



Prevalence of mental health disorders in adult minority ethnic populations in England

A systematic review



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There were no conflicts of interest for review team members in the writing of this report. Sally McManus is currently leading the 2014 Adult Psychiatric Morbidity Survey.

Contributions

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Abbreviations

| | |
|---------|--|
| APMS | Adult Psychiatric Morbidity Survey |
| MHD | Mental health disorder |
| ADHD | Attention Deficit Hyperactivity Disorder |
| BPMS | British Psychological Morbidity Survey |
| CMD | Common Mental Disorder |
| DE | Depressive Episode |
| GAD | Generalized Anxiety Disorder |
| ASRS | Adult ADHD Self-Report Scale |
| AUDIT | Alcohol Use Disorders Identification Test |
| DIS/ | Diagnostic Interview Schedule |
| PC-PTSD | Primary Care Post-traumatic Stress Disorder screen |
| PSQ | Psychosis Screening Questionnaire |
| SADQ-C | Severity of Alcohol Dependence Questionnaire - community version |
| SAPAS | Standardised Assessment of Personality-Abbreviated Scale |
| SCAN | Schedules for Clinical Assessment in Neuropsychiatry |
| CIS-R | Clinical Interview Schedule - Revised |
| TSQ | Trauma Screening Questionnaire |
| SCID-II | Structured Clinical Interview for DSM-IV Axis II Disorders |
| ICD-10 | International Classification of Diseases, 10th edition |
| ASPD | Antisocial Personality Disorder |
| BPD | Borderline Personality Disorder |
| DSM-IV | Diagnostic and Statistical Manual version 4 |

How to read this report

Because this is a systematic review, using explicit and rigorous methods, the report is necessarily detailed. Without compromising on the transparency that is expected of a systematic review, we have structured this report to help those who are more concerned with the findings than the methods.

Part I contains the review's findings and conclusions, preceded by brief background, aims, and methods chapters. The findings chapters (4 and 5) start with an overview of the context, methods and content of the surveys ultimately included in the review. The findings are then presented in turn for each priority mental health disorder, with each section including a brief definition of the specific disorder followed by the range of types of estimate that were found to be available and the findings for each type of estimate. Part I concludes with discussion of the review's overall findings, conclusions and recommendations for future research.

Part II contains additional detail of the methods and the handling of reports identified, screened and otherwise examined during the review, as well as Appendices that catalogue the included studies and the review's search strategy.

Executive summary

Aims

The aim of this project, commissioned by the Department of Health in England, was to undertake a systematic review of the survey literature that has estimated the prevalence of mental health disorders among adults from minority ethnic groups in England.

Findings about the estimated prevalence of different mental health disorders, and about the extent and nature of the available survey evidence, are to be used to inform the design of a sampling strategy aimed at boosting the sample of people from minority ethnic groups in the Adult Psychiatric Morbidity Survey (APMS) due in 2021.

Research questions

We investigated the following research questions:

What survey work has been done, from 1999 onwards, to estimate prevalence rates for various mental health disorders (MHDs) amongst adults from minority ethnic groups living in private households in England, using probabilistic or other sampling designs?

What are the characteristics of these studies (e.g. representation of different minority ethnic groups, MHDs addressed, survey design features (including sampling and methods for measurement of MHDs) and additional demographic characteristics of the minority ethnic population/s surveyed)?

What is known from these studies about the prevalence of priority MHDs amongst people from minority ethnic groups in England (as sampled from 1999 onwards)?

What other characteristics of these studies might need to be taken into account when interpreting these studies' prevalence estimates? What is known about key additional moderators of mental health in the study sample, e.g. gender, socio-economic status/area deprivation and migration? What sampling and other study design components characterise the studies?

The specific categories of mental health disorder considered in this review were as follows: Any Common Mental Disorder; Mixed Anxiety and Depressive Disorder; Generalised Anxiety Disorder; Any Depressive Episode; Post-traumatic Stress Disorder; Suicidal thoughts; Suicide attempts; Self-harm; Psychosis; Possible personality disorder; Attention Deficit Hyperactivity Disorder (ADHD); Possible eating disorder; Alcohol dependence; Drug dependence; Problem gambling.

Methods

A small Advisory Group was convened to advise on the review's substantive topic and the methods used by relevant studies, and to assist in the drawing up of a protocol. The group also identified certain categories of mental health disorder that it would be useful to prioritise for the purposes of informing the planning of the 2021 APMS.

Sensitive searches for relevant studies were run using a range of international and regional health and social science bibliographic databases. This was supplemented by website searching and checking the reference lists of included studies and of systematic reviews identified through the searches. Screening for relevant studies was conducted using specialist software. After brief phases of double screening to develop inter-rater reliability of >90%, each citation was screened for inclusion by a single reviewer.

Prevalence of mental health disorders in adult minority ethnic populations in England

Studies were included and their findings extracted if they provided prevalence estimates for specific priority MHDs for more than one ethnic group, but only if:

- estimates were for the general population resident in private households aged over 16 years and not produced by sampling only people with a mental health disorder, or people with another health-related condition, or another group defined by a particular life stage or set of circumstances, such as perinatal women, prisoners or refugees;
- the study had a context of relevance to England (it was either conducted in England, or in the UK but not solely in Scotland, Wales or Northern Ireland);
- the study sample size was judged sufficient for producing prevalence estimates of sufficient precision.

The MHDs prioritised for this review were those explored and used as chapter headings in the 2007 APMS, as well as the following, more specific MHDs: Any Common Mental Disorder (Any CMD), Mixed Anxiety and Depressive Disorder, Generalised Anxiety Disorder, Any Depressive Episode.

Two reviewers used structured tools to extract prevalence findings, working independently and then reaching consensus, with disagreements resolved by a third reviewer where necessary. The study contexts and their methods were described and checked using structured tables. The use of certain survey design and sampling size requirements in the criteria used to screen studies for inclusion resulted in very little variation in survey design or procedure between the included studies. The quality of included studies was therefore not assessed further.

The synthesis approach taken in this review was narrative in form. A set of algorithms was applied independently by two reviewers to identify patterns in relative prevalence between different ethnic groups across survey analyses.

Key findings

The state of the evidence base

- There is very little recent information available from appropriately designed surveys on the rates of MHDs in English populations according to ethnic groupings. We found analyses for only six such surveys conducted from 1999 onwards. Only two of these are representative of people from ethnic groups in the English population. The remainder represent people in the UK as a whole, or a specific urban location, rather than those in England.
- The surveys that we found, in all but two cases, had not designed their samples so as to recruit people from minority ethnic groups in the kinds of numbers necessary for the identification of differences in prevalence between any two ethnic groups.
- The analyses that we were able to conduct for this review's syntheses were limited by the ways in which the authors of published analyses had aggregated the data collected by the six surveys.
- There were 15 different types of mental health disorder examined in this review. In the following five cases, it was not possible to look for patterns between estimates for different ethnic groups across surveys at all: (PTSD, Possible personality disorder, ADHD, Possible eating disorder, and Drug dependence).
- For a further two of the MHDs, it was possible to look for patterns only among adults as a whole (Problem gambling), or only among men or women (Self-harm).

Suggested differences in prevalence of MHDs between different ethnic groups

- A relatively strong pattern was found for the prevalence of suicidal thoughts in both men and in adults as a whole, although for different ethnic groups in each case.

- The strong pattern seen among analyses of the prevalence of suicidal thoughts in men suggested that prevalence was relatively low for South Asian men and lower for South Asian men than it was for White men.
- The strong pattern seen among analyses of the prevalence of suicidal thoughts for adults as a whole suggested that prevalence was relatively low for Black adults, and lower for this group than it was for White adults.

Other, weaker patterns were found:

- among adults in the prevalence of Any Common Mental Disorder, with adults from some South Asian ethnic groups (Pakistani in particular) possibly having a relatively high prevalence when compared with adults from one or more other ethnic groups (White adults in particular);
- among women in the prevalence of Mixed Anxiety and Depressive Disorder, with South Asian women (Pakistani women in particular) possibly having a relatively high prevalence when compared with women from one or more other ethnic groups;
- among women in the prevalence of Any Depressive Episode, with South Asian women (Indian and Pakistani women in particular) possibly having a relatively high prevalence when compared with women from one or more other ethnic groups (White women in particular);
- among adults in the prevalence of Any Depressive Episode, with adults from some South Asian ethnic groups (Indian and Pakistani) having a relatively high prevalence when compared with one or more other ethnic groups (White adults in particular);
- among women in the prevalence of suicidal thoughts, with South Asian women, as a group, having a relatively low prevalence when compared with women from one or more other ethnic groups (White women in particular);
- among men in the prevalence of suicide attempts, with South Asian men, as a group, having a relatively low prevalence when compared with men from one or more other ethnic groups (White men in particular);
- among men in the prevalence of psychosis or probable psychosis, with Black men having a relatively high prevalence when compared with men from one or more other ethnic groups;
- among women in the prevalence of psychosis or probable psychosis, with Black men having a relatively high prevalence when compared with women from one or more other ethnic groups (White women in particular);
- among adults in the prevalence of psychosis or probable psychosis, with Black adults having a relatively high prevalence when compared with adults from one or more other ethnic groups;
- among men in the prevalence of alcohol dependence, with South Asian men having a relatively low prevalence when compared with White men in particular.

In the remaining configurations of mental health disorder and gender addressed by our review, no patterns could be seen.

Discussion

This is the first literature review that we are aware of that has used systematic methods to seek and synthesise reliable prevalence estimates of a range of MHDs among people in the UK in different ethnic groups. We have built upon the findings of previous systematic reviews that examined smaller numbers of MHDs and have supplemented the searches of these and other systematic reviews to ensure that we have identified additional, relevant analyses. However, because we have not conducted formal statistical tests, the patterns that we present in this review should only be considered suggestive in nature.

Conclusions

This systematic review has identified a small number of recent surveys able to provide reliable prevalence estimates of various MHDs among certain ethnic groups in England and in the UK more generally. It has found published analyses of these surveys that, taken together, enable the identification of indicative patterns of prevalence between one or more ethnic groups for several MHDs.

There is further, untapped potential in the identified surveys. Secondary analyses of the data sets could produce additional prevalence estimates for people in specific ethnic groups. People in several ethnic groups are represented in the existing analyses of more than one survey only as being part of more general ethnic categories. These more general categories may well be hiding actual differences between groups.

For people in some less common or more recently established minority ethnic groups, existing data sets are likely to be insufficient for identifying the prevalence of mental health disorder with any precision or certainty, and further survey work that boosts sampling for these groups is likely to be required.

PART I. Background, brief methods, results, discussion and conclusions

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1. Background

1.1 Mental health disorders in the UK

Mental health disorders (MHDs) account for more than 15% of disease burden in developed countries (Prince et al., 2007). The most recent nationwide survey estimated that at least 50% of people in England will experience depression at some point in their life. Anxiety and depressive conditions, alcohol dependence, drug dependence and psychosis were estimated as affecting 17%, 6%, 3% and 1% respectively (McManus et al., 2009).

The costs of mental illness include individuals' experiences of considerable disability, suffering and distress. These, along with related medical and social care, and reduced production output, add costs to the economy estimated to be in excess of £105.2 billion (Centre for Mental Health, 2010). Initiatives continue to be directed at improving the provision of and access to mental health services, often focusing upon service planning, delivery changes or strategies to improve the quality of mental health care. All of these are reliant on reliable estimates of the extent and nature of mental illness among different population groups. Relevant recent policy developments include the national service framework, *No Health Without Mental Health* (Centre for Mental Health et al., 2012; DH, 2013) and the policy paper, *Closing the Gap: Priorities for Change* (DH, 2014).

1.2 Mental health disorders and minority ethnic groups

For minority ethnic groups living in the UK, mental health is an area of particular concern (National Health Service, 2009). The literature suggests, for example, that rates of first contact with treatment services for psychotic illnesses are three to five times higher for Black Caribbean people than for the general population (Nazroo and King, 2002). As these authors and others have pointed out, however, rates of service use provide no indication of rates of illness in the community.

Initial insights when planning this review were provided by two surveys conducted at around the same time. The second British National Psychiatric Morbidity Survey, conducted in 2000, found elevated rates of probable psychosis in people from black ethnicities (Singleton et al., 2001 cited in Kirkbride et al., 2012b). The Ethnic Minority Psychiatric Illness Rates in the Community study (EMPIRIC) used data from the 1999 health survey for England to examine the levels of key mental illnesses amongst minority ethnic groups in England. In terms of psychosis, the authors concluded that their study indicated a twofold higher rate for Black Caribbean people compared with a comparison White group; however this was not statistically significant for men, or the total Black Caribbean population, and was statistically significant for women only at certain levels of measurement (Nazroo and King, 2002). The EMPIRIC project also included focus group investigations to explore ethnic and cultural variations in context, experience and expression of mental distress. Other recent UK studies that have provided insights into the epidemiology of mental disorder for minority ethnic groups include the East London First Episode Psychosis Study, the three-centre AESOP study and the South East London Community Health (SELCoH) study (Coid et al., 2008; Hatch et al., 2011; Morgan et al., 2006).

It needs to be recognised that the grouping of people together within ethnic categories is problematic. Grouping can conceal significant differences (Aspinall, 1998; Bhopal, 2002) and the ethnic categories used in official statistics have been described as arbitrary and created primarily for practicality (Bhopal, 1997). Concepts such as ethnic density have been developed to explore the influence of place alongside background (Shaw et al., 2012). Over time people can change their ethnic identity, and changes in standard ethnic classifications reflect the numerical growth of certain ethnic groups and greater

understanding of the need to create meaningful ethnic categories (Mathur et al., 2013). As this group has argued, the challenge in epidemiological research is to create categories that are meaningful, discrete and relatively fixed in order to provide interpretable data. These categories must also allow for groups large enough to facilitate meaningful statistical analysis.

Another challenge for survey work related to ethnicity is that of ensuring the adequacy and correspondence of communication during data collection. This can particularly be the case when participants and interviewers speak different languages, or when there is scope because of cultural differences for different interpretations of key terms, for questions or topics to be inappropriate, or for differing norms to differentially affect self-reporting of certain behaviours. Bhopal and colleagues examined national and local surveys of alcohol and tobacco use across ethnic groups and identified that recommended guidelines for translation and adaptation were often not applied (Bhopal et al., 2004). Studies such as these suggest that differences in estimates of self-reported data between ethnic groups can sometimes partly be due to differences in measurement error between groups.

There have been concerns that few population surveys examine mental illness prevalence amongst different minority ethnic groups and also that the majority of work focuses on people with psychotic disorders and service contact. This has been attributed to problems surrounding sourcing sufficiently large numbers of minority ethnic participants (Nazroo and Sproston, 2002). Booster samples can be created for surveys (as was done for the 1999 Health Survey for England) in order to increase survey precision for different population sub-groups, but these need to be informed in the first place by an understanding of the likely prevalence in different communities.

1.3 Insights from existing systematic reviews

Scoping searches identified several systematic reviews with similar but distinct research questions to the ones addressed in this report. A review conducted by Goodman and colleagues (2008) examined the prevalence of a broad range of MHDs and looked specifically at different ethnic groups in the UK, but for children aged up to 19 only.

A number of systematic reviews have previously collected evidence on the prevalence of MHDs in the adult population, and two in particular provided some insights into the extent and nature of existing literature addressing minority ethnic communities in the UK.

Steel and colleagues (2014) conducted a systematic review of prevalence estimates for common mental disorders from across the globe. An important feature of this review was its use of design-related inclusion criteria. These meant, for example, the inclusion of findings only if a study was conducted using census or probabilistic epidemiological sampling and had a sample size of 450 or more. These criteria aimed to reduce the influence on findings of systematic sampling errors and unstable estimates respectively. The reviewers also only included surveys if they reported using diagnostic tools to ascertain cases of illness. The diagnostic tool requirement aimed to reduce the influence of illness measurement errors. The authors concluded that the highest lifetime prevalence rates for common mental disorders were in English-speaking countries. They listed a total of 13 studies meeting the above criteria that were conducted in the UK in 1999 or since.

Kirkbride and colleagues (2012a, b) conducted a systematic review of the incidence and prevalence of schizophrenia and other psychoses in England. They presented findings by ethnicity and country of birth for different categories of psychotic illness, breaking these down by different kinds of prevalence estimate (point or current prevalence, and different kinds of period prevalence). They reported, for example, finding six citations that presented overall annual prevalence rates of all clinically relevant psychoses by ethnic group, with some of these having been conducted since the start of 1999.

Whilst these systematic reviews were helpful for developing plans for this current project and for identifying some of the studies that potentially could be included, their scopes differed from that of the review described in this report. The earlier reviews of prevalence among adults focused on a sub-set of all MHDs (on schizophrenia and other psychoses and on common mental disorders). In addition, the extent to which these earlier reviews presented findings on prevalence amongst minority ethnic groups was limited (e.g. Steel et al. described how they excluded studies focused solely on 'racial or ethnic sub-groups' when screening their search results).

2. Aims and research questions

2.1 Aims

The aim of this review commissioned by the Department of Health in England, was to undertake a systematic review of the survey literature that has estimated the prevalence of mental health disorders (MHDs) among adults from minority ethnic groups in England.

Findings about the estimated prevalence of different MHDs, and about the extent and nature of the available survey evidence, are to be used to inform the design of a sampling strategy aimed at boosting the sample of people from minority ethnic groups in the Adult Psychiatric Morbidity Survey (APMS) due in 2021. A protocol was created for this review and is freely available upon request (Rees et al., 2015).

2.2 Research questions

In order to understand the recent prevalence of MHDs amongst people from minority ethnic groups in England we were motivated by four research questions:

What survey work has been done, from 1999 onwards, to estimate prevalence rates for various mental health disorders amongst adults from minority ethnic groups living in private households in England, using probabilistic or other sampling designs?

What are the characteristics of these studies (e.g. representation of different minority ethnic groups, MHDs addressed, survey design features (including sampling and methods for measurement of MHDs) and additional demographic characteristics of the minority ethnic population/s surveyed)?

What is known from these studies about the prevalence of MHDs amongst people from minority ethnic groups in England (as sampled from 1999 onwards)?

What other characteristics of these studies might need to be taken into account when interpreting these studies' prevalence estimates? What is known about key additional moderators of mental health in the study sample, e.g. gender, socio-economic status, area deprivation and migration? What sampling and other study design components characterise the studies?

Given the time frame of the review (seven months) and the resources available, we sought guidance on which particular MHDs we should prioritise and on the survey coverage and designs that would be of most relevance for planning the 2021 APMS. This guidance was provided by a small Advisory Group (see Chapter 3).

The rest of this report therefore presents the findings from a review that is slightly different in scope than might be implied by the research questions detailed immediately above. In particular, we report only on a sub-set of priority MHDs,¹ and only on surveys that were judged to have samples of people from different ethnic groups that were large enough to ensure that estimates were sufficiently precise. We included surveys that presented data only for the UK as a whole, as well as those focused only on England, or an English region (see the full inclusion criteria in Chapter 3 and Appendix C).

¹ The prioritised categories of mental health disorder that were ultimately considered in this review were as follows: Any Common Mental Disorder; Mixed Anxiety and Depressive Disorder; Generalised Anxiety Disorder; Any Depressive Episode; Post-Traumatic Stress Disorder; Suicidal thoughts; Suicide attempts; Self-harm; Psychosis; Possible personality disorder; ADHD; Possible eating disorder; Alcohol dependence; Drug dependence; Problem gambling.

2. Aims and research questions

In addition, the review considers only those reports of survey analyses that present MHD prevalence estimates from more than one ethnic group, since this enables exploration of the patterning of prevalence between ethnic groups. Rather than focus on pinpointing an accurate prevalence level for an MHD for any one ethnic group, we have looked for patterns across studies in terms of whether or not any particular ethnic group might be experiencing a higher or lower prevalence of that MHD than other ethnic groups; in essence, we are looking for similarities in rankings of mental illness rather than similarities in point prevalence because of the different study populations included in the analyses.

3. Brief methods

This chapter outlines the methods and outputs for this review. A detailed version of the methods is supplied in Part II, which also includes further details around the limitations and caveats of our analyses.

A small Advisory Group was convened to advise on the review's substantive topic and the methods used by relevant studies, and to assist in the drawing up of a protocol. The group also identified certain categories of MHD that it would be useful to prioritise for the purposes of informing the planning of the 2021 Adult Psychiatric Morbidity Survey.

A systematic descriptive map of located research surveying the prevalence of MHDs in minority ethnic groups in the UK was created to inform discussions with the Advisory Group and the design of an in-depth analysis of the research findings.

For the final in-depth review, studies needed to be empirical research reports in the English language that also:

- addressed the review's **topic area**, in terms of both being a study of ethnicity and of the MHDs identified as a priority for this review;
- focused on the general **population** resident in private households and aged over 16 years;
- were set in a particular **context** (not be conducted in the countries of Scotland, Wales or Northern Ireland only, or completely outside the UK and not have collected data prior to 1999);
- had an appropriate study design and sample size; and
- **presented relevant findings** (prevalence estimates for specific priority MHDs for more than one ethnic group)

(see Appendix C for full details of the criteria applied to screen studies).

Searches for relevant studies were run using a range of international and regional health and social science bibliographic databases. This was supplemented by website searching and checking the reference lists of included studies and of systematic reviews identified through the searches.

Two reviewers used structured tools to extract prevalence findings, working independently and then reaching consensus, with disagreements resolved by a third reviewer where necessary. The study contexts and their methods were described and checked using structured tables. The use of certain survey design requirements in the criteria used to screen studies for inclusion resulted in very little variation in survey design or procedure between the included studies. The quality of included studies was therefore not assessed further.

The synthesis approach taken in this review was narrative in form. A set of algorithms was applied independently by two reviewers to identify patterns in relative prevalence between different ethnic groups across survey analyses. These algorithms are reproduced in full in Figure 8.1. Because of the differences inherent in each survey, no attempts were made to aggregate estimate data across surveys numerically.

4. Results: mapping the evidence base for prevalence in minority ethnic populations

4.1 Summary of findings about the evidence base

- After screening over 8,700 citations of possible relevance for this review, we identified a total of 39 reports that met our inclusion criteria. These 39 reports all contained analyses and reasonably powered general population estimates for the prevalence of priority MHDs in England from 1999 onwards among more than one ethnic group.
- These reports presented analyses and prevalence estimates produced from data collected in six surveys: the 2000 British Psychological Morbidity Survey (2000 BPMS); the 2007 Adult Psychological Morbidity Survey (2007 APMS); Ethnic Minority Psychiatric Illness Rates In the Community (EMPIRIC); the South East London Community Health (SELCoH) study; and the 2007 and 2010 British Gambling Prevalence Surveys (2007 BGPS and 2010 BGPS).
- All of these surveys used methods recommended for large-scale household surveys, including probabilistic sampling techniques, rigorous interviewer training, the use of validated instruments, and piloting of all data collection procedures. Two reported use of translators or translated questionnaires (EMPIRIC and SELCoH). All reported good response rates and all analyses used weighted estimates to take account of non-response. The surveys varied in scope, in terms of both when data were collected (from 2000 up to 2010), and the geographical setting for that data collection (UK-wide, England only, and an area in South London).
- Although 39 reports provided relevant analyses of data from the six surveys, we used only 21 to extract prevalence data, since the remaining reports either only duplicated the findings in technical reports or provided data in less detail or aggregated less finely.
- All but one of the priority MHDs identified for this review had been addressed by two or more analyses. Only one analysis provided estimates for ADHD. However, we found that methods for aggregating data varied, so the surveys between them did not always provide more than one prevalence estimate for any combination of a particular ethnic and gender mix for any given mental health disorder.
- In particular, estimates were sometimes available from these analyses both for the population as a whole and for men and women separately, but at other times only one of these two was provided in a report. We also found ethnic groups to be aggregated differently. For example, one analysis presented separate estimates for people self-identifying as Bangladeshi, Indian and Pakistani, whereas others combined people from these groups to produce a single category of 'South Asian'.
- The largest number of estimates provided for any one disorder is seen for the two categories, Any Common Mental Disorder and Psychosis. For each of these two disorders, three survey analyses provided estimates for the population as a whole, and three provided estimates for men and women separately.
- There were also several important differences between surveys as to the way some of the MHDs had been measured. In a few cases, surveys had examined disorders using a short questionnaire, whereas others had used a structured diagnostic interview.

- The differences seen between the six surveys found in this review, in particular in scope and measurement methods, led us to restrict our synthesis to an exploration of patterns across studies in terms of whether or not any particular ethnic group might be experiencing a higher or lower prevalence of that MHD than other ethnic groups.

4.2 Flow of studies through the review

Our searches identified over 9,400 citations for potentially relevant reports of studies. From this pool, we identified a total of 39 reports of analyses of six surveys. A full description of the process of identifying survey analyses is given in Part II of this report. We categorised the analyses as ‘core’ and ‘satellite’ (see section 7 for an explanation); the 21 core reports are listed in section 7.1.1 and the satellite reports in section 7.1.2.

4.3 Overview of the studies included in the in-depth synthesis

The scope of the six included surveys and their methods of sampling and recruitment are summarised in a table in Appendix A. This table also presents detail of the ethnic categorisations available. Further description of each of the six surveys is provided in section 4.4.1 below.

Table 4.1 provides a quick summary of the coverage of the different priority MHDs across the six included surveys. For more detail on the availability of prevalence estimates from the surveys, see 4.4.2 below. Section 4.4.3 describes key aspects of the specific analyses available from each of the included surveys.

4.3.1 *The six included surveys*

Of the six surveys, the 2000 British Psychological Morbidity Survey (2000 BPMS) and the 2007 Adult Psychological Morbidity Survey (2007 APMS) are possibly the most similar in coverage and methods, as they both used sampling designs to gain representative samples at a national level, without boosting to increase the numbers of people from minority ethnic groups. The first drew its sample from across Great Britain, the second from England only. Both used a two-phase design, with interviews using structured assessments followed up by interviews with a sub-sample conducted by clinically trained research interviewers. In terms of sample size, other than the White group, the ethnic groups used in analyses of the 2000 BPMS ranged from just over 140 in size to just under 200. In the analyses of the 2007 APMS, the minority ethnic groups were slightly larger, but still all below 450 in size, and the Black ethnic group contained fewer than 200 people.

Like the 2007 APMS, the Ethnic Minority Psychiatric Illness Rates In the Community (EMPIRIC) survey was conducted so as to be representative of the population in England, although it was conducted earlier, in 2000. This survey recruited the biggest samples of minority ethnic groups, with all groups used in analyses having more than 640 members. The available analyses of this survey use one category of Black ethnicity (Black Caribbean), three South Asian ethnicity categories (Bangladeshi, Indian and Pakistani) and an Irish category, alongside a single White category. While this survey used Interviewers fluent in the mother tongues of participants, initial interviews were not followed up by further clinical interviews.

The South East London Community Health (SELCoH) study, conducted in 2009, was the most recent survey that aimed to look across a range of MHDs. This survey is the most different in context, in that it took place in a specific urban location (the South London Boroughs of Southwark and Lambeth). In addition to Black Caribbean, the analyses aimed also to represent Black Africans, as well as people from the three more specific South Asian categories seen in analyses of EMPIRIC, and people in a White and an Other ethnicity category. However, the Black African group was relatively small, at just short of 250 people, and all other minority ethnic groups were smaller than this. This survey also used techniques to improve data collection among people from minority ethnic groups

(translation of survey tools), but was also restricted to conducting initial interviews that were not followed up by additional clinical interviews.

The last two surveys, the 2007 and 2010 British Gambling Prevalence Surveys (2007 BGPS and 2010 BGPS), were distinct in that they were both relatively recent, and both aimed solely to examine gambling behaviour and attitudes. The analyses used similar ethnic group categories as those of the 2000 BPMS and 2007 APMS. In both cases, sampling designs aimed to recruit more members of non-White ethnic groups. The ethnic groups other than White used in analyses of these surveys ranged from 180 to 360 and just over 150 to just over 300 respectively.

4.3.2 *The availability of prevalence estimates across the six surveys*

Table 4.2 illustrates the number of prevalence estimates for each priority MHD that were provided by each included survey analysis.

The number of available estimates varied by mental health disorder. At the most common end of the scale were the prevalence over a year of Any Common Mental Disorder (Any CMD), and Psychosis (or Probable psychosis²). Three survey analyses provided estimates for Any CMD across ethnic groups for men and women combined (2000 BPMS, EMPIRIC, SELCoH) and three survey analyses provided separate estimates for men and women (2000 BPMS, 2007 APMS, EMPIRIC). Similarly, three survey analyses provided estimates for Psychosis or Probable psychosis (2000 BPMS, 2007 APMS, EMPIRIC).

At the other end of the scale are ADHD and Drug dependence. These were each addressed by an analysis of one survey only. For ADHD, an analysis of the 2007 APMS provided only a separate prevalence estimate for men and another for women [9]. For Drug dependence, estimates were available from analysis of the 2000 BPMS, for adults as a whole, and separately for both men and women [15].

Measurement of mental health disorder

We found very little variation between the surveys in terms of their classification of the different MHDs, or their choice of measurement instrument or the reference periods used to define prevalence estimates. The biggest difference in measurement was seen for Possible personality disorder. For this disorder, one survey (2000 BPMS) used an approach designed for clinical diagnosis, whereas the other (SELCoH) used a more general screening tool [2, 4]. Another important variation was in the measurement of Psychosis. Two surveys (2000 BPMS and 2007 APMS) used a tool designed for clinical diagnosis along with a follow-up clinical interview with a trained interviewer. The other survey (EMPIRIC) did not conduct a clinical interview, but instead used data from another study to estimate Probable psychosis [17]. For an overview of the measures used, see Table 4.2. As mentioned above, two surveys used techniques to improve data collection among people from minority ethnic groups (interviewers fluent in the mother tongues of participants and translation of survey tools respectively) [4, 17].

4.3.3 *The analyses available for synthesis*

Defining ethnic groups

The six included surveys varied in the way they measured ethnicity. Each survey allowed participants to define their own ethnicity by selecting from pre-specified categories, but the categories provided to participants varied. The different survey analyses also varied in the ways they aggregated the ethnic categories available to them.

² See Section 5.4.2, and ‘Measurement of Mental Health Disorder’ within this section, for further details of this distinction.

The categories of ethnicity available to participants and the aggregations used in analyses are summarised in Appendix A. The 2000 BPMS and 2007 APMS asked participants to select from the same 15 ethnicity categories, and all included analyses from these two surveys used the same aggregated ethnicity categories: White, Black, South Asian and Other [10, 15]. The BGPS 2007 and 2010 each used 14 categories shown on a card, collapsing them in to four groupings similar to those used for analyses of the 2000 BPMS and 2007 APMS, although it should be noted that both the categories presented to participants and the categories used in the reports differed from those used in the BPMS and APMS [19, 20]. The terms used for categories in the analyses of the BGPS surveys were White British, Black/Black British, Asian/Asian British and Other. To simplify communication in this review, these categories have been relabelled as White, Black, South Asian and Other.

The participants in the EMPIRIC study were selected based on the ethnicity they had identified during participation in the Health Surveys for England (HSE) 1998 and 1999 (Erens and Primatesta, 1999; Erens et al., 2001). The HSE categories were White, Black Caribbean, Indian, Pakistani, Bangladeshi and Irish. In addition to this, each participant was asked during the EMPIRIC interview which ethnic group they considered themselves to belong to. The categories included those used for the HSE as well as a further four: Black African, Black Other, Chinese and None of these. These last four categories do not appear further in the analyses identified for this review.

The ethnicity categories used in analyses of SELCoH varied between analyses. The most common aggregations, seen in three of the included analyses, were White, Black Caribbean, Black African, South Asian and Other [4, 5, 8]. Here the South Asian category was made up of participants who identified as Indian, Pakistani or Bangladeshi and the Other category was made up of participants who had identified as Chinese or as another ethnicity not specified elsewhere. For the analysis of Possible eating disorder, the category Asian was used, which included people within the South Asian category but also those who had identified as Chinese [16]. For the analyses of suicidal thoughts and suicide attempts however, both the South Asian group and the Chinese were collapsed into the category Other [1].

The next chapter presents the findings on mental health prevalence among different ethnic groups from each of the analyses identified and included in this review. The findings are presented for each priority MHD in turn, using the same order in which these disorders are presented in the full report for the 2007 APMS [10].

Table 4.1: Mental health disorder prevalence estimated by ethnic group by survey

| Survey [Core reports] | Mental health disorders measured, where estimates are presented by ethnic group (MHD labels have been standardised to match those used in the 2007 APMS when appropriate ^a) |
|---|---|
| 2000 BPMS [2, 12, 15] | Common Mental Disorder; Mixed Anxiety and Depressive Disorder; Generalised Anxiety Disorder; Any Depressive Episode; Suicidal thoughts; Suicide attempts; Self-harm; Psychosis; Possible personality disorder; Alcohol dependence; Drug dependence |
| 2007 APMS [3, 6, 7, 9, 10, 11, 13, 14, 18, 21] | Common Mental Disorder; Mixed Anxiety and Depressive Disorder; Generalised Anxiety Disorder; Any Depressive Episode; PTSD; Suicidal thoughts; Suicide attempts; Self-harm; Psychosis; ADHD; Disordered eating; Alcohol dependence; Drug dependence; Problem gambling |
| EMPIRIC [17] | Common Mental Disorder; Mixed Anxiety and Depressive Disorder; Generalised Anxiety Disorder; Any Depressive Episode; Psychosis |
| SELCoH [1, 4, 5, 8, 16] | Common Mental Disorder; PTSD; Suicide attempts; Possible personality disorder; Disordered eating |
| BGPS 2007 [19] | Problem gambling |
| BGPS 2010 [20] | Problem gambling |

^a For definitions of the mental health disorders presented here see Chapter 5.

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Table 4.2: The availability of priority mental health disorder prevalence estimates in each study

| Mental health disorders ^a (Measurement instruments) ^b | Availability of prevalence estimates, by gender ^c | | | | | |
|--|--|--------------|---------|--------|--------------|--------------|
| | BPMS 2000 | APMS 2007 | EMPIRIC | SELCoH | BGPS 2007 | BGPS 2010 |
| Any Common Mental Disorder (Any CMD) (CIS-R 12+, ^j past week) | T/M/F | M/F | T/M/F | T | - | - |
| Mixed Anxiety and Depressive Disorder (CIS-R, past week) | T/M/F | M/F | T/M/F | - | - | - |
| Generalised Anxiety Disorder (GAD) (CIS-R, past week) | T/M/F | M/F | T/M/F | - | - | - |
| Any Depressive Episode (DE) (CIS-R, past week) | T/M/F | M/F | T/M/F | - | - | - |
| Post-Traumatic Stress Disorder (PTSD) (TSQ/PC-PTSD, current) ^d | - | M/F | - | T | - | - |
| Suicidal thoughts (CIS-R, past year) | T/M/F | M/F | - | T | - | - |
| Suicide attempts (CIS-R, past year) | T/M/F | M/F | - | T | - | - |
| Self-harm (CIS-R, past year) | T/M/F | M/F | - | - | - | - |
| Psychosis (PSQ and SCAN, past year) ^e | T/M/F | T/M/F | T/M/F | - | - | - |
| Possible personality disorder (SCID-II / SAPAS 4+, past year) ^f | T | - | - | T | - | - |
| ADHD (ASRS 4+, 6 months) | - | M/F | - | - | - | - |
| Possible eating disorder (SCOFF 2+, past year) ^g | - | M/F | - | T | - | - |
| Alcohol dependence (AUDIT 10+ then SADQ-C 4+, 6 months) | T/M/F | M/F | - | - | - | - |
| Drug dependence ^h (DIS 1+, past year) | T/M/F | - | - | - | - | - |
| Problem gambling (DSM-IV 3+, past year) ⁱ | - | M/F | - | - | T | T |

Notes

^a ADHD = Attention deficit hyperactivity disorder; CMD = common mental disorder; DE = Any Depressive Episode (including mild, moderate and severe); GAD = generalized anxiety disorder; Mixed Anxiety and Depressive Disorder (CISR score of 12+ but falling short of the criteria for any other CMD).

^b Survey instruments: ASRS = Adult ADHD Self-Report Scale; AUDIT = Alcohol Use Disorders Identification Test; DIS = Diagnostic Interview schedule; CIS-R = Clinical Interview Schedule - Revised; PC-PTSD = Primary Care Post-Traumatic Stress Disorder screen; PSQ = Psychosis Screening Questionnaire; SADQ-C = Severity of Alcohol Dependence Questionnaire, community version; TSQ = Trauma Screening Questionnaire; SAPAS = Standardised Assessment of Personality - Abbreviated Scale (SAPAS); SCAN = Schedules for Clinical Assessment in Neuropsychiatry (Version 2.1); SCID-II = Structured Clinical Interview for DSM-IV Axis II Disorders. Detail of the algorithms used to distinguish between each named MHD can be found in the technical reports for each survey.

^c T: total sample (males and females combined), M: males only, F: females only.

^d 2007 APMS used the TSQ, SELCoH used the PC-PTSD.

