UNIVERSITY OF BIRMINGHAM

A systematic review of lesbian, gay, bisexual and transgender health in the West Midlands region of the UK compared to published UK research

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West Midlands Health Technology Assessment Group

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A WEST MIDLANDS HEALTH TECHNOLOGY ASSESSMENT COLLABORATION REPORT

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WEST MIDLANDS HEALTH TECHNOLOGY ASSESSMENT COLLABORATION (WMHTAC)

The West Midlands Health Technology Assessment Collaboration (WMHTAC) produce rapid systematic reviews about the effectiveness of healthcare interventions and technologies, in response to requests from West Midlands Health Authorities or the HTA programme. Reviews usually take 3-6 months and aim to give a timely and accurate analysis of the quality, strength and direction of the available evidence, generating an economic analysis (where possible a cost-utility analysis) of the intervention.

CONTRIBUTIONS OF AUTHORS:

Catherine Meads wrote the protocol, conducted some web searches, made inclusion/exclusion decisions, data extracted quantitative data, wrote the quantitative part of the review and discussion and acts as guarantor. Mary Pennant critically appraised the protocol, made inclusion/exclusion decisions, checked the quantitative data extraction, wrote the qualitative systematic review and commented on the final report. James McManus wrote the legal section and peer reviewed the report. Sue Bayliss devised and ran search strategies and made comments on the final report

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None

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GLOSSARY/ABBREVIATIONS AND ACRONYMS

Abbreviation/Acronym	Definition
AIDS	Acquired Immune Deficiency Syndrome
BMC	BioMed Central
BME	Black and Minority Ethnic
BMI	Body Mass Index
CASP	Critical Appraisal Skills Programme
cc	Cubic centimetres
CDSR	Cochrane Database of Systematic Reviews
CP	Civil Partnership
DARE	Database of Reviews of Effects
DV	Domestic Violence
GHB	Gammahydroxybutyrate
GHQ-12, GHQ-28	General Health Questionnaire (measure of mental health) with 12 or 28 questions
GP	General Practitioner
HIV	Human Immunodeficiency Virus
HTA	Health Technology Assessment
I^2	I squared measure of heterogeneity between studies
ICD-10	International Classification of Diseases – 10^{th} Revision
ISBN	International Standard Book Number
LGB	Lesbian, gay and bisexual
LGBT	Lesbian, gay, bisexual and trans
LSD	Lysergic Acid Diethylamide
MA	Master of Arts
MeSH	Medical Subject Heading
MSM	Men who have sex with men
MSWM	Men who have sex with women and men
MSW	Men who have sex with women
N, n	Number
NATSAL	National Sexual Attitudes and Lifestyles (Survey)
NICE	National Institute for Health and Clinical Excellence
ONS	Office for National Statistics
PCO/PCOS	Polycystic ovaries/ polycystic ovary syndrome
PCT	Primary Care Trust
SCI	Science Citation Index
SD	Standard Deviation
SSCI	Social Science Citation Index
STI	Sexually Transmitted Infection
U/S	Ultrasound
WSM	Women who have sex with men
WSMW	Women who have sex with men and women
WSW	Women who have sex with women

EXECUTIVE SUMMARY

Background

It is estimated that approximately 3-8% of the UK population identify as lesbian, gay, bisexual or trans (LGBT). Until now, most health research on gay and bisexual men has been around HIV, AIDS and sexually transmitted diseases and for trans people has been on the transitioning process only. However, it has been apparent to the LGBT community that that there are a wide variety of other physical and mental health issues that are also important and that the proportion of gay and bisexual men who have HIV/AIDS is relatively small. Very little general LGBT health research has been published so far and there are very few health services that specifically address the general health concerns of the LGBT community.

This systematic review presents all available research conducted in the West Midlands on LGBT health since 2000. Local health research is compared to UK national, peer reviewed and published LGBT health research in order to determine whether the local results are unusual compared to national LGBT data, and to routinely collected data on the UK population, where appropriate, in order to determine whether and where the LGBT population differ from the general population. Only UK research has been included because there was no previous UK-specific systematic review so it was unclear how generalisable foreign research would be to the UK.

Methods

A protocol was developed and underwent NHS peer review. Searches were conducted in a variety of standard databases including the Cochrane Library, MEDLINE, EMBASE, PsychINFO to May 2008. Internet searches were conducted in appropriate specialist websites and extensive contact was made with experts. Included were West Midlands surveys, systematic reviews with UK studies and peer reviewed and published UK quantitative and qualitative primary studies on LGBT people reporting any physical and mental health outcomes, health behaviours and experience of healthcare. Excluded were papers on HIV, AIDS and sexually transmitted diseases, transitioning, non-peer reviewed research, narrative literature reviews without a search strategy, opinion pieces and policy documents. Inclusion

decisions were made in duplicate. Data extraction and quality assessment was conducted by one person and checked by a second, with differences resolved through discussion. Data synthesis was narrative and through the use of data tables. Results were organised by ICD-10 categories.

Results

Nine West Midlands surveys, two systematic reviews, 11 quantitative and 14 qualitative primary research papers were included, with a wide range of study designs and outcomes measured. Studies were generally of poor quality but unpublished and published LGB results were broadly similar.

No results were found on the general health of trans people and very little on people who identify as bisexual. No LGB results were found on many common physical diseases such as chronic obstructive pulmonary disease, digestive diseases or autoimmune diseases, but more on aspects of mental health, health behaviours and use of health services. There were higher rates of breast cancer, mental health problems (depression, anxiety, suicide attempts, eating disorders, self harm) and poor health behaviours (smoking, poor diet, illegal drug use). There were low access rates of cervical screening but no cervical cancer rates in lesbians and bisexual women. There were higher rates of risk factors for cardiovascular disease but almost nothing on the incidence of cardiovascular disease. There was a lower rate of successful hepatitis B vaccination in gay men compared to controls but no follow up research to offer an explanation. A high proportion of LGB people access mental health counselling but many do not find it beneficial. The research on LGB experience of healthcare suggested numerous barriers including homophobia and heterosexism, misunderstandings and lack of knowledge, lack of appropriate protocols, poor confidentiality and the absence of LGBT-friendly resources.

Conclusions

There is no need for more small surveys on the same aspects of LGBT mental health, health behaviours and experiences of healthcare as these have already been investigated. Further research is needed but must use more sophisticated designs with comparison groups. This systematic review demonstrated that there are so

many gaps in knowledge around LGBT health that a wide variety of studies are needed. For example, it is unclear whether the high breast cancer prevalence rates in lesbians and bisexual women are because of high incidence rates or other reasons. It has been presumed that lesbians and bisexual women are at lower risk of cervical cancer than the general population and cervical screening rates are only ~50%, yet there was no information on cervical cancer rates and the fact that a higher proportion of lesbians and bisexual women had heterosexual sex before the age of 16 (43% v 21%) suggests that some lesbians and bisexual women might be at higher rather than lower risk. Large general population cohort studies recording sexual orientation could be used to determine incidence rates of a variety of health problems. If routinely collected data included the ONS-developed sexual orientation question it could address numerous research questions. For example, if sexual orientation was collected on death certificates, it could be found whether the high rates of suicide ideation and suicide attempts in LGB people were matched by higher successful suicide rates. If sexual orientation and trans information was collected in hospital episode statistics, it would be possible to determine if LGBT people present with serious symptoms and signs of ill-health later than would otherwise be the case.

There should be:

- Compliance of all NHS services with current legislation and The NHS Constitution
- Routine confidential sexual orientation and gender identity monitoring across all health services and use of this monitoring to improve services
- Routine confidential sexual orientation and gender identity data collection in all research, in a similar way to ethnicity, gender and age data collection currently undertaken
- Targeted research into specific areas highlighted in this systematic review
- LGB and Trans focused education of all healthcare workers
- LGBT-specific health service provision where required. Otherwise, explicitly LGBT-friendly mainstream service provision.

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1. AIM OF THE REVIEW

This systematic review presents all available research conducted in the West Midlands on lesbian, gay, bisexual and transgender (LGBT) physical and mental health, health behaviours and experience of healthcare since 2000. Local health research is compared to UK national, peer reviewed and published LGBT health research and to routinely collected data on the UK population where appropriate in order to make recommendations for NHS practice and highlight future research priorities.

2. BACKGROUND

2.1 Description of population

2.1.1 Sexual orientation

Sexual orientation is a complex construct. The Equality Act 2006[1] refers to an "individual's sexual orientation towards – (a) persons of the same sex as him or her, (b) persons of the opposite sex, or (c) both". Sexual orientation includes a variety of aspects including attraction, behaviour, fantasy, emotion and identity.[2] and can be seen as fluid and sometimes changing over time.[3]

One of the main dichotomies in describing sexual orientation is the difference between identity and behaviour. For example, a woman can identify as a lesbian but may not have had sex for a number of years and in her youth may have had sex with a man (and may have married and had a child with him) before she had sex with a woman and lost interest in men. Therefore during her life she could variously be described as heterosexual, bisexual, lesbian and abstaining. For individuals, what really matters is how they identify, rather than behaviour in the recent or distant past.[4,5]

For the purposes of sexual health research, people are often classified by their behaviour within a certain length of time such as the previous year[6] or previous five years.[7] So the following descriptions are often used:

- Men who have sex with women (MSW)

- Men who have sex with women and men (MSWM)
- Men who have sex with men (MSM)
- Women who have sex with women (WSW)
- Women who have sex with men and women (WSMW)
- Women who have sex with men (WSM)
- Not in a sexual relationship

However, it is clear from surveys that behaviour and identity are often different in individuals so the following is an example of the type of statements that are often found in LGB surveys:

> *"Of the ten men who regarded themselves as heterosexual, two had experienced a sexual relationship with a man in the past year. Of those women who identified as heterosexual, 67% had engaged in a sexual relationship with a woman in the last 12 months. Additionally, a third of women who identified as lesbian had experienced a sexual relationship with a man in the past twelve months." (Measure for Measure 2[8])*

The use of MSM/WSW terms are incomplete ways to describe people in that they describe recent sexual behaviour only and say little about individual social behaviour, they obscure social dimensions of sexual orientation, and undermine self-labelling of people.[4] People may or may not express their sexual orientation in their behaviour. For most people, sexual orientation is thought not to be a matter of choice.[9]

It is particularly noticeable that people tend to identify themselves as gay/lesbian or heterosexual rather than bisexual even though they are currently behaving bisexually. It is thought that this might be due to lack of acceptance of bisexuality (biphobia) in the lesbian/gay community as well as the heterosexual community.[10]

2.1.2 Gender identity

Transgender or, more often now trans, are terms that people choose to describe themselves whereas 'transsexual' is thought of as a medically defined term ascribed to people by doctors and appearing in diagnostic guides. Language to describe trans people is a sensitive subject because of the past link between the transsexual term and presumed mental illness. It is now acknowledged that being trans is not a mental illness.[11] Trans people are those who cross gender barriers. This can be permanent

or temporary and may involve surgery and hormonal treatment or may not. There is a blurring of categories between people who dress in stereotypical clothes of another gender (previously called transvestites) to people who have gender reassignment and obtain a Gender Recognition Certificate.[11] Transitioning is the process of gender reassignment and can involve surgery, hormonal treatment and counselling.

2.1.3 Epidemiology

There is no accurate estimate of the prevalence of LGB people in the UK. This may be because it is easy for LGB people to indicate to interviewers that they are heterosexual or for them to prefer not to say. This can occur even when people otherwise identify as LGB, and could be caused by embarrassment, reluctance to talk about a private matter or for fear of discrimination. There are also differences between identity and behaviour as outlined above which affect measurement.

Sexual orientation is not collected routinely in the UK Census or in hospital or other health statistics. There has been consultation about including it in the 2011 census.[12] This stated that

> *"On the strength of user requirements this topic would have been placed in category 2. However, the ONS view remains that such questions are not suitable for the 2011 census."*[1]

Considerable work has been done by the Office for National Statistics about developing a suitable survey question for use in population surveys. Information on this is available on the UK Census website.[13] There have been four trials already of different wording of the sexual orientation question and whether individuals could answer by self-completion or whether the question should be administered by an interviewer.[14-16] The results of these trials are given in Table 1. They are not an accurate measure of prevalence of LGB people as it can be seen that the mode of administration affects the responses given. The mode of completion was by compulsory self-completion, by computer aided self-administered interviewing (CASI)

[1] Category 2 is where the topic is under consideration and some questions, with further refinement, are included in the census, as compared to Category 1 questions where topics are likely to be included and Category 3 questions which are not included

or from an interviewer by computer aided personal interviewing (CAPI). However, the results suggest that approximately 3-8% of the population would not describe themselves as heterosexual or straight.

Table 1. ONS sexual orientation question results

	Trial 1	Trial 2	Trial 3		Trial 4	
Completion	CASI	CASI	CASI	CAPI	CAPI (concealed showcard)	
Heterosexual/ straight	92.0%	96.8%	94.4%	96.9%	97.2%	96.3%
Gay/lesbian	1.3%	0.8%	1.4%	0.7%	0.9%	0.8%
Bisexual	1.2%	0.6%	0.8%	0.2%	0.4%	0.9%
Other	0.9%	0.3%	0.6%	0.5%	0.5%	0.8%
Prefer not to say/ refused/ don't know	4.6%	1.5%	2.8%	1.7%	0.9%	1.2%
Number asked	2126	1907	1635	736	1731	1968

From January 2009, the Office for National Statistics has been asking a sexual identity question in its major continuous surveys – Annual Population Survey, Labour Force Survey, English Housing Survey, Living Costs and Food module (formerly Expenditure and Food Survey), General Lifestyle Module (formerly General Household Survey) and Opinions Module (Formerly Omnibus Survey).[17]

The UK government made an estimate of between 5-7% LGB people in the population for the purposes of costing the Civil Partnerships Act.[18] Since then it has generally been accepted that approximately 6% of the UK population may be LGB. It is interesting to note that an included systematic review of 25 comparative studies from a variety of countries including USA and UK had a total number of participants of 214,344 and LGB participants of 11,971, giving a proportion of 5.6%.[19]

If there are approximately 6% LGB people in the population, this would mean that in England, where the total population is approximately 50 million, there are approximately 3 million LGB people and in the UK, where the total population is approximately 60 million, there are approximately 3.6 million LGB people.

It is likely that LGB people migrate to major urban centres, particularly London but also including Birmingham so it is likely that the proportion of LGB people in some

parts of the West Midlands is considerably higher than 6%, although there is no UK evidence as yet to confirm or refute this.

It is also useful to note that there are known to be approximately 31,000 MSM with HIV/AIDS in the UK.[20] If there are 1.8 million gay men in the UK, the proportion with HIV/AIDS is approximately 1.7%.

Very little has been done so far to give an accurate estimate of the proportion of trans/transgender people in the UK population so there are no reliable UK estimates.[11] At the moment it is suggested that there are approximately 5,000 transsexual people in the UK,[11] but this may be misleading and approximately 1,000 new cases present each year for evaluation and support (personal communication C Burns, Plain Sense Ltd, January 2009).

2.2 Outcome measures used

A wide variety of outcomes have been used to assess health in this report. In most cases, counts of presence or absence of an attribute have been used, for example, whether people smoke or not. Occasionally, questionnaire measures have been used, for example The General Health Questionnaire (GHQ) or the Brief Symptom Inventory. All of the questionnaire measures have a scoring system so that a higher score is associated with worse health. Where questionnaires are used, the results can be given as continuous measures, or a threshold can be used where a person scoring above the threshold is counted as a case of the condition that the questionnaire measures.

2.3 Reason for the review

Until now, most published research on gay and bisexual men has been about HIV, AIDS and sexually transmitted diseases. There has been very little research on lesbians and bisexual women, apparently because HIV/AIDS is not considered to be an important issue. For trans people, medical research so far has focused exclusively on transitioning, i.e. reassigning gender. However, it has been apparent in the LGBT community that there are a wide variety of other health issues that are

also important such as the impact of health behaviours, for example drinking and smoking, and the interface between health service delivery and the LGBT community. As a result, numerous surveys on a wide variety of health aspects have been conducted since the early 1990s, almost always by volunteers from the LGBT community. Unfortunately, almost all of these have only been available as reports and have never been widely disseminated or fully published in peer-review journals so the results have mostly not been accessible to healthcare decision-makers. Because of this, there has been widespread ignorance outside the LGBT community about LGBT healthcare needs. Where some information has reached some healthcare decision-makers, it has not been of sufficient quality or quantity to change current practice. A noticeable exception was the systematic review by Professor King and colleagues on mental disorders, suicide and self-harm in LGB people.[19] This resulted in Professor Louis Appleby (National Director for Mental Health) including sexual orientation into the National Suicide Prevention Strategy.[21]

There has been a considerable amount of research conducted in the USA on LGBT populations and numerous publications are readily available. Several other countries have also conducted and published LGBT health research. However, the findings have not been translated into healthcare provision in the UK. There may be a wide variety of reasons for this including unfamiliarity with the research and uncertainty around the generalisability of non-UK research to the UK setting.

There have been no systematic reviews of UK-specific LGBT healthcare research. The aim of this systematic review is to bring together unpublished research from the West Midlands and compare it to relevant UK research on the health of the LGBT population, and to the English or UK population as a whole, in order to determine:

- Local trends in health, health behaviours and experience of healthcare – to drive future service provision
- Potentially missing information - to drive future local and national research priorities
- A benchmark – to help indicate generalisability of research from abroad

A cut–off date of the year 2000 has been chosen in order to focus on the most recent research available. HIV/AIDS and sexually transmitted infection research has been

excluded from the systematic review in order to be able to focus on all of the other health areas relevant to the LGBT population.

3. SYSTEMATIC REVIEW

3.1 Review methods

A protocol was developed and circulated to NHS and academic colleagues for comments.

3.1.1 Search strategy

Database search strategies were developed by an experienced information specialist and a LGBT health expert. Reviews and primary studies were sought (see Table 2). Only English language studies were sought because of the focus of the review. A very sensitive search was conducted in order to find as many published UK studies as possible. Cut-off dates were earlier than 2000 in order to bring in any useful background information or publications describing studies planned but yet to be conducted. See Appendix 1 for complete search strategies and website addresses.

Table 2. Database searches with dates

Reviews:	Cochrane Library (Wiley) 2008 Issue 2 (CDSR, DARE, HTA)
	Ovid MEDLINE(R) <1950 to May Week 1 2008>
	Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <May 20, 2008>
	EMBASE <1980 to 2008 Week 20>
Primary studies	Ovid MEDLINE(R) <1950 to May Week 1 2008>
	Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <May 20, 2008>EMBASE <1980 to 2008 Week 20>
	Cochrane Library (Wiley) 2008 Issue 2 (CENTRAL)
	PsycINFO <1967 to May Week 4 2008>
	SCI Expanded (Web of Science) 1900-present
	SSCI Expanded (Web of Science) 1956-present

Websites searches (August/Sept 2008) included the following:

- Care Services Improvement Partnership Knowledge Centre
- Stonewall, Stonewall Cymru, Stonewall Scotland
- Sigma Research
- LGBThealthscotland
- Spectrum LGBT Community forum
- Lesbian Information Service
- The Gender Identity Research and Education Society (GIRES)

- The Gender Trust
- Press for Change
- The Scottish Transgender Alliance

The West Midlands surveys were found through personal contacts with local researchers up to October 2008.

3.1.2 Inclusion and exclusion criteria

There were three sets of inclusion and exclusion criteria to meet the needs of this systematic review. The first criteria were for surveys reporting on the health, health behaviours or experience of healthcare in the West Midlands region. The second were for relevant systematic reviews and the third for relevant published primary quantitative or qualitative studies.

Inclusion criteria 1 - for West Midlands research

Study Design: Any (mostly grey literature) conducted from 2000 onwards (recruitment date of all or majority of participants, if known)

Population: LGBT in the West Midlands. Where there were relevant national surveys, results from participants living in the West Midlands to be presented

Intervention/exposure: any

Comparator: Any or none (most studies had no comparator)

Outcomes: Any physical and mental health outcomes, health behaviours, experience of healthcare, any other relevant outcomes

Exclusion criteria (1)

Local sexually transmitted disease research, particularly on HIV and AIDS. Studies on transitioning.

Inclusion criteria 2 – for systematic reviews

Study Design: Any peer reviewed systematic reviews conducted since 2000 (publication date or searches)

Population: LGBT people (reviews must include one or more studies published in UK since 2000)

Intervention/Exposure: Any

Comparator: Any or none

Outcomes: Any physical and mental health, use of health services, health behaviours, experience of healthcare, any other relevant outcomes

Exclusion criteria (2)

Narrative literature reviews, editorials, letters, opinion pieces, government or other reports without a search strategy. Systematic reviews with no included UK studies. Systematic reviews of sexually transmitted disease prevalence or risk, safe-sex and sexual behaviour, STI treatments or outcomes. Reviews on transitioning. Systematic reviews with no relevant healthcare outcomes.

Inclusion criteria 3 – for published primary research

Study Design: Any peer reviewed quantitative and qualitative studies

Population: LGBT people in the UK only, conducted since 2000 (participant recruitment date)

Intervention/Exposure: Any

Comparator: Any or none

Outcomes: Any physical and mental health outcomes, use of health services, experience of healthcare, any other relevant outcomes

Exclusion criteria (3)

Research conducted on non-UK participants. Primary studies of sexually transmitted disease prevalence or risk, safe-sex and sexual behaviour, STI treatments, clinics or outcomes. Primary studies with no relevant general healthcare outcomes. Primary studies within systematic reviews included in criteria 2 above. Studies on transitioning.

3.1.3 Study identification strategy

All identified citations (titles ± abstracts) were screened by two reviewers for duplicates and inclusion according to all three sets of inclusion criteria. Any disagreements were resolved through discussion. One reviewer applied the inclusion criteria to the full texts of all obtained articles. These were checked by a second reviewer and disagreements resolved through discussion.

3.1.4 Quality assessment and data extraction strategies – quantitative review

Quality assessment of included surveys was initially based on a generic quality assessment checklist developed by NICE Centre for Public Health Excellence. Quality assessment of the included studies was implemented by one reviewer. Quality Assessment of all other study designs was by using the CASP critical appraisal checklists.[22] Data extraction and quality assessment were carried out by one reviewer and checked by a second. Data extraction was from journal articles direct to report tables rather than using a data extraction form. Disagreements were resolved by discussion.

3.1.5 Data analysis strategy – quantitative review

Study characteristics and results were tabulated and collated in summary tables, organised by ICD-10 category and discussed narratively. ICD-10 categorisation was used because it is an internationally recognised classification of diseases. Results were interpreted in light of methodological strengths and weaknesses identified in quality assessment. Results were not meta-analysed because the included studies were low in the hierarchy of evidence and there was clinical heterogeneity between studies so meta-analysis could be misleading. Results were mostly compared to routinely collected data. Discussion of these data sources can be found in Appendix 2.

3.1.6 Quality assessment, data extraction and data analysis strategy – qualitative review

Quality assessment of qualitative studies continues to be an area of controversy. Many checklists have been developed for use but, as yet, none have been well validated. The checklist used in the current work[23] was selected due to recommendation by an expert in the area of qualitative research. Quality assessment of the included studies was implemented by one reviewer.
Despite using a checklist that was considered to provide a reasonable assessment of study quality, there were still likely to be areas of uncertainty. This is not only due to the ability of the checklist to pick up areas of bias but also due to uncertainty related to the question: what is a good piece of qualitative research? Therefore, rather than looking to assign a particular 'score' to each study, it was thought to be more important to consider each piece of research in light of factors that may promote bias and decide whether the research findings would be of interest and relevance to the reader.

The perspective of the researcher is highlighted as an important factor in all types of qualitative research. This is likely to consciously, or subconsciously, affect the way that the investigator plans and conducts the work and may result in particular topics being covered or certain attitudes being brought out. Transparency about researcher perspective is important and allows more detailed consideration of potential bias.

Qualitative information on experiences of LGB healthcare from the point of view of patients and professionals was extracted. Synthesis was conducted using an approach similar to meta-ethnography but involving both first order concepts (expressions of participants) and second order concepts (interpretations or explanations by researchers of included studies) in thematic analysis. Themes were identified by reading the included studies. Papers were re-read and relevant concepts were grouped under these themes for narrative discussion. Synthesis was undertaken by a researcher who has no particular theoretical approach to qualitative research or LGBT health. Data extraction and thematic synthesis was conducted by one reviewer. Another reviewer read papers and checked findings for consistency.

Results

3.1.7 Quantity and quality of research available

From the searches, there were 2,603 citations identified of which 714 were duplicates, giving 1,889 citations of which 233 papers and reports were retrieved for assessment. Finally included in this systematic review were nine surveys from the West Midlands, two systematic reviews, 11 quantitative research reports and 14 qualitative research reports (See Figure 1). Details of studies excluded at the full text stage and reasons for exclusion are given in Appendix 3.

Details of the included West Midlands surveys, systematic reviews and primary quantitative research are given below and in Appendix 4. Details of the included qualitative studies and their presentation are given in Section 3.1.11 and in Appendix 4. Results of all of the included quantitative studies are presented together and categorised according to ICD-10 headings (e.g. A,B – certain infectious and parasitic diseases, CD - Neoplasms etc, see Section 3.1.9 onwards). Within each heading, results for the West Midlands surveys are presented first, then any results from systematic reviews and then any results from published primary studies. If more than one study in each of the three categories (West Midlands surveys, systematic reviews, primary studies) has reported the same outcome, quantitative results are presented in order of date of publication. The results tables specify questions asked in the surveys. Unless otherwise stated, the percentages given refer to the proportion agreeing with the question.

Some of the LGBT studies had comparator or control groups. Where there were no comparator results, LGBT survey results are compared to equivalent results from the general population, using information from the best quality surveys or cohort studies found. These general population studies are discussed in Appendix 2.

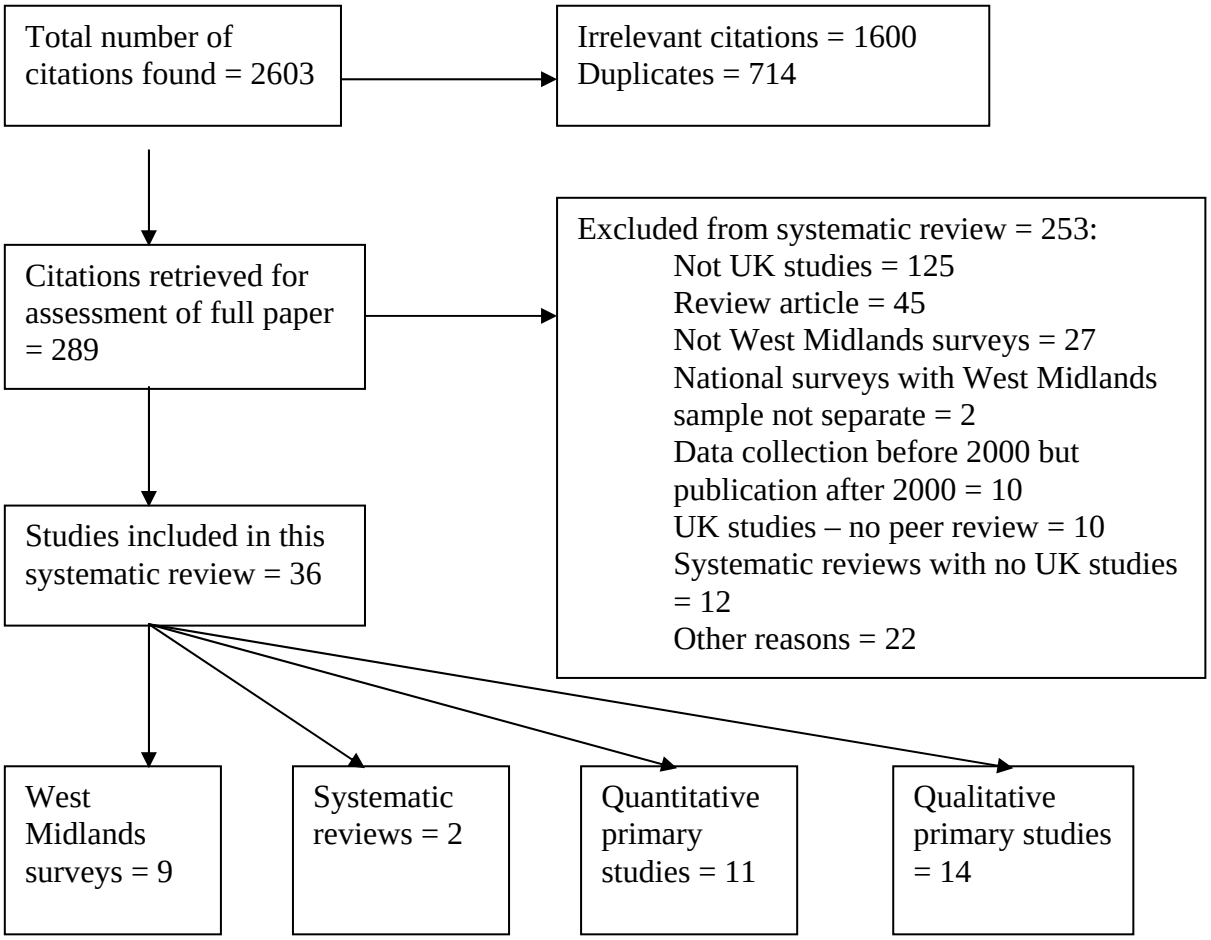

Figure 1. Quorom diagram of study selection

3.1.8 Quantitative systematic review results

3.1.8.1 West Midlands surveys

Five of the included surveys were conducted in the West Midlands, either by volunteers or by paid researchers or a combination of the two. The four other surveys were West Midlands subsets of findings from larger research projects covering the UK.

