

Inequalities in access to healthcare services: Agile Scoping Report

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Contents

| | |
|---|----|
| Executive Summary | 2 |
| Introduction | 6 |
| Findings..... | 8 |
| Section 1: Population characteristics who might be less likely to access specific health services | 10 |
| Section 2: Reviews confirming presence of inequality within a specific population characteristic | 20 |
| Barriers identified that may contribute to an inequality in access to healthcare | 29 |
| Strengths, Limitations and considerations for this report..... | 34 |
| Options for further work..... | 35 |
| References: | 36 |
| Appendix A: Sources searched | 40 |
| Medline search strategy: | 42 |
| Appendix B: Table of characteristics of included studies..... | 45 |
| Appendix C: Data Extraction | 48 |

Executive Summary

Background:

This report is an overview of the evidence on inequalities in access to health services. It includes information on the type of population groups and their demographic or socioeconomic characteristics identified in secondary research literature as associated with an inequality in access to a range of different healthcare settings.¹ Where possible, an attempt was made to identify population characteristics with delayed diagnosis and delayed linking to specialist care following diagnosis (i.e., referral) as well as to extract data that are relevant in the UK setting.

Objective:

To carry out a scoping review to identify the population characteristics who are less likely to access health services.

In particular, the following questions were addressed:

- Who (population characteristics) are less likely to access health services?
- Which health services are these population characteristics less likely to access?
- What (structural) barriers are associated with reduced uptake of the health services within these population characteristics?

Methods:

Due to the broad nature of the topic, the search was limited to reviews produced using explicit and reproducible methods of systematic searching, critical appraisal of quality and synthesising the primary literature on the topic. With this aim, sixteen sources² adhering to robust systematic review principles, two databases, Google scholar and UK Health Security Agency Library Evidence briefings were searched for both published and grey literature. Only reviews produced using systematic methodology (including critical appraisal) were assessed for inclusion. Two reviewers independently screened the reviews for relevance and extracted relevant data. As this report is primarily concerned with identifying population groups, none of the included reviews were critically appraised for their quality.

Where possible, data reporting access by different population characteristics, the direction of the inequality and type of health service, were extracted.

¹ Hereafter, referred to as “population characteristics”.

² Follows core systematic review principles: comprehensive and stated search strategy, selection of sources based on objective criteria, assessment of risk of bias of primary sources and/or is a methodology developed by an expert body e.g. NICE. For a full-list of sources searched, please refer to Sources searched section of the report.

Results:

Forty-four reviews met the inclusion criteria. Of these, seventeen reviews focused on a specific healthcare service, and identified any population characteristics with inequitable access/ referral to that health service, or any group experiencing delayed diagnosis. The remaining twenty-seven reviews focused on a predefined population characteristic and aimed to confirm or refute an inequality within that group, or examine whether there is further variation in inequalities within that group. Eighteen reviews identified barriers that may be contributing to lower access and referral to health services by the identified groups.

Population characteristics

Seven overarching population groups and characteristics were identified:

- Age
- Education level
- Ethnicity or immigration status
- Gender
- Risk (medical and lifestyle risks)
- Rurality or social deprivation and
- Socioeconomic status

These fell under five broad categories of health services:

- NHS health checks
- Screening services
- Vaccination services
- Primary care services
- Secondary/ specialist care services

Findings on inequalities in access to healthcare

The findings from this report ***suggests the presence of inequalities in access, uptake and referral to health services within each population characteristic.***

However, ***the direction of this inequality is*** influenced by a number of factors including the type of population characteristic, its specific needs, type of health service being accessed, comparison group etc. Therefore, a population characteristic might be less likely to access one health service while it might be more likely to access another service. E.g., older age (65 years+) was identified as being more likely to access NHS health checks whereas lower utilisation rates were reported in this age group for specialist care. Similarly, access to speech and language therapy varied across six ethnic minority groups, being highest for Middle East/Arab group followed by white Europeans and mixed ethnic group/ other ethnic groups and lowest for black groups.



Barriers to uptake of health services by the identified population characteristics

Barriers found to be associated with lower uptake of health services were generally related to factors affecting the service accessibility and affordability.

Ethnic minority groups, migrant populations, Gypsy, Roma and travellers and older adults reported experiencing the most barriers. Their most commonly reported accessibility-related barriers were communication barriers; low health literacy including unfamiliarity with the local healthcare provision and entitlement; uncertainty around legal status; a sense of discrimination; lack of culturally appropriate services, digital exclusion and geographical inaccessibility. Direct costs of certain health services and indirect costs arising due to requiring time off work, childcare provisions, travel costs and competing priorities like childcare and family commitments contributed to the unaffordability of the services within these groups.

Older people also reported several family related issues for referral to palliative care including family conflict about the best course of action for the patient, family's cultural or religious beliefs and their failure to accept the patient's prognosis. Additionally, ***several healthcare provider specific barriers*** were also identified across the group characteristics. These included lack of cultural understanding, local variability in approach and practice including prescribing and treatment habits, low workforce and service capacity due to low staff availability, long waiting lists and lack of resource allocation within certain services/ areas.

Other population characteristics reporting factors contributing to their lower uptake of health services included marginalised young people, sexual minority women and homeless adults. The most commonly cited barriers within these groups included the unaffordability of certain services due to direct and indirect costs as well as lack of understanding and knowledge of healthcare providers relating to gender and sexually diverse populations and lack of use of inclusive language by the service providers. Additionally, sexual minority women reported experiencing a sense of discrimination and disempowerment, refusal to service and misinformation by the service provider; whereas homeless adults reported experiencing difficulties registering for government assistance.

Further actions and considerations:

The original brief of this report was to conduct a broad scoping search for reviews produced using systematic methodology to identify the population characteristics who are less likely to access/ uptake health services. Much research ***compares*** access by ***population characteristics*** and reports characteristics more likely to access a ***specific health service*** in comparison to another rather than health services in general. This may be due to the broad nature of the question. Therefore, although the primary outcome of interest was identification of population characteristics less likely to access health services, where available, data on



population characteristics more likely to access services in comparison to another were also collected from the included reviews.

Seven overarching population characteristics were identified in this scoping review. However, due to the broad nature of the question and the multiple factors influencing the direction of the inequality, it is important to consider the findings from this report in designing further research. A look at Wales' data on the population characteristics identified in this report, to identify the inequalities experienced by these groups within the Welsh setting, is recommended.

Suggestions for further work by the Evidence Service include:

1. Exploration of methods used for identification of inequalities in access to health services in other countries and how they could be applied to data within Wales

Or

2. Production of topic evidence summary focusing on:
 - (i) Identification of inequalities to access of health services within a population (e.g., ethnic minorities) or characteristic (e.g., socioeconomic status), a specific healthcare service (e.g., screening services), or a combination of several factors. This could also include exploration of barriers specific to the population characteristic or service. Although similar to what was undertaken for the current scoping review, this may be useful to provide more detailed exploration into any gaps identified by this scoping review, by exploring primary literature in a focused area.

Or

- (ii) Interventions to improve access to a specific health service within a specific population characteristic.

A topic evidence summary is produced following a comprehensive methodology and addresses a focused research question. The methodology includes a systematic search for primary literature in a wider range of databases, quality appraisal as well as grading and synthesis of the identified evidence. Its turnaround period is 10-12 weeks/topic.

Introduction

This report provides an overview of the evidence identified from a brief scoping review conducted by the Public Health Wales Evidence Service to identify the evidence base on population characteristics who are less likely to access healthcare services.

Methods

As this is a broad topic, the research was limited to only include reviews produced using explicit and reproducible methods of systematic searching, critical appraisal of quality and synthesis of the primary literature on the topic. This is an acceptable way to rapidly access the majority of the evidence base, and although it does not intend to identify every publication on a topic, should allow for the production of an overview. Primary studies were excluded as including both primary and secondary sources of evidence on such a broad topic would have made this report unmanageable within the timeframe of this research.

Data sources: Sixteen sources adhering to robust systematic review principles³, two databases, Google scholar and UK Health Security Agency Library Evidence briefings were searched for both published and grey literature using search terms and strategies designed specifically for each data source. All published and unpublished reviews were assessed for inclusion and there were no publication date restrictions.

Study selection: Reviews produced using systematic methodology (including critical appraisal) i.e., systematic reviews, scoping reviews, rapid reviews etc. were assessed for inclusion. Quantitative data from reviews of population level studies were included.

Data extraction: Two reviewers independently screened the reviews for relevance at title, abstract and full-text level. Data from the relevant reviews were then extracted into a data extraction table. A second reviewer checked the extracted data. Any disagreements at any stage were resolved through discussion with a third reviewer. As this report is primarily concerned with identifying group characteristics, none of the included reviews were critically appraised for their quality.

Data synthesis: Where possible, data reporting the access by different population characteristics, the direction of the inequality and type of health service, were extracted. These are reported in tables with accompanying narratives.

³ Follows core systematic review principles: comprehensive and stated search strategy, selection of sources based on objective criteria, assessment of risk of bias of primary sources and/or is a methodology developed by an expert body e.g. NICE. For a full-list of sources searched, please refer to Sources searched section of the report.



As this report is primarily concerned with identifying population characteristics, none of the included reviews have been critically appraised. If evidence were required for policy and practice initiatives, a more detailed evidence review would be appropriate.

| Inclusion/Exclusion Criteria | | |
|--|---|--|
| | Include | Exclude |
| Sample | Adults and children who are less likely to access healthcare services and any specific barriers experienced by those groups. | |
| Phenomenon of Interest | Not accessing healthcare services: including <ul style="list-style-type: none"> • Not being registered with a GP • Not accessing services at point of need in both primary and secondary care. Differences in access to services, including: <ul style="list-style-type: none"> • Uptake of services • Referral to services • Not attending appointments | |
| Design | Quantitative data from reviews of population level studies. | Qualitative |
| Evaluation (outcomes) | Characteristics, groups and barriers | Internal barriers and facilitators (such as being afraid, denial etc.) |
| Research type | Reviews conducted using systematic methodology (including critical appraisal) | Primary studies |
| Country | Reviews containing at least one UK/ Ireland study with a relevant outcome | Systematic reviews not including UK/Ireland studies |
| Other Study Considerations | | |
| English language only No date limits were set | | |

Definitions:

The term “access” refers to attendance, non-attendance, uptake and utilisation of healthcare services by the population.