^e In the 2000 BPMS, estimates were produced using data from people who were SCAN positive in the clinical interview or those who did not attend a clinical interview but met two or more of the PSQ screening criteria in the lay interview. In the 2007 APMS, estimates were produced using data from people who screened positive in the lay interview and then were positive with the SCAN, but then used a weighting strategy for those who screened positive in the lay interview but did not take part in the clinical interview. The EMPIRIC study estimated 'Probable psychosis', extrapolating from participants' responses to PSQ items using a strategy used previously in the Fourth National Survey of Ethnic Minorities (Smith and Prior, 1997).

^f The 2000 BPMS used SCID-II (omitting two categories of personality disorder, depressive and passive aggressive). SELCoH used SAPAS, which is a rapid screening tool. Both measured one-year prevalence. Only certain personality disorders (Antisocial and Borderline) were measured in the 2007 APMS and estimates were not presented for different ethnic groups.

^g The 2007 APMS also presented prevalence estimates by ethnic group for people who answered positively to two or more items on the SCOFF measure and then also answered positively to a question asking about the impact of attitudes and behaviours associated with eating disorder on 'ability to work, meet personal responsibilities and/or enjoy a social life'. This measure is not considered here.

^h Estimates were also presented in the analyses of the 2007 APMS, however they were age-standardised. The authors reasoned that the table was too large and that adding the observed data would prove confusing. This review therefore only explores the findings for the analyses of the 2000 BPMS, which are based upon observed data.

ⁱ All three surveys used the DSM-IV tool, with the problem gambling questions only being asked of those who had gambled in the past 12 months. The reference period has been stated here as the past 12 months, but it has been noted that it is possible with this tool for respondents to refer to events prior to their previous year. The two British Gambling Prevalence Surveys also used the Canadian Problem Gambling Severity Index (PGSI), but since this was not also used in the 2007 APMS, this tool has not been considered here.

^j The numbers in each entry relate to an individual's score on that instrument.

5. Results for priority mental health disorders

5.1 Results: Common Mental Disorders (CMD)

In this section, we examine the availability and nature of estimates for the prevalence of common mental disorders (CMD). Common Mental Disorders are defined in the 2007 APMS as ‘mental conditions that cause marked emotional distress and interfere with daily function, though they do not usually affect insight or cognition’ [3 p27].

We examine estimates for four different groupings. Initially we examine estimates for the prevalence of Any Common Mental Disorder (Any CMD). We then examine in turn the prevalence of the more specific ICD-10 diagnoses of Mixed Anxiety and Depressive Disorder, Generalised Anxiety Disorder (GAD) and Depressive Episode (DE). The following explanations of these groupings are contained within the technical report and Appendices of the 2007 APMS [11]:

- Generalised Anxiety Disorder (ICD-10 diagnosis);
- Depressive Episode (ICD-10 diagnosis - including mild, moderate and severe);
- Mixed Anxiety and Depressive Disorder (having a CISR score of 12 or more but falling short of the criteria for any other CMD³)
- Any CMD (one or more of any of the more specific CMDs).

5.1.1 Summary of findings

- Analyses were found of prevalence by ethnic group for all four of the common mental disorders included in this review (Any CMD, Mixed Anxiety and Depressive Disorder, Generalised Anxiety Disorder (GAD) and Any Depressive Episode (DE)).
- For the first of these disorders, three analyses were available for adults as a whole (of data from the 2000 BPMS, EMPIRIC and SELCoH surveys) and three provided data for men and women separately (from the 2000 BPMS, 2007 APMS and EMPIRIC).
- For the remaining three disorders, data for men and women were available from the 2000 BPMS, 2007 APMS and EMPIRIC, and data for adults as a whole were available from the first and last of these same surveys.
- For Any Common Mental Disorder:
 - For adults as a whole, the analyses taken together show a weak pattern in prevalence of across different ethnic groups, with adults from some, but not necessarily all, South Asian ethnic groups having a relatively high prevalence when compared with other ethnic groups:
 - In two of the three available analyses, the highest prevalence was seen among groupings of South Asian adults (in one case, Indian and Pakistani adults had the two highest prevalence levels, in the other, South Asians as a group had the highest level).
 - In addition, the results from one analysis indicated that prevalence was higher for Pakistani adults than for White adults (based on non-overlapping confidence intervals).
 - However, within this same analysis, prevalence estimates for Bangladeshi adults suggested that this group had a relatively low

³ Additional specific types of CMD were examined in the 2007 APMS. Phobias, Obsessive-Compulsive Disorder (OCD) and Panic Disorder were not prioritised for consideration in this review.

5. Results for priority mental health disorders

- prevalence of Any CMD, the estimate being lower than that for Irish adults (also based on non-overlapping confidence intervals).
 - For men, the three available analyses suggest no pattern in the prevalence of Any CMD across different ethnic groups:
 - No one ethnic group had either the highest or lowest prevalence in any two studies.
 - Confidence intervals indicate some possible differences within two of the analyses, but with no consistency.
 - We also judged that no pattern could be seen across the three available survey analyses of Any CMD among women:
 - Similar to the finding for men immediately above, no one ethnic group had consistently either the highest or lowest prevalence in any two studies.
 - Only the confidence intervals in one analysis indicated possible differences between groups.
- For Mixed Anxiety and Depressive Disorder:
 - For adults as a whole, the two available analyses taken together suggest no pattern in prevalence across the different ethnic groups:
 - No one ethnic group had either the highest or lowest prevalence in either analysis.
 - Within both analyses, all the confidence intervals for estimates for prevalence in different ethnic groups overlapped, indicating that no difference is evident between groups.
 - For men, the three available analyses suggest no pattern:
 - No one ethnic group had either the highest or lowest prevalence in any two studies.
 - Confidence intervals indicate some possible differences in prevalence between ethnic groups within two of the analyses, but with no consistency.
 - For women, the three available analyses suggest a weak pattern.
 - In two analyses, the highest prevalence was seen among groupings of South Asian women. In one case, South Asians as a group had the highest level. In the other, Pakistani women had the highest prevalence level.
 - Confidence intervals from one analysis also indicate that Pakistani women might have a relatively high prevalence compared to at least one other group.
- For Generalised Anxiety Disorder:
 - For adults as a whole, the two available analyses taken together suggest no pattern in prevalence across the different ethnic groups:
 - No one ethnic group had either the highest or lowest prevalence in any two studies.
 - Confidence intervals indicated some possible differences within one analysis.
 - For men, the three available analyses taken together suggest no pattern in prevalence across the different ethnic groups:
 - No one ethnic group had either the highest or lowest prevalence in any two studies.
 - Confidence intervals indicate some possible differences within two of the analyses, but with no consistency.
 - For women, the three available analyses taken together also suggest no pattern:

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- No one ethnic group had either the highest or lowest prevalence in any two studies.
- Confidence intervals indicate some possible differences - again within two of the analyses - but with no consistency.
- For Any Depressive Episode:
 - For adults as a whole, the two available analyses suggest a weak pattern in prevalence across the different ethnic groups:
 - In two analyses, the highest prevalence was seen among groupings of South Asian women. In one case, South Asians as a group had the highest level. In the other, Pakistani women and Indian women had the two highest prevalence levels.
 - Confidence intervals from one analysis also suggest that Pakistani adults might have a higher prevalence than White adults.
 - For men, the three available analyses taken together suggest no pattern in prevalence across the different ethnic groups:
 - No one ethnic group had either the highest or lowest prevalence in any two studies.
 - Only the confidence intervals in one analysis indicated a possible difference between groups.
 - For women, the three available analyses suggest a weak pattern in prevalence across the different ethnic groups:
 - In all three analyses, the highest prevalence was seen among groupings of South Asian women. In two cases, South Asians as a group had the highest level; in the other, Pakistani and Indian women had the highest and second-highest prevalence levels.
 - Confidence intervals from one analysis also indicate that both Pakistani and Indian women might have a relatively high prevalence when compared with White women.

5.1.2 Description of studies: Any CMD

Analyses from four of the included surveys (2000 BPMS, 2007 APMS, EMPIRIC and SELCoH) provided estimates of the prevalence of Any CMD among people in different ethnic groups. The first three of these also provided estimates for each of the more specific conditions, Mixed Anxiety and Depressive Disorder, Generalised Anxiety Disorder and Any Depressive Episode. All of these estimates were found within four reports of these survey's findings [7, 8, 15, 17].

In all of these analyses, the methods for estimating these four different forms of CMD were equivalent. All four used the Clinical Interview Schedule - Revised (CIS-R) and used the same algorithms for identifying specific ICD-10 diagnoses.

As can be seen from the figures in this section, each survey analysis varied in its approaches to the aggregation of findings. Two provided estimates for all adults and for males and females separately (2000 BPMS and EMPIRIC). The other two provided estimates only for males and females separately (2007 APMS) and for adults as a whole (SELCoH). Two of the analyses (2000 BPMS and 2007 APMS) used similar ethnicity categories (White, Black, South Asian and Other). Ethnicity was aggregated differently for the EMPIRIC and SELCoH analyses. The first of these presented findings for five ethnic groups: White, Irish, Black Caribbean, Indian and Pakistani. The second used the groupings White, Black Caribbean, Black African, South Asian and Other.

5.1.3 Findings

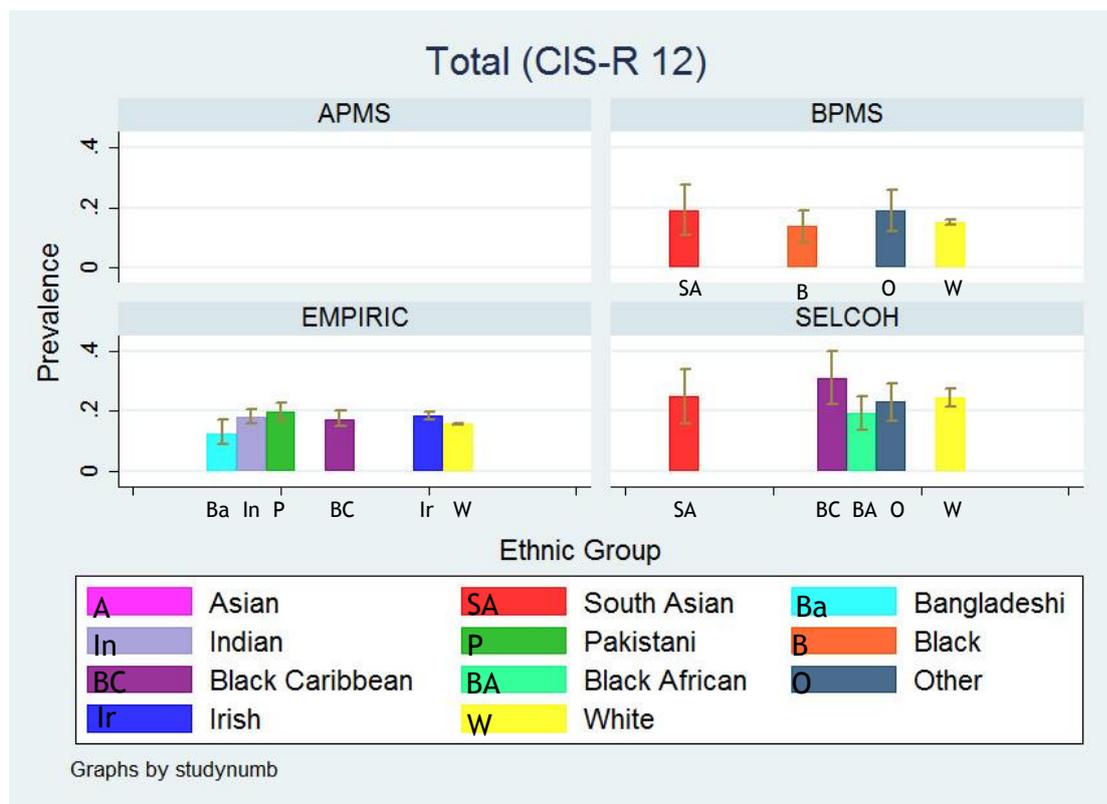
The findings for each of the different measures of Common Mental Disorder are presented below in turn.

Any Common Mental Disorder

We found analyses from three surveys that presented the prevalence of Any CMD by ethnic group for the population as a whole (with males and females combined) (see Figure 5.1). Analyses from three surveys provided estimates separately for men and women (see Figures 5.2 and 5.3).

For all adults, there is a weak pattern seen across the survey analyses in terms of which ethnic group appears to have the greatest prevalence of Any CMD. In two of the three available analyses, the highest prevalence rate was seen among groupings of South Asian adults. In the analysis of the 2000 BPMS, the highest rate was seen among South Asians as an aggregated group. The analysis of EMPIRIC found the highest two rates to be amongst the Pakistani and Indian groups. Within each study, however, most confidence intervals overlapped. The only exceptions were seen for EMPIRIC. Here prevalence of Any CMD in both Pakistani (19.6%, 95% CI: 16.9, 22.6) and Irish (18.5%, 95% CI: 17.2, 19.9) adults appears to have been higher than for White adults (15.8%, 95% CI: 15.6, 16.0). Also, prevalence among Bangladeshi adults in this analysis (12.6%, 95% CI: 9.2, 17.1) looks to have been lower than that for Irish adults.

Figure 5.1: Past-week prevalence of Any Common Mental Disorder by ethnic group (all adults)

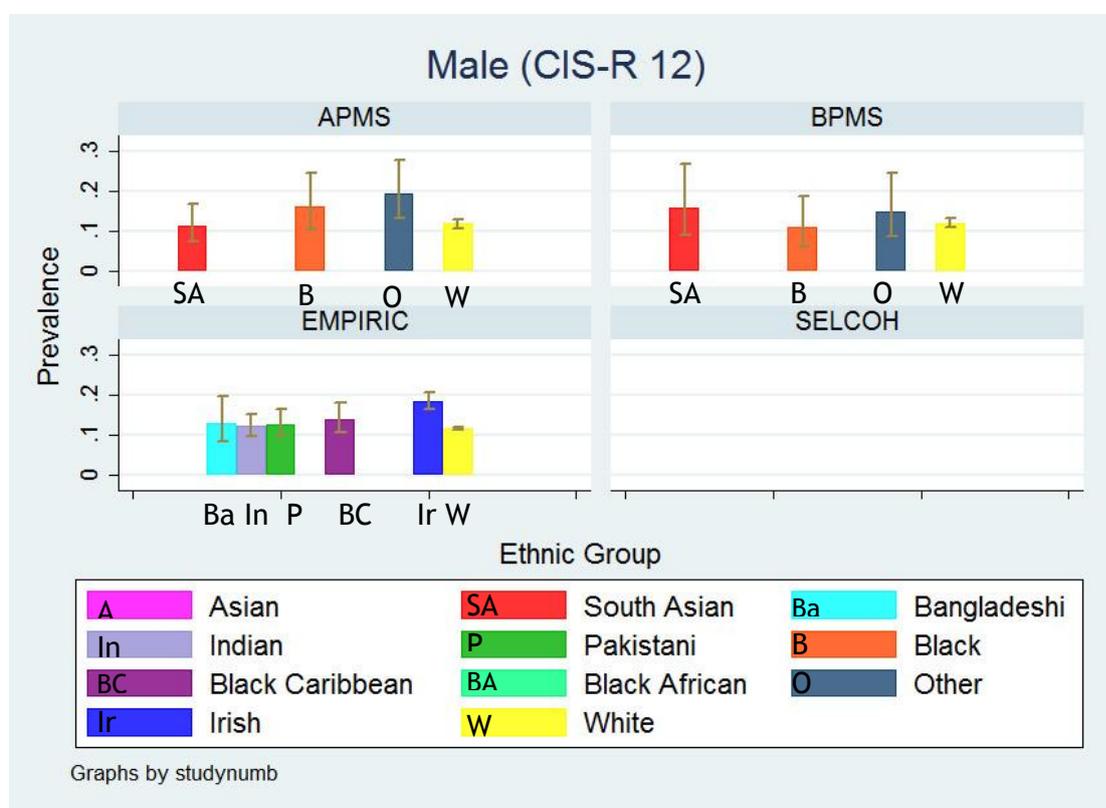


When the range of Any CMD estimates in different ethnic groups is considered for males separately (Figure 5.2), there is no pattern seen across studies. No one ethnic group has either the highest or lowest prevalence in any two studies. Confidence intervals indicate some possible differences within analyses, but with no consistency.

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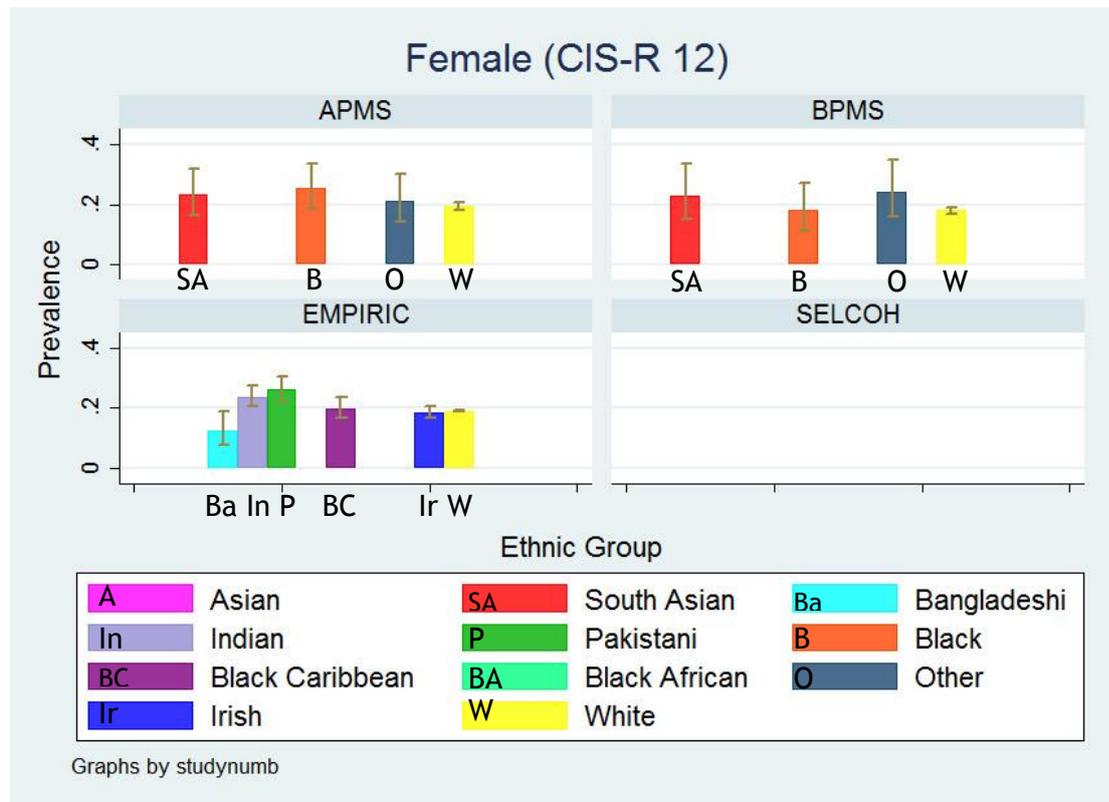
In the EMPIRIC study's analysis, the highest prevalence amongst men was seen amongst Irish men (18.4%, 95% CI: 16.5, 20.5) and there is no overlap between the confidence intervals for this estimate and those for the estimate of Any CMD in the White male group (11.6%, 95% CI: 11.3, 11.9). In addition, there is no overlap seen between the estimates for the Irish male group and that for the Indian male group (12.1%, 95% CI: 9.7, 15.0). The estimates for the White male and Indian male groups are both up to six percentage points smaller in size than that for the Irish male group. The rest of the confidence intervals for the EMPIRIC study's analyses of Any CMD prevalence in men overlapped. In the analysis of the 2007 APMS, there is no overlap seen between the estimate for Any CMD in the White male group (11.9%, 95% CI: 10.8, 13.1) and the estimate for men in the Other ethnic category (which contains those identifying as belonging to either a mixed, or 'Chinese or other ethnic' group) (19.4%, 95% CI: 13.1, 27.7). All other confidence intervals for Any CMD in men within this study overlapped, as do all of those for the 2000 BPMS.

Figure 5.2: Past-week prevalence of Any Common Mental Disorder among men by ethnic group



The findings of the three studies examining prevalence of Any CMD amongst women are presented in Figure 5.3. This shows no pattern in prevalence across the different ethnic groups when the studies are examined as a whole. No one ethnic group has either the highest or lowest prevalence in any two studies. Confidence intervals indicate some possible differences, but within one analysis only. The estimates for women in the Indian and Pakistani groups in the EMPIRIC analysis, 23.8% (95% CI: 20.5, 27.4) and 26% (95% CI: 21.8, 30.6) respectively, are higher and do not overlap with those for women in the Bangladeshi, Irish or White groups, which are 12.3% (95% CI: 7.8, 18.8), 18.6% (95% CI: 16.9, 20.4) and 19% (95% CI: 18.7, 19.3) respectively. The rest of the confidence intervals for estimates for the different ethnic groups in this analysis overlapped, as do those within each of the 2000 BPMS and 2007 APMS analyses.

Figure 5.3: Past-week prevalence of Any Common Mental Disorder among women by ethnic group

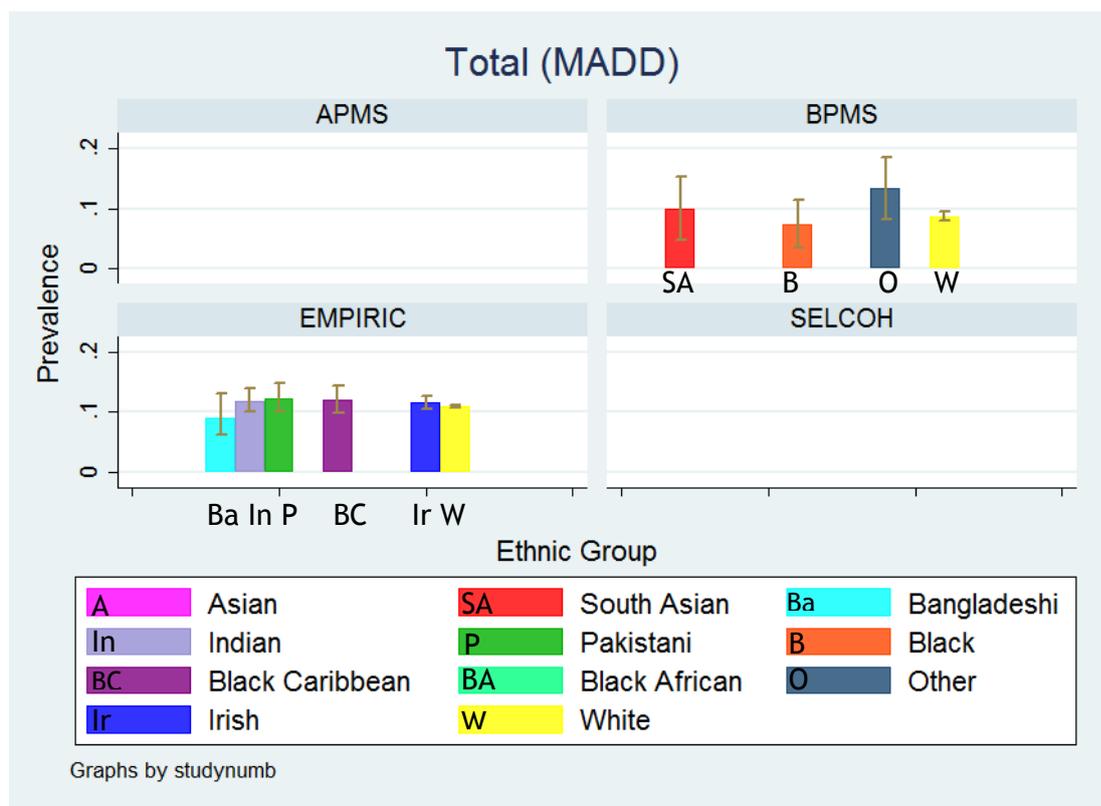


Mixed Anxiety and Depressive Disorder

Analyses from two surveys (2000 BMPS and EMPIRIC) provided estimates of the prevalence of Mixed Anxiety and Depressive Disorder by ethnic group for the population as a whole (with males and females combined) (see Figure 5.4). Analyses from three surveys provided estimates separately for men and women (see Figures 5.5 and 5.6).

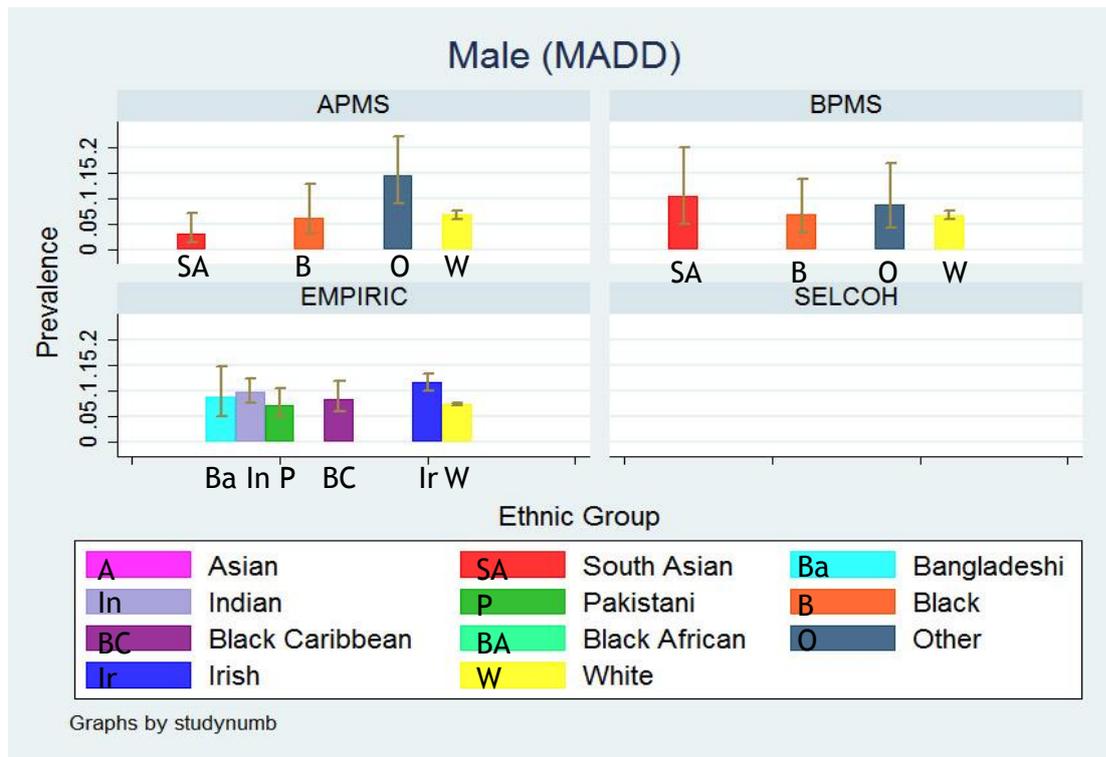
From the analyses where men and women are grouped together we saw no pattern in the prevalence of Anxiety and Depressive Disorder across the different ethnic groups. No one ethnic group had either the highest or lowest prevalence in either analysis. Within both analyses, the confidence intervals for estimates for the different ethnic groups overlapped.

Figure 5.4: Past-week prevalence of Mixed Anxiety and Depressive Disorder by ethnic group (all adults)



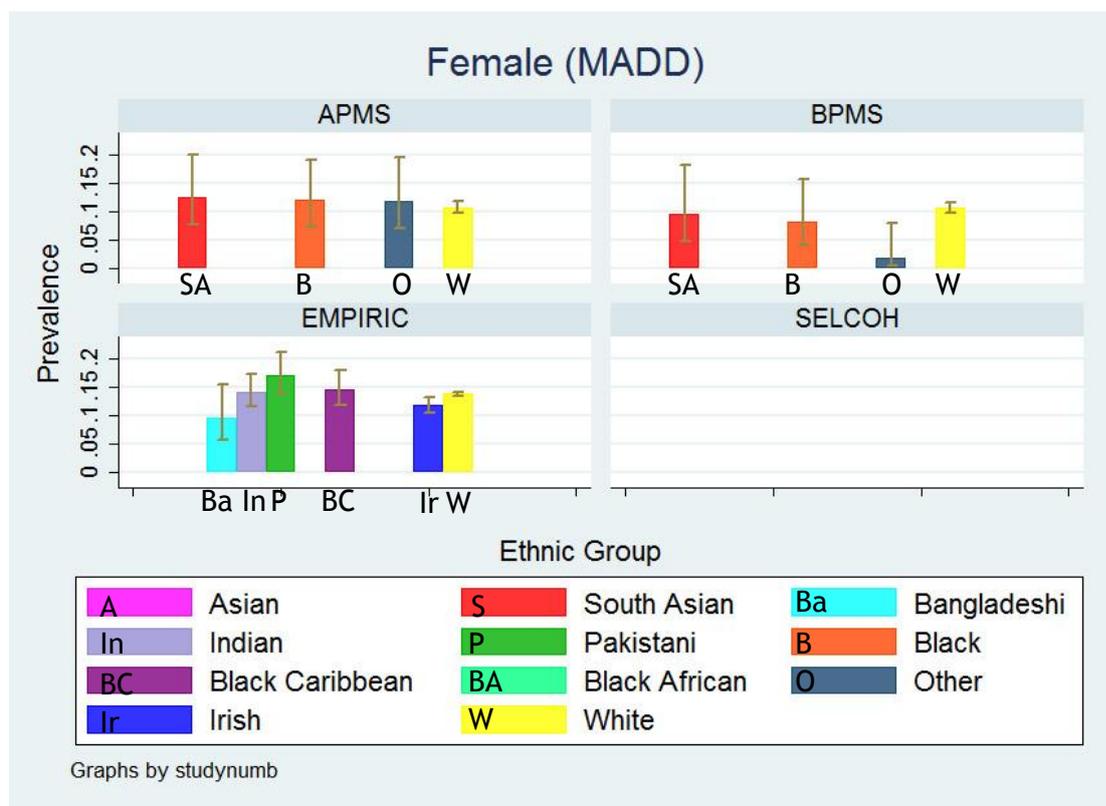
The findings of the three studies examining prevalence of Mixed Anxiety and Depressive Disorder among men are presented in Figure 5.5. This shows no pattern in prevalence across the different ethnic groups when the studies are examined as a whole. No one ethnic group had either the highest or lowest prevalence in any two studies. Confidence intervals indicate some possible differences within the analyses, but with no consistency. Within the 2000 BPMS analysis, all of the confidence intervals for the estimates for the different ethnic groups overlapped. In the 2007 APMS analysis, there is no overlap between the confidence intervals for the estimate for men in the Other ethnic group (14.4%, 95% CI: 9.1, 22.1) and the estimates for both White men and South Asian men (6.8%, 95% CI: 6.0, 7.7 and 3.2%, 95% CI: 1.4, 7.0 respectively), indicating that, in this survey, prevalence among men in the Other ethnic group was higher than it was for the two other ethnic categories. Overlaps are seen between most group estimates within the EMPIRIC analysis; however the estimate for men in the Irish group, at 11.5% (95% CI: 10.0, 13.2), appears higher than that for men in the White group, which is 7.4% (95% CI: 7.1, 7.7).

Figure 5.5: Past-week prevalence of Mixed Anxiety and Depressive Disorder among men by ethnic group



The findings of the three studies examining prevalence of Mixed Anxiety and Depressive Disorder amongst women are presented in Figure 5.6. The analyses taken together show a weak pattern in prevalence across the different ethnic groups. In two analyses, the highest prevalence was seen among groupings of South Asian women. In one case (2007 APMS), South Asian women as a group had the highest level. In the other (EMPIRIC), Pakistani women had the highest prevalence level. Confidence intervals from one analysis (EMPIRIC) also suggest a relatively high prevalence among a South Asian group, in that prevalence of Mixed Anxiety and Depressive Disorder among women in the Pakistani group appears to have been higher than that for Irish women (17.0%, 95% CI: 13.6, 21.1 and 11.7%, 95% CI: 10.3, 13.2 respectively). All other confidence intervals within the EMPIRIC and 2007 APMS analyses overlapped, as do all but one pair of estimates in the 2000 BPMS analysis. Here White women appear to have had a higher prevalence than women in the Other ethnicity group (10.7%, 95% CI: 9.8, 11.6 and 1.9%, 95% CI: 0.4, 8.0 respectively).

Figure 5.6: Past-week prevalence of Mixed Anxiety and Depressive Disorder among women by ethnic group



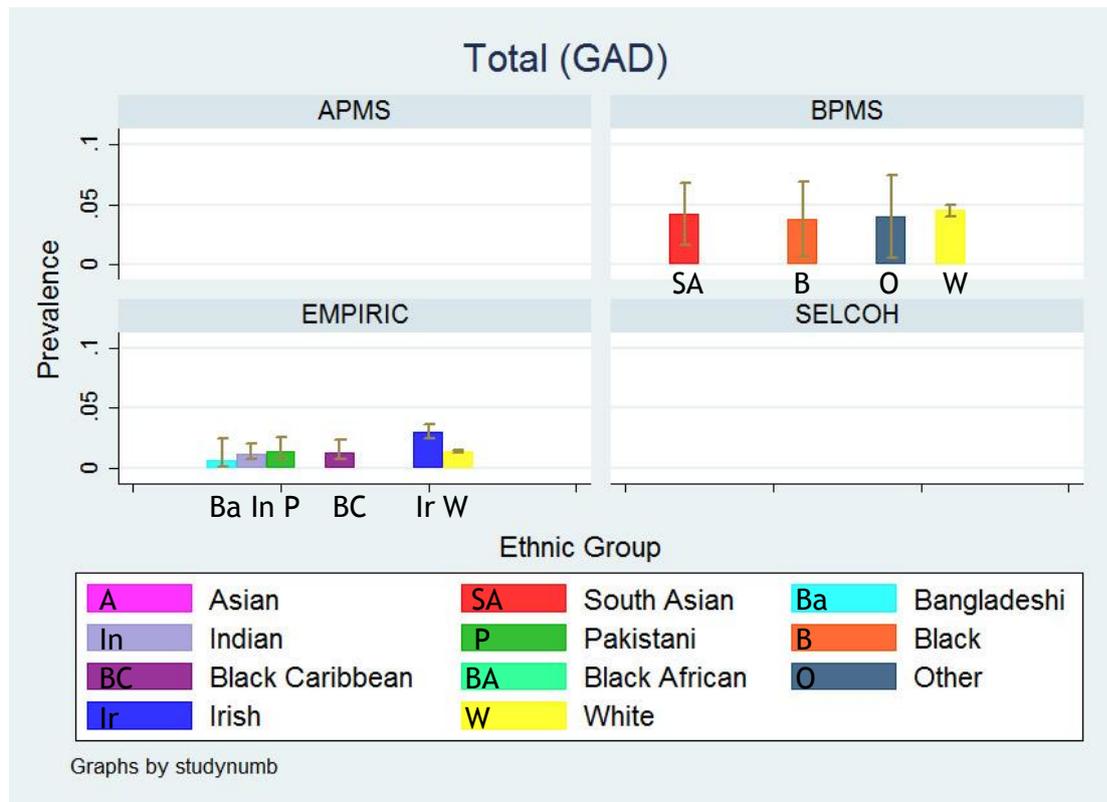
Generalised Anxiety and Depression

Analyses from two surveys (2000 BMPS and EMPIRIC) provided estimates of the prevalence of Generalised Anxiety and Depression (GAD) by ethnic group for the population as a whole (with Males and Females combined) (see Figure 5.7). Analyses from three surveys provided estimates separately for men and women (see Figures 5.8 and 5.9).

Examination of the two available analyses of the prevalence of Generalised Anxiety and Depression for adults as a whole shows no pattern in prevalence between the different ethnic groups. No one ethnic group had either the highest or lowest prevalence in any two studies. Confidence intervals indicate some possible differences, but within only one of the analyses.

In the EMPIRIC analysis, the confidence intervals for the estimate for prevalence amongst people in the Irish group indicate that it is higher than that for people in each of the Bangladeshi, Indian, Black Caribbean and White groups. In this analysis, the prevalence estimate for GAD within the Irish group was 3.0% (95% CI: 2.5, 3.6). Estimates for the Bangladeshi, Indian and Black Caribbean groups were all in the region of 1.0% (with lower and higher 95% confidence intervals ranging from 0.1 to 2.4 respectively). That for the White group was 1.4% (95% CI: 1.3, 1.5). All of the confidence intervals for estimates for the different ethnic groups in the 2000 BPMS analysis overlapped.

