THE SEGMENT TOOL

SEGMENTING LIFE EXPECTANCY GAPS BY CAUSE OF DEATH

Public Health England

Key results for London

Introduction

The Segment Tool has been developed by Public Health England's (PHE) Epidemiology and Surveillance team and provides information on the causes of death that are driving inequalities in life expectancy at local area level. Targeting the causes of death which contribute most to the life expectancy gap should have the biggest impact on reducing inequalities.

This document presents key results for London and provides data tables and charts showing the breakdown of the life expectancy gap in 2012-14 for two comparisons:

1. The gap between the region as a whole and England as a whole.
2. The gap between the most deprived quintile of the region and the least deprived quintile of the region.

The tool, along with a user guide and technical document, can be downloaded from http://fingertips.phe.org.uk/profile/segment

Due to changes made in this version of the Segment Tool, the results presented here are not directly comparable with previous versions.

Interpreting the charts

Two types of chart are included below.

The scarf charts show, for each broad cause of death, the percentage contribution that it makes to the overall life expectancy gap between the areas selected. This could be between the region as a whole and England, or between the most deprived quintile of the region and the least deprived quintile of the region, depending on which comparison has been selected. If a cause shows a contribution of 0, this means that the cause of death does not make any contribution to the life expectancy gap.

The bar charts show, for a more detailed breakdown of causes of death, the years of life expectancy that would be gained or lost in the selected area, if it had the same mortality rates as the comparator area.

The tables show the percentage contributions and years of life gained for each cause of death. The number of deaths occurring in the area in 2012-14 are shown, and alongside, the number of excess deaths. Excess deaths are the number of 'extra' deaths that occur in the selected area because it has a higher mortality rate for that cause of death than the comparator area. If these deaths were prevented, then the contribution of that cause of death to the overall life expectancy gap would be eliminated. For some causes of death, there are no excess deaths in the selected area, and therefore no impact is made to the life expectancy gap. If this is the case the table shows a value of "..".

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Contextual information for London

Information on inequalities in life expectancy between London and England

	Male	Female
Life expectancy at birth in London, 2012-2014	80.3	84.2
Life expectancy at birth in England, 2012-2014	79.6	83.2
Absolute gap in life expectancy between London and England in years*	0.7	1.0

*A value below 0 indicates a lower life expectancy in the selected area compared to England.

Information on inequalities in life expectancy within London

	Male	Female
Life expectancy at birth in the most deprived quintile of London, 2012-2014	77.1	82.2
Life expectancy at birth in the least deprived quintile of London, 2012-2014	83.4	86.1
Absolute gap in life expectancy between most deprived and least deprived areas within London*	-6.3	-3.9

*A value below 0 indicates a lower life expectancy in the most deprived quintile compared with the least deprived quintile.

Sources:
- Life expectancies for regions - Office for National Statistics (ONS), life expectancy at birth for local areas in England and Wales
- Life Expectancies for deprivation quintiles within each local authority - Analysis by Public Health England Epidemiology and Surveillance team based on ONS death registration data, and mid year population estimates, and DCLG Index of Multiple Deprivation, 2015

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Between area inequalities: Life expectancy gap between London as a whole and England

Chart 1: Scarf chart showing the breakdown of the life expectancy gap between London as a whole and England as a whole, by broad cause of death, 2012-2014
This chart is not available as life expectancy is higher in London than in England as a whole

Footnote: Circulatory diseases includes coronary heart disease and stroke. Respiratory diseases includes flu, pneumonia and chronic obstructive airways disease. Digestive diseases includes alcohol-related conditions such as chronic liver disease and cirrhosis. External causes include deaths from injury, poisoning and suicide. Mental and behavioural includes dementia and Alzheimer's disease.

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Chart 2: Bar chart showing life expectancy years gained or lost if London as a whole had the same mortality rates as England as a whole, by broad cause of death, 2012-2014

Male

Cause	Life years lost/gained
Deaths under 28 days	-0.02
Respiratory	-0.06
Digestive	-0.06
Other	-0.06
Circulatory	-0.07
Mental and behavioural	-0.09
Cancer	-0.21
External causes	-0.25

