Lesbian, gay and bisexual people’s health in the UK: a theoretical critique and systematic review

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ABSTRACT

Much has been written about the general relationship between social position and health. Far less is available on this relationship as it applies to the health of lesbian, gay, bisexual and transgender (LGBT) people. Whether the health of LGBT people is similar, better or worse in general than that of other members of the population, and the degree to which being LGBT contributes to health inequalities and inequities or intersects with other dimensions of social stratification and difference, is not well understood. As possibly as many as 6% of the UK population identify as LGBT, there could be important health consequences. This paper considers the theoretical aspects of social stratification, sexual orientation and health. It also reports the findings of a systematic review of physical and mental health research about LGBT people in the UK. This was analysed in the context of the relationship between health and social position. For the systematic review, MEDLINE, MEDLINE In-process, EMBASE, PsycINFO, Web of Science and Cochrane Library databases were searched between January 2000 and May 2008. References were searched and experts were contacted. Included were UK studies enrolling LGBT participants with any physical or mental health measures, but not HIV/AIDS, sexually transmitted diseases, sexual behaviour or health related to transitioning. Unpublished surveys involving more than 1000 participants were included. Inclusion decisions, data extraction and quality assessment were undertaken in duplicate. Quality assessment used established checklists appropriate to each study design. The results were tabulated and assessed narratively. From a total of...
Introduction

The relationship between poor health and relative social disadvantage is well established (Marmot and Wilkinson, 1999; Solar and Irwin, 2007; Graham, 2000; Braveman, 2003, 2006; Starfield, 2007) both within and between different countries (Commission on Social Determinants of Health, 2008). Globally, patterns of life expectancy vary widely in association with different levels of economic development and diverse forms of social and political organisation (Beaglehole and Bonita, 2008). There is a very extensive literature exploring the social determinants of health and the corresponding health inequalities or health inequities (Commission on Social Determinants of Health, 2008; Townsend and Davidson, 1982; Acheson, 1998; Department of Health, Health Inequalities Unit, 2007; Marmot, 2010; Kelly and Doohan, 2012).

The conventional way in which this relationship is studied involves taking some measure of socio-economic position, such as social class, occupation or income, and demonstrating a gradient showing the associations. Although there is extensive national and international evidence demonstrating these associations (Mackenbach, 2005; Siegrist and Marmot, 2006; Commission on Social Determinants of Health, 2008; Wilkinson and Pickett, 2003), there is significantly less showing what might be done to improve the relative health position of those in the poorer or poorest circumstances (Millward et al, 2003; Blas et al, 2008).


The literature on social determinants generally acknowledges that there are multiple dimensions of social difference, as well as socio-economic ones, such as gender, ethnicity and disability, and that these are also linked to poor health in various ways (Bonnefoy et al, 2007). It has also been suggested that there are synergies between these different dimensions or axes of social differentiation in the population, although the epidemiological literature has tended to be much clearer about how to measure these dimensions than about how they interact with each other (Kelly, 2010). The feminist and ethnically informed sociological literature has been much more sophisticated in its treatment of the synergy between different dimensions of social difference (Anthias, 1990, 1992, 2005; Anthias and Lazarides, 1999; Anthias and Yuval-Davis, 1983, 1992; Yuval-Davis, 1994, 1997, 2006a,b, 2007, 2010), but has paid little attention to the links to health. The sociological literature grew out of a rejection of a simple class-based model of social stratification in favour of one that acknowledged the intersections between dimensions of class and ethnicity or gender and class and that attempted to formulate important theoretical accounts of the nature of the relationships.

The dimension of stratification or social differentiation which has received the least attention is sexual orientation and health and the corresponding intersections with other axes of social difference. This is surprising, given that other dimensions of social difference and health have been very extensively studied. The purpose of this paper is to review systematically...
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It was curious that little or nothing was published on physical health in LGBT people. For example, if there were considerably higher rates of smoking, one might have expected higher rates of cardiovascular disease, but without the evidence to prove this, no action would be thought to be required. One of the issues that affect many minority groups is invisibility (Oliver and Barnes, 1998). Inherent in this invisibility is the assumption that there is no difference between the minority and the majority so that, even where there is evidence to the contrary, research is not deemed worthwhile. Consequently, minority group concerns tend to be unreported and/or under-investigated, which leads to claims of marginalisation and social isolation.