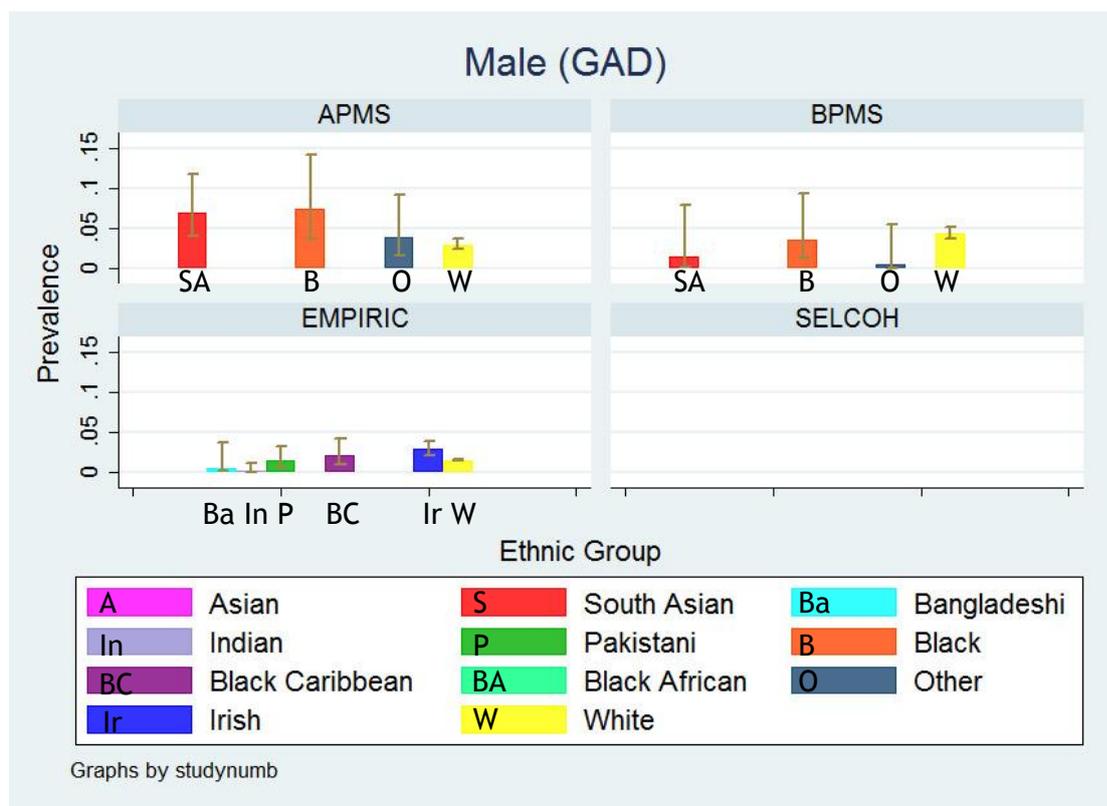
Figure 5.7: Past-week prevalence of Generalised Anxiety and Depression by ethnic group (all adults)



The findings of the three studies examining prevalence of Generalised Anxiety and Depression among men are presented in Figure 5.8. This shows no pattern in prevalence across the different ethnic groups when the studies are examined as a whole. No one ethnic group had either the highest or lowest prevalence in any two studies. Confidence intervals indicate some possible differences within two of the analyses, but with no consistency.

Within the 2000 BPMS analysis, the confidence intervals for estimates for men in the different ethnic groups all overlapped. In the 2007 APMS analysis, there is no overlap between the confidence intervals for the estimates for White men (3.0%, 95% CI: 2.5, 3.7) and for both Black and South Asian men (7.5%, 95% CI: 3.8, 14.3 and 7.0%, 95% CI: 4.0, 11.9 respectively), suggesting that prevalence among White men in that survey was lower than it was for both Black and South Asian men. Overlaps are also seen between most groups within the EMPIRIC analysis; however, the estimate of the prevalence of GAD among men in the Irish group, at 2.9% (95% CI: 2.2, 3.9), suggests this was higher than that for Indian men (0.2%; 95% CI: 0.0, 1.0). Similarly, it appears higher than the prevalence estimate for men in the White group, which was 1.5% (95% CI: 1.4, 1.6). The estimate for the prevalence of GAD in White men was also higher than that for Indian men.

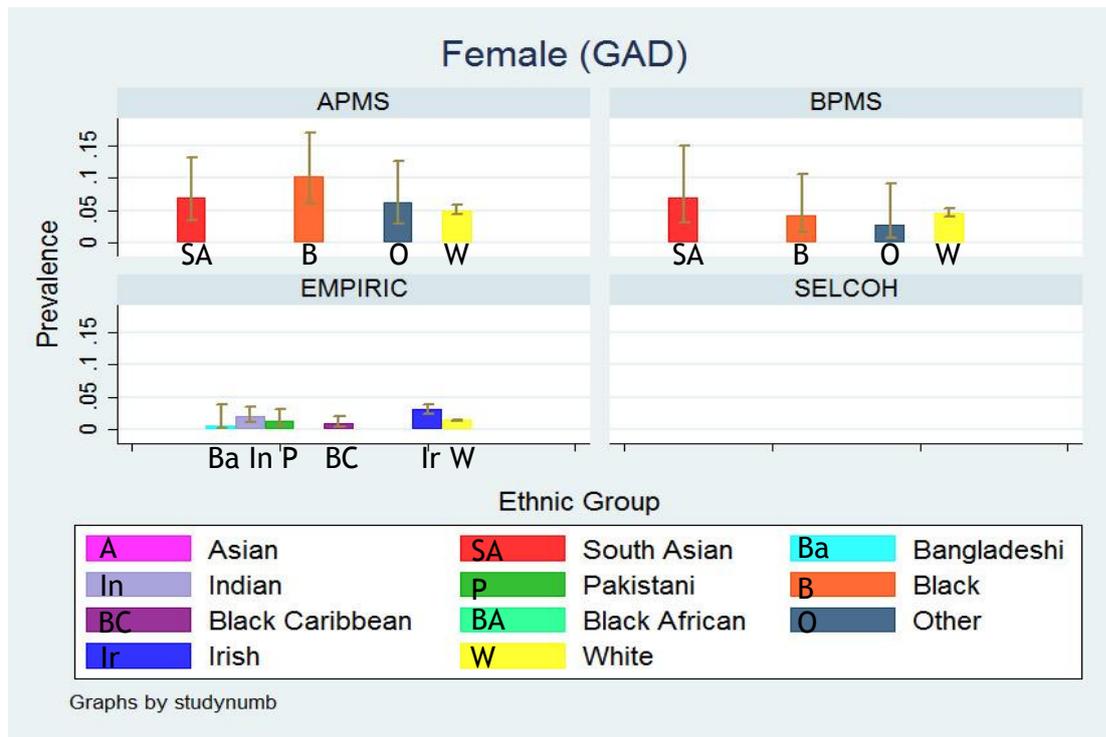
Figure 5.8: Past-week prevalence of Generalised Anxiety and Depression among men by ethnic group



The findings of the three studies examining prevalence of Generalised Anxiety and Depression amongst women are presented in Figure 5.9. Again, there is no pattern in prevalence across the different ethnic groups when the studies are examined as a whole. No one ethnic group had either the highest or lowest prevalence in any two studies.

Also, confidence intervals indicate some possible differences within analyses, but with no consistency. Within the 2000 BPMS analysis the confidence intervals for estimates for the different ethnic groups overlapped. In the 2007 APMS analysis, there is no overlap between the confidence intervals for the higher estimate for Black women (10.3%, 95% CI: 6.1, 17.0) and the estimate for White women (5.0%, 95% CI: 4.3, 5.8). This indicates that, in this analysis, prevalence of GAD among Black women was higher than it was for White women. Overlaps are also seen between estimates within the EMPIRIC analysis; however Irish women, at 3.0% (95% CI: 2.3, 3.9), appear to have had a higher prevalence of GAD than both White women (1.4%, 95% CI: 1.3, 1.5) and women in the Black Caribbean group (0.8%, 95% CI: 0.3, 2.1).

Figure 5.9: Past-week prevalence of Generalised Anxiety and Depression among women by ethnic group

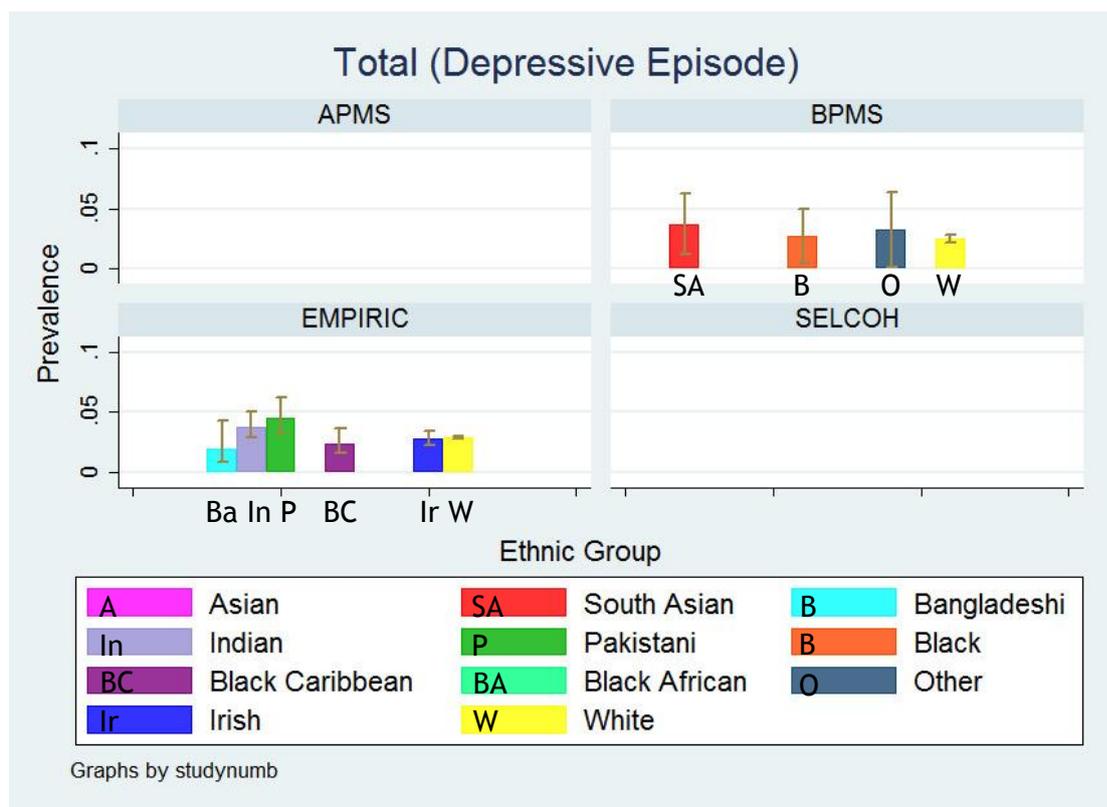


Any Depressive Episode (DE)

As was the case for the two MHDs mentioned immediately above, analyses from two surveys (2000 BPMS and EMPIRIC) provided estimates of the prevalence of Any Depressive Episode (DE) by ethnic group for the adult population as a whole (with males and females combined) (see Figure 5.10). Analyses from three surveys provided estimates separately for men and women (see Figures 5.11 and 5.12).

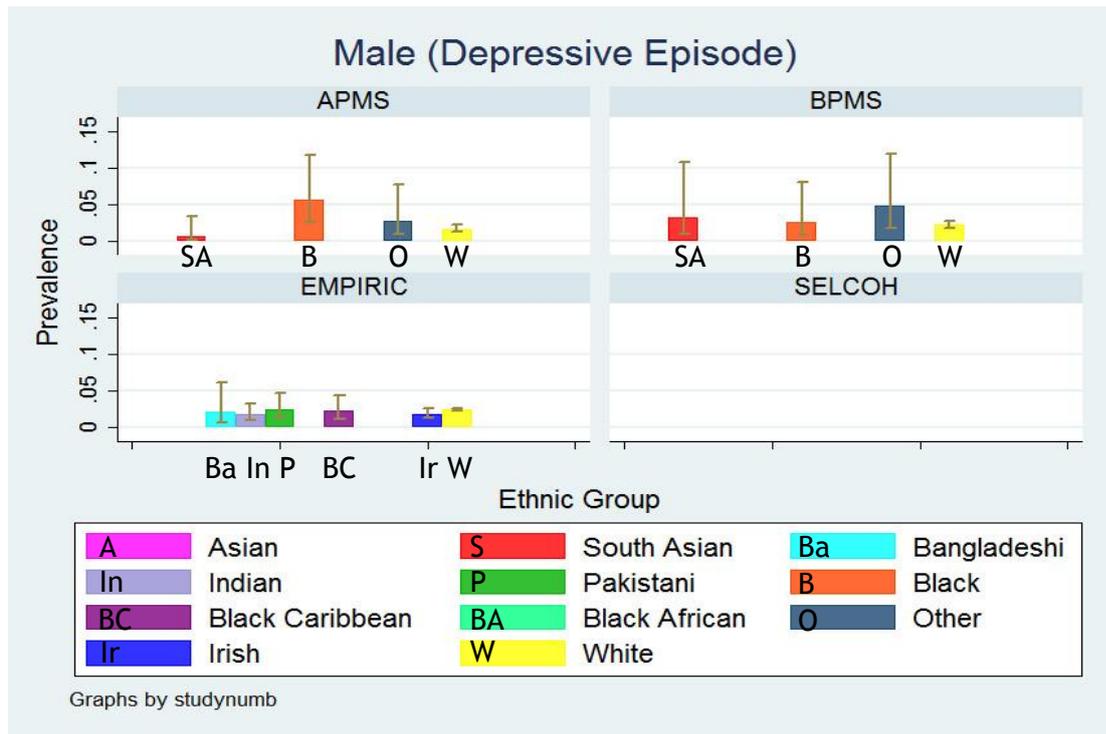
The two available analyses of the prevalence of Any Depressive Episode amongst adults as a whole suggest a weak pattern across the ethnic groups. In both analyses, the highest prevalence was seen among groupings of South Asian adults. In one case (EMPIRIC), Indian and Pakistani adults had the two highest prevalence levels; in the other case (2000 BPMS), South Asians as a group had the highest level. The confidence intervals in the analysis of one survey (EMPIRIC), also suggest that the prevalence of Any Depressive Episode amongst Pakistani adults (4.5%, 95% CI: 3.2, 6.3) was higher than that for White adults (2.9%, 95% CI: 2.8, 3.0). The confidence intervals for all other estimates within the EMPIRIC and the 2000 BPMS analyses overlapped.

Figure 5.10: Past-week prevalence of Any Depressive Episode by ethnic group (all adults)



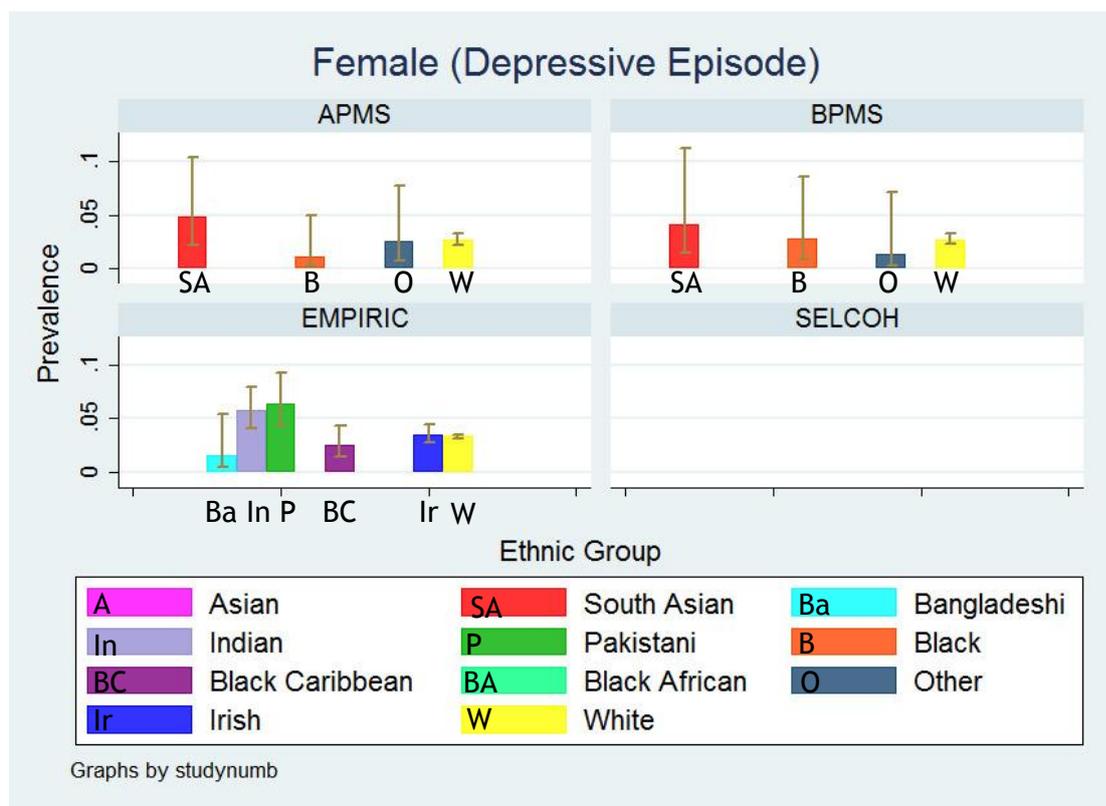
The findings of the three studies examining the prevalence of Any Depressive Episode among men only are presented in Figure 5.11. This shows no pattern in prevalence across the different ethnic groups when the studies are examined as a whole. No one ethnic group had either the highest or lowest prevalence in any two studies. Confidence intervals indicate some possible differences within only one of the analyses (2007 APMS). Within this analysis the prevalence estimate of Any Depressive Episode for Black men appears higher than that for White men (5.6%, 95% CI: 2.6, 11.8 and 1.7%, 95% CI: 1.3, 2.2 respectively).

Figure 5.11: Past-week prevalence of Any Depressive Episode among men by ethnic group



The findings of the three studies examining the prevalence of Any Depressive Episode amongst women are presented in Figure 5.12. These analyses suggest a weak pattern across ethnic groups. In all three of the available analyses, South Asian women were found to have the highest level of DE compared to women in other ethnic groups (in the case of EMPIRIC, Pakistani and Indian women had the two highest levels; in the other two analyses it was South Asian women as an aggregated group). Within each study, however, most confidence intervals overlapped. The only exceptions were seen for EMPIRIC. This analysis suggests that both Pakistani and Indian women (6.3%, 95% CI: 4.3, 9.2 and 5.7%, 95% CI: 4.1, 7.9 respectively) had a higher prevalence than did White women (3.3%; 95% CI: 3.1, 3.5).

Figure 5.12: Past-week prevalence of Any Depressive Episode among women by ethnic group



5.2 Results: Post-Traumatic Stress Disorder (PTSD)

In this section, we examine the availability and nature of estimates for the prevalence of Post-Traumatic Stress Disorder (PTSD). PTSD is a disabling mental health disorder that is triggered by an exposure to a traumatic event or stressor. The condition is characterised by the experience of flashbacks and nightmares, avoidance and numbing, and a heightened state of sensory sensitivity along with an overstated intensity of cautious behaviours with the purpose of self-preservation and/or protection of others (hypervigilance). The onset of PTSD usually occurs within three months of the event and may continue for months or even years and can in some individuals result in an enduring personality change.

5.2.1 Summary of findings

- Analyses of two included surveys provided prevalence estimates for PTSD by ethnic group. These analyses used data from the 2007 Adult Psychiatric Morbidity Survey (2007 APMS), which presented findings for men and women separately, and data from the South East London Community Health (SELCoH) study, which presented findings for adults as a whole.
- Since there was only one analysis for adults as a whole, it was not possible to look for a pattern in the relative prevalence of PTSD between different ethnic groups across analyses. This was also the case for prevalence amongst men and amongst women. The confidence intervals in one analysis indicated a possible difference between two groups.

5.2.2 Description of studies: Possible PTSD

Analyses of two of the included surveys (2007 APMS and SELCoH) provided estimates of the prevalence of PTSD among people in different ethnic groups [5, 10].

Neither survey used a full clinical assessment, but instead reported findings as the proportion of participants who met or exceeded a threshold value in a screening questionnaire. In both cases, participants were asked about their current symptoms. The 2007 APMS used the Trauma Screening Questionnaire (TSQ) with a threshold of 6+. The SELCoH survey used the primary Care PTSD screen (PC-PTSD) and a threshold of 3+.

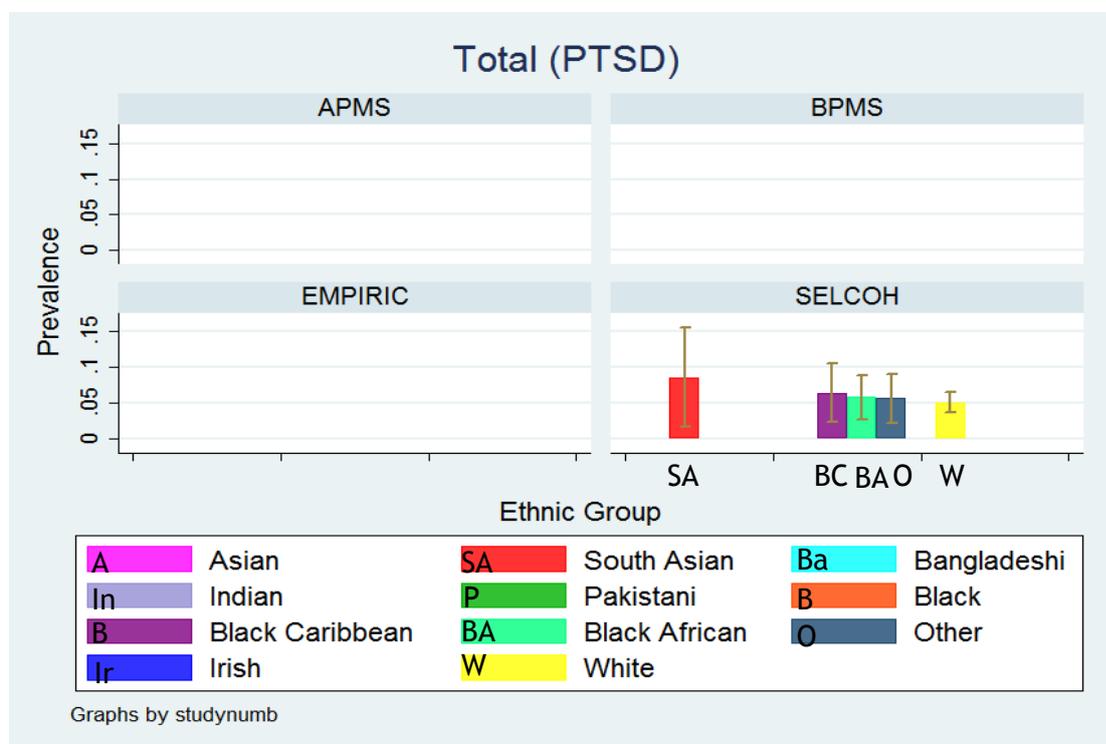
As can be seen from the figures below, the two surveys use different approaches to aggregating their findings. The available estimates differed both in terms of ethnic category and whether or not the analysis was disaggregated by gender.

5.2.3 Findings

The analysis of the 2007 APMS survey presented prevalence estimates for men and women separately for White, Black, South Asian and Other ethnic categories.

The SELCoH survey analysis for PTSD provided prevalence estimates only for males and females combined. The estimates were also grouped into different ethnic groups (White, Black Caribbean, Black African, South Asian and Other). The availability of only one analysis meant that it was not possible to search for patterns across studies. The analysis suggested that South Asian adults had the highest prevalence of PTSD (8.6%, 95% CI: 1.6, 15.6) (see Figure 5.13). However, the confidence intervals for estimates within this analysis all overlapped, indicating that no differences can be seen between any ethnic groups.

Figure 5.13: Current prevalence of PTSD by ethnic group (all adults)

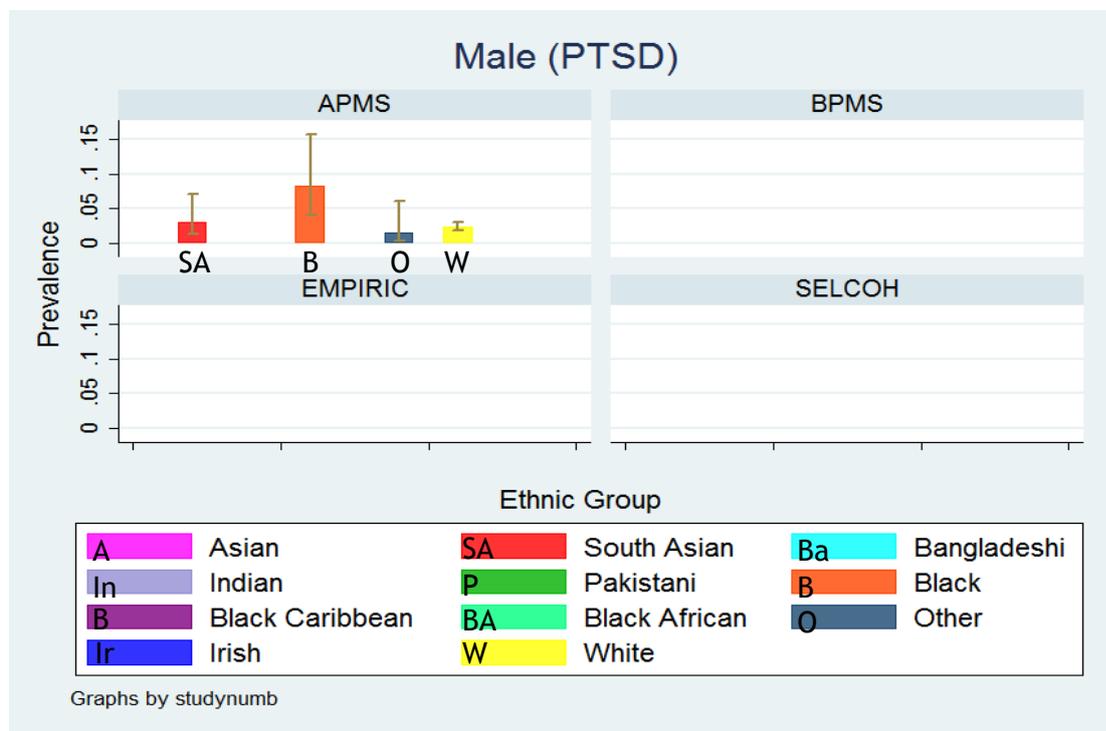


In the analysis of prevalence of PTSD among men in the 2007 APMS (Figure 5.14), Black men had the highest prevalence, at 8.2% (95% CI: 4.1, 15.7). The lack of an overlap between confidence intervals for this figure and that for the lower prevalence among

Prevalence of mental health disorders in adult minority ethnic populations in England

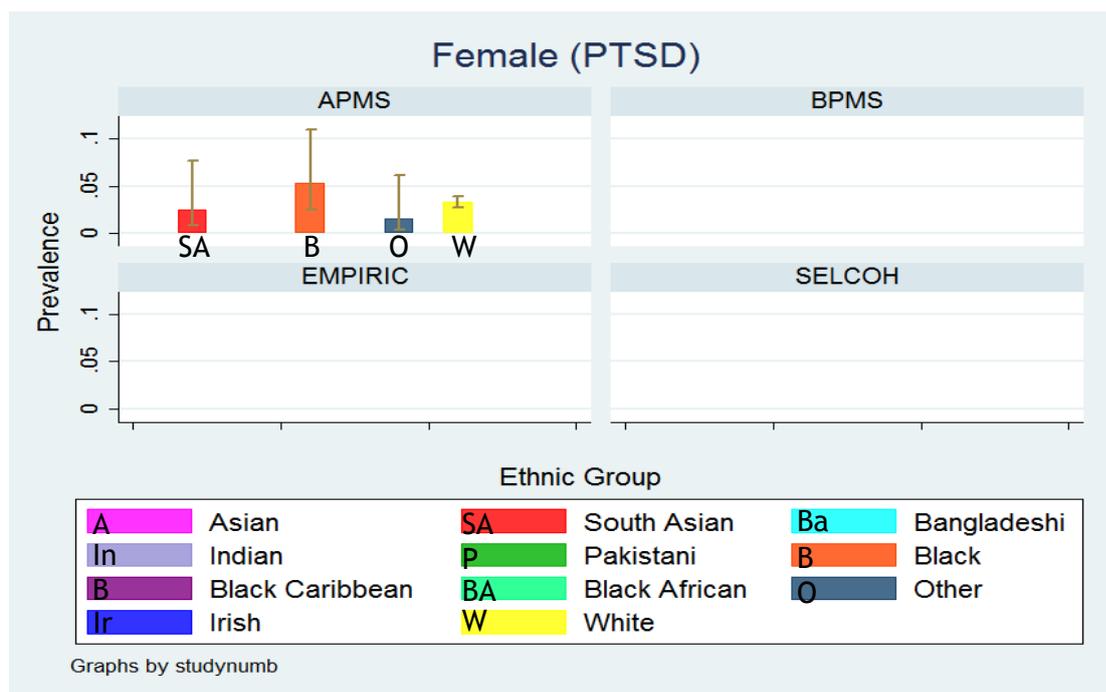
White males (2.4%, 95% CI: 1.9, 3.0), suggests that there is a difference between levels of PTSD in these two groups.

Figure 5.14: Current prevalence of PTSD among men by ethnic group



The analysis of PTSD in the 2007 APMS survey suggested that Black women had the highest prevalence (5.3%, 95% CI: 2.4, 11.0). However, the confidence intervals for estimates within this analysis all overlapped, indicating that no differences can be seen between any ethnic groups.

Figure 5.15: Current prevalence of PTSD among women by ethnic group



5.3 Results: Suicidal thoughts, Suicide attempts and Self-harm

In this section, we examine the estimated prevalence rate of suicide related and harming behaviour: suicidal thoughts, suicide attempts and self-harm in different ethnic groups. Suicidal thoughts are defined as occasions where respondents have considered taking their own lives. Suicide attempts refer to occasions where respondents have reported that they had tried to end their lives. Self-harm is defined as the act of respondents causing self-inflicted injury but not with the intent of ending their lives. This includes injurious acts such as burning, cutting and other self-inflicted wounds.

5.3.1 Summary of findings

Analyses were found of prevalence by ethnic group for all three of the suicidal behaviours included in this review (suicidal thoughts, suicide attempts and self-harm):

- For suicidal thoughts:
 - Among adults as a whole, the analyses taken together show a strong pattern in the prevalence of suicidal thoughts across different ethnic groups, with adults from some, but not necessarily all, Black ethnic groups having a relatively low prevalence when compared with other ethnic groups:
 - In both of the two available analyses, the lowest prevalence was seen among groupings of Black adults (in one case, Black African adults had the lowest prevalence levels; in the other, Black adults as a group had the lowest level).
 - The results from both analyses indicate that prevalence was lower for these groups of Black adults than for White adults (based on non-overlapping confidence intervals).
 - Among men, a strong pattern could be seen in the prevalence of suicidal thoughts across different ethnic groups, with prevalence lower for South Asian men than White men:
 - No one ethnic group had either the highest or lowest prevalence in both analyses.
 - The results from both of the analyses indicated that prevalence was lower for South Asian men than White men.
 - Confidence intervals in one analysis also indicated a possible difference in prevalence for White and Black men, with prevalence being lower in Black men.
 - A weak pattern in the prevalence of suicidal thoughts across the different ethnic groups was seen among women:
 - In both of the two available analyses, the lowest prevalence was seen among South Asian women.
 - The results from one analysis indicated that prevalence was lower for South Asian women than for White women (based on non-overlapping confidence intervals).
- For suicide attempts:
 - For adults as a whole, two analyses were found. No pattern in prevalence was found:
 - No one ethnic group had either the highest or lowest prevalence in any two studies.
 - Within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups.
 - Among men, a weak pattern was seen in the prevalence of suicide attempts:

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- A South Asian group had the lowest prevalence in both includable analyses.
- Confidence intervals from one analysis indicated that South Asian men might have a relatively low prevalence compared with White men.
- No pattern was evident across the two available analyses of suicide attempts among women.
 - No one ethnic group had either the highest or lowest prevalence in any two studies.
 - The confidence intervals in only one analysis indicated a possible difference between groups.
- For self-harm:
 - Among adults as a whole, only one analysis was found. It was therefore not possible to look for a pattern across analyses. No confidence intervals in this analysis indicated a possible difference between any two groups.
 - Among men, the two available analyses suggested no pattern in prevalence:
 - South Asian men appeared to have the lowest prevalence of Self-harm in both analyses.
 - However, within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups.
 - The same two surveys provided data for analyses of self-harm among women in different ethnic groups but no pattern was seen across the analyses:
 - No one ethnic group had either the highest or lowest prevalence in both analyses.
 - The estimate confidence intervals indicated that no difference was found between groups.

5.3.2 Description of studies

Analyses from three of the included surveys reported prevalence of suicidal thoughts and suicide attempts: 2000 BPMS, 2007 APMS and SELCoH. Two analyses of self-harm were identified (for the 2000 BPMS and the 2007 APMS). The analyses were all reported in three reports [1, 12, 13].

The 2000 BPMS questioned respondents as to whether they had ever considered or tried any of the above three acts at some point in their lives. The 2007 APMS and SELCoH used the same questions. A positive response to suicidal thoughts or attempts was followed up with a question on whether these thoughts or actions had happened in the past week, past year or earlier.

The questions, which form part of the Revised Clinical Interview Schedule (CIS-R), were asked face-to-face. However, due to the sensitivity of the questions, respondents were able to use a self-completion method (Computer Assisted Self Interview). The same ethnic groups were used for analysis of the 2000 BPMS and 2007 APMS (White, Black, South Asian and Other). However the SELCoH analysis featured both a Black Caribbean and a Black African group, and presented no prevalence data for South Asians. Only the analysis of the 2000 BPMS presented data both for all adults and for men and women separately. The analysis of the 2007 APMS provided prevalence estimates for men and women separately and the SELCoH analysis provided prevalence estimates for all adults only.

This review examines estimates for prevalence over a participant's lifetime, as this measurement was common to all three survey analyses.

5.3.3 Findings

Suicidal thoughts

Figure 5.16 presents the findings of the analyses of the prevalence of suicidal thoughts across ethnic groups for men and women combined. Although there are two analyses, it is difficult to look for patterns across studies because of the different ways in which ethnic groups are categorised. In the SELCoH analysis, the Other group is constituted differently (to include South Asian adults).

Taken together, however, the analyses for adults as a whole show a strong pattern. In both of the two available analyses, the lowest prevalence appears to be seen among groupings of Black adults. In one case, Black African adults appear to have the lowest prevalence levels; in the other case, Black adults as a group appear to have the lowest level.

In addition, the results from both analyses indicate that prevalence was lower for these groups of Black adults than for White adults. Prevalence among Black adults in the 2000 BPMS analysis was 7.5% (95% CI: 4.5, 12.2) and that for Black African adults in the SELCoH analysis was 12.9% (95% CI: 9.2, 17.8). Prevalence among White adults in the 2000 BPMS analysis was 15.3% (95% CI: 14.5, 16.1), and that for White adults in the SELCoH analysis was 22.2% (95% CI: 19.8, 24.8). One analysis (of the 2000 BPMS) also indicated that prevalence was lower for South Asian adults (8.2%; 95% CI: 4.85, 13.5) than for White adults.

Figure 5.16: Lifetime prevalence of suicidal thoughts by ethnic group (all adults)

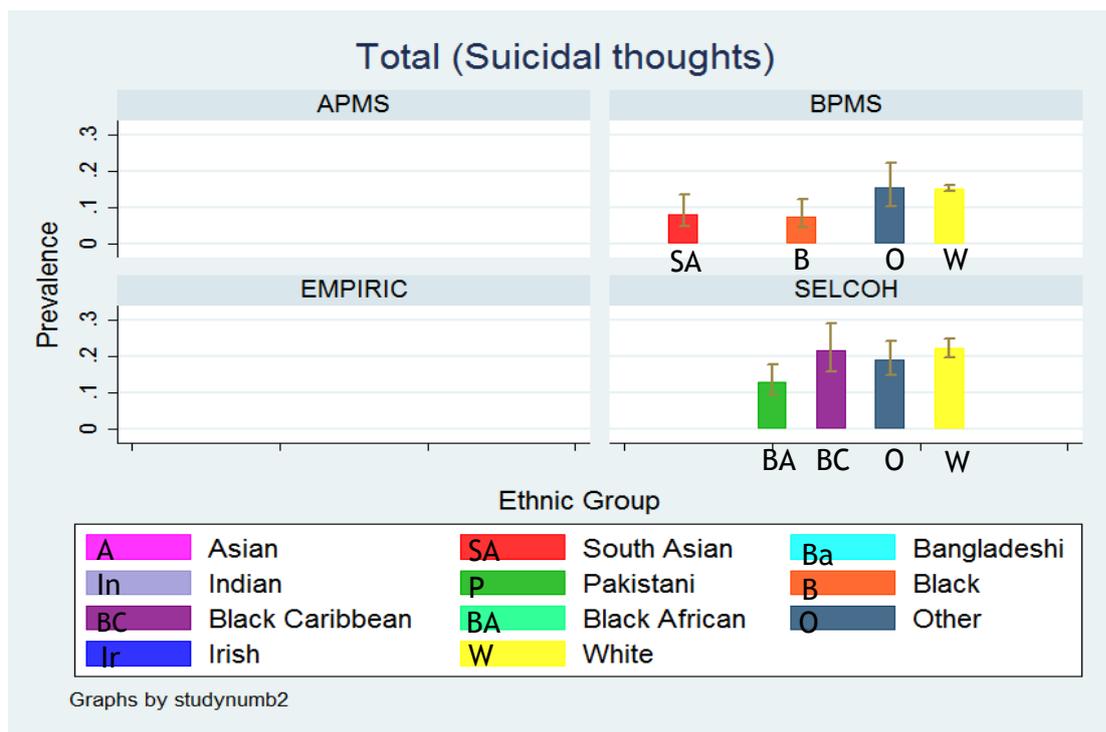


Figure 5.17 shows the two available analyses of prevalence rates of lifetime suicidal thoughts among men by ethnic group. A strong pattern can be seen across the analyses. No one ethnic group had either the highest or lowest prevalence in both analyses. However, the results from both analyses indicated that prevalence was lower for South Asian men than White men. The estimates for these groups in the 2000 BPMS analyses were 4.4% (95% CI: 1.60, 11.5) and 13.1% (95% CI: 12.0, 14.3) respectively. In the 2007 APMS analysis, these were 5.2% (95% CI: 2.72, 9.7) and 14.7% (95% CI: 13.5, 16.0) respectively. Black men

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in the 2000 BPMS analysis were also found to have a prevalence rate lower than that of White men (4.1%, 95% CI: 1.59, 10.2).