The term “review” refers to any piece of evidence produced using systematic methodology (including critical appraisal) i.e., systematic reviews, scoping reviews, rapid reviews etc.



The term “intersectionality” refers to the interconnectedness of different social classifications (e.g., ethnicity, race, gender, disability) and recognises that no social identity category exists in isolation from the others.

Findings

Forty-four reviews were identified that partly addressed the research question. No systematic reviews were found that addressed the question as a whole. The identified reviews focused on specific population (e.g., ethnic minorities), individual characteristics (e.g., low socioeconomic status), health services (e.g., NHS health checks, screening services) or barriers to healthcare access in a specific group/setting. Each review included a large number of primary studies. This may explain why no overarching reviews looking at the topic as a whole were identified.

Seven overarching population characteristics were identified:

- Age
- Education level
- Ethnicity or immigration status
- Gender
- Risk (medical and lifestyle risks)
- Rurality or social deprivation and
- Socio-economic status

The health services investigated fell under five broad categories:

- NHS health checks
- Screening services
- Vaccination services
- Primary care services
- Secondary/ specialist care services

The findings from this report suggests the presence of inequalities in access, uptake and referral to health services within each identified population characteristic. However, the direction of this inequality is influenced by a number of factors including the specific population characteristic, its specific needs, type of health service being accessed, comparison group etc. Therefore, a population characteristic might be less likely to access one health service while it might be more likely to access another service. E.g., People of an Older age (65 years+) were identified as being more likely to access NHS health checks whereas lower utilisation rates were reported in this age group for specialist care. Similarly, access to speech and language therapy varied across six ethnic minority groups, being highest for Middle East/Arab group followed by white Europeans and mixed ethnic group/other ethnic groups, and lowest for black groups.

The evidence in this report is presented under two sections. Section one comprises of reviews comparing access to specific healthcare services between population



characteristics (n=17). Section two comprises of reviews examining a predefined population characteristic and aimed to confirm or refute an inequality within the examined population characteristic, or to examine whether there is further variation in inequalities within the studied population (n=27).

It must be noted that the definition of 'access' and the methods used to calculate it, varied considerably across the included reviews. As the stakeholders were primarily interested in identification of population characteristics less likely to uptake or presenting late to health service, an attempt was made to only extract information relevant to uptake, attendance, non-attendance and utilisation of health services by the different population groups. Sometimes access was reported as the proportion of those invited who have attended whereas in other reviews it was simply the size of population covered and the number of patient contacts.

Additionally, several reviews compared access by characteristic of the specific population group. They reported the population characteristics more likely to access a specific health service. Although one population characteristic may be linked to increased access when compared with another, this does not automatically mean the latter is less likely to access that health service than their need. For example, a review reported elderly patients were more likely to access cardiovascular health checks than younger patients. This does not automatically mean that younger people access it less than their need, younger people are at a lower risk of CVD so might not access health checks due to perceived lower risk (and other factors). It is also likely that those more likely to access could be the 'worried well' or 'those least likely to benefit'. However, these were relevant and of interest to stakeholders, therefore have been included.



Section 1: Population characteristics who might be less likely to access specific health services

This section summarises data from the seventeen reviews that aimed to identify patterns of access and referral to a specific type of healthcare service by various population characteristics. The healthcare services fell under five broad categories. These were NHS health checks, screening services, HPV vaccination, primary care services and specialist care services. Table 1 lists the reviews included in this section, their research design and number of included studies from the UK.

The reviews were published between 2000 and 2022 and primarily included studies from European countries, with four including UK-only studies. Three reviews were only relevant to women.

These reviews often compared access to healthcare services between several population characteristics. In some instances, they only reported population characteristics who were more likely to access a health service.

| Table 1: Access/ uptake of healthcare services (N= 17) |
|---|
| NHS health checks (n= 3) |
| Cardiovascular care in UK: Asthana et al. 2018 (quantitative, n=174) NHS health check in UK: Bunten et al. 2020 (quantitative, n=9) and Martin et al. 2018 (quantitative, n=26) |
| Screening services (n= 4) |
| Hospital-based routine HIV testing: Elgalib et al. 2018 (mixed methods, 7/14 UK studies) Screening services: Jepson et al. 2000 (quantitative, 3/65 UK studies) Colorectal cancer screening: Mosquera et al. 2020 (mixed methods, 29/96 UK studies) Cervical cancer prevention: Murfin et al. 2020 (quantitative, 1/10 UK studies) |
| Human Papillomavirus Vaccination [(HPV) n= 2] |
| HPV: Fisher et al. 2013 (quantitative, 1/27 UK studies) Cervical cancer prevention: Murfin et al. 2020 (quantitative, 1/10 UK studies) |
| Primary care services (n= 3) |
| Primary care OOHSSs: Foster et al. 2000 (quantitative review of reviews, 37/105 UK studies) Curative services in universal health systems: Hanratty et al. 2007 (quantitative, 8/26 UK studies) Diagnostic pathway of gynaecological cancers: Williams et al. (2019) (mixed methods, 21/37 UK studies) |



| Specialist care services (n= 6) |
|---|
| Specialist palliative care: Ahmed et al. 2004 (mixed methods, 18/40 UK studies) Inequity in cardiovascular care in UK: Asthana et al. 2018 (quantitative, n=174) Diabetes outpatient appointments: Brewster et al. 2020 (mixed methods, 16/34 UK studies) Diabetes management: Ricci-Cabello et al. 2010 (quantitative, 11/25 UK studies) Hip replacement surgery in UK: Ryan-Ndegwa et al. 2021 (quantitative, n=16) Hospice care: Tobin et al. 2022 (mixed methods, 90/130 UK studies) |
| Referral to specialist care services (n= 4) |
| Specialist palliative care: Ahmed et al. 2004 (mixed methods, 18/40 UK studies) Linkage to HIV care following diagnosis: Croxford et al. 2018 (quantitative, 7/24 UK studies) Hospice care: Tobin et al. 2022 (mixed methods, 90/130 UK studies) Diagnostic pathway of gynaecological cancers: Williams et al. 2019 (mixed methods, 21/37 UK studies) |
| Delayed diagnosis (n= 1) |
| Diagnostic pathway of gynaecological cancers: Williams et al. 2019 (mixed methods, 21/37 UK studies) |

Population characteristics:

Seven overarching population characteristics were identified in the included reviews and are discussed in this section. The series of tables with their accompanying narratives (below) summarise whether an inequality in access or referral to a specific health service was identified within the population characteristic. They also explain the direction of the inequality. Appendix B sets out all the population characteristics identified in this section.

Age:

| Table 2: Inequalities by age (n=4) | | | |
|------------------------------------|---------------------------|---|--------------------------|
| Type of healthcare service | | Older age | Younger age |
| Access to | NHS health checks | ↑ (Bunten et al. 2020) ↑ (Martin et al. 2018) | ↓ (Asthana et al. 2018) |
| | Screening services | ↑ (Jepson et al. 2000) | ↑ (Elgalib et al. 2018) |
| | Primary care | ↑ (Foster et al. 2019) | |
| | Specialist care | ↓ (Asthana et al. 2018) ↓ (Brewster et al. 2020) | ↓ (Brewster et al. 2020) |
| Referral to | Specialist care | ↓ (Ahmed et al. 2004) ↓ (Williams et al. 2019) | ↓ (Croxford et al. 2018) |

Ten systematic reviews identified an inequality in access to healthcare services associated with age. The direction of the inequality varied with the age of the participants as well as the type of healthcare service. The systematic reviews suggest that older people (65 years+) might be more likely to access certain health services like NHS health checks (Bunten et al. 2010 and Martin et al. 2018), primary care out of hours services (OOHSSs) (Foster et al. 2019) and faecal occult blood test screening (Jepson et al. 2000). Lower utilisation rates were reported in this age group for specialist care like cardiovascular care (Asthana et al. 2018) and diabetes outpatient appointments (Brewster et al. 2020). A further two systematic reviews also reported an association between increasing age and increased delay in referral to specialist services like palliative care (Ahmed et al. 2004) and diagnostic pathway of gynaecological cancers (Williams et al. 2019).

In contrast, youth was identified as a factor lowering rates of presentation, uptake and non-attendance at NHS health checks (Asthana et al. 2018) and diabetes outpatient appointments (Brewster et al. 2020). While one systematic review identified youth as a factor associated with higher uptake of HIV testing (Elgalib et al. 2018), another systematic review identified it as associated with delayed linkage to HIV care (Croxford et al. 2018). One systematic review was unclear whether older or



younger women were more likely to attend papanicolaou smear testing (Jepson et al. 2000).

Education level:

| Table 3: Inequalities by education level (n=4) | | | |
|--|--------------------|--------------------------|--|
| Type of healthcare service | | Lower education levels | Higher education levels |
| Access to | Screening services | | ↑ (Jepson et al. 2000) ↑ (Mosquera et al. 2020) ↑ (Murfin et al. 2020) |
| | HPV vaccination | ↓ (Murfin et al. 2020) | ↑ (Murfin et al. 2020) |
| Referral to | Specialist care | ↓ (Croxford et al. 2018) | ↑ (Williams et al. 2019) |

Three systematic reviews concerned with screening programmes for cervical, colorectal and prostate cancers reported a positive association between level of education and screening uptake (Murfin et al. 2020; Mosquera et al. 2020 and Jepson et al. 2000 respectively). Similarly, systematic reviews found lower levels of education to be associated with **delayed diagnosis and delayed linking to specialist care following diagnosis of ovarian cancer** (Williams et al. 2019) as well as delayed linkage or not linking to HIV care (Croxford et al. 2018).