The Measure for Measure (2002) survey[24] was conducted by Paul Sanderson who was then the Regional MSM Advisor for the West Midlands, with assistance from Gay Men's service providers, Staffordshire University and Dr Gary Wood from Birmingham University. The report was never published and the findings were obtained as a PowerPoint presentation and a printout from an Excel spreadsheet. A Matter of Trust (2002)[25] was commissioned by the Birmingham Police Forum for the

Gay Community and was conducted by Gudrun Limbrick (an independent researcher) and by volunteers. Its primary focus was on policing issues but it also included some health research. Making Visible the Invisible (2002)[26] was a MA thesis by Yvette Summers that was subsequently turned into a report on the Space Project (a project between Sandwell Health Authority and Sandwell Regeneration Partnership to be an advocate for the local young LGB community). The LGBT Census Wolverhampton (2005)[27] was commissioned by the LGBT Network Wolverhampton and conducted by Gudrun Limbrick. Measure for Measure II (2005)[8] was commissioned by West Midlands South Strategic Health Authority and conducted by Paul Sanderson, the then Sexual Health Programme Lead, and Dr Emily Buckley from Staffordshire University. None of these reports have ISBN numbers and all are very difficult to obtain. Most were obtained directly from the authors.

Vital Statistics 2004,[28] 2005[29] and 2006[30] were regional subsets from the Gay Men's Sex Surveys that are conducted annually by Sigma Research and are available on their website (www.sigmaresearch.org.uk). Sigma Research is a social research group, linked to the University of Portsmouth and it specialises in the behavioural and policy aspects of HIV and sexual health. It also undertakes research and development work on aspects of lesbian, gay and bisexual health and well-being. It has undertaken more than seventy research and development projects and most of its reports have ISBN numbers. Although the Gay Men's Sex Survey is principally about sexual health, each year it does include some more general health information but not necessarily the same questions each year. None of the Sigma Research reports on their website are peer reviewed (Personal communication, Ford Hickson, Sigma Research, Sept 2008). The regional subsets were made available in February and March 2008. Prescription for Change (2008)[31] was commissioned by Stonewall, a charity specialising in campaigning and lobbying for the LGB community in the UK. The research was conducted by Ruth Hunt from Stonewall and Dr Julie Fish from De Montfort University, Leicester. It does not have an ISBN number, has not been peer-reviewed (Personal communication, R Hunt, Stonewall, Aug 2008) has not been fully published (as yet) but the full report is currently on the Stonewall England website (www.stonewall.org.uk). The full report and regional subsets[32] are also available on

the Sigma Research website. Outcomes measured in the nine West Midlands surveys are listed in Table 3 below.

Table 3. West Midlands survey details

Survey	Outcomes measured	Men, women or both
Measure for Measure 2002	Gender, age, ethnicity, sexual orientation, employment status, education, parenthood, weight (BMI), smoking, problem drinking, type of illegal drug use, cervical smear attendance, breast self-examination, mammography, hepatitis B vaccination, depression, insomnia/disturbed sleep, self harm, suicidal ideology, suicide attempts, ever sought counselling, out to GP, GP gay friendliness.	Both
A Matter of Trust 2002	Gender identity, age, ethnicity, sexual orientation, disability, unemployment status, income, housing, smoking, alcohol more than recommended, depression, attempted suicide, eating disorder, type of illegal drug use, domestic violence, sought help from counsellor or GP.	Both
Making Visible the Invisible 2002	Gender, age, sexual orientation, employment status, qualitative – invisibility, self esteem/self worth, alcohol, smoking and drug misuse, eating disorder, mental health concerns, interface with health services, use.	Both
Vital Statistics 2004 West Midlands subset	Age, ethnicity, education, religion, sexual orientation, geographical spread, PCT spread, illness, health problem or disability, problem drinking, recreational drug use.	Men
LGBT census Wolverhampton 2005	Gender identity, age, ethnicity, sexual orientation, geographical spread, smoking, excessive drinking, excessive illegal drug taking, cervical smear attendance, testicular self-examination, hepatitis A and B vaccinations, depression, attempted suicide, eating disorder, domestic violence (survey subset –employment, relationship status, out to GP, formal support from GP, counsellor or support group, type of illegal drug use).	Both
Measure for Measure II 2005	Gender identity, age, ethnicity, sexual orientation, disability, employment status, occupational group, income, education, parenthood, relationship status, geographical spread, housing status, smoking, problem drinking, type of illegal drug use, weight (BMI), healthy eating, exercise, general health, chronic illnesses, cervical smear attendance, breast self-examination, mammography, testicular self-examination, hepatitis A and B vaccinations, depression, insomnia/disturbed sleep, self harm, suicidal ideology, suicide attempts, ever sought counselling, registered with GP, out to GP, GP gay friendly, work in NHS.	Both
Vital Statistics 2005 West Midlands subset	Age, ethnicity, education, income, religion, PCT spread, smoking, like to stop smoking, worry about alcohol use, recreational drug use, crystal methamphetamine use, worry about recreational drug use.	Men
Vital Statistics 2006 West Midlands subset	Age, ethnicity, sexual orientation, education, relationship status, CP/marital status, PCT spread, like to be more involved in promoting health of gay/bisexual men.	Men

Prescription for Change 2008 West Midlands subset	PCT spread, sexual orientation, weight (BMI), smoking, number of days drank alcohol, type of illegal drug use, self-rated health, cervical screening, breast self-examination, suicide attempt, deliberate self harm, eating problem, domestic violence, out to GP, positive and negative experiences of healthcare in previous year, interface with health services, attended specialist health service for lesbian or bisexual women.	Women

3.1.8.2 Systematic reviews:

Two systematic reviews were included and they are listed in Table 4. The first was subsidised by the Netherlands Organisation for Scientific Research and provided an overview of research on lesbian parenthood for legal and policy reasons.[33] It includes 44 qualitative and quantitative studies on lesbian families, published between 1978 and 2003, but only a small amount of information on health and well-being. Most of the studies were interviews or cross sectional surveys and two were based in the UK. The second systematic review was funded by a grant from the National Institute for Mental Health England and focused on LGB mental health.[19] It included 25 cohort or cross-sectional surveys comparing LGB people to concurrent heterosexual comparison groups, published between 1998 and 2005, and one was based in the UK. Critical appraisal of these systematic reviews is in Appendix 5.

Table 4. Systematic review details

Systematic review	Topic	Men, women or both
Bos et al. 2005	Family functioning (comparison of lesbian families with child born in a previous heterosexual relationship to planned lesbian families) – child development, child's sexual orientation, child's emotional/behavioural development and social relationships, mother's psychological health.	Women
King et al. 2008	Mental health – suicide ideation (lifetime and 12-month), suicide attempts (lifetime and 12-month), deliberate self-harm (lifetime), depression (lifetime and 12-month), anxiety (12 month), alcohol dependence (12 month), drug dependence (12 month), any substance use disorder (lifetime and 12-month).	Results for both together, and men and women separately.

3.1.8.3 Quantitative primary research:

Only eleven peer-reviewed and published quantitative research reports since 2000 were found on LGB health in the UK (see Table 5). No peer-reviewed and published quantitative research reports on any aspect of trans health outside transitioning were

found. There is an uneven spread of LGB topics covered, mainly health behaviours, vaccination and mental health. Two were case control studies (Das,[34] Rivers[35]), one was a case series of a smoking cessation intervention (Harding[36]) and three were cross-sectional surveys comparing LGB people (using various definitions of identity and behaviour) to heterosexuals (Agrawal,[37] McNamee,[38] Mercer[7]). The remaining five were surveys of gay men (Bolding 2002,[39] Bolding 2006,[40] O'Riordan[41]), bisexuals (Barker[42]) and both lesbians and gay men (Warner[43]). None were published in high impact journals[2] – the highest impact factors were probably for the articles published in Addiction (~4), Fertility and Sterility (~3) and Vaccine (~3). Study sizes varied between 92 (Barker) and 5,772 (Mercer). Only one study categorised participants by sexual behaviour rather than identity (Mercer). Critical appraisal of primary studies is in Appendix 5.

Table 5. Quantitative primary research details

Reference	Topic	Men, women or both
Agrawal et al. 2004	Comparison of heterosexual and lesbian women attending a tertiary referral fertility clinic in London – age, relationship status, weight (BMI), prevalence of polycystic ovaries, polycystic ovary syndrome, ovarian volume, oligomenorrhea/amenorrhea, acne, hirsutism, causes of infertility, hormone levels.	Women
Barker et al. 2008	Specific bisexual sample (results of a survey conducted at a bisexual residential conference) – age, gender identity, ethnicity, sexual orientation, education, physical and mental health impairments, depression, anxiety, self-harm.	Both
Bolding et al. 2002	Age, ethnicity, sexual orientation, employment status, education, smoking, alcohol use, recreational drug use, visits to gym, use of anabolic steroids, reasons for taking anabolic steroids, physical health effects of anabolic steroids, suicidal thoughts, depression.	Men
Bolding et al. 2006	Age, ethnicity, employment status, education, visits to gym, relationship status, use of crystal metamphetamine, recreational drug use.	Men
Das et al. 2003	Age, hepatitis B vaccination success.	Men
Harding et al. 2004	Age, ethnicity, education, employment status, alcohol consumption, smoking behaviour, GP consultation rates, previous smoking quit attempts, smoking cessation effectiveness.	Men
McNamee et al. 2008	Comparison of heterosexual and gay/lesbian/bisexual 16 year olds in Northern Ireland – general mental health (GHQ-12), pressurised to take illegal drugs, smoke cigarettes, drink alcohol, lose weight.	Both
Mercer et al. 2007	Comparison of WSM, WSMW, WSW (NATSAL survey aged 16-44 in GB) – age, ethnicity, marital status, social class, parenthood,	Women

[2] Impact factor is a measure of the average number of citations to a particular journal and is used as a measure of the importance of the journal to a particular area of research

	education, resident in London, smoking, alcohol more than recommended limit, injected non-prescribed drugs, self-perceived health, illness for more than 3 months in last 5 years, hospital outpatient visit in last year, hospital inpatient visit in last year, induced abortion in past 5 years.	
O'Riordan et al. 2007	Percentage of patients born outside UK, seroprevalence of anti hepatitis A, cost-benefit analysis of vaccination.	Men
Rivers et al. 2008	Comparison of same sex attracted and opposite sex attracted school children in the North of England. Age, gender, ethnicity, living status, partnership status, exposure to bullying, smoking, alcohol consumption, illegal drugs, depression, anxiety, suicide ideation.	Both
Warner et al. 2003	Age, gender, relationship status, general mental health (GHQ-28).	Both

3.1.9 Quantitative study findings

3.1.9.1 General health and prescribed medication

Some of the included studies reported general health, long-term illnesses and disabilities. These are given in Table 6 (West Midlands surveys), Table 7 and Table 8 (published primary studies). Rates of these categories in the general population are 74% in very good or good health, 7% in very bad or bad health and 46% with at least one longstanding illness.[44] The results suggest that it is difficult to determine whether there are higher rates of poor health in the LGB population but there seem to be fewer with longstanding illnesses.

With regard to proportions of people taking prescribed medicines in the general population, in the Health Survey for England 45.4% were taking any medicines prescribed by a doctor and 42.8% were taking prescribed medicines excluding contraceptives[45] suggesting that fewer LGB people were taking prescribed medication.

Table 6. West Midlands surveys – general health

Study	Question	All	Men	Women
A Matter of Trust (2002)	Long-term illness, health problem or disability which limited their daily activities or work?	12% (9% permanently)		
Vital Statistics (2004) West Midlands subset	Illness, health problem or disability?		11.9%	
LGBT Census Wolverhampton (2005) (in depth subset)	General health suffering due to drugs, alcohol, and/or smoking	30%		
Measure for Measure II (2005)	General health over last year?	Healthy = 61%, healthy and unhealthy = 28%, unhealthy = 5%		
	Taking prescribed medication?	33%		
	Affected by a physical disability?	9%		
Prescription for Change (2008) West Midlands subset	Self-rating of health			Excellent = 20.5% Good = 58.8% Fair = 18.1% Poor = 2.6%

Table 7. Mercer et al. – general health

Reference	Question	WSM	WSMW	WSW
Mercer et al (2007)	Self-perceived health	Very good = 43.6% Good = 42.6% Fair = 11.9% Bad = 1.4% Very bad = 0.5%	Very good = 26.7% Good = 55.0% Fair = 14.9% Bad = 1.9% Very bad = 1.5%	Very good = 43.7% Good = 44.1% Fair = 12.2% Bad = 0% Very bad = 0%
	Illness lasting 3 months or more in last 5 years	14.9%	24.2%	31.0%

Table 8. Harding et al. – general health

Reference	Question	All	Men	Women
Harding et al (2004)	Self rated health		Excellent = 14.5% Good = 52% Moderate = 29% Poor = 3% Very poor = 1%	
	Currently on prescribed medication		38%	

Table 9. Routinely collected data for general health of the population

Reference	Question	All	Men	Women
Health Survey for England	Self-rated health	74% in very good or good health, 7% in very bad or bad health		
	Longstanding illnesses	46% with at least one longstanding illness		
	Taking medicines prescribed by a doctor	45.4% (42.8% excluding contraceptives)		

3.1.9.2 A,B – Certain infectious and parasitic diseases

There was no information available on a wide variety of infectious and parasitic diseases in the UK LGBT population, such as tuberculosis. HIV and sexually transmitted diseases were specifically excluded from this systematic review.

3.1.9.3 C,D – Neoplasms, diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism

Cancer

The only information on cancer in the UK LGBT population was found in one of the West Midlands surveys – Measure for Measure II (2005) which found that 2% of respondents said 'Yes' to the question – Do you suffer from cancer? This compares to an annual incidence of approximately 0.5% in the general population[46] and an estimated prevalence of cancer in England of 0.3%.[47]

3.1.9.4 E – Endocrine, nutritional and metabolic diseases

The only information on diabetes in the UK LGBT population was found in one of the West Midlands surveys – Measure for Measure II (2005) which found that 3% of respondents said yes to the question – Do you suffer from diabetes? This compares to an estimated 4.5% type 1 and 2 diabetes in the general population.[44]

3.1.9.5 F – Mental and behavioural disorders

There was much more information available on mental health issues, particularly from the West Midlands surveys. There are also the results of the systematic review

on mental health, suicide and deliberate self harm. This mental health section is arranged in order of general mental health, depression, anxiety, obsessive-compulsive disorder and psychosis, self harm, suicide and eating disorders.

General mental health

The West Midlands surveys measured a variety of aspects of general mental health and many of these results are difficult to compare to rates that might be found in the general population (see Table 10). However, it has been estimated that 2.9% of the general population suffer from sleep problems[48] suggesting a much higher rate of sleep problems of 27-66% in LGB people. The West Midlands survey results suggest a general level of poor mental health in the LGBT population.

The two published studies used two general validated measures of mental health – GHQ-12 and GHQ-28. McNamee et al. found a much higher rate of GHQ-12 cases (i.e. scored 4 or more) in same or both sex attracted participants (40.9%) when compared to opposite sex attracted participants (19.2%, see Table 11). This compares to a case rate in the general population of 11% in men and 15% in women.[49] Warner et al. found that 16% (11/68) scored above the threshold on the GHQ-28 questionnaire. The scoring system and threshold used in this study were not stated, making comparisons with general population surveys very difficult so no comparison has been given here.

The systematic review by Bos et al. found that the overall mental health of lesbian mothers (for lesbians with children born in a previous heterosexual relationship and for planned lesbian families) was no different to heterosexual mothers.

Table 10. West Midlands surveys – mental health

Study	Question	All	Men	Women
Measure for Measure (2002)	Persistent lowering of mood?	Agree = 65.6% Disagree = 20.2% Neither = 14.2%	Agree = 65.4% Disagree = 21.6% Neither = 13.0%	Agree = 66.2% Disagree = 16.8% Neither = 17.0%
	Loss of enjoyment or interest?	Agree = 65.8% Disagree = 24.3% Neither = 9.8%	Agree = 66.5% Disagree = 26.4% Neither = 7.0%	Agree = 64.4% Disagree = 19.7% Neither = 15.9%
	Reduced energy and diminished activity?	Agree = 65.7% Disagree = 20.0% Neither = 14.2%	Agree = 64.9% Disagree = 21.4% Neither = 13.7%	Agree = 67.7% Disagree = 16.8% Neither = 15.5%
	Poor self-confidence?	Agree = 65.2% Disagree = 22.2% Neither = 12.7%	Agree = 64.4% Disagree = 23.0% Neither = 12.6%	Agree = 66.9% Disagree = 20.2% Neither = 12.9%
	Oversleeping/ insomnia/ disturbed sleep?	Agree = 66.0% Disagree = 22.8% Neither = 11.2%	Agree = 64.7% Disagree = 24.7% Neither = 10.6%	Agree = 68.9% Disagree = 18.4% Neither = 12.7%
	Pessimistic view about future?	Agree = 54.0% Disagree = 27.9% Neither = 18.0%	Agree = 53.8% Disagree = 29.8% Neither = 16.3%	Agree = 54.4% Disagree = 23.6% Neither = 22.0%
A Matter of Trust (2002)	Some kind of mental health issue related to their sexuality	40%		
	Lots of problems	8%		
LGBT Census Wolverhampton (2005)	Any of depression, attempted suicide, eating disorder, excessive drinking or drugtaking, other mental health	43%	44%	41%
Measure for Measure II (2005)	Prolonged periods of: low mood?		21%	29%
	loss of interest/ enjoyment?		19%	24%
	reduced energy?		20%	26%
	low self-confidence/ self esteem?		24%	31%
	disturbed sleep patterns?		27%	35%

	bleak and pessimistic view?		20%	21%
	3 or more symptoms?		22%	28%
	All 6 symptoms?		11%	17%

Table 11. McNamee et al. – general mental health

Reference	Question	Opposite sex attracted	Same/both sex attracted
McNamee et al (2008)	GHQ-12 caseness (scored 4 or more)	19.2% (all) 10.2% (men) 25.8% (women)	40.9% (all) 28.6% (men) 46.7% (women)

Depression

The results for depression indicate a high rate in all four West Midlands surveys of 28-40% (see Table 12). This can be compared to an estimated annual rate of depression of 6% and lifetime rate of more than 15% in the general population.[50] The systematic review by King et al. showed an approximate doubling of the risk of lifetime and 12 month depression in LGB people compared to controls and the results were all statistically significant and showed little heterogeneity (see Table 13). Rivers et al. (2008) measured depression within the Brief Symptom Inventory and mean results were 1.29 (SD 1.25) for same sex attracted compared with 0.60 (SD 0.81) for opposite sex attracted participants.

Table 12. West Midlands surveys – depression

Study	Question	All	Men	Women
Measure for Measure (2002)	Diagnosed with depression?	29.5%	28.7%	31.4%
A Matter of Trust (2002)	Experienced depression	34%		
LGBT Census Wolverhampton (2005)	Depression	37%	40%	34%
Measure for Measure II (2005)	Diagnosed with depression?		28%	35%

Table 13. King et al. systematic review – lifetime and 12 month depression

Comparison	Gender	Number of studies	LGB events /total N	Non-LGB events/ total N	Pooled relative risk	I^2
Depression (lifetime)	Men and women	2	63/153	1274/6852	2.03 (1.70-2.41)	0%
Depression (lifetime)	Men	2	36/160	514/6010	2.58 (1.92-3.47)	0%
Depression (12 month)	Men and women	4	89/518	1902/23215	2.05 (1.69-2.48)	0%
Depression (12 month)	Men	4	50/291	602/10267	2.41 (1.80-3.23)	0%
Depression (12 month)	Women	4	49/227	1300/12948	2.13 (1.66-2.72)	1.5%

Anxiety, obsessive-compulsive disorder and psychosis

Measure for Measure II (2005) found that 18% of participants had been diagnosed with an anxiety disorder (17% men, 21% women), 3% with obsessive-compulsive disorder (2% men, 4% women) and 1% schizophrenia (equal gender split). This can be compared to 4.4% for general anxiety disorder, 1.1% for obsessive-compulsive disorder and 0.5% for probable psychotic disorder in the general population.[48] The systematic review by King et al. found approximately 1.5 times risk for 12 month anxiety in LGB people compared to the comparator groups (see Table 14). Rivers et al. (2008) measured anxiety within the Brief Symptom Inventory and mean results were 1.13 (SD 1.18) for same sex attracted and 0.50 (SD 0.70) for opposite sex attracted participants.

Table 14. King et al. systematic review – 12 month anxiety

Comparison	Gender	Number of studies	LGB events /total N	Non-LGB events/ total N	Pooled relative risk	I^2
Anxiety (12 month)	Men and women	4	66/518	1896/22315	1.54 (1.23-1.92)	0%
Anxiety (12 month)	Men	4	31/291	565/10267	1.88 (1.25-2.83)	20.2%
Anxiety (12 month)	Women	4	35/227	821/12948	1.66 (1.02-2.68)	49.2%

Suicide

The results for suicide ideation, attempts and history indicate a high rate in all six West Midlands surveys (42-48% for ideation and 12-40% for attempts, see Table 15). This can be compared to a lifetime suicidal thoughts rate of 14.9% and suicide

attempt rate of 4.4% in the general population.[51] The equivalent 12 month rates in the general population were 3.9% and 0.5%.[51] The systematic review by King et al. showed an approximate doubling of the risk of suicide attempts and ideation in LGB people compared to controls and the results were remarkably consistent and statistically significant for all comparisons (see Table 16). A random effects model was used throughout but there was high heterogeneity between studies in several of the comparisons.

Rivers et al. (2008) measured thoughts of ending life within the Brief Symptom Inventory and mean results were 1.02 (SD 1.52) for same sex attracted and 0.65 (SD 1.98) for opposite sex attracted participants.

Table 15. West Midlands surveys – suicide

Study	Question	All	Men	Women
Measure for Measure (2002)	Suicidal ideology?	47.4%	47.2%	47.9%
	Suicide attempt?	29.8%	29.2%	31.3%
	Suicide history?	Once = 8.8% Twice = 5.9% 3X = 3.5% 4X or more = 5.6%	Once = 9.1% Twice = 5.7% 3X = 3.8% 4X or more = 5.5%	Once = 8.2% Twice = 6.2% 3X = 2.0% 4X or more = 6.0%
A Matter of Trust (2002)	Attempted suicide?	12%		
Making Visible the Invisible (2002)	Attempted suicide	40%		
	Self harm or considered suicide?	60%		
LGBT Census Wolverhampton (2005)	Attempted suicide?	12%	13%	11%
Measure for Measure II (2005)	Suicidal thoughts?	43%	42%	48%
	Suicide attempts?	19%	19%	20%
Prescription for Change (2008) West Midlands subset	Attempt to take your life in last year?			5.2%

Table 16. King et al. systematic review – lifetime and 12 month suicide attempts and ideation

Comparison	Gender	Number of studies	LGB events /total N	Non-LGB events/ total N	Pooled relative risk	I^2
Suicide attempts (lifetime)	Men and women	4	564/ 4845	1652/ 33243	2.47 (1.87-3.28	61.3%
Suicide attempts (lifetime)	Men	5	391/ 4145	1127/ 30129	4.28 (2.32-7.88)	84.3%
Suicide attempts (lifetime)	Women	4	319/ 1883	575/ 6266	1.82 (1.59-2.09)	0%
Suicide attempts (12 month)	Men and women	4	376/ 1910	1953/ 28242	2.56 (2.26-2.91)	16.5%
Suicide attempts (12 month)	Men	2	24/ 527	119/ 7543	2.52 (1.64-3.87)	0%
Suicide attempts (12 month)	Women	2	52/ 465	317/ 8315	2.45 (1.86-3.24)	0%
Suicide ideation (lifetime)	Men and women	2	1111/ 4329	4577/ 32160	2.04 (1.57-2.66)	73.6%
Suicide ideation (lifetime)	Men	2	880/ 3832	3733/ 28866	2.01 (1.56-2.60)	71.0%
Suicide ideation (lifetime)	Women	2	647/ 1598	1226/ 5778	1.55 (1.24-1.94	80.4%
Suicide ideation (12 month)	Men and women	5	398/ 1607	2316/ 18498	1.71 (1.39-2.10)	69.7%
Suicide ideation (12 month)	Men	4	140/ 753	692/ 8134	1.64 (1.37-1.97)	0%
Suicide ideation (12 month)	Women	5	220/ 798	1218/ 10843	2.31 (1.47-3.65)	86.6%

Eating disorders

Four of the West Midlands surveys measured self-reported eating disorders. The specific questions asked may indicate why the results varied from 4% to 21.6% (see Table 17). The latest survey (Prescription for Change West Midlands subset) may give a reasonable estimate of lifetime prevalence, in which case the rate is high at 21.6%. On the other hand, the LGBT Census and Measure for Measure II surveys may be giving an estimate of point prevalence. The results can be compared to a rate in the general population for anorexia nervosa of 19 per 100,000 in women and 2 per 100,000 in men, for bulimia of between 0.5-1% in young women and 0.05-0.1% in young men and for binge eating disorder of approximately 1.7% in women.[52] This suggests that the LGBT rates of eating disorder, particularly in men, are very high.

In the published studies, McNamee et al. (2008) found that 19.5% of the opposite sex attracted group compared to 31.9% of the same/both sex attracted group of

young people felt pressurised to lose weight. Rivers et al. (2008) found no statistical differences between same sex and opposite sex attracted school children in concerns about looks and/or dress, weight, size or body shape but the numbers were not reported.

Table 17. West Midlands surveys – eating disorders

Study	Question	All	Men	Women
A Matter of Trust (2002)	Had or had had eating disorder linked to their sexuality?		9%	7%
LGBT Census Wolverhampton (2005)	Eating disorder?	9%	10%	7%
Measure for Measure II (2005)	Eating disorder?	4%	4%	5%
Prescription for Change (2008) West Midlands subset	Ever been told you have an eating problem?			21.6%

3.1.9.6 G – Diseases of the nervous system

The only information on nervous diseases in the UK LGBT population was found in one of the West Midlands surveys – Measure for Measure II (2005) which found that 1% of respondents said 'Yes' to the question – Do you suffer from epilepsy and 0.9% said Yes to the question – Do you suffer from a neurological condition? This compares to 0.7% in the general population for epilepsy[53] and 0.6% annual prevalence for neurological conditions.[54]

3.1.9.7 H – Diseases of the eye and adnexa, Diseases of the ear and mastoid process

There was no information available on any diseases of the eyes or ears in the UK LGBT population.

3.1.9.8 I – Diseases of the circulatory system

The only information on coronary heart disease in the UK LGBT population was found in one of the West Midlands surveys – Measure for Measure II (2005) which found that 2% of respondents said 'Yes' to the question – Do you suffer from coronary heart disease? This compares to 6.5% for men and 4% for women in the general population.[44]

3.1.9.9 J – Diseases of the respiratory system

The only information on any respiratory diseases in the UK LGBT population was found in one of the West Midlands surveys – Measure for Measure II (2005) which

found that 13% of respondents said ‘Yes’ to the question – Do you suffer from asthma? This compares to the lifetime prevalence of doctor-diagnosed asthma of 13% in men and 16% in women in the general population.[55]

3.1.9.10 K – Diseases of the digestive system

There was no information available on any diseases of the digestive system in the UK LGBT population.

3.1.9.11 L – Diseases of the skin and subcutaneous tissue

There was no information available on any diseases of the skin or subcutaneous system in the UK LGBT population.

3.1.9.12 M – Diseases of the musculoskeletal system and connective tissue

The only information on musculoskeletal conditions in the UK LGBT population was found in one of the West Midlands surveys – Measure for Measure II (2005) which found that 6% of respondents said Yes to the question – Do you suffer from arthritis? The prevalence of arthritis and rheumatism in the general population increases rapidly with age, the prevalence up to age 44 is less than 2.5% and for 45-54 year olds is around 6%.[56]

3.1.9.13 N – Diseases of the genitourinary system

There was no information available on any diseases of the genitourinary system in the UK LGBT population.

3.1.9.14 O – Pregnancy, childbirth and the puerperium

None of the West Midlands surveys included questions on this topic.

Agrawal et al. (2004) investigated polycystic ovary syndrome (a major cause of infertility) in lesbian compared to heterosexual women attending a London fertility clinic between 2001 and 2003. The two groups were of similar age but the lesbians had slightly higher BMI. With regard to baseline characteristics of the two samples, there was a significantly higher mean ovarian volume in lesbians and a higher percentage of oligomenorrhea/amenorrhea, acne, hirsutism, and polycystic ovary syndrome.

Table 18. Agrawal et al. – infertility in lesbians

	Lesbians	Heterosexual women
Ovarian volume (in cc)	9.8 (SD 1.2)	7.5 (SD 1.3)
Oligomenorrhea/ amenorrhea	50%	17.3%
Acne	30%	9.8%
Hirsutism	37%	10.4%
Causes of subfertility		
Tubal disease	17.1%	13.5%
Endometriosis	3.7%	3.4%
Fibroids	5.6%	6.8%
PCOS	38%	14%
U/S features of PCO	80%	32%
Tubal pathology, vaginal infections and cervical smear abnormalities	18%	13%
Pregnancy rates	30.8%	26.7%

Investigation of mean hormone levels in the subgroup of lesbians (n=51) and heterosexual women (n=248) with normal ovaries indicated no significant differences in follicle stimulating hormone, luteinising hormone, oestradiol, prolactin, dehydroandrosterone sulphate and sex hormone-binding globulin levels. There were higher levels of testosterone, androstenedione and free androgen index in lesbians with polycystic ovaries and polycystic ovary syndrome compared to heterosexual women with these conditions, results for women with normal ovaries were not reported.

3.1.9.15 P – Certain conditions originating in the perinatal period and Q – Congenital malformations, deformations and chromosomal abnormalities

There was no information available on any of these subjects in the UK LGBT population.

3.1.9.16 R – Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified

There was no information available on any of these subjects in the UK LGBT population.

