



Subject: **Cost of depression in England**
To: Peter Kunzmann, Office of Jo Swinson MP
From: Rachael Harker, Social and General Statistics Section
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You requested an update of work carried out in September 2008 and January 2009 on the estimated total cost of depression in England as calculated by Thomas and Morris (2003).¹

Thomas and Morris estimated that the total cost of adult depression in England in 2000 was £9.1 billion. This estimate was based on costs associated with:

- Primary care: GP consultations and prescription medication
- Secondary care: Inpatient/day cases and outpatient attendances
- Morbidity
- Mortality

This current briefing attempts provide a costing for 2010, by replicating the methodology used by Thomas and Morris; although in some areas more precise information is now available than that used by Thomas and Morris and in others data is not longer published in the format they used. Any differences in the data sources used are outlined in the text.

A. GP consultations

Thomas and Morris used the Office for National Statistics *Morbidity Statistics from General Practice, 1995* publication to estimate the number of GP consultations for depression. This publication actually relates to 1991/92 data, hence it was almost a decade out of date for the reference year of the Thomas and Morris estimated. There have been no further publications in the series.

The 1991/92 GP consultation rates for depression published by ONS in 1995 were based on specialised surveys of General Practices but these surveys were discontinued in 1992. Between 1992/93 and 2005/06 the most reliable source of information on GP consultations was the General Household Survey (GHS), although the GHS only estimates an overall consultation rate, rather than rates for specific conditions. From 2005/06 both the Department of Health and the Office of National Statistics have adopted the QRESEARCH methodology for estimating GP consultations.

QResearch is a large consolidated database derived from the anonymised health records of over 9 million patients registered with a GP. The database is maintained by the Division of Primary Care in the University of Nottingham. I have previously contacted Professor Julia Hippisley-Cox, the Director of the QResearch project, to determine whether a consultation rate for patients suffering from depression can be obtained from the dataset. It is not possible to provide a reliable estimate of consultations for depression. While a patient may be flagged on the system as having mental health problems, GPs do not record the reason for individual

¹ Thomas, CM and Morris, S (2003). Cost of depression among adult s in England in 2000. *British Journal of Psychiatry*, 183, 514-519 <http://bjp.rcpsych.org/cgi/reprint/183/6/514>

consultations, they may or may not be connected to the mental health issue. Consequently it is not possible to provide a consultation rate for depression.

As an alternative, I have attempted to provide some estimate of the cost of GP consultation for patients with depression. I have used the latest QResearch data on the total number of male and female GP consultations in 2008/09 and applied the ONS depression prevalence rates per 1,000 patients in General Practice, as used in the Thomas and Morris paper, to obtain an estimate of the number of consultations made by patients with depression. (Please note that these prevalence rates relate to 1998; there are no further updates.) Although the GP consultation rates are for 2008/09 I have applied 2010 unit cost information to give a broad estimate of the likely total cost for consultations by patients suffering from depression in 2010 (£46.2 million). This information is shown in Table 1 below.

Table 1 Estimated cost of GP consultations for depression, England 2010

Age	Prevalance: cases per 1,000 patients (1998 rates)		Qresearch data on number of consultations		Estimated consultations for depression	
	Females	Males	Female consultations	Male consultations	Females	Males
16-24	45.2	15.6	1,356,128	576,887	61,297	8,999
25-34	87.1	31.5	1,747,922	681,854	152,244	21,478
35-44	102.7	40.3	1,787,846	937,018	183,612	37,762
45-54	108.9	48.0	1,599,230	1,053,058	174,156	50,547
55-64	102.8	48.5	1,612,541	1,320,664	165,769	64,052
65-74	98.6	40.1	1,549,512	1,362,294	152,782	54,628
75-84	104.9	49.8	1,485,902	1,109,519	155,871	55,254
85+	96.5	56.5	847,457	414,383	81,780	23,413
Total			11,986,538	7,455,677	1,127,511	316,133

Consultations for depression = 1,443,644 Unit cost = £32 **Total cost of consultations £46,196,610**

Sources: Prevalence rates - Thomas and Morris (2003) based on ONS 1998 Psychiatric Morbidity Survey

Qresearch data - NHS Information Centre

Cost of GP consultation: Netten and Curtis, Units Costs of Health and Social Care 2010

B. Prescription medication

According to a Parliamentary Question response of 19 July, 2010² the total cost to the NHS of antidepressant drugs in 2009 was £230,062,900. This is the most recent information available on the cost antidepressant drugs.

C. Secondary care

Thomas and Morris (2003) obtained NHS Hospital Episodes data on inpatient admissions and outpatient attendances attributed to ICD-10 codes F32 (depressive episode) and F33 (recurrent depressive disorder). They then applied the mean average cost per admission from the Department of Health national schedule of reference costs to compute a total cost for inpatient and day case treatment.

² HC Deb, 19 July 2010, c87-8W:

<http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm100719/text/100719w0004.htm#10071938000118>

The NHS Reference Costs³ provide more precise information than that which was available to Thomas and Morris. For inpatient treatment, the unit cost per bed day is provided, rather than the average cost per admission. For outpatient attendances the average cost for first and subsequent appointments is provided separately.