One systematic review measuring HPV vaccination uptake reported that mothers with lower education were less likely to initiate the vaccine for their daughters (Murfin et al. 2020). It also reported a significant positive relationship between the highest levels of education and vaccination uptake compared to lowest educational levels but there were no significant differences between similar levels of education, such as high school and college or primary and lower secondary.

Ethnicity and immigration status:

| Table 4: Inequalities by Ethnicity and immigration status (n=9) | | | |
|---|--------------------|--|------------------------|
| Type of healthcare service | | Ethnic minority groups | Migrant status |
| Access to | NHS health checks | ↓ (Asthana et al. 2018) ↓ (Bunten et al. 2020) ↓ (Martin et al. 2018) | |
| | Screening services | ↑ (Jepson et al. 2000) | |
| | Primary care | ↓ (Foster et al. 2019) | ↓ (Foster et al. 2019) |
| | Specialist care | ↓ (Ahmed et al. 2004) ↓ (Asthana et al. 2018) ↓ (Ricci-Cabello et al. 2010) ↓ (Tobin et al. 2022) | |

Key for table 2-15, except table 10:

↑ Review identified the group as more likely to access the health service

↓ Review identified the group as less likely to access the health service

↕ Review identified mixed evidence i.e., the direction of inequality is unclear

↔ No evidence of inequality identified



| | | |
|--------------------|------------------------|---|
| Referral to | Specialist care | ↓ (Ahmed et al. 2004) ↑ (Williams et al. 2019) |
|--------------------|------------------------|---|

Nine systematic reviews focused on ethnic variations in access to differing healthcare services. One systematic review evaluated the inequity in cardiovascular care in English NHS services. It reported the overall effect of ethnicity for access to cardiovascular health checks and cardiovascular care as mixed. It reported high levels of presentation for cardiovascular health checks and access to cardiovascular specialist care among South Asian patients. It found access to specialist care for black patients to be mixed with some included studies suggesting lower than expected rates of specialist use, while others higher (Asthana et al. 2018).

Two systematic reviews assessed ethnicity as a factor influencing the uptake of NHS health checks (Martin et al. 2018; Bunten et al. 2020). Findings from both presented a mixed picture across the studies: some found that attendance was significantly higher in certain ethnic groups (South Asian and mixed ethnicity groups) and others found that uptake did not differ by patient ethnicity.

Based on a small number of included studies examining patient ethnicity or migrant status, a systematic review reported mixed evidence for an association with use of primary care OOHs. The systematic review included a UK study using telephone triage and advice data for England. It found that, following contact with NHS Direct, white British or Bangladeshi children were most likely to be referred to urgent care services including OOHs while children of Indian and 'other white' ethnicity were least likely to be referred (Foster et al. 2019).

One systematic review recognised lower utilisation rates of palliative care in ethnic minority groups compared to white patients, with lower referral rates for black and other ethnic minority groups (Ahmed et al. 2004). Similarly, another systematic review suggests reduced access to hospice care in the UK within certain ethnic groups: Pakistani/ Indian/ Bangladeshi, Caribbean, Chinese and African (Tobin et al. 2022). Another systematic review identified mixed evidence for ethnic inequalities in access to diabetes management services, with different included studies observing greater use of specific healthcare services related to control of diabetes mellitus in patients from different ethnic groups (Ricci-Cabello et al. 2010).

One systematic review reported the overall effect of ethnicity for referral to specialist gynaecological cancer care as mixed, with several included studies reporting no link between ethnicity and referral delay, while others reported black or ethnic minority women as more likely to require three or more visits to their GPs before referral (Williams et al. 2019).



Gender:

| Table 5: Inequalities by gender (n=8) | | | |
|---------------------------------------|--------------------|---|---|
| Type of healthcare service | | Women | Men |
| Access to | NHS health checks | ↓ (Asthana et al. 2018) ↑ (Bunten et al. 2020) ↑ (Martin et al. 2018) | ↓ (Asthana et al. 2018) |
| | Screening services | ↓ (Mosquera et al. 2020) | ↑ (Elgalib et al. 2018) ↓ (Mosquera et al. 2020) |
| | Primary care | ↑ (Foster et al. 2019) | |
| | Specialist care | ↓ (Asthana et al. 2018) ↔ (Ricci-Cabello et al. 2010) | ↓ (Brewster et al. 2020) ↔ (Ricci-Cabello et al. 2010) |

Eight systematic reviews focused on gender variations in uptake of healthcare services. One systematic review reported unclear variation in access to English NHS cardiovascular care health checks between men and women with a few included studies finding presentation to be poorer for women (Asthana et al. 2018). The same systematic review also reported strong and consistent gender variations in specialist management with lower use of cardiovascular rehabilitation by women.

Two systematic reviews reported an association between uptake of NHS health checks and gender. Both identified females as more likely to take up health check invitations (Martin et al. 2018; Bunten et al. 2020). In addition, the former systematic review also found a significant interaction effect between age and sex, with women in the youngest age group as more likely to attend NHS health checks (Bunten et al. 2020).

A systematic review examining the demographics of users found that women tended to use OOHs more in comparison to men (Foster et al. 2019). Two systematic reviews examined inequalities in access to diabetes management services. Whilst one reported attendance at diabetes outpatient appointments as mixed with some of the included studies finding men less likely to attend (Brewster et al. 2020), the second identified no gender inequalities with respect to adherence to diabetic retinopathy screening services (Ricci-Cabello et al. 2010).

Two systematic reviews on uptake of screening services identified mixed findings for men and women. With one systematic review, reporting some evidence of increased uptake of HIV testing in men (Elgalib et al. 2018), the second systematic review reported uptake of colorectal screening programmes as mixed for both sexes (Mosquera et al. 2020).

Risks:

| Table 6: Inequalities by risks (n=7) | | | |
|--------------------------------------|---------------------------|---------------------------------------|-------------------------------------|
| Type of healthcare service | Risks | | Direction of inequality (reference) |
| Access to | NHS Health Checks | Pre-existing health conditions | ↑ (Martin et al. 2018) |
| | | Family history | ↑ (Bunten et al. 2020) |
| | | Smoking | ↓ (Bunten et al. 2020) |
| | | Non-smoking | ↑ (Martin et al. 2018) |
| | Screening services | Low severity of symptoms at diagnosis | ↑ (Jepson et al. 2000) |
| | Primary care | Pre-existing health conditions | ↑ (Foster et al. 2019) |
| | Specialist care | Shorter duration of diagnosis | ↓ (Brewster et al. 2020) |
| | | Smoking | ↓ (Brewster et al. 2020) |
| | | Increased alcohol intake | ↓ (Brewster et al. 2020) |
| Referral to | Specialist care | Low severity of symptoms at diagnosis | ↓ (Croxford et al. 2018) |
| | | Increased alcohol intake | ↓ (Williams et al. 2019) |
| | | Injecting drug use | ↓ (Croxford et al. 2018) |

Seven systematic reviews investigated specific risk factors and the association between levels of risk and uptake of specific healthcare services. The conceptualisation of risk varied across the systematic reviews, with some classifying it as a medical risk (e.g., family history of cardiovascular disorder, medical history) and others including lifestyle factors (e.g., smoking status, alcohol intake).

The systematic reviews identified decreased uptake of NHS health checks in smokers (Bunten et al. 2020) and vice versa for non-smokers (Martin et al. 2018). Both systematic reviews also reported an increased uptake of NHS health checks in those deemed at higher risk of cardiovascular disorders (Bunten et al. 2020 and Martin et al. 2018). Similarly, another systematic review found that having a chronic disease was associated with increased use of OOHSSs (Foster et al. 2019).

Of the systematic reviews, exploring uptake of specialist healthcare services and screening services, one systematic review found smoking and increased alcohol intake to be associated with non-attendance at diabetes outpatient appointments in another systematic review (Brewster et al. 2020). Another reported high alcohol intake to be associated with greater system delays in the primary care diagnostic pathway of gynaecological cancers (Williams et al. 2019). Similarly, a systematic

review reported that those with injecting drug use or those feeling well at diagnosis experienced delayed linkage or not linking to HIV care (Croxford et al. 2018). On the other hand, a systematic review found that the ability to carry out the activities of daily living and previous participation in screening services like mammography and faecal occult blood test were associated with increased likelihood of attending the screening services (Jepson et al. 2000).

Rurality and social deprivation:

| Table 7: Inequalities by rurality and social deprivation | | | |
|--|--------------------|-------------------------------------|---|
| Type of healthcare service | Risks | Direction of inequality (reference) | |
| Access to | NHS health checks | Higher deprivation | ↓ (Bunten et al. 2020) |
| | | Lower deprivation | ↑ (Martin et al. 2018) |
| | Screening services | Lower deprivation | ↑ (Mosquera et al. 2020) |
| | HPV vaccination | Higher deprivation | ↓ (Fisher et al. 2013) |
| | Primary care | Rural residents | ↓ (Williams et al. 2019) |
| | | Urban residents | ↑ (Foster et al. 2019) |
| | | Closer proximity to service | ↑ (Foster et al. 2019) |
| | Specialist care | Rural residents | ↓ (Ryan-Ndegwa et al. 2021) |
| | | Urban residents | ↑ (Tobin et al. 2022) |
| | | Closer proximity to service | ↑ (Tobin et al. 2022) |
| | | Higher deprivation | ↑ (Brewster et al. 2020) ↑ (Ryan-Ndegwa et al. 2021) |

Two systematic reviews evaluated the effect of social deprivation on the utilisation of NHS health checks. While one systematic review showed that the odds of taking up an invitation for an NHS health check increased significantly with age and lower deprivation (Martin et al. 2018), the effect of deprivation varied across the included studies in another systematic review (Bunten et al. 2020). Both noted the relationship was dependent on whether analyses were adjusted for other factors or not.