Figure 5.17: Lifetime prevalence of Suicidal thoughts among men by ethnic group

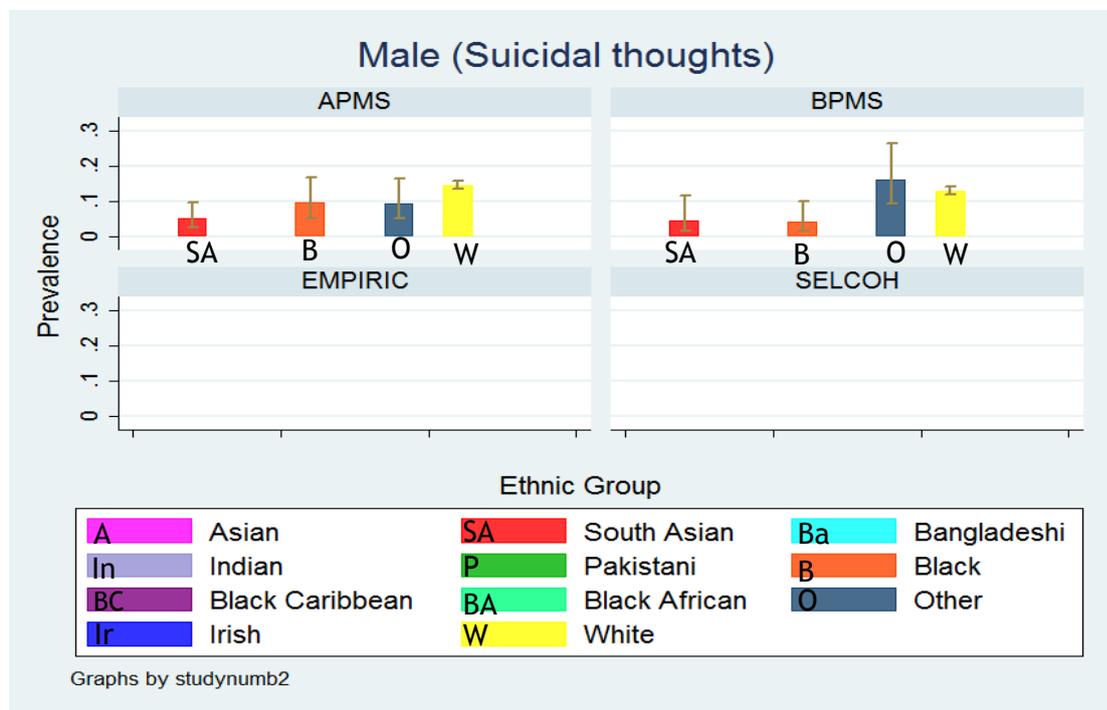
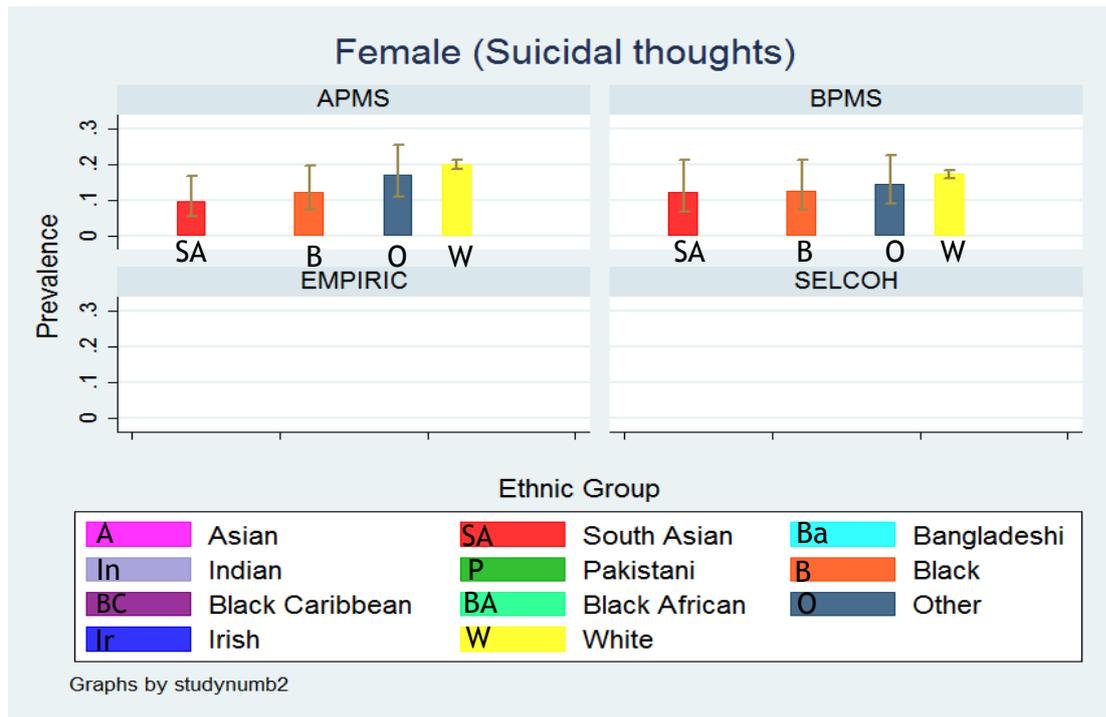


Figure 5.18 shows the analyses of prevalence rates of lifetime suicidal thoughts among women by ethnic group. A weak pattern is evident across the two available analyses; in both, the lowest prevalence was seen among South Asian women. In addition, the results from one analysis indicated that prevalence was lower for South Asian women than for White women. In the 2007 APMS analysis, South Asian women had a lower prevalence than White women (9.7%, 95% CI: 5.4, 16.7 and 19.9%, 95% CI: 18.6, 21.3 respectively).

Figure 5.18: Lifetime prevalence of Suicidal thoughts among women by ethnic group



Suicide attempts

Figure 5.19 shows the two available analyses of prevalence rates of suicide attempts among all adults by ethnic group. Again, it is extremely difficult to look for patterns across these studies because of the different ways in which ethnic groups have been categorised. In the SELCoH analysis, the Other group is constituted completely differently (to also include South Asian adults).

However, we could find no pattern in prevalence across the different ethnic groups when we examined the studies as a whole. No one ethnic group had either the highest or lowest prevalence in any two studies. In the 2000 BPMS analysis, adults in either the Other ethnic category, or the White group appeared to have the highest prevalence rate (7.6%, 95% CI: 0.042, 0.132 and 4.5%, 95% CI: 0.041, 0.050 respectively), whereas in the SELCoH analysis the highest rates were seen in Black Caribbean and White adults (10.6%, 95% CI: 0.044, 0.168 and 8.6%, 95% CI: 0.065, 0.107 respectively). In the SELCoH analysis, Black Africans appeared to have a low prevalence (3.7%, 95% CI: 0.007, 0.067). However, within each analysis, there are no two groups without overlapping confidence intervals, indicating that no difference is evident between groups.

Figure 5.19: Lifetime prevalence of suicide attempts (all adults)

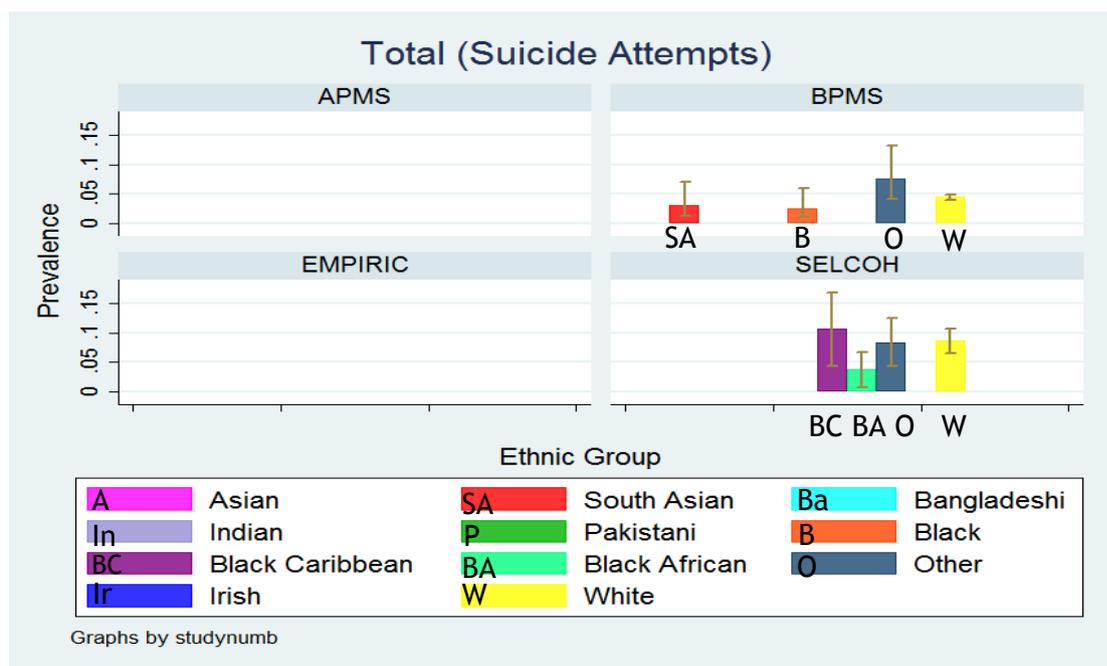


Figure 5.20 shows the available analyses of the prevalence of suicide attempts among men by ethnic group (2000 BPMS and 2007 APMS). These analyses suggested a weak pattern across ethnic groups. In both analyses, prevalence of suicide attempts was lowest amongst South Asian men and the confidence intervals in both analyses indicate that there were differences between the men in different ethnic groups. In the 2007 APMS analysis, the confidence intervals suggested that the prevalence in South Asian men (1.0%, 95% CI: -0.9, 2.9) was lower than that for White men (4.4%, 95% CI: 3.5, 5.3). In the 2000 BPMS analysis, they indicated that prevalence for men in the Other ethnic category (10%, 95% CI: 0.049, 19.3), which in this analysis did not include South Asian men, was significantly higher than that for White men (3.6%, 95% CI: 3.6, 4.3).

Figure 5.20: Lifetime prevalence of suicide attempts among men by ethnic group

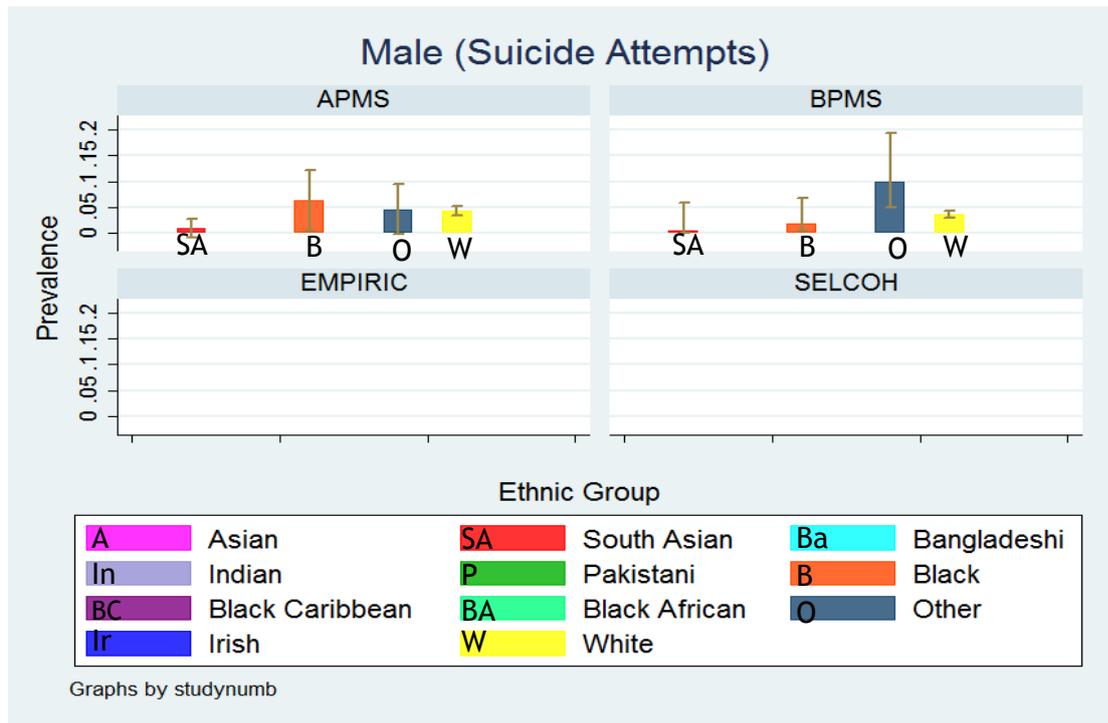
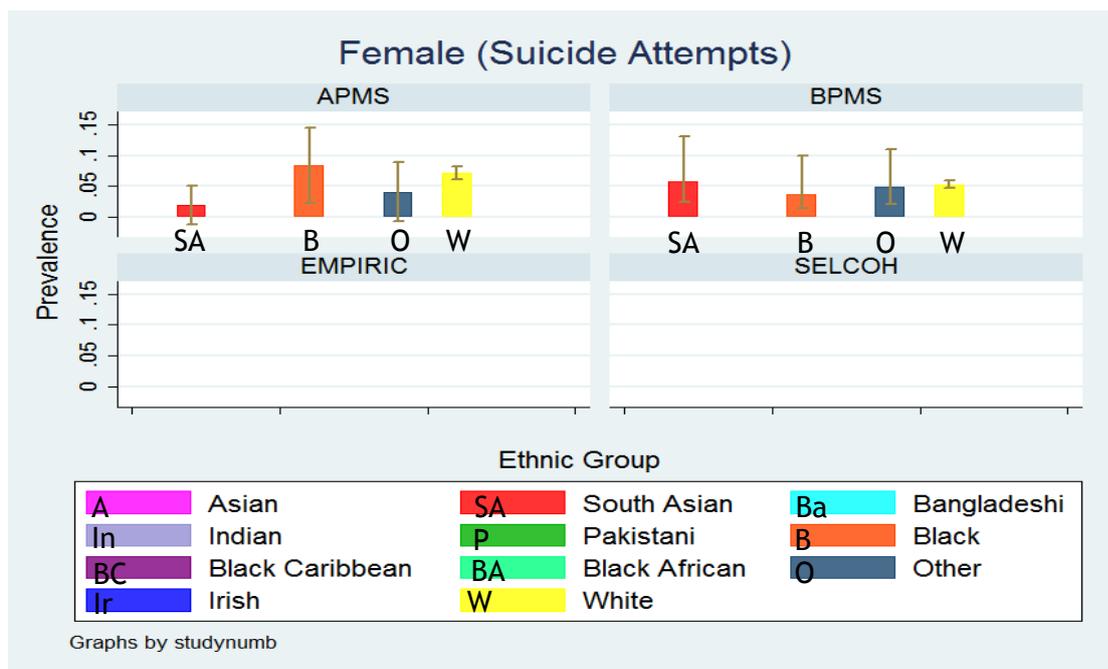


Figure 5.21 shows the available analyses of the lifetime prevalence of suicide attempts among women by ethnic group (from the 2000 BPMS and 2007 APMS). There is no pattern across the two analyses; no one ethnic group had either the highest or lowest prevalence. In the 2007 APMS analysis, there was no overlap between the confidence intervals for prevalence in White women (7.1%, CI: 6.0, 8.2), and those for South Asian women (1.9%, 95% CI: -0.013, 5.1), with the first estimate appearing higher than the second.

Figure 5.21: Lifetime prevalence of suicide attempts among women by ethnic group



Self-harm

An analysis of prevalence of self-harm among all adults was only available for the 2000 BPMS survey (see Figure 5.22). This meant that it was not possible to search for patterns across studies.

The analysis of this data suggested that self-harming behaviour was the most prevalent in White adults. However the confidence intervals for estimates within this analysis all overlapped, indicating that no differences can be seen between any ethnic groups.

Figure 5.22: Lifetime prevalence of self-harm by ethnic group (all adults)

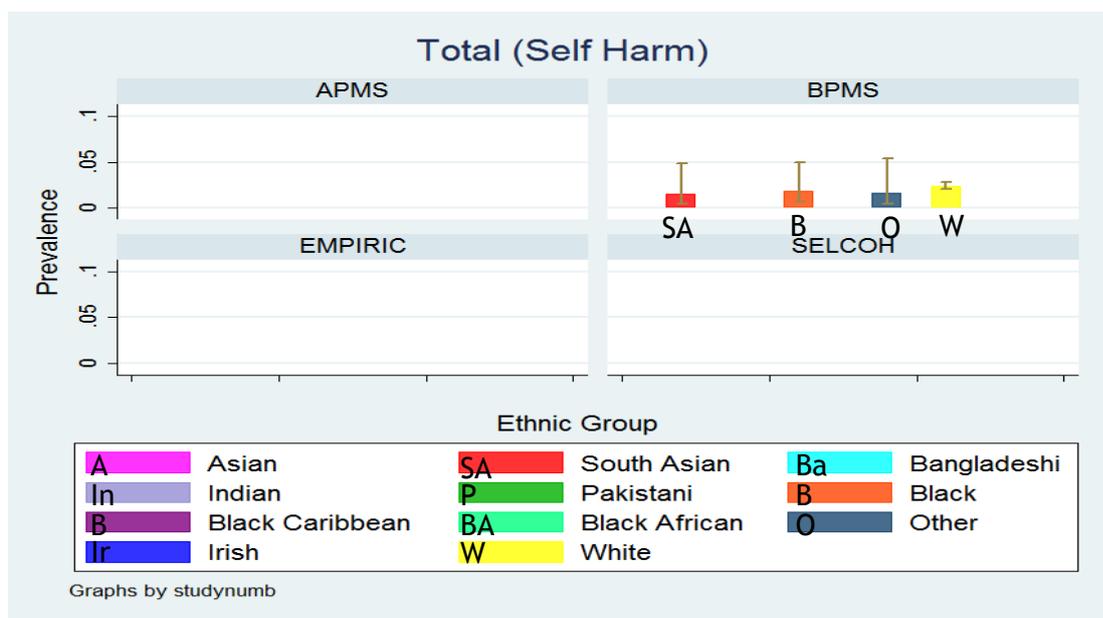


Figure 5.23 shows the available analyses of the prevalence of Self-harm among men by ethnic group (2000 BPMS and 2007 APMS). This suggests no pattern in prevalence across the different ethnic groups when the studies are examined as a whole. South Asian men appeared to have the lowest prevalence of Self-harm in both analyses. However, within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups.

Figure 5.23: Lifetime prevalence of self-harm among men by ethnic group

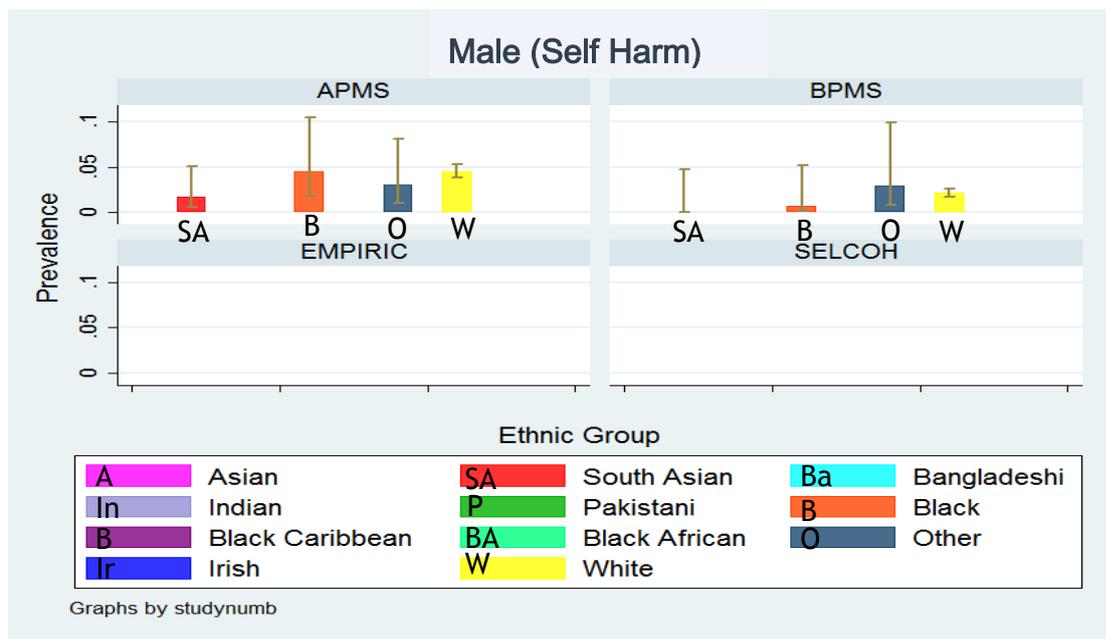
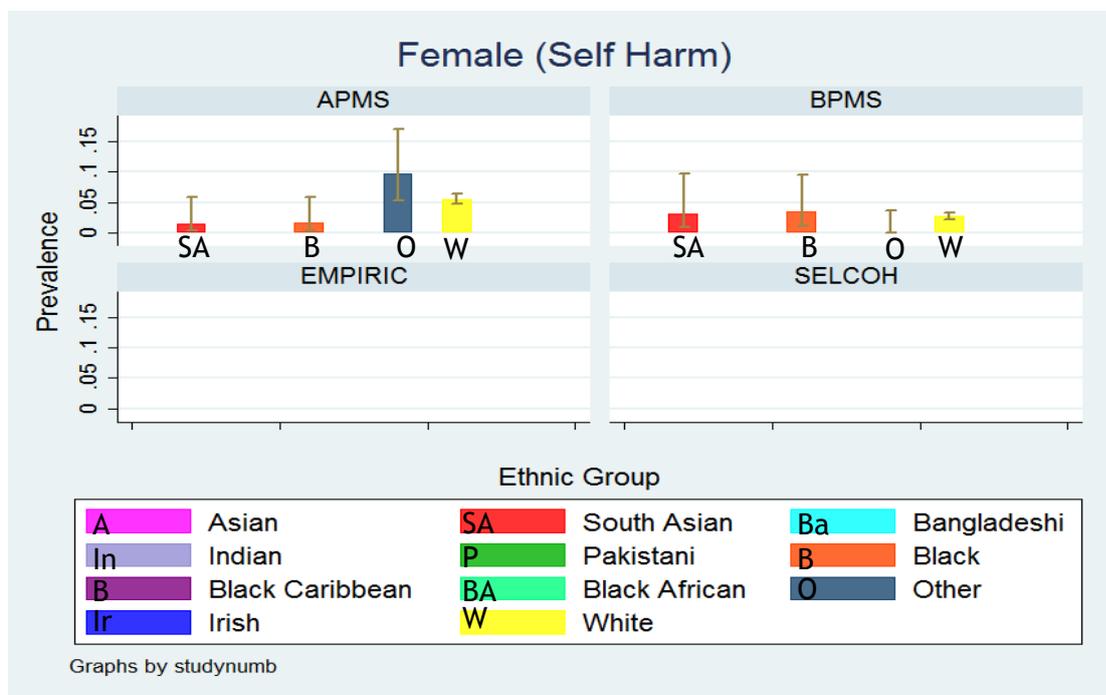


Figure 5.24 shows the available analyses of the prevalence of Self-harm among women by ethnic group (2000 BPMS and 2007 APMS). The estimates range considerably, from near zero, to up to 9.6% for women in the Other ethnic category within the 2007 APMS (95% CI: 5.2, 17.0). There is no pattern across the two analyses. No one ethnic group had either the highest or lowest prevalence in both analyses, and within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups.

Figure 5.24: Lifetime prevalence of Self-harm among women by ethnic group



5.4 Results: Psychosis

In this section, we examine the availability and nature of estimates for the prevalence of psychosis. Psychoses are disorders that cause distortion in a person's perception of reality due to disturbances in thought and perception. The main forms are schizophrenia and affective psychosis, such as bipolar disorder.

5.4.1 Summary of findings

Analyses of three surveys (the 2000 BPMS, the 2007 APMS and the EMPIRIC survey) provided prevalence estimates of psychosis by ethnic group. Analyses were presented for each survey for both adults as a whole, and for men and women separately. One of the surveys reports findings for 'Probable psychosis'. This distinction is used in the detailed findings below, but glossed over in this summary.

- For adults as a whole, the three available analyses taken together show a weak pattern in the prevalence of Psychosis across different ethnic groups, with adults from some, but not necessarily all, Black ethnic groups having a relatively high prevalence when compared with other ethnic groups:
 - Within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups.
 - The highest prevalence was seen among groupings of Black adults in all three of the available analyses (in one case, Black Caribbean adults had the highest prevalence level; in the other two cases, Black adults as a group had the highest level).
- For men, a similar pattern was seen. The three available analyses taken together show a weak pattern in the prevalence of Psychosis in men across different ethnic groups, with men from some, but not necessarily all, Black ethnic groups having a relatively high prevalence when compared with other ethnic groups:
 - Within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups.
 - The highest prevalence was seen among groupings of Black men in all three of the available analyses (in one case, Black Caribbean men had the highest prevalence level; in the other two cases, Black men as a group had the highest level).
- For women, a weak pattern was seen across the three available analyses, with women from some, but not necessarily all, Black ethnic groups having a relatively high prevalence when compared with other ethnic groups:
 - In two of the three available analyses, the highest prevalence was seen among groupings of Black women (in one case, Black Caribbean adults had the highest prevalence level; in the other case, Black adults as a group had the highest level).
 - The results from one analysis indicated that prevalence was higher for Black Caribbean adults than for White adults (based on non-overlapping confidence intervals).

5.4.2 Description of studies: Psychosis

Analyses of three of the surveys included in the review (2000 BPMS, 2007 APMS and EMPIRIC) provided prevalence estimates of any psychoses, or probable psychosis among people in different ethnic group [14, 15, 17].

5. Results for priority mental health disorders

Both the 2000 BPMS and the 2007 APMS used a two-phase survey approach to identify psychotic disorder. An initial screening interview identified respondents' experiences or symptoms meeting one or more of the psychosis screening criteria. In the 2007 APMS the interview used the Psychosis Screening Questionnaire (PSQ), consisting of a series of five probe and five secondary questions about mania, thought insertion, paranoia, strange experiences and hallucinations in the past year. In both the 2000 BPMS and the 2007 APMS, respondents who had a positive screen for psychosis were followed up with a clinical assessment using the Schedule for Clinical Assessment in Neuropsychiatry version 2.1 (SCAN).

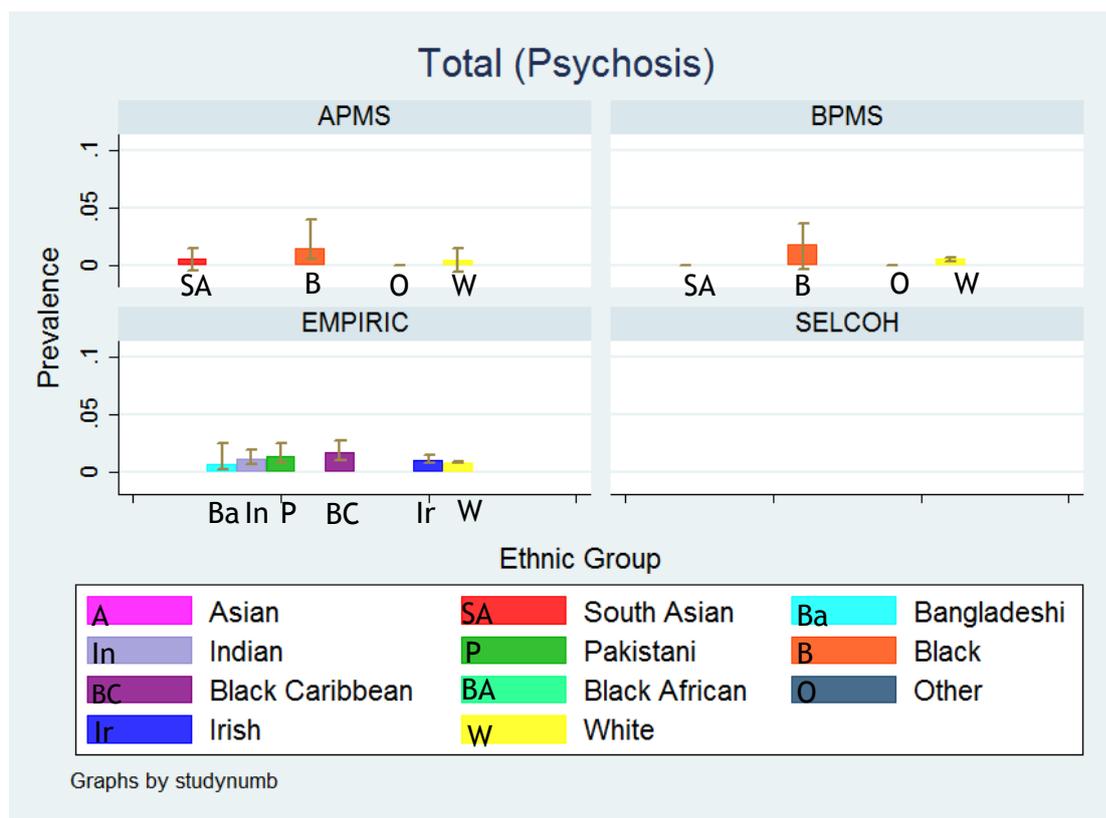
The EMPIRIC survey differed in that it did not conduct a clinical assessment. It asked the respondents all of the probe questions in the PSQ and then calculated an estimate for 'Probable psychosis' in the previous 12 months using the findings of a validation study that examined the relationship between the number of positive PSQ items reported by a participant and the likelihood of meeting the criteria for a psychotic illness at a diagnostic interview (Nazroo, 1997).

All three of the survey analyses provided estimates for all adults and for males and females separately. Two of the analyses (of the 2000 BPMS and 2007 APMS) aggregated their findings in the same way for both gender and ethnicity. Ethnicity was aggregated differently for the analysis of the EMPIRIC study, which looked at five specific ethnic groups: White, Irish, Black Caribbean, Indian and Pakistani.

5.4.3 Findings

For adults as a whole, the three available analyses taken together show a weak pattern. Within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups. However the highest prevalence of psychosis or possible psychosis was seen among groupings of Black adults in all three of the available analyses (Figure 5.25). The greatest prevalence of psychosis was seen in the Black ethnicity group for both the 2000 BPMS (1.8%, 95% CI: -0.40, 3.58) and the 2007 APMS (1.4%, 95% CI: 0.5, 3.9). The EMPIRIC analysis looked specifically at people grouped as Black Caribbean, rather than more generally at a Black ethnic group. Here Black Caribbean adults had the highest prevalence for probable psychosis (1.6%, 95% CI: 0.9, 2.7).

Figure 5.25: Twelve-month prevalence of Psychosis by ethnic group (all adults)



When the three available analyses for Psychosis or Probable psychosis in men are considered together (see Figure 5.26), this shows a weak pattern. Within each analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no difference was found between groups. However, the highest prevalence was seen among groupings of Black men in all three of the available analyses (Figure 5.26). Black men appeared to have the greatest prevalence of Psychosis in both the 2000 BPMS analysis (1.8%, 95% CI: 0.5, 6.9) and the analysis from the 2007 APMS (3.0%, 95% CI: -1.1, 7.1). For the EMPIRIC analysis, Black Caribbean males had the highest prevalence of Probable psychosis (1.6%, 95% CI: 0.7, 3.6).

Figure 5.26: Twelve-month prevalence of Psychosis among men by ethnic group

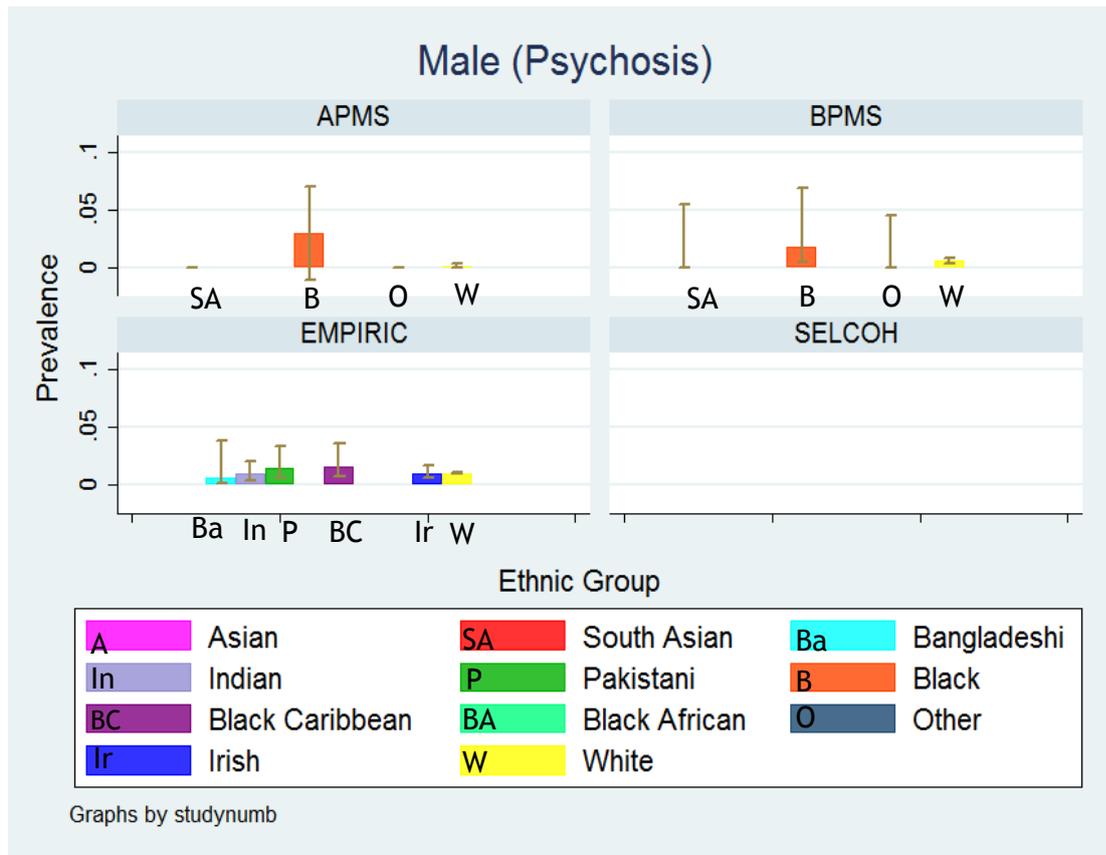
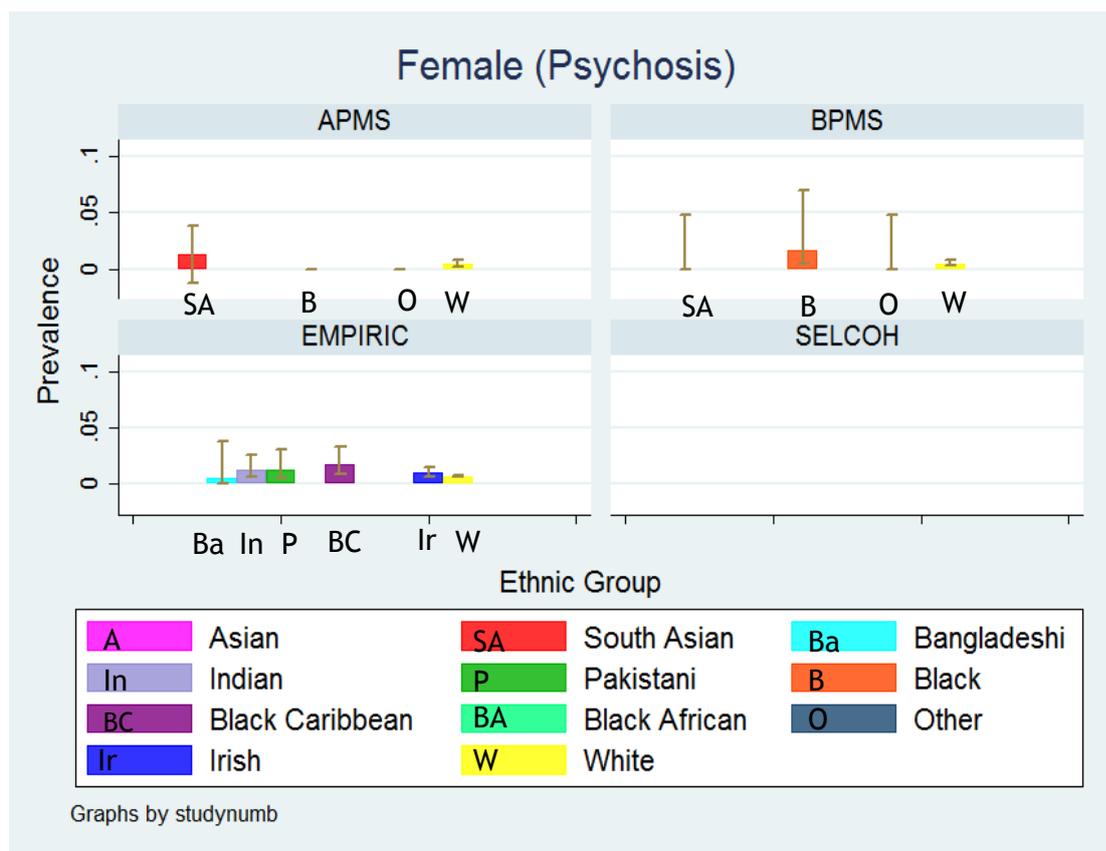


Figure 5.27 shows the three available analyses of prevalence rates of Psychosis or Probable psychosis among women by ethnic group. A weak pattern is evident across the analyses. In two, the highest prevalence was seen among groupings of Black women. In the analysis of the 2000 BPMS, Black women had the greatest prevalence of Psychosis (1.7%, 95% CI: 0.4, 7.0). In the analysis of EMPIRIC, the greatest prevalence (of Probable psychosis in the case of this survey) was seen among Black Caribbean women (1.7%, 95% CI: 0.9, 3.3). In addition, the results from the 2000 BPMS indicated that prevalence was higher for a grouping of Black women than it was for White women, and in the EMPIRIC analysis, Black Caribbean women had a higher prevalence than White women (the estimate for White women being 0.7%, 95% CI: 0.6, 0.8).

