



Global Burden of Disease: England

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Instituto Nacional de Salud Publica

Overview

- 1) GBD 2010: UK benchmarking
- 2) GBD 2013: England subnational
 - Results
- 3) PHE Action Plan
- 4) Future work: GBD 2016

Overview

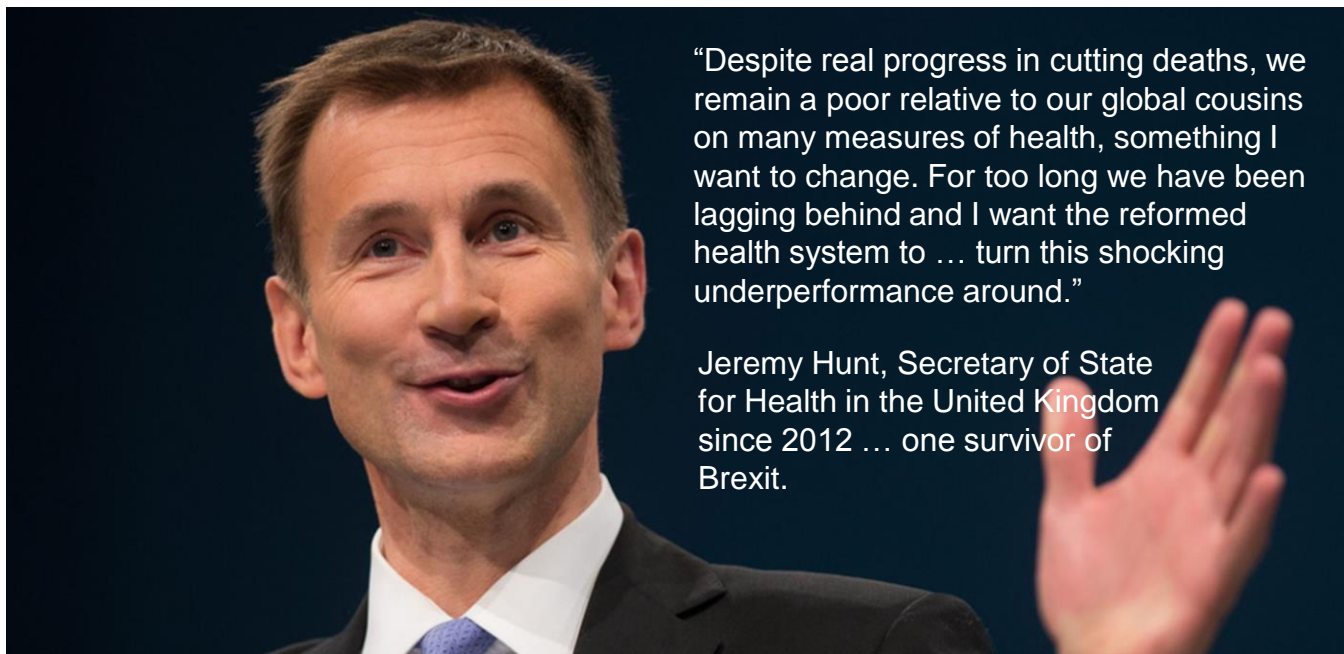
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GBD 2010: UK Benchmarking release

UK health performance: findings of the Global Burden of Disease Study 2010



Christopher J L Murray†, Michael A Richards, John N Newton, Kevin A Fenton, H Ross Anderson, Charles Atkinson*, Derrick Bennett*, Eduardo Bernabé*, Hannah Blencowe*, Rupert Bourne*, Tasanee Braithwaite*, Carol Brayne*, Nigel G Bruce*, Traolach S Brugha*, Peter Burney*, Mukesh Dherani*, Helen Dolk*, Karen Edmond*, Majid Ezzati*, Abraham D Flaxman*, Tom D Fleming*, Greg Freedman*, David Gunnell*, Roderick J Hay*, Sally J Hutchings*, Summer Lockett Ohno*, Rafael Lazano*, Ronan A Lyons*, Wagner Marcenes*, Mohsen Naghavi*, Charles R Newton*, Neil Pearce*, Dan Pope*, Lesley Rushton*, Joshua A Salomon*, Kenji Shibuya*, Theo Vos*, Haidong Wang*, Hywel C Williams*,*



“Despite real progress in cutting deaths, we remain a poor relative to our global cousins on many measures of health, something I want to change. For too long we have been lagging behind and I want the reformed health system to ... turn this shocking underperformance around.”

Jeremy Hunt, Secretary of State for Health in the United Kingdom since 2012 ... one survivor of Brexit.

GBD 2010: UK Benchmarking reaction

Dec 2012

- IHME & PHE formally commit to work together
 - Pooled resources
 - Trained UK staff

March 2013

- Publication of *Lancet* paper benchmarking UK against comparator countries
- Jeremy Hunt, Secretary of State for Health, issues a response to GBD findings and a call to action
 - **Development of a national plan based on GBD**
 - **Creation of burden of disease unit with capacity building from IHME**



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GBD 2013: England subnational

Changes in health in England, with analysis by English regions and areas of deprivation, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013



John N Newton†, Adam D M Briggs, Christopher J L Murray, Daniel Dicker, Kyle J Foreman, Haidong Wang, Mohsen Naghavi, Mohammad H Forouzanfar, Summer Lockett Ohno, Ryan M Barber, Theo Vos, Jeffrey D Stanaway, Jürgen C Schmidt, Andrew J Hughes, Derek F J Fay, Russell Ecob, Charis Gresser, Martin McKee, Harry Rutter, Ibrahim Abubakar*, Raghieb Ali*, H Ross Anderson*, Amitava Banerjee*

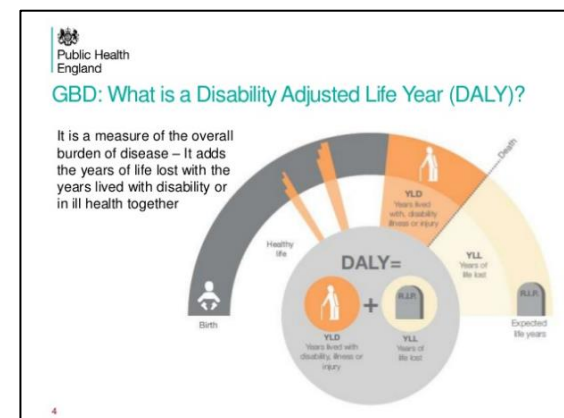


Collaboration with Public Health England

- Duncan Selbie, Chief Executive of PHE
- John Newton, Chief Medical Officer, PHE

