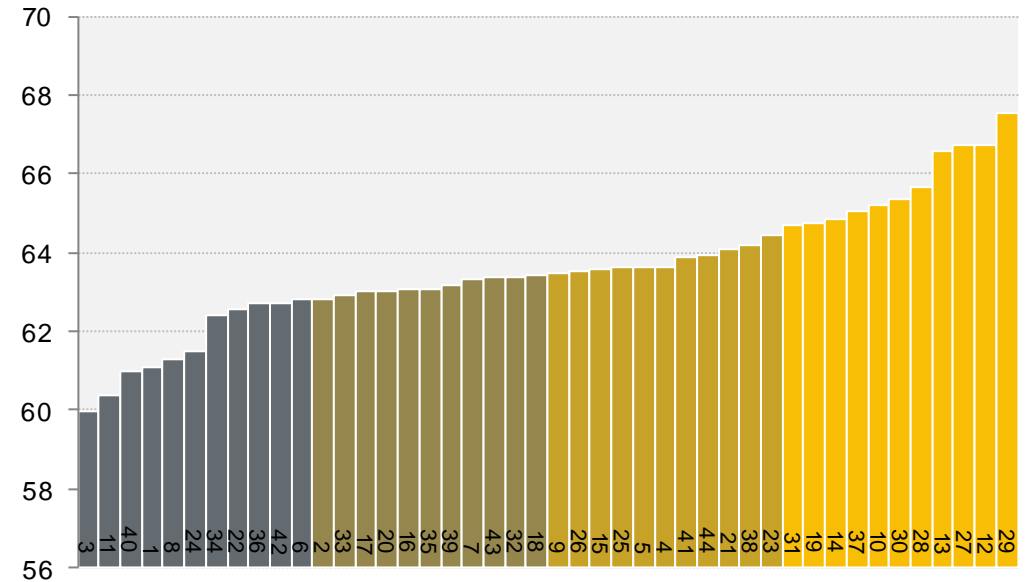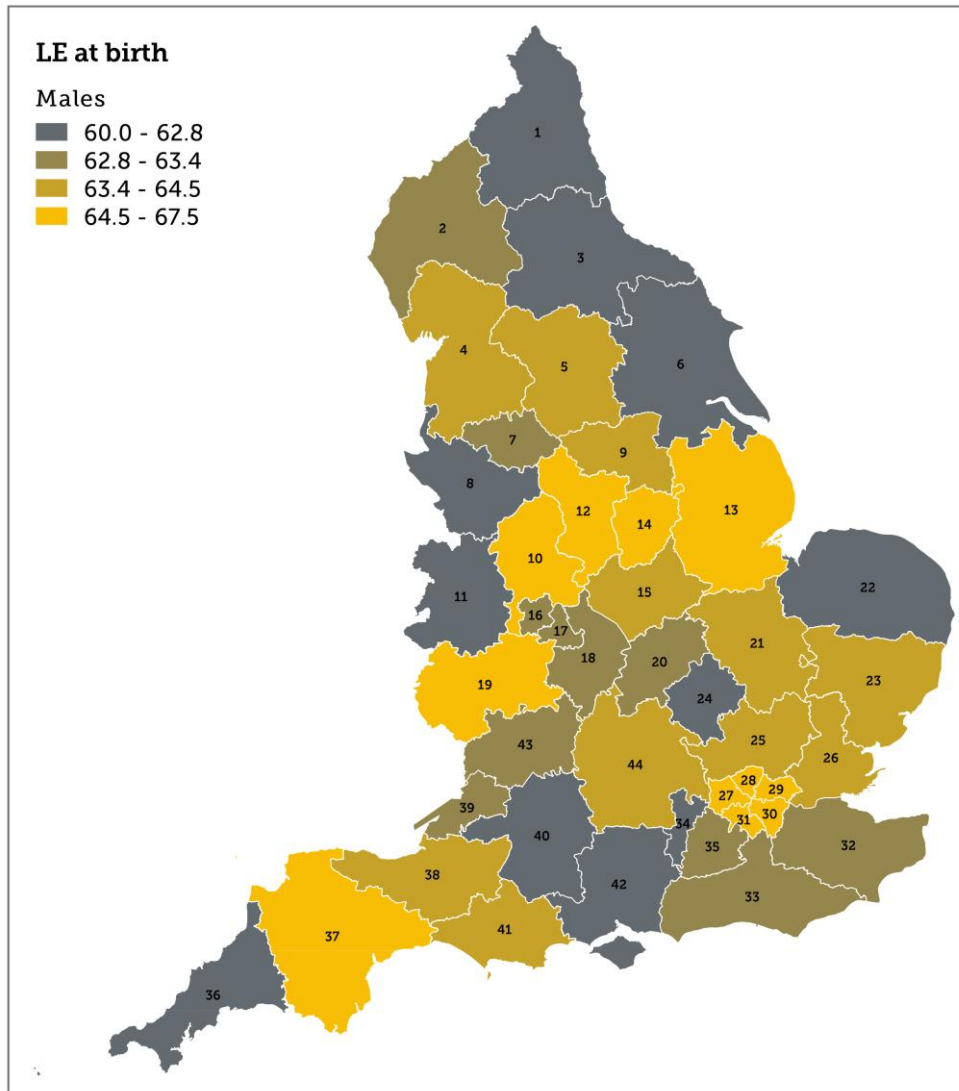
Life expectancy at birth by STP area
Mental health service users: 2012/13 to 2014/15: Males

- There is a difference of around 7.5 years between the lowest (Durham Darlington & Tees) and the highest life expectancy (North East London) in males.

- All London STPs are in the top 25% of male life expectancy.

- 6 STP have some of the lowest life expectancies for both males and females

Map the gap (MH versus rest of the population)
Difference in Life Expectancy years for men and women

LE gap (at birth)

Males
- 14.8 - 18.3
- 18.3 - 19.4
- 19.4 - 20.2
- 20.2 - 22.8

LE gap (at birth)

Females
- 11.8 - 15.0
- 15.0 - 16.3
- 16.3 - 17.5
- 17.5 - 19.6
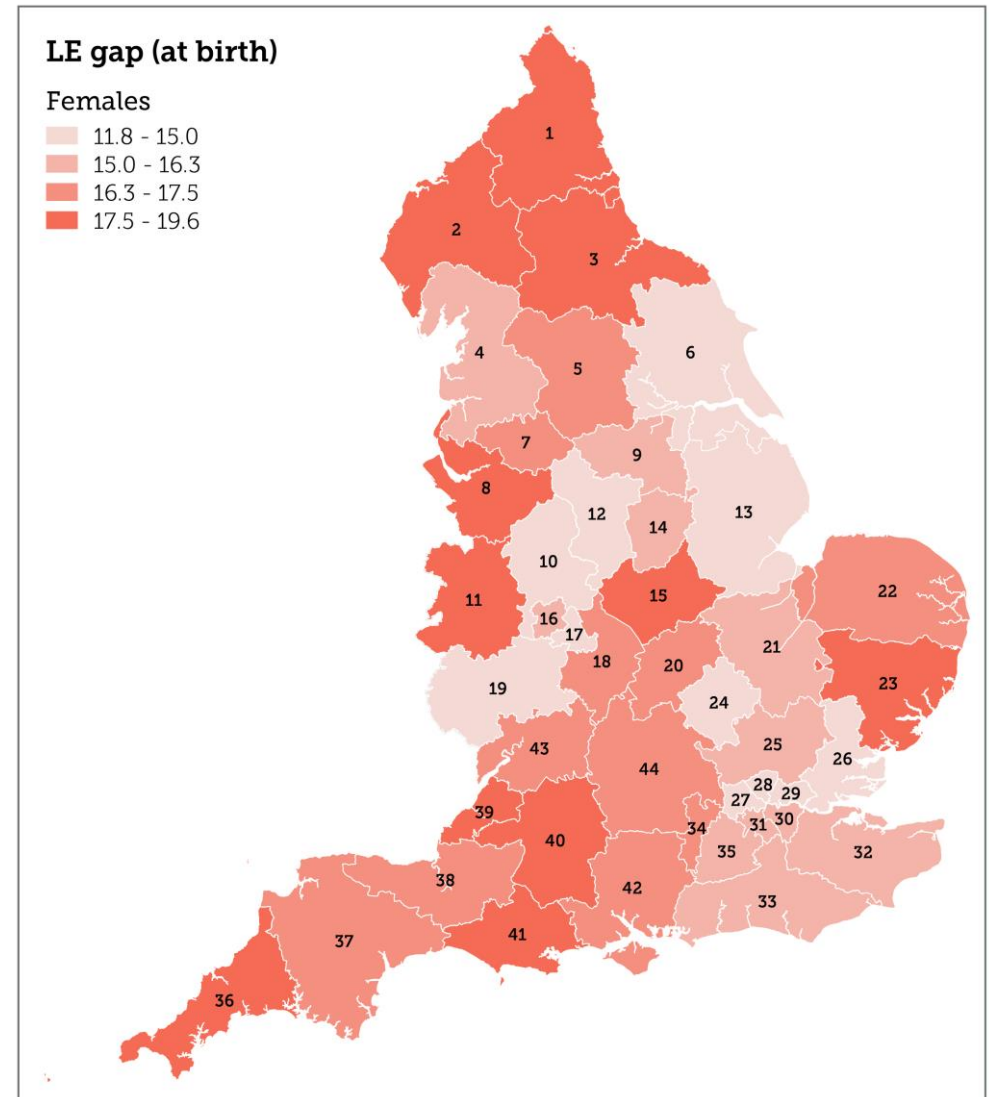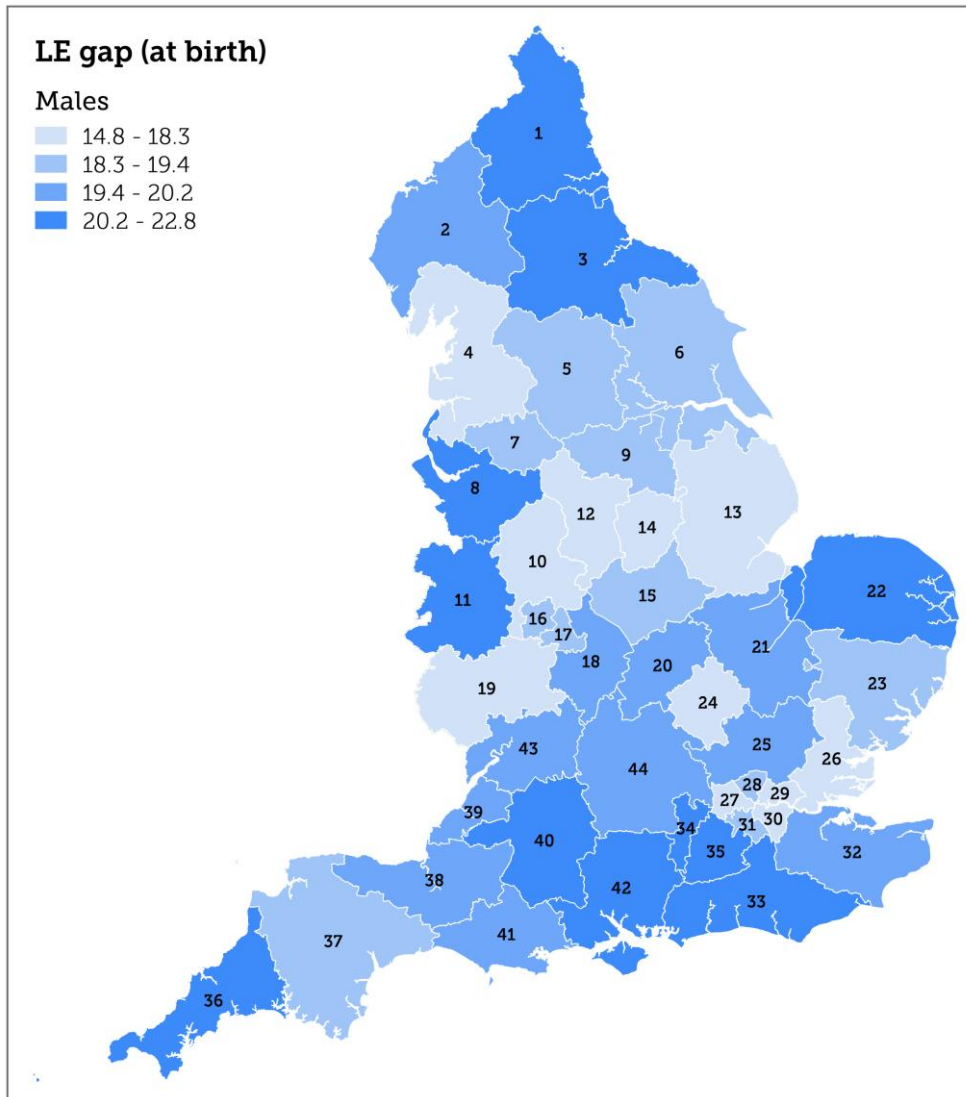
Life expectancy at birth by STP area and rate of change: Males
Mental health service users: 200607-200809 to 201213-201415
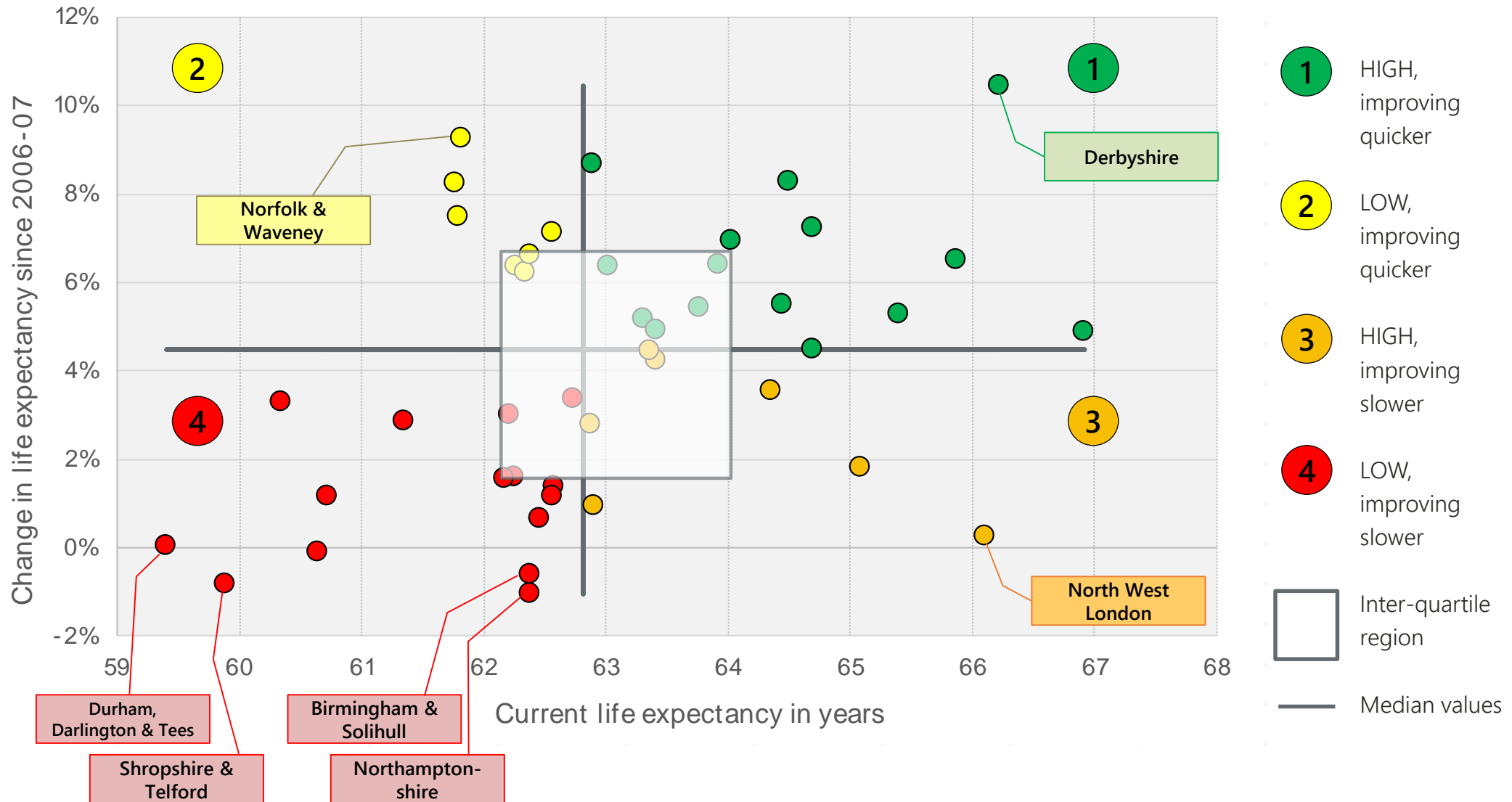
Life expectancy at birth by STP area and rate of change: Females
Mental health service users: 200607-200809 to 201213-201415