3.1.9.17 S,T – Injury, poisoning and certain other consequences of external causes

There was no specific information on injury and poisoning available. However, there was information on domestic violence and this can lead to injury so has been presented here. The three West Midlands surveys to report this suggested that there were relatively high rates of 24-35% (see Table 19). These rates can be compared to

the rate of partner abuse since aged 16 (including stalking) in the general population of 23.7%.[57]

Table 19. West Midlands surveys – domestic violence

Study	Question	All	Men	Women
A Matter of Trust (2002)	Experienced DV from a same sex current or past partner		30%	35%
	Reported to police? (who had experienced DV)	14%	17%	9%
	Frequency? (who had experienced DV)		One off = 47%, repeated = 42%	One off = 41%, repeated = 47%
	Physical injury warranting medical attention? (who had experienced DV)		18%*	11%*
LGBT Census Wolverhampton (2005)	DV or abuse from same sex partner?	28%	24%	35%
	Reported to police? (who had experienced DV)		20%	9%
Prescription for Change (2008) West Midlands subset	Ever experienced DV?			From a woman = 18.1% From a man = 10.9%
* Estimated from graph				

3.1.9.18 V,W,X,Y – External causes of morbidity and mortality

Many of the external causes of morbidity and mortality listed under this code in ICD-10 would probably not be found in health surveys (e.g. accidents, war). There is however, some information on deliberate self harm. The results indicate high rates in all three West Midlands surveys to report this (16-35%, see Table 20). The rates can be compared to an estimated rate of deliberate self harm without suicidal intent in the general public of 2.4%.[51] The systematic review by King et al. showed an increased risk of deliberate self harm in LGB people compared to controls but the results were only statistically significant for women (see Table 21).

Table 20. West Midlands surveys – deliberate self harm

Study	Question	All	Men	Women
Measure for Measure (2002)	Deliberately tried to self-harm?	26.3%	24.1%	31.4%
Measure for Measure II (2005)	Deliberate self-harm?	20%	17%	35%
Prescription for Change (2008) West Midlands subset	Deliberate self-harm (with no intention of killing yourself) in last year?			15.9%

Table 21. King et al. systematic review – lifetime deliberate self harm

Comparison	Gender	Number of studies	LGB events /total N	Non-LGB events/ total N	Pooled relative risk	I^2
Self harm (lifetime)	Men and women	2	370/723	229/1130	2.29 (0.71-7.35)	98.2%
Self harm (lifetime)	Men	2	182/363	97/593	2.30 (0.76-6.95)	93.3%
Self harm (lifetime)	Women	2	160/360	132/537	1.34 (1.01–1.78)	40.3%

3.1.9.19 Z – Factors influencing health status and contact with health services

In this category, health behaviours and other aspects that might influence health have been covered. These include body mass index (BMI), exercise, diet, smoking, alcohol consumption and illegal or recreational drug use.

Weight (BMI)

Three West Midlands surveys measured BMI. In Measure for Measure II (2005) the average BMI for the participants giving height and weight (n= 627 men (89.2% of whole sample) and 139 women (139 of whole sample)) was 24.7kg/m^2 (range 14.6 to 61.2 kg/m^2). The BMI category results are given in Table 22 and suggest that there is a relatively low proportion of obese LGB people, particularly men. Equivalent whole population BMI results are 1.4% underweight, 35.2% normal weight, 38.3% overweight and 25.0% obese.[44]

Table 22. West Midlands surveys – BMI

	Category	All	Men	Women
Measure for Measure (2002)#	Underweight (BMI<20)	11.4%	13.9%	5.4%
	BMI 20-24.9	48.1%	50.0%	43.7%
	BMI 25-29.9	21.9%	21.1%	23.6%
	Obese (BMI 30+)	18.6%	8.0%	16.9%
Measure for Measure II (2005)	Underweight (BMI<20)		3.0%	3.6%
	BMI 20-24.9		49.9%	45.8%
	BMI 25-29.9		26.9%	18.7%
	Obese (BMI 30+)		9.4%	15.7%
Prescription for Change (2008) West Midlands subset	Underweight (BMI<20)			2.4%
	BMI 20-24.9			50.6%
	BMI 25-29.9			24.7%
	Obese (BMI 30+)			22.2%[$]
# some missing data so percentages do not add up to 100. [$] includes 5.1% very obese (40+ BMI)				

Exercise

Measure for Measure II (2005) found that 23% engaged in 30 minutes of exercise on five days or more per week, 25% did no moderate exercise, 28% exercise on 1-2 days and 24% on 3-4 days per week (results for men and women were not given separately). This compares to 40% of men and 28% of women in the general population who met the minimum recommendation for physical activity in adults (moderate intensity aerobic physical activity for a minimum of 30 minutes five days a week).[58] However, in the West Midlands, another study found that 19.3% of people participated in 30 minutes of moderate exercise for 3 days per week in 2005/6, compared to the national average of 21%.[59]

Diet

Measure for Measure II (2005) found that 8% ate less than one portion of fruit and vegetables per day, 40% between 1-2 portions, 30% between 3-4 portions and 17% ate five or more portions per day. Also, participants who were normal or underweight were significantly more likely to eat fewer than the recommended five portions of fruit and vegetables per day. This can be compared to the general population where 9% eat less than one portion, 32% eat 1-2 portions, 31% eat 3-4 portions and 30% eat five or more portions per day.[44]

Smoking

Seven of the West Midlands surveys asked a variety of questions around smoking habits and attempts to quit (see Table 23). The results suggest that there is a high current and lifetime prevalence of smoking in LGB people. Also, a relatively high proportion had attempted to quit and a relatively high proportion of quitters gave up without assistance. The current smoking rates shown below of 54.1% in 2002 and 28.7% in 2008 compare to rates in the general population of 22% current smokers and 26% who used to smoke cigarettes regularly.[44]

Four of the published papers also gave information about smoking rates. Bolding et al. (2002) found that 23.4% smoked regularly – a relatively low proportion but this was a sample of gay men attending gyms so would be expected to have a lower prevalence of smoking. McNamee et al. (2008) found that 31.4% of same/both sex attracted students, compared to 21.7% of opposite sex attracted students felt pressurised to smoke cigarettes. Mercer et al. found that WSMW had higher rates of smoking than WSM and WSW (see Table 24). Rivers et al. (2008) did not report smoking rates measured but mentioned that there was no significant difference between same sex and opposite sex attracted school children in smoking rates, with the majority never having smoked.

Harding et al. (2004) was the only treatment-orientated study available and was a case series on smoking cessation. Results were reported for 69 gay men. At the start of the study the daily number of cigarettes smoked in the quit sample were 1-5 = 4%, 5-10 = 7%, 11-20 = 39.9%, 21-30 = 30%, 31-40 = 12% and 41 or more = 7%. The time to first cigarette after waking was 5 minutes = 28%, 6-30 minutes = 45%, 31-60 minutes = 10% and more than an hour = 16%. 90% had made a previous attempt to quit, and the mean quit attempts of those who had attempted to quit was 2.85 (SD 1.4). Previously used nicotine replacement methods were gum (49%), patches (49%), nasal spray (5%), inhaler (20%), microtabs (5%), lozenges (7%) and bupropion (20%). Only 51% had been recommended to quit by their GP. At session 3, 58 out of 69 men (84.1%), set a quit date and at week 7, 44 men (75.9% of those who set a quit date) were confirmed as having quit by use of a carbon monoxide monitor. An additional three reported by telephone that they had quit. There was no

long-term follow up. Equivalent quit rates for standard smoking cessation groups are that 52% of men who set a quit date had successfully quit at 4 weeks follow up.[60]

Table 23. West Midlands surveys – smoking

Study	Question	All	Men	Women	Comment
Measure for Measure (2002)	Do you smoke?	48.6% (Missing – 2.6%)	46.4%	54.1%	
	How much do you smoke?	0-9 = 11.6% 10-19 = 20.4% 20+ = 16.5%	0-9 = 10.1% 10-19 = 18.5% 20+ = 17.3%	0-9 = 15.4% 10-19 = 24.9% 20+ = 14.5%	
A Matter of Trust 2002	Do you smoke? (daily)	41%	16-24 = 39%* 25-34 = 47%* 35-44 = 32%* 45-54 = 28%* 55-64 = 27%*	16-24 = 50%* 25-34 = 53%* 35-44 = 32%* 45-54 = 33%* 55-64 = 17%*	Age group results available only
	Do you smoke more than 10?	31%			
LGBT Census Wolverhampton (2005)	Smoke every day?		45%	48%	
LGBT Census Wolverhampton (2005) (in depth subset)	Concern about how much they smoke?	31%			
Measure for Measure II (2005)	Smoked at some point?		56%	72%	
	Current smoker?	35%	32%	48%	1-9 = 27% 10-19 = 39% 20+ = 27%
	Tried to give up in past?	77%			
	Live with a smoker?	30%			
	Gave up without any help?		76%	73%	(of those giving up)
	Gave up with NRT?		15%	8%	(of those giving up)
Vital Statistics (2005) West Midlands subset	Smoking		All = 36.2% <10 = 12.7% 10+ = 23.5%		
	Would like to stop		Agree = 65.8% Not sure = 18.9% Disagree = 15.3%		
Prescription for Change (2008)	Current smoker?			28.7%	

West Midlands subset					
* estimated from graph					

Table 24. Mercer et al – smoking rates

Reference	Question	WSM	WSMW	WSW
Mercer et al (2007)	Heavy smoker	16.6%	23.7%	16.1%
	Light smoker	21.4%	40.2%	24.7%
	Former smoker	17.1%	11.8%	11.0%
	Never smoked	45.0%	24.4%	48.2%

Alcohol consumption

Eight of the nine West Midlands surveys measured alcohol consumption in a variety of ways. The results suggest that there is a high level of alcohol consumption in the LGB population and that there is some concern about the levels of consumption (see Table 25). In the general population 72% of men and 58% of women had drunk alcohol in the previous week and 41% of men and 33% of women had drunk more than the recommended daily amount on at least one day in the previous week.[58]

The systematic review by King et al. suggested that the 12 month relative risk of alcohol dependence is twice the rate in LGB people compared to control groups. It may be as high as four times the rate in lesbian and bisexual women (see Table 26).

Five of the published papers also measured alcohol consumption. Bolding et al. (2002) found that 51.2% of gay men attending London gyms drank alcohol regularly. Harding et al. found that 94% of the sample of gay men quitting smoking drank alcohol, with a mean 22.8 units/week (median 20 SD 19, range 1-120). McNamee et al. (2008) found that 40.6% of same/both sex attracted participants compared to 27.8% of opposite sex attracted participants felt pressurised to drink alcohol. Mercer et al. (2007) found a higher rate of alcohol consumption, more than the recommended limit in WSMW, and to a lesser extent in WSW than WSM (see Table 27). Rivers et al. (2008) found that same-sex attracted school children reported consuming a mean of 1.2 units of alcohol in the previous seven days (SD 2.4) compared to 2.5 units (SD 7.28) for opposite sex attracted school children. There

was a significant increase for opposite sex attracted school children compared to same sex attracted school children in the frequency of alcohol consumption during the week.

Table 25. West Midlands surveys – alcohol

Study	Question	All	Men	Women
Measure for Measure (2002)	Do you drink?	89.5%	89.0%	90.7%
	Drinking a problem?	Yes – 7.0% Sometimes – 11.2%	Yes – 6.9% Sometimes – 9.3%	Yes – 7.1% Sometimes – 15.6%
A Matter of Trust (2002)	Drink alcohol once a week or more?	76%		81%
	Drink every day?	15%		
	Drunk more than recommended weekly limit?		28%	27%
	Excessive drinking?		13%	14%
	Concerned about it?	30%		
	Sought help about alcohol?	6%		
	Reason for drinking?	Scene focused on pubs and clubs = 24% Friends or partner does = 24%		Scene focused on pubs and clubs = 17% Friends or partner does = 20%
Vital Statistics (2004) West Midlands subset	I sometimes worry about how much I drink?		Agree = 30.9% Unsure = 6.5%	
LGBT Census Wolverhampton (2005)	Excessive drinking?	15%	15%	14%
	Drinking more than recommended limit?		29%	26%
LGBT Census Wolverhampton (2005) (in depth subset)	Concerns about how much they drink?	43%		
Measure for Measure II (2005)	Alcohol in past month		87%	87%
	Binge drink weekly?		40%	37%
	Think you should cut down?	36%		
	Annoyed by others' comments about your drinking?	19%		
	Feel guilty about how much you drink?	18%		
	Drink in morning to relieve hangover?	13%		

Vital Statistics (2005) West Midlands subset	I sometimes worry about how much I drink? (of drinkers)		Agree = 28.5% Not sure = 9.2%	
Prescription for Change (2008) West Midlands subset	Number of days drank alcohol in the last week			1 day = 22.5% 2 days = 18.5% 3 days = 12.2% 4 days = 7.6% 5 days = 4.6% 6 days = 3.5% 7 days = 7.8%

Table 26. King et al. systematic review – alcohol dependence

Comparison	Gender	Number of studies	LGB events /total N	Non-LGB events/ total N	Pooled relative risk	I^2
Alcohol dependence (12 month)	Men and women	5	76/753	1271/27436	2.22 (1.78-2.77)	0%
Alcohol dependence (12 month)	Men	5	43/408	120/12408	1.51 (1.13-2.02)	0%
Alcohol dependence (12 month)	Women	5	34/345	412/15028	4.00 (2.85–5.61)	0%

Table 27. Mercer et al. – alcohol consumption

Reference	Question	WSM	WSMW	WSW
Mercer et al (2007)	More than recommended limit	9.9%	19.3%	13.4%
	Not more than recommended limit	72.0%	71.9%	61.1%
	None	18.2%	8.8%	25.2%

Illegal/recreational drug use – general

This section is presented by general drug use and then by intake of specific drugs. Five West Midlands surveys asked questions about illegal or recreational drug use. The results suggest that a relatively high proportion of LGB people use drugs (19-35%, see Table 28), which can be compared to a lifetime experience of illegal drug use of 27% (21% women and 32% men) in the general population and in the last year of 11% (8% women, 13% men).[48]

The systematic review by King et al. found an approximately 2.5 times higher risk of 12 month drug dependence in LGB people compared to controls (see Table 29). The review also found a slightly higher 12 month and lifetime risk of any substance use disorder but this was not statistically significantly higher for 12 month risk of any substance use disorder in men.

Two published studies investigated general drug use. McNamee et al. (2008) found that 14.7% of same/both sex attracted students compared to 8.4% of opposite sex attracted students felt pressurised to take illegal drugs. Mercer et al. found higher rates of injected non-prescribed drug use in WSMW compared to the other two groups (see Table 30).

Table 28. West Midlands surveys – illegal/recreational drug use

Study	Question	All	Men	Women
Vital Statistics (2004) West Midlands subset	I sometimes worry about my recreational drug use?		Agree = 10.2%, unsure = 4.9%.	
LGBT Census Wolverhampton (2005)	Excessive drugtaking?	6%	6%	5%
	Used recreational drugs in last month?		35%	26%
LGBT Census Wolverhampton (2005) (in depth subset)	Concerns about how many drugs they take?	5%		
Vital Statistics (2005) West Midlands subset	Use of recreational drugs in the last year?#		19.2%	
	I sometimes worry about my recreational drug use?		Agree = 17.2%, not sure = 11.7%	
Prescription for Change (2008) West Midlands subset	Used any of the following drugs in the last year?##			25.6%
# includes ecstasy, LSD, cocaine, crack, heroin, speed, crystal, ketamine, GHB ## includes marijuana, ecstasy, LSD, speed, crystal meth, cocaine, crack, ketamine, GHB, heroin				

Table 29. King et al. systematic review – drug use and dependence

Comparison	Gender	Number of studies	LGB events /total N	Non-LGB events/ total N	Pooled relative risk	I^2
Drug dependence (12 month)	Men and women	4	26/518	423/ 23215	2.73 (1.86-4.02)	0%
Drug dependence (12 month)	Men	3	16/209	235/ 7471	2.41 (1.48-3.92)	0%
Drug dependence (12 month)	Women	4	10/227	163/ 12948	3.50 (1.87-6.53)	0%
Any substance use disorder (lifetime)	Men and women	2	53/153	1462/ 6852	1.51 (1.23-1.86)	0%
Any substance use disorder (12 months)	Men and women	2	45/250	1019/ 10658	1.85 (1.41-2.42)	0%
Any substance use disorder (12 months)	Men	2	29/156	752/ 5106	1.25 (0.90-1.75)	0%
Any substance use disorder (12 months)	Women	2	16/94	267/ 5552	3.42 (1.97-5.92)	26.9%

Table 30. Mercer et al. – injected non-prescribed drug use

Reference	Question	WSM	WSMW	WSW
Mercer et al. (2007)	Has ever injected non-prescribed drugs or other substances	0.5%	4.4%	0%
	Has injected non-prescribed drugs or other substances in last 5 years	0.3%	3.6%	0%
	Has ever injected non-prescribed drugs or other substances in last year	0.01%	2.0%	0%

Specific illegal/recreational drug use

Five West Midlands surveys gave percentages of participants using a variety of specific drugs (see Table 31). Some results were given for men and women separately (see Table 32 and Table 33). They show that cannabis and nitrates were the most popular drugs and that there was not much difference in drug use between men and women. In Measure for Measure II (2005), 10% of men and only one woman reported using both Viagra and amyl nitrate – a dangerous combination, but it was not possible to determine whether the two drugs were being used at the same time in the month. Comparator substance use from the general population are given in Table 31, Table 32 and Table 32.[48]

Three published papers (Bolding et al. 2002, Bolding et al. 2006 and Rivers et al. 2008) also gave percentages of participants using a variety of specific drugs (see Table 34). The percentage using steroids was particularly high in the gay men attending London gyms. Results for Rivers et al. (2008) for cannabis/marijuana can be seen in Table 34. In this study both 10% of same sex and opposite sex attracted participants had ever smoked cannabis/marijuana on school premises. Also no significant differences were found in exposure to cocaine, heroin, methamphetamines, ecstasy or inhaled glue, aerosols, paint or nail polish.

The study by Singleton et al.[48] gives some estimated rates of illegal/recreational drug use in the general population. These have been given in Table 31, Table 32 and Table 33 for ease of comparison.

Table 31. West Midlands surveys and comparison – specific illegal drug use

	Measure for Measure (2002)	**A Matter of Trust (2002)**	**LGBT Census Wolverhampton (2005) (in depth subset)**	***Singleton et al. general population***
	In last month	Monthly	In previous month	*In last year*
Acid/LSD	2.9%			*0%*
Cannabis	28.0%	16% (10% weekly)	12%	*10%*
Crack	1.2%			*0%*
Cocaine	7.8%	6%	5%	*2%*
Ecstasy	12.6%	11%	9%	*2%*
GHB	2.0%			
Heroin	1.0			*0%*
Ketamine	4.9%			
Metamphetamine				
Nitrates	27.7%	21%	19%	*1%*
Speed	11.7%			*2%*
Steroids	1.2%			*0%*
Viagra	3.0%			
Other	0.4%	14% (other than poppers)		

Table 32. West Midlands surveys and comparison – specific illegal drug use in men

	Measure for Measure (2002)	Measure for Measure II (2005)	Vital Statistics (2005) West Midlands subset	*Singleton et al general population*
	In last month	In past month	In last year	*In last year*
Acid/LSD	3.3%	(Hallucinogens) 2%		*1%*
Cannabis	26.9%	17%		*12%*
Crack	1.5%			*0%*
Cocaine	8.3%	9%		*3%*
Ecstasy	14.0%	10%		*3%*
GHB	2.0%			
Heroin	1.2%			*0%*
Ketamine	6.1%			
Met-amphetamine		0.4%	1.7% (once a week or more = 0.1%, 1-2 times a month = 0.3%, less than once a month = 1.3%)	
Nitrates	31.6%	30%		*1%*
Speed	11.9%			*3%*
Steroids	1.5%			*0%*
Viagra	4.1%	13%		
Other	0.8%			

Table 33. West Midlands surveys and comparison – specific illegal drug use in women

	A Matter of Trust (2002)	**Measure for Measure (2002)**	**Measure for Measure II (2005)**	***Singleton et al general population***
	Monthly	In last month	In past month	*In last year*
Acid/LSD		2.0%	(Hallucinogens)3%	*0%*
Cannabis		30.7%	26%	*7%*
Crack		0.7%		*0%*
Cocaine		6.5%	14%	*1%*
Ecstasy	5%	9.1%	10%	*1%*
GHB		1.8%		
Heroin		0.4%		*0%*
Ketamine		2.0%		
Met-amphetamine			0%	
Nitrates	9%	18.5%	13%	*0%*
Speed		11.1%		*1%*
Steroids		0.7%		*0%*
Viagra		0.4%	0%	
Other		0.2%		

Table 34. Bolding et al. (2002) and (2006) and Rivers et al (2008) – specific illegal drug use

	Bolding et al. (2002)	**Bolding et al. (2006)**		**Rivers et al. (2008)**
	In past 12 months	In past 12 months	Once or twice a month or more often	In last month
	Men	Men	Men	Both
Acid/LSD				
Cannabis				Gay – 23% Het – 21%
Crack				
Cocaine		42.5%	19.0%	
Ecstasy		44.7%	23.2%	
GHB				
Heroin				
Ketamine		31.7%	15.6%	
Metamphetamine		15.8%	4.7%	
Nitrates				
Speed		12.6%	3.1%	
Steroids	15.2%			
Viagra				
Other				
Any drug	59.7%	54.0%		

3.1.10 Delivery of healthcare

This section includes a variety of examples of interface with the health services – general practice, mental health counselling, vaccination for hepatitis, cancer screening and other NHS interaction.

General practice

Four of the West Midlands surveys investigated the interaction between participants and their GPs (see Table 35). They suggest that a relatively high proportion of LGB people are registered with GPs (90%) but the proportion out to their GP (i.e. disclosed their sexual orientation) is much lower, at between 42-51%. Also, surveys suggest that approximately 10% of GPs were not gay-friendly. In the LGBT Census Wolverhampton (2005) (in-depth subset), the reasons given for not being out to the GP were: 53% - “the subject hasn’t come up”, 32% - “its not relevant”, 13% - “I am worried about how they might react”, 8% - “I’m too embarrassed to talk about it”, 5% - “I’m worried about confidentiality”. In Measure for Measure II (2005) the most common reasons given by the 10% participants not being registered with a GP were

22% having recently moved, 21% because they were not ill and 17% because they could not find a gay-friendly GP.

One published paper on smoking cessation (Harding et al., 2004) found that their male participants had had a mean of 2.6 Consultations with their GPs in previous year (SD 3.5). This can be compared to an average GP consultation rate in men of 3.5 per year.[61]

Table 35. West Midlands surveys – registered with GP/out to GP/GP gay-friendly?

Study	Question	All	Men	Women
Measure for Measure (2002)	Told GP about you?	40.9% (missing = 3.5%)	42.2% (missing = 2.8%)	37.6% (missing = 5.4%)
	Is your GP gay friendly?	Yes = 32.8% Unsure = 51.2% No = 13.2% (missing = 2.8%)	Yes = 35.9% Unsure = 48.9% No = 12.7% (missing = 2.5%)	Yes = 25.2% Unsure = 57.0% No = 14.2% (missing = 3.6%)
LGBT Census Wolverhampton (2005), (in-depth subset)	Out to GP?	51%		
Measure for Measure II (2005)	Registered with GP?	90%		
	Disclosed your sexuality to GP?	42%		
	How did your GP react?	Positively = 49% Indifferent = 45% Negatively = 6%		
	Is your GP practice gay friendly?	Yes = 41% Unsure = 48% No = 10%		
	Can you talk to your GP about matters related to sexuality?	54%		
Prescription for Change (2008) West Midlands subset	Sexuality disclosed to GP or other healthcare professionals?			All or almost all = 29.8% half = 5.8% About half = 5.5% < half = 7.0% Few or none = 51.9%
	GP surgery had clear policy on confidentiality?			Yes = 22.5% Not sure = 12.3%

	GP surgery displayed non-discriminatory policy including sexual orientation?			9.1%

Mental health counselling

Five West Midlands surveys asked about mental health counselling (see Table 36). They found a high rate of access to mental health counselling (36- 40%), which is consistent with the high rates of mental health problems described previously in the LGB research. However, a relatively large proportion (~33%) had not found counselling beneficial. The rate of access to mental health counselling in the general population is approximately 2.4% (9% with mental health problems).[48]

Table 36. West Midlands surveys – counselling

Study	Question	All	Men	Women
Measure for Measure (2002)	Ever sought counselling?	37.7% (Missing = 2.6%)	35.7%	42.3%
	Happy with counselling?	27.4% (Missing = 61%)	27.6%	27.0%
A Matter of Trust (2002)	Sought formal help from GP or counsellor?	47% of those with mental health problems		
Making Visible the Invisible (2002)	Receiving mental health treatment	26.7%		
LGBT Census Wolverhampton (2005) (in-depth subgroup)	Formal support from GP, counsellor or support group?	55% of those with mental health problems		
Measure for Measure II (2005)	Received counselling?	“almost 40%”	35%	50%
	Found it beneficial?	66% of those who had had counselling		

Hepatitis A vaccination

The only West Midlands survey to measure Hepatitis A vaccination was the LGBT Census Wolverhampton (2005). It found that 30% of men and 21% of women had been vaccinated and 17% were unsure whether they had had this vaccination or not.

Riordan et al. audited a Hepatitis A vaccination policy in gay men attending a London clinic. They found that 46.6% (140/300) who were screened had seroprevalence of anti-Hepatitis A IgG (confidence interval 41%-52%). They reported that 49.9% of the whole sample (n=395) were offered vaccination on their first visit. The 50.1%

(n=198) who were not offered vaccination probably included the 140 men who were already seropositive and 52 with clear previous history of vaccination but it is unclear why the remaining 6 were not vaccinated. They report that HIV targets (from British Association of Sexual Health and HIV) were greater than 90% for screening and vaccination. There was a suggestion that, compared to previous research in 1998, there was a significant increase in overall seroprevalence from 35.9% to 46.6% in 2004. However, there were no details about the 1998 sample and how it was acquired other than the size – 384 people.

Hepatitis B vaccination

Three West Midlands surveys recorded hepatitis B vaccination (see Table 37). The results suggest that approximately 50% of gay men were receiving vaccination by 2005.

Table 37. West Midlands surveys – hepatitis B vaccination

Study	Question	Result
Measure for Measure (2002)	Have you had a Hep B vaccination?	Full course = 41.8% Part course = 6.9% Unsure = 4.2% Missing = 10.7%
LGBT Census Wolverhampton (2005)	Hep B vaccination?	Yes – Men: 49% Yes – Women: 33% Unsure: 13%
Measure for Measure II (2005)	Hep B vaccination?	Fully – men: 53% Partly – men: 5% Unsure – 9%

Das et al. (2003) conducted a case control study of the effectiveness of hepatitis B vaccination in 104 gay men compared to 101 male and 131 female healthcare workers. The vaccinations were carried out at Birmingham Heartlands Hospital between 1995 and December 2000. For the 104 gay men, vaccination was complete in 85.6% and 85.4% of these returned for follow up. 44.5% had an adequate response. Of the 55.5% without an adequate response, two thirds had boosters. Of these, one third had an adequate response, one third remained inadequate and one third did not return for follow up.

For the control group of 101 male health workers, vaccination was complete in 100% and possibly all returned for follow up (unclear from paper). 71% had an adequate

response. Of the 29% without an adequate response, all had boosters. Of these, all but one returned for follow up and 64.2% developed adequate responses, the remainder having inadequate responses. 40% of these received a repeat course of vaccination. For the control group of 131 female health workers, vaccination was complete 100% and possibly all returned for follow up. 79% had an adequate response. Of the 21% without an adequate response, 92.6% had boosters of whom 84% then developed an adequate response. Therefore, after complete follow up, 75% of gay men, 97.9% of male health workers and 99.2% of female health workers achieved an adequate response.