Life years lost/gained

Female

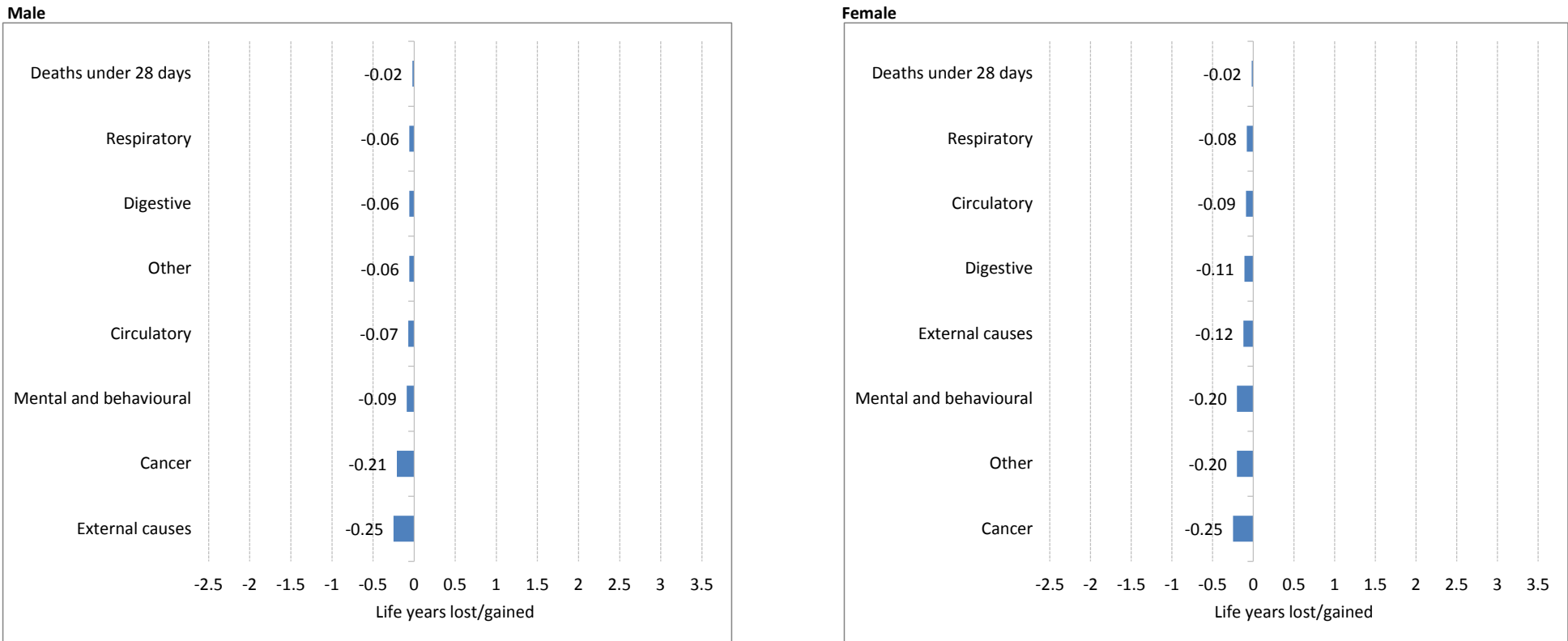| Cause	Life years lost/gained
Deaths under 28 days	-0.02
Respiratory	-0.08
Circulatory	-0.09
Digestive	-0.11
External causes	-0.12
Mental and behavioural	-0.20
Other	-0.20
Cancer	-0.25

Life years lost/gained

Footnote: Circulatory diseases includes coronary heart disease and stroke. Respiratory diseases includes flu, pneumonia and chronic obstructive airways disease. Digestive diseases includes alcohol-related conditions such as chronic liver disease and cirrhosis. External causes include deaths from injury, poisoning and suicide. Mental and behavioural includes dementia and Alzheimer's disease.

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Table 1: Breakdown of the life expectancy gap between London as a whole and England as a whole, by broad cause of death, 2012-2014

Broad cause of death	Male				Female			
	Number of deaths in region	Number of excess deaths in region	Number of years of life gained/lost*	Contribution to the gap (%)	Number of deaths in region	Number of excess deaths in region	Number of years of life gained/lost*	Contribution to the gap (%)
Circulatory	20,400	-549	-0.07	++	19,925	-719	-0.09	++
Cancer	21,644	-1,347	-0.21	++	19,563	-1,353	-0.25	++
Respiratory	9,478	-390	-0.06	++	10,228	-477	-0.08	++
Digestive	3,517	-341	-0.06	++	3,260	-621	-0.11	++
External causes	3,515	-1,233	-0.25	++	1,917	-630	-0.12	++
Mental and behavioural	4,383	-612	-0.09	++	8,358	-1,491	-0.20	++
Other	7,386	-367	-0.06	++	8,468	-1,478	-0.20	++
Deaths under 28 days	537	-61	-0.02	++	425	-46	-0.02	++
Total	70,860			++	72,146			++

Counts of deaths have been adjusted take account of changes in ICD-10 coding made in 2014. This means totals may differ between tables. Further details can be found in the technical document.