September 2015

- Publication of *Lancet* subnational analysis with disease burden estimates for:
 - 9 regions of England; and 45 deprivation areas



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Results - summary

- 1) Between 1990-2013, life expectancy in England increased by 5.4 years from 75.9 years to 81.3 years; gains were greater for men than for women.
- 2) Rates of age-standardised YLLs reduced by 41.1%, whereas DALYs were reduced by 23.8%, and YLDs by 1.4%.
- 3) England ranked better than the UK and the EU15+ means.
- 4) Between 1990-2013, the range in life expectancy among 45 regional deprivation areas remained 8.2 years for men and decreased from 7.2 years in 1990 to 6.9 years in 2013 for women.
- 5) In 2013, the leading cause of YLLs was ischaemic heart disease, and the leading cause of DALYs was low back and neck pain.
- 6) Known risk factors accounted for 39.6% of DALYs; leading behavioural risk factors were suboptimal diet (10.8%) and tobacco (10.7%).

25 leading causes of years of life lost (YLLs) in England, both sexes, 1990, 2005, and 2013 with age-standardized median percent change

Mean rank (95% UI)	1990 leading causes	2005 leading causes	Mean rank (95% UI)	Age-standardised median percentage change 1990-2005	2013 leading causes	Mean rank (95% UI)	Age-standardised median percentage change 2005-2013
1.0 (1-1)	1 Ischaemic heart disease	1 Ischaemic heart disease	1.0 (1-1)	-46% (-47 to -39%)	1 Ischaemic heart disease	1.0 (1-1)	-22% (-26 to -17%)
2.0 (2-2)	2 Cerebrovascular disease	2 Cerebrovascular disease	2.1 (2-3)	-32% (-35 to -25%)	2 Lung cancer	2.1 (2-3)	0% (-8 to 7%)
3.0 (3-3)	3 Lung cancer	3 Lung cancer	2.9 (2-3)	-21% (-25 to -19%)	3 Cerebrovascular disease	2.9 (2-3)	-14% (-19 to -9%)
4.2 (4-5)	4 COPD	4 Lower respiratory infections	4.2 (4-5)	-1% (-19 to 3%)	4 COPD	4.3 (4-6)	-5% (-12 to 2%)
4.8 (4-5)	5 Lower respiratory infections	5 COPD	4.8 (4-5)	-11% (-15 to 2%)	5 Alzheimer's disease	5.3 (4-6)	9% (-2 to 20%)
6.1 (6-7)	6 Colorectal cancer	6 Alzheimer's disease	6.0 (6-7)	20% (8 to 34%)	6 Lower respiratory infections	5.5 (4-6)	-15% (-20 to -6%)
6.9 (6-7)	7 Breast cancer	7 Colorectal cancer	7.1 (7-8)	-18% (-21 to -16%)	7 Colorectal cancer	7.0 (7-8)	0% (-7 to 6%)
8.3 (8-9)	8 Alzheimer's disease	8 Breast cancer	7.9 (6-8)	-18% (-22 to -15%)	8 Breast cancer	8.0 (7-8)	-12% (-19 to 0%)
8.8 (8-10)	9 Self-harm	9 Self-harm	9.0 (9-9)	-29% (-31 to -15%)	9 Self-harm	9.1 (9-10)	-13% (-24 to -3%)
9.9 (9-10)	10 Road injuries	10 Road injuries	10.4 (10-11)	-33% (-35 to -30%)	10 Pancreatic cancer	10.6 (10-12)	8% (1 to 15%)
11.4 (11-13)	11 Congenital anomalies	11 Other cardiovascular	11.1 (10-17)	26% (-32 to 31%)	11 Other cardiovascular	11.7 (10-22)	-14% (-23 to -6%)
12.2 (11-14)	12 Stomach cancer	12 Pancreatic cancer	12.2 (12-14)	2% (-2 to 5%)	12 Prostate cancer	12.8 (9-23)	5% (-16 to 15%)
12.6 (11-14)	13 Neonatal preterm birth	13 Oesophageal cancer	14.0 (12-17)	20% (16 to 24%)	13 Oesophageal cancer	13.1 (10-17)	1% (-11 to 16%)
14.7 (14-18)	14 Aortic aneurysm	14 Prostate cancer	14.2 (10-20)	9% (-20 to 21%)	14 Congenital anomalies	14.6 (12-18)	-4% (-18 to 14%)
15.3 (12-18)	15 Other cardiovascular	15 Neonatal preterm birth	15.1 (13-19)	-26% (-41 to -20%)	15 Other neoplasms	15.0 (13-20)	2% (-6 to 8%)
15.6 (14-17)	16 Pancreatic cancer	16 Congenital anomalies	15.6 (13-17)	-34% (-39 to -31%)	16 Road injuries	15.4 (13-18)	-32% (-37 to -26%)
17.0 (15-18)	17 Diabetes	17 Other neoplasms	17.8 (15-22)	15% (-6 to 19%)	17 Neonatal preterm birth	17.8 (13-25)	-15% (-31 to 7%)
17.8 (14-22)	18 Prostate cancer	18 Aortic aneurysm	17.8 (13-22)	-17% (-28 to -13%)	18 Cirrhosis hepatitis C	19.2 (16-23)	0% (-19 to 18%)
19.2 (18-21)	19 Oesophageal cancer	19 Stomach cancer	18.0 (15-20)	-37% (-40 to -34%)	19 Lymphoma	19.7 (14-30)	0% (-21 to 11%)
20.0 (18-22)	20 Other neoplasms	20 Lymphoma	20.9 (16-28)	23% (-16 to 27%)	20 Stomach cancer	19.7 (16-24)	-14% (-20 to -7%)
21.1 (19-23)	21 Ovarian cancer	21 Cirrhosis hepatitis C	21.6 (18-27)	125% (88 to 188%)	21 Brain cancer	20.3 (16-26)	2% (-5 to 10%)
22.3 (21-24)	22 Leukaemia	22 Drug use disorders	22.5 (20-29)	148% (17 to 165%)	22 Aortic aneurysm	21.4 (15-26)	-18% (-25 to -10%)
23.1 (19-27)	23 Cardiomyopathy	23 Ovarian cancer	22.9 (21-25)	-5% (-12 to -2%)	23 Ovarian cancer	22.7 (19-26)	-4% (-11 to 5%)
24.1 (20-27)	24 Brain cancer	24 Brain cancer	23.4 (19-28)	3% (0 to 8%)	24 Leukaemia	23.1 (20-25)	-1% (-13 to 5%)
25.5 (23-28)	25 Bladder cancer	25 Cirrhosis alcohol	24.4 (20-28)	88% (57 to 119%)	25 Drug use disorders	24.3 (21-29)	-8% (-20 to 2%)
	26 Lymphoma	26 Leukaemia			31 Cirrhosis alcohol		
	35 Cirrhosis alcohol	27 Diabetes					
	41 Cirrhosis hepatitis C	32 Bladder cancer					
	46 Drug use disorders	34 Cardiomyopathy					