Variation in cause-specific mortality

Standardised mortality rates by STP area and gender
Circulatory diseases (ICD10, I00-I99)

Male chart — DSR per 100,000 population (15+)
- Mental health service users
- Rest of population

Female chart — DSR per 100,000 population (15+)
- Mental health service users
- Rest of population

Gender diff = 21.4%

Sustainability and Transformation Plan areas (n=44)
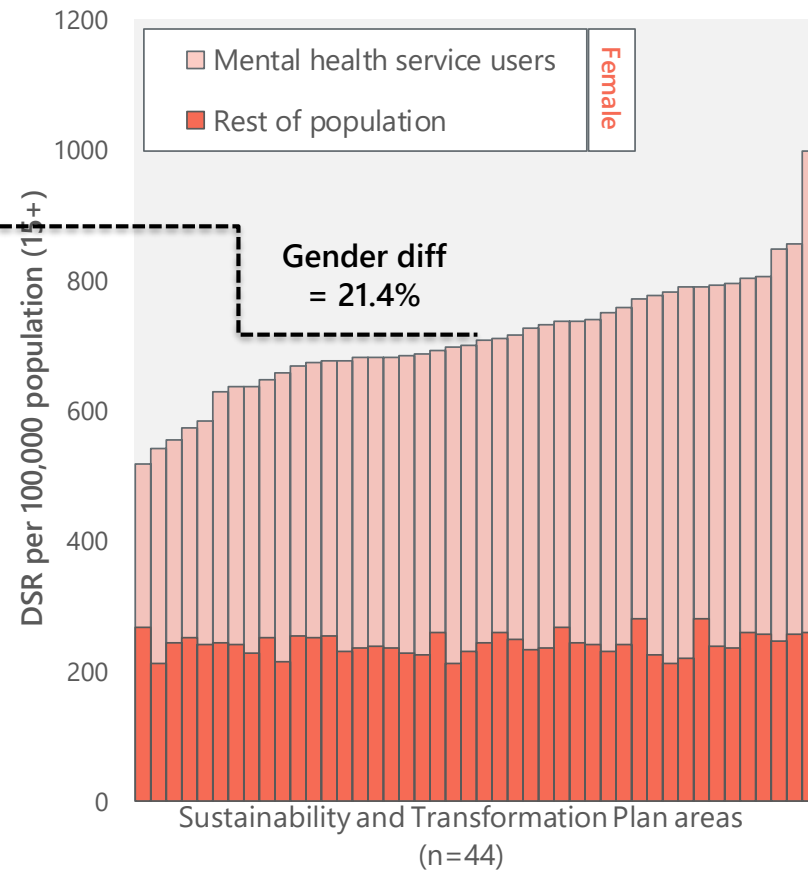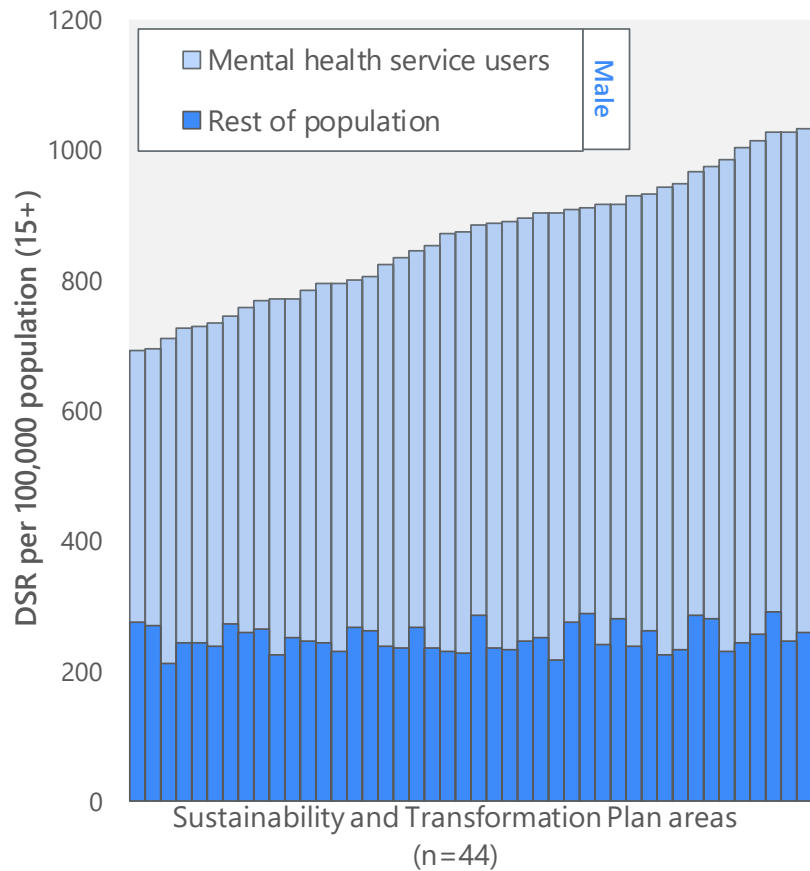
Relative burden of disease

% of all deaths*	Mental Health	Rest of Pop.
Male	32.8%	30.9%
Female	35.9%	30.0%

Coefficients of variation^

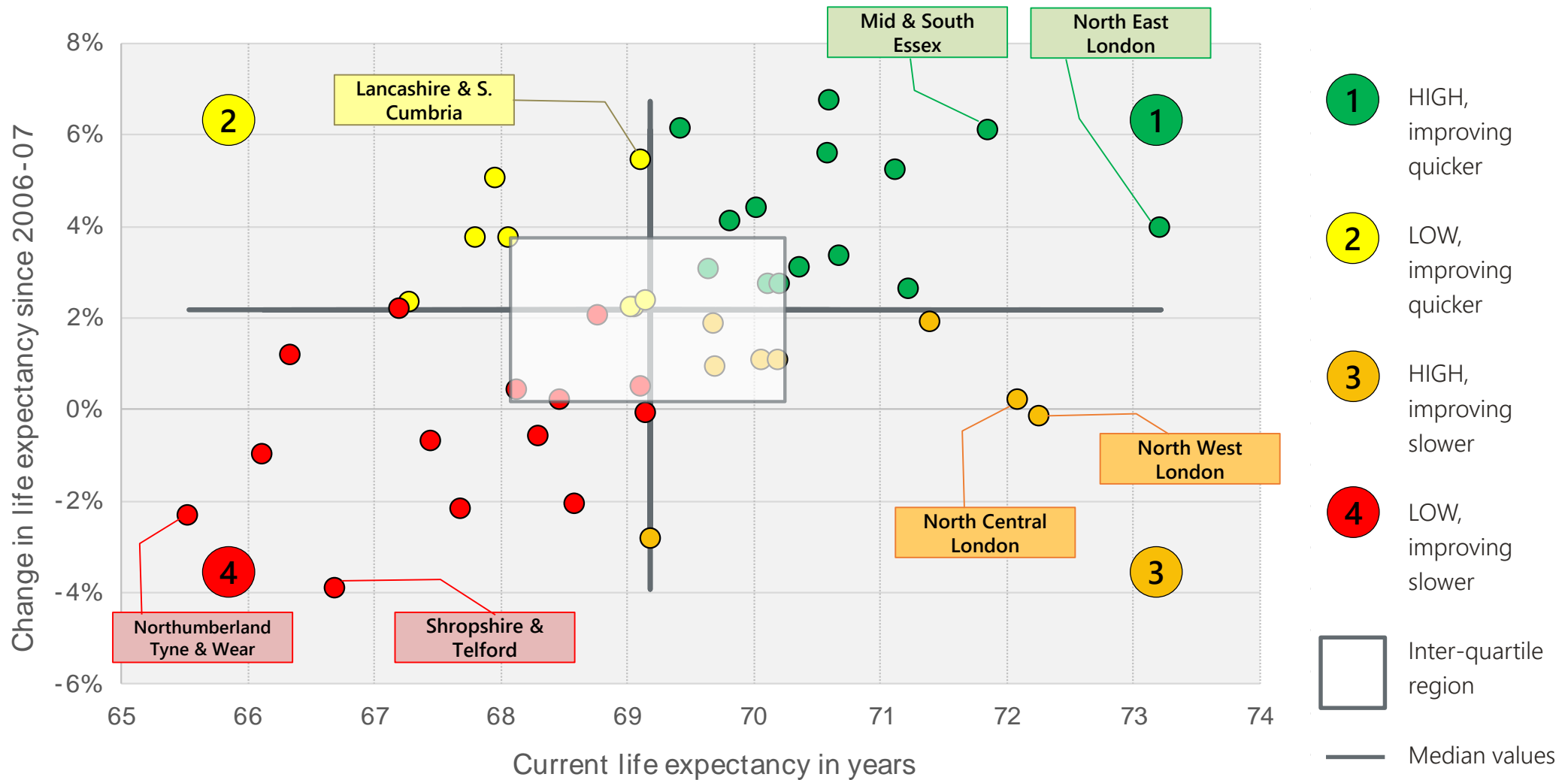| % of all deaths*	Mental Health	Rest of Pop.
Male	11.3%	8.3%
Female	12.6%	6.9%

^ the 'coefficient of variation' provides a measure of the variability in a sample relative to the mean. Higher values suggest the variable (DSR in this case) differs more widely between observations.

* Excluding mental health disorders and diseases of nervous system (ICD10 chapters, F and G)

Variation in cause-specific mortality

Standardised mortality rates by STP area and gender
Cancers, malignant (ICD10, C00-C97)

Gender diff = 22.6%
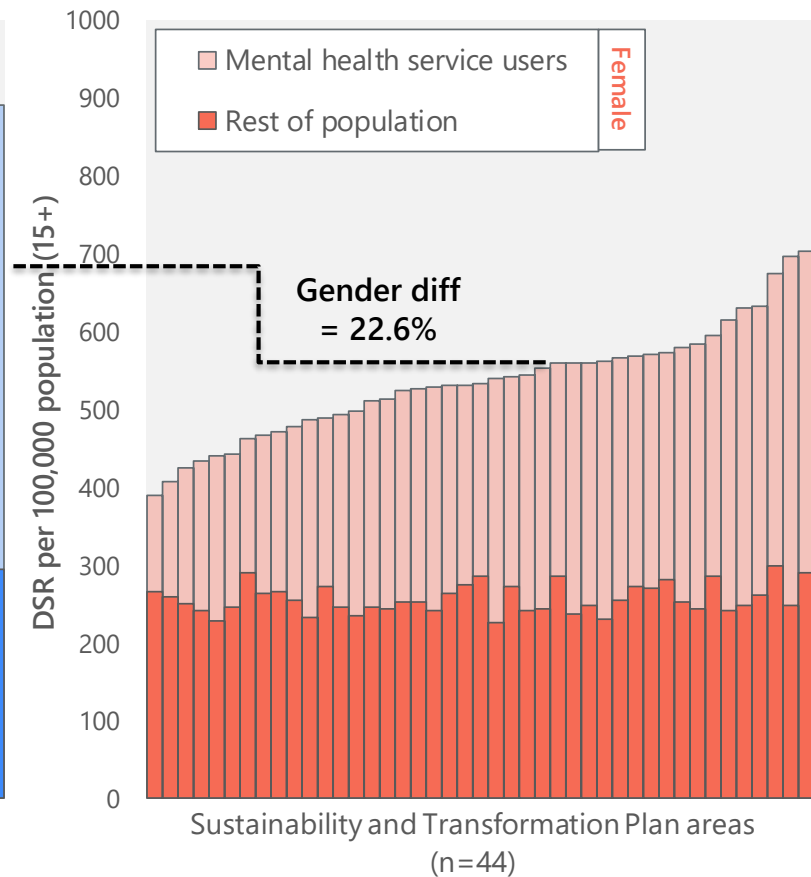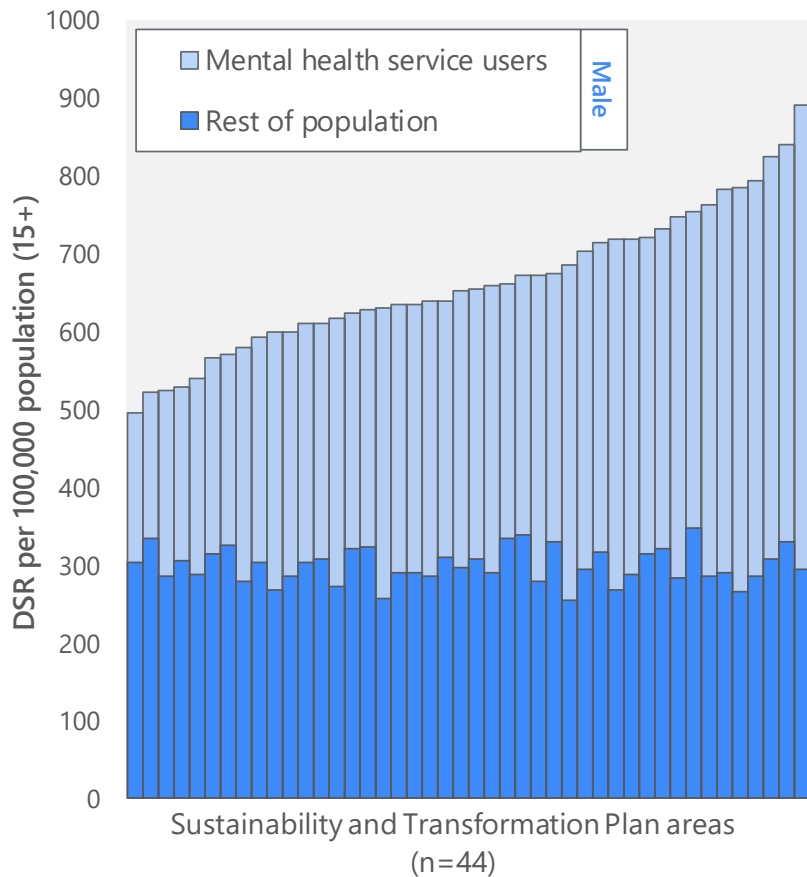
Relative burden of disease

% of all deaths*	Mental Health	Rest of Pop.
Male	21.2%	37.7%
Female	17.8%	33.8%

Coefficients of variation^

% of all deaths*	Mental Health	Rest of Pop.
Male	13.7%	7.5%
Female	15.7%	7.3%

^ the 'coefficient of variation' provides a measure of the variability in a sample relative to the mean. Higher values suggest the variable (DSR in this case) differs more widely between observations.

