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Mental health of UK Members of Parliament in the House of Commons: a cross-sectional survey

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3 **Mental health of UK Members of Parliament in the House of Commons: a cross-sectional**
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5 **survey**
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ABSTRACT

Objectives The purpose of this study was to assess: (i) overall mental health of Members of Parliament (MPs) of the 56th UK House of Commons; and (ii) awareness among MPs of the mental health support services available to them.

Design Anonymous, self-completed, online cross-sectional survey, conducted in December 2016.

Setting The 56th UK House of Commons.

Participants All 650 members of the 56th UK House of Commons were invited; 146 MPs (23%) completed the survey.

Outcomes The General Health Questionnaire-12 was used to assess age- and sex- standardised prevalence of probable common mental disorders, and results were compared to a nationally representative survey, the Health Survey for England 2014 (HSE). Core demographic questions, MPs' awareness of available mental health services, their willingness to discuss mental health issues with whips or with fellow MPs, and the effects of employment outside parliament, were assessed.

Results Comparison of the MP respondents with the HSE comparator groups found that MPs have higher rates of mental health problems (age/sex- standardised prevalence of probable CMDs in surveyed MPs 34%; (95% CI: 27% to 42%) versus 17%; (95% CI: 13% to 21%) HSE). 55% of MPs did not know how to access mental health support in the House of Commons, and 52% would not discuss their mental health with party whips, or other MPs (48%). No association was found for holding employment outside of parliament.

Conclusions MPs have higher rates of mental health problems, compared to the whole English population, as well as with comparable professional and occupational groups. Most MPs are unaware of mental health support services, or how to access them. There is a need for MPs to have better awareness of, and access to, mental health support services. Further in-depth research is needed to assess the mental health of MPs and Parliamentary staff.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- This is a unique study where for the first-time the mental health in MPs has been assessed using structured validated scales.
- This study is also the first assessment of how far MPs are aware of the mental health services of the Parliamentary Health and Wellbeing Service, and how to access this service.
- We have also assessed for the first time the willingness of MPs to discuss any mental health issues with whips or with fellow MPs.
- The survey had a low response rate which may be related to the stigma surrounding mental illness, and the nature of the policymaker role which is associated to a stressful work schedule and heavy public exposure.

INTRODUCTION

There is a long history of public debate about the mental health of politicians, including discussion of the potential psychiatric diagnoses of notable individuals active in political life.¹⁻⁹ Research to date has considered some related questions, such as the harassment and stalking of politicians.¹⁰⁻¹³ Yet, little has been published on the actual mental health or mental illness of MPs. To date, no quantitative, ethically-approved surveys have been conducted of Members of Parliament (MPs) in the UK Parliament, to assess their mental health, and to assess their awareness of support and treatment services.

Some factors in the UK political system may additionally influence MPs and their mental health:

- The UK Parliament permits MPs to hold employment outside Parliament in addition to their roles as elected representatives.
- In the UK parliament, “whips” are appointed officials in each political party who are charged with organising their party’s parliamentary business and ensuring party discipline amongst MPs.

- A confidential in-house service is provided within Parliament for MPs and peers, called the Parliamentary Health and Wellbeing Service, to support their occupational health and wellbeing.

The UK Parliamentary Mental Health (UKPMH) study aims to: (i) assess the overall mental health of MPs by drawing comparisons with a nationally representative survey in England, and with comparator socio-demographic and occupational groups within the survey; and (ii) assess awareness among MPs of the mental health support services available to them.

The principal research question was: What is the prevalence of common mental disorders among MPs? Additional questions were asked to inform the research study, to find out how far MPs are aware of mental health services that can assist them with mental health problems, and if they are willing to discuss their mental health with party whips or other MPs. This study tested the following hypothesis: The occurrence of Common Mental Disorders (CMDs) is higher among MPs compared to the general population or specific sociodemographic, professional and occupational comparator groups.

METHODS

Study design and participants

We conducted an anonymised, online self-completed survey at the House of Commons in December 2016. The inclusion criteria for participation was: membership of the 56th UK Parliament, House of Commons; and providing written, informed consent. We followed the STROBE guidelines for observational studies for the reporting of our cross-sectional study.¹⁴ No age limits were defined, except to be elected to Parliament someone must be over 18 years old. Participants were identified via email, and via an invitation letter to participate sent out through the internal post to all MPs in the 56th UK Parliament. The survey took place between 5 and 31 December 2016. Initially, in November 2016 a letter was sent to all 650 members of the House of Commons to make them aware of the study. In early December, a letter including a web link to an online survey with an individual access code was sent out via to all MPs internal post, and via email. Efforts were taken to promote participation and maximise

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3 response rates in the survey. A study information sheet explaining the purpose of the study, and
4 instructions for the online questionnaire, as well as two reminder emails were sent out with clear
5 descriptions of encrypted data collection and protection measures.
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9 10 **Ethics and data protection**

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13 At all times throughout the study preparation, conduct and analysis, particular consideration and care
14 has been given to the specific, sensitive study context, and to the potential vulnerability of participants,
15 namely the risk of sensationalised coverage should any individual be identifiable. Ethics approval for
16 the study was obtained in September 2016 from King's College London Ethics Committee (reference
17 number: HR-16/17-3118). Efforts were taken to limit distress and secure confidentiality for the
18 participants. To ensure full confidentiality no personal identifiers were collected, and identifiers were
19 removed if provided. All participants were provided with contact information for the Parliamentary
20 Health and Wellbeing Service in the introductory letter and via the online survey in case any participants
21 were experiencing distress at the time of the survey.
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33 **Health survey for England comparator groups**

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36 Data for the comparator groups were elicited from the Health Survey for England (HSE) 2014. The
37 HSE is an annual survey which uses a multi-stage stratified design to sample nationally representative
38 random cross section of the population of England each year. Participants are visited by an interviewer
39 who collects demographic and socio-economic data, and information on health and health-related
40 behaviours. A detailed description of the HSE has been reported elsewhere.¹⁵ From the HSE, we
41 identified four comparison groups: total population of England in the HSE England population (EN),
42 corporate managers in England (CM), all managers in England (AM), and those in high income groups
43 in England (HIG). The socio-economic groups derive from a standardised questionnaire asked in the
44 HSE to all survey respondents.
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55 **Measures of mental health**

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3 The General Health Questionnaire (GHQ-12) was used to assess the mental health of respondents in the
4 UKPMH sample and the HSE 2014. The self-completed 12-item GHQ-12 is one of the most extensively
5 used screening instruments for common mental disorders, measured by a 4-point Likert scale (ranging
6 from 'less than usual' to 'much more than usual') across twelve items.^{15, 16}
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12 Scoring of the GHQ-12 for the present study was done in the original bi-modal method as developed
13 by Goldberg.¹⁷ Specifically, each symptom was scored either 0 if 'not at all present' or present 'no more
14 than usual', or 1 for symptoms that were present 'rather more than usual' or 'much more than usual'.
15 The scoring method allowed for total scores to range from 0 to 12. No formal threshold exists for
16 identifying probable mental ill health, with optimal values likely to be specific to the population under
17 study. However, in line with the previous HSE survey, MP's total scores are grouped according to three
18 categories: 0 (indicating no evidence of probable mental ill health), 1 to 3 (indicating less than optimal
19 mental health), and 4 or more (indicating probable psychological disturbance or mental ill health).^{15, 16}
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30 The GHQ-12 has been extensively validated across international settings for screening and detection of
31 the common mental disorders.¹⁸ In previous work, at an optimal cut-point ≥ 4 on the total score of the
32 GHQ-12 was found to have a sensitivity of 84.6% and specificity of 89.3% when assessed against
33 *International Classification of Mental Disorders (ICD-10) and the Diagnostic Statistical Manuals-IV*
34 *(DSM-IV)*, diagnoses derived from the Composite International Diagnostic Interview (CIDI-PC) for the
35 common mental disorders (e.g. including depression, dysthymia, generalised anxiety disorder, panic
36 disorder and other related conditions)¹⁸, when assessed in a UK setting.
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46 A technical error in the administration of the questionnaire caused a lack of indication for respondents
47 of the 4th option (much more/much less than usual) on GHQ-12 items 8, 9, 10, 11, 12. However, this
48 has no impact on the total scores of GHQ-12 for each participant, as the third and fourth option are
49 grouped together in the bi-modal scoring.
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54 **Covariates**

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57 Core demographic questions were obtained from the UKPMH study sample: Age (categorised into five
58 groups: 21 to 30; 31 to 40; 41 to 50; 51 to 60; 61 to 70, >70 years), sex (female or male), and educational
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3 status (GCSE/ O level, A Level, Vocational Qualifications, Undergraduate Degree, Post Graduate
4 Degree, Doctorate), as well as years serving as MP. MPs were also asked if they were aware of the
5 mental health services available to them, as well as their willingness to discuss their mental health with
6 their Whips and other MPs (full list of questions in Supplementary File).
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10 11 12 **Statistical analyses**

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15 All statistical analyses were performed using STATA 14.1. Within the UKPMH sample, a descriptive
16 analysis was undertaken first to determine the distribution of each item of the GHQ-12 and of socio-
17 demographic characteristics, awareness of mental health services, and willingness to discuss any mental
18 health issues with whips or with fellow MPs.
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24 Our study MP sample is subject to “unit non-response” as 22.4% of the participants have completed the
25 survey. To address this issue, we employed inverse probability weighting (IPW)¹⁹ in our analysis, where
26 weights are used to rebalance the set of complete cases within the MP sample to make it representative
27 of the whole English population; we used the weighted sample of the HSE 2014. Age-sex standardised
28 proportion estimates were calculated i) for each item of the GHQ-12, and ii) for the presence of probable
29 mental ill health. We compared i) each item of the GHQ-12, and ii) the three combined categories
30 derived from the total score of the GHQ-12 that indicate the presence of probable mental ill health of
31 the MP sample with a range of socio-demographic groups (the English population (EN), corporate
32 managers (CM), all managers (AM), and with high income groups (HIG) in England) derived from
33 HSE 2014.
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46 Non-parametric tests (chi-square) and parametric tests (t-test for unequal sample sizes) were employed
47 to explore potential differences in the proportion estimates between UKPMH and HSE 2014 samples.
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51 Cross-sectional associations of whether an MP had an additional employment outside Parliament with
52 each different item of the GHQ-12 and with the three combined categories (indicating no evidence of
53 probable mental ill health, less than optimal mental health, probable psychological disturbance or
54 mental ill health) were explored with the use of ordinal logistic regression models. Results were
55 expressed as increased risk (odds ratio and corresponding 95% confidence intervals) of being in a
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highest category of each item of the GHQ-12 for those MPs with a work role outside parliament were compared to those without such an external role.

In addition, linear regression models were employed to explore the mean difference in the GHQ-12 total scores for those MPs who had additional employment outside Parliament, and for those who did not. All models were adjusted for the following potential confounders identified a priori: age, sex and educational status. Age-sex standardised inverse probability weights were employed for all linear and ordinal regression models.

Patient and Public Involvement

Daniel Poulter, MP, was involved at all stages of the study and is co-author of the paper. Other parliamentarians and staff of the Parliamentary Health and Wellbeing Service were consulted at the planning and design stages, as well as at the interpretations of the findings and dissemination stages of the study.

RESULTS

Questionnaires were returned by 146 respondents (22.5%) of the total of 650 MPs. Median time in completing the survey was 4 minutes (IQR: 3 to 5). Most respondents were male (63%), with an undergraduate (44%) or a postgraduate degree (36%) or Doctorate (2%), and most were between 41 and 60 years old (66%), or did not work outside parliament (81%) (see Table 1).

Table 1: Demographic characteristics of UKPMH participants

	MP sample (N=146)	Total Health Survey for England sample (N=7871)
	n (%)	n (%)
Below 40 years old	27 (18%)	4014 (51%)
Female	54 (36%)	4385 (55%)
Higher education degree	119 (82%)	888 (11.3%)
Knowledge on how to access to mental health support	65 (45%)	n/a
Unaware of parliamentary well-being service	96 (67%)	n/a
Willing to discuss mental health problems with whips	70 (48%)	n/a
Willing to discuss mental health problems with other MPs	76 (52%)	n/a
Presence of CMD (according to ≥ 4 cut point on the GHQ-12 total score)	49 (33%)	2902 (27%)

Mental health of MPs and the HSE 2014 comparator groups

Table 2 presents weighted proportion estimates and corresponding 95% confidence intervals of the UKPMH sample and the four different predetermined HSE 2014 occupational and sociodemographic comparator groups (EN, CM, AM, HIG). For each item of the GHQ-12, the UKPMH sample presented a higher weighted proportion of participants who had lower levels of concentration, were losing sleep because of worry, were feeling less useful, were less capable of making decisions, and were feeling under constant strain, compared to the four HSE 2014 occupational and sociodemographic comparison groups (p-values of chi-square test <0.001). In addition, a higher weighted proportion of MPs could not overcome difficulties, were less able to enjoy normal day to day activities, were less able to face up to their problems, reported losing confidence in themselves, or feeling unhappy and depressed, and more individual MPs considered themselves to be a worthless person (p-values of chi-square test <0.001). Compared to the HSE 2014 predetermined occupational and sociodemographic comparator groups, a higher weighted proportion of the MPs also reported being less able to feel reasonably happy (p-values of chi-square test <0.001).

When we compared the weighted proportions of the three combined categories derived for the GHQ-12 total score that indicate the presence of probable mental ill health between the UKPMH and HSE 2014 samples, we found that a higher proportion of MPs had probable mental ill health (weighted proportion: 34%; 95% CI: 27%, 42%), compared with EN (weighted proportion: 26%; 95% CI: 25%, 27%), CM (weighted proportion: 22%; 95% CI: 18%, 26%), AM (weighted proportion: 23%; 95% CI: 20%, 27%) and HIG (weighted proportion: 17%; 95% CI: 13% to 21%) (p-values of chi-square test <0.001) (see Table 2 and Figure 1).

Table 2: Descriptive characteristics of the 12 item GHQ (GHQ-12), age, sex and educational qualifications of the UKPMH sample.

	n	WP	n	WP	n	WP	n	WP	n	WP
		95%CI		95% CI		95% CI		95% CI		95% CI
			MP	EN	CM		AM		HIG	
Item 1: Have you recently been able to concentrate on whatever you're doing?										
Better than usual	5	0.03 0.01 to 0.07	223	0.035 0.03 to 0.04	15	0.03 0.02 to 0.05	24	0.03 0.02 to 0.05	10	0.03 0.01 to 0.05
Same as usual	93	0.66 0.57 to 0.74	6073	0.85 0.84 to 0.86	394	0.88 0.84 to 0.91	602	0.88 0.85 to 0.91	371	0.9 0.87 to 0.93

Less than usual	40	0.26 0.19 to 0.34	771	0.1 0.10 to 0.11	38	0.08 0.06 to 0.11	53	0.08 0.06 to 0.10	29	0.07 0.05 to 0.10
Much less than usual	8	0.05 0.02 to 0.11	103	0.01 0.01 to 0.02	2	0.01 0.00 to 0.04	3	0.01 0.00 to 0.03	1	0.005 0.00 to 0.01
Item 2: Have you recently lost much sleep over worry?										
Not at all	24	0.18 0.12 to 0.26	2334	0.33 0.32 to 0.34	146	0.33 0.28 to 0.38	226	0.33 0.29 to 0.37	130	0.3 0.26 to 0.35
No more than usual	66	0.47 0.38 to 0.56	3573	0.5 0.49 to 0.51	246	0.54 0.49 to 0.59	370	0.55 0.50 to 0.59	220	0.56 0.51 to 0.61
Rather more than usual	38	0.26 0.19 to 0.34	1035	0.14 0.13 to 0.15	51	0.11 0.08 to 0.14	76	0.11 0.09 to 0.14	55	0.13 0.10 to 0.16
Much more than usual	18	0.1 0.06 to 0.16	240	0.03 0.02 to 0.04	7	0.02 0.01 to 0.03	11	0.02 0.01 to 0.03	6	0.01 0.00 to 0.03
Item 3: Have you recently felt you were playing a useful part in things?										
More so than usual	27	0.19 0.13 to 0.27	676	0.10 0.09 to 0.11	58	0.16 0.12 to 0.21	83	0.14 0.11 to 0.18	39	0.10 0.07 to 0.13
Same as usual	67	0.46 0.38 to 0.55	5696	0.8 0.79 to 0.81	362	0.77 0.72 to 0.81	548	0.78 0.74 to 0.81	339	0.82 0.77 to 0.85
Less useful than usual	43	0.3 0.22 to 0.39	625	0.08 0.07 to 0.09	26	0.07 0.05 to 0.10	47	0.08 0.06 to 0.10	30	0.08 0.05 to 0.12
Much less useful	9	0.05 0.02 to 0.11	157	0.02 0.01 to 0.03	3	0.005 0.00 to 0.02	4	0.005 0.00 to 0.02	3	0.01 0.00 to 0.02
Item 4: Have you recently felt capable of making decisions about things?										
More so than usual	9	0.06 0.03 to 0.11	509	0.08 0.07 to 0.09	29	0.07 0.05 to 0.11	42	0.07 0.05 to 0.09	28	0.07 0.05 to 0.10
Same as usual	118	0.84 0.77 to 0.89	6162	0.85 0.84 to 0.86	403	0.88 0.84 to 0.91	613	0.89 0.86 to 0.91	367	0.89 0.85 to 0.92
Less so than usual	17	0.09 0.05 to 0.15	444	0.066 0.06 to 0.08	17	0.04 0.02 to 0.07	27	0.04 0.03 to 0.06	16	0.04 0.02 to 0.07
Much less capable	2	0.01 0.00 to 0.05	66	0.01 0.01 to 0.01	1	0 0.00 to 0.02	1	0 0.00 to 0.01	0	NA
Item 5: Have you felt under constant strain recently?										
Not at all	9	0.07 0.03 to 0.13	1778	0.25 0.24 to 0.27	130	0.28 0.24 to 0.33	194	0.28 0.24 to 0.31	94	0.22 0.18 to 0.27
No more than usual	60	0.41 0.33 to 0.50	3974	0.56 0.54 to 0.57	243	0.54 0.49 to 0.59	374	0.55 0.51 to 0.59	236	0.57 0.51 to 0.62
Rather more than usual	53	0.38 0.30 to 0.47	1192	0.16 0.15 to 0.17	69	0.17 0.13 to 0.21	102	0.16 0.13 to 0.20	75	0.19 0.15 to 0.24
Much more than usual	24	0.14 0.09 to 0.21	225	0.03 0.02 to 0.03	7	0.02 0.01 to 0.03	12	0.02 0.01 to 0.03	6	0.02 0.01 to 0.04
Item 6: Have you recently felt you couldn't overcome your difficulties?										
Not at all	41	0.29 0.21 to 0.37	2659	0.38 0.37 to 0.39	183	0.4 0.35 to 0.45	278	0.4 0.36 to 0.44	156	0.36 0.31 to 0.41
No more than usual	76	0.52 0.44 to 0.61	3762	0.52 0.51 to 0.53	234	0.53 0.47 to 0.58	352	0.52 0.48 to 0.56	229	0.57 0.52 to 0.62
Rather more than usual	24	0.16 0.10 to 0.23	602	0.08 0.08 to 0.09	31	0.07 0.05 to 0.10	48	0.07 0.05 to 0.09	23	0.06 0.04 to 0.09
Much more than usual	5	0.03 0.01 to 0.08	143	0.02 0.02 to 0.02	2	0.01 0.00 to 0.03	5	0.01 0.00 to 0.02	2	0 0.00 to 0.02
Item 7: Have you recently been able to enjoy your normal day to day activities?										
More so than usual	6	0.03 0.01 to 0.06	376	0.06 0.05 to 0.07	35	0.11 0.07 to 0.16	47	0.09 0.06 to 0.13	23	0.05 0.04 to 0.08
Same as usual	88	0.61 0.52 to 0.69	5649	0.79 0.78 to 0.80	358	0.76 0.71 to 0.81	544	0.77 0.73 to 0.81	344	0.83 0.79 to 0.87
Less so than usual	36	0.27 0.19 to 0.36	924	0.12 0.12 to 0.13	47	0.11 0.08 to 0.14	78	0.12 0.09 to 0.15	40	0.11 0.08 to 0.15
Much less than usual	16	0.10 0.06 to 0.16	225	0.025 0.02 to 0.03	9	0.02 0.01 to 0.04	14	0.02 0.01 to 0.03	4	0.01 0.00 to 0.02
Item 8: Have you recently been able to face up to your problems?										
More so than usual	9	0.07 0.04 to 0.13	340	0.06 0.05 to 0.07	19	0.06 0.04 to 0.11	30	0.06 0.04 to 0.09	17	0.05 0.03 to 0.08
Same as usual	118	0.80 0.71 to 0.86	6157	0.87 0.86 to 0.88	404	0.90 0.85 to 0.93	610	0.9 0.86 to 0.92	372	0.91 0.87 to 0.94
Less able than usual	19	0.14 0.08 to 0.21	510	0.07 0.06 to 0.07	15	0.03 0.02 to 0.06	27	0.04 0.03 to 0.06	17	0.04 0.02 to 0.07
Much less able	NA	NA	72	0.01 0.01 to 0.01	1	0.01 0.00 to 0.03	1	0.01 0.00 to 0.02	1	0.01 0.00 to 0.02
Item 9: Have you recently been feeling unhappy and depressed?										
Not at all	43	0.3	2846	0.4	213	0.47	318	0.47	168	0.39

			0.22 to 0.38		0.39 to 0.42		0.42 to 0.52		0.43 to 0.51		0.34 to 0.44
No more than usual	59	0.42	3119	0.44	178	0.42	271	0.41	202	0.52	0.47 to 0.58
Rather more than usual	44	0.29	911	0.13	44	0.1	70	0.11	34	0.08	0.06 to 0.11
Much more than usual	NA	NA	206	0.03	3	0.01	7	0.01	3	0.01	0.00 to 0.02
				0.01 to 0.04		0.00 to 0.02		0.01 to 0.03		0.00 to 0.02	
Item 10: Have you recently been losing confidence in yourself?											
Not at all	53	0.37	3192	0.45	232	0.52	349	0.52	201	0.47	0.42 to 0.53
No more than usual	65	0.45	2979	0.42	175	0.4	261	0.39	174	0.44	0.39 to 0.50
Rather more than usual	28	0.18	739	0.1	24	0.06	46	0.08	32	0.08	0.06 to 0.12
Much more than usual	NA	NA	170	0.02	5	0.01	9	0.015	NA	NA	
				0.02 to 0.03		0.00 to 0.02		0.01 to 0.02			
Item 11: Have you recently been thinking of yourself as a worthless person?											
Not at all	86	0.58	4689	0.66	323	0.73	480	0.72	285	0.69	0.64 to 0.74
No more than usual	44	0.31	1879	0.26	95	0.22	154	0.23	107	0.27	0.23 to 0.32
Rather more than usual	16	0.11	378	0.05	16	0.05	26	0.05	13	0.03	0.02 to 0.06
Much more than usual	NA	NA	133	0.02	3	0.01	6	0.01	2	0.01	0.00 to 0.02
				0.02 to 0.02		0.00 to 0.02		0.00 to 0.02		0.00 to 0.02	
Item 12: Have you recently been feeling reasonably happy, all things considered?											
More so than usual	16	0.09	698	0.11	45	0.13	66	0.12	39	0.11	0.08 to 0.14
About same as usual	96	0.67	5633	0.79	364	0.8	553	0.81	346	0.84	0.80 to 0.88
Less so than usual	34	0.24	611	0.08	25	0.05	42	0.06	20	0.05	0.03 to 0.08
Much less than usual	NA	NA	137	0.02	4	0.01	7	0.01	2	0	0.00 to 0.02
				0.02 to 0.02		0.00 to 0.03		0.01 to 0.03		0.00 to 0.02	
Presence of probable mental ill health											
No evidence of probable mental ill health	35	0.25	4256	0.53	290	0.58	446	0.58	254	0.56	0.51 to 0.61
Less than optimal mental ill health	62	0.40	1620	0.2	97	0.2	140	0.19	117	0.27	0.23 to 0.32
Probable mental ill health	49	0.34	2141	0.26	108	0.22	170	0.23	74	0.17	0.13 to 0.21
				0.25 to 0.27		0.18 to 0.26		0.20 to 0.27		0.13 to 0.21	

Weighted proportion (WP) with the corresponding 95% Confidence Intervals (CI).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: high-income group (HSE 2014).

Awareness of mental health support services

Most MPs were unaware of the mental health services provided by the Parliamentary Health and Wellbeing Service within parliament. Most MPs (55 %) did not know how to access any mental health support at Parliament (see Figure 2). When asked whether they felt the Parliamentary Health and Wellbeing Service currently offered sufficient support, a large majority of MPs (67%) were unaware of

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3 what options are currently offered by the service. Only 23% were aware that support was sufficiently
4 available (see Figure 3).
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8 (Figures 2, 3, 4, 5 about here)
9

10 11 **Willingness to disclose poor mental health** 12

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14 Most MPs who took part in our survey are not willing to discuss mental health problems with their party
15 whips (52%), and only a small majority of MPs would feel able to talk with other MPs about their
16 mental health (52%) (see Figures 4 and 5). After adjusting for age, sex and educational status, we found
17 evidence that MPs who were willing to discuss their mental health with their party whips (adjusted OR:
18 0.32; 95% CI: 0.16, 0.31), or with their fellow MPs (adjusted OR: 0.57; 95% CI: 0.30, 0.99) had a
19 reduced risk of CMD (data not shown).
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26 27 **Additional employment outside parliament** 28

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30 We found no evidence of an association between having additional employment outside Parliament
31 with the individual GHQ-12 items or an increased total score indicating poor mental health (see
32 Supplementary File, Table S1).
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36 37 **DISCUSSION** 38

39 40 **Principal findings** 41

42
43 The main findings of this study were: 1) strong evidence to indicate that a higher proportion of MPs
44 had poor mental health than among the general population and among the defined occupational and
45 sociodemographic comparator groups (EN, CM, AM, HIG). 2) Most MPs were not aware of
46 Parliamentary mental health and support services. 3) Most MPs are not willing to discuss their mental
47 health with party whips, and only a small majority would be happy to discuss mental health issues with
48 other MPs. 4) It appears that having employment outside Parliament, in addition to the role of MP, is
49 not linked with increased risk for mental ill health.
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3 The Parliamentary Health and Wellbeing Service is the occupational health service provided since 2013
4 inside the House of Commons. It aims to support all staff and MPs in developing a healthy and safe
5 working environment and encourages them to adopt better attitudes towards their own health and mental
6 health.²⁰ Despite the service being in place for almost four years, the Parliamentary Health and
7 Wellbeing Service had reported low numbers of MPs requesting support. Our study confirms this in
8 finding that a majority of MPs are unaware of the service or how to access it. Reasons for this might be
9 insufficient advertising of the support options offered and location of the services, as well as anticipated
10 stigma and discrimination among MPs²¹.

21 **Strengths and weaknesses of the study**

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23 The study has several limitations and potential biases. First, the response rate was relatively low
24 (22.4%). Given the intense work loads of MPs, this may have been partly due to the additional work
25 load of completing the survey, even though the median time to complete survey was 4 minutes. Also, a
26 possible fear of being identified, stigmatisation, and the potential reputational damage associated with
27 adverse media coverage may have influenced the response rate. We tried to reduce these biases by
28 promoting the survey in Parliament, sending reminders, and stressing brevity, as well as the anonymity
29 of the survey. Generally, MPs are a difficult survey population to engage, which has also been
30 confirmed in a 2008 internal UK Parliament survey, where only 14.5% (94 MPs) responded.²²

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32 Secondly, it is also possible that MPs who responded to the online survey may have increased stress or
33 mental ill health and that therefore a greater number of them were willing to complete the survey. A
34 potential self-selection bias may therefore be present in our UKPMH sample. However, there is also a
35 potential risk of underreporting from people who might be reluctant to take part in the study, because
36 they are affected by mental health problems, or because of the stigma associated with the topic. We
37 therefore feel confident that the risks of over- and underreporting are weighing up and that our findings
38 are representative.