■ Communicable, maternal, neonatal, and nutritional
■ Non-communicable
■ Injuries

YLLs for both sexes, 2013 relative to EU15 & other

- Significantly lower than mean
- Indistinguishable from mean
- Significantly higher than mean

	Ischaemic heart disease	Lung cancer	Cerebrovascular disease	COPD	Alzheimer's disease	Lower respiratory infections	Colon and rectum cancers	Breast cancer	Self-harm	Pancreatic cancer	Other cardiovascular	Prostate cancer	Oesophageal cancer	Congenital anomalies	Other neoplasms	Road injury	Preterm birth complications	Cirrhosis hepatitis C	Non-Hodgkin lymphoma	Stomach cancer	Brain cancer	Aortic aneurysm	Ovarian cancer	Leukaemia	Drug use disorders
South East England	897	510	429	299	279	306	289	294	233	154	136	124	126	210	137	177	192	93.2	111	77.3	130	88.5	99.9	106	116
Italy	883	571	487	185	337	100	302	238	201	172	79.6	86.9	37.9	213	172	381	154	115	109	166	114	45.8	71.9	124	54.4
East of England	1007	526	432	279	284	305	292	298	231	151	133	134	120	237	138	197	238	80.1	108	85.1	123	91.6	103	105	117
Sweden	1348	436	500	208	230	164	330	200	492	163	112	182	47.4	195	128	187	57.8	74.6	85	87.4	133	94.2	81.2	110	118
South West England	980	522	466	294	281	298	305	297	281	153	140	132	138	225	140	208	228	103	120	85.5	134	86.6	98.7	114	152
Spain	942	619	489	288	307	210	358	215	232	158	127	100	62.9	215	164	311	93.3	122	85.9	160	123	42.3	68.2	109	113
Australia	994	522	409	276	263	127	312	233	445	154	90.1	149	82.3	230	134	352	109	60.9	118	97.7	129	56.4	67.9	111	171
Norway	1055	582	491	330	355	212	405	194	465	169	105	174	49.3	209	122	215	59.5	53.2	90.3	99.9	143	84.3	91	105	281
Luxembourg	1085	695	592	317	230	184	326	263	432	175	205	111	82.5	109	112	317	64.9	164	101	117	139	38.9	92.1	124	159
Greater London	1103	615	455	375	322	362	277	282	228	155	146	124	116	235	143	152	242	127	120	97.1	118	88	89.1	114	130
England	1122	623	497	367	289	343	305	295	254	154	143	127	138	254	147	193	251	122	113	99.7	125	89.7	100	112	140
East Midlands	1142	598	499	361	290	344	312	302	238	152	141	126	144	265	153	235	285	118	113	102	126	88.6	104	113	116
France	761	785	404	161	178	173	307	278	578	180	181	128	104	197	207	358	67.9	129	103	108	120	40.8	78.6	119	85.3
Canada	1181	760	324	259	346	179	316	243	463	165	83.2	118	65.6	272	139	357	186	91.1	132	91.6	121	55	76.2	116	132
UK	1170	653	520	383	295	348	315	294	280	157	143	128	142	256	149	198	243	129	113	105	127	88.1	101	112	157
Netherlands	1040	861	471	366	272	276	426	337	355	203	176	157	128	256	166	204	102	67.1	104	147	140	83.4	97.9	122	34.5
Germany	1335	632	497	279	289	183	323	256	386	200	183	127	84.4	214	142	241	151	153	86.5	145	132	44.5	82	111	79.6
Austria	1321	592	493	237	287	116	294	240	490	209	115	119	56.5	258	146	293	147	157	106	128	122	43.3	79.9	118	157
West Midlands	1185	611	544	389	291	356	317	300	251	154	135	129	154	333	158	217	335	141	109	114	120	83.9	108	114	124
Ireland	1481	638	504	362	304	337	347	303	460	164	104	155	119	341	122	255	140	65.7	107	124	140	70.1	106	109	158
Finland	1509	450	626	174	446	115	256	204	709	194	114	129	48.6	240	135	238	82.7	198	98.5	113	134	87.6	68	104	212
Yorkshire and the Humber	1314	736	555	442	283	370	315	295	276	155	146	125	139	282	160	212	264	118	111	118	128	87.5	98.2	123	167
Belgium	1112	811	536	391	315	281	314	304	644	177	174	121	99.6	224	145	446	106	120	105	104	132	53	80.4	116	80.1
Wales	1297	667	563	410	359	368	346	315	329	164	161	128	154	254	157	227	246	134	116	120	127	93.7	110	124	204
North East England	1363	886	586	472	295	365	346	303	303	163	149	127	138	229	156	174	196	168	107	133	122	101	99.9	110	192
Denmark	1133	673	625	541	348	260	396	247	404	165	130	150	75.8	235	153	261	180	175	79.3	81	153	95.6	78.8	111	175
Greece	2054	789	962	346	306	197	269	260	133	177	89.2	103	24.4	305	113	622	203	49.9	49.9	160	197	82.7	79.8	147	133
North West England	1351	779	590	479	291	406	328	294	303	156	162	125	170	288	153	203	282	182	110	117	126	95.6	102	111	192
Portugal	868	544	1069	284	295	423	405	240	392	152	111	137	86	213	175	478	83.6	183	102	305	147	31.9	60.2	126	63.9
Northern Ireland	1565	784	622	430	300	432	394	282	385	185	111	147	135	331	159	280	192	129	121	149	138	74.4	114	112	73.9
Scotland	1437	890	686	500	305	356	363	285	481	171	138	131	182	239	157	201	156	192	117	138	146	73.3	103	112	332
USA	1697	782	457	472	422	268	282	238	512	186	136	113	74.7	300	151	615	259	179	121	74.2	114	56	82.6	127	359

YLL rates, both sexes, 2013 relative to deprivation

- Significantly lower than mean
- Indistinguishable from mean
- Significantly higher than mean