* Excluding mental health disorders and diseases of nervous system (ICD10 chapters, F and G)

Variation in cause-specific mortality

Standardised mortality rates by STP area and gender
Respiratory diseases (ICD10, J00-J99)
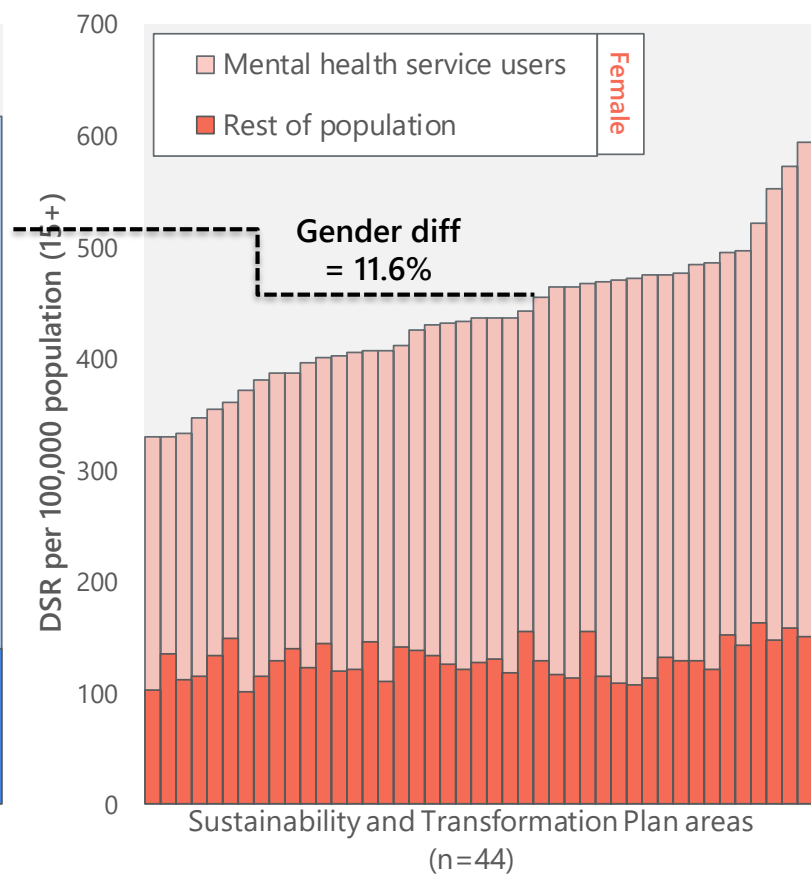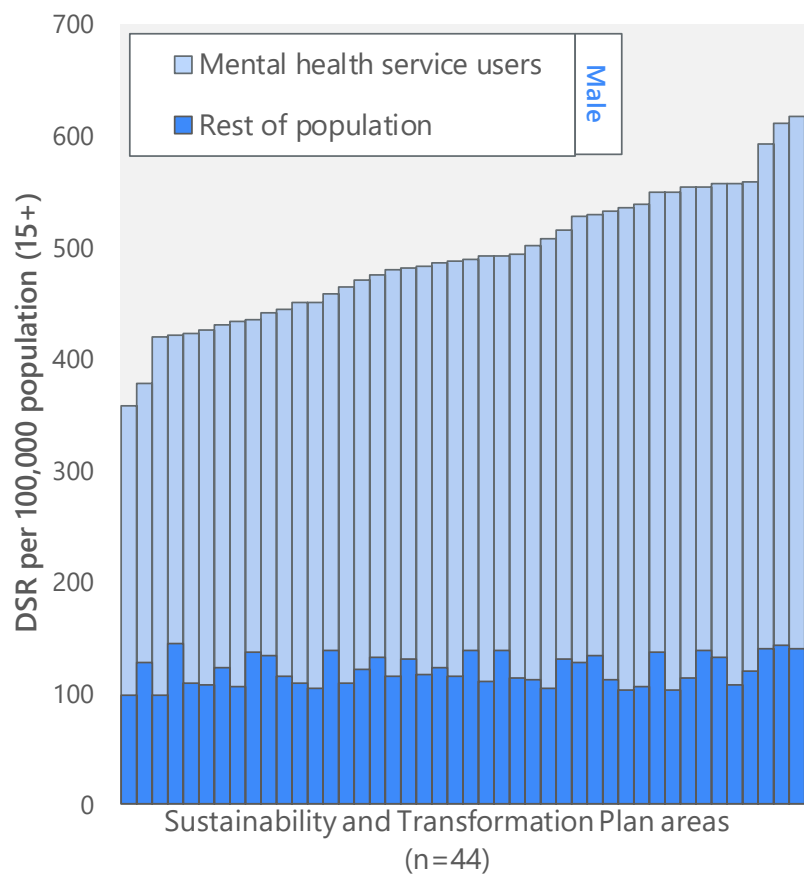
Relative burden of disease

% of all deaths*	Mental Health	Rest of Pop.
Male	20.2%	14.7%
Female	20.3%	16.3%

Coefficients of variation^

% of all deaths*	Mental Health	Rest of Pop.
Male	12.0%	11.6%
Female	15.2%	12.5%

^ the 'coefficient of variation' provides a measure of the variability in a sample relative to the mean. Higher values suggest the variable (DSR in this case) differs more widely between observations.

* Excluding mental health disorders and diseases of nervous system (ICD10 chapters, F and G)

Variation in cause-specific mortality

Standardised mortality rates by STP area and gender

External causes (ICD10, chapters S,T,V,W,X,Y)

Gender diff
= 107.1%
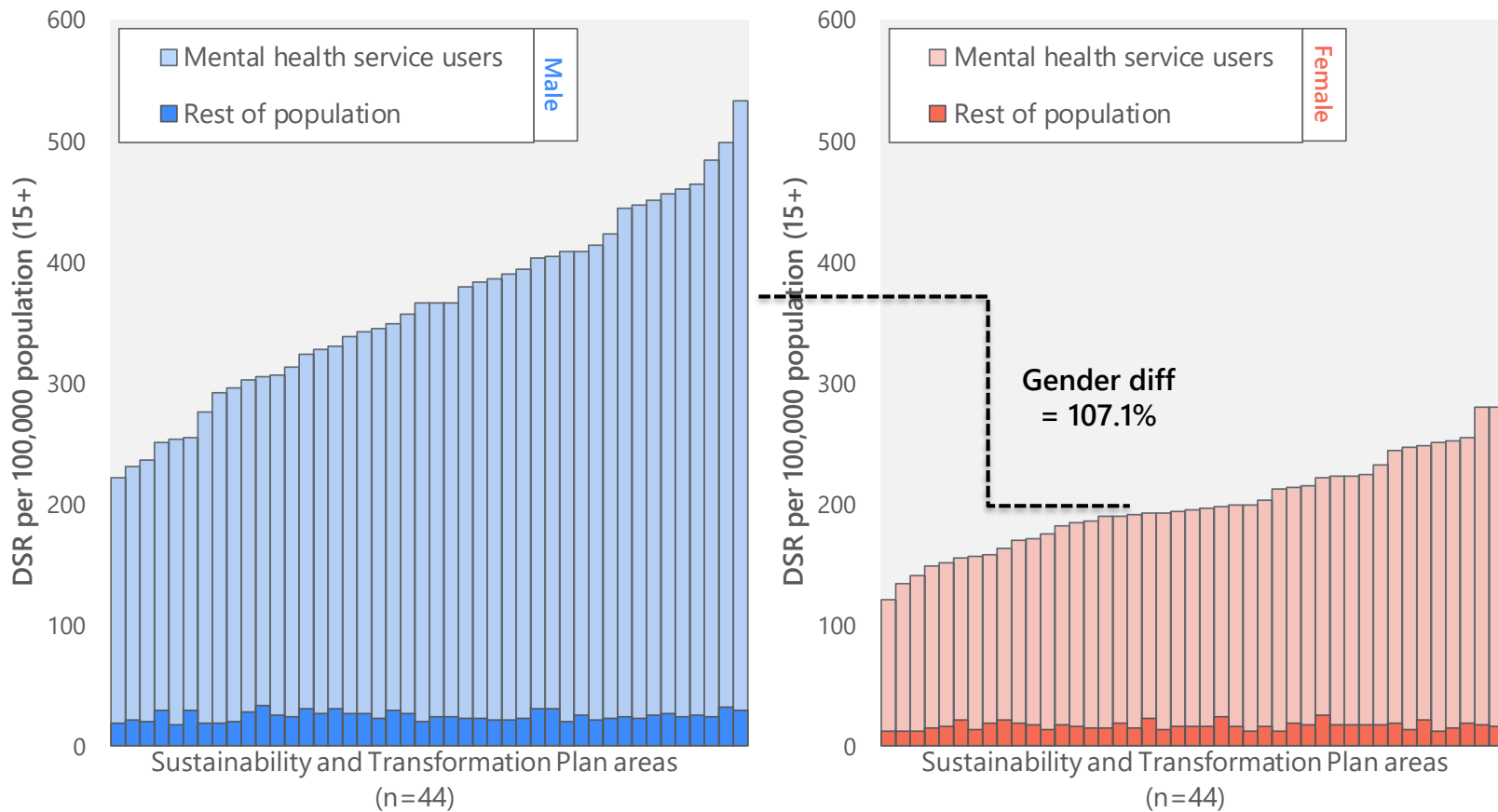
Relative burden of disease

% of all deaths*	Mental Health	Rest of Pop.
Male	7.9%	3.2%
Female	4.8%	2.2%

Coefficients of variation^

% of all deaths*	Mental Health	Rest of Pop.
Male	21.1%	16.0%
Female	22.2%	19.7%

^ the 'coefficient of variation' provides a measure of the variability in a sample relative to the mean. Higher values suggest the variable (DSR in this case) differs more widely between observations.

* Excluding mental health disorders and diseases of nervous system (ICD10 chapters, F and G)

Variation in cause-specific mortality

Standardised mortality rates by STP area and gender
Digestive diseases (ICD10, K00-K93)

Male chart — DSR per 100,000 population (15+), y-axis 0 to 450
- Mental health service users
- Rest of population

Female chart — DSR per 100,000 population (15+), y-axis 0 to 450
- Mental health service users
- Rest of population

Gender diff = 39.6%

Sustainability and Transformation Plan areas (n=44)
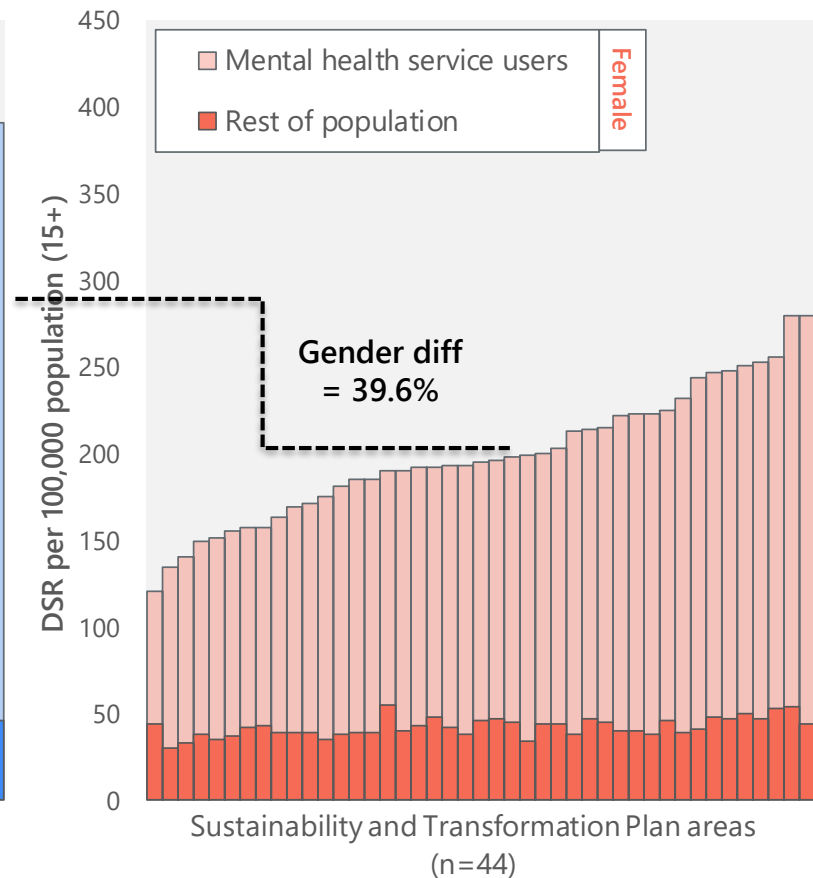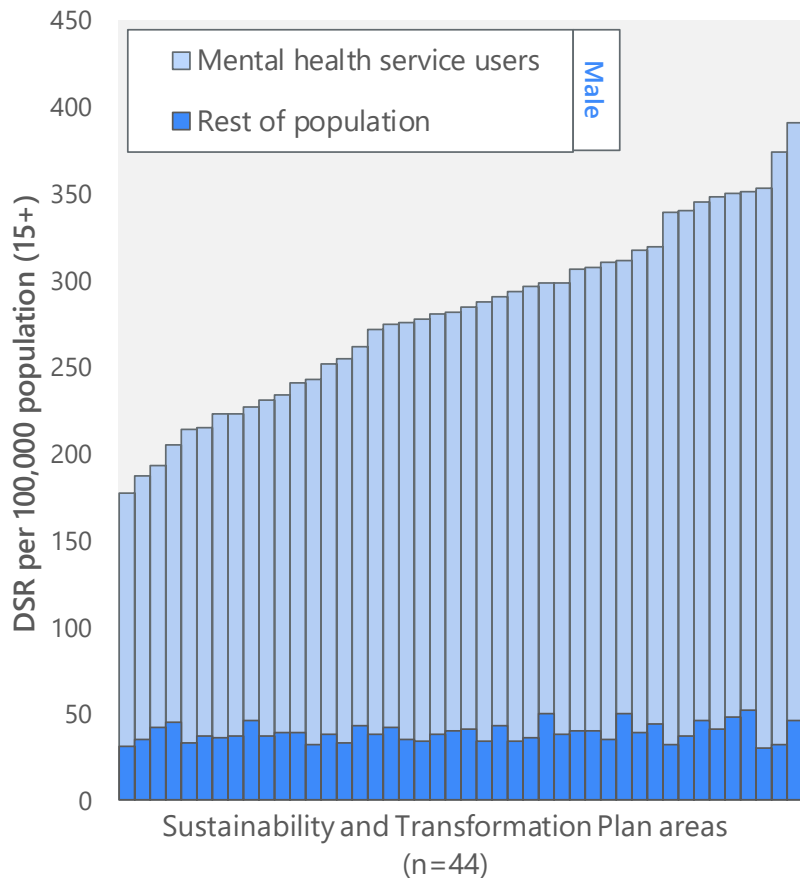
Relative burden of disease

% of all deaths*	Mental Health	Rest of Pop.
Male	7.0%	5.0%
Female	6.6%	5.4%

Coefficients of variation^

% of all deaths*	Mental Health	Rest of Pop.
Male	18.8%	13.7%
Female	19.8%	13.0%

^ the 'coefficient of variation' provides a measure of the variability in a sample relative to the mean. Higher values suggest the variable (DSR in this case) differs more widely between observations.