Regarding access of primary care services, one systematic review demonstrated that rurality and distance from health care services increased **primary care delays in the diagnostic pathway of gynaecological cancers** (Williams et al. 2019). Higher rates of OOHs use were associated with proximity to an OOHs and urban areas (Foster et al. 2019). In another systematic review, area deprivation was also found to be associated with colorectal screening attendance, being higher among the



least deprived areas using faecal occult blood test, sigmoidoscopy, and in colonoscopy after positive test (Mosquera et al. 2020).

Whilst evidence from a systematic review suggests that access to hospice care is greater for those living in urban areas and with closer proximity to a hospice (Tobin et al. 2022). Evidence from another systematic review assessing access to hip replacement surgery within UK suggests higher levels of deprivation in England to be associated with lower surgical provision (Ryan-Ndegwa et al. 2021). The systematic review by Brewster et al. (2020) found social deprivation to be mildly associated with non-attendance at diabetes outpatient appointments based on evidence from one UK study.

Evidence from one systematic review indicated that young women living in the most deprived areas were less likely to initiate HPV vaccination than those living in the least (Fisher et al. 2013).

Socioeconomic status:

| Table 8: Inequalities by socioeconomic status | | | |
|---|--------------------|---|--|
| Type of healthcare service | | Low socioeconomic status | Higher socioeconomic status |
| Access to | NHS health checks | ↓ (Asthana et al. 2018) | ↓ (Asthana et al. 2018) |
| | Screening services | ↓ (Murfin et al. 2020) | ↑ (Mosquera et al. 2020) |
| | HPV vaccination | ↓ (Murfin et al. 2020) | |
| | Primary care | ↑ (Foster et al. 2019) ↔ (Hanratty et al. 2007) | ↓ (Hanratty et al. 2007) |
| | Specialist care | ↓ (Asthana et al. 2018) ↓ (Brewster et al. 2020) ↓ (Ricci-Cabello et al. 2010) ↓ (Tobin et al. 2022) | ↓ (Asthana et al. 2018) ↓ (Ricci-Cabello et al. 2010) |
| Referral to | Specialist care | | ↑ (Williams et al. 2019) |

Nine systematic reviews focused on socioeconomic variations in the uptake of different healthcare services. Whilst one systematic review found no evidence of variation in use of primary care services by socioeconomic status (Hanratty et al. 2007), other systematic reviews reported an inverse relationship between socioeconomic status and utilisation of several healthcare services. These included OOHs (Foster et al. 2019), specialist hospital care (Hanratty et al. 2007), HPV vaccinations in girls (Murfin et al. 2020), hospice care (Tobin et al. 2022) and referral of women to specialist gynaecological cancer care.



One systematic review reported a significant gradient favouring those in a most advantaged position; however, it identified a higher attendance rate of colorectal screening services for men than women (Mosquera et al. 2020). Several systematic reviews identified direction of socioeconomic inequity in access of various healthcare services to be unclear. These included NHS health checks (Asthana et al. 2018), diabetes management services (Ricci-Cabello et al. 2010; Brewster et al. 2020), specialist cardiovascular care services (Asthana et al. 2018) and cervical screening services (Murfin et al. 2020).



Section 2: Reviews confirming presence of inequality within a specific population characteristic

The twenty-seven reviews included in this section aim to confirm or refute that an inequality exists for the studied population characteristic, or to identify access differences within the population studied (for example, differences between different ethnic minority groups). In some instances, this included examination of intersectionality of several population characteristics and their role in pronouncing inequalities for some members of the population. Some of the identified reviews also explored the barriers which might lead to the inequality in access.

Seventeen of the included reviews were mixed methods in design and 10 were quantitative. The reviews were published between 2005 and 2022. Ten included studies from UK countries only and five reviews published barriers to access only.

The identified reviews explored access to a range of healthcare services. Five specifically focused on primary care services, seven on specialist care services and six on screening or preventive services. Four reviews explored more than one of these areas; two explored specialist care and primary care (Phung et al. 2010; Luekmann et al. 2021), one looked at primary care and screening/preventive services (Meads et al. 2019) and one looked at all three (Wilson et al. 2012). Of the five reviews exploring barriers only, three focused on barriers to access in specialist care (Chamberlain et al. 2016; Mayland et al. 2021; Best et al. 2022), one on primary care (McFadden et al. 2018) and one was unspecific to a type of health service (Robards et al. 2018).

Population characteristics:

The series of tables with their accompanying narratives, below, summarise whether an inequality in access or referral to a specific healthcare service was identified. In some cases, an element of intersectionality has been explored or identified by the review authors. Understanding intersectionality in access to healthcare services is important to protect against widening inequalities. Intersectional data was captured from a number of included reviews, however the majority focussed solely on one population group.

The focus of the review was used to group population characteristic into the tables below and elements of intersectionality are highlighted within the tables to show differences between population characteristics sharing one or more social classification. Inequalities have been included where they have been identified by the review authors and come from at least one UK study. The authors overall conclusion has been reported where possible.



Ethnic minority groups:

| Table 9: Inequalities in Ethnic minority groups (n= 9) Quantitative reviews= 3; Mixed method reviews= 6; No. of reviews only including studies from the UK= 5 Key: CAMHS= Child and adolescent mental health service; CYP= Children and young people; GP= General practitioner; ID= Intellectual disability | | | |
|--|---|--|---|
| Outcome | Healthcare service type | Within group characteristic | Direction of inequality (Reference) |
| Access | COVID-19 vaccination | Ethnic minority groups | ↓ (Abba-Aji et al. 2022) ↓ (Kamal et al. 2021) |
| | Breast and cervical cancer screening | South Asian women | ↓ (Anderson de Cuevas et al. 2018) |
| | Breast and cervical cancer screening | South Asian women: Younger age | ↓ (Anderson de Cuevas et al. 2018) |
| | Breast and cervical cancer screening | South Asian women: low levels of education | ↓ (Anderson de Cuevas et al. 2018) |
| | Diabetes preventative services | Ethnic minority groups with diabetes | ↕ (Wilson et al. 2012) |
| | Primary care health checks | Black African patients with diabetes | ↑ (Wilson et al. 2012) |
| | Primary care health checks | Caribbean patients with diabetes | ↑ (Wilson et al. 2012) |
| | GP access/contact | South Asian adults with psychosis | ↑ (Halvorsrud et al. 2018) |
| | GP access/contact | Black adults with psychosis | ↓ (Halvorsrud et al. 2018) |
| | GP consultation | South Asian people with asthma | ↑ (Netuvelli et al. 2005) |
| | GP consultation | Afro-Caribbean people with asthma | ↑ (Netuvelli et al. 2005) |
| | Special ID psychiatrist services | South Asian people with ID | ↓ (Robertson et al. 2019) |
| | Mental health services | South Asian people with ID | ↕ (Durà-Vilà et al. 2012) |
| | CAMHS and specialist services | South Asian CYP with ID | ↓ (Durà-Vilà et al. 2012; Robertson et al. 2019) |

Key for table 2-15, except table 10:

↑ Review identified the group as more likely to access the health service

↓ Review identified the group as less likely to access the health service

↕ Review identified mixed evidence i.e., the direction of inequality is unclear

↔ No evidence of inequality identified



| | | | |
|-----------------|--------------------------------------|--|---------------------------|
| | Assessment and treatment unit | Ethnic minority groups with ID | ↓ (Durà-Vilà et al. 2012) |
| | Mental health services | Pakistani women | ↓ (Kapadia et al. 2017) |
| | Speech and language therapy | Children with ID: black groups (compared to Middle East/Arab, white and other ethnic groups) | ↓ (Robertson et al. 2019) |
| Referral | Specialist services | Ethnic minority groups with ID & psychiatric disorder | ↑ (Durà-Vilà et al. 2012) |

Nine systematic reviews were identified that explored ethnic variations and ethnic minorities' access to healthcare services. Two reviews examined inequalities in access to vaccination services for ethnic minority groups (Kamal et al. 2021; Abba-Aji et al. 2022). Both reviews reported lower access to COVID-19 vaccination for ethnic minority groups. Black groups were shown to have lowest vaccine acceptancy compared to other ethnic minorities, and higher uptake was reported for Indian, Bangladeshi, and Chinese groups, but this still remained lower than white groups (Kamal et al. 2022).

One review found lower access to breast and cervical cancer screening rates in South Asian women (Anderson de Cuevas et al. 2018). This difference was apparent among South Asian women of younger age and those with lower levels of education. Other preventive services included diabetes prevention services, where mixed evidence was reported for inequalities in access for ethnic minorities (Wilson et al. 2012).

Three reviews explored inequalities in access to primary care services for ethnic minorities (Netuveli et al. 2005; Wilson et al. 2012; Halvosrud et al. 2018). In a review examining pathways to psychosis care, South Asian adults with psychosis were more likely to access GP services compared to white people, whereas black adults with psychosis were less likely (Halvosrud et al. 2018). Another review found the GP consultation rates for asthma were higher in South Asian and Afro-Caribbean people compared to white groups (Netuveli et al. 2005). Wilson et al. (2012) reported that health check-ups in primary care settings were utilised more by Caribbean and black African patients with diabetes when compared to white patients.