* A positive figure indicates that life expectancy years would be gained if the region had the same mortality rate as England as a whole (ie the mortality rate in the region for the cause is higher than England as a whole). A negative figure indicates that life expectancy years would be lost if the region had the same mortality rate as England as a whole.

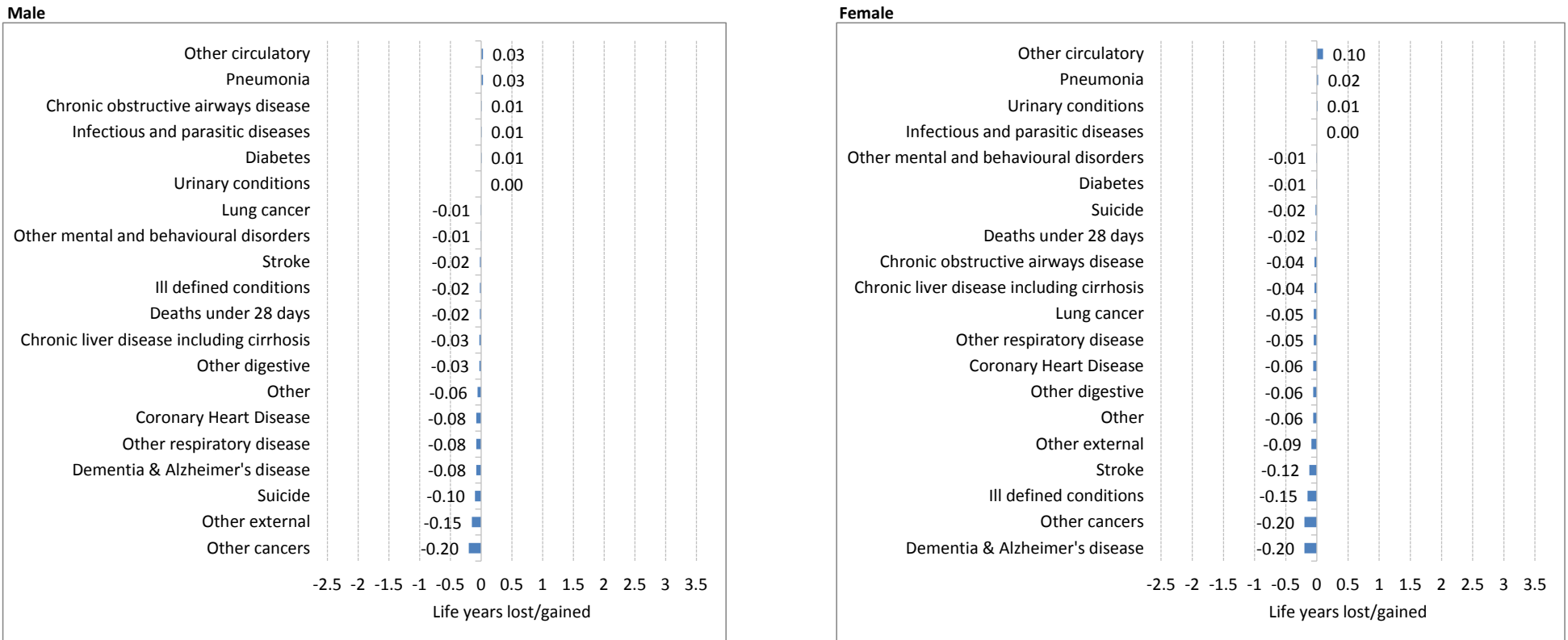.. The calculated contribution to the gap is negative

++ The figures have not been calculated as life expectancy is higher than England

Analysis by Public Health England's (PHE) Epidemiology and Surveillance team based on ONS death registration data, and mid year population estimates.