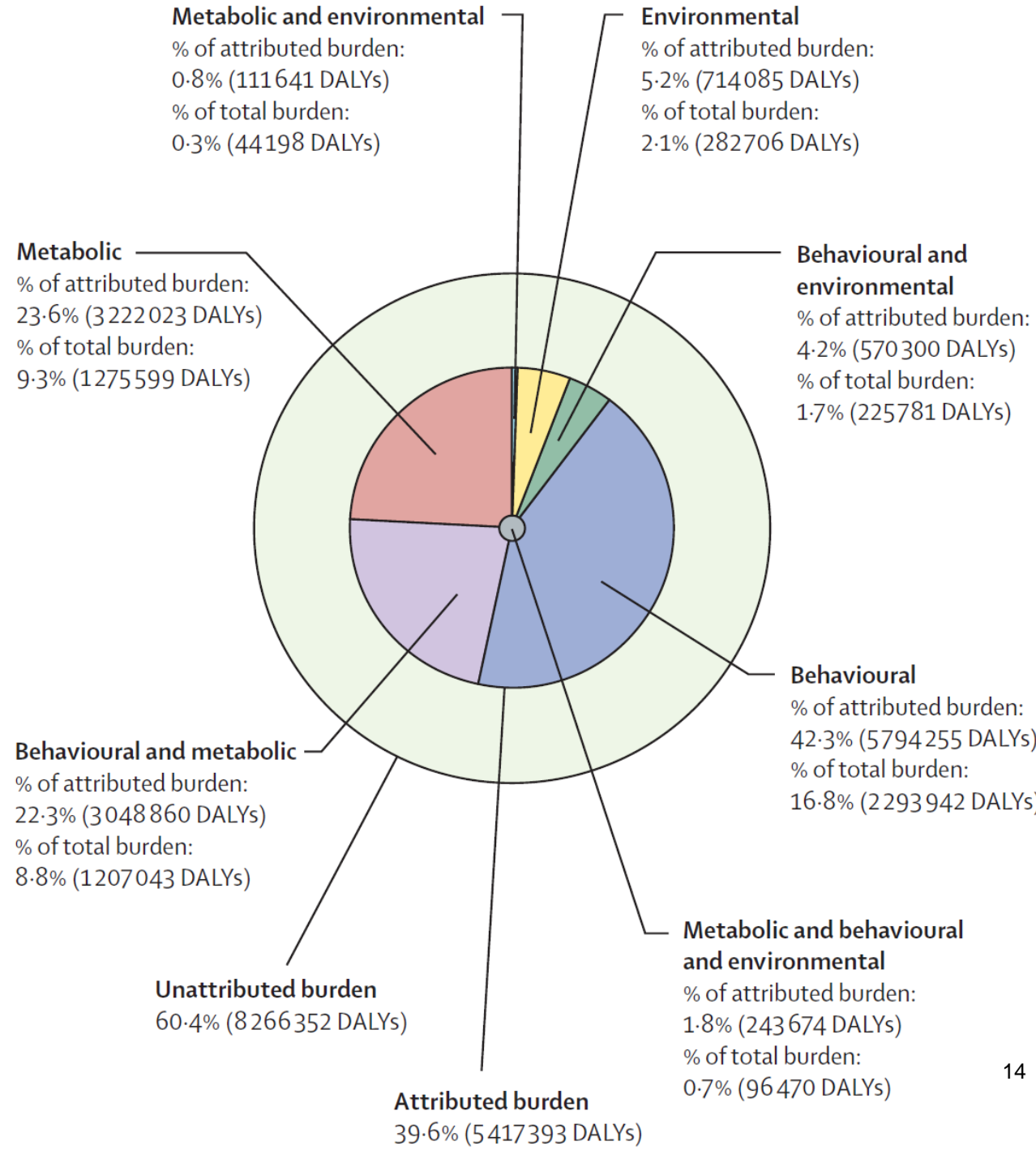
	Ischaemic heart disease	Lung cancer	Cerebrovascular disease	COPD	Alzheimer's disease	Lower respiratory infections	Colon and rectum cancers	Breast cancer	Self-harm	Pancreatic cancer	Other cardiovascular	Prostate cancer	Oesophageal cancer	Congenital anomalies	Other neoplasms	Road injury	Preterm birth complications	Cirrhosis hepatitis C	Non-Hodgkin lymphoma	Stomach cancer	Brain cancer	Aortic aneurysm	Ovarian cancer	Leukaemia	Drug use disorders
East of England, deprivation level 5	771	385	355	190	237	247	255	279	182	142	105	127	97.8	177	124	156	194	45.8	101	69	119	70.6	89.4	104	59.6
South East England, deprivation level 5	710	376	396	207	270	287	267	284	194	140	106	122	99.4	177	129	170	148	57.1	107	65.3	133	74.4	90.4	107	56.7
South West England, deprivation level 5	782	389	395	186	257	257	277	280	215	141	113	123	114	178	125	197	155	53	127	78.1	130	75.4	90.2	112	72
East Midlands, deprivation level 5	832	394	394	213	242	272	281	300	190	128	98	118	120	224	144	249	187	66.8	95.3	76.7	144	78.3	87.7	108	50.4
North East England, deprivation level 5	882	454	421	199	196	277	262	289	150	135	103	124	103	269	153	193	168	73.5	101	99.8	130	60.5	81.9	115	72.1
Yorkshire and the Humber, deprivation level 5	919	417	492	228	239	289	275	291	190	136	107	128	117	230	161	219	129	57	106	77	130	70.1	89.3	123	44.5
West Midlands, deprivation level 5	792	363	415	202	228	248	263	307	205	146	99.1	135	114	264	160	217	177	76.7	101	88.1	151	72.1	100	117	85.4
South East England, deprivation level 4	851	459	412	263	265	293	286	297	225	149	137	128	125	181	147	220	167	69.5	106	74.8	140	84.2	102	110	78.1
North West England, deprivation level 5	887	435	465	221	218	319	279	266	204	126	122	124	138	224	158	203	194	75.3	107	81.3	129	76.5	95.4	99.2	73.4
Greater London, deprivation level 5	832	435	394	217	299	340	257	278	195	148	105	126	95	194	163	159	126	57.2	134	75.8	132	77.6	95.5	143	77.6
East of England, deprivation level 4	922	460	430	234	301	298	278	301	181	138	121	141	108	250	134	232	188	55.9	108	74.8	132	90.3	97.9	101	77.8
South West England, deprivation level 4	859	438	457	234	294	293	292	303	246	146	129	137	128	198	130	237	214	71.5	114	79.5	134	73	106	108	77.5
Greater London, deprivation level 4	926	479	416	261	289	352	270	305	154	149	127	122	110	204	128	151	174	77.4	120	83.5	147	88.2	96.6	114	67.1
North East England, deprivation level 4	958	572	480	260	258	306	277	280	194	148	127	120	107	212	170	191	162	88.3	99.3	113	129	89.3	72.7	94.7	112
East Midlands, deprivation level 4	988	472	460	277	253	318	294	304	203	144	129	129	138	260	144	235	196	79.4	112	91.6	122	76.8	112	110	63.6
Yorkshire and the Humber, deprivation level 4	1050	540	495	298	255	319	295	298	217	138	122	120	127	201	166	212	199	67.8	104	102	138	81.9	95.7	106	108
North West England, deprivation level 4	1043	514	525	296	235	351	281	294	233	139	139	119	149	277	128	191	167	87	110	101	129	83.7	95.1	112	80
West Midlands, deprivation level 4	968	451	546	256	289	338	309	299	217	146	117	130	142	206	152	244	244	90.7	107	93.7	112	86.6	103	116	47.8
Greater London, deprivation level 3	1007	531	446	314	311	383	261	291	239	150	131	117	115	220	144	144	222	104	122	94.3	112	76.2	88.1	112	115
South East England, deprivation level 3	982	566	469	332	301	326	296	316	243	165	151	121	144	251	133	175	209	106	116	84.6	127	95.9	107	109	104
South West England, deprivation level 3	1000	503	473	292	273	299	302	305	302	152	139	133	139	264	160	221	248	102	127	81.6	133	96	107	115	127