Cancer screening – Breast self examination, mammography, cervical smear and testicular self-examination

Five of the West Midlands surveys recorded various cancer screening behaviours and these are listed in Table 38, Table 39, Table 40 and Table 41. The results for breast self examination suggested that 70-80% lesbians and bisexual women checked their breasts regularly. It is unclear what the current rate of breast self examination is in the general population due to the recent publications suggesting that there is no beneficial effect of self examination.[62] For mammography, a very high proportion of eligible women (93%) attended the examination, which compares favourably with the 76% mammography coverage of eligible women in England.[63] However, the latest West Midlands results for cervical screening (from a relatively large sample) suggested that only 56.4% attended regularly. This can be compared to 80% coverage in the eligible female population in England.[63] For testicular self-examination, 72-84% of gay and bisexual men are checking themselves regularly – this can be compared to approximately 49% in the general male population.[64]

Table 38. West Midlands surveys – breast self examination

Study	Question	Result
Measure for Measure (2002)	Know how to examine own breasts?	Yes = 69.5% Unsure = 15.4% Missing = 3.6%
	How often do you check breasts?	Weekly = 15.6% Fortnightly = 9.4% Monthly = 29.0% 6-monthly = 13.1% Annually = 4.0% Never = 20.3% Missing = 8.7%
	Same point in menstrual cycle?	Yes = 21.8%, Unsure = 19.6% Missing = 20.5%
	Who would you ask about it?	GP = 38.1%, family member = 8.2%, friend = 10.5%, partner = 7.8%, women's clinic = 6.9% Missing = 25.8%
Measure for Measure II (2005)	Know how to check your breasts for abnormalities?	Yes = 69%
	How often do you check your breasts?	At least once a month = 40% Less often = 36% Never = 15% Missing = 9%
	Same point in menstrual cycle? (of those checking)	Yes = 14%, Unsure = 22% No = 54%
Prescription for change (2008) West Midlands subset	Frequency of self-checking breasts?	Monthly = 34.1% Every few months = 52.4% Don't currently = 13.5%

Table 39. West Midlands surveys – mammography

Study	Question	Result	Comment
Measure for Measure (2002)	Invite for a mammography?	Yes = 7.8% Unsure = 3.8%	Missing = 3.1%
Measure for Measure II (2005)	Invite for a mammography?	Yes = 17% (86% eligible population)	
	Did you attend? (of those invited)	Yes = 93%	

Table 40. West Midlands surveys – cervical smear

Study	Question	Result
Measure for Measure (2002)	Invite for cervical smear?	Yes = 77.5% Unsure = 0.7% Missing = 3.1%
	Attend test?	Yes = 55.7% Missing = 17.8%
	Where smear taken?	GP = 49.9% Family Planning = 4.9% Women's health clinic = 4.2% GUM = 2.0% Missing = 39.0%
	Choice about whether male or female took test?	Yes = 22.5% Missing = 35.6%
LGBT Census Wolverhampton (2005)	Smear in previous 3 years?	54%
Measure for Measure II (2005)	Invited for cervical smear?	Yes = 79%
	Attend test? (of those invited)	Yes = 77%
	Where smear taken?	GP = 87% Family Planning = 5% GUM = 9%
	Choice about whether male or female took test?	Yes, unsure and missing = 40% (The "No" result was given only)
Prescription for Change (2008) West Midlands subset	Experience of cervical screening?	Within last 3 years = 56.4% Past 3-5 years = 14.5% > 5 years ago = 11.6%

Table 41. West Midlands surveys – testicular self-examination

Study	Question	Result
LGBT Census Wolverhampton (2005)	Check in previous 6 months?	72%
Measure for Measure II (2005)	Aware how to do it?	Yes = 73% Don't know = 10%, Unsure = 11%
	Check frequency? (of those aware how to do it)	At least once a month = 49%, less than once a month = 35%, never = 15%

Other interface with health services

Two West Midlands surveys investigated other healthcare issues. In Vital Statistics (2006) West Midlands subset, when asked the question "I would like to be more involved with promoting the health of gay and bisexual men?", 21.3% strongly agreed, 31.9% agreed and 34.3% were not sure (12.5% did not agree with the statement). In Prescription for Change (2008) West Midlands subset, only 0.5% had attended a specialist health service for lesbian and bisexual women. In Prescription

for Change (2008) West Midlands subset, 56.3% had any negative experiences of healthcare and 51.0% had any positive experiences of healthcare in the last year. For 41.8% of women the health worker assumed heterosexuality, for 26.0% there was no opportunity to discuss sexual orientation in the healthcare setting and for only 5.3% did the healthcare worker provide an opportunity to come out. There was an acknowledgement of sexuality by health worker after disclosure for 24.4% of women. For 7.9%, the healthcare worker still assumed heterosexuality, for 4.9% the healthcare worker asked inappropriate questions but for 24.6% the healthcare worker did not make inappropriate comments after disclosure. Only in 13.6% did the healthcare worker welcome the partner at the consultation and for 12.7% the healthcare worker gave advice accounting for sexuality.

Two published papers investigated other NHS interaction. Harding et al. (2004) found that 52% of gay male participants of a smoking cessation clinic sample had had secondary/hospital consultations in the previous year and that the mean number of consultations was 2.6 (SD 3.9). Mercer et al. found a higher rate of hospital inpatient visits in WSMW and a higher rate of hospital outpatient visits in WSW than WSM (see Table 42).

Table 42. Mercer et al – hospital inpatient and outpatient visits

Reference	Question	WSM	WSMW	WSW
Mercer et al. (2007)	Hospital outpatient visit in last year	26.5%	35.0%	40.8%
	Hospital inpatient visit in last year	8.2%	13.0%	4.0%

3.1.10.1 Bisexual section

Very few specific bisexual identity results were available. In the West Midlands survey A Matter of Trust (2002) the bisexual respondents (n= 49) reported the lowest incidence of mental health problems – although a third still had some mental health issues they related to their sexuality. Those who were unsure about their sexuality (n= 30) experienced the highest incidence – 67%.

One published paper specifically recruited a bisexual sample (Barker et al. (2008). It found that 36% had single (24%) or multiple (12%) physical or mental health impairments that interfered with everyday life. These impairments were 12% unseen impairment (e.g. diabetes, epilepsy), 5% learning difficulty (e.g. dyslexia), 3% hearing impairment, 3% mobility impairment and 2% visual impairment. Of the sample, 25% had had a diagnosis of a mental health issue from a professional – 16% had depression, 8% anxiety, 8% had self harmed, 7% had seasonal adjustment disorder, 3% panic disorder, 3% post traumatic stress disorder, 2% bipolar disorder, 2% obsessive-compulsive disorder, 1% had an eating disorder and 1% had schizoaffective disorder. There was also one case of each of adult attention deficit disorder and Asperger's syndrome. These percentages can be compared to rates in the general population of 15% lifetime rate of depression, 4.4% general anxiety disorder, 2.4% self-harm, 1.1% obsessive compulsive disorder, ~ 1% eating disorder and 0.5% probable psychotic disorder. Rates for panic disorder are approximately 7%[48] and the rate of bipolar disorder is approximately half that of schizophrenia within the diagnosis of probable psychotic disorder.[65] UK estimates for the prevalence of post traumatic stress disorder in the general population were not found.

3.1.10.2 Trans section

The only trans-specific information available was from one of the West Midlands surveys. A Matter of Trust (2002) found that 4/7 (57%) of Trans respondents had experienced mental health problems.

3.1.11 Qualitative systematic review results

Fourteen peer-reviewed, qualitative studies, published since 2000, were identified (see Table 43). There was no information on trans issues. The included qualitative studies related the experiences of both LGB patients and healthcare professionals. Most papers related issues of patient-healthcare worker communication and to areas of health service provision and all were conducted in the UK. No systematic reviews of qualitative research were included. Two of the West Midlands surveys included qualitative research (Making Visible the Invisible,[26] A Matter of Trust[25]) and these findings have been included in this section.

Of the published studies, 10 recounted the experiences of LGB participants. Of these, four described experiences of LGB patients in general practice: three in adults[66-68] and one in older adults.[69] Another two studies described the experiences of therapeutic counselling of LGB participants[70,71] one study described the experience of maternity care of lesbian women[72] and one study described the experiences of gay men and lesbians who had undergone treatments for homosexuality.[73] There was also one study that explored self-destructive behaviour and mental health in young people[74] and one study that explored how mental health of lesbians related to workplace sexual identity.[75]

There were four studies related to practitioners, three of which were in straight and one in gay practitioners. Of these studies, one described GP's perspectives on consultations with LGB patients,[76] one described perspectives of GPs administering 'treatments' for homosexuality[77] and one described the strategies used by LGB doctors to manage their identity in the clinical examination of patients.[78] Another study examined the perceptions of teachers to homophobic bullying and included a small amount of information on health of the pupils.[79]

All studies used qualitative techniques to collect and analyse data. Twelve studies used one-to-one interviews: described in six studies as structured or semi structured interviews[67,69,70,75,76,78,80] and in two as in-depth, unstructured interviews,[73,77] the others were not described.[66,74,79] Also, four studies used self-completion questionnaires[68,70,72,79] whilst two involved focus groups.[66,68]

The number of participants varied between studies, the largest study being in 307 teachers and the smallest in 10 older gay men. However, the majority contained a similar number of participants, around 20-50 respondents (see Table 43).

The focus of the included studies varied (see Table 42). Some were more relevant to the aims of this review and inevitably contained more concepts that were related to LGBT experiences of healthcare. These studies therefore contributed more to the generation of themes and feature more highly in thematic discussion.

Since limited qualitative data was available from West Midlands surveys, discussion of qualitative findings relates to all UK studies. It was considered that findings would be reasonably generalisable to the West Midlands area.

Table 43. Qualitative primary research details

Author and date	Study objective	Population	Study methods	Theory of approach*/Method of analysis
Cant 2006[68]	Explored the experiences of lesbians and gay men in relation to primary care services in general practice	Lesbian women and gay men. 27 people in focus groups (20-70 years), 42 returned questionnaires (16-65 years). North London, UK	Focus groups and a self-completion questionnaire	Grounded theory/Partial transcription, themes identified from data and from stakeholder interviews
Cant 2005[67]	Explored the experiences of coming out of gay men with their GPs and sexual health clinic staff	38 gay men (mean age ~34 years), 12 health service managers. London, UK	Semi-structured interviews	Grounded theory/Memo writing to identify themes
Cant 2002[66]	Explored the experiences of gay and bisexual men in primary care	17 gay and bisexual men, 21-58 years. London, UK	Interviews (n-17) and a focus group (n=6 from whole sample)	Grounded theory/Verbatim transcripts read to identify themes
Clover 2006[69]	Explored the experiences of older gay men in relation to health, gaps that exist in health and social care services and how primary care services could better meet the needs and concerns of older men	10 gay men, 60-70 years. Greater London, UK	Semi-structured interviews – 'Conversation with a purpose'	Verbatim transcripts analysed with 'successive approximation'
Hinchliff 2005[76]	Explored general practitioners perspectives on difficulties they face when discussing sexual health issues with lesbian and gay patients in primary care consultations	22 GPs, 13 men, 9 women, 34-57 years. Sheffield, UK	In depth interviews – 'guided conversation'	Verbatim transcripts analysed with thematic data analysis. Attention paid to 'how' participants related experiences.
King 2004[77]	Investigated the experiences of professionals who administered and evaluated treatments of homosexuality in Britain since the 1950s	30 health professionals (12 psychiatrists, 16 psychologists, 1 nurse specialist, 1 electrician), 50-80 years. UK	In-depth interviews	Analysed transcripts for data related to selected aspects
Mair 2003[71]	Explored the experiences of gay men in therapy	14 gay men, 22-51 years. UK	Structure interviews, face to face or telephone	Constant comparison analysis
McDermott	Examined the ways in which the	24 lesbian women, 21-56 years,	Semi-structured	Grounded theory approach.

Author and date	Study objective	Population	Study methods	Theory of approach*/Method of analysis
2006[75]	psychological health of women may be influenced by workplace sexual identity and social class positioning	various social class positioning, North-West England, UK	interviews	Coding categories generated from transcripts and themes and interpretations developed
Pixton 2003[70]	Examined experiences of affirmation during counselling of lesbian, gay and bisexual people	17 (7 men and 10 women), 17-56 years, all had affirming experience of counselling. Southampton, UK	Questionnaire with open-ended questions, one-to-one structured interviews	Grounded theory approach, analysis not described
Riordan 2004[78]	Explored how lesbian, gay and bisexual practitioners manage their identity in the clinical examination of patients	16 healthcare professionals (13 gay, 2 lesbian, 1 bisexual man, 1 bisexual woman, 1 transgender). UK	Semi-structured interviews with interview guide	Transcribed interviews, constant comparison analysis, respondent validation, professional triangulation
Scourfield 2008[74]	Explored the cultural context of youth suicide and any connections between sexual identity and self-destructive behaviour	29 LGBT young people (15 gay/lesbian, 12 bisexual, 2 transgender), 16-25 years. North-west England and South Wales, UK.	Interviews (n=13) and focus groups (3 groups)	Thematic coding frame developed and then data coded
Smith 2004[73]	Investigated the circumstances, referral pathway, process of therapy and aftermath of treatments for homosexuality since the 1950s from the view of the patient	29 people who had undergone treatments (28 men, 1 women) and 2 relatives of former patients, aged 27-83 years. UK	In-depth unstructured interviews	Analysed transcripts for data related to selected aspects
Warwick 2001[79]	Examined teachers' perceptions of homophobic bullying, the responses made and the factors which impact the provision of education and support to lesbian and gay pupils	307 head teachers or members of staff. Schools in England and Wales	Mailed questionnaire, small number of telephone interviews	Not described
Wilton 2001[72]	Explored the maternity care experiences of lesbians in the UK in order to evaluate service delivery to this group	50 lesbian women who had experienced maternity care. All but 1 >30 years. UK	Self-completion questionnaire	Not described

3.1.11.1 Quality assessment of qualitative studies

Results for quality assessment are given in Appendix 5. The issues that were addressed included the sexual orientation of the researcher, considerations around researcher bias and appropriate methods of data collection.

In the current systematic review, ideological perspective may be a particularly important factor. The extent to which the sexuality of the investigator impacted their approach was difficult to judge. In some of the studies, researchers were explicit about their sexuality (they were gay or lesbian researchers)[67,70,80] but, in other studies, no reference to researcher sexuality was made. Attitudes expressed by study participants may have been influenced by the sexuality of investigators but influences may have been positive as well as negative. For example, a homosexual researcher may encourage negative experiences of homophobia to be related and this may be detrimental to the study, giving a biased representation of healthcare treatment. However, it could be argued that a participant who knows that their interviewer is also LGB may be more likely to answer honestly, feeling freer in discussing their experiences and providing more informative responses.

The extent to which the data presented in publications represents what was related by participants (reflexivity) is an important consideration. Where a researcher approaches work from a particular perspective and is not open to different ideas and concepts this may be a concern since results may appear very different depending on what information is selected for inclusion in study reports. Although the qualitative checklist to some extent seeks to assess this characteristic (‘Are the findings substantiated by the data…’), in reality this is difficult to assess and relies upon the thoroughness of the investigator. Their honesty and ethical approach are vital so that a true representation of what was related is presented in reports and publications. In the current review, there is nothing to suggest that researchers were misleading in their presentation of results but no judgement could be made that results were truly representative of patient perspectives.

There may be some debate as to the best method for data collection. In some cases, where particular topics are to be discussed, the use of structured interviews may be appropriate and guide useful discussion. However, in other cases, where general

opinions are sought, this may act to ‘lead’ discussion and even bias the views expressed. In the current review, where structured interviews were used, they were generally thought to be justified since these studies were seeking to investigate particular areas of interest. Equally, the appropriateness of interviews versus focus groups for this type of work may be debated. Interviews may give more independent responses, unbiased by inputs of other study participants or the research facilitator. However, where general issues are to be explored and ideas generated for discussion, focus groups may provide a valuable setting. In the current review, although the majority of investigators chose to conduct interviews, some used focus groups and each of these approaches was likely to bring with it positive and negative impacts on the research.

Problems in achieving transparency in qualitative research make quality assessment an extremely difficult task. The potential for investigator bias is high and readers may struggle to assess to what extent studies relate real perspectives. However, in the current work, with an awareness of the important issues involved, these studies are likely to be rich sources of information; giving attitudes and perspectives and providing insight into the thoughts and feelings of LGB individuals.

3.1.12 Qualitative study findings

The quantitative part of this systematic review brings together available published quantitative literature on health behaviours of LGBT people in the UK whilst this part of the review summarises qualitative literature on health behaviours. The included studies provided a small amount of information on health behaviours and treatment and a larger body of evidence relating to perceptions and experiences of barriers to healthcare. The following review of qualitative material therefore gives an initial brief summary of health behaviours before discussing, in more detail, the identified barriers to healthcare: relationship barriers and institutional barriers. A table in Appendix 6 summarises the sources for each of the identified themes. In the text, “*Italics*” are used to identify concepts from study participants and ‘single quotation marks’ identify concepts of study authors.

3.1.12.1 Health behaviours

In the qualitative literature, homosexuality was identified as being associated with self-destructive behaviour, such as self-harm, suicide, experimentation with relationships and anorexia.[68,74] It was also associated with depression, unhappiness, lack of confidence, feelings of isolation and a general psychological burden.[74,75] The LGB social scene was discussed in relation to the high levels of smoking and alcohol in that setting[68,69] and a feeling was expressed that, for those not interested in being part of the clubbing 'scene', there were few other opportunities to be part of social networks.[69] These qualitative studies suggested that some, but not all, LGB individuals, came out to their GPs and many did not discuss sexual health;[67,68] for some, fear of disclosure came from negative experiences earlier in life.[66]

3.1.12.2 Barriers to good healthcare

Although LGB individuals may be a vulnerable group; experiencing poor mental health and influenced by a social 'scene' that advocates high consumption of drugs and alcohol, the qualitative literature reviewed suggested strongly that there was inadequate healthcare support. In this systematic review, barriers in healthcare have been categorised as barriers in relationships between healthcare professionals and LGB patients and as institutional barriers affecting the whole health service (studies related to each theme listed in appendix 7).

Relationship barriers

An issue highlighted in the majority of qualitative studies reviewed was poor communication between healthcare workers and LGB patients. In a study of GPs, almost half of the doctors reported barriers to discussing sexual health needs with non-heterosexual patients.[76] There may be many reasons for these barriers and, in the studies reviewed, the following themes were identified as important predictors of the healthcare professional-patient relationship (indication given of whether perspectives are largely from patients or healthcare professionals):

- Homophobia: Conferred and internalised (patients and professionals)
- Heterosexist assumptions (patients)
- Lack of professional approach (patients)
- Lack of knowledge (patients and professionals)
- Misunderstandings (patients)

- Being over-cautious (patients and professionals)
- The importance of affirmation (patients)

Homophobia: conferred and internalised

Homophobia describes explicit or *implicit* negative treatment or attitudes towards homosexual people. It may be present in heterosexual people (described here as conferred homophobia) or it may be present in homosexual people themselves (described here as internalised homophobia).

Conferred Homophobia

In studies of the current review, LGB respondents frequently cited examples of homophobia they experienced in the healthcare setting. One lesbian mother reported that "*Homophobia was very apparent in hospital*"[72] whilst lesbian and gay participants in another study described medical staff as having been "*judgemental*", "*patronising*", "*intrusive*" or "*rude*" and having shown "*lack of respect*".[68]

Although homophobia sometimes took the form of avoidance: "*He couldn't get near men!....he wouldn't touch me. I haven't been there since*" (Jason, gay man),[69] it was sometimes more directly harmful. An older gay man reported of his GP that "*He simply told me that if I don't feel life's worth living that's up to me what I do*" (Andy)[69] whilst, in another study one female informant reported undergoing physically rough treatment.[68] The direct physical abuse and lack of support for a patient with suicidal intentions are clearly unacceptable.

There is a history of a certain amount of homophobia in the medical profession. Until the mid to late 20th century, homosexuality was considered a medical condition that should be treated and doctors were encouraged to 'cure' homosexuality.[77] Experiments were normally conducted on men and the most common 'treatment' included aversion therapy, where electric shocks were associated with same sex attraction in order to change sexual orientation.[77] Recently, investigators have researched the effects of these treatments on the doctors who administered them[77] and the patients who were treated.[73] In the accounts of practitioners, a clear theme was that, at the time of treatment, there was an absence of awareness that these

treatments were inappropriate: "*You never thought about the morality of what you were doing*." (Clinical psychologist)

The fact that the homosexual act was a criminal offence at that time enforced the 'normal' attitude that this was a disease to be cured. Doctors were "*not aware of any particular ethical difficulty*" (clinical psychologist)[77] and "*dealing with it by ameliorating their social background, rather than dealing with their sexual orientation, hadn't really occurred to any of us, certainly not me*" (clinical psychologist).[77] One participant summarised that: "*that's just part of the horror stories of the 1950s and 60s of general homophobia*".[77]

Cultural norms may have played a large role in dictating real and conveyed attitudes towards people of different sexual orientations. One physician clearly still held the opinion that homosexuality was a disease to be treated: "*I thought they [homosexuals] were people who were disordered and needed treatment and psychiatric help. And I still do*" (clinical psychologist)[77] but most subsequently questioned their own actions: "*I feel a lot of shame. I don't think I've ever spoken about it since then apart from now*." (clinical psychologist).[77]

A small number of physicians however, despite regretting treatments, maintained that they were acceptable and useful, relating the success of someone being "*completely cured*" and another "*getting better*" (psychiatrist) and of patients becoming "*satisfactorily heterosexual*" (clinical psychologist).[77] The attitude that homosexuality was a disease to be treated may to some extent still prevail since, although aggressive homophobia is generally considered unacceptable, attitudes of a heterosexual ideal may still remain. This manifests itself in a prevailing culture of heterosexism (see below).

There has been a rapid change over the last 50 years, with the decriminalisation of some homosexual acts in 1967 and the removal of homosexuality from the ICD-10 in 1992.[73] However, with the influence of a homophobic past in the medical profession, some clinicians still appear to hold negative views of homosexuality. In another study, investigating the views of GPs, one doctor was open about his distaste for homosexual sex: "*I think exposure to different practices one wouldn't subscribe to – no, let's personalise this one – which I wouldn't subscribe to, and some of which I*

find personally repugnant in some ways" (GP, male, age 42 years)[76] and another was explicit about his own homophobia: "*prescribing Viagra for homosexual men….but it's probably my prejudices, I'm prepared to admit that…..I don't see it's appropriate*" (GP, male, age 50 years).[76] This GP may have made treatment decisions on the basis of his personal opinions, something that is not acceptable whatever his beliefs. However, his openness to his own motivations did suggest the possibility of change and recognition that his treatment was not systematic and fair.

Other homophobia may be less explicit. In the same study, one GP made the comment, in the context of achieving good patient communication, that: "*if they don't understand what we would say is the normal phrase or clean phrase then I would go and use whatever words they use to refer to their sex act as….what one person might say is making love might not be the same as what we believe*" (GP male, age 37 years).[76] Despite this GP's attempts to overcome communication barriers, there was the suggestion of homophobia. Words that he might have chosen to describe heterosexual sex he referred to as "*clean*" and "*normal*" with the implication that words describing homosexual sex were dirty and abnormal. Personal opinion was also suggested where he referred to "*their sex act*" and comments that homosexual sex may not be believed to be "*making love*". It appeared that his attempts to aid communication were somewhat undermined by his apparent underlying homophobia.

Internalised homophobia

Perspectives from studies in the current review suggested that the presence of homophobia may not be restricted to heterosexual people. Mair conducted qualitative research that indicated the presence of internalised homophobia in gay study participants[8080] and he described that: 'its existence had a profound impact on my awareness of just how deeply gay men's development can be affected by the negative messages which have been internalised during maturation'.[71]

The experiences of health professionals administering treatments[77] can be compared to the research by Smith et al.[73] investigating the effects of treatments for homosexuality on patients involved. It showed that the strong culture of homophobia at that time appeared to have had a large impact on some of the patients interviewed: "*I felt totally bewildered that my entire emotional life was being written*

up in the papers as utter filth and perversity" (male).[73] Smith et al. reported that, where people sought to confide, they were 'usually met with silence, condemnation and rejection or told their homosexual feelings constituted a temporary phase' and that they felt 'shame and isolation'.[73] In some participants, an inner struggle was apparent: "*Mainly that from a guilt-ridden Christian point of view it meant that at least I had tried to do something and it had proved not to work*" (male).[73] The internal conflict of Christian views and homosexual feelings was evident and may have contributed to internalised feelings of low self-worth and a negative view of homosexuality.

In other studies, where participants had not undergone treatments for homosexuality, guilt still appeared to play an important role. A respondent in a study of gay man, after attending a sexual health clinic, reported: "*I've got enough guilt on my plate without them laying it on*" and others in this study referred to themselves as a "*Slut*" or 'made self-disparaging remarks'[67]. Distaste for homosexuality, from a sense of guilt or otherwise, may have resulted in internal conflict and this was evident in another study investigating gay men's experiences of counselling: "*I personally don't have a problem with being gay, but when I think about it, maybe subconsciously I have got a problem with it*" (James).[71]

In one study, there was also the suggestion that internal homophobia took the form of a rejection of gay culture. In a study of gay men's experiences of counselling, one participant commented that: "*I wouldn't choose to say that I was a gay male. My impression of gay males is that they all go round in women's clothing and make lots of noise and wear pink T-shirts. A sort of in-your-face, sort of terribly camp, effeminate male*" (Ed)[71] whilst other gay respondents appeared even more assertive in their distaste: "*I find it very hard to take gay people [counselling] seriously*" (Tom),[71] "*No way! I have a real mistrust of them*" (Nigel).[71] These reservations were based on previous experiences of gay men in other settings. Men in this study, despite displaying what appeared to be negative attitudes towards other gay men, were simultaneously 'monitoring their own therapists for any signs of homophobia'.[71] This apparent contradiction may have displayed some internal conflict, with feelings of homophobia against their own sexuality.

In young people, who may be considered to have grown up in a more 'gay-friendly' environment, there was still suggestion of the presence of internalised homophobia. In a study of LGBT young people, some showed almost contradictory views of themselves and their sexuality, speaking about being 'out and proud' but also 'simultaneously feeling uncomfortable with their sexual identity or despising aspects of gay culture'.[74] This internal conflict may have had a destructive power, one respondent in this study commenting that it made him "*feel really horrible*" and another 'rejected the identity lesbian'.[74] In this study one respondent reported how a friend's internal struggle had led to destructive behaviour: "*I know Matt has self-harmed because he gets so upset about the way he is…he can't get rid of it, no matter how hard he tries*" (Cherie, aged 17).[74]

The desire of the young person to "get rid of it" portrays a picture of unhappiness with him or herself. An attempt to dispel homosexual feelings may relate to a desire to conform to the culturally acceptable heterosexual orientation. The high rates of self-harm in homosexual people (see quantitative review) may, in part, be related to feelings of homophobia within the individual. Although young people in this study were generally not ashamed of their homosexuality, they appeared to have had difficulty in gaining self-acceptance on every level. The authors may have summarised the root of this problem well in their comment that, 'developing a positive LGB or T identity requires them to construct themselves against the overwhelming pressure of the heterosexual norm'.[74]

Heterosexism

More subtle than overt homophobia, heterosexism may be a common means of undermining the value of homosexuality and may mediate inadequacies in healthcare. The term heterosexism describes the assumption that opposite sex orientation is the norm and implies that same-sex relationships have an inferior status. This prevailing attitude manifests itself at many levels in society: in public services, schooling, healthcare etc, with the general assumption that people are heterosexual.

In a local survey of young LGBT people in Sandwell, participants highlighted experiences of heterosexism in the healthcare system: "*When I went to see my*

GP…... He just assumed my sexuality without asking. I ended up having to tell him I was a lesbian. Once someone has made that assumption, it's much harder to come out." and "*They all assume you're 'straight' so, for an easy life, I just go along with it*" (Making visible the invisible).[26]

Heterosexism also appears to be encountered more widely in the UK health system. In a study of lesbian and gay patients, participants criticised GPs and practice staff for assuming heterosexuality.[68] In another study of gay and bisexual men, difficulties were experienced when their doctors assumed that they were heterosexual.[66] One informant described how, when he was seeking advice for stress, his doctor said "*Oh, you're a man…you'll get over this girl*" (informant 7).[66] Another man who was attending a consultation with his partner was asked "*Well, who are you anyway?*" (Informant 13).[66] In the first example, the assumption that the respondent was worried about a "girl" and, in the second example, that the partner had no connection with the patient, showed an approach of heterosexism, also reported in other studies. For example, in a study of experiences of lesbian and gay people, one female respondent recounted a conversation where, when undergoing a cervical smear test, she was asked: "*are you having sex? – yes – are you worried about getting pregnant? – no – why not? – my partners a woman – oh [with reported shock]*" (Female informant).[68]

In these studies there was evidence of heterosexism in the attitudes of some medical staff although some may try to avoid these assumptions. In one study a doctor described how he strived to put questions across in a way that did not assume heterosexuality: "'*Do you have a partner?' Or 'Who do you live with?'…I try and ask those sort of neutral questions*" (GP, Male, age 39).[76] Although this may not be the norm, using open questions, that do not assume that people are heterosexual, may be an important step in negating barriers to communication.

Lack of professional approach

A distinction may be made between personal opinion and practice. Some healthcare workers may maintain homophobic views or practice heterosexism whatever the training given or prevailing climate of opinion. In these cases, professionalism is likely to be vital for a non-biased approach. For example, a doctor in the study by

Hinchliff et al. who showed negative views about the sexual practices of gay and lesbian patients, also talked about adapting his approach to communicate with patients: "*at the same time encourage the patient to talk about these issues by appearing to be quite facilitatory and welcoming of their views. That takes time to learn*" (GP, Male, age 42).[76] The GP spoke of "*appearing*" to be accepting of these patients despite his underlying feelings. Although not ideal, a recognition of homophobic feelings and an attempt to facilitate communication may be the most positive approach for some doctors and may lead to adequate patient care.

In other cases, homophobia was not masked and led to inappropriate behaviour and a lack of professionalism. This often appeared to be based on religious grounds. In a study of gay and bisexual men, one man described how he'd been "*offered evangelical religious counselling to 'cure' him of his homosexuality*"[66] and, in another study an older gay man described how 'a doctor reacted to his being gay by verbally insulting him and (despite his Jewish faith) handing him a Christian tract'.[69] In another study, a lesbian seeking healthcare during pregnancy related that: "*The midwife said she had never heard of people like us. She wouldn't book me in; espoused her Christian beliefs*".[72] The treatment of lesbian mothers may be a particularly controversial area and this study gave other examples of negative attitudes expressed by healthcare professionals: "*She stated outright that a woman should not consider childrearing unless married to a man*", "*My GP stated that he did not agree with two women bringing up children*" and "*[They] placed [my] child on [the] concern list! Because of the nature of our relationship, i.e. lesbians*".[72] These mothers had negative experiences of health care primarily due to healthcare workers giving their own opinion in place of using a professional approach. Wilton et al. highlighted that 'the sole service area where midwives are entitled to refuse to participate on moral or religious grounds is termination of pregnancy'.[72] A lack of professionalism may lead to rudeness but, of more concern, may result in improper treatment, discrimination and breaking of the law.

Lack of knowledge

Gay and lesbian respondents identified that various aspects of knowledge were important in discussions with their GP. In relation to the use of sexual health clinics, a gay man expressed that it was important that doctors understood issues relating to

being gay: "*You want people to get it….you're not going to have to explain things about being a gay man*"[67] and an older gay respondent in another study, despite praising his general practice, commented that 'they had a limited understanding of his sexuality, especially in relation to sex or what gay men actually do'.[69] In a third study, a gay man commented about his counsellor that: "*I've used the word 'cottaging' and she's given me a strange look and I've had to explain that*".[71] The need to explain sexual practices or social environments may act not only as a barrier in communication, but to further feelings of alienation and isolation from the assumed norms of heterosexual society.