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Chart 3: Bar chart showing life expectancy years gained or lost if London as a whole had the same mortality rates as England as a whole, by detailed cause of death, 2012-2014

Male

Cause	Life years lost/gained
Other circulatory	0.03
Pneumonia	0.03
Chronic obstructive airways disease	0.01
Infectious and parasitic diseases	0.01
Diabetes	0.01
Urinary conditions	0.00
Lung cancer	-0.01
Other mental and behavioural disorders	-0.01
Stroke	-0.02
Ill defined conditions	-0.02
Deaths under 28 days	-0.02
Chronic liver disease including cirrhosis	-0.03
Other digestive	-0.03
Other	-0.06
Coronary Heart Disease	-0.08
Other respiratory disease	-0.08
Dementia & Alzheimer's disease	-0.08
Suicide	-0.10
Other external	-0.15
Other cancers	-0.20

Life years lost/gained

Female

Cause	Life years lost/gained
Other circulatory	0.10
Pneumonia	0.02
Urinary conditions	0.01
Infectious and parasitic diseases	0.00
Other mental and behavioural disorders	-0.01
Diabetes	-0.01
Suicide	-0.02
Deaths under 28 days	-0.02
Chronic obstructive airways disease	-0.04
Chronic liver disease including cirrhosis	-0.04
Lung cancer	-0.05
Other respiratory disease	-0.05
Coronary Heart Disease	-0.06
Other digestive	-0.06
Other	-0.06
Other external	-0.09
Stroke	-0.12
Ill defined conditions	-0.15
Other cancers	-0.20
Dementia & Alzheimer's disease	-0.20

Life years lost/gained

Footnote: See table below for details of cause groupings. Details of causes of death included in the 'other' category can be found in the Technical Document.
Analysis by Public Health England's (PHE) Epidemiology and Surveillance team based on ONS death registration data, and mid year population estimates.

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Table 2: Table showing life expectancy years gained or lost if London as a whole had the same mortality rates as England as a whole, by detailed cause of death, 2012-2014

Broad cause of death	Detailed cause of death	Male			Female		
		Number of deaths in region	Number of excess deaths in region	Number of years of life gained/lost*	Number of deaths in region	Number of excess deaths in region	Number of years of life gained/lost*
Circulatory	Coronary Heart Disease	10,621	-537	-0.08	7,054	-487	-0.06
	Stroke	4,117	-156	-0.02	5,265	-967	-0.12
	Other circulatory	5,658	140	0.03	7,641	730	0.10
Cancer	Lung cancer	5,016	-34	-0.01	3,955	-244	-0.05
	Other cancers	16,628	-1,312	-0.20	15,608	-1,109	-0.20
Respiratory	Pneumonia	3,760	195	0.03	4,701	178	0.02
	Chronic obstructive airways disease	4,082	35	0.01	3,649	-191	-0.04
	Other respiratory disease	1,705	-500	-0.08	1,897	-378	-0.05
Digestive	Chronic liver disease including cirrhosis	1,261	-163	-0.03	600	-203	-0.04
	Other digestive	2,226	-176	-0.03	2,661	-418	-0.06
External	Suicide	1,254	-457	-0.10	391	-102	-0.02
	Other external	2,261	-777	-0.15	1,535	-533	-0.09
Mental and behavioural	Dementia & Alzheimer's disease	4,218	-575	-0.08	8,272	-1,441	-0.20
	Other mental and behavioural disorders	166	-37	-0.01	85	-50	-0.01
Other	Infectious and parasitic diseases	830	59	0.01	880	5	0.00
	Urinary conditions	1,025	-14	0.00	1,531	57	0.01
	Ill defined conditions	841	-139	-0.02	1,303	-1,128	-0.15
	Diabetes	827	41	0.01	761	-46	-0.01
	Other	3,853	-315	-0.06	3,929	-382	-0.06
< 28 days	Deaths under 28 days	537	-61	-0.02	425	-46	-0.02
	Total	70,885			72,141		

Counts of deaths have been adjusted take account of changes in ICD-10 coding made in 2014. This means totals may differ between tables. Further details can be found in the technical document.