Coupled with these assumptions is the notion that invisible minorities must be small in number. However, around 6% of the UK population identifies as LGB (Department of Trade and Industry, 2004). Accurate estimates of the proportion of transgender people in the UK are not available, but may range from 0.02% to 1% (Parliamentary Forum on Gender Identity, 2009). Given the size of the population, the health of LGBT people deserves more attention than it has hitherto received. Consequently, we conducted a systematic review of UK research into LGB people’s physical and mental health in order to determine whether their health was similar or different to that of the heterosexual majority. We also included the transgender (trans) community, as a high proportion of the LGB and trans communities have a number of general health concerns in common.

Methods

A protocol was developed and circulated for comment. MEDLINE, MEDLINE In-process, EMBASE, PsycINFO, Web of Science (SCI and SSCI) and Cochrane Library databases, including CENTRAL, were searched for reviews and primary studies of the general health of LGB&T people published between January 2000 and May 2008. A broad search strategy was used that included terms related to homosexual, lesbian, gay, bisexual and trans people, restricted only by publication date and English language. An Internet search was conducted using Google, together with additional targeted searches of selected relevant websites. Citations from systematic and narrative reviews were checked for relevant studies.

Study selection

Inclusion criteria for study selection were research conducted in the UK that included one or more
measures of physical or mental health in people who identified themselves as LGB or transgender, and in which at least some participants were enrolled after the beginning of January 2000. All aspects of health were included, with or without any comparator group, except those related to HIV/AIDS, sexually transmitted diseases, safe sex, sexual behaviour and transitioning. Studies did not have to be peer reviewed, but an additional inclusion criterion for non-peer-reviewed surveys was that they included more than 1000 participants.

The title and abstract (if available) for each study were screened by two reviewers to ensure that they met the inclusion criteria, and any disagreements were resolved through discussion. Full texts were retrieved for potentially relevant articles and were processed by one reviewer. These were checked by a second reviewer and any disagreements were resolved through discussion.

Quality assessment and data extraction

Quality assessment of cross-sectional surveys was based on a generic quality assessment checklist developed by the National Institute for Health and Clinical Excellence (2009). Quality assessment of all other study designs used CASP critical appraisal checklists (Public Health Resource Unit, 2009). Quality assessment and data extraction were performed by one reviewer and checked by a second reviewer. Any discrepancies were resolved by discussion.

Data analysis

The study characteristics and results were tabulated and discussed narratively. The results were interpreted in the light of the methodological strengths and weaknesses identified in quality assessment.

Results

Identified studies

From the searches, a total of 2603 citations were identified, of which 714 were duplicates. Of the 1889 remaining citations, 289 published papers and reports were retrieved for assessment and 14 studies (15 papers and reports) were included in the systematic review (see Figure 1). The final selection contained five unpublished surveys and nine published primary studies (see Tables 1 and 2 for numbers and background characteristics of participants).

Health outcomes

Physical health

Seven studies reported physical health, namely two surveys of gay and bisexual men (Reid et al, 2002; Weatherburn et al, 2005, 2008), one survey of lesbian and bisexual women (Hunt and Fish, 2008), and four published studies, one in lesbians and bisexual women (Agrawal et al, 2004), one in bisexual men and women (Barker et al, 2008), and two in LGB people compared...
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With regard to gay and bisexual men, Reid et al. (2002) found that 12% of respondents had a long-term illness, health problem or disability that limited their daily activities or the work that they could do (n = 1754/14 616). Of the total sample, 2.4% had skeletal, muscular, nerve or mobility problems (including back and spinal problems, arthritis, physical injuries, paralysis or nerve damage, or chronic fatigue syndrome), 1.7% had blood or heart problems (including diabetes, angina or hypertension), and 1.1% had respiratory problems (most commonly asthma, but including lung disease, bronchitis, hay fever and sinusitis). Less than 5% of 1754 respondents had limiting gastrointestinal problems, cancers, kidney and liver problems, drug and alcohol misuse, or skin problems.