Concern about lack of knowledge was also apparent in healthcare professionals expressing feelings of doubt for their own ability to understand homosexual practices and terminology. In a study of GPs, one respondent commented: "*I suppose gay men and women I wouldn't mention it [sexual health] unless they brought it up because perhaps thinking that they might feel that I don't understand the mechanics of it all or something like that*" (female, age 42).[76] Other GPs in this study also felt that their lack of knowledge acted as a barrier to asking about sexual matters and that that they did not know much of the terminology used.[76]

A lack of knowledge however may not necessarily act as a barrier where an interested, polite approach is taken. In a study of lesbian mothers[72] comments were made that: "*They were intrigued, curious into my choices for being pregnant and using donor insemination, but this was dealt with in a sensitive, caring manner*" and "*People are curious and I don't mind being open – I hope it may broaden their experience and attitude*" and "*They wanted to learn about lesbian parenting*".[72] In another study,[66] gay and bisexual men had 'little expectation that their GPs should be experts in matters relating to sexuality' but said that they should 'approach their patients with an open mind, listen to them and engage with their experience': "*they've just got to keep their wits about them and be able to talk intelligently*" (Gay man).[66] A lack of knowledge of terminology or sexual practices may not always limit effective treatment or inhibit good patient-professional relationships where sensitivity and openness are used.

Misunderstandings

Misunderstandings between patient and healthcare worker may inhibit forming positive relationships. In the current review, factors that appeared to be sources of misunderstanding were: preconceptions of homophobia by LGB patients, differences in terminology used and the embarrassment of health professionals.

LGB people may bring with them preconceptions about the attitudes of physicians. Some patients showed fear of direct homophobia. In a local study of Birmingham's LGB community, one participant said that they were: "*Fearful of being open about my sexuality with my GP for fear of labelling, being treated differently*" (Male aged 25-34y) (A matter of trust). In a study of gay men undergoing counselling, one participant said: "*I mean, straight men are normally homophobic*".[71] In a study of lesbian mothers, of those that did not disclose their sexuality to midwives, the majority wanted to but did not for fear of homophobia.[72] One participant said: "*I had been told that health visitors could make things very difficult if they were prejudiced*".[72] In a study of older gay men, it was noted that 'Anticipation or fear of differing treatment was more common than actual experiences of discrimination'[69] and another informant in a different study commented that: "*I'd be worried about any kind of prejudice*".[66] Even before any attempted discourse, some lesbian and gay patients may have expected to encounter homophobia from their GPs. A gay male participant in another study, describing his reasons for not being able to talk with GPs about homosexual issues, gave a comment that may summarise well the view of many LGB individuals: "*A doctor's a doctor, init*".[67] A pre-conceived notion that doctors will not understand or approve of homosexuality may reduce openness, lead to misunderstandings and act as a barrier to good communication.

Another factor that may lead to misunderstandings between patient and doctor may be in the use of terms to describe homosexuality. In a study of gay men,[71] differing views were expressed about the term they would choose to describe their sexuality. One stated that: "*I would actually describe myself as a homosexual male. I wouldn't choose to say that I was a gay male*"[71] whilst, for other respondents, the opposite preference was apparent: "*….and I kept using the word 'gay' and they kept using the word 'homosexual' and I think it was that that distanced me*", "*I don't like the word 'homosexual' because I think it throws out a criminal reference*".[71] These differing

preferences, held by different individuals, may have made communication difficult. It may be important that doctors are perceptive to the words that each patient uses and that they refer to terms that the patient has chosen to describe their sexuality.

A final source of misunderstandings may be related to the interpretation of apparent embarrassment or discomfort in healthcare professionals. One of the negative qualities of GPs/medical staff identified by participants in one study[68] was that they were "*uncomfortable*". This was listed by investigators with other, clearly homophobic reactions, such as being "*judgemental*" or "*rude*". Although this characteristic may result from homophobia, it is also worth considering that apparent discomfort may also relate to a lack of knowledge or not knowing the appropriate way to act (see 'Lack of knowledge' above) or to embarrassment. Embarrassment on the part of healthcare workers may lead to misunderstanding about the views of the professional and may act as a barrier to effective communication. One lesbian woman describing maternity care related that: "*Our sexual preference was acknowledged but not discussed. We perceived embarrassment on their behalf*",[72] and a young person participating in a local survey commented: "*Sometimes when they say it's best not to mention it, I know it's not for my comfort it's for theirs*".[26]

A study of the views of general practitioners also suggested the same difficulty: 'doctors reported feelings of shyness, being uncomfortable and not wanting to be intrusive'.[76] One gay man in another study felt that his counsellor was not comfortable with his sexuality: "*I have a feeling that she is somewhat homophobic really. She might encourage me to talk (about gay issues) but her face is saying, 'Oh my God!'*"[71] This client perceived, rightly or wrongly, that his counsellor was homophobic despite her efforts to engage and talk about his sexuality. Embarrassment in discussing issues relating to homosexual behaviour may play a role in relationship break-down since, what may be embarrassment, appears as homophobia and inhibits patient-counsellor interaction.

Being over cautious

A possible consequence of embarrassment in discussions of sexual health may be that both healthcare workers and LGB patients are over-cautious when relating to each other. In Hinchliff's study of GPs (no particular sexual orientation), one female

doctor commented "*maybe I tread too carefully*" (GP, female, age 43) and another related that "*I don't think we are very good at it yet….just phrase questions so that people can be open about their sexuality without it having to be a big deal*" (female, age 50).[76] The frustration that some patients may have felt with an over-cautious approach by GPs was articulated by one lesbian mother in another study: "*Using the word LESBIAN! (its not catching)*".[72]

Alternatively, in a study of lesbian mothers, humour was identified as a good way to achieve a relaxed atmosphere and an example given was a comment by a woman's health visitor: "*Oh, it's just like that programme on the telly!*".[72] Where healthcare professionals have the confidence to make more humorous conversation, this may lighten the atmosphere and facilitate good patient-professional communication. An assertive approach by patients may also be beneficial to effective communication. In Cant's study of gay men, participants who were assertive and open with their GPs experienced good communication.[67] In this study one participant identified the importance of a bold approach by both doctors and patients: "*They ask you straight out which I think is good…but you've got to be truthful because to get anything back you have to give them to information*".[67]

An extremely direct approach may not be appropriate in all cases since individuals are different and the assumption that all LGB people will appreciate directness may be over-simplified. The ideal approach is likely to depend on many factors: the patient's personality, health needs, personal situation and past experiences. Health care workers may need to be perceptive to the particular needs of each patient in order to communicate in the most appropriate and effective way.

Importance of affirmation

An environment that does not condemn homophobic discrimination may lead to an atmosphere of uncertainty for homosexual individuals, unsure of how their sexuality will be accepted. Negative past experiences and the expectation of homophobia may create a difficult premise on which to base a relationship of trust.

In a study of lesbian mothers, statements of affirmation by health professionals were highlighted by many women as being important.[72] When gay and lesbian participants reported good experiences of counselling in another study, positive statements were

made about counsellors being "*really empathetic*" and that they felt "*very supported*" and "*cared for, I felt like I mattered*".[70] Another participant in this study commented that: "*it was useful she wasn't gay and so accepting because she showed me that all straight people don't say nasty things*".[70] Other respondents reported feeling a sense of "*equality*" and being "*treated as a human being*".[70] In another study, an older gay man described how he felt that 'empathy' was the most important quality in a counsellor.[69] Of a counsellor who he had found kind and respectful he said: "*He seemed to realise much more how I felt and he was very concerned and he obviously seemed to think I was a nice person*".[69] The interest and kindness that this counsellor showed was important in this case and positive experiences, reported in these studies, generally appear to be based on feelings of affirmation and mutual respect. Where past negative experiences may have undermined self-confidence and trust, these experiences affirm the clients feeling of self worth and value as an individual.

In the studies currently reviewed, there was also an indication that, not only did homosexual patients expect to be questioned about their sexuality, but that ongoing dialogue helped to affirm that the doctor had a positive attitude. In relation to counselling, one gay man described how: "*The initial statement 'Gay is fine' was there, but there was no on-going affirmation*".[71]

The need for more than a 'gay is fine' approach may be consistent with the feelings of other LGB people. Other gay men in this study also seemed to be looking for a non-passive approach and counsellor feedback: "*I could be talking to that telly and get more response*" and "*You know, sometimes I don't feel he challenges enough*".[71] These men stated that they wanted a "response" or "challenge" but the need for some ongoing dialogue about their sexuality may have suggested a desire for affirmation that they were respected and approved of as homosexual people. In the healthcare setting, although medical staff may not see their role to primarily be one of patient affirmation, this may be an important contribution to the emotional wellbeing of patients and may build patient trust and good communication.

Institutional barriers

In the current review of qualitative studies, other barriers to healthcare were associated with institutional level problems (indication given of whether perspectives are largely from patients or healthcare professionals):

- Lack of appropriate protocols (patients)
- Lack of appropriate referrals (patients)
- Poor confidentiality (patients)
- Discontinuity of care (patients)
- Lack of gay-friendly resources (patients)
- The need for training (professionals)

Lack of appropriate protocols

Medical staff may find it difficult to act in a sensitive way if they are required to follow standard protocols that assume heterosexuality. In a study of lesbian and gay men, investigators described how, 'there was no structured opportunity for gay men to come out if they wished' and that 'The design of the information systems and the categories offered for recording information were not inclusive of non-heterosexual identities'.[68] The use of protocols tailored to heterosexual people may result in inappropriate questioning. For example, in a local survey of young LGBT people's experiences, one participant described how: "*During my hospital stay, the nurses asked a lot of questions that I thought were irrelevant, when I told them I was gay*".[26] The built-in provision of an opportunity for openness about sexual orientation in the protocol for medical consultations may also be important. One woman participating in a study examining the experiences of lesbian mothers commented that: "*Questions at initial contact should give the gentle opportunity to come out*".[72]

For women, especially in relation to pregnancy and childbirth, the requirement to come out may be much more likely. This study of lesbian mothers suggested that these issues were not always dealt with using tact and sensitivity.[72] Women appeared to have had very different experiences in the extent to which they were questioned. Some of the midwives 'did not ask questions where they could usefully have done so' and the majority of patients were not asked about whether they wanted their information to be kept confidential.[72] Some questions were seen as inappropriate: "*My midwife asked me questions…that I didn't really want to answer*", "*I felt pressurised to give his [the fathers] name*" and "*I do not feel the question of how I got pregnant is of any relevance to health professionals*".[72] The inadequacy of the forms used for initial registration was also highlighted: "*When we went to the initial booking-in interview they very patiently amended the form, changing reference to 'father' to either 'donor' or 'partner' depending on the circumstances, apologising for the inadequacies of the form*".[72] The experiences of these women suggested that appropriate, repeatable protocols for registration and treatment of lesbian mothers were not in place. A systematic, transparent approach, using a set protocol that is applicable to women of all sexualities, is desirable to avoid inappropriate questions, reduce misunderstandings and improve patient confidentiality.

Lack of appropriate referrals

The current studies suggested a lack of appropriate referrals to social support groups and sexual health clinics for LGBT people. In a study of gay men, none reported having been referred by their GPs to sexual health clinics or voluntary organisations although most had self-referred to these types of agencies.[67] Similarly, in another study, many gay and lesbian patients had self-referred to counselling projects but 'there was no evidence to suggest that any GP had referred them to such projects' and there was also no evidence of referral for counselling of victims of hate crime.[68] An older gay man in another study was not referred for bereavement support and, only after expressing suicidal intentions to his GP, was he offered counselling.[69]

Voluntary organisations were seen as an important source of support and emotional and social well-being. In a study of gay men one commented that: "*The group has achieved lots for me personally – cos I thought that I was in a situation that no-one else can understand but there's so many other people in that situation in life*"[67] and, in another study, a number of women identified that they would have appreciated being linked up with other lesbian mothers or referred to local support groups.[72] The importance of support groups is evident from attitudes expressed. Lack of knowledge, thought or the absence of a desire to help may be the cause of the poor rate of appropriate GP referrals. However, this may be an important area where large benefits for patients may be achieved.

Poor confidentiality

Participants in some studies had concerns about confidentially in relation to their sexual orientation. Of lesbian women choosing not to disclose their sexuality to midwives, many were worried that information would not be kept confidential.[72] This issue was highlighted by a number of informants in another study, where several men were concerned that information about their sexuality might not be kept confidential and might impact applications for mortgages, insurance etc.[68] One man thought that, following disclosure of his sexuality by a doctor, his insurance company had significantly increased his insurance premium, linked to a risk of contracting HIV.[68] In another study of gay men, one respondent said: "*I was informed that it was harder to get mortgages and insurance policies and all that sort of thing once you*

disclose you're gay"[67] and this was also a particular area of concern for gay and bisexual men in another study, who were afraid that information might be passed on to other agencies.[66]

The other area of fear related to confidentiality highlighted by study investigators was that information would be shared with other members of staff and might quickly travel outside into the local community, having damaging effects.[66] This fear may to some extent have been justified. For example, experiences of women in other studies were having 'lesbian mother' written across their child's health record in an unrelated consultation[68] and another woman 'was distressed to find that her sexuality had been discussed on the maternity ward without her knowledge'.[72] Where appropriate rules for confidentiality in relation to sexuality are not in place, there may be a risk of inappropriate use of patient details.

Discontinuity of care

An area identified as important in one particular study was the extent to which patients felt there was continuity of care.[72] This study examined the maternity experiences of lesbian mothers and, when talking about positive and negative experiences, many identified continuity of care as important: "*Particularly helpful - a midwife who knew us and with whom we had developed a relationship, who was able to be there for most of the labour*", "*I had lots of different midwives – one I saw twice and she remembered*", "*midwives changed with every appointment and often I just let the 'father' and 'husband' comments go as I knew I would not be seeing them again so there was no point in putting myself through an embarrassing situation*", "*I really wish I could have had continuity of care, the same midwife throughout…This would have spared me so much anxiety*".[72]

Continuity of care may be desirable for all those experiencing healthcare but may be particularly important for LGB people, especially in the case of lesbian women during pregnancy and childbirth. Continuity of care limits the number of times a person is required to 'come out' and promotes the formation of a trusting relationship between the patient and healthcare worker.

Lack of gay-friendly resources

A lack of overtly LGB resources in waiting rooms was identified as a problem by participants in many of the studies currently reviewed. In a study of gay men, participants felt that information leaflets in GP waiting rooms were not gay-friendly[67] and, in another study of gay and bisexual men, no participants reported seeing any materials that promoted or featured gay or bisexual men.[66] Lesbian mothers identified the need for literature to represent both hetero and homosexual parenting: "*It would have been helpful if literature and other spoken information gave examples from lesbian or gay families…so that it was clear from the outset that there was not prejudice against us*".[72] This female respondent makes an important point. The provision of literature that is relevant to homosexuals not only provides information but acts to normalise homosexuality. The presence of this written material may act threefold: to inform, to act as assurance to homosexual individuals that they will not be judged and to educate both medical staff and other patients in acceptance of homosexuality and rejection of a culture of heterosexism.

The feeling that overtly gay/lesbian literature would act to reassure LGB people was held by participants in other studies. An older gay man commented on his desire to see gay literature in his GP waiting area: "*so if there was a gay one then I would know the practice is likely to be gay friendly*".[69] In a study of gay and bisexual men one man suggested: "*Why not have some stuff that's obviously gay…if you see something like that it does give you a lot of confidence*".[66] A major function of this type of literature may therefore be to act as an assurance that practices will be 'gay-friendly'. As suggested by a GP participant in the study by Hinchliff et al.,[76] this might also be achieved by presenting a clear non-discriminatory policy so that "*people have it in black and white that they shouldn't be discriminated against*" (male, aged 42).

The need for training

In a study of the views and experiences of general practitioners,[76] many spoke of the need for better training for GPs. Doctors generally felt that training related to understanding sexual practices of lesbian and gay people was more important than gaining knowledge about physiological elements of homosexual sexual health.[76] This appeared to relate back to the feelings of inadequate knowledge, expressed by GPs in the same study. Training may have helped to break down barriers in communication related to knowledge of sexual-practice. Participants commented that they had not had training on homosexuality and sexual health in medical school and it was suggested that 'vocational training' would have been useful.[76] One doctor related how, in his medical training, there was no "*specific training on psychosexual medicine*", how the limited training that may be given to new doctors is "*a really positive experience*" and that it was "*something we should do a lot more of*" (male, age 40).[76] Another said "*I would encourage young doctors to participate in workshops on helping people with their sexual health. I found it was very useful myself in the past*" (female, age 48).[76]

Although formal training may have an important function, there is some suggestion that the important skills may need to be developed over time. One GP who said: "*I think it's something we need to be trained in and we need to be more aware of*", identified training as a way of doctors being "*comfortable*" with gay and lesbian patients and the need to 'dispel any feelings of discomfort' was also identified by others in this study.[76] This type of learning may not be rapidly acquired. For example, in the same study of GPs, 'Two participants described how, through direct experience of lesbians and gay men consulting about their sexual health, they had progressively overcome the difficulties which they faced'[76] and another commented that "*You almost have to practice feeling comfortable and familiar*" (female, age 43). The progression to feeling comfortable and the "*practice*" required suggested that the learning process may require time. The investigators in this study highlighted the importance of 'experimental learning', identified by doctors as a positive way to get used to discussing sexual health issues with gay and lesbian patients.[76] Real interaction with LGBT patients, rather than theoretical teaching, may also be important for the development of good doctor-patient communication.

The following table summarises evidence from the qualitative literature into factors for consideration by health professionals and health commissioners.

Table 44. Implications for health professionals and commissioners

	Considerations for health professionals	Considerations for health commissioners
A non-heterosexist approach	Avoid assumptions of heterosexuality	Development of protocols that do not assume heterosexuality
		Provision of LGB or non-sexuality specific literature in health establishments
Improving knowledge	Improve gaps in general LGBT and LGBT health knowledge	Specific training for health professionals in relating to LGBT patients
Patient assurance	Be aware of LGB patients possible anticipation of homophobia	More strict measures may be required to ensure LGBT patient confidentiality
	Affirm LGBT patients	
Building relationships	Avoid being over-cautious and strive for engagement	Where possible, continuity of care may be especially desirable for LGBT patients
	Use terminology in accordance with that of the patient	
Referrals	Attempt to refer LGBT patients to relevant referral groups	Provide health professionals with information on relevant social groups/health establishments for referral

4. FACTORS RELEVANT TO NHS

The main factors of relevance to the NHS are the recent changes in legislation and the requirement to produce Equality Impact Assessments.

4.1 Legislation changes

4.1.1 Repeal of Section 28 of the Local Government Act (1998)

Section 28 of the Local Government Act 1988 amended Section 2 of the Local Government Act 1986 by inserting Section 2A, which stated that a local authority:

> *"shall not intentionally promote homosexuality or publish material with the intention of promoting homosexuality" or "promote the teaching in any maintained school of the acceptability of homosexuality as a pretended family relationship"* [81]

The effect of it was that schoolteachers and many local authority officers were unsure about what they could and could not say and do, and whether they could help pupils dealing with homophobic bullying and abuse. As a result, much homophobic bullying went unchallenged, which had important consequences for mental health. Also, local authorities were unclear as to what legitimate services they could provide for lesbian, gay and bisexual members of their communities.[82,83]

Section 28 of the Local Government Act was repealed in England in 2003. Since then there have been a number of changes with regards to education and LGBT issues. There is now reference in a number of government education policy documents (DfES, OFSTED and GTCE policy documents) explicitly challenging homophobia and including sexual orientation within the spectrum of equality and diversity issues to be addressed by schools.[84]

4.1.2 Equality Act 2006 and other recent legislation

Recent legislation in England has resulted in a duty of care on a range of bodies, including public sector bodies, on issues of sexuality and gender. The cumulative effect of this legislation with regard to the NHS, (some of which was undertaken by Act of Parliament and some of which by Regulations laid before Parliament), was to render discrimination against LGBT people in employment, training and provision of goods and services unlawful. This also applies to independent sector providers.

- The Equalities Act 2006 set up the Equality and Human Rights Commission which included the requirement to take action on discrimination on grounds of sexual orientation as one of the six original equalities strands.[1] Transgender was subsequently added as the seventh strand.
- The Employment Equality (Sexual Orientation) Regulations 2003 made it unlawful to discriminate against anyone in employment or training on the grounds of their sexual orientation.[85]
- The Equality Act (Sexual Orientation) Regulations 2007 (2007 No. 1263) made discrimination against someone in the provision of goods and services on grounds of sexual orientation an unlawful act by any agency including most public bodies and the NHS.[86]
- The Sex Discrimination Act (1975) was amended by the Sex Discrimination (Gender Reassignment) Regulations 1999 no 1102[87] to make it clear that transsexual men and women are expressly included in the Sex Discrimination Act where they suffer discrimination because they have undergone, or are about to undergo gender reassignment.
- The Gender Recognition Act (2004) prohibits disclosure of the background of a trans person with a Gender Recognition Certificate[88] and health staff may be reported to the police and prosecuted under section 22 of the Gender Recognition Act for disclosure without consent.
- The Sex Discrimination (Amendment of Legislation) Regulations 2008 (2008 No 963) amended the Sex Discrimination Act 1975 to render unlawful discrimination on the grounds of gender reassignment in all but very tightly defined circumstances.[89]
- The Criminal Justice and Immigration Act 2008 (chapter 4) provides legal protection against incitement to hatred on grounds of sexual orientation and covers serious acts of hatred (murder, assault etc).[90]

At the time of writing a new Equality Bill was announced in the Queen's Speech (8th Dec 2008) which will extend the existing duty on public bodies to consider how their spending decisions, employment practices, and service delivery can affect people according to their race, disability, or gender and will include sexual orientation,

gender reassignment, age, and religion or belief. It will do this by creation of a single equality duty.

These recent legislative changes have changed the legal climate in which LGBT people live in the UK. It is currently unclear as to the impact this will have on LGBT health.

4.2 Equality schemes

The Department of Health in 2007 introduced guidance requiring NHS bodies to have a single equality scheme covering all legal strands of diversity.[91] This includes sexual orientation and gender identity. The Department intended that this guidance would help NHS Bodies enact the existing and new duties of equality introduced by legislation. Equality Impact assessments are a way of examining the main functions and policies of an organisation to see whether they have the potential to affect people differently. There is a general duty for NHS employers to undertake these assessments as a requirement of race, gender and disability equality legislation, but they should also cover all the strands of diversity and ensure that all receive equitable attention.

More recently the NHS Constitution's first value[92] states that:

> *" the NHS provides a comprehensive service, available to all irrespective of gender, race, disability, age, religion or belief. It has a duty to each and every individual that it serves and must respect their human rights. At the same time, it has a wider social duty to promote equality through the services it provides and to pay particular attention to groups or sections of society where improvements in health and life expectancy are not keeping pace with the rest of the population."*

The Health Bill 2009, currently before Parliament, intends to place a duty on providers and commissioners of NHS services to take account of the Constitution in their provision and commissioning of services.

4.2.1 Equity issues

There is no evidence-based assessment of impact on LGBT health inequalities by ethnic group or socio-economic category due to lack of information.

5. DISCUSSION

5.1 Summary of results

Remarkably few peer reviewed and published studies were found on LGBT health excluding HIV, sexually transmitted diseases and transitioning. Given that there are millions of medical journal articles listed in the databases such as MEDLINE and EMBASE, and many of these refer to UK research, 27 articles seemed rather a low number. This compares to much more UK research literature available on a wide variety of Black and ethnic minority health issues. For example, systematic reviews are available on child mental health differences amongst ethnic groups in Britain containing 49 included studies,[93] on ethnic variation in UK asthma frequency and morbidity with 13 included studies[94] and on physical activity in UK South Asians with 17 included studies.[95] This also mirrors findings from a general investigation into the proportion of LGBT health-related research from any country listed in MEDLINE that found only a tiny proportion (0.098%) of relevant material.[96] As it estimated that LGBT people comprise 5-7% of the population, LGBT health could be seen as a neglected area of public health and much more needs to be done to understand these issues.[97]

It can be seen from the search strategy and inclusion criteria that trans health research was originally going to be included in this systematic review. Unfortunately, having trawled through all of the literature, no peer-reviewed and published UK-specific information was found on the general health of trans people. All trans-related publications were about the transition process only. There was only one small piece of information on seven trans people from one of the West Midlands surveys (A Matter of Trust, 2002) which is too small a sample to provide any meaningful results generalisable to the trans population as a whole.

There was little information on people who identify as bisexual.

The main findings on physical and mental health from the review are as follows:

- The research from the unpublished West Midlands surveys was broadly similar to that in published research, where a comparison could be made between the two.
- For general health, long term illnesses and prescribed medication use, there did not seem to be stark differences between the LGB samples and the general population. There is a possibility that there were higher rates of poor health but fewer with longstanding illnesses, however finding appropriate comparators was difficult due to the general nature of the questions. There appeared to be fewer taking prescribed medication but there were few people aged over 65 in the LGB samples and it is known that many more older people than younger people in the general population take prescribed medication.[61]
- There was no information for a large number of important and relatively common diseases including tuberculosis, eye or ear problems, blindness or deafness, chronic bronchitis or emphysema, digestive system diseases such as ulcerative colitis or irritable bowel disease, skin diseases, rheumatoid arthritis, multiple sclerosis, thyroid problems and prostate problems.
- There was insufficient information on many common diseases to be able to determine whether there were higher rates in the LGB samples or not, including a wide variety of common cancers, diabetes, epilepsy, neurological conditions, coronary heart disease, asthma and arthritis. For example, the 2% point estimate cancer rate from one West Midlands survey is likely to be very imprecise.
- There was no published UK research to demonstrate that lesbians and bisexual women were at any less risk of cervical cancer than the general female population.
- Much research on mental health was available and the results for a variety of aspects of mental health were worse in the LGB samples than comparator groups and the general population.
- The rates for depression and anxiety appear to be 2-3 times higher than in the general population, as do the rates for suicide ideology and suicide attempts.

- The apparent rate of eating disorders is remarkably high in LGB people, compared to the general population, particularly in men (~10% LGB vs ~2% women, 0.2% men).
- There appears to be a higher rate of polycystic ovary syndrome causing infertility in lesbians compared to heterosexual women.
- The rates of domestic violence and abuse in the LGB samples seemed to be similar to women in the general population.
- There are much higher rates of self-harm in the LGB samples (~ 25% LGB vs ~2.4% general population).

The main findings on health behaviours from the review are as follows:

- The research from the unpublished West Midlands surveys was broadly similar to that in published research, where a comparison could be made between the two.
- There did not appear to be higher rates of obesity in the LGB samples compared to the general population. This might be expected in gay and bisexual men because of the relatively high numbers of slim, fit-looking men attending bars and clubs, but was surprising in lesbian and bisexual women because of previous studies from abroad suggesting that obesity rates were higher in lesbians and bisexual women than in the general population.[98,99]
- The little information available on diet and exercise suggested that fewer LGB people do the minimum recommendation for physical activity and eat five or more portions of fruit and vegetables per day.
- There was a lot of information on smoking and rates were remarkably high. There was a suggestion of a trend towards lower rates in later studies but still the rates appear to be much higher than those in the general population. The case series on smoking prevention suggested a high rate of cessation in a gay men's group.
- There was a lot of information on alcohol intake and the rates appeared to be relatively similar to those in the general population. This was surprising, particularly as many of the LGB samples were taken in pubs and other venues selling alcohol so it would be expected that there would be a higher number of people drinking alcohol and so higher numbers drinking more than

the recommended amounts. There was considerable personal concern about the amount people were drinking.

- There was a large amount of information available on general illegal drug use and use of specific drugs. The rates appear to be much higher in LGB people than the general population and a wide variety of drugs are being used on a regular basis.

The main findings on delivery of health care from the quantitative and qualitative reviews are as follows:

- There was little published research available to compare to the results from the unpublished West Midlands surveys.
- Approximately 50% of LGB people were out to their GPs. Most GP surgeries were not overtly LGB- friendly. A small proportion of GPs were still behaving negatively towards LGB people.
- There was a high rate of access of mental health counselling, but it was unclear whether this was paid for by participants or was provided by the NHS. Unfortunately, a relatively high proportion had not found it beneficial.
- The research on hepatitis vaccination found that only half of gay men were receiving hepatitis B vaccination and that the success of hepatitis B vaccination was less in gay men compared to controls.
- There were relatively high rates of breast self-examination and mammography in lesbian and bisexual women and testicular self-examination in gay men but much lower rates of cervical screening in lesbian and bisexual women compared to the general female population.
- There appear to be important relational barriers between LGB patients and some healthcare professionals. These may be due to:
    - Homophobia of health professionals, manifest in rudeness, aggression or malpractice.
    - Assumptions by professionals of patient heterosexuality.
    - Lack of healthcare professional's knowledge of the LGB social scene and relevant vocabulary.
    - Misunderstandings between LGB patients and healthcare professionals. These may originate from a patients expectation of homophobia/poor treatment, from differences in terminology used by patient/healthcare

professional and from misinterpreted embarrassment shown by healthcare professionals.
  - Healthcare professional taking an over cautious approach and not engaging well with LGB patients.
  - A lack of LGB identity affirmation by healthcare professionals.
- Barriers to healthcare for LGB individuals also appear to be present at the institutional level:
  - Standard, routinely used protocols assume heterosexuality.
  - Health professionals may not be referring LGB patients appropriately.
  - There may be a lack of LGB patient confidentiality (which may be perception or reality).
  - Discontinuity of care may be a particular issue for LGB individuals, requiring them to 'come out' on numerous occasions.
  - There is often an absence of LGB tailored resources in healthcare establishments.
  - Health professionals identified the need for training in psycho-sexual health.