Inequalities in access to secondary or specialist care services for ethnic minorities were reported in three systematic reviews (Durà-Vilà et al. 2012; Kapadia et al. 2017; Robertson et al. 2019). One review found that Pakistani women were less likely to use specialist mental health services compared to white British women. Two reviews looked exclusively at ethnic variations in access among individuals with



intellectual disabilities. It was reported that South Asian people with intellectual disabilities were less likely to access specialist psychiatrist services (Robertson et al. 2019) but inconsistent evidence was reported for South Asians utilisation of mental health services (Durà-Vilà et al. 2012). South Asian children and young people were less likely to access CAMHS (Durà-Vilà et al. 2012; Robertson et al. 2019). Ethnic minority groups with intellectual disabilities and psychiatric disorders, compared to white groups, were more likely to be referred to mental health services in one study (this increase was most marked in people of African Caribbean origin), but fewer were admitted from minority ethnic communities to an assessment and treatment unit for adults with intellectual disabilities and mental health problems and/ or challenging behaviour in another study (Durà-Vilà et al. 2012). For children with intellectual disabilities, familial-structure was shown to determine CAMHS utilisation with children from two-parent families being less likely to access services; the review reported this structure was most prevalent in South Asian families (Durà-Vilà et al. 2012). The highest access rates to speech and language therapy in children with intellectual disabilities was apparent Middle East/ Arab groups, followed by white Europeans, and Mixed ethnic group/ Other ethnic groups, and lowest for black groups (Robertson et al. 2019).

| Table 10: Delayed presentation to a healthcare service in Ethnic minority groups (n=2) Quantitative reviews= 1; Mixed method reviews= 1; No. of reviews only including studies from the UK= 0 | | | |
|--|--|------------------------------------|--|
| Outcome | Healthcare service type | Within group characteristic | Direction of inequality (Reference) |
| Delayed presentation | Mental health services | South Asian older adults | ↑ (Giebel et al. 2015) |
| | Delay between Cancer related visits to primary care | Ethnic minority groups | ↕ (Martins et al. 2013) |
| Key for table 10: ↑ More likely to delay presentation to a service ↓ Less likely to delay presentation to a service ↕ review identified mixed evidence ↔ Review identified no difference in delay in presentation | | | |

Two reviews that explored delays in approach to healthcare services in ethnic minority groups were identified from our search (Martins et al. 2013; Giebel et al. 2015). Quantitative evidence from one review reported that South Asian older adults showed increased likelihood of a delayed approach to mental health services (Giebel et al. 2015). Mixed evidence was reported for ethnic differences in delaying

presentation to the GP following first symptoms of cancer (Martins et al. 2013). Mixed evidence was also reported for delaying intervals between GP presentation and specialist care visits (Martins et al. 2013).

Migrants, Travellers, Refugees and Asylum Seekers:

| Table 11: Inequalities in Migrants, Refugees and Asylum seekers (n= 5) Quantitative reviews= 1; Mixed method reviews= 4; No. of reviews only including studies from the UK= 2 Key: GP= General practitioner | | | |
|--|---|-----------------------------|-------------------------------------|
| Outcome | Healthcare service type | Within group characteristic | Direction of inequality (Reference) |
| Access | COVID-19 vaccination | Asylum-seeker children | ↓ (Crawshaw et al. 2022) |
| | COVID-19 vaccination | Migrants | ↑ (Abba-Aji et al. 2022) |
| | GP asthma consultation | People born outside the UK | ↓ (Netuveli et al. 2005) |
| | GP consultation | Polish migrant women | ↑ (Phung et al. 2020) |
| | Perinatal care (routine and specialist) | Migrant women | ↓ (Hazlehurst et al. 2018) |

Six reviews were focused on inequalities in migrants, refugees or asylum seekers. Two reviews were in the context of COVID-19 vaccinations (Abba-Aji et al. 2022; Crawshaw et al. 2022) but focused on slightly different population groups. Abba-Aji et al. (2022) found that migrant groups were more likely to accept vaccination compared to the general population. Crawshaw et al. (2022) identified asylum seeker children as having lower vaccine uptake when compared to the general population in one Welsh study. In comparison, they also identified that children of foreign-born Pakistani mothers were more likely to be fully immunised than Pakistani children whose mothers were UK-born.

Two reviews focused on migrants accessing GP services (Netuveli et al. 2005; Phung et al. 2020). One review found Polish migrant women as more likely to visit their GP compared to Polish men (Phung et al. 2020); this was especially the case for those aged 25-44. The same review also identified a study in which recent Polish migrants were found to be more likely to use A&E services inappropriately when compared to the indigenous population, with many not being registered with a GP. The second review explored ethnic variations in health service use for individuals with asthma (Netuveli et al. 2005). The authors identified one UK study which found patients born outside the UK had a significantly lower risk of consultation for asthma,



suggesting that immigrant-status might be a determinant of health service use for some.

The final review focused on perinatal care and found that access to both routine, specialist and mental health perinatal support was worse amongst migrant women (Heslehurst et al. 2020).

Socioeconomic inequalities:

| Table 12: Socioeconomic inequalities (n= 5) Quantitative reviews= 5; Mixed method reviews= 0; No. of reviews only including studies from the UK= 1 Key: CHD= Coronary heart disease | | | |
|--|---|--|-------------------------------------|
| Outcome | Healthcare service type | Within group characteristic | Direction of inequality (Reference) |
| Access | Breast cancer screening | Women in areas of Higher socioeconomic deprivation | ↓ (Smith et al. 2019) |
| | Primary care utilisation | High vs low Socioeconomic status | ↔ (Lueckmann et al. 2021) |
| | Eye health services | People of lower socioeconomic status | ↕ (Knight & Lindfield, 2015) |
| | Invasive coronary procedures | Low socioeconomic status groups | ↓ (Schroder et al. 2016) |
| | Surgery or chemotherapy for lung cancer | Low socioeconomic position | ↓ (Forrest et al. 2013) |
| | Radiotherapy for lung cancer | Low socioeconomic position | ↔ (Forrest et al. 2013) |
| | CHD drug treatment and cardiac rehabilitation | Socioeconomic status | ↕ (Schroder et al. 2016) |
| | Specialist visits | High socioeconomic status groups | ↑ (Lueckmann et al. 2021) |

Five reviews explore socioeconomic inequalities in access to various health services.

One review focused on breast cancer screening and identified that women living in more socioeconomically deprived neighbourhoods were less likely to attend breast cancer screening, with the UK studies identified all supporting this conclusion (Smith et al. 2019).

Key for table 2-15, except table 10:

↑ Review identified the group as more likely to access the health service

↓ Review identified the group as less likely to access the health service

↕ Review identified mixed evidence i.e., the direction of inequality is unclear

↔ No evidence of inequality identified



One review looked at access to eye health services and found mixed evidence for an inequality for people of lower socioeconomic status (Knight and Lindfield 2015).

The remaining three reviews focused on specialist services, with one also covering primary care utilisation (Lueckmann et al. 2021). The review by Leuckmann et al. (2021) found no evidence of socioeconomic status influencing access to primary care, but did suggest that the disadvantaged visit their primary care physician more frequently. For specialist care, the same review found mixed evidence; with the highest socioeconomic status groups being reported as having higher probabilities of specialist visits, but with no associations between socioeconomic status and conditional (number of visits conditional to having visited a physician at least once) frequencies of specialist visits. The other two reviews focused on access to coronary services (Schroder et al. 2016) or lung cancer treatment services (Forrest et al. 2013). People of lower socioeconomic status were found to have lower rates of invasive coronary procedures compared to those of higher socioeconomic status, but the evidence was more inconsistent for socioeconomic inequalities in access to drug treatment or cardiac rehabilitation (Schroder et al. 2016). For lung cancer treatment lower socioeconomic status had a significant negative effect on the likelihood of receiving surgery or chemotherapy, but there was no association between socioeconomic status and receipt of radiotherapy (Forrest et al. 2013).

Other groups:

| Table 13: Inequalities in sexual minority groups (n= 1) Mixed method reviews= 1; No. of reviews only including studies from the UK= 1 Key: GP= General practitioner | | | |
|--|--------------------------------|------------------------------------|--|
| Outcome | Healthcare service type | Within group characteristic | Direction of inequality (Reference) |
| Access | GP visits | Lesbian / bisexual women | ↓ (Meads et al. 2019) |
| | Cervical screening | Lesbian / bisexual women | ↓ (Meads et al. 2019) |
| | GP visits | Sexual minority adolescent girls | ↑ (Meads et al. 2019) |

One systematic review focused on inequalities in sexual minority groups (Meads et al. 2019). The review looked at GP and screening services. It identified lesbians and bisexual women as less likely to visit the GP when compared to heterosexual women. Lower uptake of cervical screening in lesbian and bisexual women was also identified, however comparative information for heterosexual women was not reported for this outcome. The same review also found that sexual minority adolescent girls were more likely to visit their GP than heterosexual girls (Meads et al. 2019).



Homeless adults:

| Table 14: Inequalities in Homeless adults (n= 1) | | | |
|---|--------------------------------|--|--|
| Mixed method reviews= 1; No. of reviews only including studies from the UK= 0 | | | |
| Key: GP= General practitioner | | | |
| Outcome | Healthcare service type | Within group characteristic | Direction of inequality (Reference) |
| Access | Dental service | Homeless adults: drug use, ethnicity and receipt of government benefits | ↓ (Goode et al. 2012) |

One systematic review focused on homeless adults' access to dental services (Goode et al. 2012). The review authors highlight some intersectionality elements. The authors found that homeless adult's rate of failing to return for a second dental appointment is often associated with drug use, ethnicity and receipt of government benefits. Non-UK studies also report some further findings on access, with one study from the USA suggesting that "Only 27% sought oral health care when they had a perceived need" and a further study from Canada suggesting that homeless people are 2.27-fold more likely to use an emergency department for non-traumatic dental problems compared to a matched low-income population.

Age:

| Table 15: Inequalities due to Age | | | |
|---|--------------------------------|--|--|
| Mixed method reviews= 1; No. of reviews only including studies from the UK= 0 | | | |
| Outcome | Healthcare service type | Within group characteristic | Direction of inequality (Reference) |
| Access | Influenza vaccination | Older adults (≥ 65 y): Marital status, Education status, Rurality, Gender, Lower socioeconomic status | ↕ (Nagata et al. 2013) |
| | Influenza vaccination | Older adults (≥ 65 y): Chronic diseases, Age (75+ vs 65-74 y) | ↑ (Nagata et al. 2013) |

One review focused on access and uptake of seasonal influenza vaccinations in older age groups (>65+). The review found that there was a lot of intersectionality elements present, with those aged 75+ (versus 65–74-year-olds), and those with chronic diseases to be more likely to accept a seasonal influenza vaccine. Findings from the UK suggested that the likelihood of vaccination in older adults increased as



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Wales

Gwasanaeth Tystiolaeth
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the number of chronic diseases increased (Nagata et al. 2013). Findings for other elements such as marital status, education status, rurality, gender, or socioeconomic status having an effect on vaccine uptake in older adults were more mixed (Nagata et al. 2013).