East of England, deprivation level 3	1066	567	465	300	311	326	313	298	229	162	150	137	129	254	147	212	241	89.2	105	98.2	126	98.6	125	112	118
England	1122	623	497	367	289	343	305	295	254	154	143	127	138	254	147	193	251	122	113	99.7	125	89.7	100	112	140
North East England, deprivation level 3	1260	742	488	362	265	339	317	280	277	131	140	113	135	274	136	141	107	132	105	118	117	92.9	119	103	90.8
East Midlands, deprivation level 3	1158	604	551	359	313	372	306	309	240	161	144	127	151	260	158	274	287	105	122	106	118	91.2	106	127	103
Greater London, deprivation level 2	1189	687	467	434	331	367	279	279	255	152	156	124	117	236	146	163	255	150	120	101	116	91.1	93.5	119	134
Yorkshire and the Humber, deprivation level 3	1230	629	563	371	281	353	321	305	272	147	141	123	128	260	169	217	262	94.2	96.9	117	154	81.4	94.2	140	103
West Midlands, deprivation level 3	1127	561	566	342	323	369	311	294	248	146	141	131	147	329	173	244	275	115	107	110	133	83.2	116	127	134
South West England, deprivation level 2	1165	665	507	392	294	322	331	297	288	162	165	131	162	222	140	207	249	142	113	89.6	140	99	87.3	133	214
South East England, deprivation level 2	1159	725	465	452	300	340	328	286	256	175	175	127	158	249	155	146	257	149	118	100	122	106	103	104	204
North West England, deprivation level 3	1189	643	579	361	286	397	335	281	266	156	150	128	152	280	163	200	223	131	103	108	144	91.8	103	138	121
East of England, deprivation level 2	1279	712	500	412	294	367	346	331	303	158	158	128	154	235	157	201	327	122	114	104	114	113	109	106	174
Greater London, deprivation level 1	1377	812	525	553	365	377	308	263	240	173	182	130	133	267	147	150	295	181	119	118	100	102	76.8	105	180
West Midlands, deprivation level 2	1334	748	567	481	293	406	352	305	275	157	146	134	169	317	175	224	367	166	119	125	105	84.9	117	121	129
East Midlands, deprivation level 2	1368	781	560	474	332	387	349	298	263	162	158	126	157	274	162	200	360	155	118	125	121	96.9	116	125	139
Yorkshire and the Humber, deprivation level 2	1433	874	589	526	303	407	304	287	290	167	161	134	162	259	163	204	267	134	117	129	120	98.2	113	137	184
North East England, deprivation level 2	1477	982	677	548	311	392	396	315	328	175	159	140	150	187	189	205	205	167	114	137	120	110	104	121	181
North West England, deprivation level 2	1520	850	647	569	364	439	335	313	300	166	174	128	191	253	158	224	327	188	120	124	108	112	103	105	202
South East England, deprivation level 1	1449	961	516	623	286	362	337	291	362	179	196	127	183	242	140	190	241	234	136	91.4	111	139	128	105	314
East of England, deprivation level 1	1658	916	521	517	296	384	321	306	402	197	193	133	164	334	146	192	286	201	145	115	114	125	101	100	301
West Midlands, deprivation level 1	1634	917	610	653	305	415	355	307	275	179	164	118	193	408	148	193	418	232	117	150	109	91	107	103	171
East Midlands, deprivation level 1	1653	961	600	644	346	429	368	307	304	185	211	132	169	307	168	229	366	231	126	131	125	115	102	102	230
South West England, deprivation level 1	1481	961	583	616	309	392	386	303	438	198	205	141	183	279	147	137	294	246	128	138	130	107	99.3	92.6	407
Yorkshire and the Humber, deprivation level 1	1854	1171	638	761	333	473	375	299	346	185	189	122	160	359	150	220	335	204	129	156	113	103	99.4	115	280
North East England, deprivation level 1	1818	1318	723	753	372	443	408	324	399	198	182	131	169	236	141	154	237	275	112	170	119	129	110	114	315
North West England, deprivation level 1	1888	1264	696	822	340	500	390	312	377	181	204	128	206	331	161	199	342	324	115	154	124	111	111	112	314