5.2 Strengths, limitations and uncertainties

5.2.1 Strengths

One of the major strengths of this systematic review is that the team included an expert who has worked in LGBT health for more than 10 years. As a result, many papers and other pieces of research have been identified that would have not otherwise been available. None of the West Midlands surveys are available via standard databases so would have been impossible to find without prior knowledge. The team also included an experienced information specialist. Therefore it is highly likely that all relevant published research evidence has been included in this report. Another strength is that, between them, the team have published more than 50 systematic reviews and are very experienced in systematic review methods in a wide variety of subject areas.

Considerable care was taken when conducting this systematic review to find and include studies is a systematic way. The explicit methods in this report mean that the review should be reproducible. With regard to the review of systematic reviews within

this report, it is important to note that where included systematic reviews had published papers that were includable according to the inclusion criteria, they were excluded in order to prevent double counting of papers.

This systematic review has found consistency of findings across numerous different publications and publication types, particularly for mental health, eating disorders and self harm, and health behaviours, smoking, drinking and illegal drug use. There is a relatively larger amount of research, including quantitative as well as qualitative research on the delivery of healthcare. The qualitative research, identifying barriers to patients accessing healthcare, appears to be consistent with quantitative research showing low rates of 'coming out' to GPs and poor attendance at health screenings.

5.2.2 Limitations

A major weakness in the research base was that so few of the included studies had heterosexual comparators drawn from similar populations. Considerable efforts were made to find the most appropriate comparators from routinely collected statistics from the Office for National Statistics or equivalent published studies in the general population (see Appendix 2), but the comparison with routinely collected data will only give rough estimates with which to compare because there will be so many different data characteristics such as date of data collection, age distributions, ethnicity, geographical location, income and social class. The routinely collected data was given for the date as near as possible to the data collection of the surveys but sometimes this was not available. Also, for some prevalences it was very difficult to find suitable routinely collected data, such as for cancer prevalence. Incidence data in cancer is much more widely collected but to get this information for LGBT populations would need a cohort study that asked the sexual orientation question. As the Office for National Statistics has now developed a suitable question, this is a possibility, but has not been done as yet.

The information for the West Midlands was from small surveys from non-random samples, often collected in pubs or other venues so each survey will probably not be representative of the LGBT population as a whole. Also, cross-sectional surveys such as these are low in the hierarchy of evidence so any conclusions from these

studies should be viewed with caution. On the other hand, putting the results of these studies together should improve the representativeness of the results found.

The lack of information about a wide variety of illnesses could be seen as a limitation of the systematic review. However, it is important to know what information is not available, in order to plan future research more appropriately. This is particularly true where no information was available, such as for trans health.

There were numerous surveys and other research that could not be included in this systematic review, either because they were not from the West Midlands or were not fully published. It is a limitation in that information from these surveys could not be used, particularly the bisexual and trans research, as the impression given in the systematic review is that there is no research available, whereas there is some but it was not included as it did not meet the inclusion criteria. If all the unpublished research had been included, the systematic review would have been unmanageably large.

5.2.3 Uncertainties

It is uncertain whether the differences in health found between LGBT populations and the general population or of heterosexuals could be due to differences in income or social class. However, this information was collected where available and comparison with routinely collected data suggests that the LGBT population distribution of the samples surveyed may be of higher social class than the general population but possibly slightly lower with regards to income (see Table 52).

Anecdotally, it has been noticed within the older lesbian community that there appear to be relatively high rates of auto-immune diseases such as multiple sclerosis, rheumatoid arthritis and thyroiditis. There was no information available to support or refute this possibility.

There was no fully published information found on the rates of breast cancer in lesbians and bisexual women from anywhere in the world. The Prescription for Change survey, West Midlands subset did not give breast cancer prevalence rates but the full survey did and it found that 8.3% aged 50-79 had been diagnosed with

breast cancer. In the report, they quoted that 1 in 20 (5%) of women in the general population have breast cancer but they don't reference this statement. It is known that the prevalence of breast cancer in women aged 45-64 is approximately 2.2%.[100] If the rate of 8.3% is correct, it is high. Research from the USA suggests that there is a higher rate of breast cancer risk in lesbians compared to their heterosexual sisters[101] but no comparative studies of breast cancer incidence in lesbians and bisexual women compared to heterosexual women were identified.

The rates found for suicide ideation and suicide attempts were 2-3 times higher than those in the general public. Unfortunately it is uncertain whether the rate of successful suicide is higher in the LGBT people than the general population because no research appears to have been done in this area and sexual orientation is not collected on death certificates. Following the insertion of sexual orientation into the National Suicide Prevention Strategy it is hoped that any increased rates of successful suicides in LGBT people will decrease but, without monitoring, this will not be known. Also, it would be some years before any rate changes are known because of the current lack of a suitable baseline with which to compare.

If 0.2% of the population of men in England (~25 million) have an eating disorder this would equal ~ 50,000 men. If 5% of the population of men in England are gay or bisexual this would be ~ 1,250,000 men and if 10% of those have an eating disorder then that would suggest there are 125,000 gay and bisexual men with an eating disorder, i.e. many more than 50,000 men. Either the rates found in the LGB samples are too high, or many gay and bisexual men are not coming forward for treatment so have not been included in eating disorder prevalence statistics in the general population. It is unclear whether any UK eating disorder treatment clinics have ever systematically asked their clients, particularly the men, whether they were LGB and/or whether they had any difficulties around their sexual identity.

Similarly, if 2.4% of the general population of England (~50 million) self-harm that would be ~1,200,000 people and if ~25% LGB people self-harm, that would be 750,000 LGB people self-harming, suggesting that more than half of all people self-harming are LGB. It is unclear whether any UK self-harm treatment clinics have ever systematically asked their clients whether they were LGB and/or whether they had

any difficulties around their sexual identity. However, a local self-harm support group has approximately 50% LGBT participants (Personal communication, Karen Thorne, Wolverhampton PCT Self-harm Network, December 2008). The results suggest that action directed at reducing self harm in the LGB population specifically would have a disproportionate effect on reducing the overall statistic.

It is uncertain whether the opinion suggesting that there are higher rates of obesity in UK LGBT people was ever evidence-based.[102] There is a possibility that this has come from research in other countries such as the USA[103] but it appears not to be generalisable to the UK, given the limited evidence available at the moment.

With regard to mental health counselling, a very high proportion had sought some help but apparently a relatively large proportion had not found it beneficial. It was unclear why this was the case but it might have been because many counselling services are not experienced in LGB issues.[71] In the LGB community, gay affirmative therapy has been developed[104] and a number of LGB-friendly counselling services are now available to fill the gap in demand, particularly in London. No evaluation of these services compared to standard NHS services for LGB people were available.

It is unclear why GPs have refused cervical smears in lesbians[31] given that there is no published information to suggest lower cervical cancer rates in lesbians compared to the general female population. It is also known that a relatively large proportion of lesbians have had sex with a man, particularly when they were young. For example, in one of the included primary quantitative studies, of the WSW, 42.9% reported heterosexual intercourse before age 16, whereas for WSM, only 21.2% reported heterosexual intercourse before age 16.[7] Given that many lesbians find cervical smears uncomfortable, anything that the NHS services do to put lesbians off attending for cervical smears will exacerbate the low uptake rates. It is currently uncertain how best to encourage lesbians who need cervical smears to have them.

It was found from the West Midlands surveys that, up to 2005, only approximately 50% of gay men had received hepatitis B vaccination, but the government target listed gay men as one of the at risk categories to be vaccinated.[105] However, as described in section 2.1.1 of this systematic review, MSM and gay men are not the

same population and, if some gay men are not sexually active, then they will not be at risk. The current government target only includes homosexual and bisexual men who attend GUM clinics. It is currently unclear whether the at-risk MSM population are receiving the vaccination they need.[106]

There was a general impression from the research that health service workers tend to presume LGB people to be heterosexual until told otherwise, rather than not making presumptions about people. It is clear from unpublished research that this is having a detrimental effect on some LGB people's experience of healthcare provision.[31] It is unclear how this heteronormative environment is actually affecting LGB health.

6. CONCLUSIONS

Nine West Midlands surveys, two systematic reviews, 11 quantitative and 14 qualitative peer-reviewed and published studies only were included in this systematic review. They demonstrated that there is only patchy knowledge about the physical and mental health outcomes, use of health services and experience of healthcare in the UK LGBT community and many important health questions are unanswered at the moment. What is obvious is that there is a large amount of cross-sectional survey data in LGBT populations but much of it in specific areas. Therefore, there do not need to be more small LGBT surveys on the same aspects of LGBT mental health, health behaviours and experiences of healthcare as have already been investigated. Further research is needed but must use more sophisticated designs with comparison groups. There are currently huge gaps in knowledge about numerous important areas of health and some of these could be addressed by including a sexual orientation question within large population cohort studies. There is very little comparative data of LGBT populations compared to heterosexuals, and this is in the form of relatively small case-control studies. Some of these studies look at single issues only such as hepatitis vaccination in men and infertility in women. There is no longitudinal data available to be able to determine incidence of various common illnesses. No RCTs in LGBT people were found.

6.1 Recommendations for further research

Research is needed into the general health of trans people and bisexuals. For the physical health of LGBT people, further research is particularly important in a variety of areas including breast cancer and cardiovascular disease. At the moment, it is unclear whether the higher prevalence of breast cancer in lesbians and bisexual women is due to higher incidence rates (i.e. more lesbians getting breast cancer than heterosexual women) or whether it is due to a survival effect (i.e. same numbers of lesbians getting breast cancer as heterosexual women but more are surviving longer, due to unknown factors). It has been presumed that lesbians and bisexual women are at lower risk of cervical cancer than the general population and cervical screening rates are only ~50%, yet there was no information on cervical cancer rates and the fact that a higher proportion of lesbians and bisexual women had heterosexual sex before the age of 16 (43% v 21%) suggests that some

lesbians and bisexual women might be at higher rather than lower risk. With regards to cardiovascular disease, it is clear from the research found that there are high rates of risk factors for cardiovascular diseases, particularly smoking. However, research has not taken the next step to determine whether this is actually manifests in higher rates of cardiovascular disease.

Given that there have been apparently high rates of smoking in the LGBT population for years and that a case series of smoking cessation was published in 2004, it seems remarkable that an RCT of smoking cessation in gay men or LGBT populations has apparently not been done. It would be very useful to know whether smoking cessation for LGBT people was more successful in specialist LGBT smoking cessation groups or in general (but gay-friendly) smoking cessation groups. Similarly, as there is such a high rate of mental health problems in the LGB community, it would be possible and appropriate to run an RCT of gay-specific mental health counselling versus attendance at a general NHS counselling service. It could be that applications have been made for funding but these have not been successful as yet. It is known in the LGBT research community that grant applications for LGBT health research are usually unsuccessful (see Appendix 7).

With regards to a variety of aspects of mental health, the research found suggests that the mental health of LGB people is worse than the general population but there is no information as to why and what can be done about it.

The systematic review has generated numerous specific research questions which need to be addressed. These have been categorised for ease of accessibility but several of the research areas have links with more than one category. It is acknowledged that some questions will be harder to address than others, but all would yield information that could be used to improve the health of the LGBT population:

Physical health-related

- What is the general physical health of trans people? This would be useful to know both before and after transition for trans people who chose this option.
- What is the general physical health of bisexual people?

- What is the incidence of lung cancer, breast cancer, cervical cancer etc in LGBT populations?
- Why is there a higher rate of polycystic ovary syndrome causing infertility in lesbians compared to heterosexual women?
- Why is the proportion of successful hepatitis B vaccination so much lower in gay men compared to controls?

Mental health related

- What is the general mental health of trans people? This would be useful to know both before and after transition for trans people who chose this option.
- What is the general mental health of bisexual people?
- What is the rate of successful suicide in LGB people (as opposed to attempted suicide)?
- What is the rate of attempted and successful suicide in trans people?
- What is the proportion of LGBT people suffering from eating disorders?
- Why is the rate of self-harming in LGB people apparently so high? What is the most effective way of helping them?
- What can be done about the prevention and treatment of the high rates of illegal drug use by LGB people?

Service delivery

- What is the proportion of LGBT people attending eating disorder clinics?
- What is the proportion of LGB people to heterosexual people attending self-harm treatment?
- Is lack of exercise in LGBT people exacerbated by difficulty with accessing sports and other exercise facilities?
- What is the effectiveness of a specialist LGBT smoking cessation clinic compared to the general smoking cessation clinics for LGBT people?
- Is not declaring sexual orientation affecting the health of those people not out to their GP? Do LGB people visit the GP less frequently as a consequence? Do LGB people present serious symptoms and signs later than otherwise?
- How can GP surgeries be made more LGB-friendly?
- Do trans people have similar issues with GP accessibility?
- How successful are privately paid-for LGB mental health counselling services compared to NHS counselling for LGB people?

- How successful are privately paid-for trans mental health counselling services compared to NHS counselling for trans people?
- How can more lesbians and bisexual women at risk for cervical cancer be encouraged to attend regularly for cervical smears?
- How can NHS services and personnel be helped to become much more LGBT friendly?

Health behaviours

- How much exercise do LGBT people take?
- Do LGBT people eat an adequate diet? If diet is poor, what is the most effective way of improving the situation?

6.2 Recommendations for practice

This systematic review has highlighted a number of service delivery areas that also need to be addressed. There needs to be:

- Compliance of all NHS services with current legislation and The NHS Constitution
- Routine confidential sexual orientation and gender identity monitoring across all health services and use of this monitoring to improve services
- Routine confidential sexual orientation and gender identity data collection in all research, in a similar way to ethnicity, gender and age data collection currently undertaken
- LGB and Trans focused education of all healthcare workers
- LGBT-specific health service provision where required. Otherwise, explicitly LGBT-friendly mainstream service provision.

7. APPENDICES

Appendix 1 Search strategies

Reviews:
Database: Cochrane Library (Wiley) 2008 Issue 2 (CDSR, DARE, HTA)
Search strategy:
#1 lesbian*
#2 gay
#3 homosexual*
#4 bisexual*
#5 transsexual*
#6 transgender
#7 transvestite*
#8 pansexual*
#9 queer*
#10 crossgender
#11 cross next gender
#12 intersex
#13 sexual next orientation
#14 sexual next preference
#15 MSM
#16 gender next identity
#17 gender next dysphoria
#18 gender next reassign*
#19 MeSH descriptor Homosexuality explode all trees
#20 MeSH descriptor Gender Identity explode all trees
#21 MeSH descriptor Transsexualism explode all trees
#22 (#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21)
#23 <nothing>, from 2000 to 2008
#24 (#22 AND #23)

Database: Ovid MEDLINE <1950 to May Week 1 2008>
Search Strategy:

1 lesbian$.mp.
2 gay$.mp.
3 bisexuality/ or homosexuality/
4 exp Homosexuality/
5 bisexual$.mp.
6 homosexual$.mp.
7 Transsexualism/ or _ransexual$.mp
8 transgender.mp.
9 exp Transvestism/ or transvestite$.mp.
10 pansexual$.tw.
11 queer$.mp.
12 crossgender.mp.
13 cross-gender.mp.
14 intersex$.mp.

15 sexual orientation.mp.
16 sexual preference$.mp.
17 MSM.mp.
18 WSW.mp.
19 gender identity.mp. or exp Gender Identity/
20 gender reassign$.mp.
21 exp Hermaphroditism/ or hermaphrodite$.mp.
22 gender dysphoria.mp.
23 or/1-22
24 limit 23 to (yr="2000 – 2008" and "reviews (specificity)")

Database: Ovid MEDLINE In-Process & Other Non-Indexed Citations <May 20, 2008>
Search Strategy:

1 lesbian$.mp.
2 gay$.mp.
3 bisexual$.mp.
4 homosexual$.mp.
5 transgender.mp.
6 pansexual$.tw.
7 queer$.mp.
8 crossgender.mp.
9 cross-gender.mp.
10 intersex$.mp.
11 sexual orientation.mp.
12 sexual preference$.mp.
13 MSM.mp.
14 WSW.mp.
15 gender reassign$.mp.
16 gender dysphoria.mp.
17 transsexual$.tw.
18 transvestite$.tw.
19 gender identity.tw.
20 hermaphrodite$.tw.
21 or/1-20
22 limit 21 to (yr="2000 – 2008" and "reviews (specificity)")

Database: EMBASE <1980 to 2008 Week 20>
Search Strategy:

1 lesbian$.mp.
2 gay$.mp.
3 bisexual$.mp.
4 homosexual$.mp.
5 transgender.mp.
6 pansexual$.tw.
7 queer$.mp.
8 crossgender.mp.
9 cross-gender.mp.
10 intersex$.mp.
11 sexual orientation.mp.
12 sexual preference$.mp.

13 MSM.mp.
14 WSW.mp.
15 gender reassign$.mp.
16 gender dysphoria.mp.
17 transsexual$.tw.
18 transvestite$.tw.
19 gender identity.tw.
20 hermaphrodite$.tw.
21 exp Homosexuality/
22 exp Bisexuality/
23 exp LESBIAN/
24 exp sexual orientation/
25 exp Transsexualism/
26 exp gender identity/
27 Hermaphroditism/
28 or/1-27
29 limit 28 to ("reviews (1 term high specificity)" and yr="2000 – 2008")

Primary studies

Database: Ovid MEDLINEI <1950 to May Week 1 2008>
Search Strategy:

1 lesbian$.mp.
2 gay$.mp.
3 bisexuality/ or homosexuality/
4 exp Homosexuality/
5 bisexual$.mp.
6 homosexual$.mp.
7 Transsexualism/
8 transgender.mp.
9 exp Transvestism/ or transvestite$.mp.
10 pansexual$.tw.
11 queer$.mp.
12 crossgender.mp.
13 cross-gender.mp.
14 intersex$.mp.
15 sexual orientation.mp.
16 sexual preference$.mp.
17 MSM.mp.
18 WSW.mp.
19 gender identity.mp. or exp Gender Identity/
20 gender reassign$.mp.
21 exp Hermaphroditism/ or hermaphrodite$.mp.
22 gender dysphoria.mp.
23 or/1-22
24 limit 23 to (yr="2000 – 2008" and "therapy (specificity)")
25 limit 23 to (yr="2000 – 2008" and "qualitative studies (specificity)")
26 24 or 25
27 exp Health Behavior/ or exp Health Services Accessibility/ or exp Health Surveys/ or exp Health/
28 (health or healthcare).mp.

29 health$.mp.
30 or/27-29
31 26 and 30

Database: EMBASE <1980 to 2008 Week 20>
Search Strategy:

1 lesbian$.mp.
2 gay$.mp.
3 bisexual$.mp.
4 homosexual$.mp.
5 transgender.mp.
6 pansexual$.tw.
7 queer$.mp.
8 crossgender.mp.
9 cross-gender.mp.
10 intersex$.mp.
11 sexual orientation.mp.
12 sexual preference$.mp.
13 MSM.mp.
14 WSW.mp.
15 gender reassign$.mp.
16 gender dysphoria.mp.
17 transsexual$.tw.
18 transvestite$.tw.
19 gender identity.tw.
20 hermaphrodite$.tw.
21 exp Homosexuality/
22 exp Bisexuality/
23 exp LESBIAN/
24 exp sexual orientation/
25 exp Transsexualism/
26 exp gender identity/
27 Hermaphroditism/
28 or/1-27
29 exp HEALTH SURVEY/ or exp HEALTH CARE/ or exp HEALTH BEHAVIOR/ or health.mp. or exp HEALTH/ or exp HEALTH SERVICE/
30 healthcare.mp.
31 29 or 30
32 28 and 31
33 limit 32 to (“treatment (1 term high specificity)” and yr=”2000 – 2008”)
34 limit 32 to (“qualitative studies (1 term high specificity)” and yr=”2000 – 2008”)
35 33 or 34

Database: Ovid MEDLINE In-Process & Other Non-Indexed Citations <May 20, 2008>
Search Strategy:

1 lesbian$.mp.
2 gay$.mp.
3 bisexual$.mp.
4 homosexual$.mp.
5 transgender.mp.
6 pansexual$.tw.

7 queer$.mp.
8 crossgender.mp.
9 cross-gender.mp.
10 intersex$.mp.
11 sexual orientation.mp.
12 sexual preference$.mp.
13 MSM.mp.
14 WSW.mp.
15 gender reassign$.mp.
16 gender dysphoria.mp.
17 transsexual$.tw.
18 transvestite$.tw.
19 gender identity.tw.
20 hermaphrodite$.tw.
21 or/1-20
22 health$.mp.
23 21 and 22

Database: Cochrane Library (Wiley) 2008 Issue 2 (CENTRAL)
Search strategy
#1 lesbian*
#2 gay
#3 homosexual*
#4 bisexual*
#5 transsexual*
#6 transgender
#7 transvestite*
#8 pansexual*
#9 queer*
#10 crossgender
#11 cross next gender
#12 intersex
#13 sexual next orientation
#14 sexual next preference
#15 MSM
#16 gender next identity
#17 gender next dysphoria
#18 gender next reassign*
#19 MeSH descriptor Homosexuality explode all trees
#20 MeSH descriptor Gender Identity explode all trees
#21 MeSH descriptor Transsexualism explode all trees
#22 (#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21)
#23 <nothing>, from 2000 to 2008
#24 (#22 AND #23)

Database: PsycINFO <1967 to May Week 4 2008>
Search Strategy:

1 exp Lesbianism/ or lesbian$.mp.
2 gay$.mp.

3 exp Bisexuality/ or bisexual$.mp.
4 homosexual$.mp.
5 homosexuality.mp. or exp HOMOSEXUALITY/
6 exp Transsexualism/ or transsexual$.mp.
7 transgender.mp.
8 exp Transvestism/ or transvestite$.mp.
9 pansexual$.mp.
10 queer$.mp.
11 crossgender.mp.
12 cross gender.mp.
13 intersex$.mp.
14 sexual orientation.mp. or exp Sexual Orientation/
15 sexual preference$.mp.
16 MSM.mp.
17 WSW.mp.
18 gender identity.mp. or exp Gender Identity/
19 gender reassign$.mp.
20 exp Hermaphroditism/ or hermaphrodite$.mp.
21 exp Gender Identity/
22 gender dysphoria.mp.
23 or/1-22
24 limit 23 to yr=”2000 – 2008”
25 health$.ti.
26 24 and 25

Database: SCI Expanded (Web of Science) 1900-present
Search strategy:
Homosexual* or bisexual* or lesbian* or gay* or transsexual* or bisexual* or transgender or transvestite* or pansexual* or queer* or cross-gender or intersex* or MSM or WSW or hermaphrodite* or sexual orientation or sexual preference or gender identity or gender reassign* or gender dysphoria (TOPIC)
AND health or healthy or healthcare (TI)

Limits: Date 2000-2008

308 hits

Database: SSCI Expanded (Web of Science) 1956-present
As above

462 hits

Searched 30/5/2008

Grey literature searches July/August 2008
Source – Internet searches

National Centre for Social Research Health and Lifestyles
http://www.natcen.ac.uk/natcen/pages/or_health.htm

Gay men's sexual health survey Social and Public Health Sciences Unit Medical Research Council accessed 18 June 2008
http://www.sphsu.mrc.ac.uk/research_project.php?prjid=GAYMEN&bcrumbs=SH.BR

The negative health effects of homosexuality Talley DJ Family Research Council 27 June 2005
http://www.taxtyranny.ca/images/HTML/GayWatch/Articles/NegativeEffect.pdf

Minnesota Adolescent Health Survey GayData.org accessed 18 June 2008
http://www.gaydata.org/02_Data_Sources/ds030_MNAHS/ds030_MNAHS.html

Mansergh G, Colfax GN, Marks G, Rader M, Guzman R, Buchbinder S The Circuit Party Men's Health Survey: findings and implications for gay and bisexual men.
Am J Public Health. 2001 June; 91(6): 953–958.
http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1446474

Bakker FC, Sandfort TGM, Vanwesenbeeck I , van Lindert H, Westert GP Do homosexual persons use health care services more frequently than heterosexual persons: Findings from a Dutch population survey *Social Science and Medicine* 2006; **63(8)**: 2022-30
http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VBF-4KB14RN-1&_user=122868&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000010083&_version=1&_urlVersion=0&_userid=122868&md5=eed8d1b75c72d0b3dd844e4753dfc8d4

Meads C, Buckley E, Sanderson P Ten years of lesbian health survey research in the UK West Midlands *BMC Public Health* 2007, **7:**251doi:10.1186/1471-2458-7-251
http://www.biomedcentral.com/1471-2458/7/251

Women and general health needs Stonewall
http://www.stonewall.org.uk/information_bank/health/lesbian_gay__bisexual_health_care_needs/1341.asp

Fish J The UK Lesbians and Health Care Survey : a Summary of Findings de Montfort University ; 2007
http://www.healthwithpride.com/USERIMAGES/LesbiansandHealthCareSurvey.pdf

Lesbian health problems ignored BBC News website Accessed 19 June 2008
http://news.bbc.co.uk/1/hi/health/7459045.stm

Prescription for Change: Lesbian and Bisexual women's health check Stonewall and de Montfort University ; 2008

http://www.stonewall.org.uk/campaigns/2296.asp

Care Services Improvement Partnership Knowledge Centre

http://www.kc.csip.org.uk/viewresource.php?action=viewdocument&doc=98739&grp=446

Stonewall, Stonewall Cymru, Stonewall Scotland

http://www.stonewall.org.uk/

http://www.stonewallcymru.org.uk/cymru/default.asp

http://www.stonewallscotland.org.uk/scotland/default.asp

Sigma Research

http://www.sigmaresearch.org.uk/

Fair for All – LGBT (LGBThealthscotland)

http://lgbthealthscotland.org.uk/home.html

Spectrum LGBT Community forum

http://www.spectrum-lgbt.org/

Lesbian Information Service

http://www.lesbianinformationservice.org/

The Gender Identity Research and Education Society (GIRES)

http://www.gires.org.uk/

The Gender Trust

http://www.gendertrust.org.uk/

Press for Change

http://www.pfc.org.uk/

The Scottish Transgender Alliance

http://www.scottishtrans.org/

Appendix 2. Routinely collected data sources

Table 45 lists the details of the routinely collected data sources used for comparison to LGBT survey results where no general population comparator was given within the study.