Key for table 2-15, except table 10:

↑ Review identified the group as more likely to access the health service

↓ Review identified the group as less likely to access the health service

↕ Review identified mixed evidence i.e., the direction of inequality is unclear

↔ No evidence of inequality identified



Barriers identified that may contribute to an inequality in access to healthcare

Seventeen reviews identified barriers to access (n=16) and to referral of healthcare services (n=2). Of these, one was a systematic review of reviews. Whilst the majority of the reviews included both quantitative and qualitative studies (n=17), one review included only quantitative studies. Where possible, an attempt was made to extract results for quantitative studies only.

Of the reviews addressing access, four focused on barriers to healthcare services in general, whereas 12 focused on specific healthcare services including vaccination (n=4), mental health services (n=3), diabetes self-management (n=1), dental services (n=1), chemotherapy (n=1) and clinical genomic and genetic services (n=1). Most reviews explored factors deterring a specific group or groups from accessing a healthcare service. These included ethnic minorities (n=4), migrants (n=4), asylum seekers and refugees (n=1), Gypsy, Roma and travellers (n=1), sexual minority women (n=1), homeless adults (n=1), marginalised young people (n=1), older adults (n=1) and South Asian older adults (n=1). Two reviews addressed geographical inequities.

Together, the reviews revealed a number of barriers. Tables 16-23 below summarise these by population identified throughout this report.

Table 16: Barriers experienced by Ethnic minority groups (n=4)

| Covid-19 vaccination: Abba-Aji et al. 2022 (mixed methods, 10/33 UK studies) | | |
|--|--|--|
| Covid-19 vaccination in UK: Kamal et al. 2021 (mixed methods, n= 21) | | |
| Bereavement care in UK: Mayland et al. 2021 (mixed methods, n=7) | | |
| Diabetes self-management: Wilson et al. 2012 (mixed methods, 32/47 UK studies) | | |
| Barriers | | References |
| Accessibility- related barriers | Language and communication barriers (including interpreting services) | Abba-Aji et al. (2022) Kamal et al. (2021) Mayland et al. (2021) Wilson et al. (2012) |
| | Low health literacy (including unfamiliarity with local healthcare provision and misinformation) | Abba-Aji et al. (2022) Kamal et al. (2021) Mayland et al. (2021) |
| | Digital exclusion | Kamal et al. (2021) |
| | Geographical inaccessibility | Abba-Aji et al. (2022) Kamal et al. (2021) |
| | Lack of culturally appropriate services | Mayland et al. (2021) Wilson et al. (2012) |
| Healthcare provider specific barriers | Resource allocation | Mayland et al. (2021) |



| | | |
|--|---|---|
| Affordability (financial and non-financial) | Direct costs | Abba-Aji et al. (2022) |
| | Opportunity costs (time-off from work, childcare costs, travel costs) | Abba-Aji et al. (2022) Kamal et al. (2021) |

Table 17: Barriers experienced by Migrant populations (n=4)

| <p>Covid-19 vaccination: Abba-Aji et al. 2022 (mixed methods, 10/33 UK studies) and Crawshaw et al. 2022 (mixed methods, n=67, no. of UK studies not reported)</p> <p>Healthcare services in UK: Phung et al. 2020 (mixed methods, n=13)</p> <p>Perinatal primary and specialist mental health services: Heslehurst et al. 2018^{\$+} (mixed methods review of reviews, 14/29 UK reviews)</p> <p>Key: \$ = only women, + = migrants, asylum seekers and refugees</p> | | |
|---|--|--|
| | Barriers | References |
| Accessibility- related barriers | Language and communication barriers (including interpreting services) | Abba-Aji et al. (2022) Crawshaw et al. (2022) Phung et al. (2020) Heslehurst et al. (2018) ^{\$+} |
| | Low health literacy (including unfamiliarity with local healthcare provision and misinformation) | Abba-Aji et al. (2022) Crawshaw et al. (2022) Heslehurst et al. (2018) ^{\$+} |
| | Practical barriers (including insecure housing, frequent change of address or no fixed address causing difficulties to register with a healthcare service) | Crawshaw et al. (2022) |
| | Legal barriers (uncertainty around legal entitlement) | Crawshaw et al. (2022) Phung et al. (2020) |
| | Digital exclusion | Crawshaw et al. (2022) |
| | Sense of discrimination; alienation and disempowerment | Crawshaw et al. (2022) |
| | Geographical inaccessibility | Abba-Aji et al. (2022) Crawshaw et al. (2022) Heslehurst et al. (2018) ^{\$} |
| | Lack of culturally appropriate services | Heslehurst et al. (2018) ^{\$} |
| Healthcare provider specific barriers | Lack of cultural understanding | Crawshaw et al. (2022) |
| | Local variability in approach and practice | Crawshaw et al. (2022) |



| | | |
|--|--|---|
| Affordability (financial and non-financial) | Workforce and service capacity (including staff availability, long waiting lists for services) | Heslehurst et al. (2018) ^{\$} |
| | Resource allocation | Crawshaw et al. (2022) |
| | Direct costs | Abba-Aji et al. (2022) Heslehurst et al. (2018) ^{\$+} |
| | Competing priorities (childcare, family commitments) | Heslehurst et al. (2018) ^{\$} |
| | Opportunity costs (time-off from work, childcare costs, travel costs) | Heslehurst et al. (2018) ^{\$} |

Table 18: Barriers experienced by Gypsy, Roma and traveller (n=1)

| Healthcare services: McFadden et al. 2018 (mixed methods, 49/99 UK studies) | | |
|---|--|------------------------|
| | Barriers | References |
| Accessibility- related barriers | Language and communication barriers (including interpreting services) | McFadden et al. (2018) |
| | Low health literacy (including unfamiliarity with local healthcare provision and misinformation) | McFadden et al. (2018) |
| | Practical barriers (including insecure housing, frequent change of address or no fixed address causing difficulties to register with a healthcare service) | McFadden et al. (2018) |
| | Legal barriers (uncertainty around legal status and entitlement) | McFadden et al. (2018) |
| | Sense of discrimination; alienation and disempowerment | McFadden et al. (2018) |
| | Geographical inaccessibility | McFadden et al. (2018) |
| | Lack of culturally appropriate services | McFadden et al. (2018) |
| Healthcare provider specific barriers | Lack of cultural understanding | McFadden et al. (2018) |
| Affordability (financial and non-financial) | Opportunity costs (travel costs) | McFadden et al. (2018) |



Table 19: Barriers experienced by Older adults (n=3)

| <p>Mental health services: Giebel et al. 2015[£] (mixed methods, 15/18 UK studies) Influenza vaccination: Nagata et al. 2013 (mixed methods, n=58, no. of UK studies not reported) Specialist palliative care: Ahmed et al. 2004[%] (mixed methods, 18/40 UK studies) Key: £= South Asian older adults, %= referral</p> | | |
|---|--|---|
| | Barriers | References |
| Accessibility- related barriers | Language and communication barriers (including interpreting services) | Giebel et al. (2015) [£] Nagata et al. (2013) |
| | Geographical inaccessibility (distance to healthcare service, convenience of location, transport availability) | Nagata et al. (2013) |
| | Opportunity costs (travel costs) | Nagata et al. (2013) |
| | Low health literacy (including unfamiliarity with local healthcare provision and misinformation) | Giebel et al. (2015) [£] Ahmed et al. (2004) [%] |
| | Lack of culturally appropriate services | Giebel et al. (2015) [£] |
| Family issues | Family conflict about the best course of action for the patient | Ahmed et al. (2004) [%] |
| | Family's cultural or religious beliefs | Ahmed et al. (2004) [%] |
| | Family's failure to accept patients' prognosis | Ahmed et al. (2004) [%] |

Table 20: Barriers experienced by Marginalised young people (n=1)

| Healthcare services: Robards et al. 2018 (mixed methods, 7/68 UK studies) | | |
|---|--|-----------------------|
| | Barriers | References |
| Accessibility- related barriers | Language and communication barriers (inclusive language) | Robards et al. (2018) |
| Healthcare provider specific barriers | Lack of understanding and knowledge relating to gender and sexually diverse young people | Robards et al. (2018) |
| Affordability (financial and non-financial) | Opportunity costs (travel costs) | Robards et al. (2018) |

Table 21: Barriers experienced by Sexual minority women (n=1)

| Healthcare services in UK: Meads et al. 2019 (mixed methods, n= 26) | | |
|---|--|---------------------|
| | Barriers | References |
| Accessibility-related barriers | Low health literacy (misinformation) | Meads et al. (2019) |
| | Sense of discrimination; alienation and disempowerment | Meads et al. (2019) |
| Healthcare provider specific barriers | Refusal of service | Meads et al. (2019) |

Table 22: Barriers experienced by Homeless adults (n=1)

| Dental care services: Goode et al. 2018 (mixed methods, 8/22 UK studies) | | |
|--|--|---------------------|
| | Barriers | References |
| Accessibility-related barriers | Difficulties registering for government assistance | Goode et al. (2018) |
| Affordability | Direct cost | Goode et al. (2018) |

Table 23: Geographical barriers (n=3)

| Clinical genomic and genetic services: Best et al. 2022 (mixed methods, 4/20 UK studies) | | |
|--|---|---|
| Hospice care: Tobin et al. 2022% (mixed methods, 90/130 UK studies) | | |
| Chemotherapy in UK: Chamberlain et al. 2016 (Quantitative, n=26) | | |
| Key: %= referral | | |
| | Barriers | References |
| Accessibility-related barriers | Geographical inaccessibility | Best et al. (2022) |
| Healthcare provider specific barriers | Lack of service availability | Best et al. (2022) Tobin et al. (2022)% |
| | Distribution of workforce (centered in urban areas) | Best et al. (2022) Chamberlain et al. (2016) |
| | Local variability in approach and practice (prescribing and treatment habits) | Chamberlain et al. (2016) |
| Affordability (financial and non-financial) | Competing priorities (childcare, family commitments) | Best et al. (2022) |



Strengths, Limitations and considerations for this report

This scoping review was designed to give an overview of the available evidence on inequalities in accessing healthcare services. Due to the broad question, and the short timescale with which to complete the work, a full systematic review could not be undertaken, and consequently, the reviews included within this report have not been critically appraised.