* Excluding mental health disorders and diseases of nervous system (ICD10 chapters, F and G)

Variation in cause-specific mortality

Standardised mortality rates by STP area and gender
Endocrine diseases (ICD10, E00-E90)

Male (left chart)
- Mental health service users
- Rest of population

DSR per 100,000 population (15+)

Sustainability and Transformation Plan areas (n=44)

Female (right chart)
- Mental health service users
- Rest of population

DSR per 100,000 population (15+)

Sustainability and Transformation Plan areas (n=44)

Gender diff = 17.5%
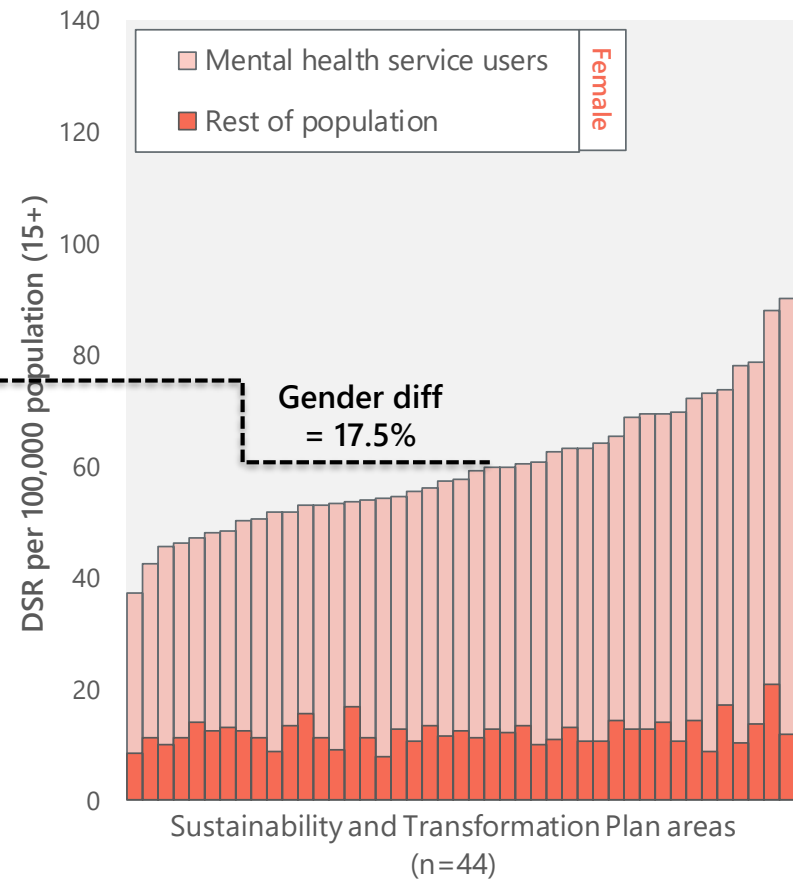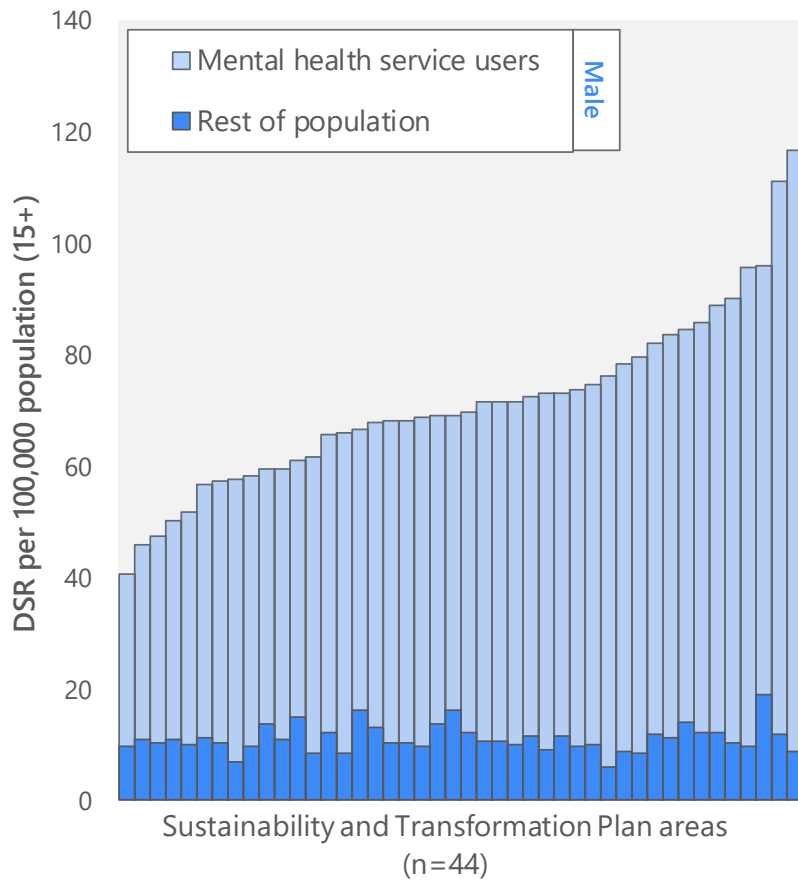
Relative burden of disease

% of all deaths*	Mental Health	Rest of Pop.
Male	2.1%	1.4%
Female	2.2%	1.5%

Coefficients of variation^

% of all deaths*	Mental Health	Rest of Pop.
Male	22.1%	21.9%
Female	21.2%	20.0%

^ the 'coefficient of variation' provides a measure of the variability in a sample relative to the mean. Higher values suggest the variable (DSR in this case) differs more widely between observations.

* Excluding mental health disorders and diseases of nervous system (ICD10 chapters, F and G)

Explaining the gap in mortality experience: Males
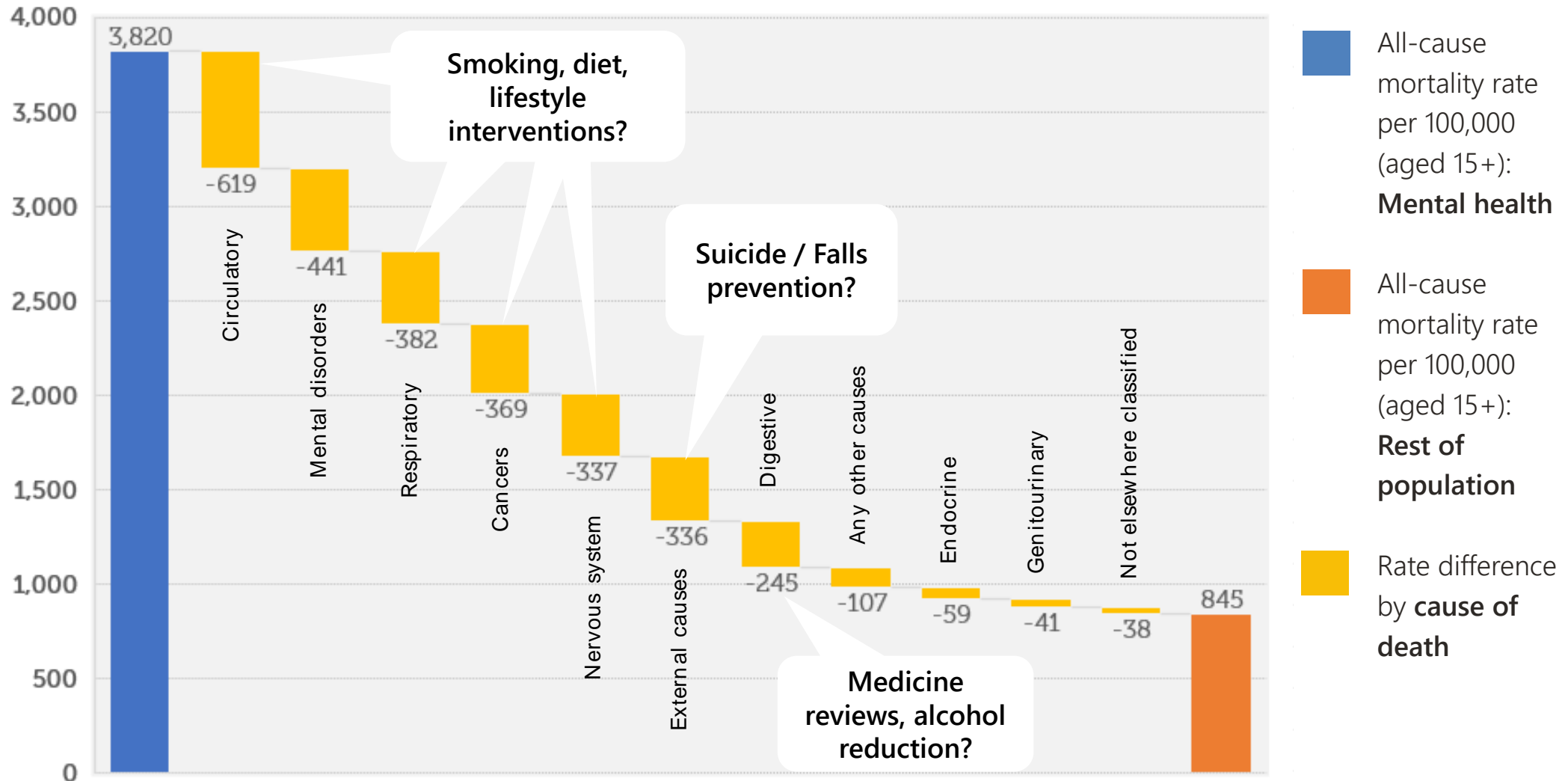
Explaining the gap in mortality experience: Females

Waterfall chart showing all-cause mortality rate per 100,000 (aged 15+).

- 3,270 — All-cause mortality rate per 100,000 (aged 15+): Mental health (blue)
- Mental disorders: −493
- Circulatory: −470
- Respiratory: −318
- Nervous System: −300
- Cancers: −287
- Digestive: −161
- External causes: −157
- Any other causes: −87
- Endocrine: −47
- Genitourinary: −43
- Not elsewhere classified: −34
- 871 — All-cause mortality rate per 100,000 (aged 15+): Rest of population (orange)

Legend:
- All-cause mortality rate per 100,000 (aged 15+): **Mental health**
- All-cause mortality rate per 100,000 (aged 15+): **Rest of population**
- Rate difference by **cause of death**

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Chapter 2

Utilisation of acute health care services

Brief description of methods

This chapter uses person-level linked data from Mental Health Minimum Datasets (MHMDS) and Hospital Episode Statistics (HES) to explore the acute utilisation patterns of specialist mental health service users and compare them to the rest of the population.

Furthermore, the analysis breaks down the specialist mental health population into several sub groups to facilitate more focussed clinical discussion and service planning:

Population sub-group	% of England population (15+)
All mental health service users	**7.0%**
Cognitive impairment including dementia	1.8%
Psychoses	1.8%
Personality disorders	0.2%
Common and other mental health	1.8%
Mental health, unassigned	1.5%
Rest of population	**93.0%**
Acute physical health services only	44.2%
'Well population' (no acute demands)	44.8%

Utilisation rates are directly standardised by gender and age for the 15 years and over population.

The costing of acute activity within this chapter is taken from several of the aforementioned data sources, hospital episode statistics (HES), payment by results (PbR) spells and other NHS reference costs where applicable.

Acute utilisation

Taken as a total population, mental health service users utilise emergency services and diagnostics disproportionately to their population size. As a sub-group, those with personality disorders have the highest access rates across most acute points of delivery.

For elements of planned care (i.e. determined by healthcare professionals as part of an agreed care pathway), utilisation rates are broadly similar to the rest of the population.

Levels of diagnostic imaging are also higher for the mental health services population, perhaps confirming high access rates for medically unexplained symptoms?

As with the general population across England, there is significant variation in demand for acute health care for specialist mental health patients by STP area.

The specialist mental health service user population currently makes up **7%** of the total population, aged 15+, of England (circa **3.3m people**).

Acute health care point of delivery	% utilised by mental health service users
Accident & Emergency attendances	17.2%
Non-Elective admissions	23.7%
Elective (overnight) admissions	8.9%
Elective (day case) admissions)	8.1%
Outpatient attendances	9.3%
Diagnostic imaging	13.0%

Additionally, for acute outpatient appointments, the did not attend (DNA) rate for mental health service users is 13% - twice as high as for those patients not in contact with specialist mental health services.