39
40 Respondents tended to be younger in relation to the age distribution of the total number of MPs (27%
41 of our MPs sample vs. 16% of total MP population were below 40 years old), and more likely to be
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3 female (36% female of our MPs sample vs 30% of total MPs population were female) in relation to the
4 gender distribution of the total number of MPs and had a university degree (81% of our MPs sample vs
5 76% of total MP population). We did not assess marital or cohabitation status, as this would've increased
6 the risk of identifiability of MPs, and potentially this would've also affected the response rate
7 negatively. However, these potentially interesting confounders could be considered in future, more in-
8 depth evaluations.
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16 Thirdly, comparing MPs to other occupational and sociodemographic groups within a population
17 presents challenges. We considered comparing the UKPMH sample to the UK Health and Safety
18 Executive's Labour Force Survey (LFS), which provides annual data on rates of mental disorder by
19 occupation.²³ However, the LFS relies on random household sampling is poorly suited to extrapolating
20 meaningful data for a relatively tiny group 650 UK MPs. Published LFS data lacks sufficient granularity
21 to be able to analyse the prevalence of mental disorders at an occupation-specific level, which for
22 politicians would be 'elected officers and representatives'.²⁴ Given the unique features of political
23 careers, including the diverse backgrounds from which politicians may be drawn, specific data relating
24 to these generic occupational groupings are unlikely to be fully helpful in understanding why there is a
25 higher burden of mental ill health. In our sample we found that having employment outside Parliament,
26 and in addition to the role of MP, does not seem to constitute an increased risk for mental ill health.
27 However, we regard this outcome with caution as we feel our study may be underpowered for a general
28 statement, as most participants (81%) did not have employment outside Parliament.
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45 **Comparison of results with earlier studies**

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47 When examining UK parliamentary working hours reform, research found high levels of physical and
48 emotional stress as a result of various aspects of political life such as additional work roles, extensive
49 travel and job insecurity.²⁵ A longitudinal study in new UK MPs highlighted increased levels of stress
50 post-election.²⁶ In 2008 the UK Parliament has also conducted its own informal survey regarding
51 experience and perceptions of mental illness, which concluded that one in five MPs had a personal
52 experience of a mental health problem, and one in three felt stigma was a barrier to openness about
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3 mental health, yet no data on CMDs was collected.²² Given that work characteristics promoting stress
4 are associated with mental disorders,^{27, 28} it may be reasonable to assume that rates of common mental
5 disorder would be high in parliamentarians, however no rigorous assessment has previously been
6 conducted to investigate this issue.
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12 This is the first study of assessment of mental health in members of Parliament of the UK House of
13 Commons using structured validated scales. Our findings indicate that MPs are more likely to
14 experience probable mental ill health and symptoms indicative of mental distress compared to the
15 general population and compared with similar occupational and professional groups. In addition, most
16 MPs are not aware of mental health support offered by the Parliamentary Health and Wellbeing service,
17 or willing to disclose to their whips or other MPs. This leaves MPs with levels of mental ill health facing
18 a critical situation and a lack of awareness of how to access help. These findings are of considerable
19 concern.
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30 **Interpretation of the results**

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33 A number of studies have examined media and public reactions to politicians' actual or perceived
34 mental health problems.²⁹⁻³¹ In an ever more hostile media environment, poor mental health can be
35 regarded as a factor limiting politicians in their capacities. Stigma against people with mental disorders
36 is prevalent in all countries and sectors of society. It was not until 2013 that the UK passed the Mental
37 Health (Discrimination) (No 2) Act 2013, which removed discriminatory provisions permitting
38 Members of Parliament (MPs) with mental health problems to be disqualified under certain
39 circumstances.³² Subsequent to the Act, there have been more disclosures from politicians about
40 personal mental health problems. However, given that our results showed that only 48% of surveyed
41 MPs felt able to talk to their party whips, and only 52% felt able to talk to another MP about their mental
42 health, stigma and self-stigma about mental health appears to remain a powerful barrier to seeking help
43 and support among Members of the UK House of Commons. Our findings show an increased need for
44 mental health support for MPs, and the need for awareness raising, stigma and self-stigma reduction, in
45 order to facilitate access to mental health services in the House of Commons.
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Implications for future research

This is a first, initial study into the mental health of MPs, and further in-depth research is needed to assess the raised issues, and to assess trends in the mental health of MPs over time. Our findings are only a starting point, but they reveal MPs' mental health problems and the need to properly assess them. There is a need for better promotion of mental health support, such as the Parliamentary Health and Wellbeing Service, and for additional information and support for MPs in accessing the mental health services provided. Due to their working routine and hours, MPs spend a majority of their working time far from support provided by their usual NHS services, which is why strengthening the Parliamentary Health and Wellbeing Service could offer a specifically relevant support function. Further research is also needed on mental health in other parliamentary staff to increase comparability, to identify their needs, and to evaluate their awareness of, and access to, the Parliamentary Health and Wellbeing Service and other services.

CONCLUSION AND POLICY IMPLICATIONS

MPs have a vital role to play in the UK democracy: in making and scrutinising the legislation that governs the country, as well as in representing the interests of their constituents. We have found indication that the people in these important roles experience significantly higher levels of mental ill health when compared to the general population, and when compared to other senior executive and managerial groups. The majority of MPs do not feel that they have adequate mental health support, they lack knowledge of how to access the mental health services that are available to them. Most MPs are not able to discuss their mental health problems with their whips or other MPs. Our findings indicate that better support to MPs is required to access existing mental health services, such as the one provided in the House of Commons. More research is needed to identify what the UK Parliament can do to support the mental health needs of its MPs and other staff, not least in order to ensure they can best address legislation and directives for mental health for the people they serve.

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9
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16
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26
27

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49 of Medical Sciences
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4 and declare: no support from any organisation for the submitted work; no financial relationships with
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34 **Ethical approval:** Ethics approval for the study was obtained in September 2016 from King's College
35 London Ethics Committee (reference number: HR-16/17-3118).
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38

39 **Data sharing:** No additional data available. The Health Survey for England 2014 can be accessed at:
40 [https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/health-](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/health-survey-for-england-2014)
41 [survey-for-england-2014](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/health-survey-for-england-2014). Due to the sensibility of the data, and in order to ensure full anonymity,
42 confidentiality and data protection for the participants, the full survey data cannot be made accessible
43 to the public.
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50 **Transparency declaration:** The corresponding author affirms that the manuscript is an honest,
51 accurate, and transparent account of the study being reported; that no important aspects of the study
52 have been omitted; and that any discrepancies from the study as planned have been explained.
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57 **Contributors:** DP and GT conceived the original idea for the study, which was then discussed with
58 NV. NV coordinated the study. All authors contributed to the design of the study. NV and FD conducted
59
60

1
2
3 the literature review. DP and NV collected the data. IB conducted design and analysis of the data. NV
4 led the writing of the manuscript, and all authors contributed and critically revised it. All authors have
5 given their approval for the publication of this manuscript and agree to be accountable for all aspects of
6 the work to ensure that the questions related to the accuracy or integrity of any part of the work are
7 appropriately investigated and resolved.
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1
2
3 **List of Figures and legends**
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5

6 **Figure 1:**
7 **Age-Sex standardised prevalence estimates and 95% Confidence Intervals of UKPMH and of**
8 **specific population groups of HSE 2014 for the three different categories of Common Mental**
9 **Disorders (CMD).**
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11 Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate
12 Managers (HSE 2014); AM: All managers (HSE 2014); HIG: High-income group (HSE 2014).
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16 **Figure 2:**
17 **Access to the mental health (MH) support of the Parliamentary Health and Wellbeing Service**
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20 NB: All p-values <0.001.
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24 **Figure 3:**
25 **Awareness of the mental health (MH) support of the Parliamentary Health and Wellbeing Service**
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28 NB: All p-values <0.001
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32 **Figure 4:**
33 **Willingness to talk to party whips**
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36 NB: All p-values <0.001
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40 **Figure 5:**
41 **Willingness to talk to other MPs**
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44 NB: All p-values <0.001
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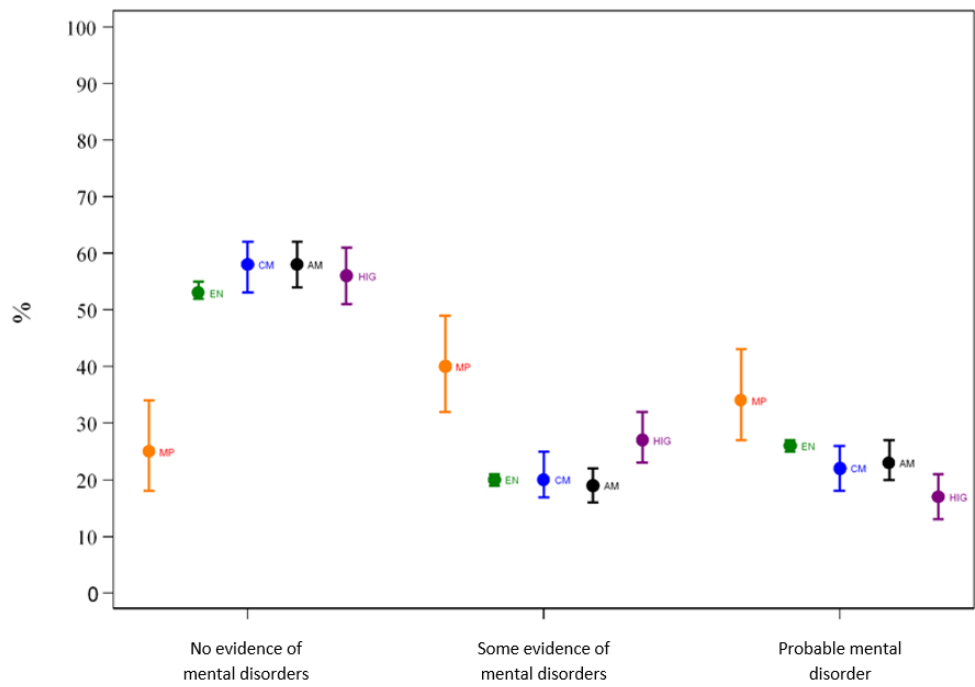


Figure 1: Age-Sex standardised prevalence estimates and 95% Confidence Intervals of UKPMH and of specific population groups of HSE 2014 for the three different categories of Common Mental Disorders (CMD).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: High-income group (HSE 2014).

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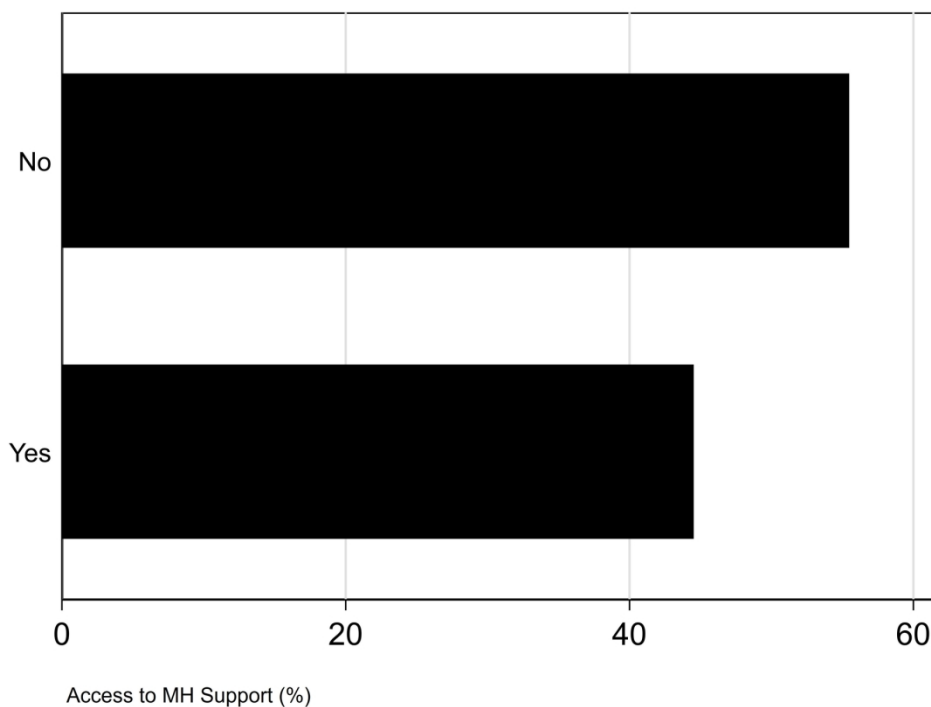


Figure 2: Access to the mental health (MH) support of the Parliamentary Health and Wellbeing Service

NB: All p-values <0.001.

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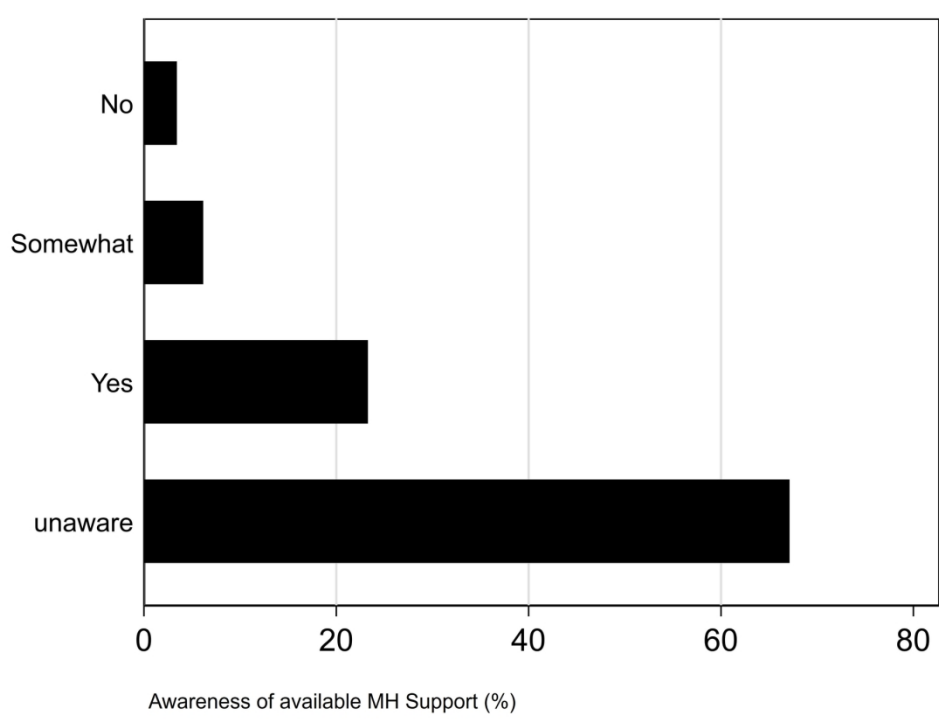


Figure 3: Awareness of the mental health (MH) support of the Parliamentary Health and Wellbeing Service

NB: All p-values <0.001.

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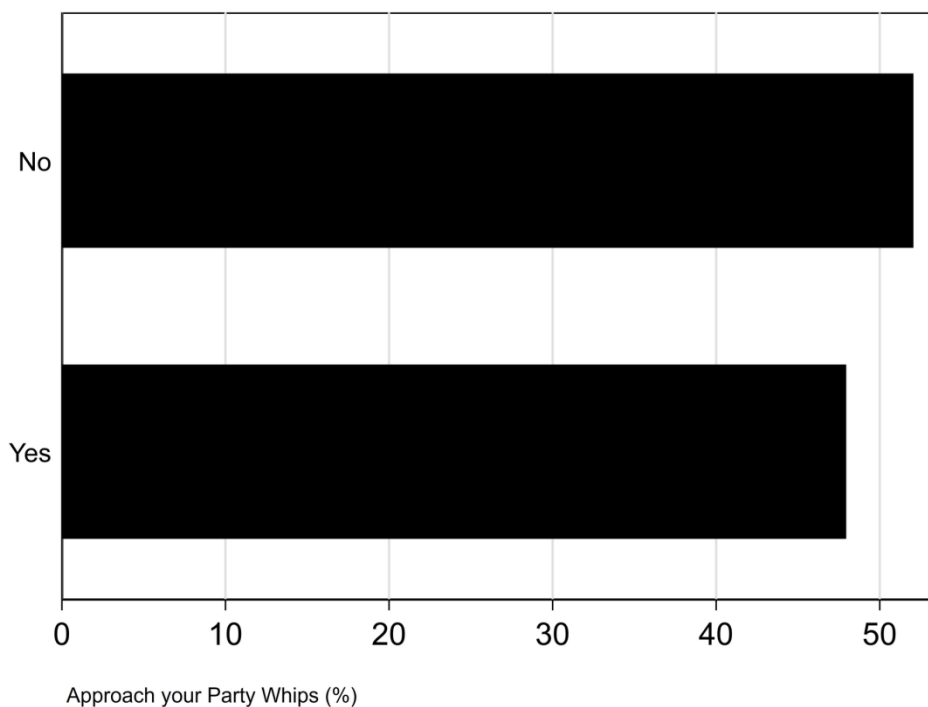


Figure 4: Willingness to talk to party whips

NB: All p-values <0.001.

169x127mm (300 x 300 DPI)

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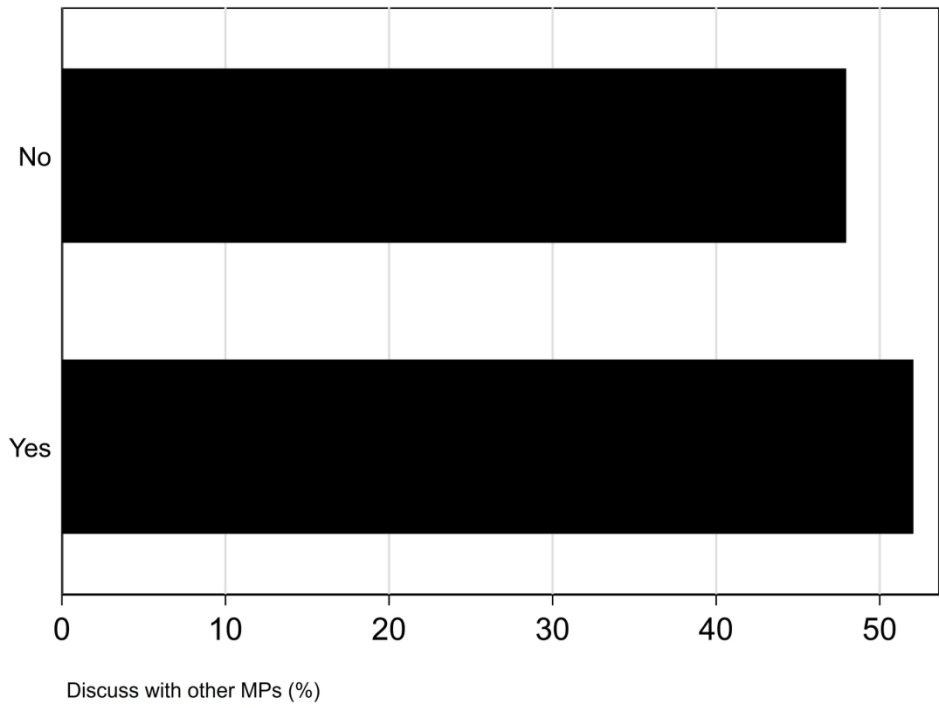


Figure 5: Willingness to talk to other MPs

NB: All p-values <0.001.

169x127mm (300 x 300 DPI)

Supplementary File (Online)

1. FULL LIST OF QUESTIONS

UKMPH Survey 2016: list of demographic questions

1. What age group are you?
 - Age 21 to 30
 - Age 31 to 40
 - Age 41 to 50
 - Age 51 to 60
 - Age 61 to 70
 - Age 70 +
2. How long have you been a Westminster MP?
 - Less than 5 years
 - 5 to 10 years
 - 11 to 15 years
 - 16 to 20 years
 - 21 to 25 years
 - More than 25 years
3. What is your highest level of educational attainment?
 - GCSE / O Level
 - A Level / Scottish Higher
 - Vocational Qualifications (BTEC, NVQ, HNC etc)
 - Undergraduate Degree (BA, BSc, or equivalent)
 - Post Graduate (MA, MSc, or equivalent)
 - Doctorate (PhD or equivalent)
4. What is your gender?
 - Male
 - Female
5. Do you have a job / role outside of Parliament?
 - Yes - Paid
 - Yes - Unpaid
 - No

UKMPH Survey 2016: List of questions on inhouse mental health services

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6. Do you know how to access Mental Health Support through the Parliamentary Health and Wellbeing Service?
- Yes
 - No
7. Does the Parliamentary Health and Wellbeing Service currently offer enough support to meet your mental health needs?
- Yes
 - Somewhat
 - No
8. Would you be happy to approach your Party Whip's office if you were experiencing mental health problems?
- Yes
 - No
9. Would you be happy to discuss with other MPs if you were experiencing mental health problems?
- Yes
 - No

2. TABLE S1

Table S1. Crude and adjusted associations of mental health in relation to job status (having a job outside the parliament vs. not) of members of the parliament

GHQ-12 Items (n=146)	Crude		Adjusted [†]	
	OR	95%CI	OR	(95% CI)
Have you recently been able to concentrate on whatever you're doing?	0.6	0.23 to 1.57	0.74	0.27 to 2.04
Have you recently lost much sleep over worry?	0.64	0.26 to 1.58	0.73	0.28 to 1.90
Have you recently felt you were playing a useful part in things?	1.52	0.70 to 3.28	1.62	0.70 to 3.74
Have you recently felt capable of making decisions about things?	0.98	0.37 to 2.56	1.17	0.42 to 3.27
Have you felt under constant strain recently?	0.59	0.26 to 1.34	0.71	0.32 to 1.59
Have you recently felt you couldn't overcome your difficulties?	0.74	0.36 to 1.50	0.87	0.41 to 1.85
Have you recently been able to enjoy your normal day to day activities?	1.01	0.43 to 2.37	0.96	0.36 to 2.57
Have you recently been able to face up to your problems	1.04	0.37 to 2.93	0.98	0.36 to 2.69
Have you recently been feeling unhappy and depressed?	0.66	0.31 to 1.41	0.82	0.35 to 1.92
Have you recently been losing confidence in yourself?	1.02	0.37 to 2.69	1.29	0.46 to 3.60
Have you recently been thinking of yourself as a worthless person?	1.01	0.41 to 2.43	1.2	0.45 to 3.21
Presence of Common Mental Disorders	0.77	0.47 to 1.26	0.82	0.49 to 1.36
	MD	95%CI	MD	95%CI
Total Score of GHQ to 12	-0.61	-3.06 to 1.84	-0.07	-2.44 to 2.31

Crude and Adjusted Odds Ratio (ORs) and Mean Difference (MD) with corresponding 95% Confidence Intervals (95% CI). Inverse probability weights were used with reference to the total number of the members of the parliament. All models were adjusted for age, sex and educational status

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60STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Item	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-6
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-7
Bias	9	Describe any efforts to address potential sources of bias	5-6
Study size	10	Explain how the study size was arrived at	5, 8
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	8-9
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	8-9
		(b) Describe any methods used to examine subgroups and interactions	8-9
		(c) Explain how missing data were addressed	8-9
		(d) If applicable, describe analytical methods taking account of sampling strategy	8-9
		(e) Describe any sensitivity analyses	8-9
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	9
		(b) Give reasons for non-participation at each stage	n.a.
		(c) Consider use of a flow diagram	n.a.
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9
		(b) Indicate number of participants with missing data for each variable of interest	n.a.
Outcome data	15*	Report numbers of outcome events or summary measures	9-12
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear	10-12

		which confounders were adjusted for and why they were included	
		(b) Report category boundaries when continuous variables were categorized	10-12
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N.a.
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	12-13
Discussion			
Key results	18	Summarise key results with reference to study objectives	13-14
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	14-15
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	16
Generalisability	21	Discuss the generalisability (external validity) of the study results	15-17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	18

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

BMJ Open

Mental health of UK Members of Parliament in the House of Commons: a cross-sectional survey

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Date Submitted by the Author:	15-Mar-2019
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Primary Subject Heading:	Mental health
Secondary Subject Heading:	Public health, Mental health, Health services research, Health policy, Global health
Keywords:	MENTAL HEALTH, United Kingdom, policy making, stigma, Members of Parliament, MP

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Manuscripts

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3 **1 Mental health of UK Members of Parliament in the House of Commons: a cross-sectional survey**
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9 **3 Frances Debell⁴, Jayati Das-Munshi⁵ and Graham Thornicroft⁶**
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12 **4 November 2018**
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3 29 **ABSTRACT**
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8 31 **Objectives** The purpose of this study was to assess: (i) overall mental health of Members of Parliament
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10 32 (MPs) of the 56th UK House of Commons; and (ii) awareness among MPs of the mental health support
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12 33 services available to them in Parliament.

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14 34 **Design** Anonymous, self-completed, online cross-sectional survey, conducted in December 2016.

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16 35 **Setting** 56th UK House of Commons.

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19 36 **Participants** All 650 members of the 56th UK House of Commons were invited to participate; 146 MPs
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21 37 (23%) completed the survey.

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23 38 **Outcomes** The General Health Questionnaire-12 was used to assess age and sex standardised
24
25 39 prevalence of probable common mental disorders (CMD). Results were compared to a nationally
26
27 40 representative survey, the Health Survey for England 2014 (HSE). Core demographic questions, MPs'
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29 41 awareness of available mental health services, their willingness to discuss mental health issues with
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31 42 party whips and fellow MPs, and the effects of employment outside parliament, were assessed.

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34 43 **Results** Comparison of MP respondents with HSE comparator groups found that MPs have higher rates
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36 44 of mental health problems (age and sex standardised prevalence of probable CMD in surveyed MPs
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38 45 34% (n=49); (95% CI: 27% to 42%) versus 17%; (95% CI: 13% to 21%) in the high-income comparison
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40 46 group). Survey respondents were younger, more likely to be female and more educated, compared to
41
42 47 all MPs. 77% of MPs (n=112) did not know how to access in house mental health support. 52% (n=76)
43
44 48 would not discuss their mental health with party whips, or other MPs (48%; n=70).

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46
47 49 **Conclusions** MPs in the study sample had higher rates of mental health problems than rates seen in
48
49 50 the whole English population, or in comparable occupational groups. Most surveyed MPs are unaware
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51 51 of mental health support services, or how to access them. There is a need for MPs to have better
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53 52 awareness of, and access to, mental health support services.
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3 55 **STRENGTHS AND LIMITATIONS OF THIS STUDY**
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- 6 56 • This is a unique study where the mental health of MPs has been assessed using structured,
7
8 57 validated scales for the first time.
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10 58 • This study is also the first evaluation of MPs' awareness of the mental health support
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12 available to them from the Parliamentary Health and Wellbeing Service and how to access
13 59 this service.
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17 61 • This study also assessed for the first time the willingness of MPs to discuss any mental
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19 health issues with party whips or with fellow MPs.
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22 63 • The survey had a relatively low response rate which may be related to the stigma
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24 associated with mental illness, and to the nature of an MP's role, which is associated with
25 64 a stressful work schedule and life in the public eye.
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68 INTRODUCTION

69 There is a public fascination with understanding the psyches of politicians and decision-makers, from
70 ancient times to the present day, and a long history of public debate about the mental health of
71 politicians, including discussion of the potential psychiatric diagnoses of notable individuals active in
72 political life[1-9]. Research studies have considered some related questions, such as the harassment
73 and stalking of politicians.[10-13] Studies have also examined media and public reactions to
74 politicians' actual or perceived mental health problems. [14-17] Yet, little has been published on the
75 actual mental health or mental illness of politicians. Some evidence of politicians disclosing personal
76 mental health problems has been published, for example during the passage of the UK Mental Health
77 (Discrimination) Act in 2013, which removed discriminatory provisions permitting disqualification of
78 Members of Parliament with mental health problems under certain circumstances.[18].

79 A scoping literature search in January 2017 was conducted to understand what is known about
80 politicians' mental health, and in particular the prevalence of common mental disorders in this group.
81 The papers identified were largely limited to politicians in the UK, USA and Australasia. There remains
82 a dearth of evidence on the prevalence of common mental disorders (CMDs) in politicians and how
83 this compares to general population rates. To date, no quantitative, ethically-approved surveys have
84 been conducted of Members of Parliament (MPs) in the UK Parliament to assess their mental health,
85 and to assess their awareness of the available support and treatment services.

86
87 Several factors in the UK political system may adversely influence MPs and their mental health: The
88 UK Parliament permits MPs to hold employment outside Parliament in addition to their roles as
89 elected representatives. Further, in the UK parliament, "whips" are appointed officials in each political
90 party who are charged with organising their party's parliamentary business and ensuring party
91 discipline amongst MPs. In addition, a confidential in-house service is provided within Parliament for
92 MPs and peers, called the Parliamentary Health and Wellbeing Service, to support their occupational
93 health and wellbeing.