Weatherburn et al. (2005) found that 10.2% of their study subjects had a long-term illness, health problem or disability that limited their daily activities or the work they could do (n = 16 002 gay/bisexual men). Of the total sample, 3.4% had skeletal, muscular, nerve or mobility problems (including back and spinal problems, arthritis, physical injuries, paralysis or nerve damage, or chronic fatigue syndrome), 0.9% had diabetes, 0.9% had heart problems, angina or hypertension, 0.8% had respiratory problems (most commonly asthma, but including other lung disease), 0.5% had sight or hearing problems and 0.4% had gastrointestinal problems. Less than 2% of 16 002 respondents had limiting cancers, kidney and liver problems, or glandular or hormonal problems.

Hunt and Fish (2008) found that 8% of lesbian and bisexual women respondents aged between 50 and 79 years had been diagnosed with breast cancer. The numbers in this survey aged between 50 and 79 years are unclear, but if a normal distribution is assumed and the age range for the total survey was 14–84 years, then approximately 50% of the total of 6000 respondents will have been aged 50 years or over. However, this is likely to be an overestimate, as it is probable that there would have been more younger than older respondents. Agrawal et al. (2004) investigated causes of infertility in 254 lesbians, compared with 364 heterosexual women, attending a London fertility clinic between 2001 and 2003. They found a significantly higher proportion of lesbians compared with heterosexual women with polycystic ovaries (80% vs. 32%) and polycystic ovary syndrome (38% vs. 14%), but no

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**Table 1** Characteristics of included surveys

<table>
<thead>
<tr>
<th>Author, date, and name of survey</th>
<th>Sample recruitment</th>
<th>Internal control</th>
<th>Sample size</th>
<th>Ethnicity</th>
<th>Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reid <em>et al</em> (2002) <em>(Know the Score)</em></td>
<td>Gay and HIV health promotion agencies and online questionnaire (UK)</td>
<td>No</td>
<td>14 616 gay/bisexual men</td>
<td>92.8% white, 1.5% black, 2.8% Asian, 2.7% mixed/other</td>
<td>Mean 32.8 (SD 10.5), range 12–82</td>
</tr>
<tr>
<td>Sanderson (2002) <em>(Measure for Measure)</em></td>
<td>Not given (West Midlands)</td>
<td>No</td>
<td>1532 (1083 gay/bisexual men and 449 lesbian/bisexual women)</td>
<td>90% white, 2% black, 3.1% Asian, 4.8% mixed/other</td>
<td>Mean: men, 32.9; women, 29.3; range, 15–73</td>
</tr>
<tr>
<td>Weatherburn <em>et al</em> (2005) <em>(Risk and Reflection)</em></td>
<td>Gay and HIV health promotion agencies and online questionnaire (UK)</td>
<td>No</td>
<td>16 002 gay/bisexual men</td>
<td>93.9% white, 1.2% black, 2.8% Asian, 2.3% mixed/other</td>
<td>Mean 33.9 (SD 11.9), range 14–85</td>
</tr>
<tr>
<td>Limbrick (2007) <em>(Revealing LGBT Islington)</em></td>
<td>Paper and online questionnaire (London)</td>
<td>No</td>
<td>1198 (872 gay/bisexual men, 320 lesbians and 45 trans)</td>
<td>85% white, 3% black, 4% Asian, 6% mixed/other</td>
<td>Weighted mean 36.8</td>
</tr>
<tr>
<td>Hunt and Fish (2008) <em>(Prescription for Change)</em></td>
<td>Online and paper questionnaire (UK)</td>
<td>No</td>
<td>6178 lesbian and bisexual women</td>
<td>82% white British</td>
<td>Range 14–84</td>
</tr>
</tbody>
</table>
### Table 2 Characteristics of included published studies