Figure 5.27: Twelve-month prevalence of psychosis among women by ethnic group



5.5 Results: Possible personality disorder

In this section, we consider the availability and nature of estimates for the prevalence of personality disorders among people in different ethnic groups. Personality disorders are enduring, deep-rooted alterations of personality that interfere with a person’s ability to make and sustain relationships with other people. They are considered to range across a spectrum. Two types often considered most relevant to mental health policy are Antisocial Personality Disorder (ASPD) and Borderline Personality Disorder (BPD).

5.5.1 Summary of findings

- Analyses of two surveys (the 2000 BPMS and SELCoH survey) provided estimates of prevalence of Possible personality disorder in different ethnic groups among adults as a whole.
- It was not appropriate to look for patterns across these analyses, as the two surveys varied in the way they measured personality disorder and in the number of different disorders that they considered, with the analyses only providing data for the proportion screening positive for possible personality disorder, and only for adults as a whole. The confidence intervals in both analyses indicated possible differences between groups.

5.5.2 Description of studies: Possible personality disorder

Two analyses were found for this review, using data from the 2000 BPMS and the SELCoH survey [2, 4]. The 2000 BPMS used a self-completed screening questionnaire of the Structured Clinical Interview for DSM-IV (SCID-II), which covers each personality type separately. In the 2000 BPMS, questions about two categories of personality disorder were omitted from the SCID-II questions (depressive and passive aggressive). In the SELCoH

survey a shorter version of the SCID-II was applied, the Standardised Assessment of Personality - Abbreviated Scale (SAPAS), which is a rapid screening tool that covers personality disorders generally and with less precision. Both instruments ask participants about the previous 12 months.

Both of these analyses only presented findings for prevalence for adults as a whole and ethnicity was aggregated differently in each case. The 2000 BPMS presented findings for four ethnic groups: White, Black, South Asian and Other. The SELCoH survey used the groupings White, Black Caribbean, Black African, South Asian and Other. Unlike the rest of the analyses presented in this report, these studies' data, in both cases, were presented as percentages that needed to be recalculated so as to use a denominator for the population as a whole in one case, and to combine different possible levels of severity in the other. The only prevalence data available from the analysis of the 2000 BPMS that had not been adjusted by age was for possible cases of personality disorder, as opposed to measurement of likely severe personality disorder. In both cases discussed below, the available prevalence data relate only to screening positive for the personality disorders examined.

5.5.3 Findings

Because of the difference in measurement between the surveys, the findings of the two analyses have not been captured in this review within a figure and it has not been possible to look for a pattern across the two analyses using the algorithm applied for this synthesis.

In both analyses, however the highest prevalence was seen among groupings of Black adults. Whereas some confidence intervals overlapped, in the analysis of the 2000 BPMS, these indicated that both Black adults, and adults in the Other ethnic group had a higher rate of screening positive for the personality disorders examined than did White adults (38.1%, 95% CI: 31.2, 45.4; 37.8%, 95% CI: 30.0, 46.2; and 28.8%, 95% CI: 27.9, 29.9 respectively). In the analysis of SELCoH, the confidence intervals indicated that Black Caribbean adults had a higher rate of screening positive for the personality disorders examined than did Black African adults (21.4%, 95% CI: 15.4, 28.9 and 8.3%, 95% CI: 5.4, 12.7 respectively). This analysis also indicates that adults in the Other ethnic group had a higher rate than did Black African adults (20.3%, 95% CI: 15.3, 26.5).

5.6 Results: Attention Deficit Hyperactivity Disorder (ADHD)

In this section, we examine the estimated prevalence rates for attention deficit hyperactivity disorder (ADHD). ADHD is described as a developmental disorder that causes significant distress or disrupts everyday functioning. It is characterised by a person's inability to maintain concentration or focus (inattention), excessive physical movement (hyperactivity) and acting on sudden desires, whims or inclinations without thought (impulsiveness).

5.6.1 Summary of findings

- Only two survey analyses provided prevalence estimates for ADHD in different ethnic groups. Each of these used the 2007 APMS, but one focused upon rates in men and one upon rates in women, so it was not possible to look for patterns across different surveys.
- In both men and women, the estimate for ADHD prevalence among people in the Other ethnicity category appeared to be the largest and the estimate for South Asians appeared to be the smallest. However, the overlap seen in the confidence intervals for the different estimates indicates that there is no evidence that any of the ethnic groups in these analyses had a prevalence rate for ADHD that was greater than the rate of any other group.

5.6.2 Description of studies: Attention Deficit Hyperactivity Disorder (ADHD)

Only two analyses were found for ADHD by ethnic group. These focused separately on men and women and both used data from the 2007 APMS (see Figures 5.28 and 5.29) [18]. These analyses present estimates for the four categories White, Black, South Asian and Other. The survey used the Adult ADHD Self-Report Scales (ASRS) to identify the disorder. This tool consists of six questions and was administered face to face. Participants rated the frequency of the characteristics described in the question during the six months prior to the interview on a five-point scale from ‘never’ to ‘very often’. Prevalence estimates were available for participants reporting four or more and all six items. For this review we have focused on the six month observed prevalence estimates for four or more reported characteristics (ASRS 4+).

5.6.3 Findings

For both men and women, the availability of only one analysis meant that it was not possible to search for patterns across studies. The analysis of rates for men suggested that men in the Other ethnicity category had the highest prevalence, at 12.7% (95% CI: 7.7, 20.1) (Figure 5.28). The analysis for women also suggested this to be the group with the highest prevalence, at 10.8% (95% CI: 6.1, 18.3) (Figure 5.29). The analyses also suggested that South Asian men and women had the lowest prevalence rates. However, the confidence intervals for estimates within each analysis all overlapped, indicating that no differences can be seen between any ethnic groups.

Figure 5.28: Prevalence of ADHD among men by ethnic group

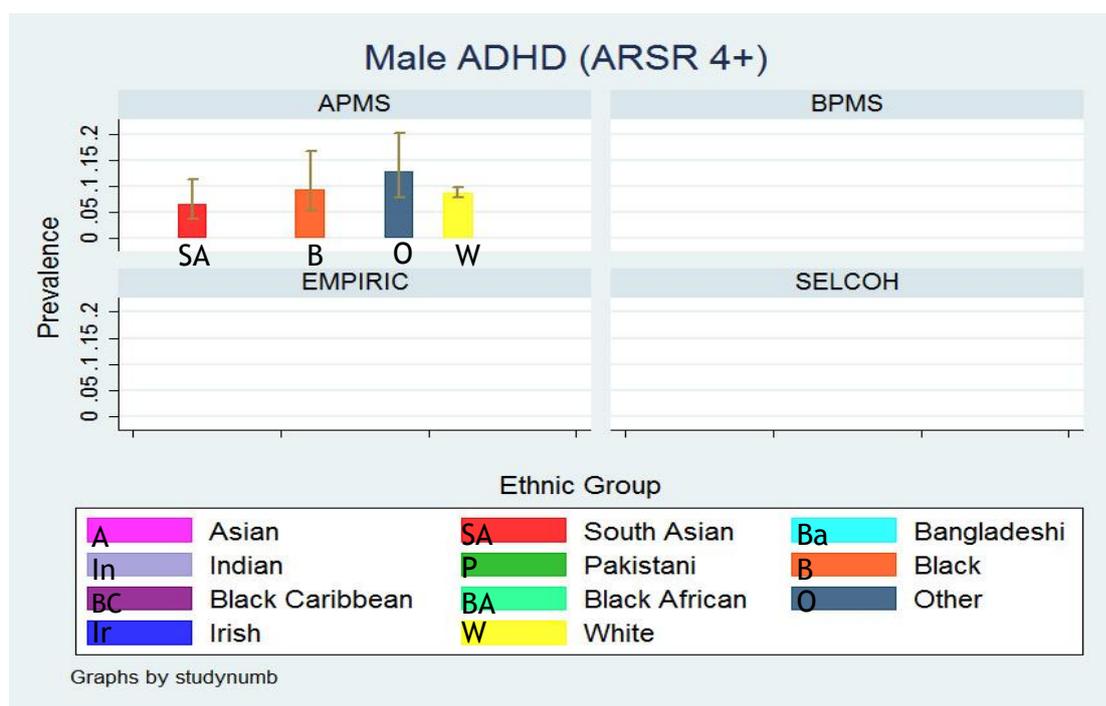
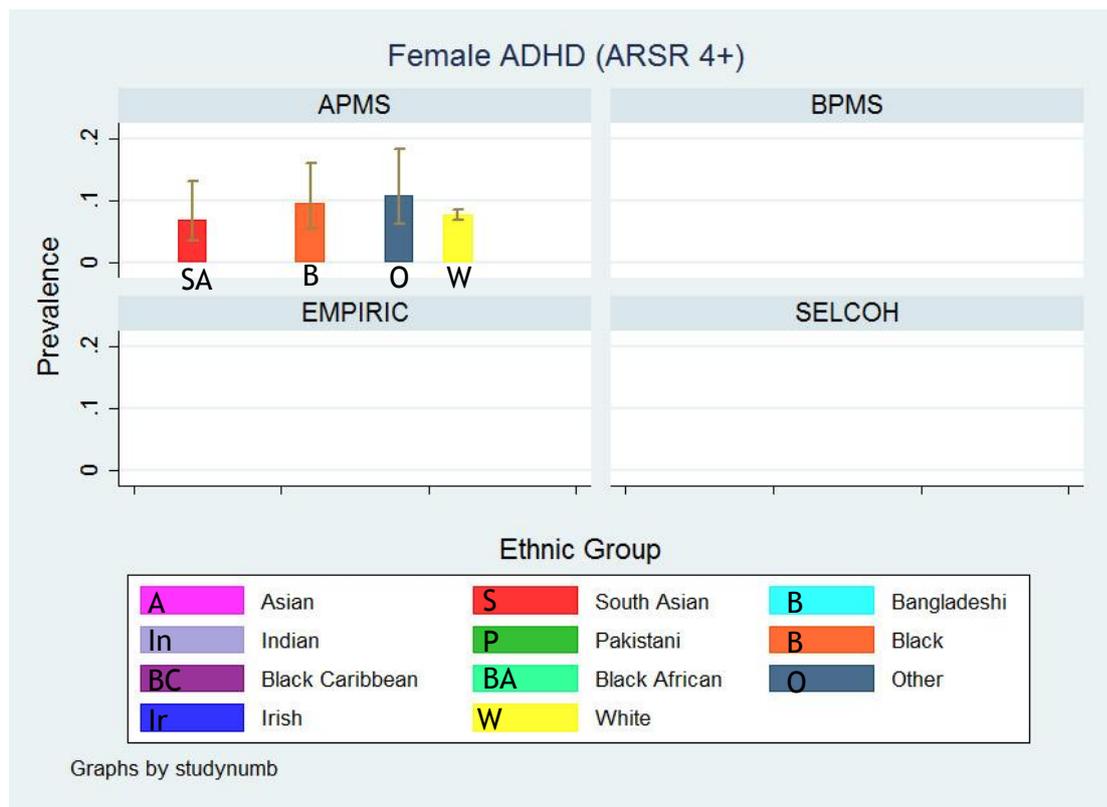


Figure 5.29: Prevalence of ADHD among women by ethnic group

5.7 Results: Possible eating disorder

In this section, we examine the availability and nature of estimates for the prevalence of eating disorder. Included in this category are anorexia nervosa, bulimia nervosa and related conditions. Surveys sometimes solely screen participants to see if their answers to questions about eating suggest that they should be assessed clinically for a disorder in this area. We have focused upon this ‘positive screen for eating disorder’, or ‘possible eating disorder’ in this review.

5.7.1 Summary of findings

- Analyses of two included surveys provided prevalence estimates for possible eating disorder by ethnic group. These analyses used data from the 2007 APMS, which presented findings for men and women separately, and from the SELCoH study, which presented findings for adults as a whole.
- For adults as a whole, since there was only one analysis, it was not possible to look for a pattern in the relative prevalence between different ethnic groups across analyses. This was also the case for prevalence among men and prevalence amongst women. The results from one analysis indicated a possible difference between them.

5.7.2 Description of studies: Possible eating disorders

Analyses from two of the included surveys (2007 APMS and SELCoH) provided estimates of the prevalence of possible eating disorders among people in different ethnic groups [16, 18].

Both analyses reported findings as the proportion of participants who met or exceeded a threshold value in a screening questionnaire. Neither used a full clinical assessment. The

Prevalence of mental health disorders in adult minority ethnic populations in England

surveys used the same tool and threshold for identifying disorder. Participants were asked about their experience over the last year using the SCOFF screening tool. A positive response to two or more items in the SCOFF tool was taken to indicate a possible case of eating disorder.

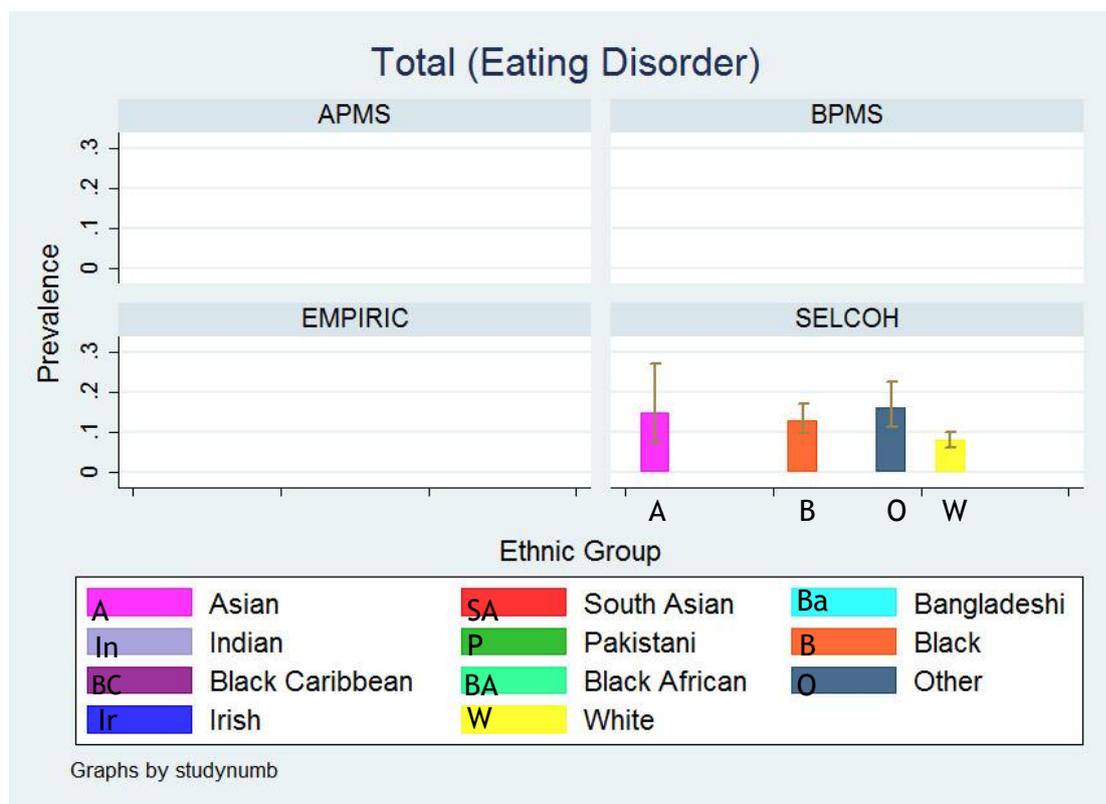
As can be seen from the figures in this section, these two surveys used different approaches to aggregating their findings. The available estimates differed both in terms of ethnic category and whether or not they were disaggregated by gender.

5.7.3 Findings

Only one of the included analyses provided prevalence estimates for Possible eating disorders for adults as a whole [16]. This presented estimates using data from the SELCoH survey and the ethnic categories White, Black, Asian and Other. In this analysis of the SELCoH survey data, the Black ethnic group included people who had identified themselves as either Black African or Black Caribbean, and the Asian group included people who self-identified as Chinese, as well as those identifying themselves to be Indian, Pakistani or Bangladeshi.

For adults as a whole (Figure 5.30), the availability of only one analysis (of SELCoH) meant that it was not possible to search for patterns across studies. The results from this analysis indicated that prevalence was higher for adults in the Other ethnicity group (at 16.1%, 95% CI: 11.3, 22.4) than it was for White adults (7.9%, 95% CI: 6.2, 9.8) (there was no overlap between the confidence intervals for these two estimates).

Figure 5.30: Prevalence of Possible eating disorder by ethnic group (all adults)

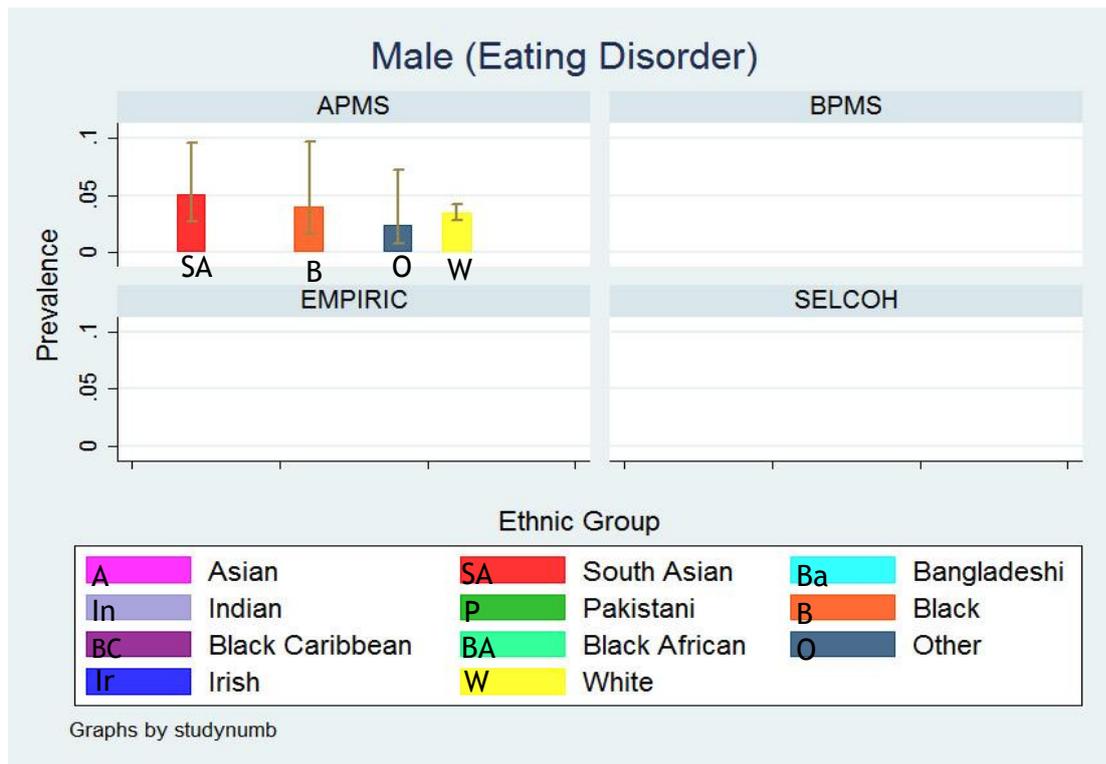


Another of the included analyses (of the 2007 APMS) provided estimates separately for males and females [18] (see Figures 5.31 and 5.32).

5. Results for priority mental health disorders

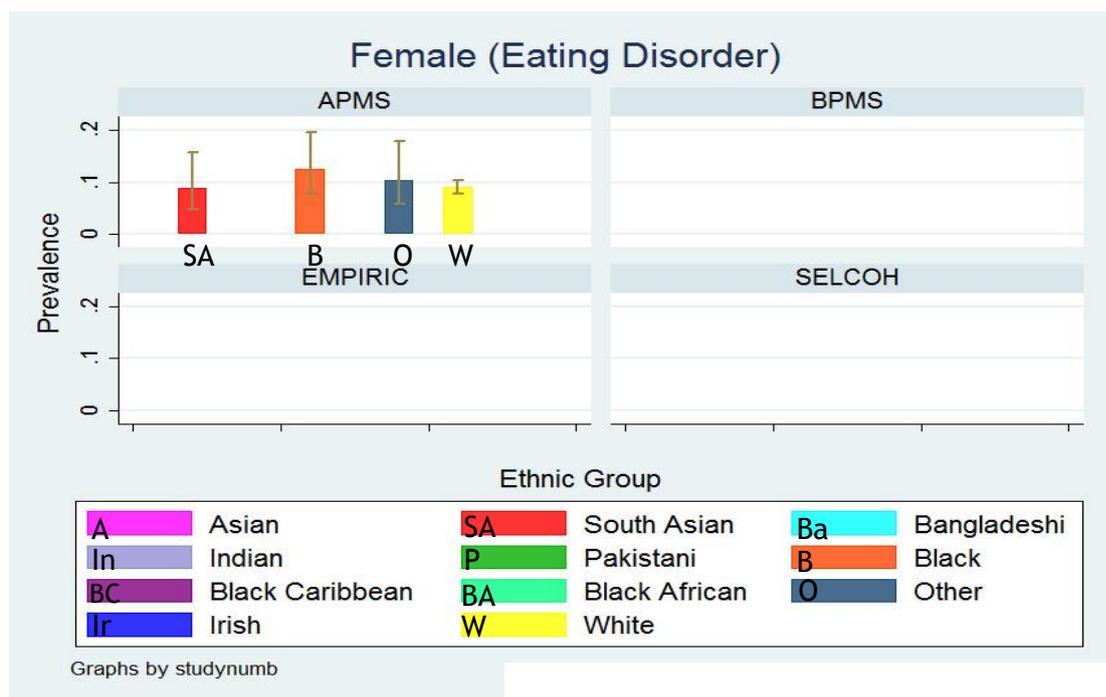
For men, the availability of only one analysis meant that it was not possible to search for patterns across studies. Figure 5.31 illustrates that, among men, those in the South Asian group (including men self-identifying as Indian, Pakistani or Bangladeshi) appeared to have the greatest prevalence of possible eating disorder when compared with men in the other groups (with the prevalence estimate across all groups ranging from 2.4% to 5.1%). However the confidence intervals for estimates within this analysis all overlapped, indicating that no differences can be seen between any ethnic groups.

Figure 5.31: Prevalence of Possible eating disorder among men by ethnic group



In women it is similarly not possible to look for a pattern across studies. Within the one available analysis, prevalence of Possible eating disorder appears greatest for Black women (the range being from 8.9% to 12.5% - see Figure 5.32), but again, the overlap of estimate confidence intervals suggest there are no differences evident between the ethnic groups.

Figure 5.32: Prevalence of Possible eating disorder among women by ethnic group



5.8 Results: Alcohol dependence

5.8.1 Summary of findings

Analyses from two surveys provided prevalence estimates for Alcohol dependence. These used data from the 2000 BPMS and the 2007 APMS, and presented findings for adults as a whole, and for men and women separately.

- For adults as a whole it was not possible to look for a pattern, since only one of the available analyses presented findings for both men and women combined. The results from this analysis indicated a possible difference between two groups (South Asian and White).
- For men, a weak pattern was seen in the prevalence of Alcohol dependence between ethnic groups across the two available analyses:
 - In both analyses, the lowest prevalence was seen among South Asian men.
 - Confidence intervals from one analysis indicated that South Asian men might have a relatively low prevalence compared to White men, as might Black men and men in the Other ethnicity category.
- For women, it was not possible to see a pattern across the two available analyses. In both, South Asian women had either the lowest or the second lowest prevalence. However, in one analysis they shared this ranking with Black women, with no cases of alcohol dependence in either group. This made it impossible to identify a pattern in the ranking of different ethnic groups.

In this section, we examine the availability and nature of estimates for the prevalence of Alcohol dependence. This is one of a range of alcohol use disorders that have a physical, mental and behavioural impact on an individual. Alcohol dependence manifests as a result of hazardous drinking which typically results in a strong desire to imbibe alcohol and difficulties in controlling drinking habits.

5.8.2 Description of studies: Alcohol dependence

Analyses of two of the included surveys (2000 BPMS and 2007 APMS) provided estimates of the prevalence of alcohol dependence among people in different ethnic groups [6, 15].

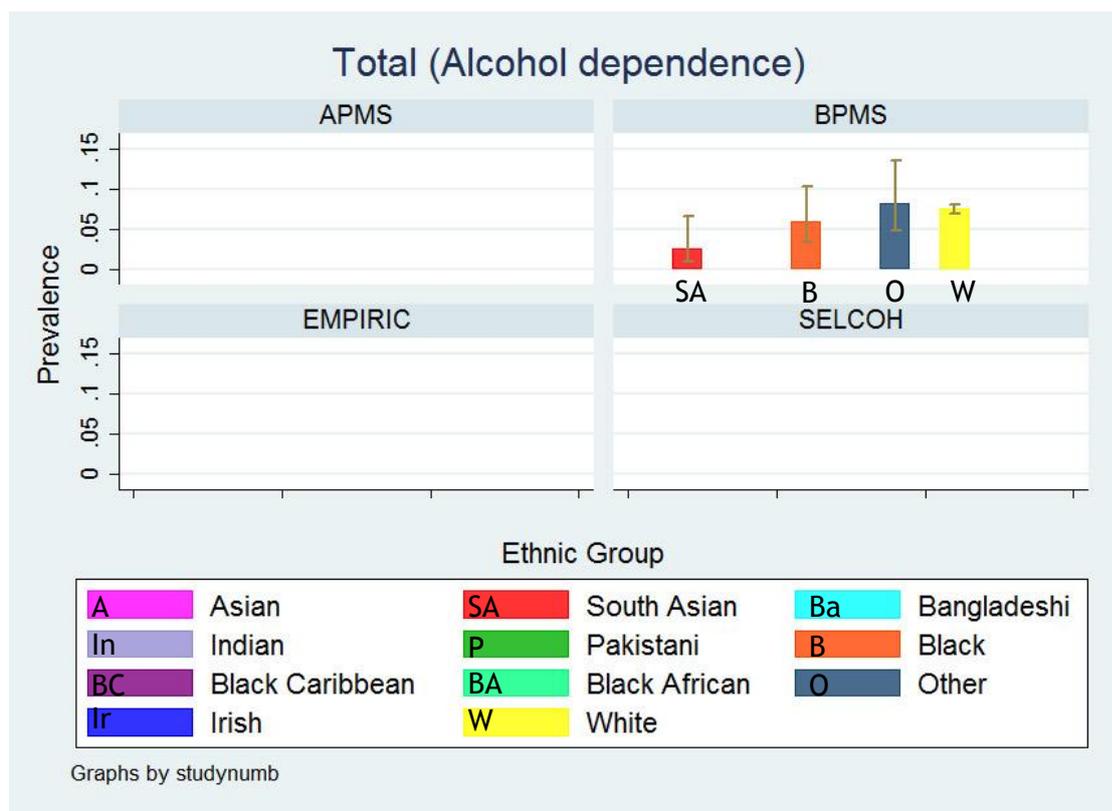
Initial questions about drinking alcohol in both surveys were asked by an interviewer face-to-face. All participants who indicated any alcohol consumption were then asked to respond to further alcohol use questions themselves using a computer. Disordered drinking was assessed using the Alcohol Use Disorders Identification Test (AUDIT), which asks participants about the year before the interview. The surveys used the same approach to identifying alcohol dependence, with one small difference in terms of questionnaire used. All participants with an AUDIT score of 10 or more were further asked to fill in the Severity of Alcohol Dependence Questionnaire (SADQ). The 2000 BPMS used the SADQ and the 2007 APMS used the SADQ-C; the latter is a later modification of the SADQ considered more appropriate to community settings and slightly shorter. Both questionnaires focus on drinking behaviour in the past six months. A score of four or more on either of the SADQ questionnaires was taken to indicate alcohol dependence in the past six months.

As can be seen from the figures below, the analyses of these two surveys took the same approach to aggregating their findings by ethnicity but not by gender. Both of the analyses presented prevalence estimates for the same four ethnic categories: White, Black, South Asian and Other.

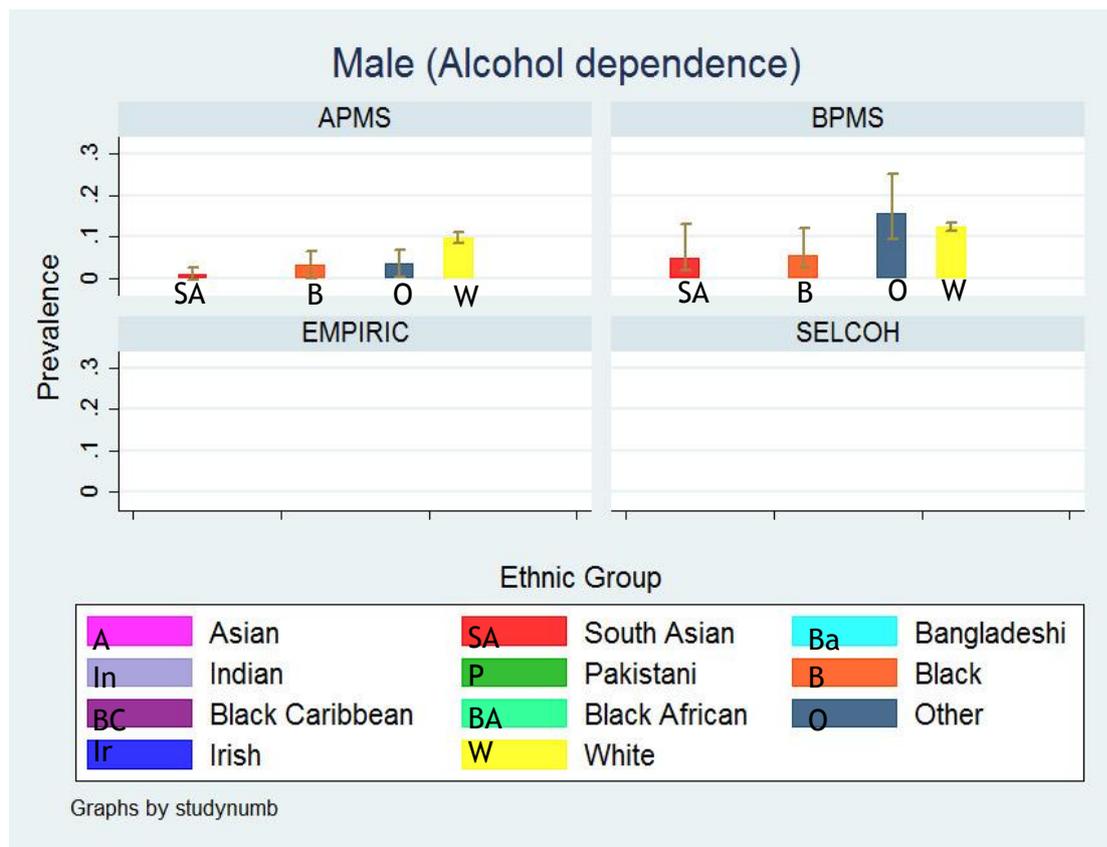
5.8.3 Findings

Since only one analysis was found for the prevalence of alcohol dependence among men and women combined, it was not possible to look for a pattern across surveys. The available analysis used data from the 2000 BPMS (see Figure 5.33). In the analysis, prevalence amongst South Asian adults is lower than that for White adults (a2.5%, 95% CI: 0.9, 6.6 and 7.5%, 95% CI: 7.0, 8.1 respectively). All other confidence intervals overlapped, indicating no other differences between ethnic groups.

Figure 5.33: Prevalence of Alcohol dependence by ethnic group (all adults)

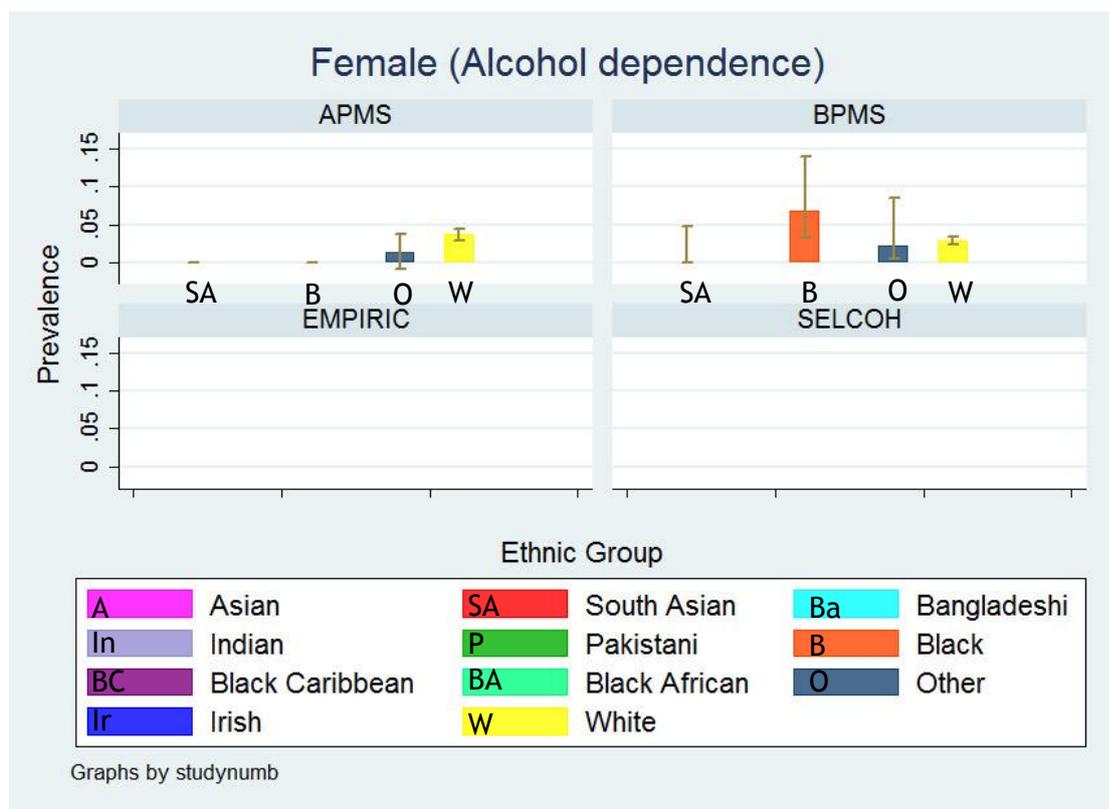


For men, the analyses taken as a whole suggest a weak pattern in the prevalence of Alcohol dependence among different ethnic groups. Both of the two available analyses found prevalence to be lowest among South Asian men (Figure 5.34). The results from the analysis of the 2007 APMS indicated that prevalence in this survey was lower for South Asian men than it was for White men (1.0%, 95% CI: -0.5, 2.5 and 9.6%, 95% CI: 8.3, 10.9 respectively). The results for this analysis also indicated that prevalence was lower (than in White men) for both Black men and men in the Other ethnicity group (3.0%, 95% CI: -0.3, 6.3 and 3.5%, 95% CI: 0.1, 6.9, 3.0% respectively).

Figure 5.34: Prevalence of Alcohol dependence among men by ethnic group

For Alcohol dependence among women, it is not possible to see a pattern because of the very low levels among one or more ethnic groups. In both of the two available analyses, South Asian women had either the lowest or the second lowest prevalence (Figure 5.35). However, in one analysis they shared this ranking with Black women, with no cases of alcohol dependence among either group. It was therefore not appropriate to examine whether or not confidence intervals for the estimates for these groups overlapped with other groups' estimates. The overlap of estimate confidence intervals between all other ethnic groups in both analyses suggest that there are no differences evident between the other ethnic groups.