25 leading causes of DALYs in England, both sexes, 1990, 2005, 2013

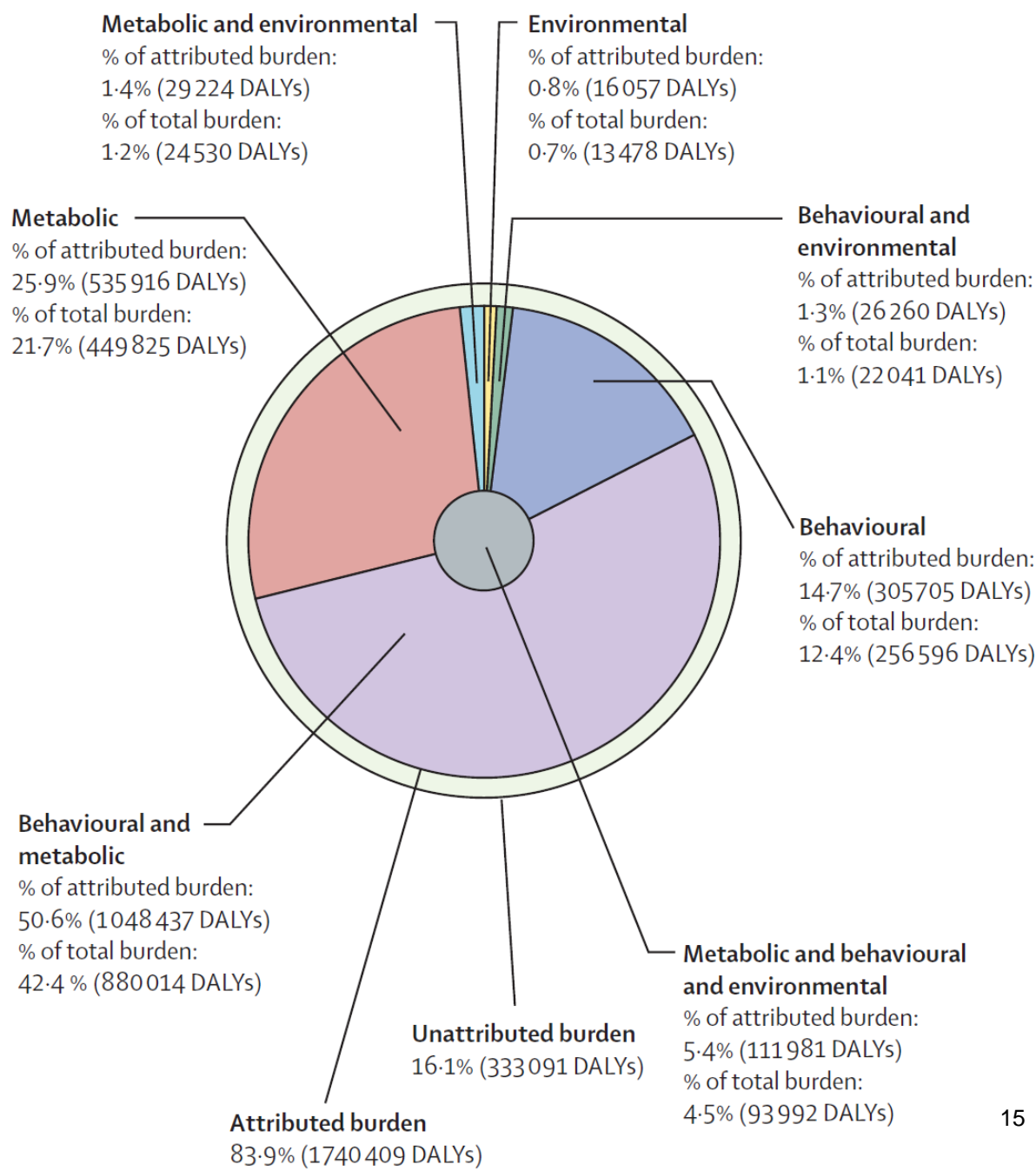
Mean rank (95% UI)	1990 leading causes	2005 leading causes	Mean rank (95% UI)	Age-standardised median percentage change 1990-2005	2013 leading causes	Mean rank (95% UI)	Age-standardised median percentage change 2005-2013
1.0 (1-1)	1 Ischaemic heart disease	1 Ischaemic heart disease	1.2 (1-2)	-45% (-46 to -37%)	1 Low back and neck pain	1.1 (1-2)	10% (3 to 15%)
2.1 (2-3)	2 Low back and neck pain	2 Low back and neck pain	1.8 (1-2)	8% (3 to 14%)	2 Ischaemic heart disease	1.9 (1-2)	-20% (-24 to -15%)
2.9 (2-3)	3 Cerebrovascular disease	3 Cerebrovascular disease	3.1 (3-4)	-27% (-30 to -20%)	3 Cerebrovascular disease	3.9 (3-6)	-12% (-17 to -7%)
4.0 (4-4)	4 Lung cancer	4 COPD	4.5 (3-7)	-5% (-9 to 3%)	4 COPD	4.3 (3-7)	1% (-5 to 8%)
5.1 (5-6)	5 COPD	5 Lung cancer	4.9 (4-8)	-21% (-25 to -19%)	5 Lung cancer	4.9 (3-8)	0% (-7 to 7%)
6.6 (6-8)	6 Falls	6 Falls	6.8 (5-9)	3% (-5 to 7%)	6 Alzheimer's disease	6.7 (5-10)	11% (2 to 20%)
8.7 (6-11)	7 Lower respiratory infections	7 Alzheimer's disease	7.6 (6-10)	19% (9 to 30%)	7 Sense organ diseases	6.8 (3-11)	9% (5 to 12%)
8.9 (6-14)	8 Sense organ diseases	8 Sense organ diseases	8.1 (4-11)	7% (4 to 11%)	8 Depressive disorders	8.8 (3-14)	9% (4 to 12%)
9.5 (7-12)	9 Alzheimer's disease	9 Skin diseases	9.3 (4-14)	5% (1 to 9%)	9 Falls	9.0 (7-11)	-11% (-17 to -4%)
9.7 (5-17)	10 Depressive disorders	10 Depressive disorders	9.8 (4-15)	1% (-5 to 8%)	10 Skin diseases	9.3 (4-14)	2% (-1 to 5%)
9.9 (6-16)	11 Skin diseases	11 Lower respiratory infections	10.2 (7-13)	-1% (-19 to 3%)	11 Diabetes	10.6 (8-13)	16% (7 to 27%)
12.1 (9-14)	12 Colorectal cancer	12 Diabetes	12.4 (10-16)	25% (13 to 38%)	12 Lower respiratory infections	12.5 (8-16)	-15% (-20 to -6%)
12.1 (9-16)	13 Breast cancer	13 Breast cancer	14.6 (11-18)	-15% (-19 to -12%)	13 Chronic kidney disease	14.0 (10-19)	8% (4 to 10%)
14.2 (12-17)	14 Road injuries	14 Chronic kidney disease	15.1 (11-19)	2% (-2 to 7%)	14 Colorectal cancer	15.1 (12-18)	0% (-6 to 6%)
16.1 (12-20)	15 Chronic kidney disease	15 Colorectal cancer	15.4 (12-19)	-16% (-20 to -15%)	15 Migraine	15.5 (10-22)	0% (-8 to 11%)
17.0 (14-20)	16 Diabetes	16 Migraine	15.5 (10-23)	9% (0 to 22%)	16 Other musculoskeletal	16.4 (12-21)	10% (6 to 13%)
17.6 (15-20)	17 Congenital anomalies	17 Other cardiovascular	16.8 (14-21)	32% (-11 to 64%)	17 Anxiety disorders	16.8 (10-28)	5% (4 to 8%)
17.7 (10-25)	18 Migraine	18 Anxiety disorders	17.7 (10-28)	6% (2 to 9%)	18 Breast cancer	17.0 (13-21)	-11% (-17 to 0%)
18.8 (15-22)	19 Self-harm	19 Other musculoskeletal	18.1 (13-23)	16% (12 to 20%)	19 Other cardiovascular	18.2 (15-22)	-8% (-25 to 9%)
19.2 (10-30)	20 Anxiety disorders	20 Drug use disorders	20.3 (18-24)	27% (1 to 39%)	20 Drug use disorders	20.2 (18-23)	0% (-6 to 5%)
21.4 (16-26)	21 Other musculoskeletal	21 Road injuries	21.0 (18-23)	-33% (-35 to -31%)	21 Congenital anomalies	20.5 (17-23)	2% (-7 to 13%)
22.1 (18-25)	22 Other cardiovascular	22 Congenital anomalies	21.0 (18-23)	-19% (-24 to -15%)	22 Oral disorders	20.8 (14-27)	11% (8 to 15%)
22.4 (20-25)	23 Neonatal preterm birth	23 Oral disorders	23.0 (16-29)	-1% (-5 to 2%)	23 Neonatal preterm birth	24.7 (22-30)	-3% (-16 to 14%)
23.4 (17-29)	24 Oral disorders	24 Self-harm	23.7 (19-27)	-28% (-30 to -15%)	24 Self-harm	25.5 (22-30)	-12% (-23 to -3%)
25.0 (21-29)	25 Drug use disorders	25 Neonatal preterm birth	25.2 (23-28)	-16% (-28 to -5%)	25 Iron-deficiency anaemia	25.5 (21-33)	3% (-3 to 5%)
		26 Iron-deficiency anaemia			29 Road injuries		