<table>
<thead>
<tr>
<th>Study Title</th>
<th>Sample recruitment</th>
<th>Study date</th>
<th>Internal control</th>
<th>Sample size</th>
<th>Ethnicity</th>
<th>Age (SD) (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrawal et al (2004)</td>
<td>Women undergoing fertility treatment (London)</td>
<td>2001–2003</td>
<td>Yes</td>
<td>Women: 254</td>
<td>White = 93% Black = 2% Asian = 0.5% Mixed/other = 4.5%</td>
<td>Mean: lesbian, 35.1 (4.2); heterosexual, 35.6 (4.7); range 20–45</td>
</tr>
<tr>
<td>Barker et al (2008)</td>
<td>BiCon bisexuality conference attendees</td>
<td>2004</td>
<td>No</td>
<td>n = 92: 43 women, 33 men, 17 trans or genderqueer 20 lesbian/gay 78 bisexual 9 heterosexual 47 queer*</td>
<td>White = 99% Weighted mean = 33.3 (18 to &gt; 50)</td>
<td></td>
</tr>
<tr>
<td>Bolding et al (2002)</td>
<td>Men attending gyms (London)</td>
<td>2000</td>
<td>No</td>
<td>Men: 772 gay or bisexual</td>
<td>White = 90.6%</td>
<td>Median 35 years</td>
</tr>
<tr>
<td>King and Nazareth (2006)</td>
<td>General practices (North London)</td>
<td>?</td>
<td>Yes</td>
<td>Men: 38 gay, 23 bisexual, 373 heterosexual Women: 26 lesbian, 85 bisexual, 934 heterosexual</td>
<td>White = 74.7% Black = 12.9% Asian = 3.0% Mixed/other = 4.0%</td>
<td>Men: gay, 35.9 (12.3); bisexual, 37.1 (12.0); heterosexual, 35.9 (12.3) Women: lesbian, 32.7 (11.7); bisexual, 31.4 (11.7); heterosexual, 33.1 (12.1)</td>
</tr>
<tr>
<td>Meyer et al (2001)</td>
<td>Warwick University LGB Society (Coventry)</td>
<td>?</td>
<td>Yes</td>
<td>Men: 20 gay, 30 heterosexual Women: 20 lesbian, 30 heterosexual</td>
<td></td>
<td>Men: gay, 20.1 (1.2); heterosexual, 20.0 (1.1) Women: lesbian, 19.8 (0.9); heterosexual, 19.9 (0.8)</td>
</tr>
<tr>
<td>Rivers and Noret (2008)</td>
<td>School children (North of England)</td>
<td>2003</td>
<td>Yes</td>
<td>72 male, 34 female 50% homosexual (same sex attracted), 50% heterosexual (opposite sex attracted)</td>
<td>White = 92% Black = 2% Asian = 4% Mixed/other = 1%</td>
<td>Same sex attracted, 13.8 (1.4); opposite sex attracted, 13.8 (1.2)</td>
</tr>
</tbody>
</table>
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Barker et al. (2008) recruited 92 participants from an annual bisexuality conference (BiCon) and found that 36% of them had single (24%) or multiple (12%) physical or mental health impairments that interfered with everyday life. Physical impairments included unseen impairment (e.g., diabetes, epilepsy) in 12%, learning difficulty (e.g., dyslexia) in 5%, hearing impairment in 3%, mobility impairment in 3% and visual impairment in 2%.

King and Nazareth (2006) reported the percentages of people scoring less than the 25th centile on the Short-Form 12 Physical Scale of 27% (97/373) for heterosexual men, 16% (3/23) for bisexual men, 35% (13/38) for gay men, 25% (233/934) for heterosexual women, 28% (23/85) for bisexual women and 25% (6/26) for lesbians. Warner et al. (2004) and King et al. (2003) reported median (range) Short-Form 12 Physical Scale median results of 53.2 (range 31.4–58.8) for heterosexual men (n = 505), 53.1 (36.8–58.9) for gay men (n = 656), 52.3 (34.3–58.7) for heterosexual women (n = 588) and 52.4 (33.2–59.1) for lesbians (n = 430).

Mental health

A total of 13 studies reported on mental health, namely five unpublished surveys (Reid et al., 2002; Weatherburn et al., 2005; Sanderson, 2002; Limbrick, 2007; Hunt and Fish, 2008) and eight published studies (Barker et al., 2008; Bolding et al., 2002; King and Nazareth, 2006; McNamee et al., 2008; Meyer et al., 2001; Rivers and Noret, 2008; Warner et al., 2003, 2004; King et al., 2003). The participants in these studies are listed in Table 2. Incidence results and more general results are reported below, including those for young people aged 16 years or under. Prevalence results for specific diagnoses and validated measures specific to gender and sexual orientation are shown in Table 3.