Table 45. Routinely collected data sources

Health aspect	Title of research (publisher)	Date sample taken	Sample size	Gender, age, ethnicity	Sample recruitment
General Health, Taking prescribed medication, diabetes prevalence, GHQ-12 results, coronary heart disease, BMI, exercise, diet, smoking, alcohol	Health Survey for England 2006 (ONS)	2006	14,142 adults	7,818 women, 6.7% aged > 65	Random population sample from private households
Cancer incidence	Cancer statistics registrations (ONS)	2005	171,000 regist-rations	220,000 registrations aged > 65	From cancer registrations in England
Cancer prevalence	Cancer prevalence in the UK (Macmillan, King's, National cancer Intelligence Network)	2005	2 million	1,200,000 women, 16,000 aged 0-17, 774,000 aged 18-64, 1,210,000 aged 65+	From cancer registrations in England
Sleep problems, general anxiety disorder, obsessive compulsive disorder, probably psychotic disorder, illegal drug use, mental health counselling rates, panic disorder rates	Psychiatric morbidity among adults living in private households (ONS)	2000	8,886	3,852 women 1,268 aged 65+ 185 black, 142 south asian, 156 other ethnic minority	Random population sample from private households
Depression prevalence	Depression in adults (NICE)	-	-	-	Sample not referenced
Suicide ideation and attempt rates, self harm rates	Non-fatal suicidal behaviour among adults aged 16-74 in Great Britain (ONS)	2000	8,580	4728 women, 1268 aged > 65, 2% black, 3% south asian, 2% other ethnic minority	Random population sample from private households
Eating disorder prevalence	Eating disorders (British Psychological Society and Royal College of Psychiatrists)	Up to 2001	Unclear	-	From systematic reviews

Health aspect	Title of research (publisher)	Date sample taken	Sample size	Gender, age, ethnicity	Sample recruitment
Epilepsy prevalence	Epilepsy prevalence and prescribing patterns in England and Wales (ONS)	1994-8	2.7 million	-	General Practice Research Database
Neurological condition prevalence	The incidence and lifetime prevalence of neurological disorders in a prospective community based study in the UK (Brain journal)	1995-6	27,658	20% aged < 19 years, 17% aged > 60 years 7% black, 3% south asian, 4% other ethnic minority	13 general practices in London
Asthma prevalence	Health Survey for England 2001 (ONS)	2001	15,647 adults	53% women 22% aged > 65	Random population survey from private households
Arthritis prevalence	Morbidity, arthritis more common in women (ONS)	2003	24,489	12,565 women, 3956 aged >65, 3% black, 4% south asian, 1% other ethnic minority	From General Household Survey
Domestic violence rates	Extent of intimate violence, nature of partner abuse and serious sexual assault … (ONS)	2006-7	23,838	12,751 women	From British Crime Survey
Smoking cessation clinic results	Statistics on NHS stop smoking services in England, April to September 2007 (ONS)	2007	Not given*	Unclear	From NHS Stop Smoking Services
Exercise rates	Active people survey (Sport England, done by Ipsos Mori)	2005/6	363,724	“similar to population”	Random digit dial telephone interview
GP consultation rates,	Focus on health, Use of services (Palgrave Macmillan)	2003/4	24,489	12,565 women, 3956 aged >65, 3% black, 4% south asian, 1% other ethnic minority	From General Household Survey

Health aspect	Title of research (publisher)	Date sample taken	Sample size	Gender, age, ethnicity	Sample recruitment
Breast self-examination	Regular self-examination or clinical examination for early detection of breast cancer (Cochrane Library)	Up to 2007	388,535	All women	From systematic review
Mammography	Preventive healthcare (Palgrave Macmillan)	2003/4	1.4 million	All women	From NHS breast cancer screening programme, England
Cervical screening attendance	Preventive healthcare (Palgrave Macmillan)	2004/5	3.6 million	All women	From NHS cervical screening programme, England
Testicular self-examination	Pilot study of testicular cancer awareness and testicular examination in men attending two South London general practices (Family Practice journal)	2000	250	All men, mean age 32 years, 6% black, 12% south asian, 7% other ethnic minority	From 2 South London General Practices
Bipolar disorder	Adults with a psychotic disorder living in private households, 2000 (ONS)	2000	200	103 female, 120 aged > 45	Random population survey from private households plus supplement-ary targeted sample
*327,800 set a quit date (number of attendees not setting quit date not given)					

Appendix 3. Excluded studies with reasons for exclusion

Table 46. Surveys excluded – outside West Midlands

Survey reference	Location
Anon. Count Me In. Spectrum, LGBT Community Forum 2005,	Brighton
Anon. Live to Tell – Gay Men's Health, LGBT Youth Scotland 2003	Edinburgh
Anon. How is it for you? A survey into the sexual health service needs of young people in North and West Belfast. Health Action, North and West Belfast, Department of Health, Social Services and Public Safety. 2007	N. Ireland
Beyond Barriers FMR. First Out… Report of the findings of the Beyond Barriers survey of lesbian, gay, bisexual and transgender people in Scotland. Beyond Barriers. Undated but probably 2003	Scotland
Barlow P. Speaking out! Experiences of lesbians, gay men, bisexuals and transgender people in Newham and issues for public sector service providers. Newham Council 2003.	London
Browne K, Lim J. Count me in too. LGBT lives in Brighton and Hove. University of Brighton/Spectrum 2008.	Brighton and Hove
Butler, Garrard, Muir-Mackenzie, Orme, Prentice 2000. Straight talking: a multi-agency research project looking at access to primary healthcare for women who have sex with women. South & West Devon Health Authority	Devon
Cant B. Are they there? Report into research into the health issues relating to lesbian, gay and bisexual young people in Lambeth, Southwark and Lewisham. Centre for Community Partnership Work, South Bank University, London. 2003	London
Cant B, Taket A. Exploring marginalised communities' access to general practice services in primary care in Waltham Forest – lesbians and gay men. London South Bank University. 2004	London
Carolan F, Redmond S. Shout. The needs of young people in Northern Ireland who identify as lesbian, gay, bisexual or transgender. Youthnet, Belfast 2003	N. Ireland
Cook K, Davies G, Edwards S, Semple C, Williams L, Williams SA. The inside out project report. Community led research focussing on lesbian, gay and bisexual (LGB) people's experiences of accessing health services in north and Mid Wales, and recommendations to make services more appropriate and sensitive to the needs of the LGB community. Stonewall Cumru/Centre for Ethnicity and Health, University of Central Lancashire 2007	Mid and North Wales
Cull M, Platzer H, Balloch S. Out on my own: understanding the experiences and needs of homeless lesbian, gay, bisexual and transgender youth. Health and Social Policy Research Centre, Faculty of Health, University of Brighton. 2006	Brighton
Gilston S, Williams A, Winkcup A, Lee A, Wong M, George J et al. Report of the community led research project focussing on drug and alcohol use by young lesbian, gay, bisexual and transgender community in Manchester's gay village. Youth18/Out and About and The Centre for Ethnicity and Health, University of Central Lancashire 2006	Manchester
Jefferson G, Tkaczuk N. Outing drugs. Report of the community-led	Wiltshire and

research project focusing on drug and alcohol use by Gay Men's Health Wiltshire and Swindon amongst the gay and bisexual male communities in Wiltshire and Swindon. Department of Health, University of Central Lancashire, 2005	Swindon
Johnson K, Faulkner P, Jones H, Welsh E. Understanding suicide and promoting survival in LGBT communities. University of Brighton with Brighton and Sussex Community Knowledge Exchange, Allsorts Youth Project and Mindout. Brighton, 2007	Brighton
Keogh P, Reid D, Weatherburn P. Lambeth LGBT Matters. The needs and experiences of lesbians, gay men, bisexuals and trans men and women in Lambeth. Sigma Research 2006	London
Laird N. Exploring Biphobia. A report on participatory appraisal research workshops in Glasgow and Edinburgh, 2004 (part of Inclusion Project, Stonewall Scotland and Scottish Executive Health Department)	Glasgow and Edinburgh
Laird N, Aston L. Participator appraisal transgender research. Glasgow 2003. (part of Inclusion Project, Stonewall Scotland and Scottish Executive Health Department)	Glasgow
Limbrick G. iCount survey results 2004. Outhouse Project, Nottingham, 2004	Nottinghamshire
Limbrick G. Revealing lesbian, gay bisexual trans Islington. WordWorks Birmingham 2007	London
Morton J. Transgender experiences in Scotland. Scottish Transgender Alliance. 2008	Scotland
Noret N, Rivers I. Drug and alcohol use among LGBTs in the City of Leeds. York St John College of the University of Leeds. 2003	Leeds
Noret N, Rivers I, Richards A. Out but not left out. York St John University, York, undated but probably 2004/5	Leeds
Reed G. Sexyouality Matters. LGBT community strategy. Leicester Lesbian, Gay and Bisexual Centre, Leicester 2004	Leicester
Varney J. A review of drugs and alcohol use amongst the lesbian, gay, bisexual and transgender community in London. Metropolitan Police Lesbian, Gay, Bisexual and Transgender Independent Advisory Group 2008	London
Wallace H. Time to Think. Metro Centre London 2005	London
Williams S. Bradford LGB Health Needs Assessment. Equity Partnership, Bradford, 2007	Bradford

Table 47. National surveys with West Midlands sample not separate

Survey reference	**Size of West Midlands sample**
Henderson L, Reid D, Hickson F, McLean S, Cross J. First, Service. Relationships, sex and health among lesbian and bisexual women. Sigma Research, University of Portsmouth, Portsmouth, 2002	50/2375
Whittle S, Turner L, Al-Alami M. The Equalities Review. Engendered penalties: Transgender and transexual people's experiences of inequality and discrimination. Press for Change, Manchester Metropolitan University, London/Manchester 2007	Unclear (West Midlands residence information was collected but not reported)

Table 48. UK Surveys excluded – data collection before 2000 (publication 2000 or later)

Survey reference	Date of sample
Bailey JV, Kavanagh J, Owen C, McLean KA, Skinner CJ. Lesbians and cervical screening. British Journal of General Practice 2000;50:481-2	Not given but almost certainly before 2000 as publication was in June 2000
Bailey JV, Farquar C, Owen C, Whittaker D. Sexual behaviour of lesbians and bisexual women. Sexually Transmitted Infections 2003;79:147-50	1992-5
Crossley ML. The 'Armistead 'Project: An exploration of gay men, sexual practices, community health promotion and issues of empowerment. Journal of Community and Applied social Psychology 2001;11:111-23	1997-8
Farquar C, Bailey J, Whittaker D. Are lesbians sexually healthy? A report of the 'Lesbian Sexual Behaviour and Health Survey' Faculty of Humanities and Social Sciences, South Bank University, London 2001	1992-5
Fish J. Anthony D. UK National lesbians and health care survey. Women and Health 2005;41(3):27-45 AND Fish J. Wilkinson S. Understanding lesbians' healthcare behaviour: the case of breast self-examination. Social Science and Medicine 2003;56:235-45. AND Fish J, Wilkinson S. Explaining lesbians' practice of breast examination: results from a UK survey of lesbian health. Health Education Journal 2003;64(2):304-15	1997-8
Mair D, Izzard S. Grasping the nettle: gay men's experiences in therapy. Psychodynamic Counselling 2001;7(4):475-90	Date not given but probably pre-2000
Phillips P, Bartlett A, King M. Psychotherapists' approaches to gay and lesbian patients/clients: A qualitative study. British Journal of Medical Psychology 2001;74:73-84	Before 1999
Williamson LM, Hart GJ, Flowers P, Frankis JS, Der GJ. The Gay Men's Task Force: the impact of peer education on the sexual health behaviour of homosexual men in Glasgow. Sexually Transmitted Infections 2001;77:427-32	1999

Table 49. UK research reports, no evidence of independent peer review

Paper or survey reference	Obtainable from
Coia N, John S et al "Something to Tell You" 2002 (Greater Glasgow Health Board)	Stonewall Scotland website
Henderson L. Prevalence of domestic violence among lesbians and gay men. Sigma Research 2003	Sigma Research Website
Hunt R, Dick S. Serves you right. Lesbian and gay people's expectations of discrimination. Stonewall 2008	Stonewall website
Hunt R, Fish J. Prescription for change. Lesbian and bisexual women's health check 2008. Stonewall, De Montfort University.	Sigma Research website
Keogh P, Weatherburn P, Henderson L, Reid D, Dodds C, Hickson F. Doctoring gay men. Exploring the contribution of general practice. Sigma Research, 2004	Sigma research website
King M, McKeown E. Mental health and social wellbeing of	http://www.mind.org.uk/

gay men, lesbians and bisexuals in England and Wales. Department of Psychiatry and Behavioural Sciences, Royal Free College and University College Medical School, London. 2003	osb/itemdetails.cfm/ID/530
Laird N "Community Engagement with LGBT Mental Health Service Users in the South Side of Glasgow", 2004	Stonewall Scotland website
Morgan L and N Bell "First Out: Report of the findings of the Beyond Barriers national survey of LGBT people" (2003, Beyond Barriers)	Stonewall Scotland website
Opinion Leader Research. Drug information needs among LGBT people. COI Communications on behalf of the Home Office. 2004.	www.spectrum-lgbt.org/ drugs/COIJ258383LGBT reportfinal.pdf
Schonfield S. Survey of patient satisfaction with transgender services. NHS The Audit, Information and Analysis Unit for London, Kent, Surrey, Sussex, Essex, Beds and Herts. 2008.	Press-for Change website

Table 50. Excluded surveys and papers – other reasons

Survey reference	Reason for exclusion
Almack K. Out and about: negotiating the layers of being out in the process of disclosure of lesbian parenthood. Sociological Research Online 2007;12(1):1-12	Not about health
Almack K. Women parenting together: reflexive account of the ways in which the researcher's identity and experiences may impact on the processes of doing research. Sociological Research Online 2008;13(1):1-16	Not about health
Arthur C. LGBT survey in Stoke on Trent. VAST/gaystoke. Stoke on Trent	Survey not finished yet
Bolding G, Davis M, Sherr L, Hart G, Elford J. Use of gay internet sites and views about online health promotion among men who have sex with men. Aids Care 2004;16(8):993-1001	About STI sexual health promotion rather than general health
Buston K, Hart G. Heterosexism and homophobia in Scottish school sex education: exploring the nature of the problem. Journal of Adolescence 2001;24:95-109	Not about health
Childline. Calls to childline about sexual orientation, homophobia and bullying. NSPCC 2006	Nothing on health
Davey C. Sexual and reproductive health and rights in the United Kingdom at ICPD+10. Reproductive Health Matters 2005;13(25):81-7	Review
Dodds C, Keogh P, Hickson F. It makes me sick. Heterosexism, homophobia and the health of gay and bisexual men. Sigma Research 2005	Review
Dyter R, Lockley P. Drug misuse among people from the lesbian, Gay and bisexual community. A scoping study. Unpublished report.	Review
Dunne GA, Prendergast S, Telford D. Young gay, homeless and invisible: a growing population? Culture, Health and Sexuality 2002;4(1):103-15	Not about health
Hawton K, Rodham K, Evans E, Weatherall R. Deliberate self-	Asks participants whether

harm in adolescents: self-report survey in schools in England. BMJ 2002;325:1207-11	they have any worries about sexual orientation rather than their sexual orientation
Hunt R, Cowan K, Chamberlain B. Being the gay one: Experiences of lesbian, gay and bisexual people working in the health and social care sector. Stonewall, London Undated	About working in health rather than experience of health
Kandirikirira N, Botfield J, Williams L, West B. Getting it right. LGBT research guidelines. Stonewall Scotland. Undated.	Guidelines
King M, Bartlett A. What same sex civil partnerships may mean for health. Journal of epidemiology and community Health 2006;60:188-91	Review
Liao LM, Creighton SM. Requests for cosmetic genitoplasty: how should healthcare providers respond? British Medical Journl 2007;334:1090-2	Review
Limbrick G. Access and Inclusion. Mapping Birmingham's lesbian, gay and bisexual communities. Birmingham, Birmingham LGB Forum 2000.	About LGB societies, groups and associations rather than individuals.
McAndrew S, Warne T. Ignoring the evidence dictating the practice: sexual orientation, suicidality and the dichotomy of the mental health nurse. Journal of Psychiatric and Mental Health nursing 2004;11:428-34	Review
McCaffrey M, Varney P, Evans B, Taylor-Robinson D. Bacterial vaginosis in lesbians: evidence for lack of sexual transmission. International Journal of STD and AIDS 1999;10(5):305-8	Publication before 2000
Meads C, Buckley E, Sanderson P. Ten years of lesbian health survey research in the West Midlands. BMC Public Health 2007;7:251	Contains details of surveys already included in systematic review
Moller C. Diagnosis: homophobic: The experiences of lesbians, gay men and bisexuals in mental health services. Feminist Reviews 2001;68:194-7	Review of UK research conducted before 2000
Patel H, Baeza J, Patel M, Greene L, Theobald N. Improving sexual health services in the city: can he NHS learn from clients and the service industry. Health Expectations 2007;10:139-47	About sexual health only
Pearson S. Promoting sexual health services to young men: findings from focus group discussions. Journal of Family Planning and Reproductive Health Care 2003;29(4):194-8	No mention of LGBT
Pearson S. Men's use of sexual health services. Journal of Family Planning and Reproductive Health Care 2003;29(4):190-3	No mention of LGBT
Scott SD, Pringle A, Lumsdaine C. Sexual exclusion – homophobia and health inequalities – a review. UK Gay Men's Health Network 2004	Review
Skinner CJ, Stokes J, Kirlew Y, Kavanagh J, Forster GE. A case-controlled study of the sexual health needs of lesbians. Genitourinary Medicine 1996;72:277-80	Publication before 2000
Stevens M, Perry B, Burston A, Golombok S. Openness in lesbian-mother families regarding mother's sexual orientation	Not about health

and child's conception by donor insemination. Journal of Reproductive and Infant Psychology 2003;21(4):347-62	
Vanes J. Towards a network in Wolverhampton of and for people who identify as lesbian, gay, bisexual or transgender. Wolverhampton Network Consortium. 2002.	No access
Whittle S, Turner L, Combs R, Rhodes S. Transgender Eurostudy: Legal study and focus on the transgender experience of healthcare. ILGA Europe/TGEU, Brussels/Berlin 2008	Large UK sample within study but results not separate, no peer review
Williamson IR. Internalised homophobia and health issues affecting lesbians and gay men. Health Education Research Theory and Practice 2000;15(1):97-107	Review
Yip AK. Embracing Allah and sexuality? South Asian non-heterosexual Muslims in Britain. In Kumar K, Jacobsen K (eds), South Asians in the Diaspora: Histories and Religious traditions. Leide, Netherlands, EJ Brill, 2003	No access

Table 51. Systematic reviews excluded

Paper reference	Reason
Byrd AD, Nicolosi J. A meta-analytic review of treatment of homosexuality. Psychological reports 2002;90:1139-52	No studies post 1982 included
Herbst JH, Jacobs ED, Finlayson TJ, McKleroy VS, Neumann MS, Crepaz N. Estimating HIV prevalence and risk factors of transgender persons in the United States: A systematic review. AIDS Behaviour 2008;12:1-17	No UK studies, about sexual health
Hunsfield JA, Fauser BC, de Beaufort ID, Passchier J. Child development and quality of parenting in lesbian families: no psychosocial indications for a-priori withholding of infertility treatment. A systematic review. Human Reproduction Update 2001;7(1):579-90	All included studies dated 2000 or before
Julien D, Chartrand E. Recension des etudes utilisant un echantillon probabiliste sur la santé des personnes gaies, lesbiennes et bisexuelles. Canadian Psychology 2005;46(4):235-250	Only one included UK study published in 1994
Lalumiere ML, Blanchard R, Zucker KJ. Sexual orientation and handedness in men and women: a meta-analysis. Psychological Bulletin 2000;126(4):575-592	Not about health
Lee. Health care problems of lesbian, gay, bisexual and transgender patients. Western Journal of Medicine 2000:172:403-8	No details of number and type of included studies
Marshall MP, Friedman MS, Stall R, King KM, Miles J, Gold MA et al. Sexual orientation and adolescent substance use: a meta-analysis and methodological review. Addiction 2008;103:546-56	No UK studies post 2000 included
Marston C. King E. Factors that shape young people's sexual behaviour: a systematic review	About sexual health/behaviour
McManus AJ, Hunter LP, Renn H. Lesbian experiences and needs during childbirth: guidance for health care providers. JOGNN 2006;35:13-33	All included studies dated 2000 or before
Romanelli F, Smith KM. Recreational use of sildenafil by HIV-	Only one included UK

positive and –negative homosexual/bisexual males. The Annals of Pharmacotherapy 2004;38:1024-30	study published in 2000
Ryan H, Wortley PM, Easton A, Pederson L, Greenwood G. Smoking among lesbians, gays, and bisexuals. A review of the literature. American Journal of Preventive Medicine 2001;21(2)142-9	No included UK studies
Yee LJ, Rhodes SD. Understanding correlates of hepatitis B virus vaccination in men who have sex with men: what have we learned? Sexually Transmitted Infections 2002;78:374-7	No included UK studies

Appendix 4. Included studies

1. West Midlands surveys conducted from the year 2000

3. Local surveys

- LGBT census – Wolverhampton 2005
- Measure for Measure 2 – West Midlands 2005
- Measure for Measure – West Midlands 2002
- A Matter of Trust – Birmingham 2002
- Making visible the invisible – Sandwell 2002

B. National surveys with a Birmingham/West Midlands subset

- Prescription for change – 2008
- Sigma GMSS Vital Statistics – 2004
- Sigma GMSS Vital Statistics – 2005
- Sigma GMSS Vital Statistics – 2006

2. Systematic reviews that include at least one UK study conducted from the year 2000

Systematic review	**UK study included in systematic review**
Bos HM, van Dalen F, van den Boom DC. Lesbian families and family functioning: an overview. Patient Education and Counselling 2005;59:263-75	• Golombok S, Perry B, Burston A, Murray C, Mooney-Summers J, Golding J et al. Children with lesbian parents: a community study. Developmental Psychology 2003;39(1):20-33 • Stevens M, Perry B, Burston A, Golombok S, Golding J. Openness in lesbian-mother families regarding mother's sexual orientation and child's conception by donor insemination. Journal of Reproduction and Infant Psychology 2003;21:347-62
King M, Semlyen J, Tai SS, Killaspy H, Osborn D, Popelyuk D, Nazareth I. A systematic review of mental disorder, suicide and deliberate self harm in lesbian, gay and bisexual people. BMC Psychiatry 2008;8:70	• King M, McKeown E, Warner J, Ramsay A, Johnson K, Cort C et al. Mental Health and quality of life of gay men and lesbians in England and Wales. British Journal of Psychiatry 2003;183:552-8 AND Warner J, McKeown E, Griffin M, Johnstone K, Ramsay A, Cort C et al. Rates and predictors of mental illness in GLB men and women. British Journal of Psychiatry 2004;185:479-85

3. Quantitative peer-reviewed primary studies not in included systematic reviews

Reference	**Topic**	**Men, women or both**
Agrawal R, Sharma S, Bekir J, Conway G, Bailey J, Balen AH et al. Prevalence of polycystic ovaries and polycystic ovary syndrome in lesbian women compared with heterosexual women. Fertility and Sterility 2004;82(5):1352-7	Gynaecology – Polycystic ovaries	Women
Barker M, Bowes-Catton H, Iantaffi A, Cassidy A, Brewer L. British bisexuality: a snapshot of bisexual representations and identities in the United Kingdom. Journal of bisexuality 2008;1-2:141-62	Mental health in bisexuals	Both
Bolding G, Sherr L, Elford J. Use of anabolic steroids and associated health risks among gay men attending London gyms. Addiction 2002;97:195-203	Health behaviours, Drug use	Men
Bolding G, Hart G, Sherr L, Elford J. Use of crystal metamphetamine among gay men in London. Addiction 2006;101:1622-30	Health behaviours, Drug use	Men
Das S, Brassington M, Drake S, Boxall E. Response to hepatitis –B vaccination in healthy homosexual individuals: retrospective case control study. Vaccine 2003;21:3701-5	Vaccination	Men
Harding R. Bensley J. Corrigan N. Targeting smoking cessation to high prevalence communities: outcomes from a pilot intervention for gay men. BMC Public Health 2004;4(43):1-5	Smoking cessation effectiveness	Men
McNamee H, Lloyd K, Schubotz D. Same sex attraction, homophobic bullying and mental health of young people in Northern Ireland. Journal of Youth Studies 2008;11(1):33-46	Mental health	Both
Mercer CH, Bailey JV, Johnson AM, Erens B, Wellings K, Fenton KA et al. Women who report having sex with women: British national probability data on prevalence, sexual behaviours and health outcomes. American Journal of Public Health 2007;97(6):1126-33	General health, health behaviours	Women
O'Riordan M, Goh L, Lamba H. Increasing hepatitis A IgG prevalence rate in men who have sex with men attending a sexual health clinic in London: implications for immunisation policy. International Journal of STD and AIDS. 2007;18:707-10	Vaccination	Men
Rivers I, Noret N. Well-being among same-sex and opposite sex-attracted youth at school. School Psychology Review 2008;37(2):174-187	Mental health	Both
Warner JP, Wright L, Blanchard M, King M. The psychological health and quality of life of older lesbians and gay men: a snowball sampling pilot survey. International Journal of Geriatric Psychiatry 2003;18:754-5	Mental health	Both

4. Qualitative peer-reviewed primary studies not in included systematic reviews

Reference	Topic	Men, women or both
Cant B. An exploration of the views of gay and bisexual men in one London borough of both their primary care needs and the practice of primary care practitioners. Primary Health Care Research and Development 2002;3:124-30	Healthcare delivery - Primary Care	Men
Cant B. Exploring the implications for health professionals of men coming out as gay in healthcare settings. Health and Social Care in the Community 2005;14(1):9-16	Healthcare delivery	Men
Cant B. Taket A. Lesbian and gay experiences of primary care in one borough in North London, UK. Diversity in Health and Social Care 2006;4:271-9	Healthcare delivery - Primary Care	Both
Clover D. Overcoming barriers for older gay men in the use of health services: a qualitative study of growing older, sexuality and health. Health Education Journal 2006;65(1):41-52	Healthcare delivery	Men
Hinchliff S, Gott M, Galena E. 'I daresay I might find it embarrassing': general practitioners' perspectives on discussing sexual health issues with lesbian and gay patients. Health and Social Care in the Community 2004;13(4):345-53	Healthcare delivery - practitioners	Both
King M, Smith G, Bartlett A. Treatments of homosexuality in Britain since the 1950s – an oral history: the experience of professionals. British Medical Journal 2004;328:429-31	Healthcare delivery - practitioners	Both
Mair D. Gay men's experiences of therapy. Counselling and Psychotherapy Research 2003;3(1):33-41	Healthcare delivery- mental health	Men
McDermott E. Surviving in dangerous places: lesbian identity performances in the workplace, social class and psychological health. Feminism and Psychology 2006;16:193-211	Psychological health	Women
Pixton S. Experiencing gay affirmative therapy: an exploration of client's views of what is helpful. Counselling and Psychotherapy Research 2003;3(3):211-5	Healthcare delivery- mental health	Both
Riordan DC. Interaction strategies of lesbian, gay and bisexual healthcare practitioners in the clinical examination of patients: qualitative study. British Medical Journal 2004	Healthcare delivery - practitioners	Both
Scourfield J, Roen K, McDermott L. Lesbian, gay, bisexual and transgender young people's experiences of distress: resilience, ambivalence and self-destructive behaviour. Health and Social Care in the Community 2008;16(3):329-36	Psychological health	Both
Smith G, Bartlett A, King M. Treatments of homosexuality in Britain since the 1950s – an oral history: the experience of patients. British Medical Journal 2004;328:427-9	Healthcare delivery – mental health	Both
Warwick I, Aggleton P, Douglas N. Playing it safe: addressing the emotional and physical health of lesbian and gay pupils in the UK. Journal of Adolescence 2001;24:129-40	Psychological health	Both
Wilton T, Kaufmann T. Lesbian mothers' experiences of maternity care in the UK. Midwifery 2001;17:203-11	Healthcare delivery - maternity	Women

Table 52. Background characteristics of West Midlands surveys

Survey	Gender/ identity	Age	Ethnicity	Sexual orientation	Employment status	Education/ income	Other
Measure for Measure 2002	1083 men (6 trans) 449 women (0 trans)	Men wmean 32.9 range 15-73 Women mean 29.0 (SD 9.1, range 16-67)	Men: white = 89.4%, black = 1.9% asian = 4.0% other/missing = 4.7% Women: white = 92.0%, black = 2.2% asian = 0.9% other/missing = 4.9%	Men: 86.4% gay 9.5% bi 1.3% het 2.8% other/ missing Women: 75.5% lesbian/ gay 17.4% bi 4.9% het 2.2% other/ missing	Men: employed = 69.4% unemployed = 5.5% unable due to illness = 5.3% full-time carer = 3.1% student =9.1% other = 7.6% Women: employed/ self employed = 66.2% unemployed = 6.2% unable due to illness = 6.5% full-time carer = 3.8% student = 12.3% other = 5.1%	Men: postgrad = 4.3% degree = 22.7% HND/OND/ vocational = 12.6% GC(S)E/A level = 38.0% other/missing = 22.4% Women: postgrad = 2.9% degree = 23.6% HND/OND/ vocational = 15.4% GC(S)E/A level = 42.8% other/missing = 15.4%	Biological mother: 17.2%
A Matter of Trust 2002	500 men[#] 239 women 7 no response (~7 trans) (total n=747)	All: wmean* 31.9 (range under 16 to over 65)	All: white = 90.5% black = 2% asian = 3% mixed = 4%	Men: 92% gay 6% bi 1% unsure Women: 90% lesbian/gay 8% bi 1% unsure	All: employed = 80% unemployed = 5% in receipt of benefits = 1% looking after home/family = 1% student = 10% retired = 3%	Wmean income* Men = £18,348 Women = £21,235 (range = below £2,500 to above £40,000)	Live with same sex partner*: 26% men, 37% women Live alone: 30% men, 22% women.
Making Visible the Invisible 2002	9 men 6 women	All: wmean = 19.5 (range 16-	All: 73% white 27% black	Men: 78% gay 22% bi Women:	7% employed 7% unemployed 80% student 7% volunteer		All: 27% live in Tipton, 27% in Smethwick, 20% in Oldbury, 13% in Rowley Regis or West

Survey	Gender/ identity	Age	Ethnicity	Sexual orientation	Employment status	Education/ income	Other
		25)		83% lesbian/ gay 17% bi			Bromwich, 13% in Wednesbury
Vital Statistics 2004 West Midlands subset	1008 men	mean = 35.2 (SD = 12.9, range 14-80)	white = 93.9 black = 1.5% asian = 2.4% mixed = 1.3% other = 1.0%	80.9% gay 12.6% bi 5.7% don't use term 0.8% other		Years in full-time education post 16: 6 or more – 21.9%, 3-5 years – 33.7% 2 years – 15.2% 1 year – 9.9% None – 19.3%	PCTs: HOB, BEN and S.Birmingham = 23.8%, Coventry = 9.3%, Worcestershire = 8.9%, Staffordshire, 11.0%, Warwickshire = 7.7%, West Midlands other = 33%, missing = 6.3% Current religion: 15.2% Christianity, 6% Buddhism, 6% Islam, 80.1% none.
LGBT census Wolver-hampton 2005	307 men (~5 trans) 192 women (~5 trans) 5 unsure	Men: wmean* = 33.3 Women: wmean* = 32.8	All: white = 93% black = 1% asian = 3% mixed = 1% other = 2%	Men: 92% gay 6% bi 1% het 1% unsure Women: 86% lesbian/gay 10% bi 4% unsure			All: 55% live in Wolverhampton, 9% Dudley, 11% Birmingham, 9% Walsall, 7% West Midlands other, 6% elsewhere
LGBT census Wolver-hampton 2005 (in-depth subgroup)	51 men 26 women (4 trans)				63% employed 9% unemployed 13% unable due to illness or disability 3% student 6% retired		All: 81% live in Wolverhampton Live alone = 31%, live with same-sex partner = 31% 1% live with dependent children

Survey	Gender/ identity	Age	Ethnicity	Sexual orientation	Employment status	Education/ income	Other
Measure for Measure II 2005	703 men, 166 women (+ 10 trans – results not available)	Men: mean = 35.8 (range 16-81) Women: mean = 31.6 (range 16-62)	All: white = 90% black = 4% asian = 4% mixed = 2% other = 2%	Men: 87% gay 9% bi 1% het <1% other Women: 67% lesbian/gay 10% bi 19% het 4% other	74% employed/self-employed 5% unemployed 5% unable due to ill-health 7% student 3% retired <1% full-time carer <1% volunteer	All: postgraduate = 15% university degree or equivalent = 25%, NVQ/HND = 12% GCSE/ A levels = 38% No educational qualifications = 7% Income <£15k = 25%, 15-20k = 17%, 20-25k = 14%, 25-30k = 9%, 30-35k = 7%, 35-40k = 5%, >40k = 6%, missing = 17%. (wmean £20,550)	All: 50% single, 33% in monogamous relationship, 16% had been married, 14% biological parents. 34.8% live in Birmingham, 16.3% Coventry and Warwickshire, 6.7% Worcestershire, 5.0% Wolverhampton, 28.7% West Midlands other, 8.6% elsewhere or missing 43% own their home, 24% rent, 11% live with family. 26% in a trade union. 42% no pension.
Vital Statistics 2005 West Midlands subset	994 men	mean = 32.9 (SD 11.7, range 15-71)	white = 90.5% black = 1.0% asian = 5.2% mixed = 2.5% other = 0.7%			Years in full-time education post 16: 6 or more – 20.1%, 3-5 years – 34.9% 2 years – 17.9% 1 year – 9.0% None – 18.1% Income: <5k = 11.1%, 5-10k = 10.2%, 10-15k = 16.9%, 15-20k = 17.3%, 20-25k = 14.1%, 25-30k = 12.4%, 30-35k = 5.7%,	PCTs: HOB, BEN and S.Birmingham = 30.1%, Coventry = 6.7%, Worcestershire = 6.0%, Staffordshire = 10.3%, Warwickshire = 7.1%, West Midlands other = 36.4%, missing = 3.4% Current religion: 24.8% Christianity, 1% Buddhism, 2.2% Islam, 66.6% none.