■ Communicable, maternal, neonatal, and nutritional
■ Non-communicable
■ Injuries

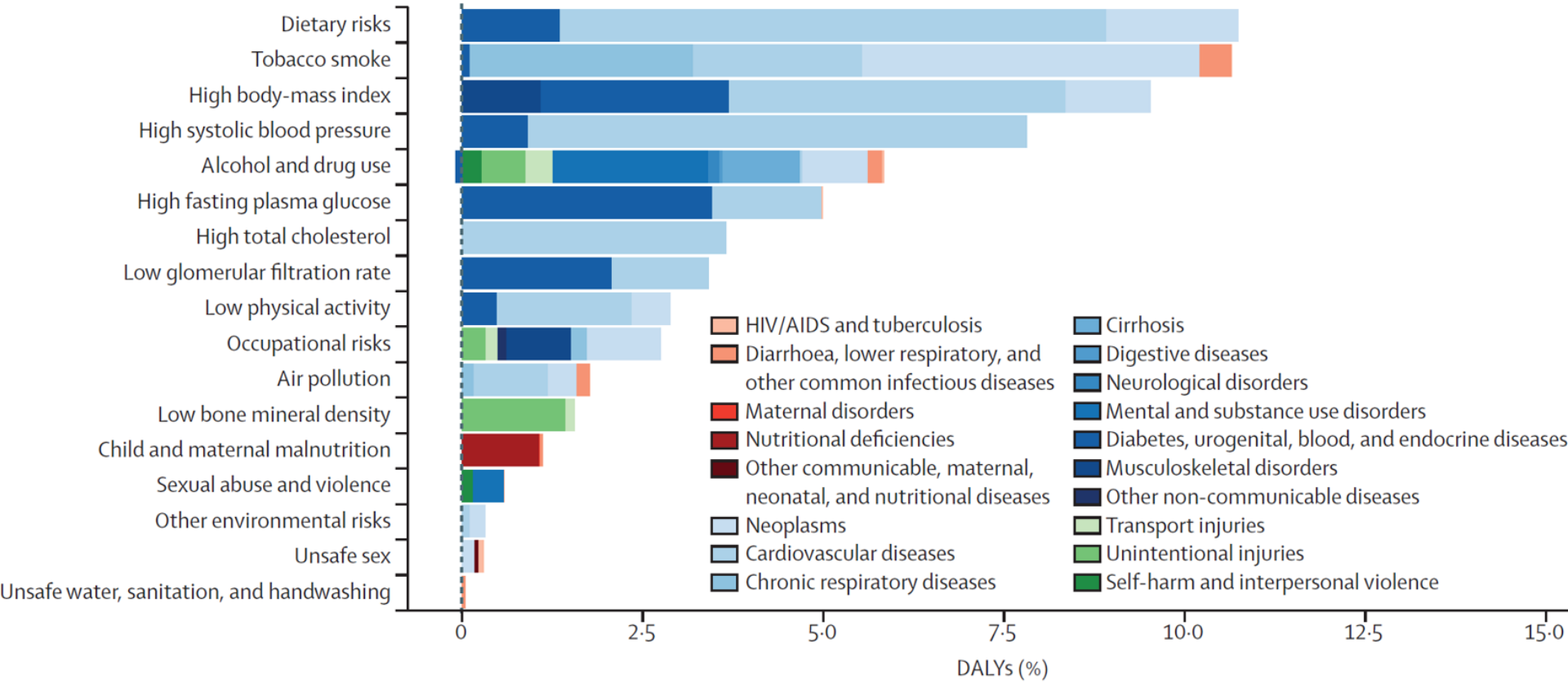
Proportion of all-cause DALYs attributable to behavioural, environmental and occupational, and metabolic risk factors and their overlaps for all ages in 2013



Proportion of cardiovascular disease DALYs attributable to behavioural, environmental and occupational, and metabolic risk factors and their overlaps for all ages in 2013



DALYs attributed to risk factors in 2013 England, both sexes



Overview

- 1) **GBD 2010: UK benchmarking**
- 2) **GBD 2013: England subnational**
 - **Results**
- 3) **PHE Action Plan**
- 4) **Future work: GBD 2016**

Duncan Selbie, CEO of Public Health England



“Some regions in the country have some of the best health outcomes of any high-income country. If these levels of health could be achieved in the worst performing regions, **England could have one of the lowest disease burdens of any developed country.** That is the scale of the opportunity we have.”