Acute utilisation
Accident & Emergency

Mental health service user standardised utilisation rate by STP area and population sub-group | 2014/15
ACCIDENT & EMERGENCY attendances
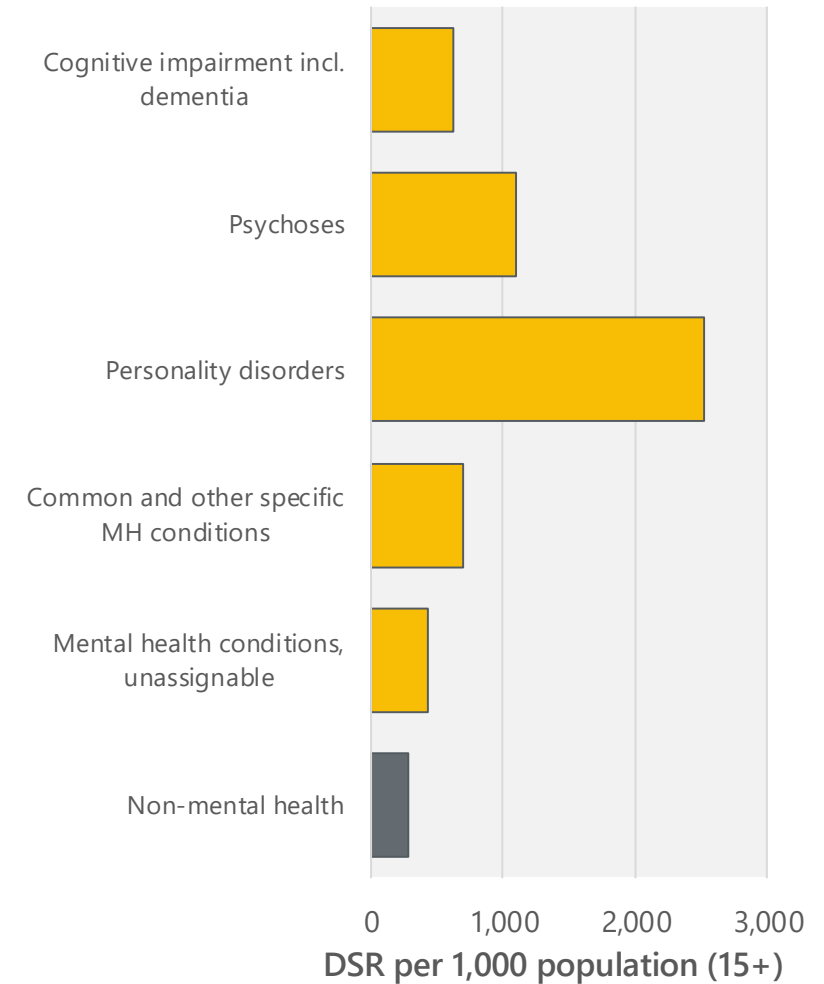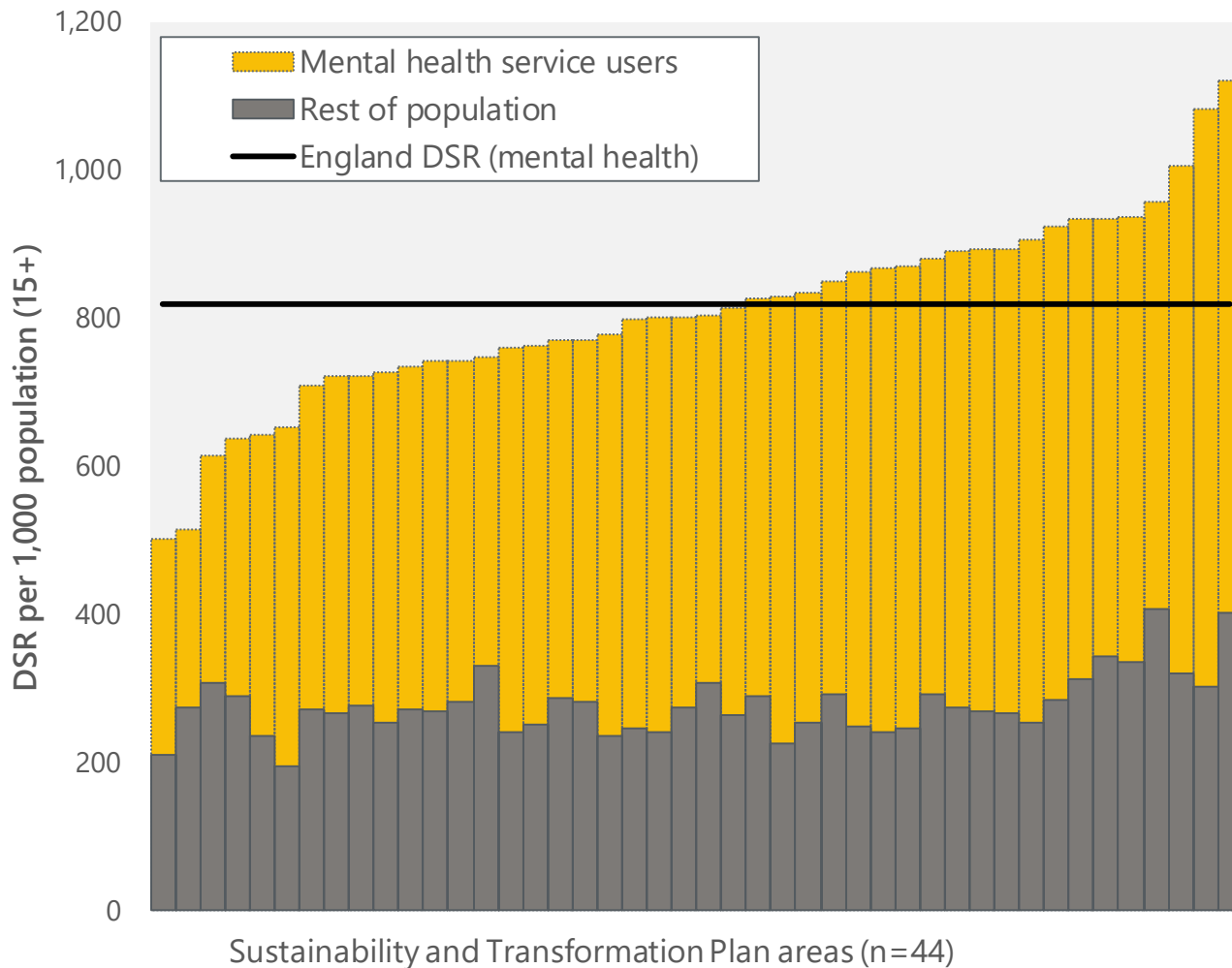
Acute utilisation
Non elective (unplanned) admissions

Mental health service user standardised utilisation rate by STP area and population sub-group | 2014/15
EMERGENCY admissions

Elective (planned) overnight admissions

Mental health service user standardised utilisation rate by STP area and population sub-group | 2014/15
ELECTIVE admissions

DSR per 1,000 population (15+)

Sustainability and Transformation Plan areas (n=44)

Legend:
- Mental health service users
- Rest of population
- England DSR (mental health)

Right chart categories:
- Cognitive impairment incl. dementia
- Psychoses
- Personality disorders
- Common and other specific MH conditions
- Mental health conditions, unassignable
- Non-mental health

DSR per 1,000 population (15+)

Acute utilisation
Elective (planned) day case admissions

Mental health service user standardised utilisation rate by STP area and population sub-group | 2014/15
DAYCASE admissions

Legend:
- Mental health service users
- Rest of population
- England DSR (mental health)

Y-axis (left chart): DSR per 1,000 population (15+)
X-axis (left chart): Sustainability and Transformation Plan areas (n=44)

Right chart categories:
- Cognitive impairment incl. dementia
- Psychoses
- Personality disorders
- Common and other specific MH conditions
- Mental health conditions, unassignable
- Non-mental health

X-axis (right chart): DSR per 1,000 population (15+)

Acute utilisation
Outpatient appointments (first or follow-up)
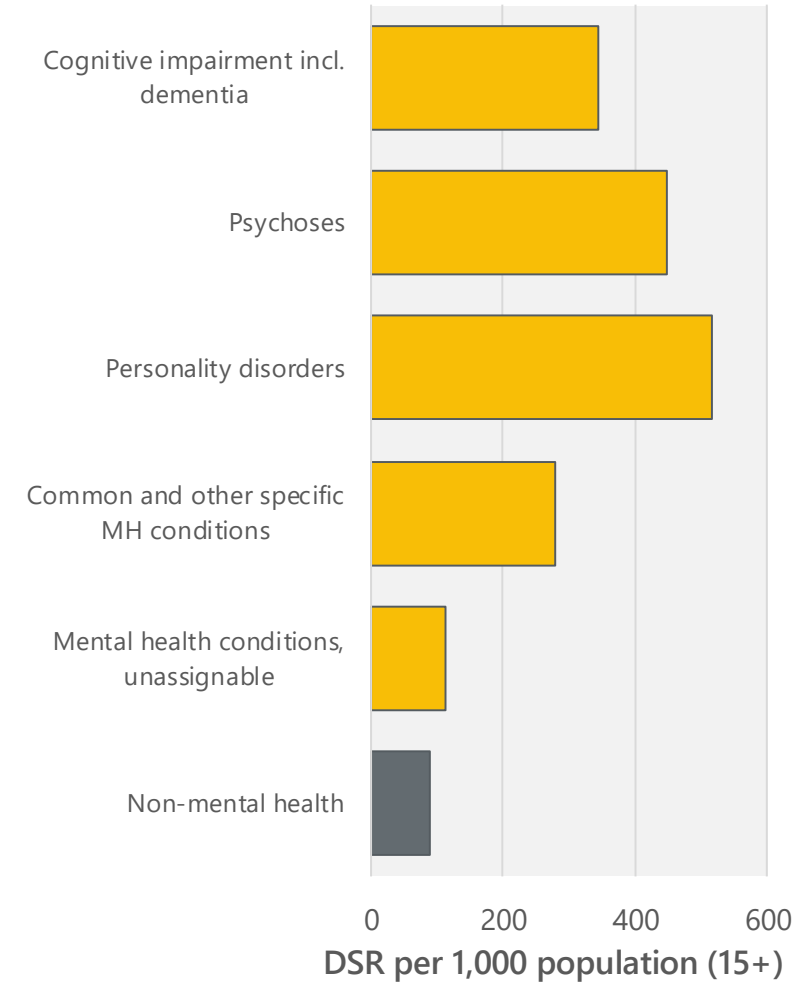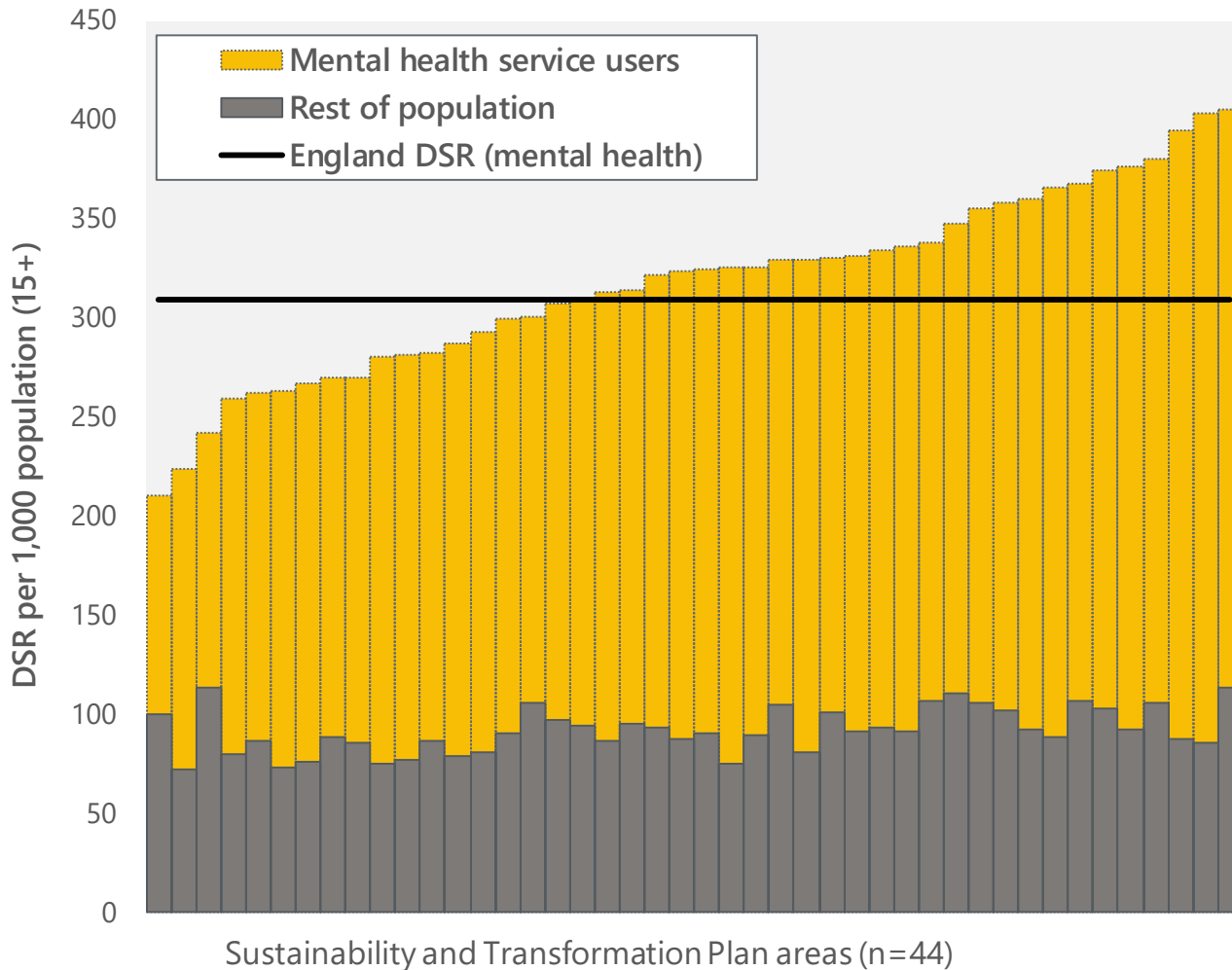
Mental health service user standardised utilisation rate by STP area and population sub-group | 2014/15
OUTPATIENT attendances

Legend:
- Mental health service users
- Rest of population
- England DSR (mental health)

Y-axis: DSR per 1,000 population (15+)
X-axis: Sustainability and Transformation Plan areas (n=44)

Right chart categories:
- Cognitive impairment incl. dementia
- Psychoses
- Personality disorders
- Common and other specific MH conditions
- Mental health conditions, unassignable
- Non-mental health

X-axis: DSR per 1,000 population (15+)

Acute utilisation
Diagnostic imaging tests

Mental health service user standardised utilisation rate by STP area and population sub-group | 2014/15