Inpatient and outpatient data for 2009/10 obtained from the NHS Hospital Episodes website⁴ is shown in Table 2 below, along with the unit costs obtained from the NHS Reference Costs 2009/10.

Table 2 Estimated costs of hospital episodes for depression, England 2009/10

	Inpatient admissions number of bed days	Outpatient first attendances	Outpatient subsequent attendances
F32 Depressive episode	534,223	4,535	27,735
F33 Recurrent depressive disorder	249,749	2,543	17,872
Total F32 and F33	783,972	7,078	45,607
Unit costs	£302	£257	£161
Total costs	£236,759,544	£1,819,046	£7,342,727
		Total outpatients cost = £9,161,773	

Sources: Hospital Episode Statistics
NHS reference costs 2009/10

The total cost of inpatient treatment for depression in 2009/10 was £236.8 million and the total cost for outpatient treatment was £9.2 million.

D. Morbidity data

DWP were unable to supply the total number of days of incapacity benefit claimed for depression (as used by Thomas and Morris's). Instead they provided a file showing the number of IB/SDA and ESA claimants in England as at November 2010 whose benefit claim was due to ICD-10 codes F32 (depressive episode) and F33 (recurrent depressive disorder). This figure was combined with average earnings data to produce an estimate of total loss of earnings due to depression.

The total number of claimants as at November 2010 was 422,620. The 2010 Annual Survey of Annual Survey of Hours and Earning reports an average annual earnings of £21,221. Therefore, an estimated £8.97 billion was lost in earnings due to depression

E. Mortality data

The number of deaths due to suicide and self-inflicted injury in 2009 were obtained from the Office for National Statistics Death Registration data. The estimate used by Thomas and Morris that 70% of suicides are estimated related to depression (Hotopf & Lewis, 1997) was

³ http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082571

⁴ www.hesonline.nhs.uk

used to calculate the number of suicides that were attributable to depression. The number of deaths due to accidental poisoning by antidepressants in 2009 was also examined, to give the number of deaths due to accidental poisoning that are related to depression. Life expectancy data from the Office for National Statistics, classified by age and gender, was then used in conjunction with data on the proportion of men and women who are in paid employment (derived from the 2010 Annual Population Survey), to calculate the number of working life-years lost through depression. This was then multiplied by average annual earnings from the 2010 Annual Survey of Hours and Earnings to estimate the total cost of the life-years lost due to depression. The estimated total cost was £1.47 billion. The figures used to obtain this estimate are shown in Table 4 below.

Table 4: Estimated cost of mortality due to depression

Age:	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
Total suicides											
Male	66	173	240	200	332	345	323	267	220	162	2,328
Female	17	42	64	39	67	81	87	73	66	61	597
Attributable to depression											
Male	32	113	113	172	221	197	189	158	153	89	1436
Female	15	22	38	41	48	52	56	50	57	36	415
Poisoned by antidepressants											
Male	1	-	8	6	12	19	15	10	8	7	86
Female	4	2	5	2	6	19	13	13	12	6	82
Total suicides due to depression											
Male	33	113	121	178	233	216	204	168	161	96	1,522
Female	19	24	43	43	54	71	69	63	69	42	497
Expected working years											
Male	47.5	43.0	38.0	33.0	28.0	23.0	18.0	13.0	8.0	2.5	
Female	47.5	43.0	38.0	33.0	28.0	23.0	18.0	13.0	8.0	2.5	
Employment rate											
Male	33.2%	65.0%	85.3%	85.3%	86.8%	86.8%	86.8%	73.1%	73.1%	73.1%	
Female	37.2%	58.2%	70.3%	70.3%	75.4%	75.4%	75.4%	59.2%	59.2%	59.2%	
Years of working life lost											
Male	513	4,852	5,321	7,611	8,631	7,132	5,950	3,455	2,829	1,323	
Female	330	1,152	1,725	1,770	1,980	2,060	2,047	1,295	1,390	668	
Average earnings (£s)											
Male	4,301	10,115	20,368	28,751	28,751	30,746	30,746	28,996	28,996	21,384	
Female	2,105	7,398	16,970	19,104	19,104	17,088	17,088	16,765	16,765	10,868	
Amount of earnings lost (£millions)											
Male	2.2	49.1	108.4	218.8	248.2	219.3	182.9	100.2	82.0	28.3	1,239
Female	0.7	8.5	29.3	33.8	37.8	35.2	35.0	21.7	23.3	7.3	233
Total	2.9	57.6	137.6	252.6	286.0	254.5	217.9	121.9	105.3	35.6	1,472

Sources: ONS Deaths registered in England and Wales 2009

ONS Period and cohort expectation of life

ONS Annual Survey of Hours and Earnings

F. Total Cost of depression

Table 5 shows that summing the composite parts outlined above produces an estimated total cost of depression in adults in England in 2010 of £10.96 billion.

Table 5 Estimated cost of depression among adults in England, 2010

	£ millions
Primary care costs	
GP	46.2
Medication	230.1
Secondary care costs	
Inpatient	236.8
Outpatient	9.2
Morbidity costs	8,968.4
Mortality cost	1,472.0
Total cost	10,962.7

I hope this information is helpful. Please let me know if you need anything further.

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