* A positive figure indicates that life expectancy years would be gained if the region had the same mortality rate as England as a whole (ie the mortality rate in the region for the cause is higher than England as a whole). A negative figure indicates that life expectancy years would be lost if the region had the same mortality rate as England as a whole.
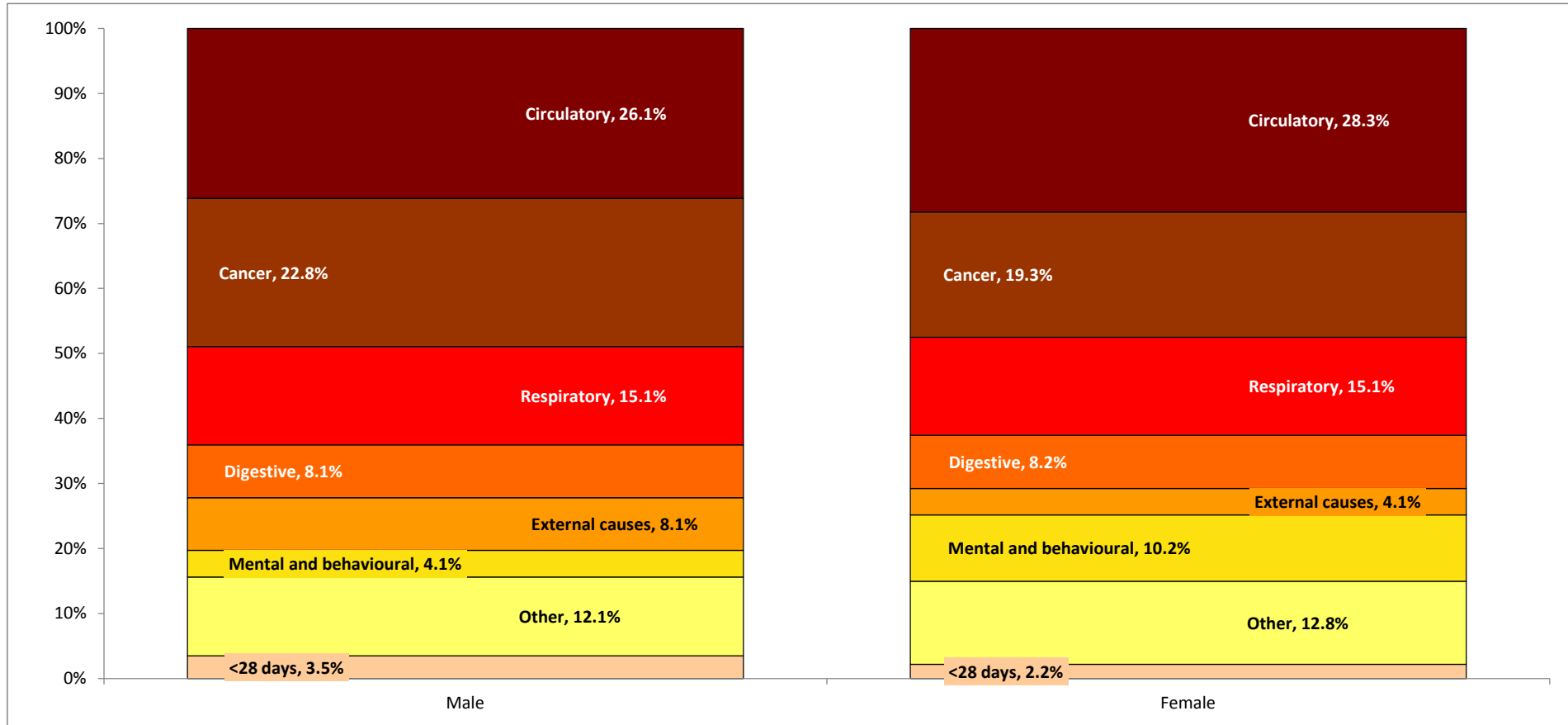
Analysis by Public Health England's (PHE) Epidemiology and Surveillance team based on ONS death registration data, and mid year population estimates.

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Within area inequalities: Life expectancy gap between the most deprived quintile and least deprived quintle of London