The incidence of mental health problems was reported in two surveys and one published study. Limbrick (2007) (n = 1198) found that mental health problems related to their sexuality were ongoing in 7% of women and 8% of men with depression, 2% of women and 1% of men with eating disorders, 2% of women and 1% of men with a history of self-harm, and 2% of women and 2% of men had attempted suicide. Hunt and Fish (2008) (n = 6178) found that 20% of lesbians and bisexual women had deliberately harmed themselves in the last year, and that 5% had attempted suicide in the last year. Bolding et al. (2002) (n = 772) found that 13% of gay and bisexual men attending gyms had had suicidal thoughts in the previous 6 months, 40.1% were depressed, 56.4% were anxious, 82.3% were confident, 85.5% were cheerful and 48.2% had felt unhappy about their body shape or size.

Reid et al. (2002) (n = 14 616) and Weatherburn et al. (2005) (n = 16 002) reported long-term illness, health problems or disability that limited respondents’ daily activities or the work that they could do, and both studies found that 2.5% (n = 358/14616 and n = 408/16002, respectively) had mental health/emotional or neurological problems, most commonly depression or anxiety, but also epilepsy, motivational or development problems, eating disorders, sleeping disorder, brain injury, phobias, neurological problems, headache or migraine.

### Table 2 Continued

<table>
<thead>
<tr>
<th>Warner et al. (2003)</th>
<th>Older lesbians and gay men</th>
<th>Yes (not reported)</th>
<th>Men: 85 gay lesbians 14 heterosexuals</th>
<th>65 (6.4) (56–81)</th>
</tr>
</thead>
</table>

White = 90.3% Black = 3.8% Asian = 2.0% Mixed/other = 4.0% Men: gay, 36.5 (13.5); bisexual, 35.4 (15.0); heterosexual, 37.5 (14.1) Women: lesbian, 34.2 (10.2); bisexual, 29.9 (10.2); heterosexual, 38.0 (14.4)

* Percentages given indicate that participants selected more than one identity.
Table 3  Mental health prevalence results by group for specific diagnoses and validated measures

<table>
<thead>
<tr>
<th>Study</th>
<th>Gay men</th>
<th>Bisexual men</th>
<th>Heterosexual men</th>
<th>Lesbian women</th>
<th>Bisexual women</th>
<th>Heterosexual women</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHQ-12 &gt; 4</td>
<td>King and Nazareth (2006)</td>
<td>58%</td>
<td>26%</td>
<td>35%</td>
<td>42%</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>Warner et al (2004)/ King et al (2003)</td>
<td>35%</td>
<td>45%</td>
<td>36%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>GHQ-12 mean score</td>
<td>Warner et al (2004)/ King et al (2003)</td>
<td>3.2</td>
<td>4.0</td>
<td>3.5</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>GHQ median score (range)</td>
<td>Warner et al (2004)/ King et al (2003)</td>
<td>2.0 (0–9)</td>
<td>1.0 (0–8)</td>
<td>2.0 (0–10)</td>
<td>2.0 (0–9)</td>
<td></td>
</tr>
<tr>
<td>SF-12 mental score median (range)</td>
<td>Warner et al (2004)/ King et al (2003)</td>
<td>47.8 (25.5–57.1)</td>
<td>50.1 (28.3–57.9)</td>
<td>45.3 (25.2–56.6)</td>
<td>49.1 (27.5–57.6)</td>
<td></td>
</tr>
<tr>
<td>CIS-R case greater than threshold</td>
<td>Warner et al (2004)/ King et al (2003)</td>
<td>42%</td>
<td>52%</td>
<td>35%</td>
<td>43%</td>
<td>46%</td>
</tr>
<tr>
<td>CIS-R median score (range)</td>
<td>Warner et al (2004)/ King et al (2003)</td>
<td>9.0 (0–29)</td>
<td>7.0 (0–25)</td>
<td>9.0 (0–29)</td>
<td>7.0 (0–24)</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>Sanderson (2002)</td>
<td>29%</td>
<td>31%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limbrick (2007)</td>
<td>30%</td>
<td>29%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorder</td>
<td>Limbrick (2007)</td>
<td>7%</td>
<td>8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hunt and Fish (2008)</td>
<td>0.85 (2.30)</td>
<td>0.17 (0.06)</td>
<td>0.25 (0.55)</td>
<td>1.27 (1.93)</td>
<td></td>
</tr>
<tr>
<td>Considered suicide</td>
<td>Sanderson (2002)</td>
<td>47%</td>
<td>48%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attempted suicide</td>
<td>Sanderson (2002)</td>
<td>29%</td>
<td>31%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limbrick (2007)</td>
<td>8%</td>
<td>6%</td>
<td></td>
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</tr>
</tbody>
</table>
Barker et al (2008) (n = 92) found that 25% of their respondents had had a diagnosis of a mental health problem from a professional (depression, 16%; anxiety, 8%; self-harm, 8%; seasonal adjustment disorder, 7%; panic disorder, 3%; post-traumatic stress disorder, 3%; bipolar disorder, 2%; obsessive–compulsive disorder, 2%; eating disorder, 1%; schizophrenia, 1%). There was also one case of adult attention deficit disorder and of Asperger’s syndrome. Warner et al (2003) (n = 125) found that 16% of the sample of older lesbians and gay men scored above the threshold on the GHQ-28.