Figure 5.35: Prevalence of Alcohol dependence among women by ethnic group



5.9 Results: Drug dependence

In this section, we examine the estimated prevalence rate of Drug dependence reported by ethnic group. Drug misuse is understood to be the use of substances for purposes that are not consistent with legal or medical guidelines (2007 APMS [6]). Misuse can progress to drug dependence in a small amount of users. Dependence is characterised by behavioural changes, and cognitive and physiological manifestations, including sense of need, reduced ability to control substance taking and continual drug use despite signs of harm. There are a variety of drugs associated with dependence, including amphetamines, cannabis, cocaine, crack, ecstasy, heroin/methadone, tranquilisers, volatile substances and more. For this review we have focused on the prevalence of any drug dependence.

5.9.1 Summary of findings

- Analyses of one included survey provided prevalence estimates for Drug dependence by ethnic group. These analyses used data from the 2000 BPMS and presented findings for adults as a whole, and for men and women separately.
- Since analyses were found of only one survey, it was not possible to look for patterns across analyses. Within this one analysis, all the confidence intervals for estimates for the different ethnic groups overlapped, indicating that no differences can be seen between any ethnic groups.

5.9.2 Description of studies: Drug dependence

Analyses of two of the surveys included in this review (2000 BPMS and 2007 APMS) provided prevalence estimates for Drug dependence for participants by their different ethnic groups [6, 15]. However, the analyses of the 2007 APMS provided data that had been standardised to take account of differences in age profiles between the ethnic groups, so it has not been considered further here, leaving only one available analysis. In the 2000 BPMS,

5. Results for priority mental health disorders

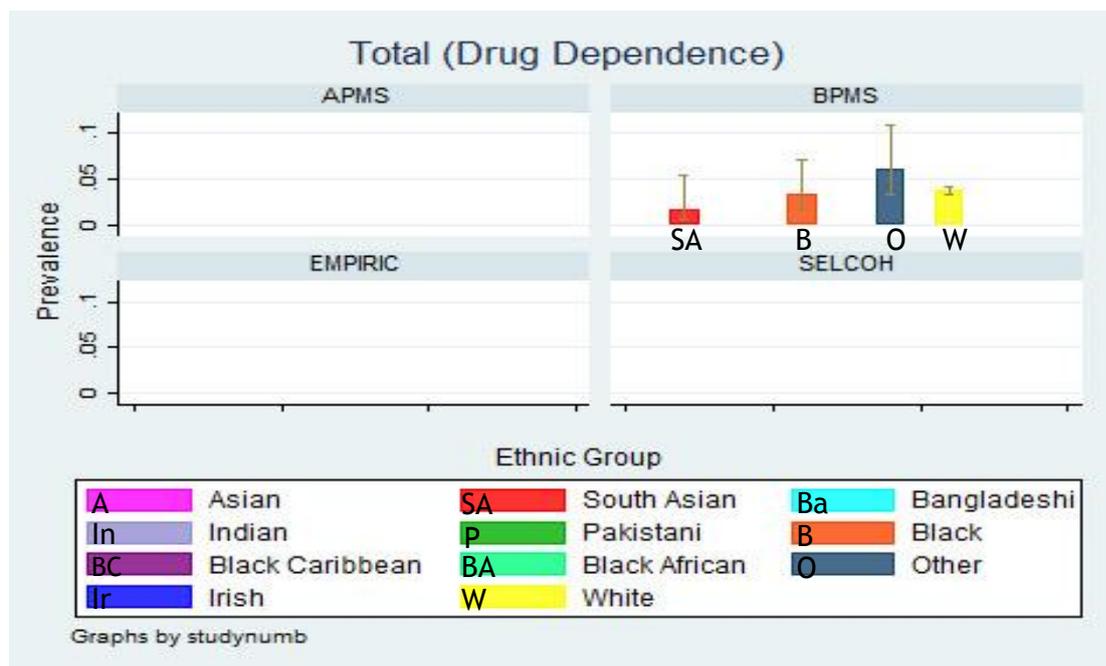
measurement was through a self-completion section of the interview and questions based on the Diagnostic Interview Schedule (DIS). Drug dependence was indicated by use of one or more drugs within the last year and the presence of one of five symptoms. The questions covered: frequency of drug use; stated dependence (did the participants feel they needed or were dependent on a drug); inability to cut down; need for larger amounts; and withdrawal symptoms. Participants were asked separately about eight different kinds of drugs.

5.9.3 Findings

The analyses of the 2000 BPMS used four ethnic categories: White, Black, South Asian and Other [15]. These analyses examined prevalence by ethnicity for adults as a whole, and this same study also examined prevalence separately for men and women. The availability of only one analysis meant that it was not possible to search for patterns across studies.

Figure 5.36 illustrates prevalence estimates for Drug dependence amongst adults as a whole across ethnic groups. This analysis suggested that the greatest prevalence was among adults in the Other ethnicity category and the lowest among South Asians. However the confidence intervals for estimates within this analysis all overlapped, indicating that no differences can be seen between any ethnic groups.

Figure 5.36: Prevalence of Drug dependence by ethnic group (all adults)



The analysis found that prevalence among men again appeared to be greatest for the Other ethnic group (at 6.2%, 95% CI: 2.7, 13.8) (see Figure 5.37), as did that for women (at 5.6%, 95% CI: 2.2, 13.3) (see Figure 5.38). In both cases, however, the confidence intervals for estimates within each analysis all overlapped, indicating that no differences can be seen between any ethnic groups.

Figure 5.37: Prevalence of Drug dependence among men by ethnic group

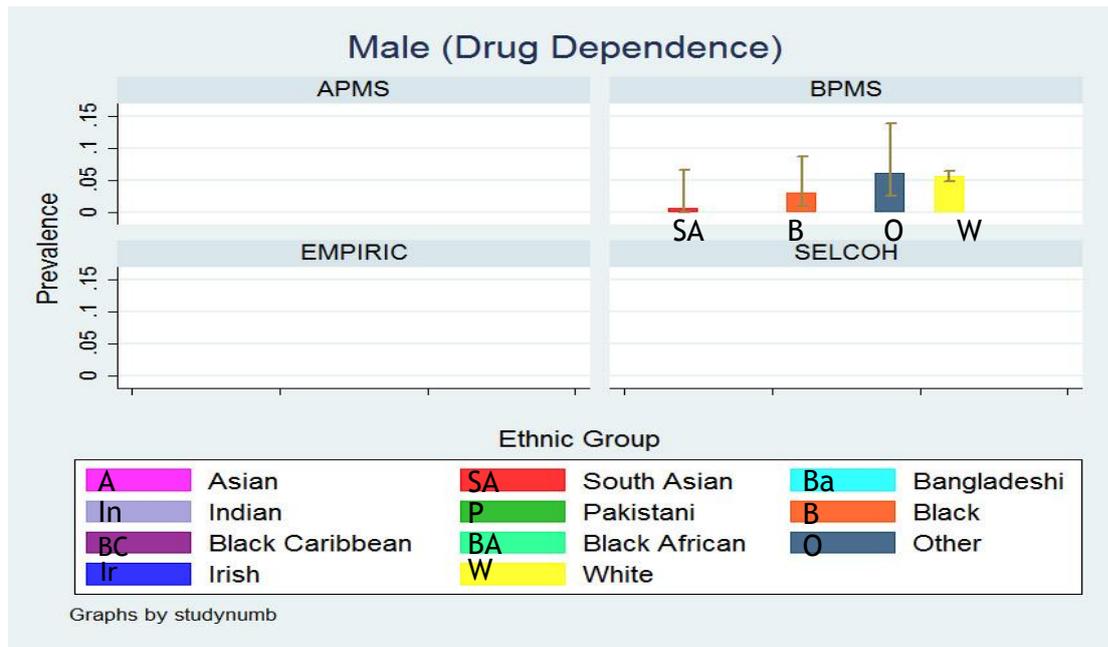
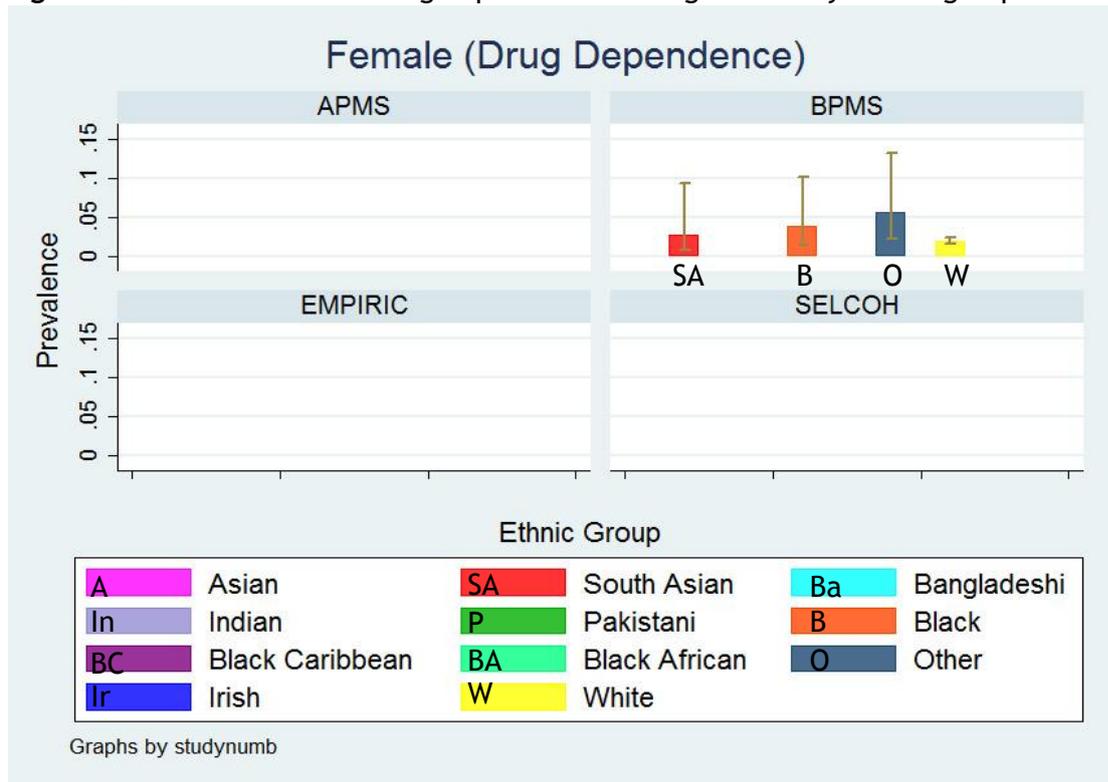


Figure 5.38: Prevalence of Drug dependence among women by ethnic group



5.10 Results: Problem gambling

In this section, we examine the availability and nature of estimates for the prevalence of Problem gambling. This is defined as a condition where gambling behaviour occurs to such a degree that it interferes with or is harmful to family, personal or recreational pursuits [20]. Due to changes in the gambling landscape, with the introduction of new gaming legislation and increases in opportunities for remote gambling online and through mobile devices, Problem gambling is a growing public health concern.

5.10.1 Summary of findings

Analyses of three surveys provided prevalence estimates for Problem gambling by ethnic group. These analyses used data from the 2007 Adult Psychiatric Morbidity Survey (2007 APMS), and the 2007 and 2010 British Gambling Prevalence Surveys (2007 BGPS and 2010 BGPS).

- For adults as a whole, we saw no pattern across the two available studies:
 - No one ethnic group had either the highest or lowest prevalence in both of the analyses.
 - Confidence intervals indicate some possible differences in prevalence estimates between ethnic groups within both analyses, but with no consistency.
- It was not possible to look for a pattern across analyses of prevalence for men or women separately, since only one analysis presented findings in this way. Within both analyses, all the confidence intervals for estimates for the different ethnic groups overlapped, suggesting no overall difference.

5.10.2 Description of studies: Problem gambling

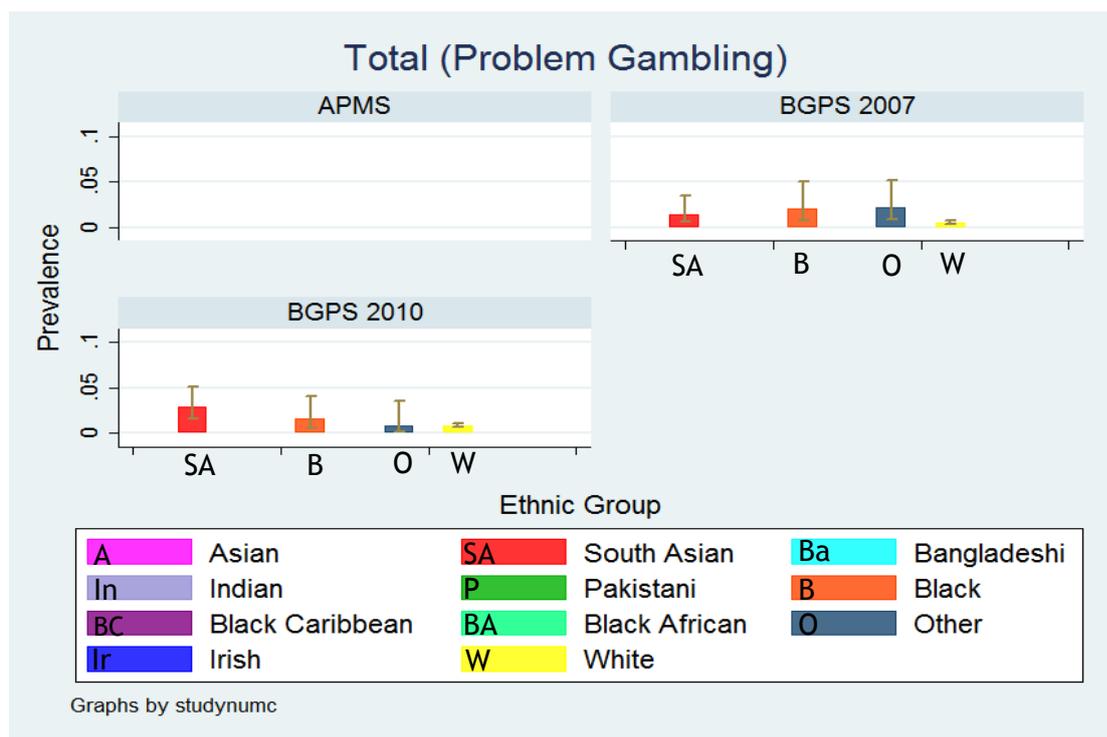
Three survey analyses (of the 2007 APMS, 2007 BGPS and 2010 BGPS) provided estimates of the prevalence of Problem gambling [19, 20, 21]. These all used the same four aggregated ethnic groups: White, Black, South Asian and Other. All three analyses used the same approach to identify Problem gambling. A set of ten screening questions based on DSM-IV criteria were administered in a self-completion format using Computer Assisted Self-Interviewing (CASI) (2007 APMS, 2010 BGPS) or a self-completion paper questionnaire or website-based questionnaire (2007 BGPS). These questions asked about gambling behaviour in the past year. A score of three or more indicated Problem gambling.

As can be seen from the figures below, the three survey analyses took the same approach to aggregate their findings in terms of ethnicity, but differed on whether or not they disaggregated by gender, with the analysis of the 2007 APMS presenting findings for men and women separately and the analyses of the 2007 BGPS and 2010 BGPS presenting estimates for all adults only.

5.10.3 Findings

Both the analyses of the 2007 BGPS and 2010 BGPS surveys provided Problem gambling prevalence estimates by ethnic group for men and women combined. No one ethnic group had either the highest or lowest prevalence in both studies. Confidence intervals indicated some possible differences within the analyses, but with no consistency (see Figure 5.39). In the analysis of the 2007 BGPS, prevalence amongst adults in the Other ethnicity category was higher than that for White adults (2.2%, 95% CI: 0.9, 5.1 and 0.5%, 95% CI: 0.4, 0.7 respectively). In contrast, the analysis of the 2010 BGPS found prevalence amongst both South Asian adults and Black adults to be greater than that for White adults (2.8%, 95% CI: 1.5, 5.1; 1.5%, 95% CI: 0.5, 4.1; and 0.8%, 95% CI: 0.6, 1.0 respectively).

Figure 5.39: Prevalence of Problem gambling by ethnic group (all adults)



Since only one analysis was found for the prevalence of Problem gambling among men, it was not possible to look for a pattern across surveys. The available analysis used data from the 2007 APMS (see Figure 5.40). This suggested that Black men might have the highest prevalence of problem gambling at 1.9% (95% CI: 0.5, 6.9). Similarly, only one analysis was available that examined prevalence of Problem gambling among women (again this used data from the 2007 APMS survey) (see Figure 5.41). This suggested that rates might be highest among South Asian women (0.9%, 95% CI: 0.2, 5.0). However, within both analyses, all the confidence intervals for estimates for the different ethnic groups overlapped, suggesting no overall difference.

Figure 5.40: Prevalence of problem gambling among men by ethnic group

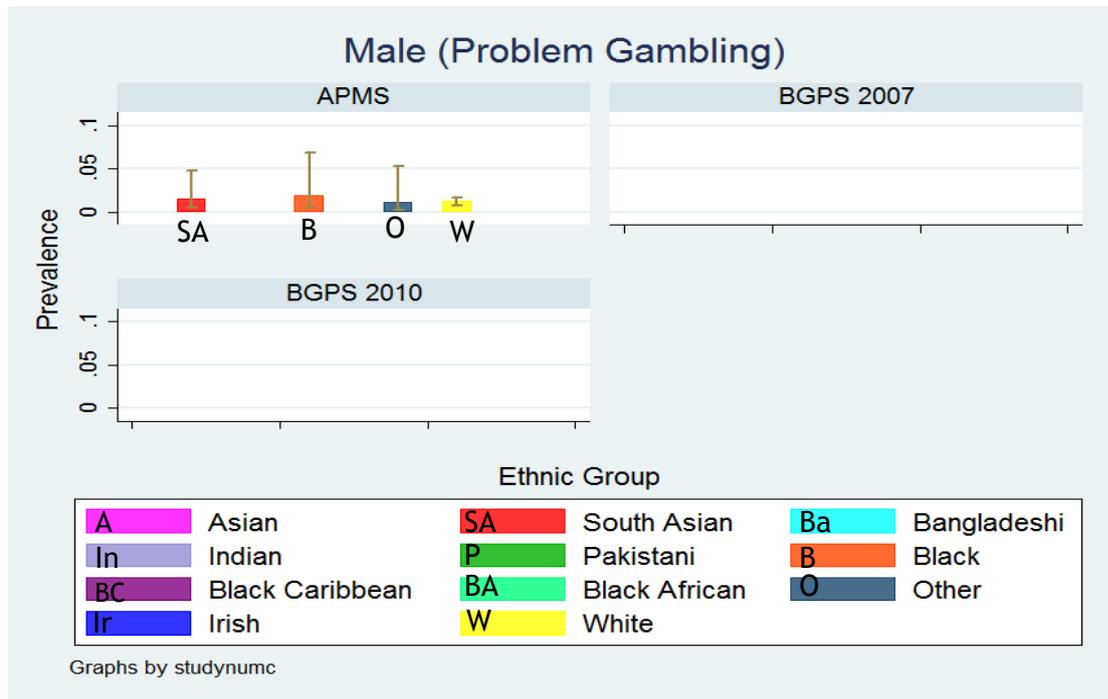
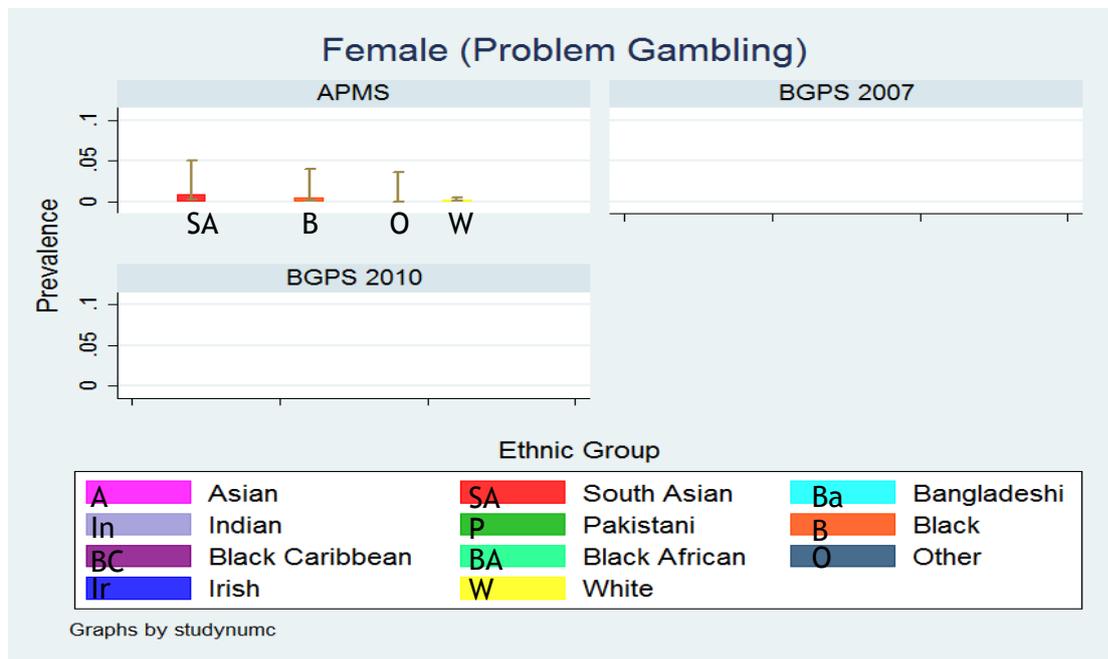


Figure 5.41: Prevalence of Problem gambling among women by ethnic group



6. Discussion and conclusions

6.1 Summary of findings

6.1.1 Overall findings: The state of the evidence base

In the main, the findings from this systematic review centre on the nature of existing survey data and analyses. This is mainly due to the low number of appropriately designed surveys that provide prevalence estimates of MHDs among people from different ethnic groups living in the UK. Methods of analysis and reporting for these surveys also currently restrict what can be said about prevalence for people in specific ethnic groups.

Limitations in the available survey data, for the purposes of this review, are:

- There is very little recent information available from appropriately designed surveys on the rates of mental disorders in English populations according to ethnic groupings. We found analyses for only six such surveys conducted from 1998 onwards.
- Of the surveys that we identified, only two were representative of people from ethnic groups in the English population. One of the surveys represented prevalence for a particular urban locality, described by the survey authors as having a ‘higher deprivation than the England average’ [8, p2]. The findings of the remaining three surveys represented prevalence for people in the UK as a whole, rather than those in England.
- The surveys that we found, in all but two cases, had not designed their samples so as to recruit people from minority ethnic groups in the kinds of numbers that are necessary for the identification of differences in prevalence between any two ethnic groups.

Limitations in the available survey analyses, for the purposes of this review, are:

- The analyses that we were able to conduct for this review’s syntheses were limited by the ways in which the authors of published analyses had aggregated the data collected.
- Our analyses for specific ethnic groups were sometimes restricted because the authors of the survey analyses had conducted and presented their analyses for aggregated groups in ways that did not allow for exploration of differences between more specific groups. While the EMPIRIC and several of the SELCoH analyses that we found, for example, presented findings separately for people of Bangladeshi, Indian and Pakistani backgrounds, other surveys presented findings only for the single category of South Asian. Similarly, the category Black Caribbean was only used in analyses of these same two surveys.
- It was not possible to examine patterns in differences in prevalence across surveys for some minority ethnic groups at all. For example, people of Black African and Irish ethnicities were both only represented as a separate ethnic group within one survey analysis. Neither Chinese people, nor those of mixed ethnicity, were represented as a separate ethnic group in any analysis, but instead were usually hidden within an ‘Other ethnicity’ category. This Other category could also vary between analyses.
- We were also not able to seek patterns in prevalence for several of the MHDs identified as a priority for this review. This was, in most cases because these disorders had not been examined in more than one of the available survey analyses, but it was also because prevalence data had been aggregated and presented differently between the existing analyses. For example, sometimes two

estimates were available for a disorder that used data from two different surveys, but in the analysis for one survey these were presented as estimates for men and women separately, but in the other they were presented only for adults as a whole.

- Across the 15 different types of mental health disorder examined in this review, it was not possible to look for patterns at all in five cases (PTSD, Possible personality disorder, ADHD, Possible eating disorder, and Drug dependence).
- For a further two of the MHDs, it was possible to look for patterns only among adults as a whole (Problem gambling), or only among men or women (Self-harm).

6.1.2 Overall findings: Suggested differences in prevalence of mental health disorders between different ethnic groups

Despite the limitations in the availability of prevalence estimates described above, we did find some suggestions of patterns in prevalence between ethnic groups among survey analyses.

A relatively strong pattern was found for the prevalence of suicidal thoughts in both men, and in adults as a whole, although for different ethnic groups in each case:

- The strong pattern seen among analyses of the prevalence of suicidal thoughts in men suggested that prevalence was relatively low for South Asian men and lower for South Asian men than it was for White men.
- The strong pattern seen among analyses of the prevalence of suicidal thoughts for adults as a whole suggested that prevalence was relatively low for Black adults, and lower for this group than it was for White adults.

Ten weaker patterns were seen:

- among adults in the prevalence of Any Common Mental Disorder, with adults from some South Asian ethnic groups (Pakistani in particular) possibly having a relatively high prevalence when compared with adults from one or more other ethnic groups (White adults in particular);
- among women in the prevalence of Mixed Anxiety and Depressive Disorder, with South Asian women (Pakistani women in particular) possibly having a relatively high prevalence when compared with women from one or more other ethnic groups;
- among women in the prevalence of Any Depressive Episode, with South Asian women (Indian and Pakistani women in particular) possibly having a relatively high prevalence when compared with women from one or more other ethnic groups (White women in particular);
- among adults in the prevalence of Any Depressive Episode, with adults from some South Asian ethnic groups (Indian and Pakistani) having a relatively high prevalence when compared with one or more other ethnic groups (White adults in particular);
- among women in the prevalence of suicidal thoughts, with South Asian women having a relatively low prevalence when compared with women from one or more other ethnic groups (White women in particular);
- among men in the prevalence of suicide attempts, with South Asian men having a relatively low prevalence when compared with men from one or more other ethnic groups (White men in particular);
- among men in the prevalence of psychosis or probable psychosis, with Black men having a relatively high prevalence when compared with men from one or more other ethnic groups;
- among women in the prevalence of psychosis or probable psychosis, with Black men having a relatively high prevalence when compared with women from one or more other ethnic groups (White women in particular);

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- among adults in the prevalence of psychosis or probable psychosis, with Black adults having a relatively high prevalence when compared with adults from one or more other ethnic groups;
- among men in the prevalence of alcohol dependence, with South Asian men having a relatively low prevalence when compared with White men in particular.

In the remaining configurations of mental health disorder and gender addressed by our review, no further patterns could be seen. This was the case for:

- Any Common Mental Disorder among men, or among women;
- Mixed Anxiety and Depressive Disorder among men, or among adults as a whole;
- Generalised Anxiety Disorder among men, among women, or among adults as a whole;
- Any Depressive Disorder among men;
- Suicide Attempts among women, or among adults as a whole;
- Self-harm among men, or among women;
- Problem gambling among adults as a whole.

6.2 Discussion

This is the first literature review that we are aware of that has used systematic methods to seek and synthesise reliable prevalence estimates of a range of MHDs among adults in the UK in different ethnic groups. We have built upon the findings of previous systematic reviews that examined smaller numbers of MHDs (e.g. Kirkbride et al., 2012a,b; Steel et al., 2014), and have supplemented the searches of these and other systematic reviews to ensure that we have identified additional, relevant analyses.

However, systematic reviews themselves need to be appraised for the strength of their own methods (Brugha et al., 2012). Our bibliographic database and website searches were highly sensitive and targeted a large number of sources of published and unpublished material. However, as a result of the large number of possibly relevant citations identified, each abstract or website citation was only screened by a single reviewer. We may, as a result, have missed relevant analyses, although we judge that we should have found a very high proportion.

In addition, we were not able to attempt formal statistical analyses of differences between prevalence estimates. Instead, we developed algorithms so as to classify the evidence around ethnic differentials in mental health disorder. These were based on: (i) the magnitude of the evidence between surveys; (ii) the degree of consistency in the relative ranking of prevalence between ethnic groups within a survey; and (iii) the degree of consistency in the presence/absence of overlapping confidence intervals. A similar narrative approach to classifying quantitative evidence has been taken in previous systematic reviews (e.g. Sutcliffe et al., 2014). Through publication of the algorithm in Figure 8.1, we are also being fully transparent and explicit about the way in which we are drawing our conclusions. Nonetheless, we are careful to stress that these results represent 'patterns' as opposed to associations or evidence, and that these results are limited through representing interpretations of published evidence. Our findings could probably be enhanced through further secondary data analyses and formal hypothesis testing where these data are publically available. The patterns that we present above and in Chapter 5 can therefore only be considered suggestive in nature.

This review's comparison of patterns in prevalence estimates across surveys also suggests a need to be cautious when considering grouping one or more ethnic groups into a single, more general ethnic category. A high proportion of the figures in Section 5.1 (presenting the prevalence estimates for different ethnic groups across the surveys for various common mental disorders) show that the estimated prevalence rate for people identifying as Bangladeshi is lower than that for people in both the Indian and Pakistani groups. Any

analysis that aggregates so that the first group is combined with one or more of the others, could easily fail to identify a difference if one exists.

All systematic reviews of social phenomena face the challenge of ensuring currency, given that the raw material for review is research that has already been conducted. This is made harder in times of rapid change. This work was commissioned to inform the design of survey sampling planned for 2021. Comparisons using data from the 2001 and 2011 Censuses indicate just how much ethnicity has changed during the 21st Century. Over that period, the population of England and Wales identifying with an ethnic group other than White British grew from 13% to 20%. This period also saw increased diversity within groupings, with the 'Other' ethnic group categories ('Other Black', 'Other Asian', 'Other Mixed' and 'Other') all increasing, in total by over 2 million, and the number of people identifying with a 'Mixed' ethnic category increasing by almost a half to more than a million (Jivraj, 2012). To help with currency, we limited the timeframe of our review by excluding studies collecting data before 1999. We knew that this would allow for inclusion of the EMPIRIC survey, the first large-scale survey aimed at estimating the prevalence of MHDs among minority groups in the UK, but as a result we did not look at two large-scale surveys conducted in 1993-94 (Meltzer et al., 1995; Smith and Prior, 1997), focused respectively on mental health in the general population and on health and other circumstances of minority ethnic groups.

6.3 Areas for further research

The data sets that have been produced by the six surveys identified in this review provide considerable opportunities for secondary analyses and further synthesis.

In all six surveys, participants were allowed to select from a wide range of specific ethnic groups at the point of data collection. There is therefore considerable potential for further analyses, such as those conducted as part of this systematic review, of variation in MHDs between people in the more specific ethnic group categories seen at points in this review. Secondary analyses could be conducted, for example, of the 2000 BPMS and the 2007 APMS, identifying prevalence for men, women and adults as a whole of Bangladeshi, Pakistani, Indian, Black Caribbean and Black African ethnicity. It may also be possible with such secondary analyses to explore prevalence levels for those people who in this review are known only to fall into the uninformative category of 'Other ethnicity'. Relatively high levels of certain common mental disorders were seen among Irish men and women in the EMPIRIC survey, for example [17]. However, because in other analyses, this group was only one part of the bigger Other ethnicity group, it was not possible for them to be considered to the same degree as groups that fell outside this category.

Some analyses, however, would most likely require additional survey work. Our findings related to the sampling designs used in the six included surveys indicate that Chinese people constitute a group that has yet to be sampled sufficiently. There has also yet to be sampling at a population level that boosts representation of people from Eastern European Union countries or people born in Africa sufficiently for identifying levels of mental health disorder in these groups, both of which are likely to be relatively well-represented in the English-residing population in the near and medium-term future.

6.4 Conclusions

This systematic review has identified a small number of recent surveys able to provide reliable prevalence estimates of various MHDs among certain ethnic groups in England and in the UK more generally. It has found published analyses of these surveys that, taken together, enable the identification of indicative patterns of prevalence between one or more ethnic groups for several MHDs.

There is further, untapped potential in the identified surveys. Secondary analyses of the data sets could produce additional prevalence estimates for people in specific ethnic

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groups. People in several ethnic groups are represented in the existing analyses of more than one survey only as being part of more general ethnic categories. These more general categories may well be hiding actual differences between groups.

For people in some less common or more recently established minority ethnic groups, existing data sets are likely to be insufficient for identifying the prevalence of mental health disorder with any precision or certainty, and further survey work that boosts sampling for these groups is likely to be required.

7. References

7.1 Included studies: Core and satellite reports

The following lists present the reports that contained analyses that met the review's inclusion criteria. The reports are split into two sets. The first set (section 7.1.1) is those that provided the data that we ultimately used (core reports). The second set of reports (section 7.1.2) provided data on prevalence by ethnic group for these same surveys, but were either not the main technical report for that survey, or provided this data in a less disaggregated form and/or only in a form not already available in the technical report (satellite reports).

Core survey reports (n=21)

1. Aschan L, Goodwin L, Cross S, Moran P, Hotopf M, Hatch SL (2013) Suicidal behaviour in south east London: Prevalence, risk factors and the role of socio-economic status. *Journal of Affective Disorders*, 150 (2): 441-449.
2. Crawford MJ, Rushwaya T, Bajaj P, Tyrer P, Yang M (2012) The prevalence of personality disorder among ethnic minorities: Findings from a national household survey, *Personality and Mental Health*, 6: 175-182.
3. Deverill C, King M (2009) Common Mental Disorders. In: McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (eds) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre. Pages 25-52.
4. Fok M, Hotopf M, Stewart R, Hatch S, Hayes R, Moran P (2014) Personality disorder and self-rated health: A population-based cross-sectional survey. *Journal of Personality Disorders*, 28 (3): 319-333.
5. Frissa S, Hatch S, Gizard B, Fear N, Hotopf M (2013) Trauma and current symptoms of PTSD in a south east London community. *Social Psychiatry and Psychiatric Epidemiology*, 48 (8): 1199-1209.
6. Fuller E, Jotangia D, Farrell M (2009a) Alcohol misuse and dependence. In: McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (eds) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre.
7. Fuller E, Jotangia D, Farrell M (2009b) Drug use and dependence. In: McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (eds) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre.
8. Hatch SL, Frissa S, Verdecchia M, Stewart R, Fear NT, Reichenberg A, Morgan C, Kankulu B, Clark J, Gizard B, Medcalf R, Hotopf M (2011) Identifying socio-demographic and socioeconomic determinants of health inequalities in a diverse London community: the South East London Community Health (SELCoH) study, *BMC Public Health*, 11: 861.
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11. McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (2009b) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre.

12. Meltzer H, Lader D, Corbin T, Singleton N, Jenkins R, Brugha T (2002) *Non-fatal suicidal behaviour among adults aged 16 to 74 in Great Britain*. London: TSO.
13. Nicholson S, Jenkins R, Meltzer H (2009) Suicidal thoughts, suicide attempts and self-harm. In: McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (eds) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre.
14. Sadler K, Bebbington P (2009) Psychosis. In: McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (eds) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre.
15. Singleton N, Bumpstead R, O'Brien M, Lee A, Meltzer H (2001) *Psychiatric morbidity among adults living in private households, 2000*. London: TSO.
16. Solmi F, Hatch SL, Hotopf M, Treasure J, Micali N (2014) Prevalence and correlates of disordered eating in a general population sample: The South East London Community Health (SELCoH) study. *Social Psychiatry and Psychiatric Epidemiology*, 49: 1335-1346.
17. Sproston K, Nazroo J (2002) *Ethnic minority psychiatric illness rates in the community (EMPIRIC)*. London: TSO.
18. Thompson J, Brugha T, Palmer B (2009) Eating disorders. In: McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (eds) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre.
19. Wardle H, Sproston K, Orford J, Erens B, Griffiths MD, Constantine R, Piggott S (2007) *British gambling prevalence 2007*. London: National Centre for Social Research.
20. Wardle J, D'Souza J, Farrell M (2009) Gambling behaviour. In: McManus S, Meltzer H, Brugha T, Bebbington P, Jenkins R (eds) *Adult psychiatric morbidity in England, 2007: Results of a household survey*. Leeds: NHS Information Centre.
21. Wardle H, Moody A, Spence S, Orford J, Volberg R, Jotangia D, Griffiths M, Hussey D, Dobbie F (2011) *British Gambling Prevalence Survey 2010*. London: National Centre for Social Research.
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23. Crawford M, Nur U, McKenzie K, Tyrer P (2005) Suicidal ideation and suicide attempts among ethnic minority groups in England: Results of a national household survey. *Psychological Medicine*, 35: 1369-1377.
24. Das-Munshi J, Becares L, Dewey ME, Stansfeld SA, Prince MJ (2010) Understanding the effect of ethnic density on mental health: Multi-level investigation of survey data from England, *British Medical Journal*, 341: c5367.
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<http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0048012&representation=PDF> (accessed 19 November 2015).
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32. Mangalore R, Knapp M (2012) Income-related inequalities in common mental disorders among ethnic minorities in England. *Social Psychiatry and Psychiatric Epidemiology*, 47: 351-359.
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35. Meltzer H, Bebbington P, Brugha T, Jenkins R, McManus S, Dennis M (2011) Personal debt and suicidal ideation. *Psychological Medicine*, 41: 771-778.
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PART II. Technical description of the review

8. Detailed review methods

A descriptive map of located research surveying the prevalence of mental health disorders (MHDs) in minority ethnic groups in England was created to inform discussions with the Advisory Group and the design of the in-depth analysis of research that presents prevalence estimates for a range of different MHDs and for different minority ethnic groups.