Survey	Gender/ identity	Age	Ethnicity	Sexual orientation	Employment status	Education/ income	Other
						35-40k = 4.7%, >40k = 7.6% (wmean £19,777)	
Vital Statistics 2006 West Midlands subset	645 men	mean = 34.9 (SD = 12.8, range 14-77)	white = 94.8% black = 1.3% asian = 1.3% mixed = 1.4% other = 1.3%	83.8% gay 10.6% bi 5.3% don't use term 0.3% other		Years in full-time education post 16: 6 or more – 22.5%, 3-5 years – 29.0% 2 years – 18.8% 1 year – 9.3% None – 20.5%	PCTs: HOB, BEN and S.Birmingham = 29.5%, Coventry = 5.4%, Worcestershire = 5.4%, Staffordshire = 12.0%, Warwickshire = 6.5%, Stoke on Trent = 6.7%, West Midlands other = 31.9%, missing = 2.6% Live alone = 32.7%, live with male partner = 30.0%. married = 3.6%, CP = 6.6%
Prescription for change 2008 West Midlands subset	425 women			81.6% lesbian, 15.8% bi 2.6% other			PCTs: HOB, BEN and S.Birmingham = 29.2%, Coventry = 6.6%, Worcestershire = 11.3%, Staffordshire = 10.2%, Warwickshire = 9.9%, Stoke on Trent = 4.9%, West Midlands other = 27.2%, missing = 0.7%
Wmean = calculated weighted mean, *estimated from graph, CP = civil partnership, # numbers calculated from percentages of whole sample Annual mean gross pay UK 2002 £20,610, 2005 £23,389, 2008 £26,020							

Table 53. Background characteristics of quantitative primary research

Reference	Gender/ identity	Age	Ethnicity	Sexual orientation	Employment status	Education/ income	Other
Agrawal et al. 2004	618 women	Lesbian = 35.1 (?SD 4.2) Het = 35.6 (?SD = 4.7) (range for both groups = 20-45)	White = 93% black = 2% asian = 0.5% mixed = 3.5% middle eastern = 1%	41.1% (254) lesbians 58.9% (364) het	Not given	Not given	
Barker et al. 2008	N=92 43 women, 33 men, 17 trans or genderqueer*	wmean = 33.3 (range 18 to above 50)	White = 99%	22% lesbian/gay 85% bi 10% het = 51% queer**	76% employed 15% full time students 3% unemployed 6% long term sick leave or similar	Postgraduate = 33% College/ university degree = 46% wmean income = £22,375 (range 0-£10k to above £50k	53% work in public or voluntary sector. Religion# 62% none/ atheist/agnostic, 12% Pagan, 11% Christian, 3% Humanist, 1% Buddhist, 4% combination.
Bolding et al. 2002	772 men	Median = 35 years	White = 90.6%	96.9% gay 3.1% bi	84.1% employed	3 or more years education post 16 = 81.6%	
Bolding et al. 2006	1307 men	Median between 32-39 years	White = >85%	Presume 100% gay	>63% employed	Higher education >66%	Few socio-demographic differences between the three samples presented
Das et al. 2003	205 men 131 women (	Gay men mean 33.1 (range 15-65) Controls mean 33.9 (male), (range 17-65) 30.1 (female),		Cases = 104 gay men Controls = 101 male and 131 female health care workers			

Reference	Gender/ identity	Age	Ethnicity	Sexual orientation	Employment status	Education/ income	Other
		(range 18-58)		(sexual orientation not specified)			
Harding et al. 2004	69 men	Mean = 37.1 (SD = 7.2, range 23-63)	White = 90%	Presume 100% gay	75% in full-time employment 13% medically retired 7% unemployed 3% students 1% retired	Degree level or higher = 64%	25% entitled to free prescriptions, 94% drink alcohol, mean 22.8 units per week.
McNamee et al. 2008	352 men 516 women	16 year olds		[##]Same/both sex attraction = 8.8% Opposite sex attraction = 88.6% Missing/no attraction = 2.6%	All students		
Mercer et al. 2007	5772 women	wmean WSW = 34.0 WSWM = 27.8 WSM = 31.5	White WSW = 94.1% WSWM = 93.5% WSM = 92.7%	Behaviour WSW = 0.6% WSWM = 2.5% WSM = 96.9%		Having at least a university degree WSW = 37.9% WSWM = 21.3% WSM = 18.3%	Biological mother? WSW = 9.9% WSWM = 41.3% WSM = 63.2% Social class I/II WSW = 52.2% WSWM = 30.7% WSM = 31.1% Resident in Greater London WSW = 21.3% WSWM = 20.9% WSM = 13.7%

Reference	Gender/ identity	Age	Ethnicity	Sexual orientation	Employment status	Education/ income	Other
O'Riordan et al. 2007	300 men			100% gay or bisexual			61% from UK, 17% Western Europe, 7% US/Australia/NZ, 1% Eastern Europe, 14% elsewhere
Rivers & Noret 2008	72 men 34 women	Same-sex (gay) mean 13.8, (SD 1.4) Opposite sex (het) mean 13.8 (SD 1.2)	White = 90% black = 2% asian = 4% mixed = 1%***	50% gay 50% het	All school children	Allowance gay mean £3.40 (SD 1.38), het mean £3.90 (SD 3.09)	Live with 2 adults? gay 57%, het 62%, Live with one adult? gay 34%, het 34% Other gay 9%, het 4% Have boy or girlfriend? yes - gay 32% het 26%, no - gay 49%, het 55%, no answer gay 19%, het 19%
Warner et al. 2003	85 men 26 women 14 hetero-sexuals (gender not specified)			88.8% lesbian/gay 11.2% het			Not clear if heterosexual responses used for GHQ-28 results
* percentages given add up to 102%, ** percentages given indicate participants selected more than one label. *** percentages given add up to 98%, # percentages given add to 96%. ##numbers and percentages given in paper do not make sense							

Table 54. Survey methods

Survey	Recruitment strategy	Where sample obtained from	Data collection method/comments
Measure for Measure 2002	No details		Survey (This survey was never formally written up – available as a Powerpoint presentation and printout from Excel spreadsheet only.
A Matter of Trust 2002	Eligible – LGBT people who live, study or work in Birmingham. Birmingham Police Forum for the Gay Community (Pink shield project). Volunteers took questionnaires around venues (which not specified but probably mostly pubs and clubs).		Survey
Making Visible the Invisible 2002	Recruited via poster adverts placed in various venues across Sandwell and surrounding region. 4/18 schools returned poster as "they would find it very difficult to display the poster in case it upset any parents or school governors". Six volunteers were recruited from posters. Remaining 9 recruited through informal snowballing.		Semi-structured interviews using prompt cards for topics (15 people). Two focus groups with 8 people in each (unclear whether all these were same or different people to those interviewed, no demographic information about focus group participants)
Vital Statistics 2004 West Midlands subset	(For whole survey) Follows on from previous years' Gay Men's Sex Surveys. 130 agencies (listed in main report) suggested questions for the survey, requested booklets for local distribution or promoted the survey online.		(For whole survey) Paper and internet survey. 32,216 booklets requested. Recruitment open between July to October 2004. 4,269 booklets returned (13.3%). Internet version had additional 12 questions to booklet including country of origin. Received 14,757 responses of which 2294 (15.5%) did not live in the UK.
LGBT census Wolverhampton 2005	Eligible were anyone who lived, worked or visited Wolverhampton. Distributed to community groups, all local libraries, adverts in local newspapers, gay and lesbian venues in W. Midlands, Internet chat sites, LGBT Network Wolverhampton membership list, Birmingham Pride, gay play at Arena Theatre, Approaching people in Wolverhampton's 3 gay pubs.		Paper survey (1 side A4 with 28 questions)
LGBT census Wolverhampton 2005 (in-depth subgroup)			Paper and internet survey (booklet with 70 questions)

Survey	Recruitment strategy	Where sample obtained from	Data collection method/comments
Measure for Measure II 2005	Targeted convenience sampling, paper questionnaires distributed to LGBT service providers throughout the West Midlands (number distributed not given, n=588 returned), internet version on an LGB website (n= 281 completed online).	Questionnaires distributed by: 34% Healthy Gay Life (Birmingham), 16% Terrence Higgins Trust, 13% Gaydar/ Gaydar Girl. Locations distributed: scene venues = 37%, mailing lists = 16%, sex on premises venues = 5%	Paper and internet survey. Comparison: online participants possessed significantly higher qualifications, more likely to have a pension, less likely to smoke, more likely to be overweight or obese, more likely to have experienced domestic violence, less likely to have prolonged sleep disruption, less likely to feel part of a defined LGBT community.
Vital Statistics 2005 West Midlands subset	(For whole survey) Follows on from previous years' Gay Men's Sex Surveys. 107 agencies (listed in main report) suggested questions for the survey, requested booklets for local distribution or promoted the survey online.		(For whole survey) Paper and internet survey. 23,680 booklets requested. Recruitment open between July to September 2005. 4,284 booklets returned (18.1%). Internet version had additional 11 questions to booklet. Received 15,255 responses of which 2472 (16.2%) did not live in the UK.
Vital Statistics 2006 West Midlands subset	(For whole survey) Follows on from previous years' Gay Men's Sex Surveys. 107 agencies (listed in main report) suggested questions for the survey, requested booklets for local distribution or promoted the survey online.		(For whole survey) Paper and internet survey. 22,550 booklets requested. Recruitment open between July to October 2006. 4,262 booklets returned (18.9%). Internet version had additional 29 questions to booklet. Received 11,865 responses of which 2794 (23.4%) did not live in the UK.
Prescription for Change 2008 West Midlands subset	(For whole survey) On-line link on Stonewall website, paper surveys and fliers sent to: • All friends and close friends of Stonewall • Internet communities, including message boards • Gaydar Girls banner		(For whole survey) Internet survey and paper (booklet) questionnaire

Survey	Recruitment strategy	Where sample obtained from	Data collection method/comments
	• Generic women's groups, BME groups and disability groups • LGBT Youth groups and generic youth groups • Age Concern networks • Diversity Champions staff networks • G3 media partners • LGBT organisations • Bars and clubs • Women's Institute • Girl Guides • Sexual health clinics • GP surgeries • Health associations such as BMA • "Snowballing"		

Table 55. Primary quantitative research methods

Reference	Recruitment strategy	Where sample obtained from	Data collection method/comments
Agrawal et al. 2004	Consecutive women attending the London Women's Clinic and Hallam Medical Centre for ovulation induction and intrauterine insemination between November 2001 and January 2003.	See previous.	Prospective. Inclusion criteria: no concomitant pelvic pathology such as ovarian cysts. No previous exposure to androgens or androgen elevating substances. Not on contraceptive pill. No hormonal therapy for at least a year before assessment. Exclusion criteria: Elevated Follicle Stimulating hormone concentrations (>12IU/mL on day 2 or 3 of menstrual cycle) Sexual orientation obtained from historical and current information obtained in questionnaire and assessment, "obtained in a careful and non-judgemental manner with extreme sensitivity"
Barker et al. 2008	Participants at BICON 2004 annual residential conference in Manchester.		Questionnaire survey. Completed by 92 of 273 attendees to conference (34%).
Bolding et al. 2002	Men attending six gay or mostly gay gyms in central London during a one-week period.		Questionnaire survey. Completed by 772 of an estimated 1534 questionnaires distributed (52%). Used gay question to filter out heterosexuals.
Bolding et al. 2006	Gay men using central London gyms during a 1 week period between January and March 2004, HIV positive men attending an NHS out-patient treatment clinic in London between October and May 2003 and gay men seeking an HIV test in an NHS HIV testing or sexual health clinic in London between October 2002 and November 2003.	653 from gyms, 388 from HIV treatment clinic and 266 from HIV testing clinic.	Questionnaire survey. Completed by 1307 of an unknown number of questionnaires distributed. Asked sexual orientation in questionnaire.
Das et al. 2003	Gay men starting vaccination in the Department of Sexual Health, Birmingham Heartlands Hospital between January 1995 and December 2000. Controls were health workers starting vaccination at the Department of Occupational Health, same hospital from		Healthcare workers (controls) were not asked their sexual orientation and presumed to be heterosexual. Not clear how the gay men (cases) were selected.

Reference	Recruitment strategy	Where sample obtained from	Data collection method/comments
	January 1997 to December 2000.		
Harding et al. 2004	24 recruitment advertisements in free London-wide and national gay press, with accompanying editorials and articles.		Smoking cessation intervention developed and delivered by GMFA volunteers. 98 participants registered to attend first session, 76 attended at lease the first session and 69 provided outcomes.
McNamee et al. 2008	By invitation.	Random sample of 16yr olds with birthdays in February drawn from the Northern Ireland Child Benefit Register invited to participate in 2005 Young Life and Times Survey	Annual postal questionnaire survey (96%) with some online and telephone completions (4%). 868 (Table 1) or 819 (abstract) young people responded (40% of sample). Participants asked about sexual attraction.
Mercer et al. 2007	By invitation.	Random sample of the general population aged 16-44 (NATSAL) using postcodes with oversampling in London. Interviewed between May 1999 and February 2001.	Total sample interviewed 11,161 of which 5772 (table 1) or 6399 (abstract and text) were women, from 40,523 addresses (response rate of 65.4% of addresses where one or more residents aged 16-44). Trained interviewers conducted face to face interviews in respondents' homes, followed by computer-assisted self-interview. Statistical analysis, adjustments and modelling extensive and not possible to verify.
O'Riordan et al. 2007	N/A	Random computer generated sample of gay or bisexual men attending an open access gum clinic at St Mary's	Retrospective hospital note audit. 300 of 395 cases screened for Hepatitis A. 95 not screened because: clear history of vaccination (52), past Hepatitis A infection (17), refusal (14) or vaccination without screening (12).

Reference	Recruitment strategy	Where sample obtained from	Data collection method/comments
		hospital, London between January-December 2004.	
Rivers & Noret 2008	14 schools in North of England invited to participate in by local education authority committee over 3 month period in 2003	Random sample obtained from the 14 schools involved (N=2002)	Questionnaires administered in class Unclear whether the 53 same sex attracted participants were the only ones found from the survey of 2002 students or whether there were more and these were the ones selected and how the selection was done. The controls were matched on age, sex, and six additional criteria - ethnicity, school or geographical location, allowance, family and home life, boy or girl-friend and exposure to bullying at school.
Warner et al. 2003	Newspaper adverts, notices sent to societies for older gay men and lesbians, posters in bookshops, pubs and cafes, newspaper article. Snowball sampling technique where each initial contact given five recruitment packs.		Questionnaire survey. Sexual orientation as either predominantly gay or lesbian, or heterosexual. Contacts who returned screening questionnaire sent GHQ-28 questionnaire and further packs to distribute. All participants encouraged to recruit heterosexuals of a similar age (within 5 years) to act as controls. 365 questionnaires sent out, 126 returned (34.5%), 68 GHQ-28 questionnaires returned (54% of participants).

Appendix 5. Critical appraisal of the systematic reviews and primary studies

Bos et al. (2005)
The methods section of this systematic review is very brief and the aim of the review is relatively vague – to give an overview of the empirical research into lesbian families. As the focus of the review was unclear, it is difficult to say whether all of the right papers were found. There is a risk that the results of the review were driven by the data found, rather than by a protocol designed before the review commenced. It is not clear how decisions for inclusion and exclusion of studies were made. There is no Quorom diagram to show how many citations were found in the database searches. There was no mention of quality assessment of studies. Results were combined narratively, no meta-analysis was made, yet it states in the discussion, for example, that there were no differences in child outcomes between planned and heterosexual families, so it was unclear how they arrived at that conclusion. The results of this review should be viewed with caution.

King et al. (2008)
This systematic review had a very comprehensive and explicit search strategy; it is unlikely that studies would have been missed. However, it included a study that looks like a case-control study (Herrell et al, 1999) that enrolled 103 gay male pairs and 103 non-gay male pairs. This looks odd compared to all of the other studies where there were different numbers of LGB people to non-LGB people in the studies, so they looked much more like prevalence studies. Also, it appears that each male pair was counted as one and not two. However, this study is very small compared to the other studies so is unlikely to have made much impact on the final results. The study by McCabe et al looks like it was reported twice – once with male and female LGB students for the outcome of alcohol misuse (included in meta-analysis) and once for female bisexual students for the outcomes of suicide (included in meta-analysis) and alcohol misuse (not included in meta-analysis). This means that the possible double counting for alcohol misuse was spotted and appropriate action taken.

With regard to assessment of study quality, appropriate note was taken of potential factors that could cause biased results. It is inevitable that the included cross-sectional studies will be of relatively poor quality. It was stated that the meta-analysis estimates from all studies were broadly similar to results in the better quality studies. It does not say whether that better quality studies demonstrated less heterogeneity of results. However, the numbers may have been too small to demonstrate this.

Random effects models were presented in the report, even where there was little or no statistical heterogeneity. It is presumed that this was done because of the clinical heterogeneity between the studies (different study designs, different populations in different countries, etc). Given the consistency of results, it is unlikely that the results found in the meta-analyses are chance findings.

Table 56. Quality assessment of quantitative primary studies

Reference	Study design	Random sample?	Consecutive sample?	Prospective recruitment?	National survey?	Response rate?	Validated measures?	Comments on general quality of study and report
Agrawal et al. 2004	Cohort	No	Yes	Yes	No	100%	Yes	Good quality study
Barker et al. 2008	Cross-sectional	No	No	N/A	No	34%	No	Likely not to be an accurate reflection of all bisexuals as sample from a conference
Bolding et al. 2002	Cross-sectional	No	No	N/A	No	52%	No	Likely to be representative of gay men using gyms in London
Bolding et al. 2006	Cross-sectional	No	No	N/A	No	Unclear	No	Report only gives gym results for 2004, yet 2003 and 2005 were collected
Das et al. 2003	Cohort	No	No	Not stated	No	Unclear	Yes	Presumed comparator healthcare workers not LGB
Harding et al. 2004	Case series of treatment	No	No	Yes	No	N/A	Yes	Likely that all participant's results presented
McNamee et al. 2008	Cross-sectional	Yes	No	N/A	Yes	40%	Yes	Discrepancy in numbers of respondents
Mercer et al. 2007	Cross-sectional	Yes	No	N/A	Yes	65.4%	Unclear	Reporting style difficult to understand
O'Riordan et al. 2007	Audit	Yes*	No	No	No	N/A	Yes	Discrepancy in numerical results
Rivers & Noret 2008	Cross-sectional	Yes (for LGB), No for comparator	No	N/A	No	Unclear	Yes	Part of much larger school survey
Warner et al. 2003	Cross-sectional	No	No	N/A	No	34.5%	Yes	Poor quality report with very few details
* computer generated sample								

Table 57. Quality assessment of qualitative primary studies

	Theoretical perspective			Sampling				Data collection		Analysis			
	Is the research question clear?	Perspective of author clear?	Influenced the study design?	Is the study design appropriate to answer the q	Is the context or setting adequately described?	Adequate to explore range of subjects/ settings?	Drawn from an appropriate population?	Adequately described?	Rigorously conducted so confidence in findings?	Rigorously conducted so confidence in findings?	Findings substantiated /limitations considered?	claims to generalisibility follow from the data?	Addressed and confidentiality respected?
Cant 2006	Y	N	CT	N	Y	Y	N	Y	N	Y	CT	Y	Y
Cant 2005	Y	Y	CT	N	Y	Y	Y	N	CT	Y	N	Y	Y
Cant 2002	Y	N	CT	N	Y	N	N	Y	Y	Y	CT	N	Y
Hinchliff 2005	Y	N	CT	Y	Y	Y	Y	Y	CT	Y	CT	N	Y
Wilton 2001	Y	N	CT	N	Y	Y	Y	N	N	N	CT	N	?
Scourfield 2008	Y	N	CT	Y	Y	Y	Y	N	CT	Y	CT	N	Y
Mair 2003	Y	Y	Y	N	Y	N	Y	Y	Y	N	CT	N	CT
Smith 2004	Y	Y	N	Y	N	Y	Y	N	CT	Y	CT	N	Y
King 2004	Y	Y	N	Y	N	Y	N	N	CT	Y	CT	N	Y
Riordan 2004	Y	Y	CT	Y	Y	Y	N	Y	Y	Y	CT	N	Y
Pixton 2003	Y	Y	CT	Y	N	N	N	N	CT	Y	CT	N	CT
Warwick 2001	N	N	CT	Y	Y	Y	N	N	CT	N	CT	N	CT
Clover 2006	Y	N	CT	Y	Y	Y	Y	Y	CT	CT	CT	N	CT
McDermott 2006	Y	N	CT	Y	N	Y	Y	N	CT	Y	CT	Y	Y

N = No, Y = Yes, CT = Can't tell

Appendix 6. Qualitative studies identified in healthcare themes

Theme	Author/date	Population group	Study measures
Relational barriers			
Conferred homophobia	Cant 2006[68]	Lesbian and gay people	Experiences of healthcare
	Clover 2006[69]	Older gay men	Growing older/Experiences of healthcare
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
	Smith 2004[73]	Gay (predominantly) and lesbian people	Experiences of past treatments for homosexuality
	Hinchliff 2005[76]	General practitioners (no particular sexual orientation)	Perspectives on treating homosexual patients
	King 2004[77]	Healthcare professionals (no particular sexual orientation)	Experiences of administering treatments for homosexuality
Internalised homophobia	Cant 2005[67]	Gay men	Experiences of healthcare
	Mair 2003[71]	Gay men	Experiences of counselling/therapy
	Smith 2004[73]	Gay (predominantly) and lesbian people	Experiences of past treatments for homosexuality
	Scourfield 2008[74]	Lesbian, gay, bisexual and trans young people	Experiences of distress
Heterosexism	Summers 2002[26]	Lesbian, gay and bisexual young people	Health behaviours, mental health, health service use
	Cant 2002[66]	Gay and bisexual men	Experiences of healthcare
	Cant 2006[68]	Lesbian and gay people	Experiences of healthcare
Professionalism	Cant 2002[66]	Gay and bisexual men	Experiences of healthcare
	Clover 2006[69]	Older gay men	Growing older/Experiences of healthcare
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
	Hinchliff 2005[76]	General practitioners (no particular sexual orientation)	Perspectives on treating homosexual patients
Knowledge	Cant 2002[66]	Gay and bisexual men	Experiences of healthcare

	Cant 2005[67]	Gay men	Experiences of healthcare
	Clover 2006[69]	Older gay men	Growing older/Experiences of healthcare
	Mair 2003[71]	Gay men	Experiences of counselling/therapy
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
	Hinchliff 2005[76]	General practitioners (no particular sexual orientation)	Perspectives on treating homosexual patients
Misunderstandings - Preconceptions	Limbrick 2005[25]	Homosexual and bisexual men and women	Policing issues/health research
	Cant 2002[66]	Gay and bisexual men	Experiences of healthcare
	Cant 2005[67]	Gay men	Experiences of healthcare
	Clover 2006[69]	Older gay men	Growing older/Experiences of healthcare
	Mair 2003[71]	Gay men	Experiences of counselling/therapy
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
Misunderstandings - Terminology	Mair 2003[71]	Gay men	Experiences of counselling/therapy
Misunderstandings - Embarrassment	Summers 2002[26]	Lesbian, gay and bisexual young people	Health behaviours, mental health, health service use
	Cant 2006[68]	Lesbian and gay people	Experiences of healthcare
	Mair 2003[71]	Gay men	Experiences of counselling/therapy
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
	Hinchliff 2005[76]	General practitioners (no particular sexual orientation)	Perspectives on treating homosexual patients
Over-cautiousness	Cant 2005[67]	Gay men	Experiences of healthcare
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
	Hinchliff 2005[76]	General practitioners (no particular sexual orientation)	Perspectives on treating homosexual patients
Affirmation	Clover 2006[69]	Older gay men	Growing older/Experiences of healthcare
	Pixton 2003[70]	Gay and lesbian people	Experiences of affirmative therapy

	Mair 2003[71]	Gay men	Experiences of counselling/therapy
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
Institutional barriers			
Protocols	Summers 2002[26]	Lesbian, gay and bisexual young people	Health behaviours, mental health, health service use
	Cant 2006[68]	Lesbian and gay people	Experiences of healthcare
	Wilton 200[72]	Lesbian mothers	Experiences of maternity care
Referrals	Cant 2005[67]	Gay men	Experiences of healthcare
	Cant 2006[68]	Lesbian and gay people	Experiences of healthcare
	Clover 2006[69]	Older gay men	Growing older/Experiences of healthcare
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
Confidentiality	Cant 2002[66]	Gay and bisexual men	Experiences of healthcare
	Cant 2005[67]	Gay men	Experiences of healthcare
	Cant 2006[68]	Lesbian and gay people	Experiences of healthcare
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
Discontinuity of care	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
Gay friendly resources	Cant 2002[66]	Gay and bisexual men	Experiences of healthcare
	Cant 2005[67]	Gay men	Experiences of healthcare
	Clover 2006[69]	Older gay men	Growing older/Experiences of healthcare
	Wilton 2001[72]	Lesbian mothers	Experiences of maternity care
Training	Hinchliff 2005[76]	General practitioners (no particular sexual orientation)	Perspectives on treating homosexual patients

Appendix 7. Publication and grant application issues

The inclusion criteria for this systematic review specified peer-reviewed published studies. In order for any piece of research to be included it had to have an ISBN number AND some indication that it had been peer reviewed. Peer-reviewing is always present for articles in scientific journals. It may have been done for reports – in which case there would be a statement in the acknowledgements section thanking two or more people for their independent peer-review. If there was any doubt, the authors were asked. None of the Sigma Research reports on their website are peer reviewed (Personal communication, Ford Hickson, Sigma Research, Sept 2008). The Stonewall Prescription for Change report has no ISBN number and has not been peer-reviewed (Personal Communication, Ruth Hunt, Stonewall, Aug 2008).

The reasons for only including peer-reviewed, published literature are as follows:

- Peer-review was considered important to ensure that the most accurate studies were included in the report.
- Only including peer-reviewed, published literature highlights how little LGBT research has so far achieved publication.

As regards accuracy, an illustration of the disparity between peer-reviewed and non-peer reviewed articles on the same topic can be seen from two reports of the same research by Hawton and colleagues. In a book called 'By their own young hand'[107] it states that

> *"Females who were worried about their sexual orientation were four times more likely than females without such worries to report deliberate self-harm, and males with such worries were more than twice as likely as other males to report deliberate self-harm"*

However, in a journal article published in the British Medical Journal on the same study, the odds ratios for self harm of young people with sexual orientation worries compared to those without was 4.04 for males and 2.66 for females.[108] Therefore it is most likely that the book, which was probably not intensively peer reviewed, has the odds ratios for self harm reversed between the sexes by accident.

Reports that have not been fully published are known as grey literature. There are numerous grey literature reports listed in Appendix 3. There is no doubt that many more of these exist but they are hard to obtain systematically. Some are available on LGBT websites and others are available directly from the authors, if you know who to ask. It is unclear how many attempts have been made to fully publish these reports in peer-reviewed publications. However, it is known that it is very difficult to get LGBT research published (Personal communication, Professor Ian Rivers, Queen Margaret University, Edinburgh, November 2008). It is notes that there is a lack of published research on LGBT health other than on HIV and AIDS.[96] One reason for this could be a difficulty with getting LGB health research published. One recent article on lesbian health took 15 months to publish in BMC Public Health.[109] The systematic review by Professor King and colleagues took 13 versions before it was finally accepted in BMC Psychiatry.[19] It was interesting to note that the mean number of versions (range) for the 20 papers published in BMC Psychiatry each side of this paper was 6.8 (4-11). Other authors have had to publish work in USA instead of the UK.[89,90110,111] Of the 11 included quantitative papers and 14 included qualitative papers in this systematic review, approximately half were published in USA publications. This difficulty with getting LGBT research published has resulted in specialist journals being set up such as the Journal

of Homosexuality in the USA. There is no equivalent UK Journal but there are suggestions that one may be organised (Personal communication, Andy Mullen, Northumbria University, November 2008).

It has also been noticed by LGBT health researchers that grant funding for LGBT health research is exceptionally difficult to obtain in the UK. (Personal communication, Ford Hickson, Sigma Research, Sept 2007, Professor Ian Rivers, Queen Margaret University, Edinburgh, November 2008). Stonewall approached numerous health research funders to support the Prescription for Change survey but finally obtained a grant from Lloyd's Bank (Personal communication Ruth Hunt, Stonewall, September 2008). It has also been noticed in the US that there is very little non HIV/AIDS research on LGBT health.[96] As a result if this difficulty with obtaining grant funding, UK LGBT health researchers are now starting to consider co-operative activities between researchers in different universities, such as information swapping on who has applied for which grants etc, rather than being in competition with each other, even if inadvertently, in order to increase the chances of obtaining some funding (personal communication, Andy Mullen, Northumbria University, November 2008).

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