McNamee et al (2008) (n = 868) found that the percentage GHQ-12 cases (score of 4 or more items) was 19.2% for opposite-sex-attracted and 40.9% for same-/both-sex-attracted young people.

Rivers and Noret (2008) (n = 106) administered the Brief Symptom Inventory (53-item version), and reported mean depression scores of 0.60 (SD, 0.81) for opposite-sex-attracted and 1.29 (1.25) for same-sex-attracted children, and anxiety scores of 0.50 (0.70) for opposite-sex-attracted and 1.13 (1.18) for same-sex-attracted children. The scores for thoughts about ending life were 0.65 (1.08) for opposite-sex-attracted and 1.02 (1.52) for same-sex-attracted children.

The prevalence results shown in Table 3 suggest either the same or worse levels of mental health in LGB people compared with heterosexuals (where comparisons are available). They also indicate how little research has been conducted. For example, only two unpublished reports (Sanderson; 2002; Limbrick, 2007) measured depression, and neither of them had a heterosexual control group. There were no results for anxiety or dementia.

**Discussion**

These results demonstrate how little research is available on the physical and mental health of LGBT people in the UK. If the results of the systematic review are taken at face value, they suggest a range of point estimates for physical and mental health outcomes. The general trend of results suggests worse health, particularly some aspects of mental health, in LGB people compared with heterosexual comparators or
routinely collected information on the general population. There were no results from large cohort studies, so the incidence of any specific condition was not available. There were no routinely collected data from disease registries, and little or no information on common diseases such as cardiovascular diseases, despite the increased rates of smoking and other risky health behaviours in some of the groups studied (Meads et al., 2009). Where particular conditions were identified, such as higher rates of polycystic ovaries in lesbians seeking fertility treatment, there was no follow-up research to suggest or explain why the underlying higher levels of androgens could be present and what could be done to alleviate the problems that they might be causing. It is not known whether higher androgen levels occur generally in lesbians and bisexual women compared with heterosexual women.

No studies on transgender people’s health that matched the inclusion criteria for this systematic review could be located. This was particularly disappointing in view of the fact that it is known that some trans people have considerable mental health difficulties, and there is a high rate of suicide attempts in this population (Whittle et al., 2007). There is some information about their quality of life (World Professional Association for Transgender Health, 2011), but very little is published internationally about their general physical health. It is important to highlight this gap so that it can be addressed in the future.

Given that an estimated 6–7% of the UK population are LGBT, this dearth of information is surprising and very worrying. It has been assumed that lesbians and bisexual women are at lower risk of cervical cancer than the general population. Cervical screening rates are only around 50% (Meads et al., 2009), and some lesbians are turned away from screening and/or told that they do not need to attend (Hunt and Fish, 2008). However, there is no information on cervical cancer rates in the UK, and the fact that a higher proportion of lesbians and bisexual women report having heterosexual sex before the age of 16 years (43% vs. 21%) (Mercer et al., 2007) suggests that some lesbians and bisexual women might be at higher rather than lower risk.