Chart 4: Scarf chart showing the breakdown of the life expectancy gap between London most deprived quintile and London least deprived quinitle, by broad cause of death, 2012-2014
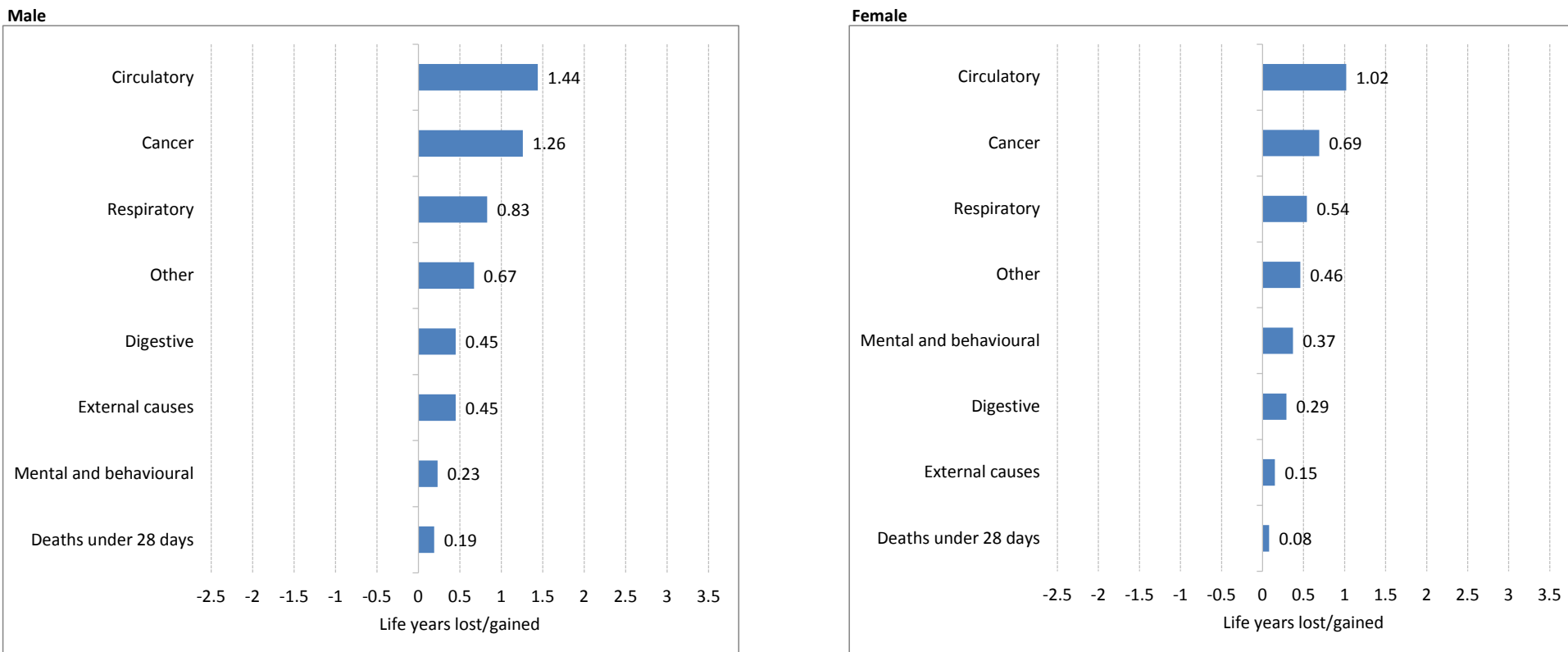

Footnote: Circulatory diseases includes coronary heart disease and stroke. Respiratory diseases includes flu, pneumonia and chronic obstructive airways disease. Digestive diseases includes alcohol-related conditions such as chronic liver disease and cirrhosis. External causes include deaths from injury, poisoning and suicide. Mental and behavioural includes dementia and Alzheimer's disease.

Analysis by Public Health England's (PHE) Epidemiology and Surveillance team based on ONS death registration data, and mid year population estimates, and DCLG Index of Multiple Deprivation, 2015

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Chart 5: Bar chart showing life expectancy years gained or lost if London most deprived quintile had the same mortality rates as London least deprived quintile, by broad cause of death, 2012-2014

Male

Cause	Life years lost/gained
Circulatory	1.44
Cancer	1.26
Respiratory	0.83
Other	0.67
Digestive	0.45
External causes	0.45
Mental and behavioural	0.23
Deaths under 28 days	0.19

Life years lost/gained

Female

Cause	Life years lost/gained
Circulatory	1.02
Cancer	0.69
Respiratory	0.54
Other	0.46
Mental and behavioural	0.37
Digestive	0.29
External causes	0.15
Deaths under 28 days	0.08

Life years lost/gained

Footnote: Circulatory diseases includes coronary heart disease and stroke. Respiratory diseases includes flu, pneumonia and chronic obstructive airways disease. Digestive diseases includes alcohol-related conditions such as chronic liver disease and cirrhosis. External causes include deaths from injury, poisoning and suicide. Mental and behavioural includes dementia and Alzheimer's disease.
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Table 3: Breakdown of the life expectancy gap between London most deprived quintile and London least deprived quintile, by broad cause of death, 2012-2014