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5 95 In this context, the UK Parliamentary Mental Health (UKPMH) study aims are to: (i) assess the overall
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7 96 mental health of MPs by drawing comparisons with a nationally representative survey in England, and
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10 97 with comparator socio-demographic and occupational groups within the survey; and (ii) assess
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12 98 awareness among MPs of the mental health support services available to them.
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16 100 The principal research question was: What is the prevalence of common mental disorders among
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18 101 MPs? The secondary questions addressed were: how far are MPs aware of mental health services that
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20 102 can assist them with mental health problems? Are MPs willing to discuss their mental health with
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22 103 party whips or other MPs? This study tested the following primary hypothesis: the occurrence of
23
24 104 common mental disorders (CMDs) is higher among MPs compared to the general population and
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26 105 compared with specific socio-demographic, professional and occupational comparator groups.
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31 32 107 **METHODS**

33 34 108 **Study design and participants**

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36 109 We conducted an anonymised, online self-completed survey at the House of Commons in December
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38 110 2016. The inclusion criteria for participation were: membership of the 56th UK Parliament, House of
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40 111 Commons; and providing written, informed consent. We followed the STROBE guidelines for
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42 112 observational studies for the reporting of this cross-sectional study.[19] No age limits were defined,
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44 113 except that to be elected to Parliament one must be over 18 years old. Participants were sent via email
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46 114 an invitation letter to participate. Initially, in November 2016 a letter was sent to all 650 members of
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48 115 the House of Commons to make them aware of the study. In early December, a letter including a web
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50 116 link to an online survey with an individual access code was sent out via to all MPs internal post, and
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52 117 via email. The survey took place between 5 and 31 December 2016. Repeated efforts were taken to
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54 118 promote participation and maximise response rates in the survey. The study information sheet
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56 119 (explaining the purpose of the study) and instructions for the online questionnaire, as well as two
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3 120 reminder emails, were sent out with clear descriptions of encrypted data collection and protection
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5 121 measures to ensure anonymity.
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8 122 **Ethics and data protection**

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11 123 At all times throughout the study preparation, conduct and analysis, particular consideration and care
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13 124 has been given to the specific, sensitive study context, and to the potential vulnerability of
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15 125 participants, namely the risk of sensationalised coverage should any individual be identifiable. Ethics
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17 126 approval for the study was obtained in September 2016 from King's College London Ethics Committee
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19 127 (reference number: HR-16/17-3118). Efforts were taken to limit distress and secure confidentiality for
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21 128 the participants. To ensure full confidentiality no personal identifiers were collected, and identifiers
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23 129 were removed if provided. All participants were provided with contact information for the
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25 130 Parliamentary Health and Wellbeing Service in the introductory letter and via the online survey in case
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27 131 any participants were experiencing distress at the time of the survey.
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31 132 **Health Survey for England comparator groups**

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35 133 Data for the comparator groups were elicited from the Health Survey for England (HSE) 2014. The HSE
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37 134 is an annual survey which uses a multi-stage stratified design to sample nationally representative
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39 135 random cross section of the population of England each year. Participants are visited by an interviewer
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41 136 who collects demographic and socio-economic data, and information on health and health-related
42
43 137 behaviours. A detailed description of the HSE has been reported elsewhere.[20] From the HSE, we
44
45 138 identified four comparison groups: total population of England in the HSE England population (EN),
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47 139 corporate managers in England (CM), all managers in England (AM), and those in high-income groups
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49 140 in England (HIG). The socio-economic groups derive from a standardised questionnaire asked in the
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51 141 HSE to all survey respondents.
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56 142 **Measures of mental health**

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3 143 The General Health Questionnaire (GHQ-12) was used to assess the mental health of respondents in
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5 144 the UKPMH sample and the HSE 2014. The self-completed 12-item GHQ-12 is one of the most
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7 145 extensively used screening instruments for common mental disorders, measured by a 4-point Likert
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9 146 scale (ranging from 'less than usual' to 'much more than usual') across twelve items.[20, 21]
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13 147 Scoring of the GHQ-12 for the present study was done in the original bi-modal method as developed
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15 148 by Goldberg.[22] Specifically, each symptom was scored either 0 if 'not at all present' or present 'no
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17 149 more than usual', or 1 for symptoms that were present 'rather more than usual' or 'much more than
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19 150 usual'). The scoring method allowed for total scores to range from 0 to 12. No formal threshold exists
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21 151 for identifying probable mental ill health, with optimal values likely to be specific to the population
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23 152 under study. However, in line with the previous HSE survey, MP's total scores are grouped according
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25 153 to three categories: 0 (indicating no evidence of probable mental ill health), 1 to 3 (indicating less than
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27 154 optimal mental health), and 4 or more (indicating probable psychological disturbance or mental ill
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29 155 health).[20, 21]
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34 156 The GHQ-12 has been extensively validated across international settings for screening and detection
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36 157 of the common mental disorders.[23] In previous work, with a cut-off point ≥ 4 , the total score of the
37
38 158 GHQ-12 was found in a UK setting to have a sensitivity of 84.6% and specificity of 89.3% when assessed
39
40 159 against *International Classification of Mental Disorders (ICD-10)* and the *Diagnostic Statistical*
41
42 160 *Manuals-IV (DSM-IV)*, diagnoses derived from the Composite International Diagnostic Interview (CIDI-
43
44 161 PC) for the common mental disorders (including depression, dysthymia, generalised anxiety disorder,
45
46 162 panic disorder and other related conditions).[23]
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50 163 A technical error in the administration of the questionnaire caused a lack of indication for respondents
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52 164 of the 4th option (much more/much less than usual) on GHQ-12 items 8, 9, 10, 11, 12. However, this
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54 165 has no impact on the total scores of GHQ-12 for each participant, as the third and fourth option are
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56 166 grouped together in the bi-modal scoring.
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3 167 In the question on awareness of the Parliamentary Health and Wellbeing Service, a technical error in
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5 168 the administration of the questionnaire caused 4 options (no/ unsure/ unaware/ yes) to be offered
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8 169 rather than binary yes and no options. The three options (no/ unsure/ unaware) were combined to
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10 170 represent “no awareness”.

13 171 **Covariates**

16 172 Core demographic questions were obtained from the UKPMH study sample: Age (categorised into five
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18 173 groups: 21 to 30; 31 to 40; 41 to 50; 51 to 60; 61 to 70, >70 years), sex (female or male), and
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20 174 educational status (GCSE/ O level, A Level, Vocational Qualifications, Undergraduate Degree, Post
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22 175 Graduate Degree, Doctorate), as well as years serving as MP. MPs were also asked if they were aware
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24 176 of the mental health services available to them, as well as their willingness to discuss their mental
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26
27 177 health with their Whips and other MPs (full list of questions in Supplementary File). Ethnicity was not
28
29 178 assessed. Due to the low number of MPs from a minority ethnic background in the 56th House of
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31 179 Commons (n=41), this avoided any concern about the identification of participants, which may have
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34 180 further limited the response rate.

37 181 **Statistical analyses**

40 182 All statistical analyses were performed using STATA 14.1. Within the UKPMH sample, descriptive
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42 183 analyses was undertaken first to determine the distribution of each item of the GHQ-12 and of socio-
43
44 184 demographic characteristics, awareness of mental health services, and willingness to discuss mental
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46 185 health issues with party whips or with fellow MPs.

50 186 The UKPMH sample is subject to “unit non-response” as 22.4% of all MPs completed the survey. To
51
52 187 address this issue, we employed inverse probability weighting (IPW)[24] in the analysis, where weights
53
54 188 are used to rebalance the set of complete cases within the MP sample to make it representative of
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56 189 the whole English population; we used the weighted sample of the HSE 2014. Age-sex standardised
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58 190 proportion estimates were calculated i) for each item of the GHQ-12, and ii) for the presence of
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3 191 probable mental ill health. We compared i) each item of the GHQ-12, and ii) the three combined
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5 192 categories derived from the total score of the GHQ-12 that indicate the presence of probable mental
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7 193 ill health of the MP sample with a range of socio-demographic groups (the English population (EN),
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9 194 corporate managers (CM), all managers (AM), and with high income groups (HIG) in England) derived
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11 195 from HSE 2014. As a sensitivity analyses, age-sex standardised proportion estimates were calculated
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13 196 separately for males and females.

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17 197 Non-parametric tests (chi-square) and parametric tests (t-test for unequal sample sizes) were
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19 198 employed to explore potential differences in the proportion estimates between UKPMH and HSE 2014
20
21 199 samples.

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25 200 Cross-sectional associations of whether an MP had additional employment outside Parliament with
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27 201 each different item of the GHQ-12, and with the three combined categories (indicating no evidence of
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29 202 probable mental ill health, less than optimal mental health, probable psychological disturbance or
30
31 203 mental ill health) were explored with the use of ordinal logistic regression models. Results were
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33 204 expressed as increased risk (odds ratio and corresponding 95% confidence intervals) of being in a
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35 205 highest category of each item of the GHQ-12 for those MPs with a work role outside parliament were
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37 206 compared to those without such an external role.

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41 207 In addition, linear regression models were employed to explore the mean difference in the GHQ-12
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43 208 total scores for those MPs who had additional employment outside Parliament, and for those who did
44
45 209 not. All models were adjusted for the following potential confounders identified a priori: age, sex and
46
47 210 educational status. Age-sex standardised inverse probability weights were employed for all linear and
48
49 211 ordinal regression models.

52 53 212 **Patient and Public Involvement**

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55
56 213 Daniel Poulter, MP, was involved at all stages of the study and is co-author of the paper. Other
57
58 214 parliamentarians and staff of the Parliamentary Health and Wellbeing Service were consulted at the
59
60

215 planning and design stages, as well as at the interpretations of the findings and dissemination stages
216 of the study.

217 RESULTS

218 Questionnaires were returned by 146 respondents (22.4%) of the 650 MPs. Median time to complete
219 the survey was 4 minutes (IQR: 3 to 5). Most respondents were male (63%), with an undergraduate
220 (44%) or a postgraduate degree (36%) or doctorate (2%). Most were between 41 and 60 years old
221 (66%), and most did not work outside parliament (81%) (see Table 1).

222 **Table 1: Demographic characteristics of UKPMH participants**

	MP sample (N=146)	Total Health Survey for England sample (N=7871)
	n (%)	n (%)
Below 40 years old	27 (18%)	4014 (51%)
Female	54 (36%)	4385 (55%)
Higher education degree	119 (82%)	888 (11.3%)
Knowledge on how to access to mental health support	65 (45%)	n/a
Unaware of parliamentary well-being service	112 (77%)	n/a
Willing to discuss mental health problems with whips	70 (48%)	n/a
Willing to discuss mental health problems with other MPs	76 (52%)	n/a
Presence of CMD (according to ≥ 4 cut point on the GHQ-12 total score)	49 (34%)	2902 (26%)

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224

225 Mental health of MPs and the HSE 2014 comparator groups

226 Table 2 presents weighted proportion estimates and corresponding 95% confidence intervals of the
227 UKPMH sample and the four different predetermined HSE 2014 occupational and sociodemographic
228 comparator groups (EN, CM, AM, HIG). For each item of the GHQ-12, the UKPMH sample presented a
229 higher weighted proportion of participants who had lower levels of concentration, were losing sleep
230 because of worry, were feeling less useful, were less capable of making decisions, and were feeling
231 under constant strain, compared to the four HSE 2014 occupational and sociodemographic
232 comparison groups (p-values of chi-square test <0.001).

233 In addition, a higher weighted proportion of MPs could not overcome difficulties, were less able to
 234 enjoy normal day to day activities, were less able to face up to their problems, reported losing
 235 confidence in themselves, or feeling unhappy and depressed, and more individual MPs considered
 236 themselves to be a worthless person (p-values of chi-square test <0.001). Compared to the HSE 2014
 237 predetermined occupational and sociodemographic comparator groups, a higher weighted proportion
 238 of the MPs also reported being less able to feel reasonably happy (p-values of chi-square test <0.001).
 239 When we compared the weighted proportions of the three combined categories derived for the GHQ-
 240 12 total score that indicate the presence of probable mental ill health between the UKPMH and HSE
 241 2014 samples, we found that a higher proportion of MPs had probable mental ill health (weighted
 242 proportion: 34%; 95% CI: 27%, 42%), compared with EN (weighted proportion: 26%; 95% CI: 25%,
 243 27%), CM (weighted proportion: 22%; 95% CI: 18%, 26%), AM (weighted proportion: 23%; 95% CI:
 244 20%, 27%) and HIG (weighted proportion: 17%; 95% CI: 13% to 21%) (p-values of chi-square test
 245 <0.001) (see Table 2 and Figure 1). In addition, female MPs had higher rates of probable mental ill
 246 health (weighted proportion: 41%; 95% CI: 27%, 56%) compared to male MPs (weighted proportion:
 247 30%; 95% CI: 21%, 41%) (see Supplementary File, Table S1 and Table S2).

248 **Table 2: Descriptive characteristics of the 12 item GHQ (GHQ-12), and the four different predetermined HSE**
 249 **2014 occupational and sociodemographic comparator groups (EN, CM, AM, HIG).**

	n	WP	n	WP	n	WP	n	WP	n	WP
		95%CI		95% CI		95% CI		95% CI		95% CI
			MP	EN	CM		AM		HIG	
Item 1: Have you recently been able to concentrate on whatever you're doing?										
Better than usual	5	0.03 0.01 to 0.07	223	0.035 0.03 to 0.04	15	0.03 0.02 to 0.05	24	0.03 0.02 to 0.05	10	0.03 0.01 to 0.05
Same as usual	93	0.66 0.57 to 0.74	6073	0.85 0.84 to 0.86	394	0.88 0.84 to 0.91	602	0.88 0.85 to 0.91	371	0.9 0.87 to 0.93
Less than usual	40	0.26 0.19 to 0.34	771	0.1 0.10 to 0.11	38	0.08 0.06 to 0.11	53	0.08 0.06 to 0.10	29	0.07 0.05 to 0.10
Much less than usual	8	0.05 0.02 to 0.11	103	0.01 0.01 to 0.02	2	0.01 0.00 to 0.04	3	0.01 0.00 to 0.03	1	0.005 0.00 to 0.01
Item 2: Have you recently lost much sleep over worry?										
Not at all	24	0.18 0.12 to 0.26	2334	0.33 0.32 to 0.34	146	0.33 0.28 to 0.38	226	0.33 0.29 to 0.37	130	0.3 0.26 to 0.35
No more than usual	66	0.47 0.38 to 0.56	3573	0.5 0.49 to 0.51	246	0.54 0.49 to 0.59	370	0.55 0.50 to 0.59	220	0.56 0.51 to 0.61
Rather more than usual	38	0.26 0.19 to 0.34	1035	0.14 0.13 to 0.15	51	0.11 0.08 to 0.14	76	0.11 0.09 to 0.14	55	0.13 0.10 to 0.16

Much more than usual	18	0.1 0.06 to 0.16	240	0.03 0.02 to 0.04	7	0.02 0.01 to 0.03	11	0.02 0.01 to 0.03	6	0.01 0.00 to 0.03
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Item 3: Have you recently felt you were playing a useful part in things?

More so than usual	27	0.19 0.13 to 0.27	676	0.10 0.09 to 0.11	58	0.16 0.12 to 0.21	83	0.14 0.11 to 0.18	39	0.10 0.07 to 0.13
Same as usual	67	0.46 0.38 to 0.55	5696	0.8 0.79 to 0.81	362	0.77 0.72 to 0.81	548	0.78 0.74 to 0.81	339	0.82 0.77 to 0.85
Less useful than usual	43	0.3 0.22 to 0.39	625	0.08 0.07 to 0.09	26	0.07 0.05 to 0.10	47	0.08 0.06 to 0.10	30	0.08 0.05 to 0.12
Much less useful	9	0.05 0.02 to 0.11	157	0.02 0.01 to 0.03	3	0.005 0.00 to 0.02	4	0.005 0.00 to 0.02	3	0.01 0.00 to 0.02

Item 4: Have you recently felt capable of making decisions about things?

More so than usual	9	0.06 0.03 to 0.11	509	0.08 0.07 to 0.09	29	0.07 0.05 to 0.11	42	0.07 0.05 to 0.09	28	0.07 0.05 to 0.10
Same as usual	118	0.84 0.77 to 0.89	6162	0.85 0.84 to 0.86	403	0.88 0.84 to 0.91	613	0.89 0.86 to 0.91	367	0.89 0.85 to 0.92
Less so than usual	17	0.09 0.05 to 0.15	444	0.066 0.06 to 0.08	17	0.04 0.02 to 0.07	27	0.04 0.03 to 0.06	16	0.04 0.02 to 0.07
Much less capable	2	0.01 0.00 to 0.05	66	0.01 0.01 to 0.01	1	0 0.00 to 0.02	1	0 0.00 to 0.01	0	NA

Item 5: Have you felt under constant strain recently?

Not at all	9	0.07 0.03 to 0.13	1778	0.25 0.24 to 0.27	130	0.28 0.24 to 0.33	194	0.28 0.24 to 0.31	94	0.22 0.18 to 0.27
No more than usual	60	0.41 0.33 to 0.50	3974	0.56 0.54 to 0.57	243	0.54 0.49 to 0.59	374	0.55 0.51 to 0.59	236	0.57 0.51 to 0.62
Rather more than usual	53	0.38 0.30 to 0.47	1192	0.16 0.15 to 0.17	69	0.17 0.13 to 0.21	102	0.16 0.13 to 0.20	75	0.19 0.15 to 0.24
Much more than usual	24	0.14 0.09 to 0.21	225	0.03 0.02 to 0.03	7	0.02 0.01 to 0.03	12	0.02 0.01 to 0.03	6	0.02 0.01 to 0.04

Item 6: Have you recently felt you couldn't overcome your difficulties?

Not at all	41	0.29 0.21 to 0.37	2659	0.38 0.37 to 0.39	183	0.4 0.35 to 0.45	278	0.4 0.36 to 0.44	156	0.36 0.31 to 0.41
No more than usual	76	0.52 0.44 to 0.61	3762	0.52 0.51 to 0.53	234	0.53 0.47 to 0.58	352	0.52 0.48 to 0.56	229	0.57 0.52 to 0.62
Rather more than usual	24	0.16 0.10 to 0.23	602	0.08 0.08 to 0.09	31	0.07 0.05 to 0.10	48	0.07 0.05 to 0.09	23	0.06 0.04 to 0.09
Much more than usual	5	0.03 0.01 to 0.08	143	0.02 0.02 to 0.02	2	0.01 0.00 to 0.03	5	0.01 0.00 to 0.02	2	0 0.00 to 0.02

Item 7: Have you recently been able to enjoy your normal day to day activities?

More so than usual	6	0.03 0.01 to 0.06	376	0.06 0.05 to 0.07	35	0.11 0.07 to 0.16	47	0.09 0.06 to 0.13	23	0.05 0.04 to 0.08
Same as usual	88	0.61 0.52 to 0.69	5649	0.79 0.78 to 0.80	358	0.76 0.71 to 0.81	544	0.77 0.73 to 0.81	344	0.83 0.79 to 0.87
Less so than usual	36	0.27 0.19 to 0.36	924	0.12 0.12 to 0.13	47	0.11 0.08 to 0.14	78	0.12 0.09 to 0.15	40	0.11 0.08 to 0.15
Much less than usual	16	0.10 0.06 to 0.16	225	0.025 0.02 to 0.03	9	0.02 0.01 to 0.04	14	0.02 0.01 to 0.03	4	0.01 0.00 to 0.02

Item 8: Have you recently been able to face up to your problems?

More so than usual	9	0.07 0.04 to 0.13	340	0.06 0.05 to 0.07	19	0.06 0.04 to 0.11	30	0.06 0.04 to 0.09	17	0.05 0.03 to 0.08
Same as usual	118	0.80 0.71 to 0.86	6157	0.87 0.86 to 0.88	404	0.90 0.85 to 0.93	610	0.9 0.86 to 0.92	372	0.91 0.87 to 0.94
Less able than usual	19	0.14 0.08 to 0.21	510	0.07 0.06 to 0.07	15	0.03 0.02 to 0.06	27	0.04 0.03 to 0.06	17	0.04 0.02 to 0.07
Much less able	NA	NA	72	0.01 0.01 to 0.01	1	0.01 0.00 to 0.03	1	0.01 0.00 to 0.02	1	0.01 0.00 to 0.02

Item 9: Have you recently been feeling unhappy and depressed?

Not at all	43	0.3 0.22 to 0.38	2846	0.4 0.39 to 0.42	213	0.47 0.42 to 0.52	318	0.47 0.43 to 0.51	168	0.39 0.34 to 0.44
No more than usual	59	0.42 0.33 to 0.51	3119	0.44 0.43 to 0.45	178	0.42 0.37 to 0.47	271	0.41 0.37 to 0.46	202	0.52 0.47 to 0.58
Rather more than usual	44	0.29 0.21 to 0.37	911	0.13 0.12 to 0.15	44	0.1 0.08 to 0.14	70	0.11 0.08 to 0.13	34	0.08 0.06 to 0.11
Much more than usual	NA	NA	206	0.03 0.01 to 0.04	3	0.01 0.00 to 0.02	7	0.01 0.01 to 0.03	3	0.01 0.00 to 0.02

Item 10: Have you recently been losing confidence in yourself?

Not at all	53	0.37 0.29 to 0.46	3192	0.45 0.44 to 0.47	232	0.52 0.47 to 0.58	349	0.52 0.48 to 0.56	201	0.47 0.42 to 0.53
No more than usual	65	0.45 0.36 to 0.54	2979	0.42 0.41 to 0.43	175	0.4 0.35 to 0.45	261	0.39 0.35 to 0.43	174	0.44 0.39 to 0.50
Rather more than usual	28	0.18 0.13 to 0.26	739	0.1 0.10 to 0.11	24	0.06 0.04 to 0.10	46	0.08 0.06 to 0.10	32	0.08 0.06 to 0.12
Much more than usual	NA	NA	170	0.02 0.02 to 0.03	5	0.01 0.00 to 0.02	9	0.015 0.01 to 0.02	NA	NA

Item 11: Have you recently been thinking of yourself as a worthless person?

Not at all	86	0.58 0.49 to 0.66	4689	0.66 0.65 to 0.68	323	0.73 0.68 to 0.77	480	0.72 0.68 to 0.75	285	0.69 0.64 to 0.74
No more than usual	44	0.31 0.24 to 0.40	1879	0.26 0.25 to 0.27	95	0.22 0.18 to 0.26	154	0.23 0.20 to 0.27	107	0.27 0.23 to 0.32
Rather more than usual	16	0.11 0.06 to 0.18	378	0.05 0.05 to 0.06	16	0.05 0.03 to 0.08	26	0.05 0.03 to 0.07	13	0.03 0.02 to 0.06
Much more than usual	NA	N A	133	0.02 0.02 to 0.02	3	0.01 0.00 to 0.02	6	0.01 0.00 to 0.02	2	0.01 0.00 to 0.02

Item 12: Have you recently been feeling reasonably happy, all things considered?

More so than usual	16	0.09 0.05 to 0.15	698	0.11 0.10 to 0.11	45	0.13 0.09 to 0.18	66	0.12 0.09 to 0.15	39	0.11 0.08 to 0.14
About same as usual	96	0.67 0.59 to 0.75	5633	0.79 0.78 to 0.80	364	0.8 0.75 to 0.85	553	0.81 0.77 to 0.84	346	0.84 0.80 to 0.88
Less so than usual	34	0.24 0.17 to 0.32	611	0.08 0.08 to 0.09	25	0.05 0.04 to 0.08	42	0.06 0.04 to 0.08	20	0.05 0.03 to 0.08
Much less than usual	NA	NA	137	0.02 0.02 to 0.02	4	0.01 0.00 to 0.03	7	0.01 0.01 to 0.03	2	0 0.00 to 0.02

Presence of probable mental ill health

No evidence of probable mental ill health	35	0.25 0.18 to 0.34	4256	0.53 0.52 to 0.55	290	0.58 0.53 to 0.62	446	0.58 0.54 to 0.62	254	0.56 0.51 to 0.61
Less than optimal mental ill health	62	0.40 0.32 to 0.49	1620	0.2 0.19 to 0.21	97	0.2 0.17 to 0.25	140	0.19 0.16 to 0.22	117	0.27 0.23 to 0.32
Probable mental ill health	49	0.34 0.27 to 0.43	2141	0.26 0.25 to 0.27	108	0.22 0.18 to 0.26	170	0.23 0.20 to 0.27	74	0.17 0.13 to 0.21

Weighted proportion (WP) with the corresponding 95% Confidence Intervals (CI).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: high-income group (HSE 2014).

255 **Characteristics of respondents in comparison to all MPs**

256 Compared with all 650 MPs, those who participated were younger (18 %, n=27 vs. 16% of total MP
257 population were below 40 years old), more likely to be female (37%, n=54 of the UKPMH sample vs
258 30% of total MPs population were female) in relation to the gender distribution of the total number
259 of MPs, and more educated (81%, n=119) of the UKPMH sample had a university degree vs. 76% of
260 total MP population.

261

262 **Awareness of mental health support services**

263 Most MPs were not aware of the mental health services provided by the Parliamentary Health and
264 Wellbeing Service within parliament. Most MPs (55 %) did not know how to access any mental health
265 support at Parliament (see Figure 2). When asked whether they felt the Parliamentary Health and
266 Wellbeing Service currently offered sufficient support, a large majority of MPs (77%) were unaware of
267 what options are currently offered by the service and only 23% were aware that support was
268 sufficiently available (see Figure 3).

269 (Figures 2, 3, 4, 5 about here)

270 **Willingness to disclose poor mental health**

271 Most MPs who took part in this survey were not willing to discuss mental health problems with their
272 party whips (52%), and only a small majority of MPs would feel able to talk with other MPs about their
273 mental health (52%) (see Figures 4 and 5). After adjusting for age, sex and educational status, we
274 found evidence that MPs who were willing to discuss their mental health with their party whips or
275 fellow MPs, had a reduced risk of CMDs (willing to discuss with whips: adjusted OR: 0.32; (95% CI:
276 0.16, 0.31), or discuss with fellow MPs: adjusted OR: 0.57; (95% CI: 0.30, 0.99) .

277 **Additional employment outside parliament**

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3 278 We found no evidence of an association between having additional employment outside Parliament
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5 279 with the individual GHQ-12 items, or an increased total GHQ score indicating poor mental health (see
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7 280 Supplementary File, Table S3).
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10 281 **DISCUSSION**

11 12 13 282 **Principal findings**

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16 283 The main findings of this study were: (1) strong evidence to indicate that a higher proportion of MPs
17
18 284 had poor mental health than among the general population, than among the defined occupational
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20 285 and socio-demographic comparator groups (EN, CM, AM, HIG). The primary study hypothesis was
21
22 286 therefore confirmed. (2) Most MPs were not aware of Parliamentary mental health and support
23
24 287 services. (3) Most MPs were not willing to discuss their mental health with party whips, and only a
25
26 288 small majority would be happy to discuss mental health issues with other MPs. (4) Having employment
27
28 289 outside Parliament, in addition to the role of MP, is not linked with increased risk for mental ill health.
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32
33 290 The Parliamentary Health and Wellbeing Service is the occupational health service provided since 2013
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35 291 inside the House of Commons. It aims to support all staff and MPs in developing a healthy and safe
36
37 292 working environment, and encourages MPs to adopt better attitudes and behaviour towards their
38
39 293 own physical health and mental health.[25] Despite the service being in place for almost four years,
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41 294 the Parliamentary Health and Wellbeing Service had reported low numbers of MPs requesting
42
43 295 support. This study confirms this reluctance to seek help in finding that a majority of MPs are unaware
44
45 296 of the service or how to access it. Reasons for this might be insufficient advertising of the support
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47 297 options offered and location of the services, as well as anticipated stigma and discrimination among
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49 298 MPs.[26]
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55 56 57 300 **Strengths and weaknesses of the study**

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3 301 The study has several limitations and potential biases. First, the response rate was relatively low
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5 302 (22.4%). Given the intense work loads of MPs, this may have been partly due to the additional work
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7 303 load of completing the survey, even though the median time to complete survey was only 4 minutes.
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10 304 Notably, a possible fear of being identified, of stigmatisation, and of the potential reputational damage
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12 305 associated with adverse media coverage may have influenced the response rate. We tried to reduce
13
14 306 these biases by promoting the survey in Parliament, by sending several reminders, and by stressing
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16 307 the brevity, as well as the anonymity of the survey. Generally, MPs are a difficult survey population to
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18 308 engage, which has also been confirmed in a 2008 internal UK Parliament survey, where only 14.5% (94
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21 309 MPs) responded.[27]

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24 310 Secondly, it is also possible that MPs who responded to the online survey may have increased stress
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26 311 or mental ill health and that therefore a greater number of them were willing to complete the survey.
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28 312 A potential self-selection bias may therefore be present in the UKPMH sample. However, there is also
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30 313 a potential risk of under-reporting from people who might be reluctant to take part in the study,
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32 314 because they are affected by mental health problems, or because of the stigma associated with the
33
34 315 topic.

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38 316 Respondents tended to be younger in relation to the age distribution of all MPs (18% of the UKPMH
39
40 317 sample vs. 16% of total MP population were below 40 years old), and more likely to be female (36%
41
42 318 female of the UKPMH sample vs 30% of total MPs population were female) in relation to the gender
43
44 319 distribution of the total number of MPs and had a university degree (81% of the UKPMH sample vs
45
46 320 76% of total MP population). We did not assess marital or cohabitation status, as this would have
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48 321 increased the risk of identifiability of MPs, and this may have therefore also adversely affected the
49
50 322 response rate.