The rate of eating disorders in gay and bisexual men was approximately 7%. If 0.2% of the population of men in England (around 25 million) have an eating disorder (National Collaborating Centre for Mental Health, 2004), this would be equivalent to around 50 000 men. If 5% of the population of men in England are gay or bisexual, this would be equivalent to around 1 250 000 men, and if 7% of these have an eating disorder, this would suggest that there are 875 000 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 else many gay and bisexual men are not coming forward for treatment and so have not been included in eating disorder prevalence statistics for the general population. It is unclear whether any eating disorder treatment clinics in the UK have ever systematically asked their clients, particularly the men, whether they were LGB and/or whether they had experienced any difficulties with regard to their sexual identity.

Similarly, if 2.4% of the general population of England (around 50 million) self-harm, this would be equivalent to around 1 200 000 people, and if around 25% of LGB people actually self-harm (i.e. 50% of those who considered self-harm), that would be equivalent to 750 000 LGB people self-harming. This suggests that more than 50% of all people who are self-harming are LGB. It is unclear whether any self-harm treatment clinics in the UK have ever systematically asked their clients whether they were LGB and/or whether they had experienced any difficulties with regard to their sexual identity. However, in one self-harm support group approximately 50% of the participants are LGBT (Karen Thorne, Wolverhampton Primary Care Trust Self-harm Network, December 2008, personal communication). The results suggest that action directed at reducing self-harm specifically in the LGB population would have a disproportionate effect on reducing the overall statistic.

These findings raise politico-legal issues with regard to the ability of the NHS to fulfil equalities duties effectively in the absence of good data. The public sector in the UK is subject to a growing body of policy and legislation relating to equalities, culminating in the Equalities Act (2006) and the founding of the Commission for Equality and Human Rights (CEHR) in 2007. This legislation requires public bodies, including the NHS, to look at the evidence, examine their processes, and find ways of delivering services for everyone, regardless of race, gender, disability, age, religion or belief, sexual orientation or gender identity. As this review shows, the parlous state of the current evidence makes this extremely difficult.

A second issue concerns organisations such as the National Institute for Health and Clinical Excellence (NICE), which have to develop guidance and recommendations for the NHS in which the question of health inequalities, in all its forms, must figure. As far as the question of sexual orientation is concerned, as can be seen from this systematic review, the task is rendered much more difficult by the absence of basic information.

This systematic review raises other social issues, not all of which can be addressed here (e.g. the invisibility of sexual minority patients within the UK health services and in health research). It is clear that very little has been done so far because of lack of, among other factors, interest, perceived need, funding, or staff, or combinations of these factors. If large cohort studies such as the Avon Longitudinal Study of Parents
describe recent sexual behaviour, and say little about
plete way of describing people in that these terms only
Such statements are often found in LGB surveys.

et al

people are often classified by their behaviour, such as
because, for the purposes of sexual health research,
had to identify as being LGBT. This is problematic

It is clearly evident from the small amount of
research that has been conducted that there is a need
to explain the poorer health that is found in LGBT
people. There is an obvious need to establish the
general health profile of trans men and women. The
fact that there are unpublished surveys suggests that
some funding is available, but this may not be from
mainstream health research funders such as the
National Institute for Health Research. Indeed, the
survey by Hunt and Fish (2008) was conducted by a
charity (Stonewall) and funded by Lloyd’s Bank. There
is considerable interest in health within the LGBT
community, but this has evidently not yet carried over
to the mainstream.

Limitations

The main strength of this systematic review is that it
was conducted to the highest standards by experts in
systematic reviewing and in LGBT health, so is likely to
have included all of the relevant studies. The major
weakness of the results lies in the poor quality of most
of the included studies. Most of the cross-sectional
surveys had small sample sizes, particularly the pub-
lished studies; in many instances the study design and/
or methodology was poor, so the results may not be
very accurate. We focused on studies in which people
had to identify as being LGBT. This is problematic
because, for the purposes of sexual health research,
people are often classified by their behaviour, such as
women who have sex with women (WSW) within a
certain period of time (Weatherburn et al, 2005; Mercer
et al, 2007). However, behaviour and identity
are by no means so clear-cut:

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 hetero-
sexual, 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.