	Male				Female			
Broad cause of death	Number of deaths in most deprived quintile	Number of excess deaths in most deprived quintile	Number of years of life gained/lost*	Contribution to the gap (%)	Number of deaths in most deprived quintile	Number of excess deaths in most deprived quintile	Number of years of life gained/lost*	Contribution to the gap (%)
Circulatory	4,115	1,608	1.44	26.1	3,658	1,018	1.02	28.3
Cancer	4,331	1,379	1.26	22.8	3,645	682	0.69	19.3
Respiratory	1,997	962	0.83	15.1	1,879	566	0.54	15.1
Digestive	865	493	0.45	8.1	687	306	0.29	8.2
External causes	849	435	0.45	8.1	407	138	0.15	4.1
Mental and behavioural	836	298	0.23	4.1	1,528	454	0.37	10.2
Other	1,616	695	0.67	12.1	1,640	424	0.46	12.8
Deaths under 28 days	182	113	0.19	3.5	113	42	0.08	2.2
Total	14,791			100	13,557			100

Counts of deaths have been adjusted take account of changes in ICD-10 coding made in 2014. This means totals may differ between tables. Further details can be found in the technical document.

* A positive figure indicates that life expectancy years would be gained if the most deprived quintile of the region had the same mortality rate as the least deprived quintile (ie the mortality rate in the most deprived quintile for the cause is higher than that of the least deprived quintile). A negative figure indicates that life expectancy years would be lost if the most deprived quintile in the region had the same mortality rate as the least deprived quintile.

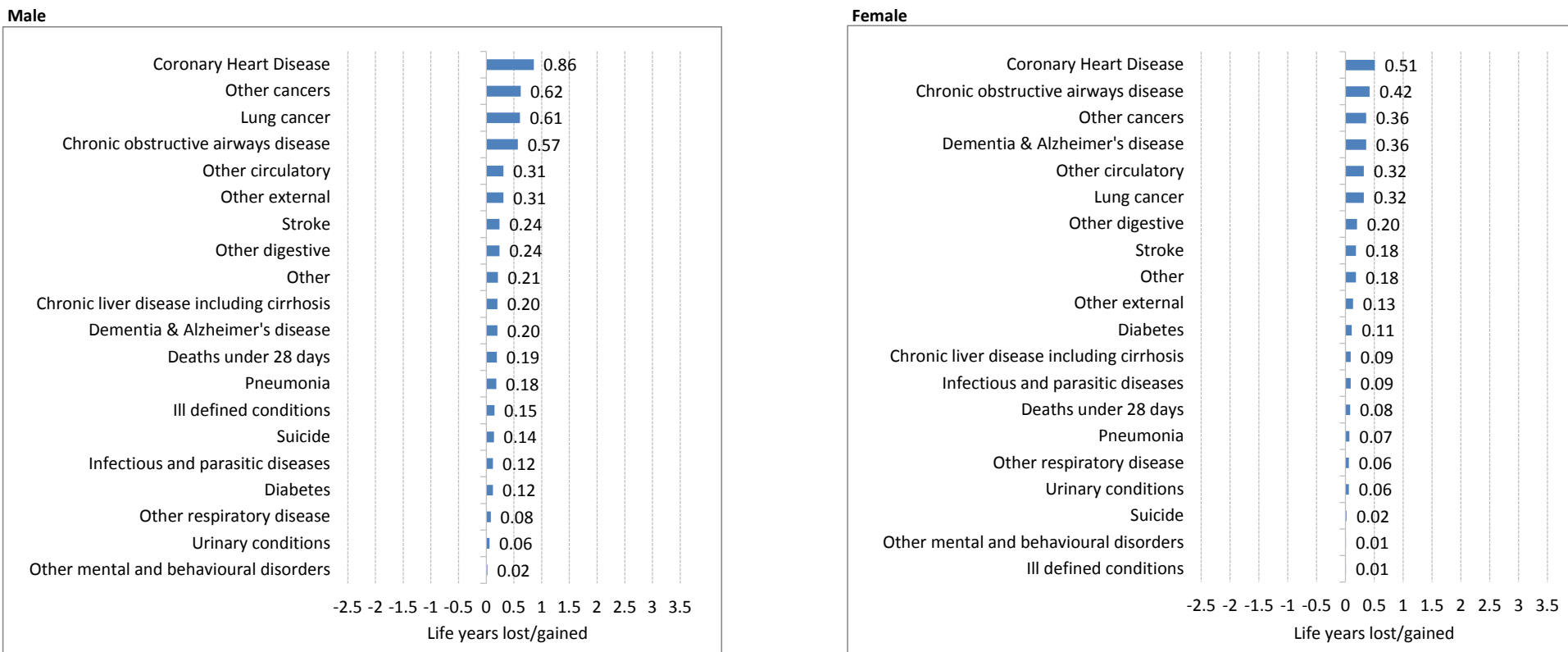.. The calculated contribution to the gap is negative