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55 323 Thirdly, comparing MPs to other occupational and socio-demographic groups within a population
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57 324 presents challenges. We considered comparing the UKPMH sample to the UK Health and Safety
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59 325 Executive's Labour Force Survey (LFS), which provides annual data on rates of mental disorder by
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3 326 occupation.[28] However, the LFS relies on random household sampling is poorly suited to
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5 327 extrapolating meaningful data for a relatively small group 650 UK MPs. Published LFS data lacks
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7 328 sufficient granularity to be able to analyse the prevalence of mental disorders at an occupation-
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10 329 specific level, which for politicians would be 'elected officers and representatives'.[29] Given the
11
12 330 unique features of political careers, including the diverse backgrounds from which politicians may be
13
14 331 drawn, specific data relating to these generic occupational groupings are unlikely to be fully helpful in
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16 332 understanding why there is a higher burden of mental ill health. In this sample we found that having
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18 333 employment outside Parliament, and in addition to the role of MP, does not seem to constitute an
19
20 334 increased risk for mental ill health. However, we regard this outcome with caution as this study may
21
22 335 be underpowered to test for this specific variable, as most participants (81%) did not have
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24 336 employment outside Parliament.
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28 337 **Comparison of results with earlier studies**

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31 338 When examining UK parliamentary working hours reform, research found high levels of physical and
32
33 339 emotional stress as a result of various aspects of political life such as additional work roles, extensive
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35 340 travel and job insecurity.[30] A longitudinal study in new UK MPs highlighted increased levels of stress
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37 341 post-election.[31] In 2008 the UK Parliament also conducted its own informal survey regarding
38
39 342 experience and perceptions of mental illness, which concluded that one in five MPs had a personal
40
41 343 experience of a mental health problem, and one in three felt stigma was a barrier to openness about
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43 344 mental health, yet no data on CMD were collected.[27] Given that work characteristics promoting
44
45 345 stress are associated with mental disorders,[32, 33] it may be reasonable to assume that rates of CMD
46
47 346 would be high in parliamentarians. However, no rigorous assessment has previously been conducted
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49 347 to investigate this issue.
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55 348 Selected studies have investigated mental health in politicians, and although they have drawn on
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57 349 biographical evidence, their findings are in line with the results of this study. One study rated 46
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59 350 statesmen and national leaders' biographies for psychopathology, and found increased rates for
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3 351 lifetime psychopathology, episodes of mental ill health, with only 15.2% of politicians showing no
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5 352 psychopathology at all.[34] A review of biographical sources looking at mental disorders in U.S.
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7 353 Presidents between 1776 and 1974, found that eighteen (49%) presidents met criteria indicative of
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9 354 psychiatric disorders.[35]
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13 355 This is the first study of assessment of mental health in members of Parliament of the UK House of
14
15 356 Commons using structured, validated scales. These findings indicate that MPs are more likely to
16
17 357 experience probable mental ill health and symptoms indicative of mental distress compared to the
18
19 358 general population, and compared with similar occupational and professional groups. In addition,
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21 359 most MPs are not aware of mental health support offered by the Parliamentary Health and Wellbeing
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23 360 service, or willing to disclose to their whips or other MPs. This leaves MPs who have experience of
24
25 361 mental ill health facing considerable difficulties without knowing how to access help.
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29 362 **Interpretation of the results**

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32 363 A number of studies have examined media and public reactions to politicians' actual or perceived
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34 364 mental health problems.[14-16] In an ever more hostile media environment, poor mental health can
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36 365 be regarded as a factor limiting politicians in their capacities. Stigma against people with mental
37
38 366 disorders is prevalent in all countries and all sectors of society. It was not until 2013 that the UK passed
39
40 367 the Mental Health (Discrimination) (No 2) Act 2013, which removed discriminatory provisions
41
42 368 permitting Members of Parliament (MPs) with mental health problems to be disqualified under certain
43
44 369 circumstances.[36] Subsequent to the Act, there have been more disclosures from politicians about
45
46 370 personal mental health problems. However, given that the results of this study showed that only 48%
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48 371 of surveyed MPs felt able to talk to their party whips, and only about half (52%) felt able to talk to
49
50 372 another MP about their mental health, stigma and self-stigma about mental health appears to remain
51
52 373 a powerful barrier to seeking help and support among Members of the UK House of Commons.
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3 374 The power of disclosure as a catalyst for overcoming stigma has been demonstrated in 1998 when
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5 375 Kjell Magne Bondevik, then Prime Minister of Norway, spoke publicly about his experience of
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7 376 depression. His disclosure was empathetically received by the media and by the public.[37]
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9
10 377 In 2012, during a House of Commons debate on mental health, four MPs disclosed their own mental
11
12 378 health experiences. This eventually paved the way to providing MPs with access to mental health
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14 379 services in Westminster. Consequently, the Parliamentary Health and Wellbeing Service was created
15
16 380 in 2013 and operates a mental health referral service as well as providing general medical advice,
17
18 381 support and guidance to MPs and other staff working at Parliament. The service is nurse-led and is
19
20 382 supported by one occupational health doctor for 3 days each week. It does not offer the more
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22 383 comprehensive health service that is often provided by General Practice in the United Kingdom. Our
23
24 384 findings show poor awareness amongst MPs of the Parliamentary Health and Wellbeing Service and
25
26 385 how to access it. This may be related to the restricted times that the service operates, or that the
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28 386 service is not located on the main Parliamentary Estate. These findings support the need for an
29
30 387 increased mental health support for MPs and raising awareness about the Parliamentary Health and
31
32 388 Wellbeing Service. They also support the need to for mental health stigma and self-stigma reduction
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34 389 amongst MPs.
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391 **Implications for future research**

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46 392 This is an initial study into the mental health of MPs, and further work is needed to assess the key
47
48 393 issues identified, and to assess trends in the mental health of MPs over time. Our findings are only a
49
50 394 starting point, but they reveal MPs' mental health problems and the need to properly assess them. A
51
52 395 more granular assessment of mental health problems, including rates and consequences of alcohol
53
54 396 and substance use-related problems, as well as cognitive impairment would be needed to provide a
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56 397 more in-depth picture. In terms of prevention, a better understanding of the causes for mental health
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3 398 problems and specific risk factors in MPs would be informative, and investigating effective
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5 399 mechanisms and strategies for prevention and increasing resilience. There is a need for better
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7 400 promotion of mental health support, such as the Parliamentary Health and Wellbeing Service, and for
8
9 401 additional information and support for MPs in accessing the full range of mental health care. Due to
10
11 402 their working routine and hours, MPs spend a majority of their working time far from the support
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13 403 provided by the NHS services in their own constituencies. In addition to their high-performance work
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15 404 life, this adds to the increased stress on MPs' mental health. It is also why strengthening the
16
17 405 Parliamentary Health and Wellbeing Service could offer a specifically relevant support function.
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19 406 Research is also needed on mental health of other parliamentary staff, to identify their needs, and to
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21 407 evaluate their awareness of, and access to, the Parliamentary Health and Wellbeing Service and other
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23 408 relevant services.
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30 31 410 **CONCLUSION AND POLICY IMPLICATIONS**

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34 411 MPs have a vital role to play in the UK democracy: in making and scrutinising the legislation that
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36 412 governs the country, as well as in representing the interests of their constituents and the nation. This
37
38 413 study has found the people in these important roles experience significantly higher levels of mental ill
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40 414 health when compared to the general population, and when compared to other senior executive and
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42 415 managerial groups. Most MPs do not feel that they have adequate mental health support, and they
43
44 416 lack knowledge of how to access the mental health services that are available to them. Most MPs are
45
46 417 not able to discuss their mental health problems with their whips or other MPs. These findings indicate
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48 418 that better support is required both to prevent mental health problems among MPs and to ensure
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50 419 rapid and effective care when needed, to support MPs in their vital work for the people they serve.
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463 [https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/health-survey-for-england-2014)
464 [england/health-survey-for-england-2014](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/health-survey-for-england-2014). Due to the sensibility of the data, and in order to ensure full
465 anonymity, confidentiality and data protection for the participants, the full survey data cannot be
466 made accessible to the public.

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3 467 **Transparency declaration:** The corresponding author affirms that the manuscript is an honest,
4
5 468 accurate, and transparent account of the study being reported; that no important aspects of the study
6
7 469 have been omitted; and that any discrepancies from the study as planned have been explained.
8
9

10 470 **Contributors:** DP and GT conceived the original idea for the study, which was then discussed with NV.
11
12 471 NV coordinated the study. All authors contributed to the design of the study. NV and FD conducted
13
14 472 the literature review. DP and NV collected the data. IB conducted design and analysis of the data. JD
15
16 473 supported the design of the data analysis, and contributed throughout the design and writing up of
17
18 474 the study. NV led the writing of the manuscript, and all authors contributed and critically revised it.
19
20 475 All authors have given their approval for the publication of this manuscript and agree to be
21
22 476 accountable for all aspects of the work to ensure that the questions related to the accuracy or integrity
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24 477 of any part of the work are appropriately investigated and resolved.
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3 574 **List of figures and legends**
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5 575

6 576 **Figure 1:**

7 577 **Age-Sex standardised prevalence estimates and 95% Confidence Intervals of UKPMH and of specific**
8 578 **population groups of HSE 2014 for the three different categories of Common Mental Disorders**
9 579 **(CMD).**
10

11 580

12 581 Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate

13 582 Managers (HSE 2014); AM: All managers (HSE 2014); HIG: High-income group (HSE 2014).
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17 585 **Figure 2:**

18 586 **Access to the mental health (MH) support of the Parliamentary Health and Wellbeing Service**
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21 588 NB: All p-values <0.001.
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26 593 **Figure 3:**

27 593 **Awareness of the mental health (MH) support of the Parliamentary Health and Wellbeing Service**
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29 595 NB: All p-values <0.001
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34 600 **Figure 4:**

35 600 **Willingness to talk to party whips**
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37 602 NB: All p-values <0.001
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42 607 **Figure 5:**

43 607 **Willingness to talk to other MPs**
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45 609 NB: All p-values <0.001
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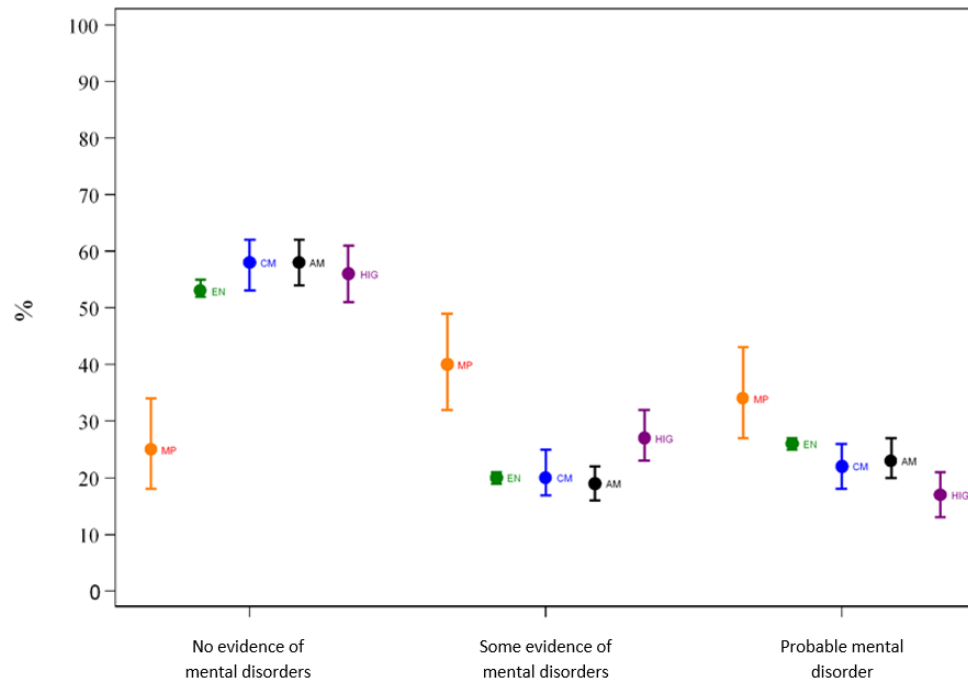


Figure 1: Age-Sex standardised prevalence estimates and 95% Confidence Intervals of UKPMH and of specific population groups of HSE 2014 for the three different categories of Common Mental Disorders (CMD).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: High-income group (HSE 2014).

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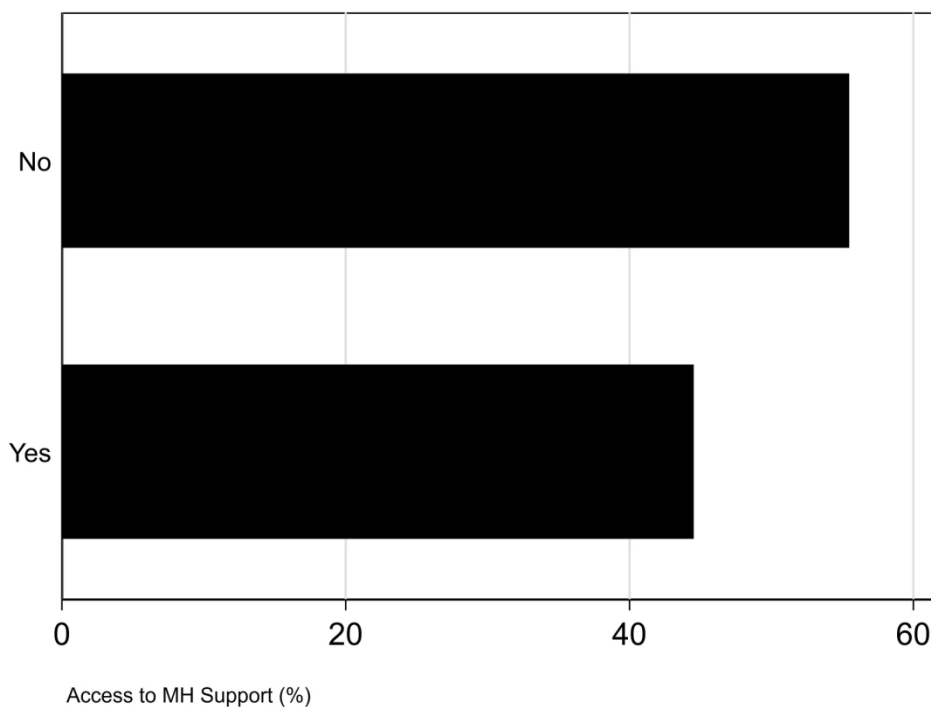
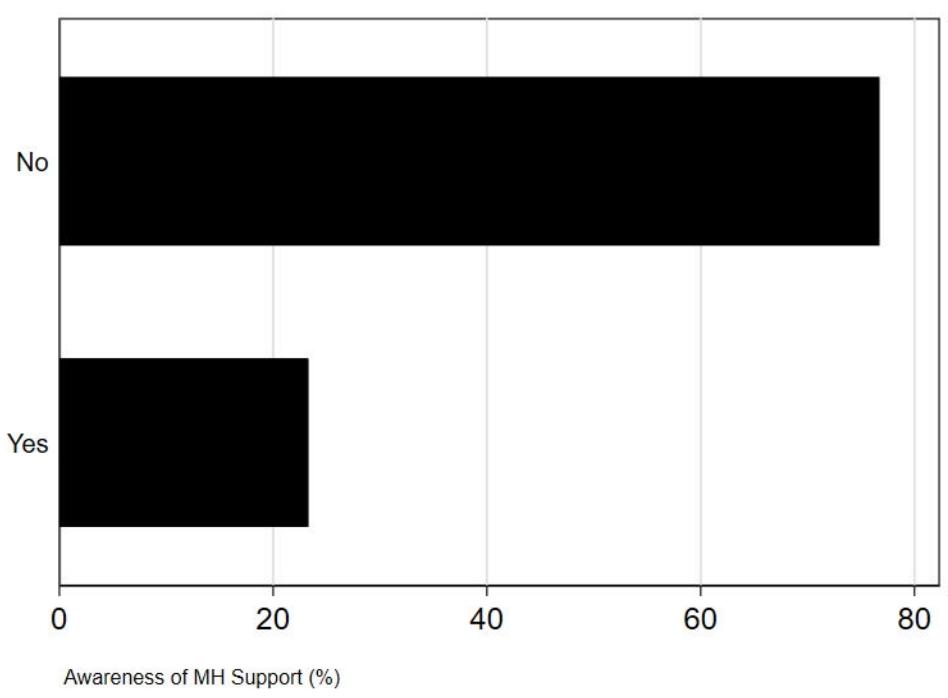


Figure 2: Access to the mental health (MH) support of the Parliamentary Health and Wellbeing Service

NB: All p-values <0.001.

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Awareness of the mental health (MH) support of the Parliamentary Health and Wellbeing Service

NB: All p-values <0.001

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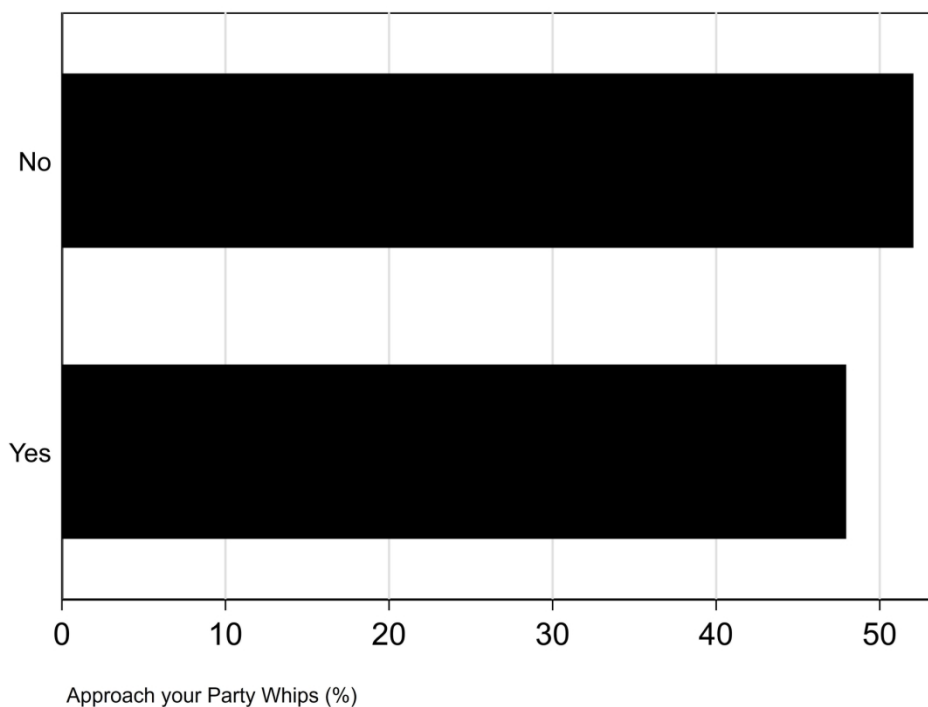


Figure 4: Willingness to talk to party whips

NB: All p-values <0.001.

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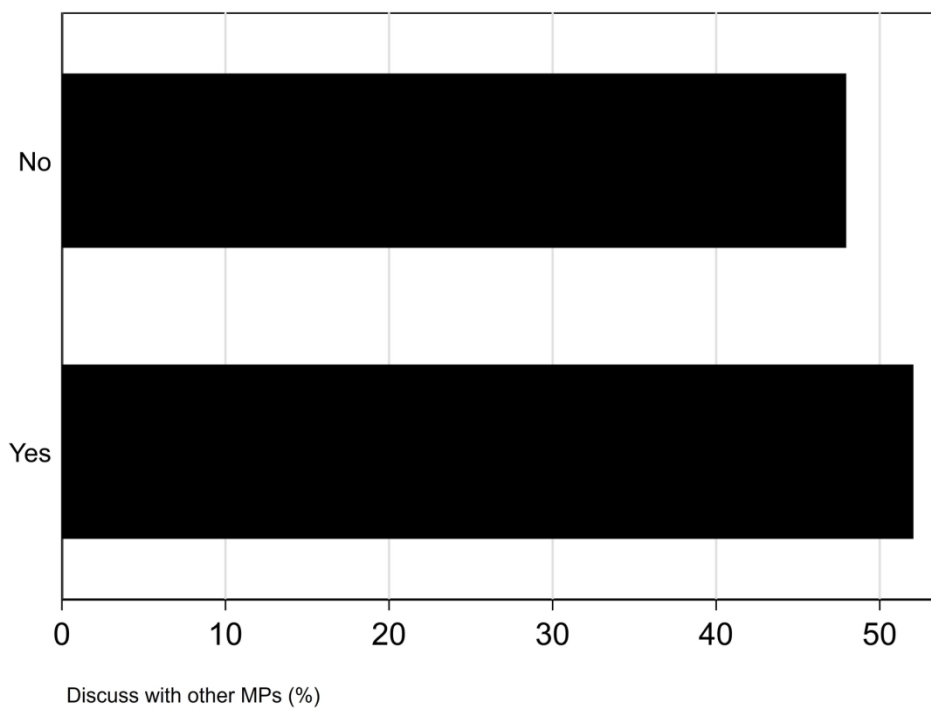


Figure 5: Willingness to talk to other MPs

NB: All p-values <0.001.

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Supplementary File (Online)

1. FULL LIST OF QUESTIONS

UKMPH Survey 2016: list of demographic questions

1. What age group are you?
 - Age 21 to 30
 - Age 31 to 40
 - Age 41 to 50
 - Age 51 to 60
 - Age 61 to 70
 - Age 70 +
2. How long have you been a Westminster MP?
 - Less than 5 years
 - 5 to 10 years
 - 11 to 15 years
 - 16 to 20 years
 - 21 to 25 years
 - More than 25 years
3. What is your highest level of educational attainment?
 - GCSE / O Level
 - A Level / Scottish Higher
 - Vocational Qualifications (BTEC, NVQ, HNC etc)
 - Undergraduate Degree (BA, BSc, or equivalent)
 - Post Graduate (MA, MSc, or equivalent)
 - Doctorate (PhD or equivalent)
4. What is your gender?
 - Male
 - Female
5. Do you have a job / role outside of Parliament?
 - Yes - Paid
 - Yes - Unpaid
 - No

UKMPH Survey 2016: List of questions on inhouse mental health services

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6. Do you know how to access Mental Health Support through the Parliamentary Health and Wellbeing Service?
 - Yes
 - No
 7. Does the Parliamentary Health and Wellbeing Service currently offer enough support to meet your mental health needs?
 - Yes
 - Somewhat
 - No
 8. Would you be happy to approach your Party Whip's office if you were experiencing mental health problems?
 - Yes
 - No
 9. Would you be happy to discuss with other MPs if you were experiencing mental health problems?
 - Yes
 - No

2. TABLE S1

Table S1: Descriptive characteristics of the 12 item GHQ (GHQ-12) and the four different predetermined HSE 2014 occupational and sociodemographic comparator groups (EN, CM, AM, HIG) - for Males

	n	WP	n	WP	n	WP	n	WP	n	WP
		MP		EN		CM		AM		HIG
		95% CI		95% CI		95% CI		95% CI		95% CI
Age										
21-30	2	0.00 0.00 to 0.01	515	0.22 0.20 to 0.23	26	0.19 0.13 to 0.27	35	0.17 0.12 to 0.23	32	0.18 0.13 to 0.25
31-40	15	0.10 0.06 to 0.16	558	0.17 0.16 to 0.19	28	0.12 0.08 to 0.17	46	0.14 0.10 to 0.18	59	0.23 0.18 to 0.29
41-50	27	0.31 0.22 to 0.42	702	0.19 0.18 to 0.20	56	0.22 0.17 to 0.28	74	0.19 0.16 to 0.24	57	0.19 0.15 to 0.25
51-60	31	0.49 0.38 to 0.60	606	0.16 0.15 to 0.17	38	0.17 0.13 to 0.23	66	0.20 0.15 to 0.24	43	0.14 0.10 to 0.18
61-70	15	0.10 0.06 to 0.17	632	0.14 0.13 to 0.15	51	0.17 0.13 to 0.22	78	0.18 0.14 to 0.22	45	0.13 0.10 to 0.18
70 +	2	0.00 0.00 to 0.01	565	0.12 0.11 to 0.13	37	0.12 0.09 to 0.16	60	0.13 0.10 to 0.16	46	0.13 0.09 to 0.17
Educational attainment										
NVQ4/NVQ5/ Degree	0	0.79 0.69 to 0.87	931	0.28 0.26 to 0.30	98	0.42 0.35 to 0.49	122	0.34 0.29 to 0.40	214	0.77 0.72 to 0.82
Higher ed below degree	72	0.09 0.04 to 0.17	524	0.13 0.12 to 0.14	29	0.13 0.09 to 0.19	46	0.13 0.09 to 0.17	29	0.08 0.06 to 0.12
NVQ3/GCE A Level	8	0.03 0.01 to 0.08	504	0.16 0.15 to 0.17	36	0.16 0.11 to 0.22	58	0.18 0.14 to 0.23	20	0.08 0.05 to 0.13
NVQ2/GCE O Level	3	0.10 0.05 to 0.19	631	0.18 0.17 to 0.20	41	0.17 0.13 to 0.23	66	0.18 0.14 to 0.23	13	0.04 0.02 to 0.07
NVQ1/CSE other grade	9	N/A	190	0.05 0.04 to 0.06	5	0.03 0.01 to 0.07	9	0.03 0.01 to 0.06	2	0.01 0.00 to 0.02
Foreign/other	0	N/A	9	0.00 0.00 to 0.01	0	0.09 0.06 to 0.14	1	0.01 0.00 to 0.04	0	0.01 0.00 to 0.03
No qualification	0	N/A	768	0.20 0.19 to 0.21	26	N/A	56	0.14 0.10 to 0.18	4	N/A
GHQ -12										
Item 1: Have you recently been able to concentrate on whatever you're doing?										
Better than usual	2	0.02 0.00 to 0.10	100	0.04 0.03 to 0.05	5	0.03 0.01 to 0.07	9	0.03 0.01 to 0.06	7	0.03 0.01 to 0.06
Same as usual	61	0.68 0.56 to 0.77	2746	0.87 0.85 to 0.88	193	0.89 0.83 to 0.94	290	0.90 0.85 to 0.93	239	0.92 0.87 to 0.95
Less than usual	26	0.26 0.18 to 0.37	284	0.08 0.07 to 0.09	12	0.06 0.03 to 0.11	18	0.06 0.04 to 0.10	14	0.05 0.03 to 0.09
Much less than usual	3	0.04 0.01 to 0.12	40	0.01 0.01 to 0.02	2	0.02 0.00 to 0.08	3	0.02 0.00 to 0.06	0	N/A
Item 2: Have you recently lost much sleep over worry?										
Not at all	18	0.19 0.12 to 0.30	1211	0.38 0.36 to 0.40	81	0.39 0.32 to 0.46	128	0.39 0.34 to 0.45	92	0.33 0.28 to 0.40
No more than usual	42	0.47 0.36 to 0.58	1519	0.48 0.46 to 0.50	114	0.53 0.45 to 0.60	166	0.52 0.46 to 0.58	136	0.56 0.49 to 0.62
Rather more than usual	26	0.27 0.19 to 0.38	352	0.11 0.10 to 0.12	15	0.07 0.04 to 0.12	23	0.08 0.05 to 0.11	30	0.11 0.07 to 0.15
Much more than usual	6	0.06 0.03 to 0.14	89	0.03 0.02 to 0.03	2	0.01 0.00 to 0.04	3	0.01 0.00 to 0.04	2	0.01 0.00 to 0.02
Item 3: Have you recently felt you were playing a useful part in things?										

More so than usual	14	0.15 0.09 to 0.25	291	0.10 0.09 to 0.11	26	0.13 0.09 to 0.19	35	0.11 0.08 to 0.16	27	0.10 0.07 to 0.15
Same as usual	47	0.49 0.38 to 0.60	2533	0.80 0.79 to 0.82	171	0.78 0.71 to 0.84	257	0.78 0.73 to 0.83	215	0.82 0.77 to 0.87
Less useful than usual	28	0.31 0.22 to 0.42	274	0.08 0.07 to 0.09	15	0.09 0.05 to 0.15	27	0.10 0.07 to 0.15	16	0.07 0.04 to 0.11
Much less useful	3	0.04 0.01 to 0.13	66	0.02 0.01 to 0.03	0	N/A	1	0.00 0.00 to 0.02	2	0.01 0.00 to 0.03

Item 4: Have you recently felt capable of making decisions about things?

More so than usual	5	0.05 0.02 to 0.13	231	0.08 0.07 to 0.10	13	0.08 0.04 to 0.14	20	0.07 0.04 to 0.11	20	0.07 0.05 to 0.12
Same as usual	77	0.86 0.76 to 0.92	2745	0.86 0.84 to 0.87	193	0.88 0.81 to 0.93	290	0.89 0.84 to 0.92	232	0.89 0.84 to 0.92
Less so than usual	10	0.09 0.05 to 0.18	171	0.05 0.04 to 0.06	6	0.04 0.02 to 0.09	10	0.04 0.02 to 0.08	8	0.04 0.02 to 0.08
Much less capable	0	N/A	23	0.01 0.00 to 0.01	0	N/A	0	N/A	0	N/A

Item 5: Have you felt under constant strain recently?