(Buckley and Sanderson, 2005)

Such statements are often found in LGB surveys.
The use of the terms MSM and WSW is an incom-
plete way of describing people in that these terms only
describe recent sexual behaviour, and say little about
individual social behaviour. They obscure the social
dimensions of sexual orientation, and undermine
the self-labelling of people (Young and Meyer, 2005).
People may or may not express their sexual orient-
tation in their behaviour. Sexual behaviour classifi-
cation was not included in this systematic review, so
studies oriented towards sexual behaviour research
were excluded, even if they measured general physical
and mental health as well as sexual health (e.g. Mercer
et al, 2007). However, in this study the general health
results showed that 31% of WSW had had an illness
lasting for more than 3 months in the previous 5 years,
compared with 24.2% of WSMW and 14.9% of WSM
(Mercer et al, 2007). No other behaviour classification
studies with general health results were found. All of
this highlights the difficulties involved in using categ-
orical constructs to capture the complexities of rela-
tionships in diverse, dynamic and overlapping life
worlds (Kelly, 2006).

The searches were originally conducted in 2008, but
continual surveillance of the medical media and LGBT
researchers online since this time has not yielded any
more unpublished surveys eligible for inclusion. One
published study has become available which is an
analysis of the Adult Psychiatric Morbidity Survey
2007, comparing the prevalence of mental health con-
ditions by sexual orientation (Chakraborty et al, 2011).
It found that non-heterosexual people had
hanced levels of mental health problems (including
depression, anxiety, obsessive–compulsive disorder,
phobic disorder, probable psychosis, drug depen-
dence, alcohol dependence, suicidal thoughts, suicide
attempts and self-harm) and of service use (GP con-
tacts and community care services). These findings are
consistent with previous research reported in this
systematic review.

Conclusion

A number of deeper empirical and theoretical prob-
lems remain. These relate to the question of sexual
orientation as a social determinant of health in its own
right and the relationship or intersection between
sexual orientation and socio-economic position, eth-
nicity and other social differences. The nature of these
relationships cannot be determined on the basis of
the systematic review reported here. However, several
lines of empirical and theoretical research could be
built on the platform provided by this review.

The review shows that the general health of the LGB
population is worse than that of the population as a
whole. This requires explanation at two levels. First,
what are the causal mechanisms operating at the
individual level which produce particular disease out-
comes in individuals linked to their social position?
What are the specific features of sexual orientation that produce particular individual health outcomes (Kelly, 2009)? Secondly, what are the causes of the population pattern of LGB health? Socio-economic position, ethnicity, gender and sexual orientation can be treated as characteristics of individuals, where the characteristic is something that the person has or possesses in some way. In sociological terms these categories are much more than individual characteristics; they represent and describe relationships between groups, including social classes, different ethnic groups, men and women, able-bodied and disabled people, and heterosexual and LGBT people. The clue to understanding the pattern at population level is in understanding and describing how these relationships between groups, which are about the struggle for power and scarce resources, produce particular patterns of health outcomes. Of course these groups do not exist in isolation. People occupy many social positions, and these positions intersect and interact in complex life worlds. The interaction produces multiple complex patterns and outcomes, one of which is health. It is not yet clear empirically whether the interaction in the intersections is additive, synergistic or of some other type. This is an important deficit in our knowledge.

The intersections of the dimensions of social difference are important sociologically, as they open up a set of questions about the nature of social stratification and the complexities of the power relationships between groups. The intersections are also important epidemiologically, posing questions about the causal links between distal social factors and health outcomes in a way that implies not a simple linear determinism but a set of complex interactions between a range of social and other health factors. These are questions which neither epidemiology nor sociology have been particularly good at answering. This review cannot answer these questions either. In fact it demonstrates that we are not yet even at first base. However, it represents an important initial step in describing a research agenda involving epidemiology, sociology and biomedicine in unravelling a highly important issue which goes well beyond LGBT people to the broader population where, among other things, the same intellectual problems have yet to be solved.

ACKNOWLEDGEMENT

Most of this research was funded though the West Midlands Regional Public Health Levy.

REFERENCES


CONFLICTS OF INTEREST

None.

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Accepted 4 January 2012