8.1 Advisory Group consultations

Plans for this review were developed in consultation with members of the Policy Research Programme at the Department of Health. A small Advisory Group was convened, with the role of: helping to identify relevant leading research teams and studies for analysis; providing a contextual understanding of UK-based surveys of mental illness; advising on the review's research questions; helping to focus the scope of the review in order to determine which studies were included in the analysis; and commenting on the draft final report.

Advisory Group members met face to face with the review team twice. At the first meeting (in August 2014) they were asked for their views on important aspects to address in the review protocol. They were then invited to comment on the draft protocol by email and to attend a face-to-face meeting (in December 2014) to discuss initial findings about the characteristics of the studies found. At the second meeting, the Advisory Group helped to identify priority areas on which to focus for an in-depth review and analysis of the study findings. Following the second meeting, we also contacted the Advisory Group by email with additional queries and a draft final report in order for them to advise further and to comment on the review's emerging findings.

8.2 Inclusion/exclusion criteria

Inclusion/exclusion criteria were required for two different purposes. Firstly, search results were screened using an initial set of inclusion criteria (nos 1-14 in Appendix C) so as to identify studies that were to be included in an initial systematic map. With this, we hoped to provide our Advisory Group with an overview of the nature and extent of the literature that addresses the above research questions (for example, the extent to which different minority ethnic groups appear to have been included in surveys of MHDs, or the extent to which studies have addressed each disorder).

In the end, because of the size and complexity of the literature found, there was not time to present a complete map prior to selecting the final criteria for reviewing studies in-depth. Instead, we were able to present the findings from our systematic coding of a subset of screened citations. We had applied a small number of codes to included citations using study abstracts to indicate whether or not ethnicity was mentioned and if so, which ethnic groups, and when mentioned, the country in which the study was conducted and any survey name. We were able to identify for the group the names of the surveys encountered and present cases so as to discuss a set of dimensions by which surveys appeared to vary (e.g. MHDs measured, sample size, sampling and recruitment methods, measurement tools).

Following guidance from the review's Advisory Group, we screened all the studies found, using an expanded set of inclusion criteria so as to identify a smaller number of studies most aligned with the needs of the 2021 APMS. These criteria allowed us to focus upon a restricted number of types of participant, study context, study designs, ways of examining ethnicity, and MHDs. The final set of inclusion criteria for our review is presented in full in Appendix C, but can be summarised as follows:

8.2.1 Topic

Prevalence data had to have been examined and presented for one or more MHDs. For the purposes of this review, mental health disorder was defined initially by disorders that were examined by the 2007 Adult Psychiatric Morbidity Survey or were included in the 2014 run of this survey. These disorders are: Common Mental Disorders; Post-Traumatic Stress Disorder (PTSD); Suicidal thoughts, Suicide attempts and Self-harm; Psychosis; Bipolar Disorder; Antisocial And Borderline Personality Disorders; other personality disorders; Attention Deficit Hyperactivity Disorder (ADHD); Eating disorders; dependency associated with alcohol or drug use; and Problem gambling.

There was a need to further prioritise the MHDs addressed by the review because of constraints on time and the need to ensure that the report was sufficiently succinct. A sub-set of the above MHDs was prioritised. In consultation with the review's Advisory Group, we selected those used as chapter headings in the 2007 APMS, as well as the following more specific MHDs which are also relatively common: Any Common Mental Disorder (Any CMD), Mixed Anxiety and Depressive Disorder, Generalised Anxiety Disorder, Any Depressive Episode. Autism was searched for but not considered further because we were advised that it had only been assessed in adulthood in one UK-based general population survey (APMS 2007 - Brugha et al., 2011) and it was unlikely that an ethnic minority comparison had been undertaken.

The studies had to present prevalence estimates by ethnic group, or statistics that enabled the calculation of prevalence. We also required that the studies presented prevalence estimates for a minimum of two ethnic groups. This could be either for two minority ethnic groups, or for one minority ethnic group and a sample from the White British population. We considered ethnicity to include all groups as defined by the 2011 UK Census. In addition, we included categories that specified the participants' country of origin (e.g. Somalian, Bangladeshi, Polish) and other groups such as Travellers.

8.2.2 Population

The participants were to be living in the UK and aged 16 years or over and sampled from the general population. Estimates that had been obtained solely by studying distinct populations and were therefore not representative of the total population, were not considered for the purposes of this review. These distinct populations were defined as: women or men selected because of a particular phase of life or a challenging type of parenting (e.g. perinatal period, during infant or toddlerhood, have children with disabilities, or lone parents); older people (60+ years) only; prisoners, detainees or those previously convicted; people who had experienced previous trauma (e.g. abuse, accidents or wars); people defined purely by their not being heterosexual; people in the military; students; service providers (e.g. clinicians, firemen, farmers, civil servants, nurses); people who misused alcohol or other substances; people defined solely by having a physical or mental health condition.

8.2.3 Study context

The study was to have been conducted solely or partially in England, with data collected in 1999 or after.

8.2.4 Study design/sample size

The included studies had to have employed a survey approach (cohort or cross-sectional) and have used census or probabilistic sampling procedures with the aim of being representative of a population residing in a circumscribed area. The study was to have sampled from households or other community settings (e.g. community centres or primary care clinics). We specified that the included studies had to have a minimum sample size of 450 people for at least one ethnic group. This sample size threshold was similar to that used in the Steel et al. (2014) systematic review of the prevalence of common MHDs and

was used to reduce the influence on findings of unstable estimates (those with extremely wide confidence intervals).

8.2.5 Other restrictions

The studies had to have been reported in the English language. Reports were excluded (mainly at the stage of screening titles and abstracts) if they were not reports of empirical research studies. Systematic reviews were not used to extract estimate findings.

8.3 Searching

Locating the literature on the prevalence of MHDs in minority ethnic communities in England posed a number of challenges with regard to designing a search strategy. Many epidemiological studies focusing on MHDs have a different focus from this review, for example, collecting data only to estimate rates of service use, or incidence, rather than prevalence of disorders. Data on minority ethnic communities were expected to be hidden within studies, as ethnicity could be only one of a range of factors explored. As such, ethnicity might not be mentioned in a study abstract, and would therefore be missed by journal and database indexers and therefore also by automated database searches using search terms related to ethnicity. Surveys that were conducted at a local level may not have been published in journals.

Bibliographic database searches were supplemented by searches of web-sites, the screening of the reference lists of included studies and relevant systematic reviews, and contact with the authors of included studies.

For the bibliographic database searches, two sets of searches were run:

1. The first set of database searches aimed to find studies that had emphasised diagnosis when estimating the prevalence of MHDs, regardless of whether ethnicity was referred to by study authors in a report's title or abstract. These searches combined terms for four separate concepts, using thesaurus-specific and free-text search terms: mental health conditions; prevalence; 'diagnosis or diagnostic tool'; and populations in England. The searches were conducted between the 20th and the 28th of October 2014. Because of the identification in pilot searches of two systematic reviews aligned with the research questions of this review, but focused solely on specific mental health conditions (common mental disorders, schizophrenia and psychoses), the searches were adapted to build upon the studies already found from these two reviews (Steel et al., 2014 and Kirkbride et al., 2012a, b). The searches were run from 1998 onwards for all mental health conditions, other than common mental disorders and psychoses. The same searches were run incorporating common MHDs from 2009 and schizophrenia and psychoses from 2014 (see Appendix B for an explanation of this strategy).
2. A second set of database searches was run following screening of a sub-set of the first set of citations, and discussion with the Advisory Group. This second search aimed to capture potentially relevant items that might refer to ethnicity or migrant populations in the titles and abstracts without mention of a mental health diagnostic tool. This searched combined the concepts of: mental health conditions; prevalence; ethnic groups or migrant populations; and populations in England. This searched for all mental health conditions since 1998 and did not use a filter that required citations to mention diagnosis or a specific diagnostic instrument or category. These searches were conducted between 19th and 22nd January 2015.

For both searches, we used terms so as to exclude studies conducted in secondary care (a version of the approach taken by Steel et al., 2014), and those that focused only on children. Further detail of the searches can be found in Appendix B.

8.4 Screening, data extraction and quality assessment

After brief phases of double screening to develop inter-rater reliability of >90% (for screening both abstracts and full reports), each citation was screened for inclusion by a single reviewer.

As each included study was frequently reported in more than one study report, and each report could contain estimates for more than one priority mental health disorder, it was necessary to group the reports found according to the survey/s and MHDs that they reported. A core report was then sought for estimates for each possible combination of people by gender (adults as a whole, men only, women only), for each priority mental health disorder, from each survey. To be a core report for any given kind of estimate, a report needed either to be the main technical report of the survey, or to provide prevalence estimates by ethnicity that were more disaggregated than the technical report (either presenting data broken down into a greater number of ethnic group categories, or data for both men and women separately), or to provide an estimate for prevalence among adults as a whole, or for a more aggregated category of ethnicity, that was not already provided by the technical report. The classification of reports into core and satellite categories was done by one reviewer.

Two reviewers used structured spreadsheets to extract prevalence findings from each core report, working independently and then reaching consensus, with disagreements resolved by a third reviewer where necessary. The narrative was written up by several reviewers, with a separate reviewer checking the accuracy of each presentation of a finding about the prevalence of a specific MHD against the spreadsheet data. The study contexts and their methods were described by one reviewer, and checked by a second reviewer, using structured tables.

Survey and sample data are usually associated with a degree of error, and confidence intervals provide an interval within which the true proportion of a given condition in a population is thought to lie - they are usually calculated at the 95% level. That is to say we can be 95% certain that the true population proportion falls within the ranges provided. In this study, confidence intervals were extracted where provided from the studies. Where these were not provided, they were estimated using Wilson's method, which is advantageous over the Wald method for rare conditions, since it does not produce negative ranges and also provides an interval for zero event (Wald methods produce lower and upper interval values of 0).¹ Where available, sample design effects were incorporated into the calculations; where these were unavailable, our calculations overlooked study design factors for complex studies, and therefore the confidence intervals represent approximate estimates. While there is no consensus on the most appropriate method for calculating confidence intervals, Wilson's method is favoured by many organisations (e.g. the Association of Public Health Observatories) for calculating intervals, particularly around rare events.

In most cases, reviewers were able to take percentages that estimated prevalence directly from the study reports. In a small number of cases, estimates had been presented in such a way that they needed to be transformed (i.e. the reports of analyses gave them only as percentages that had a denominator different from that for the population as a whole). In all cases, we used observed figures, as opposed to figures standardised to take account of age or other factors, so as to gain prevalence estimates for the population surveyed, rather than estimates of comparative risk.

No tool was used to appraise the quality of the studies included in this review. This is because the use of certain survey design requirements in the criteria used to screen studies for inclusion (in particular, the requirement for a relatively high sample size for comparison groups) resulted in very little variation in survey design or procedure between the included studies.

8.5 Synthesis

The synthesis approach taken in this review was narrative in form, with the narrative structured first by mental health disorder, and then by gender, with the result of each included survey analysis then discussed in turn. A configurative approach was taken. When analyses provided prevalence estimates by ethnic group for more than one survey, the reviewers looked for patterns in the ordering of prevalence by ethnic group. The confidence intervals for each prevalence estimate within a survey analysis were also compared to see if these indicated that any two estimates might be statistically significant. The algorithms used to identify and state whether or not a pattern could be seen across the survey analyses, and the relative strength of these patterns, are presented in Figure 8.1.

These algorithms are designed to classify the evidence around ethnic differentials in mental health issues based on: (i) the magnitude of the evidence between surveys; (ii) the degree of consistency in the relative ranking of prevalence between ethnic groups within a survey; and (iii) the degree of consistency in the presence/absence of overlapping confidence intervals.⁴ This approach therefore took into consideration both the consistency and sufficiency of differences in prevalence.

Overall, due to a number of factors, no attempts were made here to combine estimates of data across surveys numerically (i.e. through meta-analysis). These factors mainly reflected: (i) the differences inherent in each survey (for example where estimates of mental health conditions represented prevalence at national, country, regional and sub-regional levels); and (ii) the focus of this report on population-level prevalence as opposed to age-standardised prevalence or estimating the relative risks of having a mental health disorder between ethnic groups.

⁴ This latter indicator reflects statistically significant differences in prevalence between ethnic groups. This form of identification can be considered a relatively conservative estimate since the absence of overlapping confidence intervals usually signifies statistically significant differences, although the presence of overlapping confidence intervals cannot be taken as an indicator of the absence of statistically significant differences in each case.

Figure 8.1: Algorithms used to determine and report possible patterning in prevalence between ethnic groups

| Strength of suggested pattern | Requirement | | |
|-------------------------------|--|----|---|
| Strong pattern | One ethnic group's prevalence estimate is the highest (or lowest) in two or more analyses and in two analyses, the estimate confidence intervals indicate that this same group's estimate is significantly higher (or significantly lower) than another group's estimate | OR | No one ethnic group's prevalence estimate is the highest (or lowest) in two or more analyses but confidence intervals indicate that one specific group's estimate is significantly higher (or lower) than another specific group's estimate in two or more analyses |
| Weak pattern | One ethnic group's prevalence estimate is the highest (or lowest) in two or more analyses and in one analysis, confidence intervals indicate that this same group's estimate is significantly higher (or significantly lower) than another group's estimate. | OR | One ethnic group's prevalence estimate is the highest (or lowest) in three or more analyses , whether or not confidence intervals indicate that this same group's estimate is significantly higher (or lower) than another group's estimate |
| No pattern | None of the above requirements are met | | |

9. Flow of studies through the review

This chapter describes the process of identification of 21 separate analyses of six surveys from within the pool of over 9,400 citations identified by our systematic searches. It provides:

- a narrative account of the flow of studies through the review
- a graphic representation of the flow of studies through the review.

9.1 Studies identified by searches

Figure 9.1 summarises the flow of studies through the review. As the figure indicates, after removal of duplicates, our searches identified 8,649 citations for screening against our inclusion criteria. An additional 131 duplicate records were also identified during screening.

9.2 Accounting for the studies seen during the review

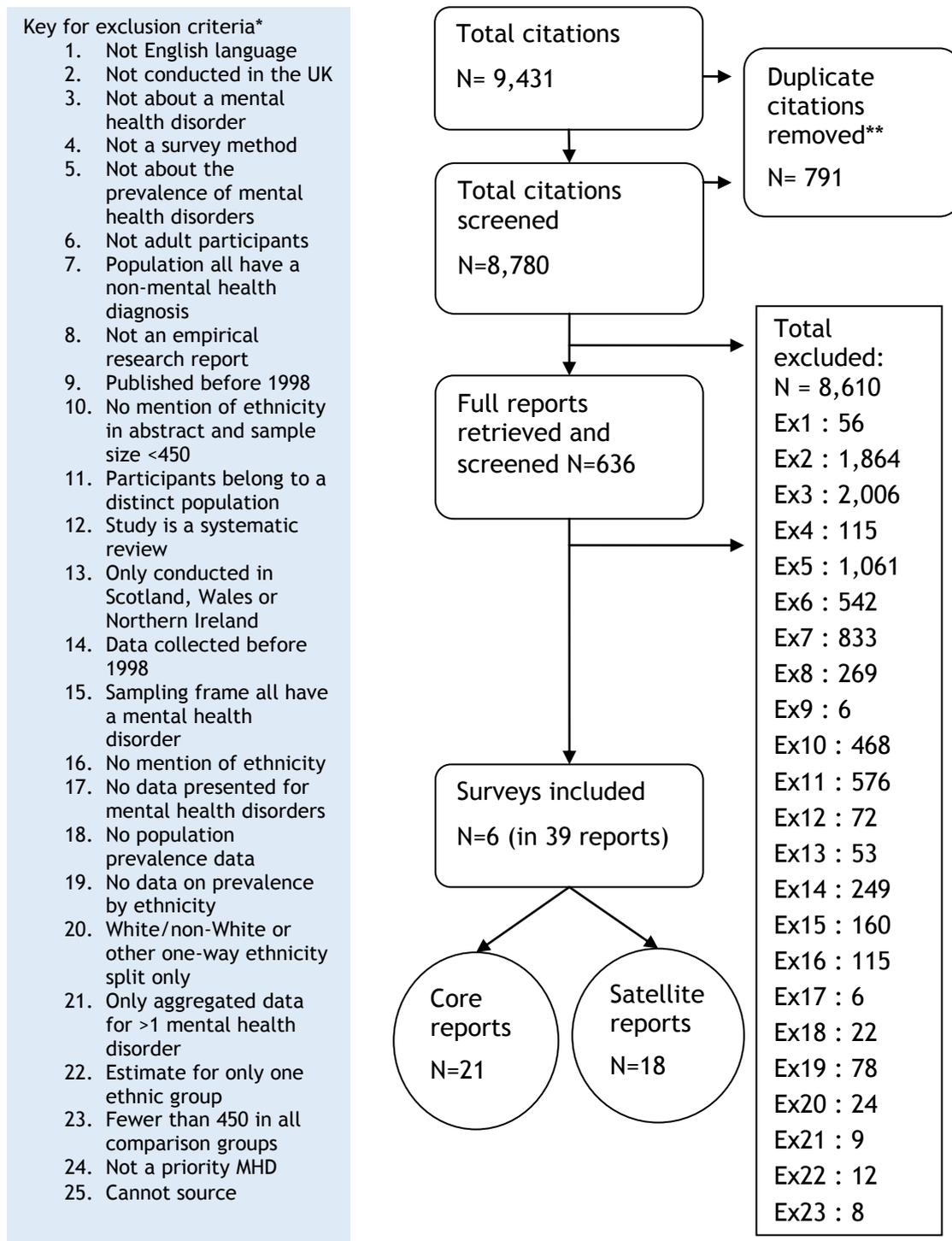
Each report was first screened using the title and abstract alone, which led to 636 full reports being obtained for screening on full text. The majority of reports did not meet the inclusion criteria and so were excluded from the review (N=8610; 99.6%).

The reasons for exclusion are presented in full in Figure 9.1 but can also be considered in terms of the conceptual categories introduced in Chapter 3.

- The largest group did not address the review's **topic area**, in terms either of ethnicity or of the MHDs identified as a priority for this review (N=3,185, 37.0%).
- Almost a quarter did not focus on the **population** addressed by this review (the general population aged over 16 years), instead only sampling people with a mental health disorder, or people with another health-related condition, or children, or another group defined by a particular life-stage or set of circumstances, such as perinatal women, prisoners, refugees and service providers (N=2,111, 24.5%).
- Another quarter was excluded because of the study's **context** (the study was conducted in the countries of Scotland, Wales or Northern Ireland only, or completely outside the UK, or had collected data prior to 1999; N=2,172, 25.2%).
- The remainder was excluded because:
 - the **study design or sample size** was judged insufficient for producing prevalence estimates of sufficient precision (N=591, 6.9%),
 - the report's **presentation of findings** did not include prevalence estimates for specific priority MHDs for more than one ethnic group (N=151, 1.8%),
 - or the **publication type** was not suitable for the extraction of data (N=397, 4.6%).
- In addition, three full texts could not be sourced.

A total of 39 reports were included in the review. These reports presented analyses from six separate surveys alongside details of the surveys' aims and methods. The included reports were categorised further into core reports (N=21) and satellite reports (N=18). The full list of core and satellite reports is presented in section 7.1.

Figure 9.1: Flow of studies through the review



*Criteria are reproduced in full in Appendix C

** N=660 duplicates were removed prior to screening. A further N=131 were identified during screening. However, because of the large number of multiple-authored reports and similar report titles, others are likely to be identifiable still within the sets of excluded studies.

Appendices

Appendix A: Description of included surveys: context, sampling, recruitment and ethnic categories

| Study name | Mid-year (duration) | Household coverage ^a No. participants | Age range | Sampling design, recruitment and interview procedures ^b | Ethnic group categories used in available analyses (sample sizes) Categorisation methods ^e |
|---|---------------------|--|-----------|---|--|
| British Psychiatric Morbidity Survey 2000 | 2000 (6 months) | National: England, Scotland, Wales N = 8,580 with 638 clinical interviews | 18-74 | <p>Survey design: Two-phase survey with interviews using structured assessments, followed up by interviews with a sub-sample conducted by clinically trained research interviewers. Phase one used a two-stage sampling design: 1) Postal sectors selected using small-user Postcode Address File (PAF), and stratified by socio-economic group and NHS region; 2) postal delivery points selected (36 within each sector) and then visited by interviewers to identify private households with one or more people aged 18-74. One person per household was selected using the Kish grid method. Phase two sampled those indicating willingness to be recontacted and satisfying screening criteria as follows: 1) all with criteria for psychotic disorder; 2) half with criteria for anti-social and borderline personality disorder with no evidence of psychotic disorder; 3) 1 in 14 with criteria for other personality disorders and not in 1) or 2); and 4) 1 in 14 people showing no evidence of either psychosis or personality disorder.</p> <p>Recruitment: 69% of those invited participated in phase one, 73% in phase two.</p> <p>Interview method: Structured interviews^c using Computer Assisted Personal Interviewing (CAPI), with some sections^d self-completed.</p> <p>Cross-cultural adaptation: Not specified. Language</p> | <p>White (n = 8031) Black (n = 185) South Asian (n = 142) Other (n = 156)</p> <p>Respondents identified their ethnicity by selecting from cards showing 15 categories, which were collapsed into: White (White), Black (containing Black Caribbean, Black African, Other Black), South Asian (containing Indian, Pakistani, Bangladeshi), Other (includes Chinese, mixed ethnic origin, other categories not specified)^f.</p> |

Prevalence of mental health disorders in adult minority ethnic populations in England

| Study name | Mid-year (duration) | Household coverage ^a No. participants | Age range | Sampling design, recruitment and interview procedures ^b | Ethnic group categories used in available analyses (sample sizes) Categorisation methods ^e |
|---|---------------------|---|-----------|--|--|
| | | | | restrictions meant that it was not possible to carry out an interview in a few cases. | |
| Adult Psychiatric Morbidity Survey 2007 | 2007 (12 months) | National: England N = 7,353 with 630 clinical interviews | 16+ | <p>Survey design: Two-phase survey with interviews using structured assessments followed up by interviews with a sub-sample conducted by interviewers experienced in psychological research interviewing. The two-stage sampling design was the same as for the 2000 BPMS above but with a more fine-grained stratification in the first stage, and the use of sampling fractions developed by modelling to select participants for the second-phase clinical interviews.</p> <p>Recruitment: 57% of those invited participated in phase one, 74% in phase two.</p> <p>Interview procedure: As for the 2000 BPMS above.</p> <p>Cross-cultural adaptation: Not specified.</p> | <p>White (n = 6,499)</p> <p>Black (n = 182)</p> <p>South Asian (n = 258)</p> <p>Other (n = 414)</p> <p>Categories produced as described for the 2000 BPMS above.</p> |
| EMPIRIC | 2000 (ns) | National: England N = 4,280 | 16-74 | <p>Design: Single-phase survey using follow-up from the Health Survey for England (HSE) 1998 and 1999. The HSEs had each used a two-stage sampling design: 1) addresses selected via the small-user PAF, with stratification to identify postal sectors where between 1% and 10% of the resident population was Black Caribbean, Indian, Pakistani or Bangladeshi; 2) focused enumeration, with interviewers screening for eligibility of inhabitants at each issued address as well as the two addresses either side of it. Up to four adults were</p> | <p>White (n = 837)</p> <p>Black Caribbean (n = 694)</p> <p>Indian (n = 643)</p> <p>Pakistani (n = 724)</p> <p>Bangladeshi (n = 650)</p> <p>Irish^g (n = 733)</p> <p>Participants had already</p> |

Appendix A: Description of included surveys: context, sampling, recruitment and ethnic categories

| Study name | Mid-year (duration) | Household coverage ^a No. participants | Age range | Sampling design, recruitment and interview procedures ^b | Ethnic group categories used in available analyses (sample sizes) Categorisation methods ^e |
|------------|---------------------|--|-----------|---|--|
| | | | | <p>selected at random within each household using the Kish grid method.</p> <p>Recruitment: Letters were sent to eligible HSE informants who had agreed to be recontacted. Participants were recruited from informants in the Black Caribbean, Indian, Pakistani, Bangladeshi or Irish ethnic groups in HSE 99 and in the White ethnic group in HSE 98. A total of 68.2% of those eligible participated.</p> <p>Interview procedure: Structured interviews using CAPI.</p> <p>Cross-cultural adaptation: Interviewers were available who were fluent in the participants' mother tongues. A paper form of the survey was available that had been translated into Hindi, Gujarati, Bengali, Punjabi and Urdu.</p> | <p>self-identified in an HSE as being in one of the above categories. In the EMPIRIC interview, they could select from 10 categories which included, as well as those specified above, Black African, Black Other, Chinese, Irish^g and 'None of these'.</p> |
| SELCoH | 2009 (24 months) | Local: Two South London Boroughs (Southwark, Lambeth) N = 1,698 | 16+ | <p>Design: Single-phase survey. A two-stage stratified probability sampling design with addresses selected at random from across the two boroughs using the small-user PAF, stratified to ensure a similar sample size for each area. Attempts were made to identify and interview all those eligible within each household.</p> <p>Recruitment: A total of 71.9% of those eligible participated.</p> <p>Procedure: Structured interviews using CAPI.</p> <p>Cross-cultural adaptation: Translators were used in</p> | <p>White (n = 1051) Black Caribbean (n = 143) Black African (n = 243) South Asian^h (n = 63) Other(n = 205) The South Asian category above was formed as described for the 2000 BPMS. Other</p> |

Prevalence of mental health disorders in adult minority ethnic populations in England

| Study name | Mid-year (duration) | Household coverage ^a No. participants | Age range | Sampling design, recruitment and interview procedures ^b | Ethnic group categories used in available analyses (sample sizes) Categorisation methods ^e |
|---|---------------------|---|-----------|--|--|
| | | | | interviews with non-English speaking adults. | than Chinese, the other available categories for self-identification are not specified. |
| British Gambling Prevalence Survey 2007 | 2007 (6 months) | National: England, Scotland, WalesUK N = 9,003 | 16+ | <p>Design: Single-phase survey. A two-stage stratified probability sampling design using the small-user PAF, with postal sampling units stratified using government region, a measure of socio-economic status (NS-SEC), and the percentage of people from non-White ethnic groups, and then households selected at random from each sampling unit. Within each household, all adults aged 16 and over were eligible to be included in the study.</p> <p>Recruitment: A total of 63% of invited households participated and the participation rate of those invited within co-operating households was 81%, which makes an overall response rate of 52%.</p> <p>Interview procedure: Structured interviews. Each participant was given an individual self-completion booklet and was also allocated a unique web-survey password to access and complete a questionnaire online. Interviewers waited or returned for completed paper questionnaires.</p> <p>Cross-cultural adaptation: Not specified.</p> | <p>White (n = 8,193)</p> <p>Black (n = 360)</p> <p>South Asian (n = 180)</p> <p>Other (n = 270)</p> <p>Respondents identified their ethnicity by selecting from a total of 14 categoriesⁱ (later collapsed to form the groups listed above, with Chinese and Mixed ethnicity falling under the category Other).</p> |

Appendix A: Description of included surveys: context, sampling, recruitment and ethnic categories

| Study name | Mid-year (duration) | Household coverage ^a No. participants | Age range | Sampling design, recruitment and interview procedures ^b | Ethnic group categories used in available analyses (sample sizes) Categorisation methods ^e |
|---|---------------------|---|-----------|--|--|
| British Gambling Prevalence Survey 2010 | 2010 (8 months) | National: England, Scotland, WalesUK N = 7,756 | 16+ | Design: As for BGPS 2007 Recruitment: A total of 55.1% of invited households participated and the participation rate of those invited within co-operating households was 85.2%, which makes an overall response rate of 47%. Interview procedure: Structured interviews using CAPI, with some sections ^d self-completed. Cross-cultural adaptation: Not specified. | White ^f (n = 7072) Black (n = 200) South Asian (n = 309) Other (n = 151) Ethnicity determined as described above for the 2007 BGPS. |

^a Coverage: Geographic sampling frame. The authors of the only local survey (SELCoH) included in this review describe that study's location as having a 'higher deprivation than the England average, but similar proportions of economically active and inactive residents in comparison to greater London' (Hatch et al., 2011, p863).

^b To enhance representativeness, data were weighted to take account of non-response and survey design where appropriate.

^c All interviews were conducted in participants' homes with interview schedules piloted prior to use to improve reliability and validity.

^d In the 2000 BPMS, participants entered their responses directly into the computer for the screen for personality disorder and for alcohol and drug use and dependence. In the 2007 APMS, participants also entered responses themselves for problem gambling and PTSD (as well as for additional topics not examined in this systematic review). In the 2010 BGPS, some data (e.g. on sociodemographics) were provided through face-to-face questioning, but all data about gambling behaviour were collected by self-completion using a laptop computer.

^e All studies defined ethnicity according to self-report criteria, where participants selected from categories used in the most recent UK Census, unless indicated otherwise.

^f The question asked/categories were: Which of the groups listed on this card do you consider you belong? 1 White - British; 2 White - Irish; 3 Any other White background; 4 Mixed - White and Black Caribbean; 5 Mixed - White and Black African; 6 Mixed - White and Asian; 7 Any other mixed background; 8 Asian or Asian British - Indian; 9 Asian or Asian British - Pakistani; 10 Asian or Asian British - Bangladeshi; 11 Any other Asian/Asian British background; 12 Black or Black British - Caribbean; 13 Black or Black British - African; 14 Any other Black/Black British background; 15 Chinese; 16 Any other (please describe).

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^g Irish ethnicity was determined in EMPIRIC according to the country of parents' birth.

^h Participants in the SELCoH study could select from the categories Indian, Pakistani or Bangladeshi. In some of this study's analyses these have been grouped to make a South Asian category. In other analyses, a category 'Asian' is used which groups people self-identifying as Chinese together with those identifying as Indian, Pakistani or Bangladeshi. These approaches affect the composition of the 'Other' category of participants in this study's reports.

ⁱ The 2010 BGPS used the categories 'White or White British', 'Asian or Asian British', 'Black or Black British' and 'Other' to present its analyses. Participants in the 2008 and 2010 BGPS were presented with these same labels and others, when asked to describe their ethnicity. The categories presented to participants were: 'White' (with no further sub-categories); 'Mixed' (contained the separate categories, 'White and Black Caribbean', 'White and Black African', 'White and Asian' and 'Any other Mixed Background'); 'Asian or Asian British' (contained the separate categories, 'Indian', 'Pakistani', 'Bangladeshi' and 'Any other Asian Background'); 'Black or Black British' (contained the separate categories, 'Caribbean', 'African' and 'Any other Black Background'); 'Chinese'; and 'Any other ethnic group'.

Appendix B: Search strategy

Developing search strings for each concept

The search strings were developed by building upon search strings developed in the systematic reviews conducted by Steel et al. (2014) and Kirkbride et al. (2012), previous reviews conducted within the EPPI-Centre, and other published research. The search terms were refined from undertaking test searches. The strategy was developed by one of the review team who is an Information Specialist (CS). It was tested initially in PubMed, and then translated to other sources. The searching terms addressed five conceptual areas: mental health conditions; prevalence; diagnostic instruments; ethnicity and migrant populations; and England.

Mental health conditions

The search terms for mental health conditions were adapted from a search strategy for a previous review developed within the EPPI-Centre (Leonardi-Bee et al., 2012). We expanded upon these terms to include a wider range of mental health conditions.

Prevalence and diagnostic instruments

The search terms used in Steel et al. (2014) and Kirkbride et al. (2012a,b) were adapted and built upon, particularly with respect to search terms for prevalence and diagnostic instruments. In addition, we added terms for other diagnostic instruments used in psychiatry that we encountered through our own background research and through test searches.

Ethnic groups or migrant populations

A filter for ethnic groups or migrant populations was developed utilising some terms used by Bhui et al. (2013), Cooper et al. (2014), Moffat et al. (2009) and Tieman et al. (2013). We built upon these terms by including further terms for ethnicity and migrant populations that we encountered from our own knowledge and test searches. We also incorporated terms for the non-UK country of birth for people living in the UK based on data from the Office of National Statistics (population range 20,000 to 164,000 people for each country of birth).

Studies conducted in England

We developed search terms to restrict results to studies focusing on populations in England by running test searches to identify terms for English populations and building on terms from Kirkbride et al. (2012a,b), and a UK filter used in an EPPI-Centre review (Rees et al., 2011). In addition, because our focus was on particular ethnic groups, we included search terms for areas of England that had higher levels of ethnic minorities, based upon the 2011 Census, published by the Office for National Statistics. This included the names of local authorities with the highest proportion of Indian and White (other than British) groups; local authorities comprising less than 75% White British, and all local authorities in the West Midlands and London, as these are the two highest areas overall of non-White-British in England.

Databases and websites searched

We searched the following databases from across the clinical disciplines as well as social sciences:

- MEDLINE
- Excerpta Medica database (EMBASE)
- Social Policy and Practice
- PsycINFO

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- Cumulative Index to Nursing and Allied Health (CINAHL)
- Applied Social Sciences Index and Abstracts (ASSIA)
- Health Management Information Consortium (HMIC)
- Published International Literature on Traumatic Stress (PILOTS)

The bibliographic database searches were supplemented by searching of the following websites and databases, conducted between 10th and 15th December 2014:

- Better Health, Race Equality Foundation
- Black Mental Health UK (BMH UK)
- Chinese Mental Health Association
- Ethnic Health Initiative
- Google (highly focused search)
- Health and Social Care Information Centre
- HealthPromis (archived EndNote database from the former Health Development Agency)
- Healthwatch
- Jewish Association for the Mentally Ill (JAMI)
- King's Fund library
- McPin foundation
- Mental Health Foundation
- Mental Health Surveys
- MIND - Equality improvement
- NHS evidence
- Nuffield Trust
- Offender Health Research Network
- Office for National Statistics (ONS)
- Re-think Mental Health
- SANE
- SelcoH
- Social Care Online
- UK Data Archive
- Vietnamese Mental Health Services Support Group

The MEDLINE searches are provided in full below. This search was adapted and applied to the remaining databases. Full details of the search history are available on request.

The above approach uses the databases searched in the Kirkbride et al. (2012a) review (MEDLINE, EMBASE, CINAHL, PsycINFO, ASSIA, HMIC) so as to seek literature from across the clinical disciplines as well as social sciences. It also uses Social Policy and Practice, as it is known to contain UK-based studies that are not indexed elsewhere (Stansfield et al., 2012).

For database searches, we ran two sets of searches:

1. The first set of database searches aimed to find studies that emphasised diagnosis when estimating the prevalence of MHDs. These searches took a different strategy for different MHDs depending on the existence of systematic reviews known to align with our research questions. This set of searches is summarised in Figure B1. As this figure indicates, we ran database searches from 1998 onwards only for mental health conditions other than common mental disorders and psychoses (as these conditions had already been addressed by two recent systematic reviews).

Figure B1: Strategies for the first set of database searches

| | | |
|---|---|---|
| <p>A. Common mental disorders</p> <ol style="list-style-type: none"> 1. Screen Steel et al. (2014) and contact the review's authors for includable studies. 2. Conduct a search for studies published since the Steel et al. (2014) searches were run (Feb 2014), using terms specific to common mental disorders. | <p>B. Schizophrenia and other psychoses</p> <ol style="list-style-type: none"> 1. Screen Kirkbride et al. (2012b) and contact the review's authors for includable studies. 2. Conduct a search for studies published since the Kirkbride et al (2012b) searches were run (July 2009), using terms specific to schizophrenia and other psychoses. | <p>C. Other disorders</p> <p>Conduct a search for all studies reported in 1998 and beyond, using terms for mental health disorders other than common mental disorders and schizophrenia and other psychoses.</p> |
|---|---|---|

We developed sets of thesaurus-specific and free-text search terms for the main concepts found within the review's research questions and combine these sets. These concepts were: 'mental health conditions', 'diagnosis or diagnostic tool', 'prevalence' and 'UK location'. To make searches sufficiently specific, we also used terms that would exclude studies conducted in secondary care (a version of the approach taken by Steel et al, 2014).

2. A second set of database searches was conducted that were specific with respect to ethnicity and related concepts. This search used terms for all included MHDs (not just those outside the Kirkbride et al. (2012a,b) and Steel et al. (2014) reviews), and did not use a filter that required citations to mention diagnosis or a specific diagnostic instrument or category. It instead limited retrieval only to those citations that also contained terms related to ethnicity, or related concepts, in their title or abstract. This search combined sets of terms for: i) all included MHDs; ii) UK setting; iii) prevalence; and iv) ethnicity, religion, culture or migration. The ethnicity terms included those used by Bhui et al. (2013).