Not at all	8	0.08 0.04 to 0.17	837	0.27 0.25 to 0.29	68	0.32 0.25 to 0.39	106	0.32 0.27 to 0.38	64	0.23 0.18 to 0.29
No more than usual	42	0.43 0.33 to 0.54	1773	0.56 0.54 to 0.58	114	0.53 0.45 to 0.60	168	0.52 0.46 to 0.58	143	0.54 0.47 to 0.60
Rather more than usual	33	0.38 0.28 to 0.50	466	0.14 0.13 to 0.16	27	0.15 0.10 to 0.21	42	0.15 0.11 to 0.20	49	0.21 0.16 to 0.28
Much more than usual	9	0.10 0.05 to 0.19	92	0.03 0.02 to 0.03	3	0.01 0.00 to 0.03	4	0.01 0.00 to 0.02	4	0.02 0.01 to 0.06

Item 6: Have you recently felt you couldn't overcome your difficulties?

Not at all	31	0.31 0.22 to 0.42	1191	0.39 0.37 to 0.40	88	0.41 0.34 to 0.49	138	0.43 0.37 to 0.49	96	0.34 0.29 to 0.41
No more than usual	45	0.52 0.41 to 0.63	1680	0.52 0.51 to 0.54	107	0.51 0.43 to 0.58	155	0.49 0.43 to 0.54	148	0.59 0.52 to 0.65
Rather more than usual	14	0.15 0.09 to 0.24	241	0.07 0.06 to 0.08	15	0.07 0.04 to 0.12	24	0.08 0.05 to 0.12	16	0.07 0.04 to 0.11
Much more than usual	2	0.02 0.01 to 0.09	55	0.02 0.01 to 0.02	2	0.01 0.00 to 0.06	3	0.01 0.00 to 0.04	0	N/A

Item 7: Have you recently been able to enjoy your normal day to day activities?

More so than usual	1	0.01 0.00 to 0.05	158	0.06 0.05 to 0.07	15	0.09 0.05 to 0.15	23	0.08 0.05 to 0.13	12	0.04 0.02 to 0.07
Same as usual	58	0.61 0.50 to 0.71	2537	0.80 0.78 to 0.82	174	0.79 0.71 to 0.85	256	0.77 0.71 to 0.82	220	0.84 0.78 to 0.88
Less so than usual	26	0.31 0.22 to 0.42	382	0.12 0.10 to 0.13	18	0.10 0.06 to 0.17	33	0.12 0.08 to 0.17	27	0.12 0.08 to 0.18
Much less than usual	7	0.07 0.03 to 0.15	88	0.02 0.02 to 0.03	4	0.02 0.01 to 0.05	8	0.02 0.01 to 0.05	1	0.00 0.00 to 0.02

Item 8: Have you recently been able to face up to your problems?

More so than usual	7	0.08 0.04 to 0.16	154	0.06 0.05 to 0.07	9	0.06 0.03 to 0.12	15	0.06 0.03 to 0.10	9	0.04 0.02 to 0.08
Same as usual	73	0.78 0.68 to 0.86	2746	0.87 0.86 to 0.88	191	0.90 0.84 to 0.94	287	0.90 0.86 to 0.93	235	0.91 0.86 to 0.95
Less able than usual	12	0.14 0.08 to 0.24	198	0.06 0.05 to 0.07	6	0.03 0.01 to 0.06	10	0.04 0.02 to 0.07	12	0.05 0.02 to 0.09
Much less able	0	N/A	29	0.01 0.01 to 0.01	1	0.01 0.00 to 0.06	1	0.01 0.00 to 0.04	0	N/A

Item 9: Have you recently been feeling unhappy and depressed?

Not at all	29	0.31 0.21 to 0.42	1263	0.41 0.39 to 0.43	96	0.46 0.38 to 0.53	151	0.48 0.42 to 0.54	104	0.38 0.31 to 0.44
No more than usual	38	0.43 0.32 to 0.54	1420	0.45 0.43 to 0.47	90	0.43 0.36 to 0.51	130	0.41 0.35 to 0.47	129	0.54 0.47 to 0.60
Rather more than usual	25	0.26 0.18 to 0.37	366	0.12 0.10 to 0.13	20	0.11 0.07 to 0.17	28	0.10 0.07 to 0.14	23	0.09 0.06 to 0.13

Much more than usual	0	N/A	75	0.02 0.02 to 0.03	1	0.00 0.00 to 0.03	3	0.01 0.00 to 0.04	0	N/A
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Item 10: Have you recently been losing confidence in yourself?

Not at all	38	0.39 0.29 to 0.51	1510	0.49 0.47 to 0.51	113	0.53 0.46 to 0.61	176	0.55 0.49 to 0.61	132	0.48 0.42 to 0.55
No more than usual	39	0.43 0.33 to 0.54	1290	0.41 0.39 to 0.43	80	0.39 0.32 to 0.47	116	0.37 0.32 to 0.43	106	0.44 0.38 to 0.51
Rather more than usual	15	0.17 0.10 to 0.28	263	0.09 0.07 to 0.10	11	0.07 0.04 to 0.13	17	0.07 0.04 to 0.12	18	0.07 0.04 to 0.12
Much more than usual	0	N/A	58	0.02 0.01 to 0.02	1	0.00 0.00 to 0.03	2	0.01 0.00 to 0.03	0	N/A

Item 11: Have you recently been thinking of yourself as a worthless person?

Not at all	54	0.57 0.45 to 0.67	2128	0.69 0.67 to 0.70	152	0.72 0.65 to 0.78	231	0.73 0.67 to 0.78	184	0.70 0.64 to 0.76
No more than usual	29	0.32 0.23 to 0.43	810	0.25 0.24 to 0.27	43	0.20 0.15 to 0.27	64	0.20 0.16 to 0.26	65	0.27 0.21 to 0.34
Rather more than usual	9	0.11 0.06 to 0.20	134	0.04 0.04 to 0.05	12	0.08 0.04 to 0.14	17	0.07 0.04 to 0.11	6	0.02 0.01 to 0.05
Much more than usual	0	N/A	53	0.02 0.01 to 0.02	0	N/A	1	0.00 0.00 to 0.03	1	0.00 0.00 to 0.03

Item 12: Have you recently been feeling reasonably happy, all things considered?

More so than usual	5	0.06 0.02 to 0.14	310	0.11 0.10 to 0.12	18	0.11 0.07 to 0.17	26	0.10 0.06 to 0.14	29	0.12 0.08 to 0.18
About same as usual	67	0.71 0.60 to 0.80	2510	0.80 0.78 to 0.81	175	0.82 0.75 to 0.87	266	0.83 0.77 to 0.87	215	0.83 0.77 to 0.87
Less so than usual	20	0.23 0.15 to 0.33	243	0.07 0.06 to 0.08	13	0.06 0.03 to 0.10	18	0.06 0.04 to 0.09	11	0.05 0.02 to 0.08
Much less than usual	0	N/A	59	0.02 0.01 to 0.02	1	0.01 0.00 to 0.06	4	0.02 0.01 to 0.05	1	0.00 0.00 to 0.02

Presence of probable mental ill health

No evidence of probable MIH	26	0.29 0.20 to 0.40	2009	0.56 0.55 to 0.58	143	0.58 0.51 to 0.65	220	0.58 0.52 to 0.64	168	0.58 0.52 to 0.65
Less than optimal MIH	39	0.41 0.30 to 0.52	665	0.19 0.17 to 0.20	44	0.22 0.16 to 0.28	61	0.19 0.15 to 0.24	69	0.27 0.21 to 0.33
MIH	27	0.30 0.21 to 0.41	904	0.25 0.23 to 0.26	49	0.20 0.15 to 0.27	78	0.23 0.18 to 0.28	45	0.15 0.11 to 0.20

Weighted proportion (WP) with the corresponding 95% Confidence Intervals (CI).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: high-income group (HSE 2014).

3. TABLE S2

Table S2: Descriptive characteristics of the 12 item GHQ (GHQ-12) and the four different predetermined HSE 2014 occupational and sociodemographic comparator groups (EN, CM, AM, HIG) - for Females

	n	WP	n	WP	n	WP	n	WP	n	WP
		MP		EN		CM		AM		HIG
		95% CI		95% CI		95% CI		95% CI		95% CI
Age										
21-30	2	0.00 0.00 to 0.01	681	0.20 0.19 to 0.22	21	0.13 0.08 to 0.21	36	0.13 0.09 to 0.19	26	0.21 0.14 to 0.29
31-40	8	0.08 0.04 to 0.17	784	0.17 0.16 to 0.19	45	0.16 0.12 to 0.21	72	0.17 0.14 to 0.21	55	0.32 0.25 to 0.40
41-50	17	0.32 0.20 to 0.46	845	0.18 0.17 to 0.19	66	0.24 0.19 to 0.29	83	0.20 0.16 to 0.24	30	0.18 0.12 to 0.25
51-60	21	0.54 0.39 to 0.68	726	0.16 0.15 to 0.17	51	0.21 0.16 to 0.28	80	0.21 0.17 to 0.26	21	0.12 0.08 to 0.18
61-70	5	0.06 0.02 to 0.14	681	0.13 0.12 to 0.14	44	0.15 0.11 to 0.19	71	0.16 0.13 to 0.20	20	0.11 0.07 to 0.17
70 +	1	0.00 0.00 to 0.01	722	0.15 0.14 to 0.16	32	0.11 0.08 to 0.15	55	0.12 0.10 to 0.16	11	0.06 0.03 to 0.11
Educational attainment										
NVQ4/NVQ5/Degree	0	N/A	1106	0.27 0.25 to 0.28	84	0.33 0.27 to 0.40	115	0.30 0.25 to 0.35	14	0.88 0.82 to 0.92
Higher ed below degree	47	0.05 0.01 to 0.17	483	0.10 0.09 to 0.11	39	0.15 0.11 to 0.20	58	0.14 0.11 to 0.18	5	0.03 0.01 to 0.06
NVQ3/GCE A Level	3	0.02 0.01 to 0.09	678	0.17 0.16 to 0.18	37	0.16 0.11 to 0.24	61	0.17 0.13 to 0.23	6	0.04 0.02 to 0.08
NVQ2/GCE O Level	2	0.01 0.00 to 0.07	878	0.19 0.18 to 0.21	58	0.22 0.17 to 0.27	88	0.21 0.17 to 0.25	6	0.03 0.02 to 0.08
NVQ1/CSE other grade	2	N/A	125	0.03 0.02 to 0.03	7	0.02 0.01 to 0.05	9	0.02 0.01 to 0.04	1	0.01 0.00 to 0.04
Foreign/other	0	N/A	95	0.02 0.02 to 0.02	4	0.01 0.00 to 0.03	9	0.02 0.01 to 0.04	2	0.01 0.00 to 0.04
No qualification	0	N/A	1060	0.22 0.21 to 0.24	30	0.10 0.07 to 0.15	57	0.13 0.10 to 0.17	2	0.01 0.00 to 0.03
GHQ -12										
Item 1: Have you recently been able to concentrate on whatever you're doing?										
Better than usual	3	0.05 0.01 to 0.15	123	0.03 0.02 to 0.04	10	0.04 0.02 to 0.07	15	0.04 0.02 to 0.06	3	0.02 0.01 to 0.06
Same as usual	32	0.61 0.46 to 0.74	3327	0.83 0.82 to 0.85	201	0.86 0.81 to 0.90	312	0.87 0.83 to 0.90	13	0.87 0.81 to 0.92
Less than usual	14	0.25 0.14 to 0.39	487	0.12 0.11 to 0.13	26	0.11 0.07 to 0.15	35	0.09 0.07 to 0.13	15	0.10 0.06 to 0.17
Much less than usual	5	0.09 0.04 to 0.21	63	0.01 0.01 to 0.02	0	N/A	0	N/A	1	0.01 0.00 to 0.04
Item 2: Have you recently lost much sleep over worry?										

Not at all	6	0.12 0.05 to 0.26	1123	0.28 0.27 to 0.30	65	0.27 0.21 to 0.34	98	0.26 0.22 to 0.32	38	0.25 0.18 to 0.33
No more than usual	24	0.45 0.31 to 0.60	2054	0.51 0.50 to 0.53	132	0.56 0.49 to 0.63	204	0.57 0.52 to 0.63	84	0.56 0.48 to 0.64
Rather more than usual	12	0.23 0.13 to 0.37	683	0.17 0.16 to 0.18	36	0.15 0.11 to 0.20	53	0.14 0.11 to 0.18	25	0.17 0.12 to 0.24
Much more than usual	12	0.19 0.10 to 0.33	151	0.03 0.03 to 0.04	5	0.02 0.01 to 0.05	8	0.02 0.01 to 0.04	4	0.02 0.01 to 0.06

Item 3: Have you recently felt you were playing a useful part in things?

More so than usual	13	0.28 0.16 to 0.43	385	0.10 0.09 to 0.11	32	0.18 0.12 to 0.27	48	0.16 0.12 to 0.23	12	0.09 0.05 to 0.15
Same as usual	20	0.38 0.25 to 0.53	3163	0.79 0.78 to 0.81	191	0.76 0.68 to 0.83	291	0.77 0.71 to 0.82	12	0.80 0.72 to 0.86
Less useful than usual	15	0.26 0.15 to 0.40	351	0.08 0.08 to 0.09	11	0.05 0.03 to 0.08	20	0.05 0.03 to 0.08	14	0.10 0.06 to 0.17
Much less useful	6	0.09 0.03 to 0.20	91	0.02 0.02 to 0.03	3	0.01 0.00 to 0.04	3	0.01 0.00 to 0.03	1	0.01 0.00 to 0.05

Item 4: Have you recently felt capable of making decisions about things?

More so than usual	4	0.07 0.03 to 0.19	278	0.07 0.06 to 0.08	16	0.06 0.04 to 0.10	22	0.06 0.04 to 0.09	8	0.07 0.03 to 0.13
Same as usual	41	0.78 0.65 to 0.88	3417	0.85 0.83 to 0.86	210	0.89 0.84 to 0.92	323	0.89 0.86 to 0.92	13	0.88 0.81 to 0.93
Less so than usual	7	0.10 0.04 to 0.21	273	0.07 0.06 to 0.08	11	0.04 0.02 to 0.08	17	0.04 0.03 to 0.07	8	0.05 0.03 to 0.10
Much less capable	2	0.04 0.01 to 0.17	43	0.01 0.01 to 0.01	1	0.01 0.00 to 0.04	1	0.00 0.00 to 0.02	0	N/A

Item 5: Have you felt under constant strain recently?

Not at all	1	0.02 0.00 to 0.13	941	0.24 0.23 to 0.25	62	0.24 0.19 to 0.31	88	0.23 0.19 to 0.28	30	0.20 0.14 to 0.28
No more than usual	18	0.34 0.22 to 0.49	2201	0.55 0.53 to 0.57	129	0.55 0.47 to 0.62	206	0.57 0.52 to 0.63	93	0.63 0.54 to 0.70
Rather more than usual	20	0.39 0.26 to 0.54	726	0.18 0.17 to 0.19	42	0.19 0.14 to 0.26	60	0.17 0.13 to 0.22	26	0.16 0.11 to 0.22
Much more than usual	15	0.25 0.15 to 0.40	133	0.03 0.02 to 0.03	4	0.02 0.01 to 0.05	8	0.02 0.01 to 0.04	2	0.01 0.00 to 0.06

Item 6: Have you recently felt you couldn't overcome your difficulties?

Not at all	10	0.20 0.11 to 0.34	1468	0.37 0.35 to 0.39	95	0.39 0.32 to 0.46	140	0.37 0.32 to 0.43	60	0.40 0.32 to 0.48
No more than usual	31	0.56 0.41 to 0.69	2082	0.52 0.50 to 0.53	127	0.55 0.47 to 0.62	197	0.56 0.50 to 0.61	81	0.54 0.46 to 0.62
Rather more than usual	10	0.18 0.09 to 0.32	361	0.09 0.08 to 0.10	16	0.07 0.04 to 0.11	24	0.07 0.04 to 0.10	7	0.05 0.02 to 0.09
Much more than usual	3	0.06 0.02 to 0.19	88	0.02 0.02 to 0.03	0	N/A	2	0.00 0.00 to 0.02	2	0.01 0.00 to 0.06

Item 7: Have you recently been able to enjoy your normal day to day activities?

More so than usual	5	0.08 0.03 to 0.20	218	0.06 0.05 to 0.07	20	0.13 0.07 to 0.22	24	0.09 0.06 to 0.16	11	0.08 0.04 to 0.15
Same as usual	30	0.58 0.43 to 0.71	3112	0.78 0.76 to 0.79	184	0.74 0.66 to 0.81	288	0.77 0.71 to 0.82	12	0.82 0.75 to 0.88
Less so than usual	10	0.17	542	0.13	29	0.11	45	0.12	13	0.08

		0.09 to 0.31		0.12 to 0.14		0.08 to 0.16		0.09 to 0.15		0.05 to 0.14
Much less than usual	9	0.17 0.08 to 0.30	137	0.03 0.03 to 0.04	5	0.02 0.01 to 0.05	6	0.02 0.01 to 0.04	3	0.02 0.01 to 0.06

Item 8: Have you recently been able to face up to your problems?

More so than usual	2	0.04 0.01 to 0.17	186	0.05 0.04 to 0.06	10	0.07 0.03 to 0.16	15	0.06 0.03 to 0.12	8	0.06 0.03 to 0.13
Same as usual	45	0.83 0.69 to 0.91	3411	0.86 0.85 to 0.87	213	0.89 0.81 to 0.94	323	0.90 0.84 to 0.93	13	0.90 0.83 to 0.94
Less able than usual	7	0.13 0.06 to 0.26	312	0.08 0.07 to 0.08	9	0.04 0.02 to 0.08	17	0.05 0.03 to 0.07	5	0.03 0.01 to 0.07
Much less able	0	N/A	43	0.01 0.01 to 0.01	0	N/A	0	N/A	1	0.01 0.00 to 0.05

Item 9: Have you recently been feeling unhappy and depressed?

Not at all	14	0.26 0.16 to 0.41	1583	0.40 0.38 to 0.41	117	0.49 0.42 to 0.56	167	0.46 0.40 to 0.52	64	0.42 0.34 to 0.50
No more than usual	21	0.38 0.25 to 0.53	1699	0.43 0.42 to 0.45	88	0.40 0.33 to 0.48	141	0.42 0.36 to 0.47	73	0.49 0.41 to 0.58
Rather more than usual	19	0.35 0.23 to 0.50	545	0.13 0.12 to 0.15	24	0.10 0.07 to 0.15	42	0.11 0.08 to 0.15	11	0.07 0.04 to 0.13
Much more than usual	0	N/A	131	0.03 0.03 to 0.04	2	0.01 0.00 to 0.03	4	0.01 0.00 to 0.03	3	0.02 0.01 to 0.06

Item 10: Have you recently been losing confidence in yourself?

Not at all	15	0.29 0.17 to 0.44	1682	0.42 0.40 to 0.44	119	0.52 0.45 to 0.59	173	0.49 0.43 to 0.55	69	0.45 0.37 to 0.54
No more than usual	26	0.49 0.35 to 0.63	1689	0.43 0.41 to 0.44	95	0.41 0.35 to 0.48	145	0.41 0.36 to 0.47	68	0.45 0.37 to 0.53
Rather more than usual	13	0.22 0.13 to 0.36	476	0.12 0.11 to 0.13	13	0.05 0.03 to 0.09	29	0.08 0.06 to 0.11	14	0.10 0.06 to 0.17
Much more than usual	0	N/A	112	0.03 0.02 to 0.04	4	0.02 0.01 to 0.04	7	0.02 0.01 to 0.04	0	N/A

Item 11: Have you recently been thinking of yourself as a worthless person?

Not at all	32	0.60 0.45 to 0.73	2561	0.64 0.63 to 0.66	171	0.74 0.68 to 0.80	249	0.71 0.65 to 0.75	10	0.67 0.58 to 0.74
No more than usual	15	0.29 0.17 to 0.44	1069	0.27 0.26 to 0.29	52	0.23 0.18 to 0.29	90	0.26 0.21 to 0.31	42	0.27 0.20 to 0.35
Rather more than usual	7	0.11 0.05 to 0.24	244	0.06 0.05 to 0.07	4	0.02 0.01 to 0.04	9	0.02 0.01 to 0.05	7	0.05 0.02 to 0.11
Much more than usual	0	N/A	80	0.02 0.02 to 0.02	3	0.01 0.00 to 0.04	5	0.01 0.00 to 0.03	1	0.01 0.00 to 0.05

Item 12: Have you recently been feeling reasonably happy, all things considered?

More so than usual	11	0.19 0.10 to 0.32	388	0.10 0.09 to 0.11	27	0.15 0.10 to 0.23	40	0.13 0.09 to 0.19	10	0.07 0.04 to 0.12
About same as usual	29	0.54 0.40 to 0.68	3123	0.79 0.77 to 0.80	189	0.79 0.71 to 0.85	287	0.79 0.74 to 0.84	13	0.86 0.80 to 0.91
Less so than usual	14	0.27 0.16 to 0.42	368	0.09 0.08 to 0.10	12	0.05 0.03 to 0.08	24	0.06 0.04 to 0.09	9	0.06 0.03 to 0.11
Much less than usual	0	N/A	78	0.02 0.02 to 0.03	3	0.01 0.00 to 0.04	3	0.01 0.00 to 0.03	1	0.01 0.00 to 0.05

Presence of probable mental ill health										
No evidence of probable MIH	9	0.19 0.10 to 0.34	2247	0.51 0.49 to 0.52	147	0.57 0.51 to 0.64	226	0.58 0.53 to 0.63	86	0.52 0.44 to 0.60
Less than optimal MIH	23	0.40 0.27 to 0.54	955	0.22 0.20 to 0.23	53	0.19 0.15 to 0.24	79	0.19 0.15 to 0.23	48	0.29 0.22 to 0.36
MIH	22	0.41 0.27 to 0.56	1237	0.28 0.26 to 0.29	59	0.24 0.18 to 0.30	92	0.23 0.19 to 0.28	29	0.20 0.14 to 0.27

Weighted proportion (WP) with the corresponding 95% Confidence Intervals (CI).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: high-income group (HSE 2014).

For peer review only

4. TABLE S3

Table S3. Crude and adjusted associations of mental health in relation to job status (having a job outside the parliament vs. not) of members of the parliament

GHQ-12 Items (n=146)	Crude		Adjusted [±]	
	OR	95%CI	OR	(95% CI)
Have you recently been able to concentrate on whatever you're doing?	0.6	0.23 to 1.57	0.74	0.27 to 2.04
Have you recently lost much sleep over worry?	0.64	0.26 to 1.58	0.73	0.28 to 1.90
Have you recently felt you were playing a useful part in things?	1.52	0.70 to 3.28	1.62	0.70 to 3.74
Have you recently felt capable of making decisions about things?	0.98	0.37 to 2.56	1.17	0.42 to 3.27
Have you felt under constant strain recently?	0.59	0.26 to 1.34	0.71	0.32 to 1.59
Have you recently felt you couldn't overcome your difficulties?	0.74	0.36 to 1.50	0.87	0.41 to 1.85
Have you recently been able to enjoy your normal day to day activities?	1.01	0.43 to 2.37	0.96	0.36 to 2.57
Have you recently been able to face up to your problems	1.04	0.37 to 2.93	0.98	0.36 to 2.69
Have you recently been feeling unhappy and depressed?	0.66	0.31 to 1.41	0.82	0.35 to 1.92
Have you recently been losing confidence in yourself?	1.02	0.37 to 2.69	1.29	0.46 to 3.60
Have you recently been thinking of yourself as a worthless person?	1.01	0.41 to 2.43	1.2	0.45 to 3.21
Presence of Common Mental Disorders	0.77	0.47 to 1.26	0.82	0.49 to 1.36
	MD	95%CI	MD	95%CI
Total Score of GHQ to 12	-0.61	-3.06 to 1.84	-0.07	-2.44 to 2.31

Crude and Adjusted Odds Ratio (ORs) and Mean Difference (MD) with corresponding 95% Confidence Intervals (95% CI). Inverse probability weights were used with reference to the total number of the members of the parliament. All models were adjusted for age, sex and educational status

STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Item	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-6
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-7
Bias	9	Describe any efforts to address potential sources of bias	5-6
Study size	10	Explain how the study size was arrived at	5, 8
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	8-9
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	8-9
		(b) Describe any methods used to examine subgroups and interactions	8-9
		(c) Explain how missing data were addressed	8-9
		(d) If applicable, describe analytical methods taking account of sampling strategy	8-9
		(e) Describe any sensitivity analyses	8-9
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	9
		(b) Give reasons for non-participation at each stage	n.a.
		(c) Consider use of a flow diagram	n.a.
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9
		(b) Indicate number of participants with missing data for each variable of interest	n.a.
Outcome data	15*	Report numbers of outcome events or summary measures	9-12
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear	10-12

		which confounders were adjusted for and why they were included	
		(b) Report category boundaries when continuous variables were categorized	10-12
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N.a.
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	12-13
Discussion			
Key results	18	Summarise key results with reference to study objectives	13-14
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	14-15
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	16
Generalisability	21	Discuss the generalisability (external validity) of the study results	15-17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	18

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

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Mental health of UK Members of Parliament in the House of Commons: a cross-sectional survey

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Keywords:	MENTAL HEALTH, United Kingdom, policy making, stigma, Members of Parliament, MP

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3 **1 Mental health of UK Members of Parliament in the House of Commons: a cross-sectional survey**
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12 **4 November 2018**
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3 29 **ABSTRACT**
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8 31 **Objectives** The purpose of this study was to assess: (i) overall mental health of Members of Parliament
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10 32 (MPs); and (ii) awareness among MPs of the mental health support services available to them in
11
12 33 Parliament.

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14 34 **Design** Anonymous, self-completed, online cross-sectional survey, conducted in December 2016.

15
16 35 **Setting** 56th UK House of Commons.

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18
19 36 **Participants** All 650 members of the 56th UK House of Commons were invited to participate; 146 MPs
20
21 37 (23%) completed the survey.

22
23 38 **Outcomes** The General Health Questionnaire-12 was used to assess age and sex standardised
24
25 39 prevalence of probable common mental disorders (CMD). Results were compared to a nationally
26
27 40 representative survey, the Health Survey for England 2014 (HSE). Core demographic questions, MPs'
28
29 41 awareness of available mental health services, their willingness to discuss mental health issues with
30
31 42 party whips and fellow MPs, and the effects of employment outside parliament, were assessed.

32
33
34 43 **Results** Comparison of MP respondents with HSE comparator groups found that MPs have higher rates
35
36 44 of mental health problems (age and sex standardised prevalence of probable CMD in surveyed MPs
37
38 45 34% (n=49); (95% CI: 27% to 42%) versus 17%; (95% CI: 13% to 21%) in the high-income comparison
39
40 46 group). Survey respondents were younger, more likely to be female and more educated, compared to
41
42 47 all MPs. 77% of MPs (n=112) did not know how to access in house mental health support. 52% (n=76)
43
44 48 would not discuss their mental health with party whips, or other MPs (48%; n=70).

45
46
47 49 **Conclusions** MPs in the study sample had higher rates of mental health problems than rates seen in
48
49 50 the whole English population, or comparable occupational groups. Most surveyed MPs are unaware
50
51 51 of mental health support services, or how to access them. Our findings represent a relatively small
52
53 52 sample of MPs. There is a need for MPs to have better awareness of, and access to, mental health
54
55 53 support.
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3 55 **STRENGTHS AND LIMITATIONS OF THIS STUDY**
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- 6 56 • This is a unique study where the mental health of MPs has been assessed using structured,
7
8 57 validated scales for the first time.
9
10 58 • This study is also the first evaluation of MPs' awareness of the mental health support
11
12 available to them from the Parliamentary Health and Wellbeing Service and how to access
13 59 this service.
14
15 60
16
17 61 • This study also assessed for the first time the willingness of MPs to discuss any mental
18
19 health issues with party whips or with fellow MPs.
20 62
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22 63 • The survey had a relatively low response rate which may be related to the stigma
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24 associated with mental illness, and to the nature of an MP's role, which is associated with
25 64 a stressful work schedule and life in the public eye.
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68 INTRODUCTION

69 There is a public fascination with understanding the psyches of politicians and decision-makers, from
70 ancient times to the present day, and a long history of public debate about the mental health of
71 politicians, including discussion of the potential psychiatric diagnoses of notable individuals active in
72 political life[1-9]. Research studies have considered some related questions, such as the harassment
73 and stalking of politicians.[10-13] Studies have also examined media and public reactions to
74 politicians' actual or perceived mental health problems. [14-17] Yet, little has been published on the
75 actual mental health or mental illness of politicians. Some evidence of politicians disclosing personal
76 mental health problems has been published, for example during the passage of the UK Mental Health
77 (Discrimination) Act in 2013, which removed discriminatory provisions permitting disqualification of
78 Members of Parliament with mental health problems under certain circumstances.[18].