Although a comprehensive search was undertaken in Medline and Google scholar, as well as searches in robust secondary sources (Cochrane library and NICE), the search was not exhaustive, and searches of additional databases may have identified further systematic reviews on this research question.

To capture as much relevant literature as possible from the searches, a date limit was not applied to the inclusion criteria. Therefore, some of the included reviews may contain outdated primary research. Systematic reviews with at least one UK study with relevant outcomes were included. Consequently, several of the reviews include international literature and therefore some of the findings may not be generalisable to the Welsh/ UK context. The included reviews are also often specific to a particular health service, and so may not be generalisable across services.

A range of healthcare services spanning primary, secondary, and specialist care were included, and while this increased the number of eligible reviews, it resulted in the identification of several outcomes which were only investigated by a small number of studies.

Qualitative data was excluded to 1) ensure the review remained manageable in the timeframe given, and 2) maintain a focus on structural barriers to healthcare access. This limited the review because most of the research identified on barriers to access were qualitative. Furthermore, for some mixed methods systematic reviews, it was not always clear which outcomes were from quantitative or qualitative research, therefore it is possible that some qualitative data has influenced what has been reported.

Despite these limitations, a strength of this scoping review is that the search strategy, title, abstract and full text screening, and data extraction were all consistency checked, therefore a robust methodology was employed at each stage of the review.



Options for further work

Seven overarching population characteristics were identified in this scoping review. However, due to the broad nature of the question and the multiple factors influencing the direction of the inequality, it is important to consider the findings from this report in designing further research. A look at Wales' data on the population characteristics identified in this report, to identify the inequalities experienced by these groups within the Welsh setting, is recommended.

Suggestions for further work by the Evidence Service include:

1. Exploration of methods used for identification of inequalities in access to health services in other countries and how they could be applied to data within Wales

Or

2. Production of topic evidence summary focusing on:
 - (ii) Identification of inequalities to access of health services within a specific population group (e.g., ethnic minorities) or characteristic (e.g., socioeconomic status), a specific healthcare service (e.g., screening services), or a combination of several factors. This could also include exploration of barriers specific to the group, characteristic or service. Although similar to what was undertaken for the current scoping review, this may be useful to provide more detailed exploration into any gaps identified by this scoping review, by exploring primary literature in a focused area.

Or

- (iii) Interventions to improve access to a specific health service within a specific group.

A topic evidence summary is produced following a comprehensive methodology and addresses a focused research question. The methodology includes a systematic search for primary literature in a wider range of databases, quality appraisal as well as grading and synthesis of the identified evidence. Its turnaround period is 10-12 weeks/topic.



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Appendix A: Sources searched

| Core Sources (not optional) | | |
|--|----------------------------|--|
| Cochrane Library - https://www.cochranelibrary.com/cdsr/reviews | Searched, nothing found | |
| <i>Systematic reviews on health care interventions, diagnostics and public health interventions.</i> | | |
| NICE - https://www.nice.org.uk/guidance | Searched, nothing found | |
| <i>Systematic evidence reviews that may underpin guidance.</i> | | |
| Joanna Briggs Institute - https://journals.lww.com/jbisrir/pages/advancedsearch.aspx | Searched, nothing found | |
| <i>Systematic and scoping reviews of both quantitative and qualitative evidence on healthcare and public health topics.</i> | | |
| Prospero - https://www.crd.york.ac.uk/prospéro/ | Choose an item. | |
| <i>Database of systematic review protocols to see whether an up to date systematic review related to your question is in progress.</i> | | |
| Public Health/ Wider Determinants Focus (select if relevant to your question) | | |
| National Institute for Health Research (NIHR) Public Health Research - https://www.journalslibrary.nihr.ac.uk/phr/about-the-phr-journal.htm | Searched, nothing found | |
| <i>Some reports in this journal are systematic reviews of interventions to improve public health.</i> | | |
| The Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) - http://epi.ioe.ac.uk/cms/ | Searched, nothing found | |
| <i>Publications list for systematic reviews in the fields of education, health promotion and public health, as well as social welfare and international development.</i> | | |
| Campbell Collaboration systematic reviews - https://www.campbellcollaboration.org/better-evidence.html | Searched, nothing found | |
| <i>Systematic reviews of the effects of social interventions in Crime & Justice, Education, International Development, and Social Welfare.</i> | | |
| College of Policing What Works Centre for Crime Reduction - https://www.college.police.uk/research/what-works-centre-crime-reduction | Not searched, not relevant | |
| <i>Systematic reviews on crime reduction.</i> | | |
| What Works Centre for Wellbeing - https://whatworkswellbeing.org/about-us/ | Searched, nothing found | |
| <i>Systematic reviews of the impacts of policies and projects on wellbeing.</i> | | |
| What Works for Children's Social Care - https://whatworks-csc.org.uk/ | Searched, nothing found | |



| | | |
|--|--|----------------------------|
| <i>Systematic reviews relevant to children's social care.</i> | | |
| What Works Clearinghouse (USA) - https://ies.ed.gov/ncee/wwc/ | | Not searched, not relevant |
| <i>Systematic reviews on what works in education.</i> | | |
| Early Intervention Foundation (EIF) - https://www.eif.org.uk/about | | Searched, nothing found |
| <i>Systematic reviews about early interventions for tackling the root causes of social problems for children and young people.</i> | | |
| What Works Centre for Local Economic Growth - https://whatworksgrowth.org/about-us/ | | Not searched, not relevant |
| <i>Systematic reviews on policies for local economic growth.</i> | | |
| Health Care Interventions and Technologies | | |
| Health Technology Wales - https://healthtechnology.wales/ | | Searched, nothing found |
| <i>Reports and guidance on use of medical devices, surgical procedures, psychological therapies, tele-monitoring or rehabilitation.</i> | | |
| Health Technology Assessments (Ireland) - https://www.hiqa.ie/areas-we-work/health-technology-assessment | | Searched, nothing found |
| <i>Health technology assessments on the clinical and cost-effectiveness of drugs, equipment, diagnostic techniques and public health activities.</i> | | |
| National Institute for Health Research Health (NIHR) Technology Assessment (HTA) Journal - https://www.journalslibrary.nihr.ac.uk/hta/about-the-hta-journal.htm | | Searched, nothing found |
| <i>Some reports in this journal are systematic reviews of interventions to, prevent and treat disease and improve rehabilitation and long-term care.</i> | | |
| Agency for Healthcare Research and Quality (AHRQ) | | Searched, nothing found |
| <i>Search Evidence-Based Reports Agency for Healthcare Research and Quality (ahrq.gov)</i> | | |
| <i>Effectiveness and comparative effectiveness reviews of health care interventions.</i> | | |
| Canadian Agency for Drugs and Technologies (CADTH) - https://www.cadth.ca/evidence-bundles-view | | Searched, nothing found |
| <i>Rapid response systematic reviews and meta-analyses of health technologies, including drugs and diagnostic tests, medical, dental and surgical devices and procedures.</i> | | |
| Evidence Synthesis Program Reports (va.gov) - https://www.hsrd.research.va.gov/publications/esp/reports.cfm | | Searched, nothing found |
| <i>Evidence syntheses of health care interventions of particular relevance to veterans.</i> | | |



| | |
|---|-------------------------|
| Scottish Intercollegiate Guidelines Network (SIGN) clinical guidelines - https://www.sign.ac.uk/our-guidelines/ | Searched, nothing found |
| <i>Systematic evidence reviews that may underpin guidance.</i> | |
| Additional search | |
| Google Scholar - https://scholar.google.com/ | Searched, results found |
| <i>Search using your keywords AND "systematic review"</i> | |
| Medline - https://dialog.proquest.com/professional/medlineprof/advanced | Searched, results found |
| <i>Search strategy provided in below</i> | |
| UKHSA Library Service Evidence Briefings - https://ukhsalibrary.koha-ptfs.co.uk/briefings/ | Searched, nothing found |
| Health equity resource database - https://health-inequalities.eu/resources/jwddb/ | Searched, results found |

Medline search strategy:

| Set# | Searched for | Results |
|------|---|----------|
| S2 | (ti,ab(access* OR utilis* OR utiliz* OR attend* OR uptake)) | 1911674* |
| S3 | (MESH.EXACT("Health Services Accessibility")) | 83607* |
| S4 | (MJMESH.EXACT("Healthcare Disparities") OR MESH.EXACT("Medically Underserved Area")) | 20929* |
| S5 | S4 OR S3 OR S2 | 1963423* |
| S6 | (ti,ab("primary care" OR NHS OR "general practi*" OR GP OR "family practi*" OR doctor OR healthcare OR "health care" OR "secondary care" OR "ambulatory care" OR "health service" OR nurse OR nursing OR outpatient* OR "out patient*" OR appointment* OR screen* OR clinic OR dentist* OR pharmacy)) | 2702642* |
| S7 | (MJMESH.EXACT("Secondary Care") OR MJMESH.EXACT("Secondary Care Centers") OR MESH.EXACT("Outpatients")) | 20416* |
| S8 | (MJMESH.EXACT("Primary Care Nursing") OR MJMESH.EXACT("Physicians, Primary Care") OR MJMESH.EXACT("Primary Health Care")) | 57993* |
| S9 | S8 OR S7 OR S6 | 2712931* |