Medline search strategy

Part 1 (search on concepts: mental illness AND prevalence AND diagnostic instruments AND England)

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>

Date of search: 20 October 2014

No. of records: 1,942

Search strategy:

1 Mentally Ill Persons/ (4460)

2 exp Substance-Related Disorders/ (238932)

Prevalence of mental health disorders in adult minority ethnic populations in England

3 exp Sleep Disorders/ (64451)

4 exp Impulse Control Disorders/ (6505)

5 exp Sexual Dysfunctions, Psychological/ (28287)

6 "Agoraphobia"/ or "anankastic personality disorder"/ or "Anorexia Nervosa"/ or "Antisocial Personality Disorder"/ or "Attention Deficit and Disruptive Behavior Disorders"/ or "Attention Deficit Disorder with Hyperactivity"/ or "avoidant personality disorder"/ or "Body Dysmorphic Disorders"/ or "Borderline Personality Disorder"/ or "Bulimia Nervosa"/ or "Bulimia"/ or "Catatonia"/ or "Compulsive Behavior"/ or "Compulsive Personality Disorder"/ or "Conduct Disorder"/ or "Conversion Disorder"/ or "Cyclothymic Disorder"/ or "Delirium, Dementia, Amnestic, Cognitive Disorders"/ or "Dependency (Psychology)"/ or "Dependent Personality Disorder"/ or "Depersonalization"/ or "Depressive Disorder, Major"/ or "Dissociative Disorders"/ or "Dysthymic Disorder"/ or "Eating Disorders"/ or "Feeding Behavior"/ or "Hallucinations"/ or "histrionic personality disorder"/ or "Hysteria"/ or "Mental Disorders"/ or "Mood Disorders"/ or "Multiple Personality Disorder"/ or "narcissistic personality disorder"/ or "Neurasthenia"/ or "Neurotic Disorders"/ or "Obsessive Behavior"/ or "obsessive compulsive personality disorder"/ or "Obsessive-Compulsive Disorder"/ or "Panic Disorder"/ or "Panic"/ or "Paranoid Personality Disorder"/ or "passive-aggressive personality disorder"/ or "Personality Disorders"/ or "Phobic Disorders"/ or "Psychophysiologic Disorders"/ or "Rett Syndrome"/ or "Shared Paranoid Disorder"/ or "Social Behavior Disorders"/ or "Somatoform Disorders"/ or "Stress Disorders, Post-Traumatic"/ or "Delusions"/ (369334)

7 "Adjustment Disorders"/ or exp Amnesia/ or exp "Attention Deficit and Disruptive Behavior Disorders"/ or "Binge-Eating Disorder"/ or exp "Cognition Disorders"/ or exp "Communication Disorders"/ or "Consciousness Disorders"/ or "Coprohagia"/ or "Delirium"/ or "Developmental Disabilities"/ or exp "Dyslexia, Acquired"/ or "Factitious Disorders"/ or "Impulse Control Disorders"/ or "Motor Skills Disorders"/ or "Munchausen Syndrome"/ or "Neurocirculatory Asthenia"/ or exp "Obsessive-Compulsive Disorder"/ or "Pica"/ or "Stereotypic Movement Disorder"/ or exp "Stress Disorders, Traumatic"/ or exp "Child Development Disorders, Pervasive"/ or "Mental Disorders Diagnosed in Childhood"/ or "Depression, Postpartum"/ or "Depressive Disorder, Treatment-Resistant"/ or "Seasonal Affective Disorder"/ (238124)

8 ("anankastic personalit*" or "anorexia nervosa" or "antisocial personalit*" or "attention deficit disorder?" or "body dysmorphic" or "conduct disorder?" or "cyclothymic personalit*" or "endogenous depression" or "folie a deux" or "mental disorder" or "mental disorders" or "mental illness" or "mental illnesses" or "mental problem" or "mental problems" or "mentally ill" or "obsessive compulsive" or "panic disorder" or "panic disorders" or "pervasive developmental" or "post traumatic" or "seasonal affective" or "affective disorder*" or "avoidant personalit*" or "behavio?r disorder*" or "behavio?r problem*" or "behavioral disorder?" or "behavioural disorder?" or "conversion disorder*" or "eating behavio?r" or "eating adj1 disorder?" or "overactive disorder?" or (personality adj3 disorder?) or agoraphobia or (anankastic adj1 person*) or (antisocial adj1 person*) or (asocial adj1 person*) or Asperger* or autism or autistic or (avoidant adj1 person*) or "borderline personalit*" or bulimia or catatonia or catatonic or compulsion* or (compulsive adj1 person*) or (conversion adj1 disorder*) or cyclothymia or (dependent adj1 personalit*) or depersonali#ation or dereali#ation or disintegrative or (dissocial adj1 person*) or dissociation* or dissociative or dysthym* or fugue or hallucination* or hebephreni* or (histrionic adj1 person*) or hyperkinetic or hypomania or hysteria or mania* or manic* or (narcissistic adj1 person*) or neurasthenia or neurosis or neurot* or (obsessive adj1 person*) or oligophreni* or paranoia or paranoid or (passive-aggressive adj1 person*) or phobia* or phobic or posttraumatic or psychopath* or rett or rett#s or retts or sociopath* or somatic#ation or somatoform).ti,ab. (526845)

9 (amnesi* or hypomania or cyclothymia or dysthymia or delirium or hallucinosis or delusional or (mood adj2 disorder?) or asthenic or "emotionally labile" or postencephalitic or postconcussion* or (trance adj1 disorder?) or (possession adj1 disorder?) or obsessional or "severe stress" or (adjustment adj1 disorder?) or dissociate or "multiple personality" or neurasthenia or (psychological adj1 disturbance?) or (psychologically adj1 disturbed) or suicid* or parasuicid* or (self adj1 harm*) or (self adj1 injur*) or comorbid* or bulimi* or anorexi* or neuros* or OCD or "psychological stress" or "psychological distress" or "mental stress" or "adjustment disorder" or "adjustment disorders" or "Psychological Sexual Dysfunction?" or "Psychosexual Dysfunction?" or "Psychosexual Disorder?" or "Sexual Aversion Disorder?" or "Orgasmic Disorder?" or "Sexual Arousal Disorder?" or "Hypoactive Sexual Desire Disorder?" or "Pathological Gambling" or Trichotillomania or "Sleep Disorder?" or "Substance Related Disorder?" or "Impulse Control Disorder?" or "Explosive Disorder?" or Kleptomania or "Firesetting Behavior?" or Pyromania? or "Substance Use Disorder?").ti,ab. (335309)

10 "health status"/ (62805)

11 ("mental health" not ("mental health unit" or "mental health services" or "mental health hospital?" or "mental health care" or "mental health patient?" or "mental health inpatient?" or "mental health nurs*" or "mental health work*")).ti,ab. (64053)

12 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 (1472542)

13 "Diagnostic and Statistical Manual of Mental Disorders"/ (13868)

14 Psychiatric Status Rating Scales/ (63403)

15 Health status indicators/ (20837)

16 dsm.ti,ab. (41144)

17 (CIS or "schedule for affective disorders" or "Composite International Diagnostic Interview*" or "CIDI" or "Diagnostic Interview Schedule*" or "Clinical Interview Schedule" or "MINI" or "Bradford Somatic Inventory" or "pse" or "Present State Examination" or "Schedule for Clinical Assessment in Neuropsychiatry*" or "SCAN" or "self-reporting questionnaire" or "Social Problem Index" or "WMH" or "AUDIT" or "BARS" or "CAGE" or "psychiatric rating scale" or "General Practitioner Assessment Of Cognition " or "Informant Questionnaire on Cognitive Decline" or "Assessment of Positive Symptoms" or "Assessment of Negative Symptoms" or "Primary Care Evaluation of Mental Disorders").ti,ab. (299179)

18 ("akathisia Scale" or "CAGE Questionnaire" or "Severity scale" or "Psychopathological Rating" or "Global Assessment of Functioning" or "Depression Scale" or "Depression Rating" or "Psychiatric Rating" or "Syndrome Scale" or "Aggression Questionnaire" or "Psychopathy Checklist" or "Personality Inventory" or "Mania Scale" or "Mania Rating" or "Behavior Observation Scale" or "Binge Eating Scale" or "Eating Attitudes Test" or "Eating Disorder Inventory" or "Depression Inventory" or "Hopelessness Scale" or "Rating Scale" or "Dissociative Experiences Scale" or "mental test score" or "Mini-mental state examination" or "Clinician Administered PTSD" or "Anxiety Scale" or "Obsessive Compulsive Scale" or "Trauma Screening Questionnaire" or "Phobia Inventory" or "PTSD Symptom Scale" or "Panic Disorder Severity Scale" or "Agoraphobia Scale" or "Generalized Anxiety Disorder 7" or "Adult ADHD Self-Report Scale" or "Brown Attention-Deficit Disorder Scales" or "Adult Asperger Assessment" or "Australian scale for Asperger's syndrome" or "Autism Spectrum Quotient" or "Autism Diagnostic Observation Schedule" or "Depression Test" or "Wakefield Questionnaire" or "Quick Inventory" or "Paddington Test" or "Alcohol Use Disorder Identification Test" or "Patient Health Questionnaires" or "CRAFFT Screening test" or "Mini-International Neuropsychiatric Interview" or "Diagnostic Interview" or "BAS" or "CGI-S" or "CPRS" or "GAF" or "GDS" or "MADRS" or "BPRS" or "PANSS" or "SAPS" or "SANS" or "AGQ" or "ASRM" or "YMRS" or "ABOS" or "BES" or "EAT-26" or "EDI" or "BDI" or "BHS" or "CES-D" or "EPDS" or "GDS" or "HAM-D" or "HAD-S" or "KADS" or "MDI" or "Zung" or "PRIME-MD" or "DES" or

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"SCID-D-R" or "CAPS" or "Y-BOCS" or "SPIN" or "PDSS" or "PAS" or "GAD-7" or "ASRS v1.1" or "AAA" or "ASAS" or "AQ" or "ADOS" or "CES-D" or "QIDS-SR" or "PAT" or "PHQ" or "PHQ-9" or "CRAFTT" or "SCID" or "SADS" or "WMH" or "WHODAS").ti,ab. (239589)

19 13 or 14 or 15 or 16 or 17 or 18 (606792)

20 "prevalence"/ or "incidence"/ (368312)

21 exp Mental Disorders/ep (130240)

22 Population Surveillance/ (47679)

23 Demography/ (53798)

24 Cross-cultural comparison/ (22195)

25 Health Surveys/ (50476)

26 "Family Characteristics"/ or "population dynamics"/ or exp "sex distribution"/ or "health transition".mp. or exp "human migration"/ or "population characteristics"/ or "censuses"/ or "age distribution"/ or "ethnology"/ or "health status disparities"/ [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier] (168900)

27 Longitudinal Studies/ (93803)

28 Epidemiology/ (11790)

29 (prevalen* or incidence).ti,ab. (974421)

30 survey*.ti,ab. (420952)

31 ("population studies" or "population study" or "community studies" or "community study" or "household?" or "community sample?" or "population sample?" or "community level" or "population level" or "community comparison?" or "population comparison?").ti,ab. (88317)

32 epidemiolog*.ti,ab. (274986)

33 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 (1945691)

34 "Great Britain"/ or "England"/ or "London"/ (283306)

35 (England not "New England").ti,ab. (31241)

36 ("South Holland" or Albans or Aldershot or Ashfield or Barking or Barnet or Barnsley or Bath or Bedfordshire or Bexley or Birkenhead or Blackburn or Blackpool or Bolton or Bournemouth or Bradford or Brent or Bridgend or Brighton or Bristol or Bromley or Bromwich or Buckinghamshire or Burnley or Camberwell or Cambridge or Cambridgeshire or Camden or Canterbury or Carlisle or Chelsea or Chelsea or Cheshire or Chester or Chichester or Cleveland or Colchester or Cornwall or Coventry or Crawley or Croydon or Cumbria or Dagenham or Dartford or Derby or Derbyshire or Devon or Doncaster or Dorset or Dudley or Durham or Ealing or Ealing or Eastbourne or Ely or Enfield or Essex or Exeter or Farnborough or Fulham or Furness or Galloway or Gateshead or Glamorgan or Glasgow or Gloucester or Gloucestershire or Gravesham or Greenwich or Grimsby or Guildford or Hackney or Hamlets or Hammersmith or Hampshire or Haringey or Haringey or Harrow or Hartlepool or Harwell or Hastings or Havering or Helens or Hereford or Hertfordshire or Highland or Hillingdon or Hounslow or Hounslow or Hove or Huddersfield or Hull or Humber or Ipswich or Islington or Kensington or Kent or Kingston or Kirklees or Knowsley or Lambeth or Lancashire or Lancaster or Leeds or Leicester or Leicestershire or Lewisham or Lichfield or Lincoln or Lincolnshire or Liverpool or Loughborough or Luton or Lynn or Manchester or Mansfield or Merseyside or Merton or Middlesbrough or Midlands or Milton Keynes or Newcastle or Newham or Norfolk or Northampton or Northamptonshire or Northumberland or Norwich or Nottingham or Nottinghamshire or Oadby or Oldham or

Oxford or Oxfordshire or Peterborough or Plymouth or Poole or Portsmouth or Preston or Reading or Redbridge or Redcar or Richmond or Ripon or Rochdale or Rotherham or Rushmoor or Salford or Salisbury or Sandwell or Scarborough or Scilly or Sheffield or Shropshire or Slough or Solihull or Somerset or Southampton or Southend or Southwark or Staffordshire or Stockport or Stockton or Stoke or Suffolk or Sunderland or Surrey or Sussex or Sutton or Swindon or Teesside or Telford or Thurrock or Tower Hamlets or Truro or Tyne or Tyneside or Wakefield or Walsall or Waltham or Wandsworth or Warrington or Warwickshire or Watford or Wells or Westminster or Wigan or Wight or Wigston or Wiltshire or Winchester or Wirral or Woking or Wolverhampton or Worcester or Worcestershire or Worthing or Yorkshire).ti,ab. (235190)

37 ("English adult?" or "English population?" or "English longitudinal" or "English town?" or "English count*" or "English city" or "English cities" or "English health").ti,ab. (960)

38 ("United Kingdom" or UK or "U.K.").ti,ab. (94546)

39 (Britain or British or GB).ti,ab. (79200)

40 ((Birmingham or London or York) not ("New YORK" or "New London" or Alabama or Ontario)).ti,ab. (26600)

41 34 or 35 or 36 or 37 or 38 or 39 or 40 (614418)

42 12 and 19 and 33 and 41 (2725)

43 limit 42 to yr="1998 -Current" (2270)

44 exp "Schizophrenia and Disorders with Psychotic Features"/ (120838)

45 "Affective Disorders, Psychotic"/ or "Bipolar Disorder"/ or exp "Psychotic Disorders"/ or "Schizotypal Personality Disorder"/ or "Schizoid Personality Disorder"/ (72876)

46 (bipolar* or delusion* or psychos* or psychot* or Schiz*).ti,ab. (304833)

47 44 or 45 or 46 (344697)

48 47 and 19 and 33 and 41 (809)

49 limit 48 to ed=20091210-20141231 (243)

50 "anxiety disorders"/ or "Depressive Disorder"/ (76877)

51 (depression or depressive or anxiety).ti,ab. (328682)

52 50 or 51 (348034)

53 52 and 19 and 33 and 41 (1584)

54 limit 53 to ed=20140101-20141231 (100)

55 43 or 49 or 54 (2355)

56 55 not (patient? or inpatient?).ti. (2045)

57 exp Child/ or exp Infant/ (2074437)

58 (exp Child/ or exp Infant/) and (exp Adult/ or Adolescent/) (1009067)

59 57 not 58 (1065370)

60 56 not 59 (1942)

Part 2 (search on concepts: mental illness AND prevalence AND ethnicity/
migrant populations AND England)

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R)
<1946 to Present>

Date of search: 19 January 2015

No. of records: 1,364

Search strategy:

1 Mentally Ill Persons/ (4232)

2 exp Substance-Related Disorders/ (225980)

3 exp Sleep Disorders/ (62528)

4 exp Impulse Control Disorders/ (5940)

5 exp Sexual Dysfunctions, Psychological/ (27928)

6 "Agoraphobia"/ or "anankastic personality disorder"/ or "Anorexia Nervosa"/ or "Antisocial Personality Disorder"/ or "Attention Deficit and Disruptive Behavior Disorders"/ or "Attention Deficit Disorder with Hyperactivity"/ or "avoidant personality disorder"/ or "Body Dysmorphic Disorders"/ or "Borderline Personality Disorder"/ or "Bulimia Nervosa"/ or "Bulimia"/ or "Catatonia"/ or "Compulsive Behavior"/ or "Compulsive Personality Disorder"/ or "Conduct Disorder"/ or "Conversion Disorder"/ or "Cyclothymic Disorder"/ or "Delirium, Dementia, Amnestic, Cognitive Disorders"/ or "Dependency (Psychology)"/ or "Dependent Personality Disorder"/ or "Depersonalization"/ or "Depressive Disorder, Major"/ or "Dissociative Disorders"/ or "Dysthymic Disorder"/ or "Eating Disorders"/ or "Feeding Behavior"/ or "Hallucinations"/ or "histrionic personality disorder"/ or "Hysteria"/ or "Mental Disorders"/ or "Mood Disorders"/ or "Multiple Personality Disorder"/ or "narcissistic personality disorder"/ or "Neurasthenia"/ or "Neurotic Disorders"/ or "Obsessive Behavior"/ or "obsessive compulsive personality disorder"/ or "Obsessive-Compulsive Disorder"/ or "Panic Disorder"/ or "Panic"/ or "Paranoid Personality Disorder"/ or "passive-aggressive personality disorder"/ or "Personality Disorders"/ or "Phobic Disorders"/ or "Psychophysiologic Disorders"/ or "Rett Syndrome"/ or "Shared Paranoid Disorder"/ or "Social Behavior Disorders"/ or "Somatoform Disorders"/ or "Stress Disorders, Post-Traumatic"/ or "Delusions"/ (358074)

7 "Adjustment Disorders"/ or exp Amnesia/ or exp "Attention Deficit and Disruptive Behavior Disorders"/ or "Binge-Eating Disorder"/ or exp "Cognition Disorders"/ or exp "Communication Disorders"/ or "Consciousness Disorders"/ or "Coprohagia"/ or "Delirium"/ or "Developmental Disabilities"/ or exp "Dyslexia, Acquired"/ or "Factitious Disorders"/ or "Impulse Control Disorders"/ or "Motor Skills Disorders"/ or "Munchausen Syndrome"/ or "Neurocirculatory Asthenia"/ or exp "Obsessive-Compulsive Disorder"/ or "Pica"/ or "Stereotypic Movement Disorder"/ or exp "Stress Disorders, Traumatic"/ or exp "Child Development Disorders, Pervasive"/ or "Mental Disorders Diagnosed in Childhood"/ or "Depression, Postpartum"/ or "Depressive Disorder, Treatment-Resistant"/ or "Seasonal Affective Disorder"/ (228032)

8 ("anankastic personalit*" or "anorexia nervosa" or "antisocial personalit*" or "attention deficit disorder?" or "body dysmorphic" or "conduct disorder?" or "cyclothymic personalit*" or "endogenous depression" or "folie a deux" or "mental disorder" or "mental disorders" or "mental illness" or "mental illnesses" or "mental problem" or "mental problems" or "mentally ill" or "obsessive compulsive" or "panic disorder" or "panic disorders" or "pervasive developmental" or "post traumatic" or "seasonal affective" or "affective disorder*" or "avoidant personalit*" or "behavio?r disorder*" or "behavio?r problem*" or "behavioral disorder?" or "behavioural disorder?" or "conversion disorder*" or "eating behavio?r" or "eating adj1 disorder?" or "overactive disorder?" or (personality adj3 disorder?) or

agoraphobia or (anankastic adj1 person*) or (antisocial adj1 person*) or (asocial adj1 person*) or Asperger* or autism or autistic or (avoidant adj1 person*) or "borderline personalit*" or bulimia or catatonia or catatonic or compulsion* or (compulsive adj1 person*) or (conversion adj1 disorder*) or cyclothymia or (dependent adj1 personalit*) or depersonali#ation or dereali#ation or disintegrative or (dissocial adj1 person*) or dissociation* or dissociative or dysthym* or fugue or hallucination* or hebephreni* or (histrionic adj1 person*) or hyperkinetic or hypomania or hysteria or mania* or manic* or (narcissistic adj1 person*) or neurasthenia or neurosis or neurot* or (obsessive adj1 person*) or oligophreni* or paranoia or paranoid or (passive-aggressive adj1 person*) or phobia* or phobic or posttraumatic or psychopath* or rett or rett#s or retts or sociopath* or somatic#ation or somatoform).ti,ab. (508646)

9 (amnesi* or hypomania or cyclothymia or dysthymia or delirium or hallucinosis or delusional or (mood adj2 disorder?) or asthenic or "emotionally labile" or postencephalitic or postconcussion* or (trance adj1 disorder?) or (possession adj1 disorder?) or obsessional or "severe stress" or (adjustment adj1 disorder?) or dissociate or "multiple personality" or neurasthenia or (psychological adj1 disturbance?) or (psychologically adj1 disturbed) or suicid* or parasuicid* or (self adj1 harm*) or (self adj1 injur*) or comorbid* or bulimi* or anorexi* or neuros* or OCD or "psychological stress" or "psychological distress" or "mental stress" or "adjustment disorder" or "adjustment disorders" or "Psychological Sexual Dysfunction?" or "Psychosexual Dysfunction?" or "Psychosexual Disorder?" or "Sexual Aversion Disorder?" or "Orgasmic Disorder?" or "Sexual Arousal Disorder?" or "Hypoactive Sexual Desire Disorder?" or "Pathological Gambling" or Trichotillomania or "Sleep Disorder?" or "Substance Related Disorder?" or "Impulse Control Disorder?" or "Explosive Disorder?" or Kleptomania or "Firesetting Behavior?" or Pyromania? or "Substance Use Disorder?").ti,ab. (322474)

10 "health status"/ (60253)

11 exp "Schizophrenia and Disorders with Psychotic Features"/ or "Affective Disorders, Psychotic"/ or "Bipolar Disorder"/ or exp "Psychotic Disorders"/ or "Schizotypal Personality Disorder"/ or "Schizoid Personality Disorder"/ or "anxiety disorders"/ or "Depressive Disorder"/ or (bipolar* or delusion* or psychos* or psychot* or Schiz* or depression or depressive or anxiety).ti,ab. (611436)

12 ("mental health" not ("mental health unit" or "mental health services" or "mental health hospital?" or "mental health care" or "mental health patient?" or "mental health inpatient?" or "mental health nurs*" or "mental health work*")).ti,ab. (61729)

13 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 (1760340)

14 "Great Britain"/ or "England"/ or "London"/ (276870)

15 (England not "New England").ti,ab. (30405)

16 ("South Holland" or Albans or Aldershot or Ashfield or Barking or Barnet or Barnsley or Bath or Bedfordshire or Bexley or Birkenhead or Blackburn or Blackpool or Bolton or Bournemouth or Bradford or Brent or Bridgend or Brighton or Bristol or Bromley or Bromwich or Buckinghamshire or Burnley or Camberwell or Cambridge or Cambridgeshire or Camden or Canterbury or Carlisle or Chelsea or Chelsea or Cheshire or Chester or Chichester or Cleveland or Colchester or Cornwall or Coventry or Crawley or Croydon or Cumbria or Dagenham or Dartford or Derby or Derbyshire or Devon or Doncaster or Dorset or Dudley or Durham or Ealing or Ealing or Eastbourne or Ely or Enfield or Essex or Exeter or Farnborough or Fulham or Furness or Galloway or Gateshead or Glamorgan or Glasgow or Gloucester or Gloucestershire or Gravesham or Greenwich or Grimsby or Guildford or Hackney or Hamlets or Hammersmith or Hampshire or Haringey or Haringey or Harrow or Hartlepool or Harwell or Hastings or Havering or Helens or Hereford or Hertfordshire or Highland or Hillingdon or Hounslow or Hounslow or Hove or Huddersfield or Hull or Humber

Prevalence of mental health disorders in adult minority ethnic populations in England

or Ipswich or Islington or Kensington or Kent or Kingston or Kirklees or Knowsley or Lambeth or Lancashire or Lancaster or Leeds or Leicester or Leicestershire or Lewisham or Lichfield or Lincoln or Lincolnshire or Liverpool or Loughborough or Luton or Lynn or Manchester or Mansfield or Merseyside or Merton or Middlesbrough or Midlands or Milton Keynes or Newcastle or Newham or Norfolk or Northampton or Northamptonshire or Northumberland or Norwich or Nottingham or Nottinghamshire or Oadby or Oldham or Oxford or Oxfordshire or Peterborough or Plymouth or Poole or Portsmouth or Preston or Reading or Redbridge or Redcar or Richmond or Ripon or Rochdale or Rotherham or Rushmoor or Salford or Salisbury or Sandwell or Scarborough or Scilly or Sheffield or Shropshire or Slough or Solihull or Somerset or Southampton or Southend or Southwark or Staffordshire or Stockport or Stockton or Stoke or Suffolk or Sunderland or Surrey or Sussex or Sutton or Swindon or Teesside or Telford or Thurrock or Tower Hamlets or Truro or Tyne or Tyneside or Wakefield or Walsall or Waltham or Wandsworth or Warrington or Warwickshire or Watford or Wells or Westminster or Wigan or Wight or Wigston or Wiltshire or Winchester or Wirral or Woking or Wolverhampton or Worcester or Worcestershire or Worthing or Yorkshire).ti,ab. (222388)

17 ("English adult?" or "English population?" or "English longitudinal" or "English town?" or "English count*" or "English city" or "English cities" or "English health").ti,ab. (916)

18 ("United Kingdom" or UK or "U.K.").ti,ab. (89951)

19 (Britain or GB or (British not "British Columbia")).ti,ab. (49150)

20 ((Birmingham or London or York) not ("New YORK" or "New London" or Alabama or Ontario)).ti,ab. (25434)

21 14 or 15 or 16 or 17 or 18 or 19 or 20 (565545)

22 "prevalence"/ or "incidence"/ (357458)

23 exp Mental Disorders/ep (123127)

24 Population Surveillance/ (46083)

25 Demography/ (52659)

26 Health Surveys/ (47702)

27 "health transition"/ or "censuses"/ or "health status disparities"/ or "age distribution"/ or exp "sex distribution"/ or "Family Characteristics"/ or "population dynamics"/ or "population characteristics"/ (147271)

28 Longitudinal Studies/ (86982)

29 Epidemiology/ (11512)

30 (prevalen* or incidence).ti,ab. (951796)

31 survey*.ti,ab. (410928)

32 ("population studies" or "population study" or "community studies" or "community study" or "household?" or "community sample?" or "population sample?" or "community level" or "population level" or "community comparison?" or "population comparison?").ti,ab. (84954)

33 epidemiolog*.ti,ab. (266654)

34 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 (1866948)

35 (diaspora or multicultural or "multi cultural" or (crosscultural or "cross cultural") or (transcultural or "trans cultural") or (multiethnic or "multi ethnic") or (multiracial or "multi racial") or biracial or migrant* or immigrant* or refugee* or "cultural diversity" or (multilingual or "multi lingual") or (traveller? or Gypsies or Gypsy or Gipsy or Gipsies or Romany or Romanies or Romani or Romanis or Rromani or Rromanis or Roma) or "asylum

seeker\$ or "seeking asylum" or "mixed race?" or ethnocultural or sociocultural or ethnoracial or "diverse population?" or "ethnic difference?" or ethnicity or indigenous or "minority ethnic" or "ethnic data" or "race data" or "ethnic classification" or "race classification" or "ethnic group*" or "racial group*" or "ancestry group*" or "cultur* difference?" or ethnic* or heritage).ti,ab. (168375)

36 (blacks or "Black African?" or (Black adj1 British) or "British African" or "Afrocaribbean?" or Caucasian? or "South American?" or "Central American?" or Balkan? or "Mixed white" or "Mixed black" or Jews or Jewish or "Non white?" or nonwhite? or BME or "African American?" or "American Indian?" or "Eastern Europe*" or Hispanic?).ti,ab. (134138)

37 ((minority adj3 (culture? or people or population\$ or communit\$ or neighbourhood? or neighborhood? or group\$ or area? or demograph\$)) or (ethnic adj3 (culture? or people or population\$ or communit\$ or neighbourhood? or neighborhood? or group\$ or area? or demograph\$ or minorities or minority)) or "ethnic origin" or (White adj2 (minorities or minority))).ti,ab. (40955)

38 (((black or white) adj3 (culture? or ethnic* or men or women or male? or female? or people or population\$ or communit\$ or neighbourhood? or neighborhood? or group\$ or area? or demograph\$ or minorities or minority)) or ((displaced or alien) adj2 (people? or person?)) or (born adj2 overseas) or ((marginal\$ or transient or undocumented) adj1 (people or population\$ or communit\$ or neighbourhood? or neighborhood? or group\$ or area? or demograph\$))).ti,ab. (47756)

39 ((arab\$ or somali\$ or yemini\$ or Vietnamese or Chinese or caribbean? or Pakistani? or Bangladeshi? or Punjabi? or Somali* or Gujarati? or Japanese or Asian? or Irish or Indian* or Bengali? or Afghanistani? or Turkish or Kurdish or Yemeni? or Albanian? or Polish or German? or African* or American? or Jamaican? or Nigerian? or Kenyan? or Zimbabwean* or Philippin* or Filipino? or "Sri Lankan*" or French or Italian or Chinese or Cantonese or Australia* or Somalia* or Portugues* or Canadian? or Ghanaian? or Lithuanian* or "Hong Kong" or Spanish or Iranian? or "New Zealand" or Kiwi? or Romania? or Iraqi? or Turkish or Cypriot? or Malaysian? or Dutch or Ugandan? or Bulgarian* or Afghan? or Brazilian* or Slovak* or Mauritan* or Singapore* or Nepales* or Hungarian* or Latvian* or Russian* or Tanzanian* or Thai? or Swedish or Greek or Zambia* or Czech or Egyptia* or Trinidad* or Tobago* or Maltese or Austrian* or Belgian* or Libyan* or Korean* or Danish or Swiss) adj3 (culture? or men or women or male? or female? or people or population\$ or communit\$ or neighbourhood? or neighborhood? or group\$ or area? or demograph\$ or minorities or minority or ethnic*).ti,ab. (209128)

40 "emigrants and immigrants"/ or ethnic groups/ or african americans/ or amish/ or arabs/ or asian americans/ or gypsies/ or exp hispanic americans/ or inuits/ or jews/ or refugees/ or "transients and migrants"/ or Cross-cultural comparison/ or exp "human migration"/ or "ethnology"/ (163303)

41 exp continental population groups/ or exp african continental ancestry group/ or exp american native continental ancestry group/ or exp asian continental ancestry group/ or exp european continental ancestry group/ or exp oceanic ancestry group/ (157966)

42 35 or 36 or 37 or 38 or 39 or 40 or 41 (575918)

43 13 and 21 and 34 (17517)

44 43 and 42 (2143)

45 limit 44 to yr="1998 -Current" (1593)

46 (patient? or inpatient?).ti. (1316242)

47 45 not 46 (1460)

48 exp Child/ or exp Infant/ (2022441)

49 (exp Child/ or exp Infant/) and (exp Adult/ or Adolescent/) (981855)

Prevalence of mental health disorders in adult minority ethnic populations in England

50 48 not 49 (1040586)

51 47 not 50 (1364)

Appendix C: Inclusion criteria in full

| |
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| <p>EX1 NOT in English language <i>Study is not published in the English language making data extraction not possible for this review.</i></p> |
| <p>EX2 NOT about the UK</p> |
| <p>EX3 NOT about a mental health disorder <i>Study is not of one or more mental health disorders (defined as those disorders addressed by the Adult Psychiatric Morbidity Surveys in 2007 and 2014- see "MHD" below), either as a phenomenon in its own right, or as a factor linked with other phenomena. MHD include:</i></p> <ul style="list-style-type: none"> • <i>Common Mental Disorders</i> • <i>Post-traumatic Stress Disorder</i> • <i>Suicidal thoughts, suicide attempts and self-harm</i> • <i>Psychosis</i> • <i>Antisocial and borderline personality disorders and other personality disorders</i> • <i>Attention deficit hyperactivity disorder</i> • <i>Eating disorders</i> • <i>Alcohol dependence</i> • <i>Drug dependence</i> • <i>Problem gambling</i> |
| <p>EX4 NOT survey method <i>The method:</i></p> <ul style="list-style-type: none"> - <i>aims to produce statistics that are quantitative or numerical descriptions of some aspects of the study population</i> - <i>main way of collecting data is by asking questions of participants (N.B. analyses of existing data sets should be included until we can appraise how data were originally collected and how people were sampled)</i> - <i>collects information by sampling a fraction of the population, or from every member of a population</i> <p><i>Do not exclude on this criterion if there is any mention of a general population-based sample, or a household sample</i></p> |
| <p>EX5 NOT prevalence of mental health disorders <i>Include for full report screening if:</i></p> <ol style="list-style-type: none"> <i>a) there is a household population and it is a large sample</i> <i>b) study is described as focusing on one or more minority ethnic group, even if there is no mention of prevalence or incidence;</i> <i>c) abstract mentions prevalence, but also if it mentions incidence;</i> <i>d) there is specific reference to people being asked about symptoms of mental disorder;</i> <i>e) abstract suggests that the prevalence of one or more mental health disorders might be reported, even if it is not a primary focus of the study. Although when the study aims primarily to explore associations between variables, exclude if the abstract suggests that mental health and ethnicity would both be being used solely as independent variables.</i> <p><i>Exclude if it is clear from the abstract that the study does not aim to report or actually report estimates of prevalence of a particular mental health phenomenon.</i></p> <p><i>study is a psychometric (measurement scale testing) one and there is no explicit mention of data from this test coming from a large-scale health survey</i></p> |
| <p>EX6 NOT ADULT <i>Aged 16 and over (This is age used in the 2007 APMS). For papers that cite ADOLESCENTS or YOUNG ADULTS as the focus - the mean age needs to be greater than 16 years</i></p> |

Prevalence of mental health disorders in adult minority ethnic populations in England

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|---|
| EXCLUDE all papers that state that CHILD/REN are the focus of the study. |
| EX7 Population all have a non-MH diagnosis <i>Population sample is defined by having a health condition other than mental health. Any other health condition e.g. asthma, stroke etc.</i> |
| EX8 Not empirical research report <i>Exclude papers that are editorials, opinion pieces, commentaries etc.</i> |
| EX9 Pre 1998 publication date <i>Study is published before 1998</i> |
| EX10 no mention of ethnicity in abstract and total sample size <450 <i>EXCLUDE on the basis of an abstract if this does mention ethnicity but the English sample is not from an ethnic minority population</i> |
| <i>KEEP IN for full text screening if the study is only of people from a minority ethnic community, or is a census in design (sample is the same as the actual population size)</i> |
| EX11 Distinct community populations <i>*N.B. don't exclude Young adults on this criterion*</i> <i>Otherwise exclude if all of study's population are from the following distinct groups:</i> <ul style="list-style-type: none"> • <i>Women or men selected because of a particular phase, or challenging type of parenting (e.g. in the perinatal period, or during infant or toddlerhood, or when children have disabilities, or lone parenting);</i> • <i>Older people (60 or over);</i> • <i>Prisoners, detainees or those previously convicted;</i> • <i>People who have experienced previous trauma (e.g. abuse, accident, war);</i> • <i>People defined only by their not being heterosexual;</i> • <i>People in the military;</i> • <i>Students;</i> • <i>Service providers (clinicians, firemen, farmers, civil servants etc.);</i> • <i>People who misuse alcohol and other substances.</i> |
| EX12 Systematic review |
| EX 13 Study is conducted only in one or more of the following constituent UK countries: Scotland, Wales or NI only |
| EX14 Data collected before 1999 |
| EX15 Sampling frame consists of people who all have a mental health disorder |
| EX16 No mention of minority ethnic groups in paper |
| EX17 No data presented for MHD |
| EX18 No population prevalence data <i>Report provides no data that estimate MHD prevalence in the population that has been sampled</i> |
| EX19 No data on prevalence by ethnicity <i>Report does not provide MHD prevalence data for one or more minority ethnic groups</i> |
| EX20 Analysis only for White/non-White categories, or other set of categories that is, at a level more aggregated than the 2007 APMS. |
| EX21 Study only presents data aggregated for >1 MHD <i>E.g. if the data presented is for the proportion experiencing either CMD OR psychosis, or for an instrument that identifies only the existence of one or more mental health disorders (e.g. GHQ).</i> |
| EX22 estimate for only one ethnic group |
| EX23 Fewer than n = 450 in all comparison groups |
| EX24 Analysis is not of a MHD prioritised for this review <i>With one exception (see below), select only those analyses where data are presented for disorders identified as chapter headings in the 2007 APMS and not also those for more</i> |

specific sub-categories (e.g. for Drug dependence, select only Any Drug Dependence, rather than dependence on a particular form of drug).

For Common Mental Health Disorders, select only: Any CMD, Mixed Anxiety and Depressive Disorder, Generalised Anxiety Disorder, Any Depressive Episode

INCLUDE

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