79 A scoping literature search in January 2017 was conducted to understand what is known about
80 politicians' mental health, and in particular the prevalence of common mental disorders in this group.
81 The papers identified were largely limited to politicians in the UK, USA and Australasia. There remains
82 a dearth of evidence on the prevalence of common mental disorders (CMDs) in politicians and how
83 this compares to general population rates. To date, no quantitative, ethically approved surveys have
84 been conducted of Members of Parliament (MPs) in the UK Parliament to assess their mental health,
85 and to assess their awareness of the available support and treatment services.

86
87 Several factors in the UK political system may adversely influence MPs and their mental health: The
88 UK Parliament permits MPs to hold employment outside Parliament in addition to their roles as
89 elected representatives. Further, in the UK parliament, "whips" are appointed officials in each political
90 party who are charged with organising their party's parliamentary business and ensuring party
91 discipline amongst MPs. In addition, a confidential in-house service is provided within Parliament for
92 MPs and peers, called the Parliamentary Health and Wellbeing Service, to support their occupational
93 health and wellbeing.

94

95 In this context, the UK Parliamentary Mental Health (UKPMH) study aims are to: (i) assess the overall
96 mental health of MPs by drawing comparisons with a nationally representative survey in England, and
97 with comparator socio-demographic and occupational groups within the survey; and (ii) assess
98 awareness among MPs of the mental health support services available to them.

99

100 The principal research question was: What is the prevalence of common mental disorders among
101 MPs? The secondary questions addressed were: how far are MPs aware of mental health services that
102 can assist them with mental health problems? Are MPs willing to discuss their mental health with
103 party whips or other MPs? This study tested the following primary hypothesis: the occurrence of
104 common mental disorders (CMDs) is higher among MPs compared to the general population and
105 compared with specific socio-demographic, professional and occupational comparator groups.

106

107 **METHODS**

108 **Study design and participants**

109 We conducted an anonymised, online self-completed survey at the House of Commons in December
110 2016. The inclusion criteria for participation were: membership of the 56th UK Parliament, House of
111 Commons; and providing written, informed consent. We followed the STROBE guidelines for
112 observational studies for the reporting of this cross-sectional study.[19] No age limits were defined,
113 except that to be elected to Parliament one must be over 18 years old. Participants were sent via email
114 an invitation letter to participate. Initially, in November 2016 a letter was sent to all 650 members of
115 the House of Commons to make them aware of the study. In early December, a letter including a web
116 link to an online survey with an individual access code was sent out via to all MPs internal post, and
117 via email. The survey took place between 5 and 31 December 2016. Repeated efforts were taken to
118 promote participation and maximise response rates in the survey. The study information sheet
119 (explaining the purpose of the study) and instructions for the online questionnaire, as well as two

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3 120 reminder emails, were sent out with clear descriptions of encrypted data collection and protection
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5 121 measures to ensure anonymity.
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8 122 **Ethics and data protection**

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11 123 At all times throughout the study preparation, conduct and analysis, particular consideration and care
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13 124 has been given to the specific, sensitive study context, and to the potential vulnerability of
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15 125 participants, namely the risk of sensationalised coverage should any individual be identifiable. Ethics
16
17 126 approval for the study was obtained in September 2016 from King's College London Ethics Committee
18
19 127 (reference number: HR-16/17-3118). Efforts were taken to limit distress and secure confidentiality for
20
21 128 the participants. To ensure full confidentiality no personal identifiers were collected, and identifiers
22
23 129 were removed if provided. All participants were provided with contact information for the
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25 130 Parliamentary Health and Wellbeing Service in the introductory letter and via the online survey in case
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27 131 any participants were experiencing distress at the time of the survey.
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31 132 **Health Survey for England comparator groups**

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35 133 Data for the comparator groups were elicited from the Health Survey for England (HSE) 2014. The HSE
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37 134 is an annual survey which uses a multi-stage stratified design to sample nationally representative
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39 135 random cross section of the population of England each year. Participants are visited by an interviewer
40
41 136 who collects demographic and socio-economic data, and information on health and health-related
42
43 137 behaviours. A detailed description of the HSE has been reported elsewhere.[20] From the HSE, we
44
45 138 identified four comparison groups: total population of England in the HSE England population (EN),
46
47 139 corporate managers in England (CM), all managers in England (AM), and those in high-income groups
48
49 140 in England (HIG). The socio-economic groups derive from a standardised questionnaire asked in the
50
51 141 HSE to all survey respondents.
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56 142 **Measures of mental health**

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2
3 143 The General Health Questionnaire (GHQ-12) was used to assess the mental health of respondents in
4
5 144 the UKPMH sample and the HSE 2014. The self-completed 12-item GHQ-12 is one of the most
6
7 145 extensively used screening instruments for common mental disorders, measured by a 4-point Likert
8
9 146 scale (ranging from 'less than usual' to 'much more than usual') across twelve items.[20, 21]
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13 147 Scoring of the GHQ-12 for the present study was done in the original bi-modal method as developed
14
15 148 by Goldberg.[22] Specifically, each symptom was scored either 0 if 'not at all present' or present 'no
16
17 149 more than usual', or 1 for symptoms that were present 'rather more than usual' or 'much more than
18
19 150 usual'). The scoring method allowed for total scores to range from 0 to 12. No formal threshold exists
20
21 151 for identifying probable mental ill health, with optimal values likely to be specific to the population
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23 152 under study. However, in line with the previous HSE survey, MP's total scores are grouped according
24
25 153 to three categories: 0 (indicating no evidence of probable mental ill health), 1 to 3 (indicating less than
26
27 154 optimal mental health), and 4 or more (indicating probable psychological disturbance or mental ill
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29 155 health).[20, 21]
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34 156 The GHQ-12 has been extensively validated across international settings for screening and detection
35
36 157 of the common mental disorders.[23] In previous work, with a cut-off point ≥ 4 , the total score of the
37
38 158 GHQ-12 was found in a UK setting to have a sensitivity of 84.6% and specificity of 89.3% when assessed
39
40 159 against *International Classification of Mental Disorders (ICD-10)* and the *Diagnostic Statistical*
41
42 160 *Manuals-IV (DSM-IV)*, diagnoses derived from the Composite International Diagnostic Interview (CIDI-
43
44 161 PC) for the common mental disorders (including depression, dysthymia, generalised anxiety disorder,
45
46 162 panic disorder and other related conditions).[23]
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50 163 A technical error in the administration of the questionnaire caused a lack of indication for respondents
51
52 164 of the 4th option (much more/much less than usual) on GHQ-12 items 8, 9, 10, 11, 12. However, this
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54 165 has no impact on the total scores of GHQ-12 for each participant, as the third and fourth option are
55
56 166 grouped together in the bi-modal scoring.
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3 167 In the question on awareness of the Parliamentary Health and Wellbeing Service, a technical error in
4
5 168 the administration of the questionnaire caused 4 options (no/ unsure/ unaware/ yes) to be offered
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8 169 rather than binary yes and no options. The three options (no/ unsure/ unaware) were combined to
9
10 170 represent “no awareness”.

13 171 **Covariates**

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16 172 Core demographic questions were obtained from the UKPMH study sample: Age (categorised into five
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18 173 groups: 21 to 30; 31 to 40; 41 to 50; 51 to 60; 61 to 70, >70 years), sex (female or male), and
19
20 174 educational status (GCSE/ O level, A Level, Vocational Qualifications, Undergraduate Degree, Post
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22 175 Graduate Degree, Doctorate), as well as years serving as MP. MPs were also asked if they were aware
23
24 176 of the mental health services available to them, as well as their willingness to discuss their mental
25
26 177 health with their Whips and other MPs (full list of questions in Supplementary File). Ethnicity was not
27
28 178 assessed. Due to the low number of MPs from a minority ethnic background in the 56th House of
29
30 179 Commons (n=41), this avoided any concern about the identification of participants, which may have
31
32 180 further limited the response rate.

37 181 **Statistical analyses**

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40 182 All statistical analyses were performed using STATA 14.1. Within the UKPMH sample, descriptive
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42 183 analysis was undertaken first to determine the distribution of each item of the GHQ-12 and of socio-
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44 184 demographic characteristics, awareness of mental health services, and willingness to discuss mental
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46 185 health issues with party whips or with fellow MPs.

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49
50 186 The UKPMH sample is subject to “unit non-response” as 22.4% of all MPs completed the survey. To
51
52 187 address this issue, we employed inverse probability weighting (IPW)[24] in the analysis, where weights
53
54 188 are used to rebalance the set of complete cases within the MP sample to make it representative of
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56 189 the whole English population; we used the weighted sample of the HSE 2014. Age-sex standardised
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58 190 proportion estimates were calculated i) for each item of the GHQ-12, and ii) for the presence of
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3 191 probable mental ill health. We compared i) each item of the GHQ-12, and ii) the three combined
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5 192 categories derived from the total score of the GHQ-12 that indicate the presence of probable mental
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7 193 ill health of the MP sample with a range of socio-demographic groups (the English population (EN),
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9 194 corporate managers (CM), all managers (AM), and with high income groups (HIG) in England) derived
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11 195 from HSE 2014. As a sensitivity analyses, age-sex standardised proportion estimates were calculated
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13 196 separately for males and females.

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17 197 Non-parametric tests (chi-square) and parametric tests (t-test for unequal sample sizes) were
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19 198 employed to explore potential differences in the proportion estimates between UKPMH and HSE 2014
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21 199 samples.

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25 200 Cross-sectional associations of whether an MP had additional employment outside Parliament with
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27 201 each different item of the GHQ-12, and with the three combined categories (indicating no evidence of
28
29 202 probable mental ill health, less than optimal mental health, probable psychological disturbance or
30
31 203 mental ill health) were explored with the use of ordinal logistic regression models. Results were
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33 204 expressed as increased risk (odds ratio and corresponding 95% confidence intervals) of being in a
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35 205 highest category of each item of the GHQ-12 for those MPs with a work role outside parliament were
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37 206 compared to those without such an external role.

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41 207 In addition, linear regression models were employed to explore the mean difference in the GHQ-12
42
43 208 total scores for those MPs who had additional employment outside Parliament, and for those who did
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45 209 not. All models were adjusted for the following potential confounders identified a priori: age, sex and
46
47 210 educational status. Age-sex standardised inverse probability weights were employed for all linear and
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49 211 ordinal regression models.

52 53 212 **Patient and Public Involvement**

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56 213 Daniel Poulter, MP, was involved at all stages of the study and is co-author of the paper. Other
57
58 214 parliamentarians and staff of the Parliamentary Health and Wellbeing Service were consulted at the
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215 planning and design stages, as well as at the interpretations of the findings and dissemination stages
 216 of the study.

217 RESULTS

218 Questionnaires were returned by 146 respondents (22.4%) of the 650 MPs. Median time to complete
 219 the survey was 4 minutes (IQR: 3 to 5). Most respondents were male (63%), with an undergraduate
 220 (44%) or a postgraduate degree (36%) or doctorate (2%). Most were between 41 and 60 years old
 221 (66%), and most did not work outside parliament (81%) (see Table 1).

222 **Table 1: Demographic characteristics of UKPMH participants**

	MP sample (N=146)	Total Health Survey for England sample (N=7871)
	n (%)	n (%)
Below 40 years old	27 (18%)	4014 (51%)
Female	54 (36%)	4385 (55%)
Higher education degree	119 (82%)	888 (11.3%)
Knowledge on how to access to mental health support	65 (45%)	n/a
Unaware of parliamentary well-being service	112 (77%)	n/a
Willing to discuss mental health problems with whips	70 (48%)	n/a
Willing to discuss mental health problems with other MPs	76 (52%)	n/a
Presence of CMD (according to ≥ 4 cut point on the GHQ-12 total score)	49 (34%)	2902 (26%)

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225 Mental health of MPs and the HSE 2014 comparator groups

226 Table 2 presents weighted proportion estimates and corresponding 95% confidence intervals of the
 227 UKPMH sample and the four different predetermined HSE 2014 occupational and sociodemographic
 228 comparator groups (EN, CM, AM, HIG). For each item of the GHQ-12, the UKPMH sample presented a
 229 higher weighted proportion of participants who had lower levels of concentration, were losing sleep
 230 because of worry, were feeling less useful, were less capable of making decisions, and were feeling
 231 under constant strain, compared to the four HSE 2014 occupational and sociodemographic
 232 comparison groups (p-values of chi-square test <0.001).

233 In addition, a higher weighted proportion of MPs could not overcome difficulties, were less able to
 234 enjoy normal day to day activities, were less able to face up to their problems, reported losing
 235 confidence in themselves, or feeling unhappy and depressed, and more individual MPs considered
 236 themselves to be a worthless person (p-values of chi-square test <0.001). Compared to the HSE 2014
 237 predetermined occupational and sociodemographic comparator groups, a higher weighted proportion
 238 of the MPs also reported being less able to feel reasonably happy (p-values of chi-square test <0.001).
 239 When we compared the weighted proportions of the three combined categories derived for the GHQ-
 240 12 total score that indicate the presence of probable mental ill health between the UKPMH and HSE
 241 2014 samples, we found that a higher proportion of MPs had probable mental ill health (weighted
 242 proportion: 34%; 95% CI: 27%, 42%), compared with EN (weighted proportion: 26%; 95% CI: 25%,
 243 27%), CM (weighted proportion: 22%; 95% CI: 18%, 26%), AM (weighted proportion: 23%; 95% CI:
 244 20%, 27%) and HIG (weighted proportion: 17%; 95% CI: 13% to 21%) (p-values of chi-square test
 245 <0.001) (see Table 2 and Figure 1). In addition, female MPs had higher rates of probable mental ill
 246 health (weighted proportion: 41%; 95% CI: 27%, 56%) compared to male MPs (weighted proportion:
 247 30%; 95% CI: 21%, 41%) (see Supplementary File, Table S1 and Table S2).

248 **Table 2: Descriptive characteristics of the 12 item GHQ (GHQ-12), and the four different predetermined HSE**
 249 **2014 occupational and sociodemographic comparator groups (EN, CM, AM, HIG).**

	n	WP	n	WP	n	WP	n	WP	n	WP
		95%CI		95% CI		95% CI		95% CI		95% CI
			MP	EN	CM		AM		HIG	
Item 1: Have you recently been able to concentrate on whatever you're doing?										
Better than usual	5	0.03 0.01 to 0.07	223	0.035 0.03 to 0.04	15	0.03 0.02 to 0.05	24	0.03 0.02 to 0.05	10	0.03 0.01 to 0.05
Same as usual	93	0.66 0.57 to 0.74	6073	0.85 0.84 to 0.86	394	0.88 0.84 to 0.91	602	0.88 0.85 to 0.91	371	0.9 0.87 to 0.93
Less than usual	40	0.26 0.19 to 0.34	771	0.1 0.10 to 0.11	38	0.08 0.06 to 0.11	53	0.08 0.06 to 0.10	29	0.07 0.05 to 0.10
Much less than usual	8	0.05 0.02 to 0.11	103	0.01 0.01 to 0.02	2	0.01 0.00 to 0.04	3	0.01 0.00 to 0.03	1	0.005 0.00 to 0.01
Item 2: Have you recently lost much sleep over worry?										
Not at all	24	0.18 0.12 to 0.26	2334	0.33 0.32 to 0.34	146	0.33 0.28 to 0.38	226	0.33 0.29 to 0.37	130	0.3 0.26 to 0.35
No more than usual	66	0.47 0.38 to 0.56	3573	0.5 0.49 to 0.51	246	0.54 0.49 to 0.59	370	0.55 0.50 to 0.59	220	0.56 0.51 to 0.61
Rather more than usual	38	0.26 0.19 to 0.34	1035	0.14 0.13 to 0.15	51	0.11 0.08 to 0.14	76	0.11 0.09 to 0.14	55	0.13 0.10 to 0.16

Much more than usual	18	0.1 0.06 to 0.16	240	0.03 0.02 to 0.04	7	0.02 0.01 to 0.03	11	0.02 0.01 to 0.03	6	0.01 0.00 to 0.03
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Item 3: Have you recently felt you were playing a useful part in things?

More so than usual	27	0.19 0.13 to 0.27	676	0.10 0.09 to 0.11	58	0.16 0.12 to 0.21	83	0.14 0.11 to 0.18	39	0.10 0.07 to 0.13
Same as usual	67	0.46 0.38 to 0.55	5696	0.8 0.79 to 0.81	362	0.77 0.72 to 0.81	548	0.78 0.74 to 0.81	339	0.82 0.77 to 0.85
Less useful than usual	43	0.3 0.22 to 0.39	625	0.08 0.07 to 0.09	26	0.07 0.05 to 0.10	47	0.08 0.06 to 0.10	30	0.08 0.05 to 0.12
Much less useful	9	0.05 0.02 to 0.11	157	0.02 0.01 to 0.03	3	0.005 0.00 to 0.02	4	0.005 0.00 to 0.02	3	0.01 0.00 to 0.02

Item 4: Have you recently felt capable of making decisions about things?

More so than usual	9	0.06 0.03 to 0.11	509	0.08 0.07 to 0.09	29	0.07 0.05 to 0.11	42	0.07 0.05 to 0.09	28	0.07 0.05 to 0.10
Same as usual	118	0.84 0.77 to 0.89	6162	0.85 0.84 to 0.86	403	0.88 0.84 to 0.91	613	0.89 0.86 to 0.91	367	0.89 0.85 to 0.92
Less so than usual	17	0.09 0.05 to 0.15	444	0.066 0.06 to 0.08	17	0.04 0.02 to 0.07	27	0.04 0.03 to 0.06	16	0.04 0.02 to 0.07
Much less capable	2	0.01 0.00 to 0.05	66	0.01 0.01 to 0.01	1	0 0.00 to 0.02	1	0 0.00 to 0.01	0	NA

Item 5: Have you felt under constant strain recently?

Not at all	9	0.07 0.03 to 0.13	1778	0.25 0.24 to 0.27	130	0.28 0.24 to 0.33	194	0.28 0.24 to 0.31	94	0.22 0.18 to 0.27
No more than usual	60	0.41 0.33 to 0.50	3974	0.56 0.54 to 0.57	243	0.54 0.49 to 0.59	374	0.55 0.51 to 0.59	236	0.57 0.51 to 0.62
Rather more than usual	53	0.38 0.30 to 0.47	1192	0.16 0.15 to 0.17	69	0.17 0.13 to 0.21	102	0.16 0.13 to 0.20	75	0.19 0.15 to 0.24
Much more than usual	24	0.14 0.09 to 0.21	225	0.03 0.02 to 0.03	7	0.02 0.01 to 0.03	12	0.02 0.01 to 0.03	6	0.02 0.01 to 0.04

Item 6: Have you recently felt you couldn't overcome your difficulties?

Not at all	41	0.29 0.21 to 0.37	2659	0.38 0.37 to 0.39	183	0.4 0.35 to 0.45	278	0.4 0.36 to 0.44	156	0.36 0.31 to 0.41
No more than usual	76	0.52 0.44 to 0.61	3762	0.52 0.51 to 0.53	234	0.53 0.47 to 0.58	352	0.52 0.48 to 0.56	229	0.57 0.52 to 0.62
Rather more than usual	24	0.16 0.10 to 0.23	602	0.08 0.08 to 0.09	31	0.07 0.05 to 0.10	48	0.07 0.05 to 0.09	23	0.06 0.04 to 0.09
Much more than usual	5	0.03 0.01 to 0.08	143	0.02 0.02 to 0.02	2	0.01 0.00 to 0.03	5	0.01 0.00 to 0.02	2	0 0.00 to 0.02

Item 7: Have you recently been able to enjoy your normal day to day activities?

More so than usual	6	0.03 0.01 to 0.06	376	0.06 0.05 to 0.07	35	0.11 0.07 to 0.16	47	0.09 0.06 to 0.13	23	0.05 0.04 to 0.08
Same as usual	88	0.61 0.52 to 0.69	5649	0.79 0.78 to 0.80	358	0.76 0.71 to 0.81	544	0.77 0.73 to 0.81	344	0.83 0.79 to 0.87
Less so than usual	36	0.27 0.19 to 0.36	924	0.12 0.12 to 0.13	47	0.11 0.08 to 0.14	78	0.12 0.09 to 0.15	40	0.11 0.08 to 0.15
Much less than usual	16	0.10 0.06 to 0.16	225	0.025 0.02 to 0.03	9	0.02 0.01 to 0.04	14	0.02 0.01 to 0.03	4	0.01 0.00 to 0.02

Item 8: Have you recently been able to face up to your problems?

More so than usual	9	0.07 0.04 to 0.13	340	0.06 0.05 to 0.07	19	0.06 0.04 to 0.11	30	0.06 0.04 to 0.09	17	0.05 0.03 to 0.08
Same as usual	118	0.80 0.71 to 0.86	6157	0.87 0.86 to 0.88	404	0.90 0.85 to 0.93	610	0.9 0.86 to 0.92	372	0.91 0.87 to 0.94
Less able than usual	19	0.14 0.08 to 0.21	510	0.07 0.06 to 0.07	15	0.03 0.02 to 0.06	27	0.04 0.03 to 0.06	17	0.04 0.02 to 0.07
Much less able	NA	NA	72	0.01 0.01 to 0.01	1	0.01 0.00 to 0.03	1	0.01 0.00 to 0.02	1	0.01 0.00 to 0.02

Item 9: Have you recently been feeling unhappy and depressed?

Not at all	43	0.3 0.22 to 0.38	2846	0.4 0.39 to 0.42	213	0.47 0.42 to 0.52	318	0.47 0.43 to 0.51	168	0.39 0.34 to 0.44
No more than usual	59	0.42 0.33 to 0.51	3119	0.44 0.43 to 0.45	178	0.42 0.37 to 0.47	271	0.41 0.37 to 0.46	202	0.52 0.47 to 0.58
Rather more than usual	44	0.29 0.21 to 0.37	911	0.13 0.12 to 0.15	44	0.1 0.08 to 0.14	70	0.11 0.08 to 0.13	34	0.08 0.06 to 0.11
Much more than usual	NA	NA	206	0.03 0.01 to 0.04	3	0.01 0.00 to 0.02	7	0.01 0.01 to 0.03	3	0.01 0.00 to 0.02

Item 10: Have you recently been losing confidence in yourself?

Not at all	53	0.37 0.29 to 0.46	3192	0.45 0.44 to 0.47	232	0.52 0.47 to 0.58	349	0.52 0.48 to 0.56	201	0.47 0.42 to 0.53
No more than usual	65	0.45 0.36 to 0.54	2979	0.42 0.41 to 0.43	175	0.4 0.35 to 0.45	261	0.39 0.35 to 0.43	174	0.44 0.39 to 0.50
Rather more than usual	28	0.18 0.13 to 0.26	739	0.1 0.10 to 0.11	24	0.06 0.04 to 0.10	46	0.08 0.06 to 0.10	32	0.08 0.06 to 0.12
Much more than usual	NA	NA	170	0.02 0.02 to 0.03	5	0.01 0.00 to 0.02	9	0.015 0.01 to 0.02	NA	NA

Item 11: Have you recently been thinking of yourself as a worthless person?

Not at all	86	0.58 0.49 to 0.66	4689	0.66 0.65 to 0.68	323	0.73 0.68 to 0.77	480	0.72 0.68 to 0.75	285	0.69 0.64 to 0.74
No more than usual	44	0.31 0.24 to 0.40	1879	0.26 0.25 to 0.27	95	0.22 0.18 to 0.26	154	0.23 0.20 to 0.27	107	0.27 0.23 to 0.32
Rather more than usual	16	0.11 0.06 to 0.18	378	0.05 0.05 to 0.06	16	0.05 0.03 to 0.08	26	0.05 0.03 to 0.07	13	0.03 0.02 to 0.06
Much more than usual	NA	N A	133	0.02 0.02 to 0.02	3	0.01 0.00 to 0.02	6	0.01 0.00 to 0.02	2	0.01 0.00 to 0.02

Item 12: Have you recently been feeling reasonably happy, all things considered?

More so than usual	16	0.09 0.05 to 0.15	698	0.11 0.10 to 0.11	45	0.13 0.09 to 0.18	66	0.12 0.09 to 0.15	39	0.11 0.08 to 0.14
About same as usual	96	0.67 0.59 to 0.75	5633	0.79 0.78 to 0.80	364	0.8 0.75 to 0.85	553	0.81 0.77 to 0.84	346	0.84 0.80 to 0.88
Less so than usual	34	0.24 0.17 to 0.32	611	0.08 0.08 to 0.09	25	0.05 0.04 to 0.08	42	0.06 0.04 to 0.08	20	0.05 0.03 to 0.08
Much less than usual	NA	NA	137	0.02 0.02 to 0.02	4	0.01 0.00 to 0.03	7	0.01 0.01 to 0.03	2	0 0.00 to 0.02

Presence of probable mental ill health

No evidence of probable mental ill health	35	0.25 0.18 to 0.34	4256	0.53 0.52 to 0.55	290	0.58 0.53 to 0.62	446	0.58 0.54 to 0.62	254	0.56 0.51 to 0.61
Less than optimal mental ill health	62	0.40 0.32 to 0.49	1620	0.2 0.19 to 0.21	97	0.2 0.17 to 0.25	140	0.19 0.16 to 0.22	117	0.27 0.23 to 0.32
Probable mental ill health	49	0.34 0.27 to 0.43	2141	0.26 0.25 to 0.27	108	0.22 0.18 to 0.26	170	0.23 0.20 to 0.27	74	0.17 0.13 to 0.21

Weighted proportion (WP) with the corresponding 95% Confidence Intervals (CI).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: high-income group (HSE 2014).

255 **Characteristics of respondents in comparison to all MPs**

256 Compared with all 650 MPs, those who participated were younger (18 %, n=27 vs. 16% of total MP
257 population were below 40 years old), more likely to be female (37%, n=54 of the UKPMH sample vs
258 30% of total MPs population were female) in relation to the gender distribution of the total number
259 of MPs, and more educated (81%, n=119) of the UKPMH sample had a university degree vs. 76% of
260 total MP population.

261

262 **Awareness of mental health support services**

263 Most MPs were not aware of the mental health services provided by the Parliamentary Health and
264 Wellbeing Service within parliament. Most MPs (55 %) did not know how to access any mental health
265 support at Parliament (see Figure 2). When asked whether they felt the Parliamentary Health and
266 Wellbeing Service currently offered sufficient support, a large majority of MPs (77%) were unaware of
267 what options are currently offered by the service and only 23% were aware that support was
268 sufficiently available (see Figure 3).

269 (Figures 2, 3, 4, 5 about here)

270 **Willingness to disclose poor mental health**

271 Most MPs who took part in this survey were not willing to discuss mental health problems with their
272 party whips (52%), and only a small majority of MPs would feel able to talk with other MPs about their
273 mental health (52%) (see Figures 4 and 5). After adjusting for age, sex and educational status, we
274 found evidence that MPs who were willing to discuss their mental health with their party whips or
275 fellow MPs, had a reduced risk of CMDs (willing to discuss with whips: adjusted OR: 0.32; (95% CI:
276 0.16, 0.31), or discuss with fellow MPs: adjusted OR: 0.57; (95% CI: 0.30, 0.99) .