DIAGNOSTIC exams
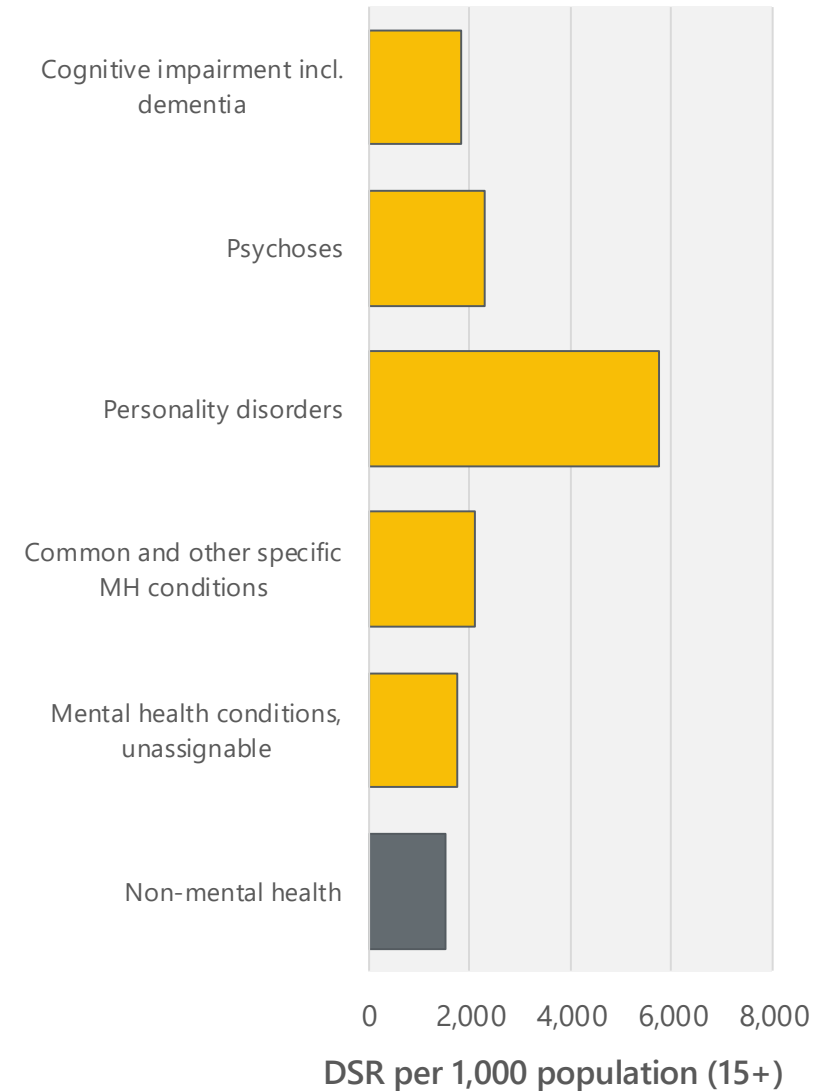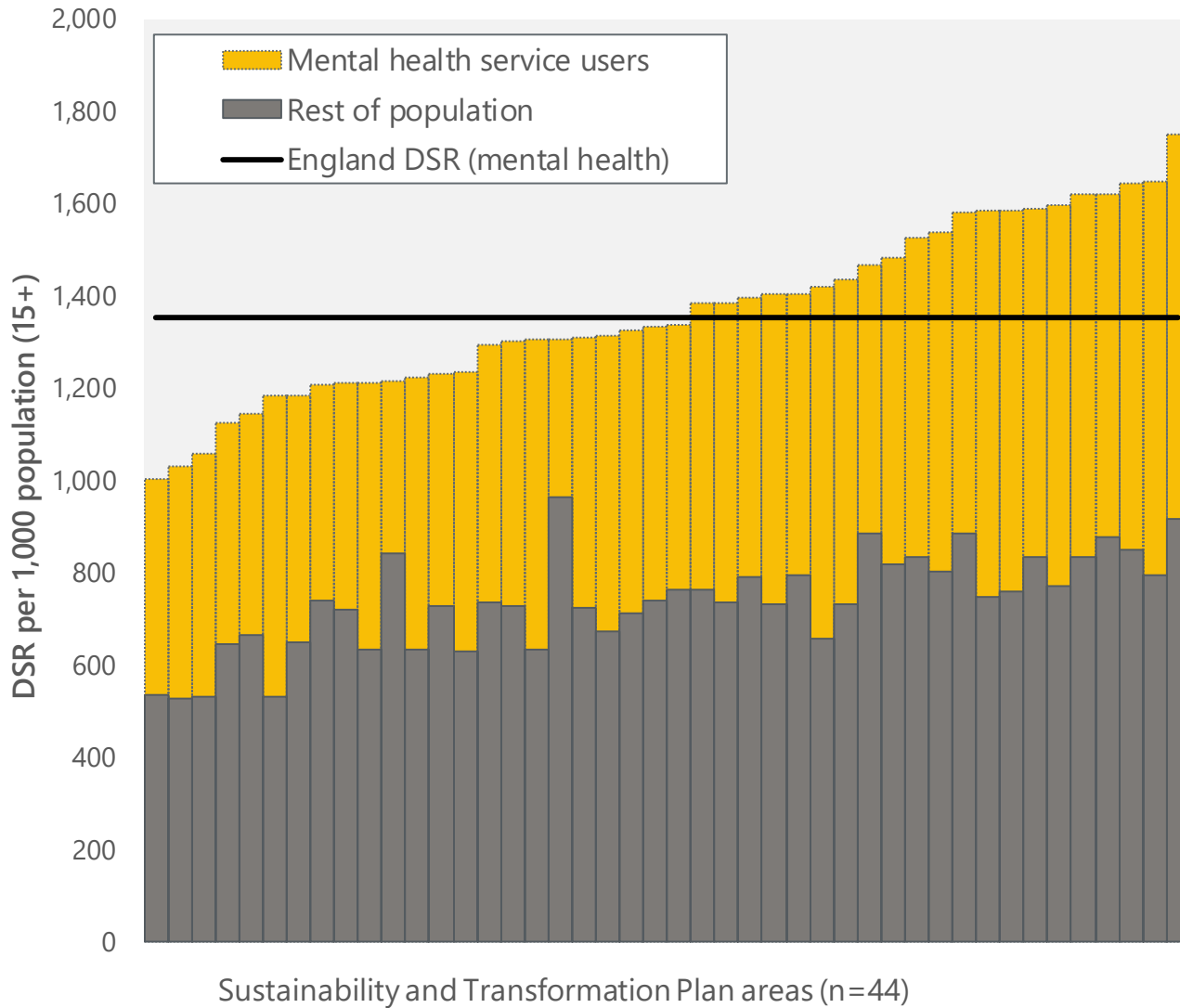
Map the gap (MH versus rest of the population)
Difference in utilisation

Difference in A&E utilisation

Rate ratio MH : rest of population

- 1.9 - 2.7
- 2.7 - 2.9
- 2.9 - 3.3
- 3.3 - 3.7

Difference in NEL utilisation

Rate ratio MH : rest of population

- 2.1 - 3.2
- 3.2 - 3.6
- 3.6 - 3.7
- 3.7 - 4.8
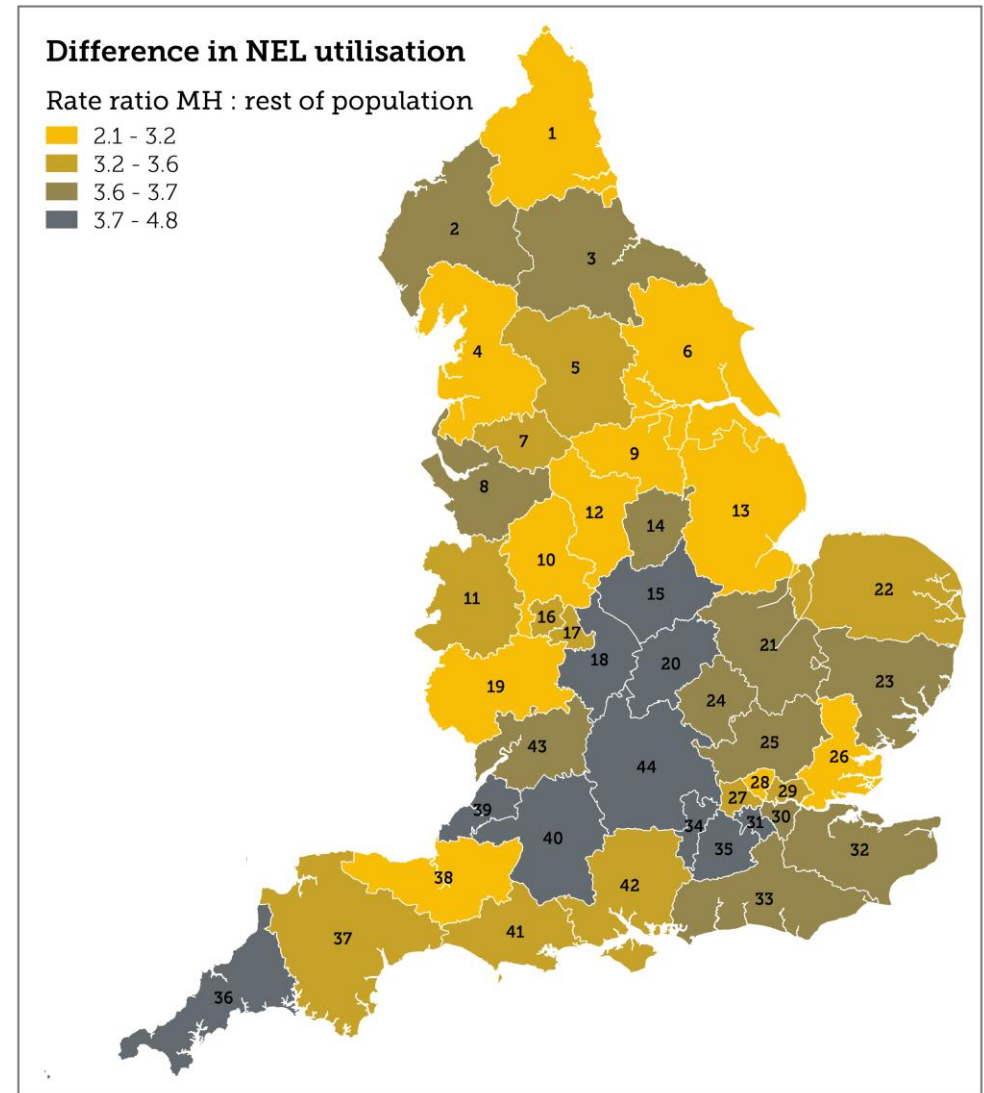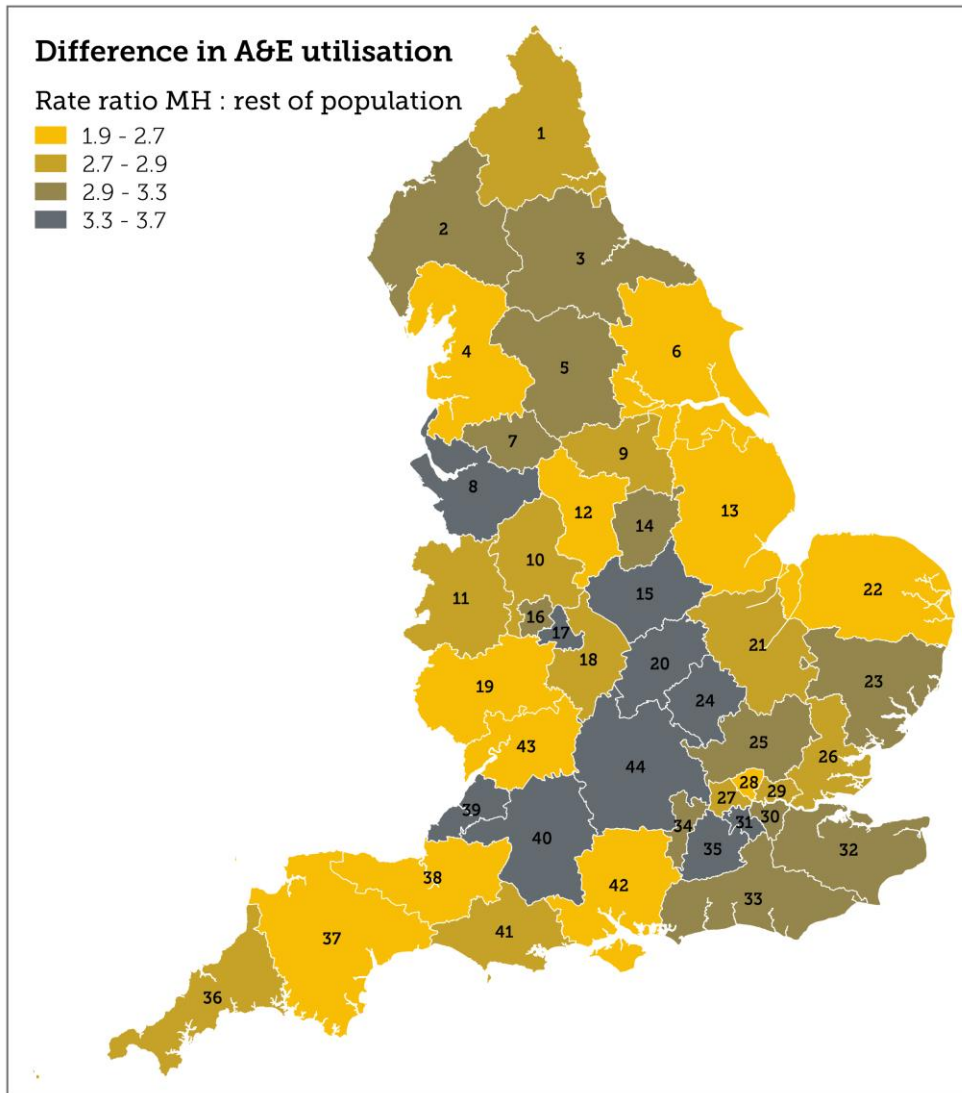
Chapter 3

Saving and reinvestment opportunities to reduce acute activity by Mental Health service users

The
Strategy
Unit.

Brief description of methods

Rather than focusing on hospital utilisation rates as a whole, this analysis shows utilisation rates for those subsets of hospital activity which may be amenable to service changes for both non-elective admissions and A&E attendances.

The report compares the rates in mental health service users with the rates in non-mental health service users, and also to the England average for each mental health cohort.

Using the patient index / cohort allocations from the previous section and linked HES data extracts, the utilisation rates are standardised by age and gender (15+ population).

A&E data was costed by HRG using 14/15 tariff and market forces factors. Inpatient data was costed by linkage to payment by results (PbR) spells.

An expected spend for the mental health service users was calculated based on the age-sex strata spend rates of the rest of the population. If the all ages expected was less than costed, the difference was included in the potential investment opportunities / savings – listed below.

A&E	
Low cost attendances – referred to GP or discharged	Conveyed by ambulance, no investigation, no treatment, discharged
Patients who leave before being seen	Frequent attenders

Acute Inpatient Spells	
Ambulatory care sensitive (Chronic, acute or vaccine preventable conditions)	Medically unexplained symptoms
Medicines related (Explicit or Implicit; NSAIDs, Anti-Diabetics, Benzodiazepines, Diuretics)	Frail Elderly patients that could be managed in non-acute settings (Usually or occasionally managed elsewhere)
Smoking related (Largely or somewhat attributable)	Self Harm
Obesity related (Largely, somewhat or marginally attributable)	Admissions via A&E with primary mental health diagnosis

Activity sub-group summary

The summary below represents, for England, the **difference** in activity between mental health service users and the rest of the population for each defined sub-set of activity after adjustment for age and gender and provides the associated costs of that activity.