Source: Public Health England Friday Message, 18 September 2015

PHE's plan of action guided by GBD



Public Health
England

Protecting and improving
the nation's health

**From evidence into action: opportunities to
protect and improve the nation's health**

PHE committed to priorities supported by GBD

Our seven priorities

We have identified seven priorities where we will focus our efforts. These are supported by the evidence in the *Global Burden of Disease* study²⁸ that emphasises just how important these factors are from an epidemiological perspective in determining our health, and also how the same risks contribute to so many of the conditions and diseases that cause ill health and premature death. And we know these require action on contributory factors, such as

1. Tackling obesity, particularly among children
2. Reducing smoking and stopping children starting
3. Reducing harmful drinking and alcohol-related hospital admissions
4. Ensuring every child has the best start in life
5. Reducing the risk of dementia, its incidence and prevalence in 65-75 year olds
6. Tackling the growth in antimicrobial resistance
7. Achieving a year-on-year decline in tuberculosis incidence

Tackling obesity

Why focus on obesity?

Being overweight is associated with increases in the risk of cardiovascular disease, diabetes and some cancers.³¹ It is also associated with poor mental health in adults, and stigma and bullying in childhood.³²

Over the next 18 months, PHE will:

- work with NHS England to implement the commitments to tackling obesity set out in the NHS Five Year Forward View
- produce an independent report for government on sugar and diet, including evidence reviews on fiscal measures and promotions and advice from the Scientific Advisory Committee on Nutrition
- publish the evidence-based Everybody Active, Every Day framework³⁰ and refresh the eatwell plate and 5 a day approaches
- run the New Year healthy eating campaign and summer physical activity campaign, and increase the number of families signed up to Change4Life by 500,000
- support local authorities to deliver whole system approaches to tackle obesity, including through supporting healthier and more sustainable food procurement

Reducing smoking

Why focus on smoking?

Smoking is England's biggest killer, causing nearly 80,000 premature deaths a year and a heavy toll of illness.³⁹ Nearly eight million people still smoke,⁴⁰ with most having started in childhood.⁴¹ There are stark inequalities –

Over the next 18 months, PHE will:

- stimulate 500,000 quit attempts through smokefree campaigns, including Stoptober, a New Year health harms campaign, and combating smoking in cars
- produce an independent report for government on e-cigarettes
- continue to advise government on the evidence for the introduction of standardised packaging of tobacco products
- work with government, local authorities, the NHS, and the voluntary and community sector to develop tools to support effective commissioning
- provide seminars across England to support local partners in addressing smoking and mental health, smoking in pregnancy and making the case for comprehensive local tobacco control
- work with the National Offender Management Service, NHS England and mental health charities to reduce the prevalence of smoking within the prison population; and support NHS mental health services to become smoke-free

Passing the baton to Public Health England

- March 2013 – UK benchmarking paper
 - 42 collaborators
 - 28 from UK
 - IHME as lead author
- September 2015 – UK subnational disease burden
 - 77 collaborators
 - 59 from UK
 - PHE as lead author

UK health performance: findings of the Global Burden of Disease Study 2010

Christopher J L Murray†, Michael A Richards, John N Newton, Kevin A Fenton, H Ross Anderson, Charles Atkinson*, Derrick Bennett*, Eduardo Bernabé*, Hannah Blencowe*, Rupert Bourne*, Tasanee Braithwaite*, Carol Brayne*, Nigel G Bruce*, Traolach S Brugha*, Peter Burney*, Mukesh Dherani*, Helen Dolk*, Karen Edmond*, Majid Ezzati*, Abraham D Flaxman*, Tom D Fleming*, Greg Freedman*, David Gunnell*, Roderick J Hay*, Sally J Hutchings*, Summer Lockett Ohno*, Rafael Lozano*, Ronan A Lyons*, Wagner Marcenes*, Mohsen Naghavi*, Charles R Newton*, Neil Pearce*, Dan Pope*, Lesley Rushton*, Joshua A Salomon*, Kenji Shibuya*, Theo Vos*, Haidong Wang*, Hywel C Williams*, Anthony D Woolf*, Alan D Lopez, Adrian Davis*

Changes in health in England, with analysis by English regions and areas of deprivation, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013

John N Newton†, Adam D M Briggs, Christopher J L Murray, Daniel Dicker, Kyle J Foreman, Haidong Wang, Mohsen Naghavi, Mohammad H Forouzanfar, Summer Lockett Ohno, Ryan M Barber, Theo Vos, Jeffrey D Stanaway, Jürgen C Schmidt, Andrew J Hughes, Derek F J Fay, Russell Ecob, Charis Gresser, Martin McKee, Harry Rutter, Ibrahim Abubakar, Raghbi Ali*, H Ross Anderson*, Amitava Banerjee*, Derrick A Bennett*, Eduardo Bernabé*, Kamaldeep S Bhui*, Stanley M Biryukov*, Rupert R Bourne*, Carol E G Brayne*, Nigel G Bruce*, Traolach S Brugha*, Michael Burch*, Simon Capewell*, Daniel Casey*, Rajiv Chowdhury*, Matthew M Coates*, Cyrus Cooper*, Julia A Critchley*, Paul I Dargan*, Mukesh K Dherani*, Paul Elliott*, Majid Ezzati*, Kevin A Fenton*, Maya S Fraser*, Thomas Fürst*, Felix Greaves*, Mark A Green*, David J Gunnell*, Bernadette M Hannigan*, Roderick J Hay*, Simon I Hay*, Harry Hemingway*, Heidi J Larson*, Katharine J Looker*, Raimundas Lunevicius*, Ronan A Lyons*, Wagner Marcenes*, Amanda J Mason-Jones*, Fiona E Matthews*, Henrik Møller*, Michele E Murdoch*, Charles R Newton*, Neil Pearce*, Frédéric B Piel*, Daniel Pope*, Kazem Rahimi*, Alina Rodriguez*, Peter Scarborough*, Austin E Schumacher*, Ivy Shive*, Liam Smeeth*, Alison Tedstone*, Jonathan Valabhji*, Hywel C Williams*, Charles D A Wolfe*, Anthony D Woolf*, Adrian C J Davis*

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Future directions: GBD 2016

Greater disaggregation

- For GBD 2016, England will be one of only two geographies for which new subnational units will be estimated (the other is Indonesia)
 - Upper tier local authority (UTLA)
 - This is important as it is the unit at which public health much decision-making and resource allocation are made

Upper-Tier Health Authorities

n = 150