277 **Additional employment outside parliament**

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3 278 We found no evidence of an association between having additional employment outside Parliament
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5 279 with the individual GHQ-12 items, or an increased total GHQ score indicating poor mental health (see
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7 280 Supplementary File, Table S3).
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10 281 **DISCUSSION**

11 12 13 282 **Principal findings**

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16 283 The main findings of this study were: (1) strong evidence to indicate that a higher proportion of MPs
17
18 284 had poor mental health than among the general population, than among the defined occupational
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20 285 and socio-demographic comparator groups (EN, CM, AM, HIG). The primary study hypothesis was
21
22 286 therefore confirmed. (2) Most MPs were not aware of Parliamentary mental health and support
23
24 287 services. (3) Most MPs were not willing to discuss their mental health with party whips, and only a
25
26 288 small majority would be happy to discuss mental health issues with other MPs. (4) Having employment
27
28 289 outside Parliament, in addition to the role of MP, is not linked with increased risk for mental ill health.
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33 290 The Parliamentary Health and Wellbeing Service is the occupational health service provided since 2013
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35 291 inside the House of Commons. It aims to support all staff and MPs in developing a healthy and safe
36
37 292 working environment, and encourages MPs to adopt better attitudes and behaviour towards their
38
39 293 own physical health and mental health.[25] Despite the service being in place for almost four years,
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41 294 the Parliamentary Health and Wellbeing Service had reported low numbers of MPs requesting
42
43 295 support. This study confirms this reluctance to seek help in finding that a majority of MPs are unaware
44
45 296 of the service or how to access it. Reasons for this might be insufficient advertising of the support
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47 297 options offered and location of the services, as well as anticipated stigma and discrimination among
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49 298 MPs.[26]
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55 56 57 300 **Strengths and weaknesses of the study**

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3 301 The study has several limitations and potential biases. First, the response rate was relatively low
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5 302 (22.4%). Given the intense work loads of MPs, this may have been partly due to the additional
6
7 303 workload of completing the survey, even though the median time to complete survey was only 4
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9 304 minutes. Notably, a possible fear of being identified, of stigmatisation, and of the potential
10
11 305 reputational damage associated with adverse media coverage may have influenced the response rate.
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14 306 We tried to reduce these biases by promoting the survey in Parliament, by sending several reminders,
15
16 307 and by stressing the brevity, as well as the anonymity of the survey. Generally, MPs are a difficult
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18 308 survey population to engage, which has also been confirmed in a 2008 internal UK Parliament survey,
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20
21 309 where only 14.5% (94 MPs) responded.[27]
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24 310 Secondly, it is also possible that MPs who responded to the online survey may have increased stress
25
26 311 or mental ill health and that therefore a greater number of them were willing to complete the survey.
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28 312 A potential self-selection bias may therefore be present in the UKPMH sample. However, there is also
29
30 313 a potential risk of under-reporting from people who might be reluctant to take part in the study,
31
32 314 because they are affected by mental health problems, or because of the stigma associated with the
33
34 315 topic. Prior experiences of, or fears of stalking and harassment, which might result from their
35
36 316 disclosure, may decrease the willingness in MPs to participate in the survey.[28]
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41 317 Respondents tended to be younger in relation to the age distribution of all MPs (18% of the UKPMH
42
43 318 sample vs. 16% of total MP population were below 40 years old), and more likely to be female (36%
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45 319 female of the UKPMH sample vs 30% of total MPs population were female) in relation to the gender
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47 320 distribution of the total number of MPs and had a university degree (81% of the UKPMH sample vs
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49 321 76% of total MP population). We did not assess marital or cohabitation status, as this would have
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51 322 increased the risk of identifiability of MPs, and this may have therefore also adversely affected the
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53 323 response rate.
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57 324 Thirdly, comparing MPs to other occupational and socio-demographic groups within a population
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59 325 presents challenges. We considered comparing the UKPMH sample to the UK Health and Safety
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3 326 Executive's Labour Force Survey (LFS), which provides annual data on rates of mental disorder by
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5 327 occupation.[29] However, the LFS relies on random household sampling is poorly suited to
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7 328 extrapolating meaningful data for a relatively small group 650 UK MPs. Published LFS data lacks
8
9 329 sufficient granularity to be able to analyse the prevalence of mental disorders at an occupation-
10
11 330 specific level, which for politicians would be 'elected officers and representatives'.[30] Given the
12
13 331 unique features of political careers, including the diverse backgrounds from which politicians may be
14
15 332 drawn, specific data relating to these generic occupational groupings are unlikely to be fully helpful in
16
17 333 understanding why there is a higher burden of mental ill health. In this sample we found that having
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19 334 employment outside Parliament, and in addition to the role of MP, does not seem to constitute an
20
21 335 increased risk for mental ill health. However, we regard this outcome with caution as this study may
22
23 336 be underpowered to test for this specific variable, as most participants (81%) did not have
24
25 337 employment outside Parliament.

31 338 **Comparison of results with earlier studies**

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34 339 When examining UK parliamentary working hours reform, research found high levels of physical and
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36 340 emotional stress as a result of various aspects of political life such as additional work roles, extensive
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38 341 travel and job insecurity.[31] A longitudinal study in new UK MPs highlighted increased levels of stress
39
40 342 post-election.[32] In 2008 the UK Parliament also conducted its own informal survey regarding
41
42 343 experience and perceptions of mental illness, which concluded that one in five MPs had a personal
43
44 344 experience of a mental health problem, and one in three felt stigma was a barrier to openness about
45
46 345 mental health, yet no data on CMD were collected.[27] Given that work characteristics promoting
47
48 346 stress are associated with mental disorders,[33, 34] it may be reasonable to assume that rates of CMD
49
50 347 would be high in parliamentarians. However, no rigorous assessment has previously been conducted
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52 348 to investigate this issue.

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57 349 Selected studies have investigated mental health in politicians, and although they have drawn on
58
59 350 biographical evidence, their findings are in line with the results of this study. One study rated 46

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3 351 statesmen and national leaders' biographies for psychopathology, and found increased rates for
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5 352 lifetime psychopathology, episodes of mental ill health, with only 15.2% of politicians showing no
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7 353 psychopathology at all.[35] A review of biographical sources looking at mental disorders in U.S.
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10 354 Presidents between 1776 and 1974, found that eighteen (49%) presidents met criteria indicative of
11
12 355 psychiatric disorders.[36]

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14
15 356 A cross-national study in the UK, Australia, New Zealand and Norway found that a higher proportion
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17 357 of MPs than the general public experience stalking, harassment and intrusive or aggressive
18
19 358 behaviours.[28] They found that in the UK, 81% of MPs had experienced intrusive or aggressive
20
21 359 behaviours, 18% been subject to attack/attempted attack, and 53% stalked or harassed. These
22
23 360 intimidating experiences both have a negative impact on MPs' mental health and are likely to reinforce
24
25 361 stigma and non-disclosure.[37]

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29 362 This is the first study of assessment of mental health in members of Parliament of the UK House of
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31 363 Commons using structured, validated scales. These findings indicate that MPs are more likely to
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33 364 experience probable mental ill health and symptoms indicative of mental distress compared to the
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35 365 general population, and compared with similar occupational and professional groups. In addition,
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37 366 most MPs are not aware of mental health support offered by the Parliamentary Health and Wellbeing
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39 367 service, or willing to disclose to their whips or other MPs. This leaves MPs who have experience of
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41 368 mental ill health facing considerable difficulties without knowing how to access help.

42 43 44 45 369 **Interpretation of the results**

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49 370 A number of studies have examined media and public reactions to politicians' actual or perceived
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51 371 mental health problems.[14-16] In an ever more hostile media environment, poor mental health can
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53 372 be regarded as a factor limiting politicians in their capacities. Stigma against people with mental
54
55 373 disorders is prevalent in all countries and all sectors of society. It was not until 2013 that the UK passed
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57 374 the Mental Health (Discrimination) (No 2) Act 2013, which removed discriminatory provisions
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2
3 375 permitting Members of Parliament (MPs) with mental health problems to be disqualified under certain
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5 376 circumstances.[38] Subsequent to the Act, there have been more disclosures from politicians about
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7 377 personal mental health problems. However, given that the results of this study showed that only 48%
8
9 378 of surveyed MPs felt able to talk to their party whips, and only about half (52%) felt able to talk to
10
11 379 another MP about their mental health, stigma and self-stigma about mental health appears to remain
12
13 380 a powerful barrier to seeking help and support among Members of the UK House of Commons.
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17 381 The power of disclosure as a catalyst for overcoming stigma has been demonstrated in 1998 when
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19 382 Kjell Magne Bondevik, then Prime Minister of Norway, spoke publicly about his experience of
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21 383 depression. His disclosure was empathetically received by the media and by the public.[39]
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25 384 In 2012, during a House of Commons debate on mental health, four MPs disclosed their own mental
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27 385 health experiences. This eventually paved the way to providing MPs with access to mental health
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29 386 services in Westminster. Consequently, the Parliamentary Health and Wellbeing Service was created
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31 387 in 2013 and operates a mental health referral service as well as providing general medical advice,
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33 388 support and guidance to MPs and other staff working at Parliament. The service is nurse-led and is
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35 389 supported by one occupational health doctor for 3 days each week. It does not offer the more
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37 390 comprehensive health service that is often provided by General Practice in the United Kingdom. Our
38
39 391 findings show poor awareness amongst MPs of the Parliamentary Health and Wellbeing Service and
40
41 392 how to access it. This may be related to the restricted times that the service operates, or that the
42
43 393 service is not located on the main Parliamentary Estate. These findings support the need for an
44
45 394 increased mental health support for MPs and raising awareness about the Parliamentary Health and
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47 395 Wellbeing Service. They also support the need to for mental health stigma and self-stigma reduction
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49 396 amongst MPs.
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58 398 **Implications for future research**

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3 399 This is an initial study into the mental health of MPs, and further work is needed to assess the key
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5 400 issues identified, and to assess trends in the mental health of MPs over time. Our findings are only a
6
7 401 starting point, but they reveal MPs' mental health problems and the need to properly assess them. A
8
9 402 more granular assessment of mental health problems, including rates and consequences of alcohol
10
11 403 and substance use-related problems, as well as cognitive impairment would be needed to provide a
12
13 404 more in-depth picture. In terms of prevention, a better understanding of the causes for mental health
14
15 405 problems and specific risk factors in MPs such as (cyber) bullying, harassment or stalking would be
16
17 406 informative, and investigating effective mechanisms and strategies for prevention and increasing
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19 407 resilience. There is a need for better promotion of mental health support, such as the Parliamentary
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21 408 Health and Wellbeing Service, and for additional information and support for MPs in accessing the full
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23 409 range of mental health care. Due to their working routine and hours, MPs spend a majority of their
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25 410 working time far from the support provided by the NHS services in their own constituencies. In
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27 411 addition to their high-performance work life, this adds to the increased stress on MPs' mental health.
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29 412 It is also why strengthening the Parliamentary Health and Wellbeing Service could offer a specifically
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31 413 relevant support function. Research is also needed on mental health of other parliamentary staff, to
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33 414 identify their needs, and to evaluate their awareness of, and access to, the Parliamentary Health and
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35 415 Wellbeing Service and other relevant services.
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45 417 **CONCLUSION AND POLICY IMPLICATIONS**

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48 418 MPs have a vital role to play in the UK democracy: in making and scrutinising the legislation that
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50 419 governs the country, as well as in representing the interests of their constituents and the nation. This
51
52 420 study has found the people in these important roles experience significantly higher levels of mental ill
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54 421 health when compared to the general population, and when compared to other senior executive and
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56 422 managerial groups. Most MPs do not feel that they have adequate mental health support, and they
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58 423 lack knowledge of how to access the mental health services that are available to them. Most MPs are
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3 424 not able to discuss their mental health problems with their whips or other MPs. These findings indicate
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5 425 that better support is required both to prevent mental health problems among MPs and to ensure
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7 426 rapid and effective care when needed, to support MPs in their vital work for the people they serve.
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12
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22
23 456 currently MP of the 57th UK Parliament and was member of the 56th UK Parliament; no other
24
25 457 relationships or activities that could appear to have influenced the submitted work.
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45 466 party to do any or all of the above."
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50 467 **Ethical approval:** Ethics approval for the study was obtained in September 2016 from King's College
51
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53
54

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56
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59 471 [england/health-survey-for-england-2014](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/health-survey-for-england-2014). Due to the sensibility of the data, and in order to ensure full
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1
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3 472 anonymity, confidentiality and data protection for the participants, the full survey data cannot be
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5 473 made accessible to the public.
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8 474 **Transparency declaration:** The corresponding author affirms that the manuscript is an honest,
9
10 475 accurate, and transparent account of the study being reported; that no important aspects of the study
11
12 476 have been omitted; and that any discrepancies from the study as planned have been explained.
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17
18 478 NV coordinated the study. All authors contributed to the design of the study. NV and FD conducted
19
20 479 the literature review. DP and NV collected the data. IB conducted design and analysis of the data. JD
21
22 480 supported the design of the data analysis, and contributed throughout the design and writing up of
23
24 481 the study. NV led the writing of the manuscript, and all authors contributed and critically revised it.
25
26 482 All authors have given their approval for the publication of this manuscript and agree to be
27
28 483 accountable for all aspects of the work to ensure that the questions related to the accuracy or integrity
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30 484 of any part of the work are appropriately investigated and resolved.
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34 546 [z/other-committees/members-estimate/news/new-support-announced-for-mps-with-mental-](http://www.parliament.uk/business/committees/committees-a-z/other-committees/members-estimate/news/new-support-announced-for-mps-with-mental-health-problems/)
35 547 [health-problems/](http://www.parliament.uk/business/committees/committees-a-z/other-committees/members-estimate/news/new-support-announced-for-mps-with-mental-health-problems/)].
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3 582 **List of figures and legends**
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5 583

6 584 **Figure 1:**

7 585 **Age-Sex standardised prevalence estimates and 95% Confidence Intervals of UKPMH and of specific**
8 586 **population groups of HSE 2014 for the three different categories of Common Mental Disorders**
9 587 **(CMD).**
10

11 588

12 589 Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate
13 590 Managers (HSE 2014); AM: All managers (HSE 2014); HIG: High-income group (HSE 2014).
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17 593 **Figure 2:**

18 594 **Access to the mental health (MH) support of the Parliamentary Health and Wellbeing Service**
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21 596 NB: All p-values <0.001.
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26 600 **Figure 3:**

27 601 **Awareness of the mental health (MH) support of the Parliamentary Health and Wellbeing Service**
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30 603 NB: All p-values <0.001
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35 607 **Figure 4:**

36 608 **Willingness to talk to party whips**
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39 610 NB: All p-values <0.001
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44 614 **Figure 5:**

45 615 **Willingness to talk to other MPs**
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48 617 NB: All p-values <0.001
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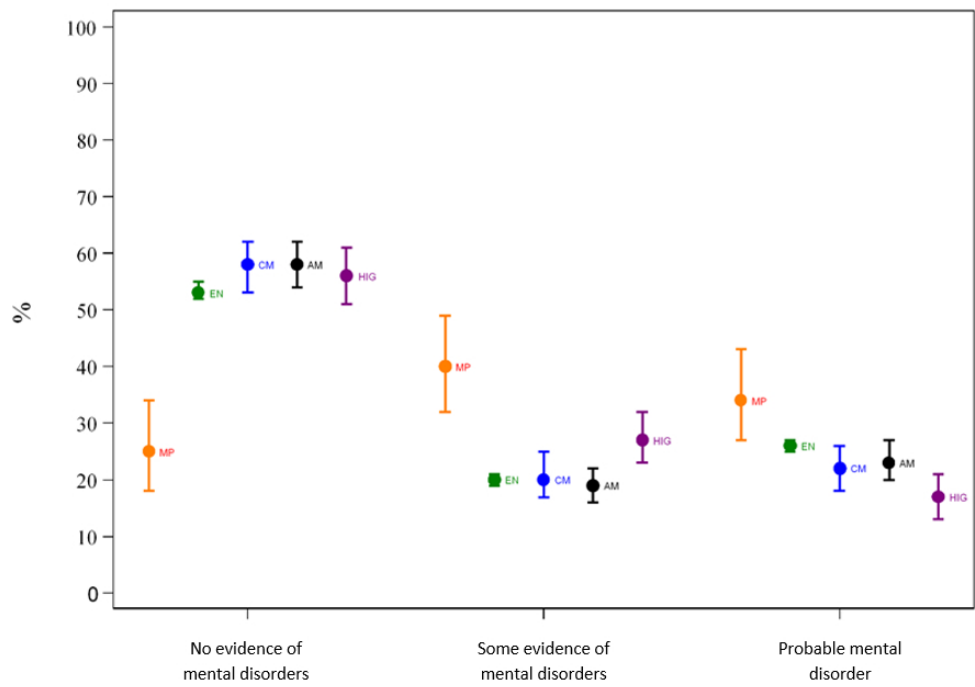


Figure 1: Age-Sex standardised prevalence estimates and 95% Confidence Intervals of UKPMH and of specific population groups of HSE 2014 for the three different categories of Common Mental Disorders (CMD).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: High-income group (HSE 2014).

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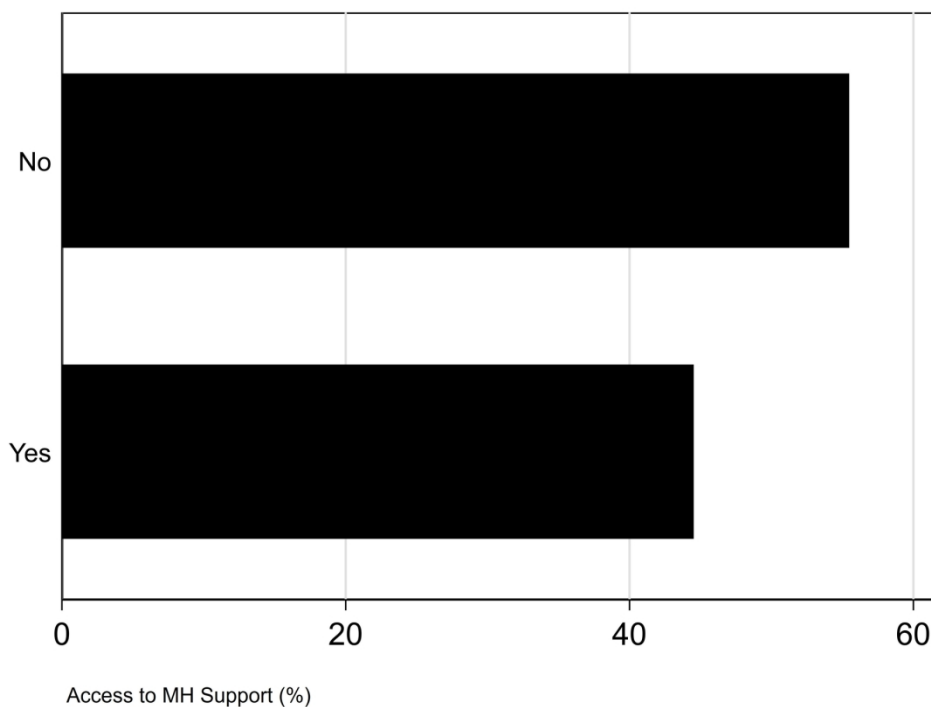
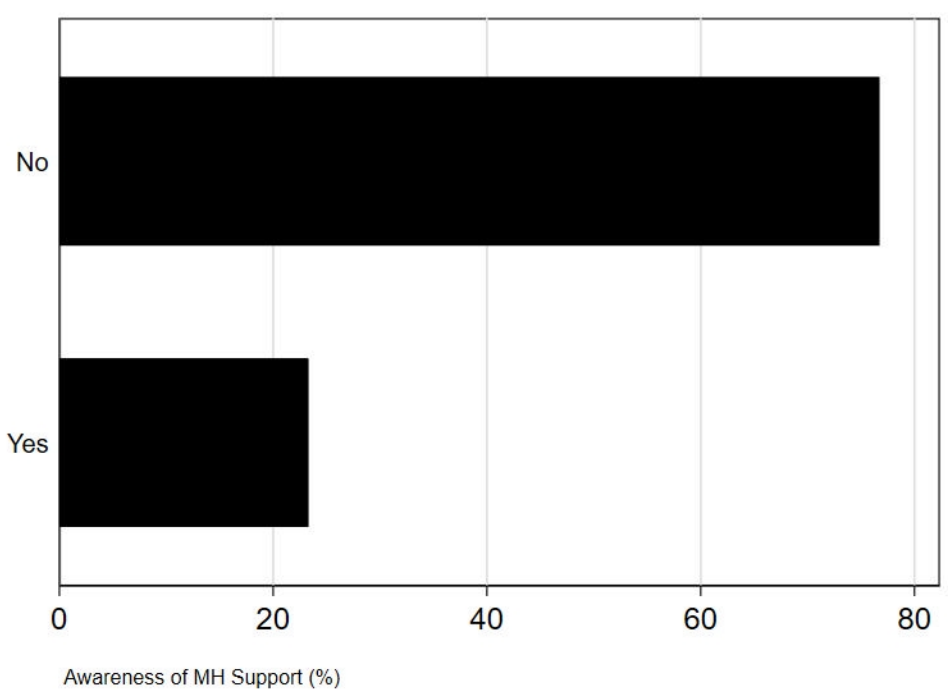


Figure 2: Access to the mental health (MH) support of the Parliamentary Health and Wellbeing Service

NB: All p-values <0.001.

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Awareness of the mental health (MH) support of the Parliamentary Health and Wellbeing Service

NB: All p-values <0.001

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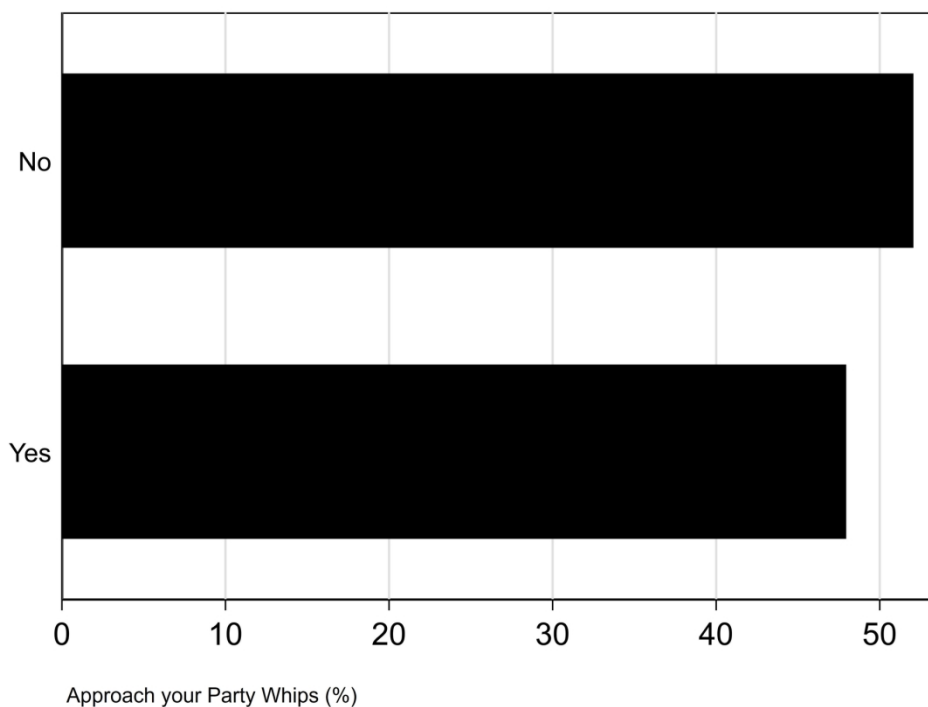


Figure 4: Willingness to talk to party whips

NB: All p-values <0.001.

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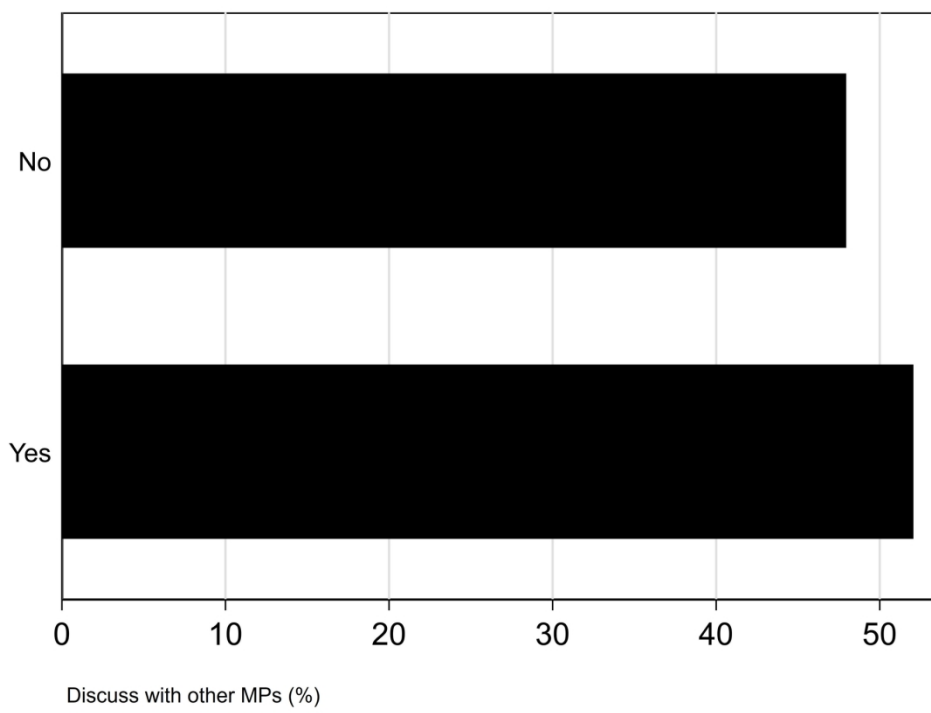


Figure 5: Willingness to talk to other MPs

NB: All p-values <0.001.

169x127mm (300 x 300 DPI)

Supplementary File (Online)

1. FULL LIST OF QUESTIONS

UKMPH Survey 2016: list of demographic questions

1. What age group are you?
 - Age 21 to 30
 - Age 31 to 40
 - Age 41 to 50
 - Age 51 to 60
 - Age 61 to 70
 - Age 70 +
2. How long have you been a Westminster MP?
 - Less than 5 years
 - 5 to 10 years
 - 11 to 15 years
 - 16 to 20 years
 - 21 to 25 years
 - More than 25 years
3. What is your highest level of educational attainment?
 - GCSE / O Level
 - A Level / Scottish Higher
 - Vocational Qualifications (BTEC, NVQ, HNC etc)
 - Undergraduate Degree (BA, BSc, or equivalent)
 - Post Graduate (MA, MSc, or equivalent)
 - Doctorate (PhD or equivalent)
4. What is your gender?
 - Male
 - Female
5. Do you have a job / role outside of Parliament?
 - Yes - Paid
 - Yes - Unpaid
 - No

UKMPH Survey 2016: List of questions on inhouse mental health services

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6. Do you know how to access Mental Health Support through the Parliamentary Health and Wellbeing Service?
 - Yes
 - No
 7. Does the Parliamentary Health and Wellbeing Service currently offer enough support to meet your mental health needs?
 - Yes
 - Somewhat
 - No
 8. Would you be happy to approach your Party Whip's office if you were experiencing mental health problems?
 - Yes
 - No
 9. Would you be happy to discuss with other MPs if you were experiencing mental health problems?
 - Yes
 - No

2. TABLE S1

Table S1: Descriptive characteristics of the 12 item GHQ (GHQ-12) and the four different predetermined HSE 2014 occupational and sociodemographic comparator groups (EN, CM, AM, HIG) - for Males

	n	WP	n	WP	n	WP	n	WP	n	WP
		MP		EN		CM		AM		HIG
		95% CI		95% CI		95% CI		95% CI		95% CI
Age										
21-30	2	0.00 0.00 to 0.01	515	0.22 0.20 to 0.23	26	0.19 0.13 to 0.27	35	0.17 0.12 to 0.23	32	0.18 0.13 to 0.25
31-40	15	0.10 0.06 to 0.16	558	0.17 0.16 to 0.19	28	0.12 0.08 to 0.17	46	0.14 0.10 to 0.18	59	0.23 0.18 to 0.29
41-50	27	0.31 0.22 to 0.42	702	0.19 0.18 to 0.20	56	0.22 0.17 to 0.28	74	0.19 0.16 to 0.24	57	0.19 0.15 to 0.25
51-60	31	0.49 0.38 to 0.60	606	0.16 0.15 to 0.17	38	0.17 0.13 to 0.23	66	0.20 0.15 to 0.24	43	0.14 0.10 to 0.18
61-70	15	0.10 0.06 to 0.17	632	0.14 0.13 to 0.15	51	0.17 0.13 to 0.22	78	0.18 0.14 to 0.22	45	0.13 0.10 to 0.18
70 +	2	0.00 0.00 to 0.01	565	0.12 0.11 to 0.13	37	0.12 0.09 to 0.16	60	0.13 0.10 to 0.16	46	0.13 0.09 to 0.17
Educational attainment										
NVQ4/NVQ5/ Degree	0	0.79 0.69 to 0.87	931	0.28 0.26 to 0.30	98	0.42 0.35 to 0.49	122	0.34 0.29 to 0.40	214	0.77 0.72 to 0.82
Higher ed below degree	72	0.09 0.04 to 0.17	524	0.13 0.12 to 0.14	29	0.13 0.09 to 0.19	46	0.13 0.09 to 0.17	29	0.08 0.06 to 0.12
NVQ3/GCE A Level	8	0.03 0.01 to 0.08	504	0.16 0.15 to 0.17	36	0.16 0.11 to 0.22	58	0.18 0.14 to 0.23	20	0.08 0.05 to 0.13
NVQ2/GCE O Level	3	0.10 0.05 to 0.19	631	0.18 0.17 to 0.20	41	0.17 0.13 to 0.23	66	0.18 0.14 to 0.23	13	0.04 0.02 to 0.07
NVQ1/CSE other grade	9	N/A	190	0.05 0.04 to 0.06	5	0.03 0.01 to 0.07	9	0.03 0.01 to 0.06	2	0.01 0.00 to 0.02
Foreign/other	0	N/A	9	0.00 0.00 to 0.01	0	0.09 0.06 to 0.14	1	0.01 0.00 to 0.04	0	0.01 0.00 to 0.03
No qualification	0	N/A	768	0.20 0.19 to 0.21	26	N/A	56	0.14 0.10 to 0.18	4	N/A
GHQ -12										
Item 1: Have you recently been able to concentrate on whatever you're doing?										
Better than usual	2	0.02 0.00 to 0.10	100	0.04 0.03 to 0.05	5	0.03 0.01 to 0.07	9	0.03 0.01 to 0.06	7	0.03 0.01 to 0.06
Same as usual	61	0.68 0.56 to 0.77	2746	0.87 0.85 to 0.88	193	0.89 0.83 to 0.94	290	0.90 0.85 to 0.93	239	0.92 0.87 to 0.95
Less than usual	26	0.26 0.18 to 0.37	284	0.08 0.07 to 0.09	12	0.06 0.03 to 0.11	18	0.06 0.04 to 0.10	14	0.05 0.03 to 0.09
Much less than usual	3	0.04 0.01 to 0.12	40	0.01 0.01 to 0.02	2	0.02 0.00 to 0.08	3	0.02 0.00 to 0.06	0	N/A
Item 2: Have you recently lost much sleep over worry?										
Not at all	18	0.19 0.12 to 0.30	1211	0.38 0.36 to 0.40	81	0.39 0.32 to 0.46	128	0.39 0.34 to 0.45	92	0.33 0.28 to 0.40
No more than usual	42	0.47 0.36 to 0.58	1519	0.48 0.46 to 0.50	114	0.53 0.45 to 0.60	166	0.52 0.46 to 0.58	136	0.56 0.49 to 0.62
Rather more than usual	26	0.27 0.19 to 0.38	352	0.11 0.10 to 0.12	15	0.07 0.04 to 0.12	23	0.08 0.05 to 0.11	30	0.11 0.07 to 0.15
Much more than usual	6	0.06 0.03 to 0.14	89	0.03 0.02 to 0.03	2	0.01 0.00 to 0.04	3	0.01 0.00 to 0.04	2	0.01 0.00 to 0.02
Item 3: Have you recently felt you were playing a useful part in things?										