Activity sub-group	Activity	Cost (£000's)	Unit cost
A&E Opportunity Groups	**679,110**	**£65,475**	**£96**
Conveyed by ambulance, no investigation, no treatment, discharged	18,640	£1,136	£61
Frequent attenders	402,810	£44,353	£110
Patients who leave before being seen	95,830	£7,527	£79
Low cost attendances – referred to GP or discharged	290,650	£21,976	£76
Correction for sub group overlap	-128,820	-9,518	-
Acute Inpatient Opportunity Groups	**689,975**	**£1,450,498**	**£2,102**
Ambulatory care sensitive	151,520	£331,954	£2,191
Medicines related	32,050	£102,946	£3,212
Smoking related	5,420	£11,988	£2,212
Obesity related	35,970	£56,958	£1,583
Medically unexplained symptoms	29,110	£35,537	£1,221
Frail Elderly patients that could be managed in non-acute settings	68,145	£233,954	£3,433
Self Harm	82,220	£55,677	£677
Admissions via A&E with primary mental health diagnosis	659,460	£1,425,603	£2,162
Correction for sub group overlap	-373,920	-804,118	-
Grand Total	**1,369,085**	**£1,515,973**	

Saving and reinvestment opportunity
Accident & Emergency attendances

Total cumulative
difference =
£65.5m

Difference in spend on acute health care between mental health service users and the rest of the population | Accident & Emergency sub-groups*

Milton Keynes, Bedfordshire & Luton

Greater Manchester

Lancashire & South Cumbria

Spend 'difference' (£1000's)

'Difference' per head of MH population

Sustainability and Transformation Plan areas (n=44)

Key:

Absolute difference in spend by STP

Difference / head of MH population (£) by STP

Median diff / head of MH population (£) all STP
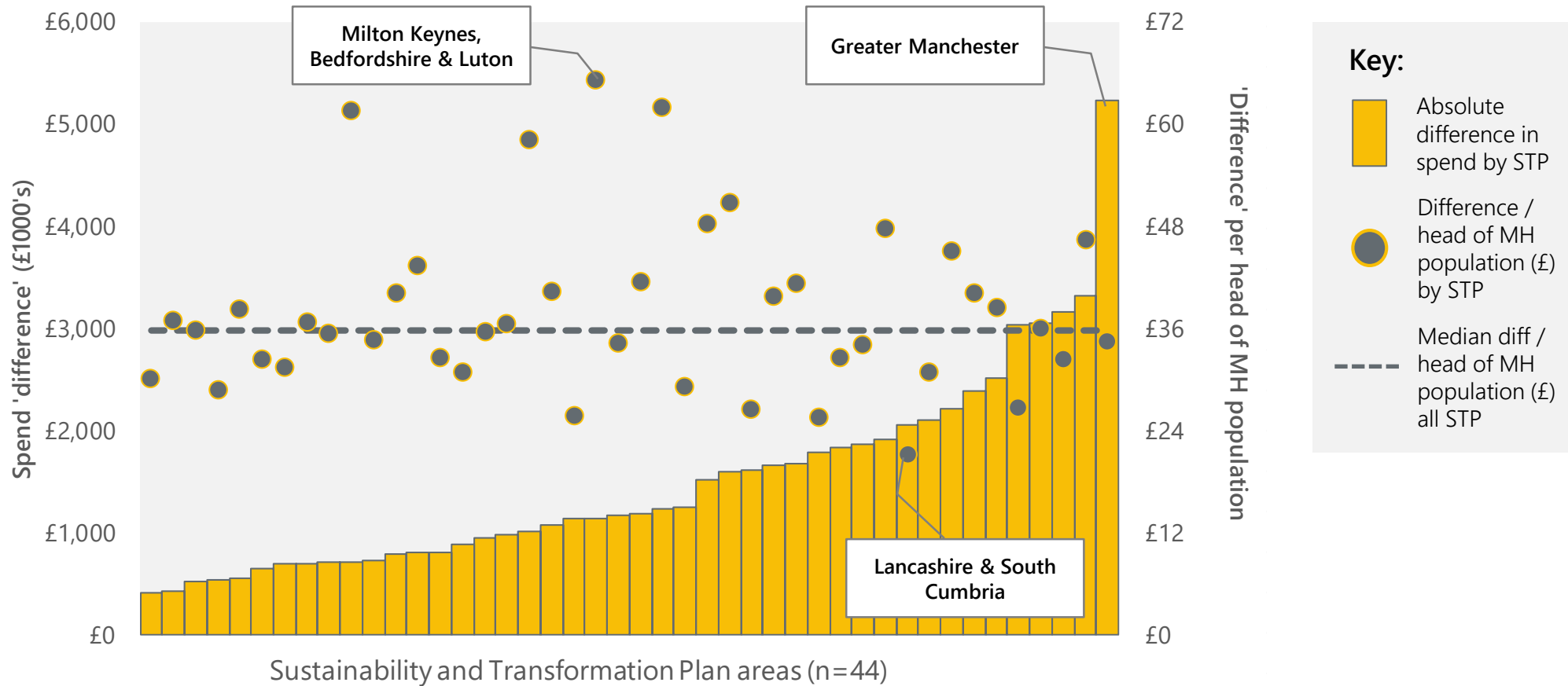
* sub groups described in chapter introduction. These figures do not represent all A&E activity

Saving and reinvestment opportunity
Inpatient admissions

Total cumulative difference = £1.45bn

Difference in spend on acute health care between mental health service users and the rest of the population | Inpatient admission sub-groups*

Greater Manchester

Hampshire & the Isle of Wight

North West London

Key:

Absolute difference in spend by STP

Difference / head of MH population (£) by STP

Median diff / head of MH population (£) all STP

Spend 'difference' (£1000's)

'Difference' per head of MH population

Sustainability and Transformation Plan areas (n=44)
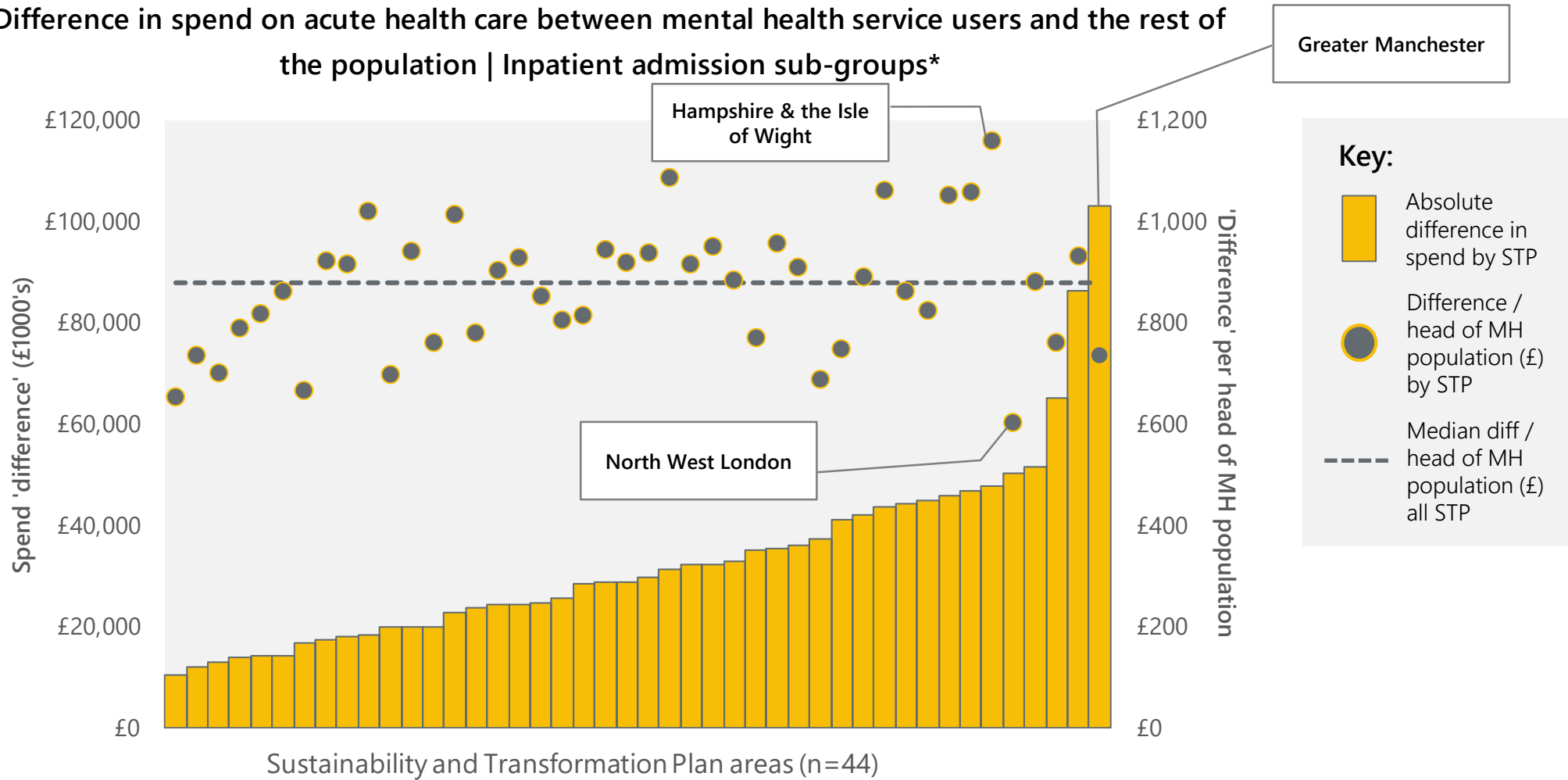
* sub groups described in chapter introduction. These figures do not represent all inpatient activity

Map the gap (MH versus rest of the population)
Scale of investment / saving opportunity

Difference for A&E sub-groups

£ per MH service user

- 21 - 32
- 32 - 36
- 36 - 41
- 41 - 65

Difference for Inpatient sub-groups

£ per MH service user

- 602 - 766
- 766 - 880
- 880 - 937
- 937 - 1157
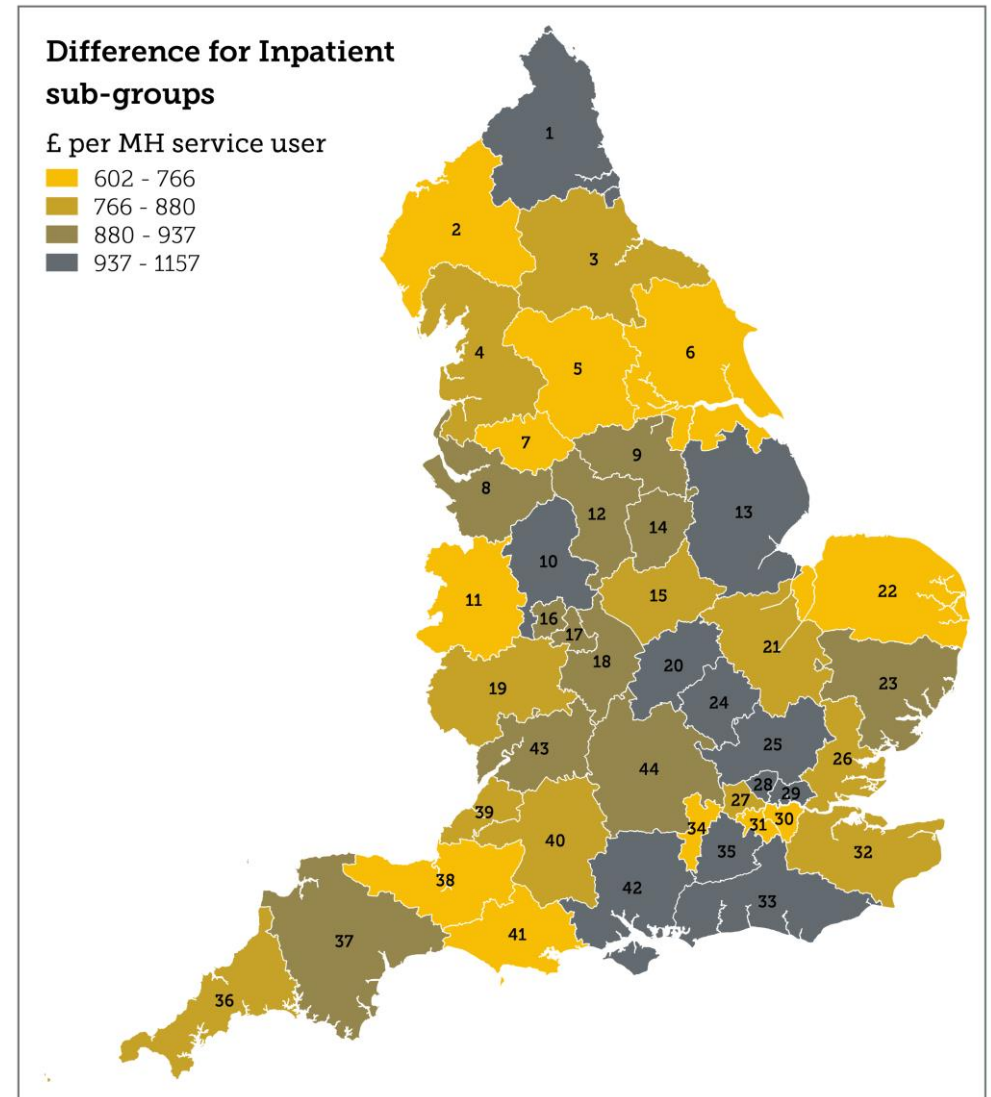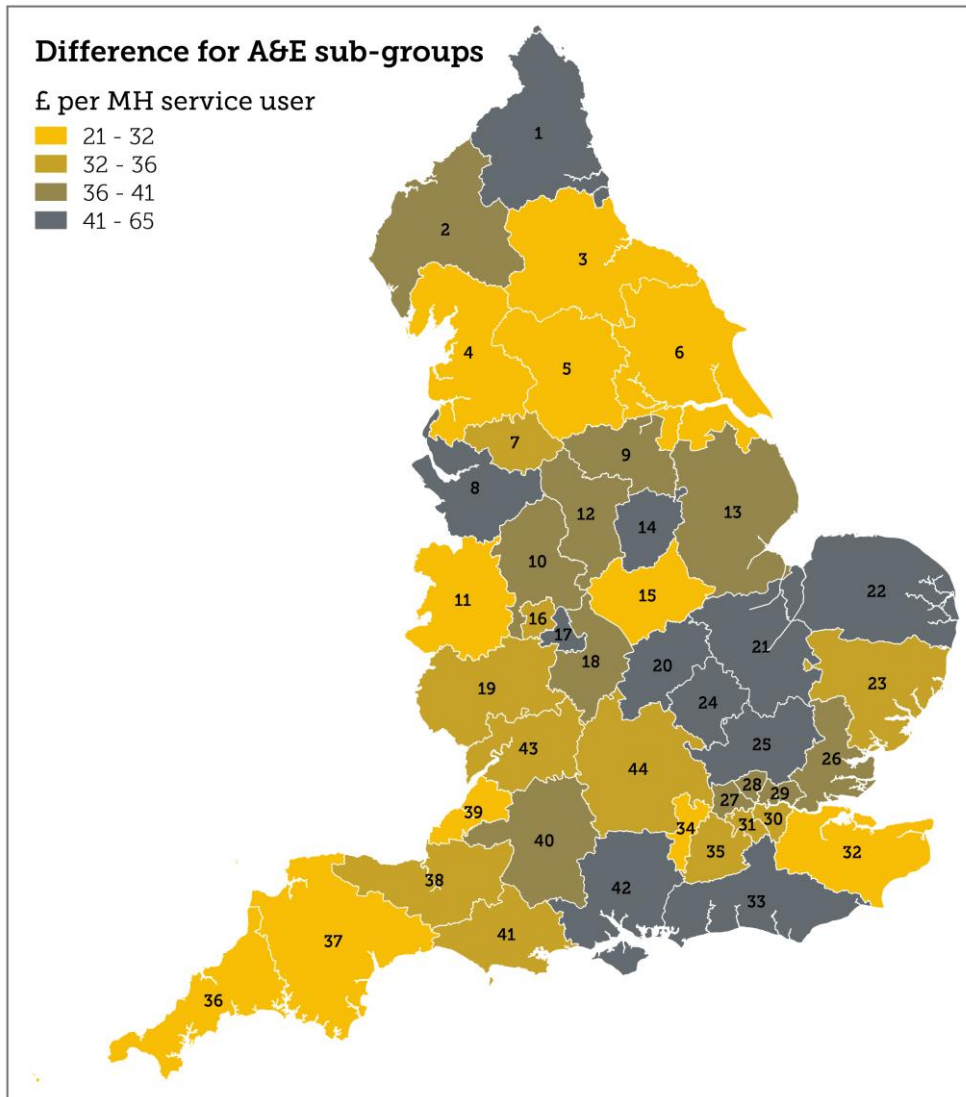
Saving and reinvestment opportunity
Mental health service user cohort summary