The figures have not been calculated as life expectancy in the most deprived quintile is higher than life expectancy in the least deprived quintile

Analysis by Public Health England's (PHE) Epidemiology and Surveillance team based on ONS death registration data, and mid year population estimates, and DCLG Index of Multiple Deprivation, 2015

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Chart 6: Bar chart showing life expectancy years gained or lost if London most deprived quintile had the same mortality rates as London least deprived quintile, by detailed cause of death, 2012-2014

Male

Cause	Life years
Coronary Heart Disease	0.86
Other cancers	0.62
Lung cancer	0.61
Chronic obstructive airways disease	0.57
Other circulatory	0.31
Other external	0.31
Stroke	0.24
Other digestive	0.24
Other	0.21
Chronic liver disease including cirrhosis	0.20
Dementia & Alzheimer's disease	0.20
Deaths under 28 days	0.19
Pneumonia	0.18
Ill defined conditions	0.15
Suicide	0.14
Infectious and parasitic diseases	0.12
Diabetes	0.12
Other respiratory disease	0.08
Urinary conditions	0.06
Other mental and behavioural disorders	0.02

Life years lost/gained

Female

Cause	Life years
Coronary Heart Disease	0.51
Chronic obstructive airways disease	0.42
Other cancers	0.36
Dementia & Alzheimer's disease	0.36
Other circulatory	0.32
Lung cancer	0.32
Other digestive	0.20
Stroke	0.18
Other	0.18
Other external	0.13
Diabetes	0.11
Chronic liver disease including cirrhosis	0.09
Infectious and parasitic diseases	0.09
Deaths under 28 days	0.08
Pneumonia	0.07
Other respiratory disease	0.06
Urinary conditions	0.06
Suicide	0.02
Other mental and behavioural disorders	0.01
Ill defined conditions	0.01

Life years lost/gained

Footnote: See table below for details of cause groupings. Details of causes of death included in the 'other' category can be found in the Technical Document.
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Table 4: Table showing life expectancy years gained or lost if London most deprived quintile had the same mortality rates as London least deprived quintile, by detailed cause of death, 2012-2014

Broad cause of death	Detailed cause of death	Male Number of deaths in most deprived quintile	Male Number of excess deaths in most deprived quintile	Male Number of years of life gained/lost*	Female Number of deaths in most deprived quintile	Female Number of excess deaths in most deprived quintile	Female Number of years of life gained/lost*
Circulatory	Coronary Heart Disease	2,237	981	0.86	1,403	526	0.51
	Stroke	800	293	0.24	902	179	0.18
	Other circulatory	1,077	335	0.31	1,362	317	0.32
Cancer	Lung cancer	1,231	699	0.61	853	342	0.32
	Other cancers	3,100	680	0.62	2,792	340	0.36
Respiratory	Pneumonia	664	213	0.18	715	52	0.07
	Chronic obstructive airways disease	1,050	685	0.57	838	461	0.42
	Other respiratory disease	300	78	0.08	329	58	0.06
Digestive	Chronic liver disease including cirrhosis	345	216	0.20	160	91	0.09
	Other digestive	512	271	0.24	527	216	0.20
External	Suicide	287	135	0.14	82	16	0.02
	Other external	562	299	0.31	327	124	0.13
Mental and behavioural	Dementia & Alzheimer's disease	799	274	0.20	1,507	445	0.36
	Other mental and behavioural disorders	38	24	0.02	20	9	0.01
Other	Infectious and parasitic diseases	215	130	0.12	204	98	0.09
	Urinary conditions	195	77	0.06	278	67	0.06
	Ill defined conditions	242	158	0.15	209	-23	0.01
	Diabetes	227	147	0.12	197	125	0.11
	Other	738	184	0.21	741	156	0.18
< 28 days	Deaths under 28 days	182	113	0.19	113	42	0.08
	Total	14,801			13,559		

Counts of deaths have been adjusted take account of changes in ICD-10 coding made in 2014. This means totals may differ between tables. Further details can be found in the technical document.

* A positive figure indicates that life expectancy years would be gained if the most deprived quintile of the region had the same mortality rate as the least deprived quintile (ie the mortality rate in the most deprived quintile for the cause is higher than that of the least deprived quintile). A negative figure indicates that life expectancy years would be lost if the most deprived quintile in the region had the same mortality rate as the least deprived quintile.

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