More so than usual	14	0.15 0.09 to 0.25	291	0.10 0.09 to 0.11	26	0.13 0.09 to 0.19	35	0.11 0.08 to 0.16	27	0.10 0.07 to 0.15
Same as usual	47	0.49 0.38 to 0.60	2533	0.80 0.79 to 0.82	171	0.78 0.71 to 0.84	257	0.78 0.73 to 0.83	215	0.82 0.77 to 0.87
Less useful than usual	28	0.31 0.22 to 0.42	274	0.08 0.07 to 0.09	15	0.09 0.05 to 0.15	27	0.10 0.07 to 0.15	16	0.07 0.04 to 0.11
Much less useful	3	0.04 0.01 to 0.13	66	0.02 0.01 to 0.03	0	N/A	1	0.00 0.00 to 0.02	2	0.01 0.00 to 0.03

Item 4: Have you recently felt capable of making decisions about things?

More so than usual	5	0.05 0.02 to 0.13	231	0.08 0.07 to 0.10	13	0.08 0.04 to 0.14	20	0.07 0.04 to 0.11	20	0.07 0.05 to 0.12
Same as usual	77	0.86 0.76 to 0.92	2745	0.86 0.84 to 0.87	193	0.88 0.81 to 0.93	290	0.89 0.84 to 0.92	232	0.89 0.84 to 0.92
Less so than usual	10	0.09 0.05 to 0.18	171	0.05 0.04 to 0.06	6	0.04 0.02 to 0.09	10	0.04 0.02 to 0.08	8	0.04 0.02 to 0.08
Much less capable	0	N/A	23	0.01 0.00 to 0.01	0	N/A	0	N/A	0	N/A

Item 5: Have you felt under constant strain recently?

Not at all	8	0.08 0.04 to 0.17	837	0.27 0.25 to 0.29	68	0.32 0.25 to 0.39	106	0.32 0.27 to 0.38	64	0.23 0.18 to 0.29
No more than usual	42	0.43 0.33 to 0.54	1773	0.56 0.54 to 0.58	114	0.53 0.45 to 0.60	168	0.52 0.46 to 0.58	143	0.54 0.47 to 0.60
Rather more than usual	33	0.38 0.28 to 0.50	466	0.14 0.13 to 0.16	27	0.15 0.10 to 0.21	42	0.15 0.11 to 0.20	49	0.21 0.16 to 0.28
Much more than usual	9	0.10 0.05 to 0.19	92	0.03 0.02 to 0.03	3	0.01 0.00 to 0.03	4	0.01 0.00 to 0.02	4	0.02 0.01 to 0.06

Item 6: Have you recently felt you couldn't overcome your difficulties?

Not at all	31	0.31 0.22 to 0.42	1191	0.39 0.37 to 0.40	88	0.41 0.34 to 0.49	138	0.43 0.37 to 0.49	96	0.34 0.29 to 0.41
No more than usual	45	0.52 0.41 to 0.63	1680	0.52 0.51 to 0.54	107	0.51 0.43 to 0.58	155	0.49 0.43 to 0.54	148	0.59 0.52 to 0.65
Rather more than usual	14	0.15 0.09 to 0.24	241	0.07 0.06 to 0.08	15	0.07 0.04 to 0.12	24	0.08 0.05 to 0.12	16	0.07 0.04 to 0.11
Much more than usual	2	0.02 0.01 to 0.09	55	0.02 0.01 to 0.02	2	0.01 0.00 to 0.06	3	0.01 0.00 to 0.04	0	N/A

Item 7: Have you recently been able to enjoy your normal day to day activities?

More so than usual	1	0.01 0.00 to 0.05	158	0.06 0.05 to 0.07	15	0.09 0.05 to 0.15	23	0.08 0.05 to 0.13	12	0.04 0.02 to 0.07
Same as usual	58	0.61 0.50 to 0.71	2537	0.80 0.78 to 0.82	174	0.79 0.71 to 0.85	256	0.77 0.71 to 0.82	220	0.84 0.78 to 0.88
Less so than usual	26	0.31 0.22 to 0.42	382	0.12 0.10 to 0.13	18	0.10 0.06 to 0.17	33	0.12 0.08 to 0.17	27	0.12 0.08 to 0.18
Much less than usual	7	0.07 0.03 to 0.15	88	0.02 0.02 to 0.03	4	0.02 0.01 to 0.05	8	0.02 0.01 to 0.05	1	0.00 0.00 to 0.02

Item 8: Have you recently been able to face up to your problems?

More so than usual	7	0.08 0.04 to 0.16	154	0.06 0.05 to 0.07	9	0.06 0.03 to 0.12	15	0.06 0.03 to 0.10	9	0.04 0.02 to 0.08
Same as usual	73	0.78 0.68 to 0.86	2746	0.87 0.86 to 0.88	191	0.90 0.84 to 0.94	287	0.90 0.86 to 0.93	235	0.91 0.86 to 0.95
Less able than usual	12	0.14 0.08 to 0.24	198	0.06 0.05 to 0.07	6	0.03 0.01 to 0.06	10	0.04 0.02 to 0.07	12	0.05 0.02 to 0.09
Much less able	0	N/A	29	0.01 0.01 to 0.01	1	0.01 0.00 to 0.06	1	0.01 0.00 to 0.04	0	N/A

Item 9: Have you recently been feeling unhappy and depressed?

Not at all	29	0.31 0.21 to 0.42	1263	0.41 0.39 to 0.43	96	0.46 0.38 to 0.53	151	0.48 0.42 to 0.54	104	0.38 0.31 to 0.44
No more than usual	38	0.43 0.32 to 0.54	1420	0.45 0.43 to 0.47	90	0.43 0.36 to 0.51	130	0.41 0.35 to 0.47	129	0.54 0.47 to 0.60
Rather more than usual	25	0.26 0.18 to 0.37	366	0.12 0.10 to 0.13	20	0.11 0.07 to 0.17	28	0.10 0.07 to 0.14	23	0.09 0.06 to 0.13

Much more than usual	0	N/A	75	0.02 0.02 to 0.03	1	0.00 0.00 to 0.03	3	0.01 0.00 to 0.04	0	N/A
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Item 10: Have you recently been losing confidence in yourself?

Not at all	38	0.39 0.29 to 0.51	1510	0.49 0.47 to 0.51	113	0.53 0.46 to 0.61	176	0.55 0.49 to 0.61	132	0.48 0.42 to 0.55
No more than usual	39	0.43 0.33 to 0.54	1290	0.41 0.39 to 0.43	80	0.39 0.32 to 0.47	116	0.37 0.32 to 0.43	106	0.44 0.38 to 0.51
Rather more than usual	15	0.17 0.10 to 0.28	263	0.09 0.07 to 0.10	11	0.07 0.04 to 0.13	17	0.07 0.04 to 0.12	18	0.07 0.04 to 0.12
Much more than usual	0	N/A	58	0.02 0.01 to 0.02	1	0.00 0.00 to 0.03	2	0.01 0.00 to 0.03	0	N/A

Item 11: Have you recently been thinking of yourself as a worthless person?

Not at all	54	0.57 0.45 to 0.67	2128	0.69 0.67 to 0.70	152	0.72 0.65 to 0.78	231	0.73 0.67 to 0.78	184	0.70 0.64 to 0.76
No more than usual	29	0.32 0.23 to 0.43	810	0.25 0.24 to 0.27	43	0.20 0.15 to 0.27	64	0.20 0.16 to 0.26	65	0.27 0.21 to 0.34
Rather more than usual	9	0.11 0.06 to 0.20	134	0.04 0.04 to 0.05	12	0.08 0.04 to 0.14	17	0.07 0.04 to 0.11	6	0.02 0.01 to 0.05
Much more than usual	0	N/A	53	0.02 0.01 to 0.02	0	N/A	1	0.00 0.00 to 0.03	1	0.00 0.00 to 0.03

Item 12: Have you recently been feeling reasonably happy, all things considered?

More so than usual	5	0.06 0.02 to 0.14	310	0.11 0.10 to 0.12	18	0.11 0.07 to 0.17	26	0.10 0.06 to 0.14	29	0.12 0.08 to 0.18
About same as usual	67	0.71 0.60 to 0.80	2510	0.80 0.78 to 0.81	175	0.82 0.75 to 0.87	266	0.83 0.77 to 0.87	215	0.83 0.77 to 0.87
Less so than usual	20	0.23 0.15 to 0.33	243	0.07 0.06 to 0.08	13	0.06 0.03 to 0.10	18	0.06 0.04 to 0.09	11	0.05 0.02 to 0.08
Much less than usual	0	N/A	59	0.02 0.01 to 0.02	1	0.01 0.00 to 0.06	4	0.02 0.01 to 0.05	1	0.00 0.00 to 0.02

Presence of probable mental ill health

No evidence of probable MIH	26	0.29 0.20 to 0.40	2009	0.56 0.55 to 0.58	143	0.58 0.51 to 0.65	220	0.58 0.52 to 0.64	168	0.58 0.52 to 0.65
Less than optimal MIH	39	0.41 0.30 to 0.52	665	0.19 0.17 to 0.20	44	0.22 0.16 to 0.28	61	0.19 0.15 to 0.24	69	0.27 0.21 to 0.33
MIH	27	0.30 0.21 to 0.41	904	0.25 0.23 to 0.26	49	0.20 0.15 to 0.27	78	0.23 0.18 to 0.28	45	0.15 0.11 to 0.20

Weighted proportion (WP) with the corresponding 95% Confidence Intervals (CI).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: high-income group (HSE 2014).

3. TABLE S2

Table S2: Descriptive characteristics of the 12 item GHQ (GHQ-12) and the four different predetermined HSE 2014 occupational and sociodemographic comparator groups (EN, CM, AM, HIG) - for Females

	n	WP	n	WP	n	WP	n	WP	n	WP
		MP		EN		CM		AM		HIG
		95% CI		95% CI		95% CI		95% CI		95% CI
Age										
21-30	2	0.00 0.00 to 0.01	681	0.20 0.19 to 0.22	21	0.13 0.08 to 0.21	36	0.13 0.09 to 0.19	26	0.21 0.14 to 0.29
31-40	8	0.08 0.04 to 0.17	784	0.17 0.16 to 0.19	45	0.16 0.12 to 0.21	72	0.17 0.14 to 0.21	55	0.32 0.25 to 0.40
41-50	17	0.32 0.20 to 0.46	845	0.18 0.17 to 0.19	66	0.24 0.19 to 0.29	83	0.20 0.16 to 0.24	30	0.18 0.12 to 0.25
51-60	21	0.54 0.39 to 0.68	726	0.16 0.15 to 0.17	51	0.21 0.16 to 0.28	80	0.21 0.17 to 0.26	21	0.12 0.08 to 0.18
61-70	5	0.06 0.02 to 0.14	681	0.13 0.12 to 0.14	44	0.15 0.11 to 0.19	71	0.16 0.13 to 0.20	20	0.11 0.07 to 0.17
70 +	1	0.00 0.00 to 0.01	722	0.15 0.14 to 0.16	32	0.11 0.08 to 0.15	55	0.12 0.10 to 0.16	11	0.06 0.03 to 0.11
Educational attainment										
NVQ4/NVQ5/Degree	0	N/A	1106	0.27 0.25 to 0.28	84	0.33 0.27 to 0.40	115	0.30 0.25 to 0.35	14	0.88 0.82 to 0.92
Higher ed below degree	47	0.05 0.01 to 0.17	483	0.10 0.09 to 0.11	39	0.15 0.11 to 0.20	58	0.14 0.11 to 0.18	5	0.03 0.01 to 0.06
NVQ3/GCE A Level	3	0.02 0.01 to 0.09	678	0.17 0.16 to 0.18	37	0.16 0.11 to 0.24	61	0.17 0.13 to 0.23	6	0.04 0.02 to 0.08
NVQ2/GCE O Level	2	0.01 0.00 to 0.07	878	0.19 0.18 to 0.21	58	0.22 0.17 to 0.27	88	0.21 0.17 to 0.25	6	0.03 0.02 to 0.08
NVQ1/CSE other grade	2	N/A	125	0.03 0.02 to 0.03	7	0.02 0.01 to 0.05	9	0.02 0.01 to 0.04	1	0.01 0.00 to 0.04
Foreign/other	0	N/A	95	0.02 0.02 to 0.02	4	0.01 0.00 to 0.03	9	0.02 0.01 to 0.04	2	0.01 0.00 to 0.04
No qualification	0	N/A	1060	0.22 0.21 to 0.24	30	0.10 0.07 to 0.15	57	0.13 0.10 to 0.17	2	0.01 0.00 to 0.03
GHQ -12										
Item 1: Have you recently been able to concentrate on whatever you're doing?										
Better than usual	3	0.05 0.01 to 0.15	123	0.03 0.02 to 0.04	10	0.04 0.02 to 0.07	15	0.04 0.02 to 0.06	3	0.02 0.01 to 0.06
Same as usual	32	0.61 0.46 to 0.74	3327	0.83 0.82 to 0.85	201	0.86 0.81 to 0.90	312	0.87 0.83 to 0.90	13	0.87 0.81 to 0.92
Less than usual	14	0.25 0.14 to 0.39	487	0.12 0.11 to 0.13	26	0.11 0.07 to 0.15	35	0.09 0.07 to 0.13	15	0.10 0.06 to 0.17
Much less than usual	5	0.09 0.04 to 0.21	63	0.01 0.01 to 0.02	0	N/A	0	N/A	1	0.01 0.00 to 0.04
Item 2: Have you recently lost much sleep over worry?										

Not at all	6	0.12 0.05 to 0.26	1123	0.28 0.27 to 0.30	65	0.27 0.21 to 0.34	98	0.26 0.22 to 0.32	38	0.25 0.18 to 0.33
No more than usual	24	0.45 0.31 to 0.60	2054	0.51 0.50 to 0.53	132	0.56 0.49 to 0.63	204	0.57 0.52 to 0.63	84	0.56 0.48 to 0.64
Rather more than usual	12	0.23 0.13 to 0.37	683	0.17 0.16 to 0.18	36	0.15 0.11 to 0.20	53	0.14 0.11 to 0.18	25	0.17 0.12 to 0.24
Much more than usual	12	0.19 0.10 to 0.33	151	0.03 0.03 to 0.04	5	0.02 0.01 to 0.05	8	0.02 0.01 to 0.04	4	0.02 0.01 to 0.06

Item 3: Have you recently felt you were playing a useful part in things?

More so than usual	13	0.28 0.16 to 0.43	385	0.10 0.09 to 0.11	32	0.18 0.12 to 0.27	48	0.16 0.12 to 0.23	12	0.09 0.05 to 0.15
Same as usual	20	0.38 0.25 to 0.53	3163	0.79 0.78 to 0.81	191	0.76 0.68 to 0.83	291	0.77 0.71 to 0.82	12	0.80 0.72 to 0.86
Less useful than usual	15	0.26 0.15 to 0.40	351	0.08 0.08 to 0.09	11	0.05 0.03 to 0.08	20	0.05 0.03 to 0.08	14	0.10 0.06 to 0.17
Much less useful	6	0.09 0.03 to 0.20	91	0.02 0.02 to 0.03	3	0.01 0.00 to 0.04	3	0.01 0.00 to 0.03	1	0.01 0.00 to 0.05

Item 4: Have you recently felt capable of making decisions about things?

More so than usual	4	0.07 0.03 to 0.19	278	0.07 0.06 to 0.08	16	0.06 0.04 to 0.10	22	0.06 0.04 to 0.09	8	0.07 0.03 to 0.13
Same as usual	41	0.78 0.65 to 0.88	3417	0.85 0.83 to 0.86	210	0.89 0.84 to 0.92	323	0.89 0.86 to 0.92	13	0.88 0.81 to 0.93
Less so than usual	7	0.10 0.04 to 0.21	273	0.07 0.06 to 0.08	11	0.04 0.02 to 0.08	17	0.04 0.03 to 0.07	8	0.05 0.03 to 0.10
Much less capable	2	0.04 0.01 to 0.17	43	0.01 0.01 to 0.01	1	0.01 0.00 to 0.04	1	0.00 0.00 to 0.02	0	N/A

Item 5: Have you felt under constant strain recently?

Not at all	1	0.02 0.00 to 0.13	941	0.24 0.23 to 0.25	62	0.24 0.19 to 0.31	88	0.23 0.19 to 0.28	30	0.20 0.14 to 0.28
No more than usual	18	0.34 0.22 to 0.49	2201	0.55 0.53 to 0.57	129	0.55 0.47 to 0.62	206	0.57 0.52 to 0.63	93	0.63 0.54 to 0.70
Rather more than usual	20	0.39 0.26 to 0.54	726	0.18 0.17 to 0.19	42	0.19 0.14 to 0.26	60	0.17 0.13 to 0.22	26	0.16 0.11 to 0.22
Much more than usual	15	0.25 0.15 to 0.40	133	0.03 0.02 to 0.03	4	0.02 0.01 to 0.05	8	0.02 0.01 to 0.04	2	0.01 0.00 to 0.06

Item 6: Have you recently felt you couldn't overcome your difficulties?

Not at all	10	0.20 0.11 to 0.34	1468	0.37 0.35 to 0.39	95	0.39 0.32 to 0.46	140	0.37 0.32 to 0.43	60	0.40 0.32 to 0.48
No more than usual	31	0.56 0.41 to 0.69	2082	0.52 0.50 to 0.53	127	0.55 0.47 to 0.62	197	0.56 0.50 to 0.61	81	0.54 0.46 to 0.62
Rather more than usual	10	0.18 0.09 to 0.32	361	0.09 0.08 to 0.10	16	0.07 0.04 to 0.11	24	0.07 0.04 to 0.10	7	0.05 0.02 to 0.09
Much more than usual	3	0.06 0.02 to 0.19	88	0.02 0.02 to 0.03	0	N/A	2	0.00 0.00 to 0.02	2	0.01 0.00 to 0.06

Item 7: Have you recently been able to enjoy your normal day to day activities?

More so than usual	5	0.08 0.03 to 0.20	218	0.06 0.05 to 0.07	20	0.13 0.07 to 0.22	24	0.09 0.06 to 0.16	11	0.08 0.04 to 0.15
Same as usual	30	0.58 0.43 to 0.71	3112	0.78 0.76 to 0.79	184	0.74 0.66 to 0.81	288	0.77 0.71 to 0.82	12	0.82 0.75 to 0.88
Less so than usual	10	0.17	542	0.13	29	0.11	45	0.12	13	0.08

		0.09 to 0.31		0.12 to 0.14		0.08 to 0.16		0.09 to 0.15		0.05 to 0.14
Much less than usual	9	0.17 0.08 to 0.30	137	0.03 0.03 to 0.04	5	0.02 0.01 to 0.05	6	0.02 0.01 to 0.04	3	0.02 0.01 to 0.06

Item 8: Have you recently been able to face up to your problems?

More so than usual	2	0.04 0.01 to 0.17	186	0.05 0.04 to 0.06	10	0.07 0.03 to 0.16	15	0.06 0.03 to 0.12	8	0.06 0.03 to 0.13
Same as usual	45	0.83 0.69 to 0.91	3411	0.86 0.85 to 0.87	213	0.89 0.81 to 0.94	323	0.90 0.84 to 0.93	13	0.90 0.83 to 0.94
Less able than usual	7	0.13 0.06 to 0.26	312	0.08 0.07 to 0.08	9	0.04 0.02 to 0.08	17	0.05 0.03 to 0.07	5	0.03 0.01 to 0.07
Much less able	0	N/A	43	0.01 0.01 to 0.01	0	N/A	0	N/A	1	0.01 0.00 to 0.05

Item 9: Have you recently been feeling unhappy and depressed?

Not at all	14	0.26 0.16 to 0.41	1583	0.40 0.38 to 0.41	117	0.49 0.42 to 0.56	167	0.46 0.40 to 0.52	64	0.42 0.34 to 0.50
No more than usual	21	0.38 0.25 to 0.53	1699	0.43 0.42 to 0.45	88	0.40 0.33 to 0.48	141	0.42 0.36 to 0.47	73	0.49 0.41 to 0.58
Rather more than usual	19	0.35 0.23 to 0.50	545	0.13 0.12 to 0.15	24	0.10 0.07 to 0.15	42	0.11 0.08 to 0.15	11	0.07 0.04 to 0.13
Much more than usual	0	N/A	131	0.03 0.03 to 0.04	2	0.01 0.00 to 0.03	4	0.01 0.00 to 0.03	3	0.02 0.01 to 0.06

Item 10: Have you recently been losing confidence in yourself?

Not at all	15	0.29 0.17 to 0.44	1682	0.42 0.40 to 0.44	119	0.52 0.45 to 0.59	173	0.49 0.43 to 0.55	69	0.45 0.37 to 0.54
No more than usual	26	0.49 0.35 to 0.63	1689	0.43 0.41 to 0.44	95	0.41 0.35 to 0.48	145	0.41 0.36 to 0.47	68	0.45 0.37 to 0.53
Rather more than usual	13	0.22 0.13 to 0.36	476	0.12 0.11 to 0.13	13	0.05 0.03 to 0.09	29	0.08 0.06 to 0.11	14	0.10 0.06 to 0.17
Much more than usual	0	N/A	112	0.03 0.02 to 0.04	4	0.02 0.01 to 0.04	7	0.02 0.01 to 0.04	0	N/A

Item 11: Have you recently been thinking of yourself as a worthless person?

Not at all	32	0.60 0.45 to 0.73	2561	0.64 0.63 to 0.66	171	0.74 0.68 to 0.80	249	0.71 0.65 to 0.75	10	0.67 0.58 to 0.74
No more than usual	15	0.29 0.17 to 0.44	1069	0.27 0.26 to 0.29	52	0.23 0.18 to 0.29	90	0.26 0.21 to 0.31	42	0.27 0.20 to 0.35
Rather more than usual	7	0.11 0.05 to 0.24	244	0.06 0.05 to 0.07	4	0.02 0.01 to 0.04	9	0.02 0.01 to 0.05	7	0.05 0.02 to 0.11
Much more than usual	0	N/A	80	0.02 0.02 to 0.02	3	0.01 0.00 to 0.04	5	0.01 0.00 to 0.03	1	0.01 0.00 to 0.05

Item 12: Have you recently been feeling reasonably happy, all things considered?

More so than usual	11	0.19 0.10 to 0.32	388	0.10 0.09 to 0.11	27	0.15 0.10 to 0.23	40	0.13 0.09 to 0.19	10	0.07 0.04 to 0.12
About same as usual	29	0.54 0.40 to 0.68	3123	0.79 0.77 to 0.80	189	0.79 0.71 to 0.85	287	0.79 0.74 to 0.84	13	0.86 0.80 to 0.91
Less so than usual	14	0.27 0.16 to 0.42	368	0.09 0.08 to 0.10	12	0.05 0.03 to 0.08	24	0.06 0.04 to 0.09	9	0.06 0.03 to 0.11
Much less than usual	0	N/A	78	0.02 0.02 to 0.03	3	0.01 0.00 to 0.04	3	0.01 0.00 to 0.03	1	0.01 0.00 to 0.05

Presence of probable mental ill health										
No evidence of probable MIH	9	0.19 0.10 to 0.34	2247	0.51 0.49 to 0.52	147	0.57 0.51 to 0.64	226	0.58 0.53 to 0.63	86	0.52 0.44 to 0.60
Less than optimal MIH	23	0.40 0.27 to 0.54	955	0.22 0.20 to 0.23	53	0.19 0.15 to 0.24	79	0.19 0.15 to 0.23	48	0.29 0.22 to 0.36
MIH	22	0.41 0.27 to 0.56	1237	0.28 0.26 to 0.29	59	0.24 0.18 to 0.30	92	0.23 0.19 to 0.28	29	0.20 0.14 to 0.27

Weighted proportion (WP) with the corresponding 95% Confidence Intervals (CI).

Key: MP: Member of Parliament Sample; EN: English Population (HSE 2014); CM: Corporate Managers (HSE 2014); AM: All managers (HSE 2014); HIG: high-income group (HSE 2014).

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4. TABLE S3

Table S3. Crude and adjusted associations of mental health in relation to job status (having a job outside the parliament vs. not) of members of the parliament

GHQ-12 Items (n=146)	Crude		Adjusted [±]	
	OR	95%CI	OR	(95% CI)
Have you recently been able to concentrate on whatever you're doing?	0.6	0.23 to 1.57	0.74	0.27 to 2.04
Have you recently lost much sleep over worry?	0.64	0.26 to 1.58	0.73	0.28 to 1.90
Have you recently felt you were playing a useful part in things?	1.52	0.70 to 3.28	1.62	0.70 to 3.74
Have you recently felt capable of making decisions about things?	0.98	0.37 to 2.56	1.17	0.42 to 3.27
Have you felt under constant strain recently?	0.59	0.26 to 1.34	0.71	0.32 to 1.59
Have you recently felt you couldn't overcome your difficulties?	0.74	0.36 to 1.50	0.87	0.41 to 1.85
Have you recently been able to enjoy your normal day to day activities?	1.01	0.43 to 2.37	0.96	0.36 to 2.57
Have you recently been able to face up to your problems	1.04	0.37 to 2.93	0.98	0.36 to 2.69
Have you recently been feeling unhappy and depressed?	0.66	0.31 to 1.41	0.82	0.35 to 1.92
Have you recently been losing confidence in yourself?	1.02	0.37 to 2.69	1.29	0.46 to 3.60
Have you recently been thinking of yourself as a worthless person?	1.01	0.41 to 2.43	1.2	0.45 to 3.21
Presence of Common Mental Disorders	0.77	0.47 to 1.26	0.82	0.49 to 1.36
	MD	95%CI	MD	95%CI
Total Score of GHQ to 12	-0.61	-3.06 to 1.84	-0.07	-2.44 to 2.31

Crude and Adjusted Odds Ratio (ORs) and Mean Difference (MD) with corresponding 95% Confidence Intervals (95% CI). Inverse probability weights were used with reference to the total number of the members of the parliament. All models were adjusted for age, sex and educational status

STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Item	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-6
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-7
Bias	9	Describe any efforts to address potential sources of bias	5-6
Study size	10	Explain how the study size was arrived at	5, 8
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	8-9
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	8-9
		(b) Describe any methods used to examine subgroups and interactions	8-9
		(c) Explain how missing data were addressed	8-9
		(d) If applicable, describe analytical methods taking account of sampling strategy	8-9
		(e) Describe any sensitivity analyses	8-9
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	9
		(b) Give reasons for non-participation at each stage	n.a.
		(c) Consider use of a flow diagram	n.a.
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9
		(b) Indicate number of participants with missing data for each variable of interest	n.a.
Outcome data	15*	Report numbers of outcome events or summary measures	9-12
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear	10-12

		which confounders were adjusted for and why they were included	
		(b) Report category boundaries when continuous variables were categorized	10-12
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N.a.
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	12-13
Discussion			
Key results	18	Summarise key results with reference to study objectives	13-14
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	14-15
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	16
Generalisability	21	Discuss the generalisability (external validity) of the study results	15-17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	18

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.