Mental health cohort	A&E attendances			Inpatient admissions		
	Activity	Cost (£000s)	Unit cost	Activity	Cost (£000s)	Unit cost
Cognitive impairment	78,110	£9,146	£117	227,180	£697,700	£3,071
Psychoses	312,720	£29,364	£94	301,500	£483,200	£1,603
Personality Disorders	49,150	£4,518	£92	33,170	£38,773	£1,169
Common	187,470	£17,351	£93	118,350	£208,700	£1,763
Unassigned	51,730	£4,414	£85	9,710	£21,834	£2,249
All MH service users	679,180	£64,793	£95	689,910	£1,450,207	£2,102

Whilst utilisation of acute health care by service users with personality disorders are generally much higher (chapter 2) in absolute terms this represents only a small % of the saving-reinvestment opportunity.

Addressing sub-groups of A&E attendances for those with psychoses and common disorders provide the largest opportunities.
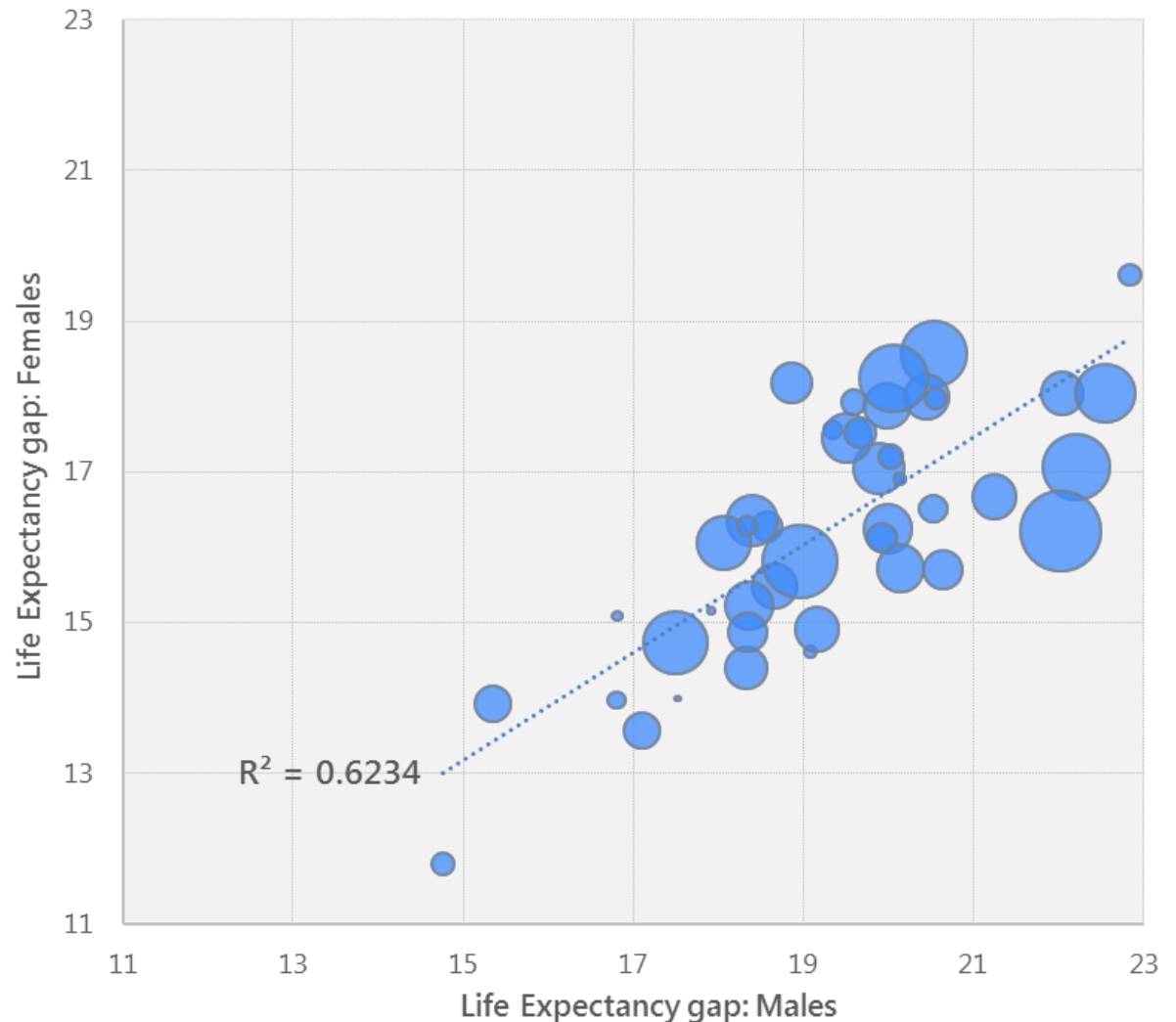
For (acute) hospital inpatient spells, those with cognitive impairment and dementia represent the largest cost opportunity group given the complexity or length of care (higher unit price).

Patients with psychoses are seen in higher volumes but these encounters tend to be less complex or shorter (lower unit price)

Saving opportunities and the life expectancy gaps

Gaps in life expectancy for men and women tend to be similarly scaled in areas across England. Instinctively, it might also be expected that those STP areas with the largest inequalities in life expectancy might also have the largest opportunity to reduce the healthcare utilisation inequality.

Our data does not suggest a strong relationship in this sense although the areas with the smallest utilisation inequalities tend to also have some of the smallest gaps in life expectancy for the mental health service user population.

STP 'opportunity' scaled by size

Smallest opportunity / head

Largest opportunity / head

$R^2 = 0.6234$

Life Expectancy gap: Females

Life Expectancy gap: Males
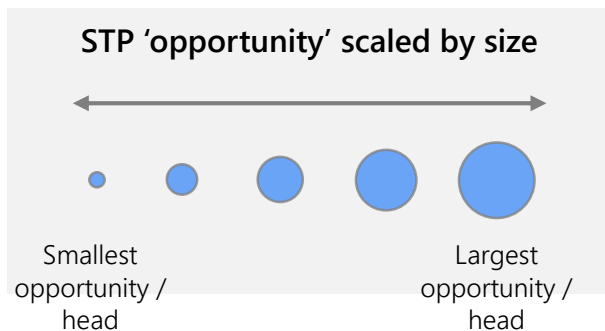
Appendices

1. Map and chart STP code listing

2. Data linkage flowchart

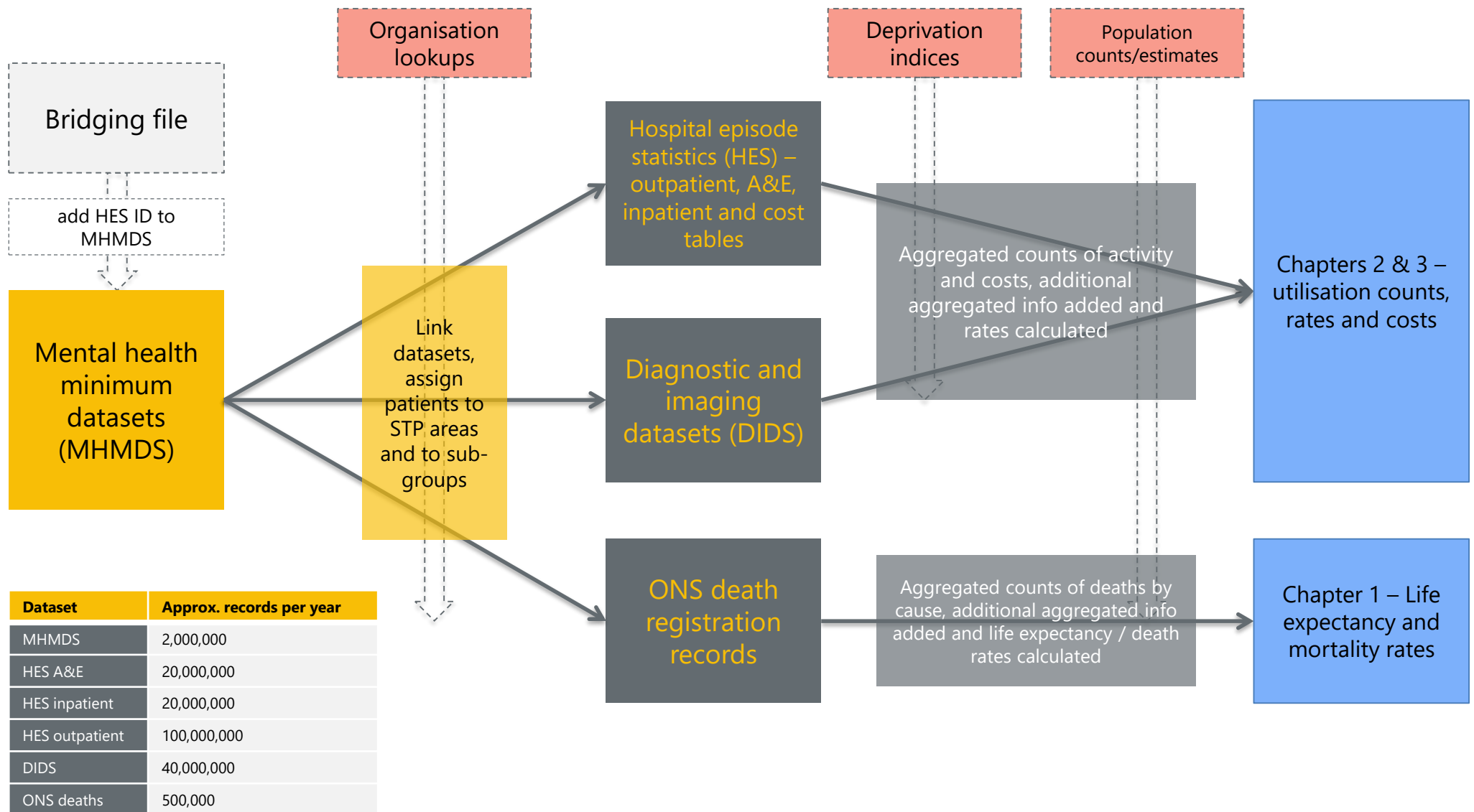3. High-level summary of evidence for integration and health improvement

1. STP codes and names used in this report

Code	STP name		Code	STP name
1	Northumberland, Tyne and Wear and North Durham		23	Suffolk and North East Essex
2	West, North and East Cumbria		24	Milton Keynes, Bedfordshire and Luton
3	Durham, Darlington, Teesside, Hambleton, Richmondshire and Whitby		25	Hertfordshire and West Essex
4	Lancashire and South Cumbria		26	Mid and South Essex
5	West Yorkshire		27	North West London
6	Humber, Coast and Vale		28	North Central London
7	Greater Manchester		29	North East London
8	Cheshire and Merseyside		30	South East London
9	South Yorkshire and Bassetlaw		31	South West London
10	Staffordshire		32	Kent and Medway
11	Shropshire and Telford and Wrekin		33	Sussex and East Surrey
12	Derbyshire		34	Frimley Health
13	Lincolnshire		35	Surrey Heartlands
14	Nottinghamshire		36	Cornwall and the Isles of Scilly
15	Leicester, Leicestershire and Rutland		37	Devon
16	The Black Country		38	Somerset
17	Birmingham and Solihull		39	Bristol, North Somerset and South Gloucestershire
18	Coventry and Warwickshire		40	Bath, Swindon and Wiltshire
19	Herefordshire and Worcestershire		41	Dorset
20	Northamptonshire		42	Hampshire and the Isle of Wight
21	Cambridgeshire and Peterborough		43	Gloucestershire
22	Norfolk and Waveney		44	Buckinghamshire, Oxfordshire and Berkshire West

2. Data sources and linkage flowchart

Bridging file

add HES ID to MHMDS

Mental health minimum datasets (MHMDS)

Organisation lookups

Link datasets, assign patients to STP areas and to sub-groups

Hospital episode statistics (HES) – outpatient, A&E, inpatient and cost tables

Diagnostic and imaging datasets (DIDS)

ONS death registration records

Deprivation indices

Population counts/estimates

Aggregated counts of activity and costs, additional aggregated info added and rates calculated

Aggregated counts of deaths by cause, additional aggregated info added and life expectancy / death rates calculated

Chapters 2 & 3 – utilisation counts, rates and costs

Chapter 1 – Life expectancy and mortality rates

Dataset	Approx. records per year
MHMDS	2,000,000
HES A&E	20,000,000
HES inpatient	20,000,000
HES outpatient	100,000,000
DIDS	40,000,000
ONS deaths	500,000

3. Summary of evidence for effective integration and physical health improvement interventions

Evidence base suggests maybe effective:

- Psychiatric liaison
- Collaborative care - serve mental illness, intensive Case Management (ICM) (caseload of <20) reduces hospitalisation; elements of case management include self-management & MDT working.
- Lifestyle interventions which are longer duration, frequent contact and multi-components.

Evidence base remains uncertain:

- Integrated care – to date most care studied has not been within fully integrated care systems.
- Interventions to reduce substance abuse in those with SMI
- Exercise interventions in those with SMI
- Self-management

NB. The individual STP reports contain the full evidence review covering many more aspects of integration of care services and the health improvement of those with mental health disorders.

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