| | | |
|-----|---|----------|
| S10 | (MESH.EXACT("Aged") OR ti,ab(elder* OR aged OR older OR "senior citizen" OR "senior citizens" OR retired OR retirement OR Retiree* OR pension*)) | 5004606* |
| S11 | (ti,ab(BAME OR BME OR ("Black Asian" N/1 "minority ethnic") OR "minority ethnic*" OR "ethnic minorit*" OR "people of color" OR "people of colour" OR POC OR "racial* minorit*" OR "Black British" OR bangladeshi* OR bengali* OR indian* OR chinese OR pakistani* OR african* OR arab* OR "afro caribbean" OR "african caribbean" OR afrocaribbean OR "afro-caribbean" OR "south asian*" OR somali*)) | 685153* |
| S12 | (MESH.EXACT("Emigration and Immigration") OR MESH.EXACT("Racial Groups") OR MESH.EXACT("Refugees") OR MESH.EXACT("Ethnic and Racial Minorities")) | 61607* |
| S13 | ((ti,ab(Gypsy* or gypsies or gipsy* or gipsies)) OR (ti,ab(Roma or romas or romany or romani or romanis or romanes or romanian)) OR MESH.EXACT("Roma")) | 8640* |
| S14 | ((ti,ab((vulnerable OR underserved OR "low income" OR rural OR sensitive OR disadvantaged) N/1 population*))) | 37198* |
| S15 | (ti,ab(rural N/1 communit*)) | 15849* |
| S16 | (MJMESH.EXACT("Health Disparity, Minority and Vulnerable Populations") OR MJMESH.EXACT("Vulnerable Populations")) | 5558* |
| S17 | (MJMESH.EXACT.EXPLODE("Sexual and Gender Minorities")) | 11189* |
| S18 | (ti,ab(men OR male* OR women OR woman OR female* OR non-binary OR "gender neutral" OR pangender OR transgender)) | 3515217* |
| S19 | ((MJMESH.EXACT("Homeless Persons"))) | 7453* |
| S20 | (ti,ab(homeless persons OR homeless* OR houseless OR rough n/1 sleep)) | 12659* |
| S21 | S20 OR S19 OR S18 OR S17 OR S16 OR S15 OR S14 OR S13 OR S12 OR S11 OR S10 | 7584996* |
| S22 | (ti,ab((systematic OR rapid OR scoping OR mapping) N/1 review) OR ti,ab(meta-analysis OR metaanalysis)) | 389193* |



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|-----|--|---------|
| S23 | (((MJMESH.EXACT("Systematic Reviews as Topic") OR MJMESH.EXACT("Meta-Analysis as Topic")))) | 6583* |
| S24 | S23 OR S22 | 389995* |
| S25 | (((MESH.EXACT("United Kingdom")) OR MESH.EXACT("Scotland") OR ((MESH.EXACT("Northern Ireland")) OR MESH.EXACT.EXPLODE("Wales") OR ((TI,AB(Great Britain or Britain or England or Scotland or Wales or Ireland or UK or United Kingdom or welsh or english or scottish or irish)))))) | 580638* |
| S26 | S25 AND S24 AND S21 AND S9 AND S5 | 1181° |



Appendix B: Table of characteristics of included studies

| Table 1. Population groups/ characteristics identified that might be associated with inequitable access to healthcare services | | | | | | |
|--|--|------------------------|---|------------------------------|---|---------------------------|
| Key: ↑ denotes that the systematic review identified an inequality with the population group/ characteristic being more likely to access/ utilise the healthcare service; ↓ denotes that the systematic review identified an inequality with the population group/ characteristic being less likely to access/ utilise healthcare service; ↔ denotes that the systematic review identified mixed evidence i.e. it is unclear whether the population group/ characteristic is less likely to access/ utilise healthcare service; ↔ no evidence of inequality identified i.e. there is no difference in the likelihood of the population group/ characteristic affecting the access/ utilisation of the healthcare service. | | | | | | |
| | Access of NHS health checks | Access to primary care | Access to specialist care | Access of screening services | Referral to specialist care | Access of HPV vaccination |
| Age | | | | | | |
| Older age | ↑ (Bunten et al. 2020) ↑ (Martin et al. 2018) | ↑ (Foster et al. 2019) | ↓ (Asthana et al. 2018) ↓ (Brewster et al. 2020) | ↑ (Jepson et al. 2000) | ↓ (Ahmed et al. 2004) ↓ (Williams et al. 2019) | |
| Younger age | ↓ (Asthana et al. 2018) | | ↓ (Brewster et al. 2020) | ↑ (Elgalib et al. 2018) | ↓ (Croxford et al. 2018) | |
| Education level | | | | | | |
| Lower levels of education | | | | | ↓ (Croxford et al. 2018) | ↓ (Murfin et al. 2020) |



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|---------------------------------------|---|------------------------|--|--|---|------------------------|
| Higher level of education | | | | ↑ (Jepson et al. 2000) ↑ (Mosquera et al. 2020) ↑ (Murfin et al. 2020) | ↑ (Williams et al. 2019) | ↑ (Murfin et al. 2020) |
| Ethnicity/ immigration status | | | | | | |
| Ethnic minority groups | ↑ (Asthana et al. 2018) ↑ (Bunten et al. 2020) ↑ (Martin et al. 2018) | ↑ (Foster et al. 2019) | ↓ (Ahmed et al. 2004) ↓ (Asthana et al. 2018) ↓ (Ricci-Cabello et al. 2010) ↓ (Tobin et al. 2022) | ↑ (Jepson et al. 2000) | ↓ (Ahmed et al. 2004) ↓ (Williams et al. 2019) | |
| Migrant status | | ↑ (Foster et al. 2019) | | | | |
| Gender | | | | | | |
| Women | ↑ (Asthana et al. 2018) ↑ (Bunten et al. 2020) ↑ (Martin et al. 2018) | ↑ (Foster et al. 2019) | ↓ (Asthana et al. 2018) ↔ (Ricci-Cabello et al. 2010) | ↑ (Mosquera et al. 2020) | | |
| Men | ↑ (Asthana et al. 2018) | | ↑ (Brewster et al. 2020) ↔ (Ricci-Cabello et al. 2010) | ↑ (Elgalib et al. 2018) ↑ (Mosquera et al. 2020) | | |
| Risk | | | | | | |
| Shorter duration of diagnosis | | | ↑ (Brewster et al. 2020) | | | |
| Low severity of symptoms at diagnosis | | | | ↑ (Jepson et al. 2000) | ↓ (Croxford et al. 2018) | |
| Pre-existing health conditions | ↑ (Martin et al. 2018) | ↑ (Foster et al. 2019) | | | | |
| Family history | ↑ (Bunten et al. 2020) | | | | | |
| Smoking | ↓ (Bunten et al. 2020) | | ↓ (Brewster et al. 2020) | | | |
| Non-smoking | ↑ (Martin et al. 2018) | | | | | |



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|-------------------------------------|-------------------------|--|---|--------------------------|--------------------------|------------------------|
| Increased alcohol intake | | | ↓ (Brewster et al. 2020) | | ↓ (Williams et al. 2019) | |
| Injecting drug use | | | | | ↓ (Croxford et al. 2018) | |
| Rurality/ social deprivation | | | | | | |
| Rural residents | | ↓ (Williams et al. 2019) | ↓ (Ryan-Ndegwa et al. 2021) | | | |
| Urban residents | | ↑ (Foster et al. 2019) | ↑ (Tobin et al. 2022) | | | |
| Closer proximity to service | | ↑ (Foster et al. 2019) | ↑ (Tobin et al. 2022) | | | |
| Higher deprivation | ↑ (Bunten et al. 2020) | | ↓ (Brewster et al. 2020) ↓ (Ryan-Ndegwa et al. 2021) | | | ↓ (Fisher et al. 2013) |
| Lower deprivation | ↑ (Martin et al. 2018) | | | ↑ (Mosquera et al. 2020) | | |
| Socio-economic status | | | | | | |
| Low socio-economic status | ↑ (Asthana et al. 2018) | ↑ (Foster et al. 2019) ↔ (Hanratty et al. 2007) | ↑ (Asthana et al. 2018) ↓ (Brewster et al. 2020) ↓ (Ricci-Cabello et al. 2010) ↓ (Tobin et al. 2022) | ↑ (Murfin et al. 2020) | | ↓ (Murfin et al. 2020) |
| Higher socio-economic status | ↑ (Asthana et al. 2018) | ↑ (Hanratty et al. 2007) | ↑ (Asthana et al. 2018) ↓ (Ricci-Cabello et al. 2010) | ↑ (Mosquera et al. 2020) | ↑ (Williams et al. 2019) | |

Appendix C: Data Extraction

| Data extraction of the Systematic reviews identified in the scoping search (in alphabetic and chronological order) | | | | |
|--|--|---|---|---|
| Reference: Abba-Aji M, Stuckler D, Galea S, et al. (2022). Ethnic/racial minorities' and migrants' access to COVID-19 vaccines: A systematic review of barriers and facilitators. <i>Journal of migration and health</i> . 5: pp.100086. | Study design: Systematic review Search dates: Jan 2020 – Oct 2021 Types of included studies: Quantitative Qualitative Mixed methods Quality Appraisal tool used: Newcastle Ottawa Scale CASP | Review aim and setting: To review ethnic minorities' and migrants' access to and acceptance of COVID-19 vaccines Focus: Ethnic minorities and migrants' access to and acceptance of COVID-19 vaccines No. included studies: 33 (10 UK) | Groups identified and Authors conclusions: Ethnic Minorities (UK specific data): <ul style="list-style-type: none"> Lower vaccine acceptance among Black/BAME minorities compared to their White counterparts (6/8 studies) Migrants: <ul style="list-style-type: none"> Higher vaccine acceptance among migrants compared to the general population Barriers to COVID-19 vaccine uptake: <ul style="list-style-type: none"> Inability to understand (language and health literacy [n= 3]) Geographical inaccessibility (n= 2) Unaffordability (n= 1) | Comments/Limitations: Qualitative barriers have not been extracted. UK data has been extracted where results have been disaggregated in the review. |
| Reference: Anderson De Cuevas RM, Saini P, Roberts D, et al. (2018). A systematic review of barriers and enablers to South Asian women's attendance for asymptomatic screening of breast and cervical cancers in emigrant countries. <i>BMJ open</i> . 8(7): pp.e020892. | Study design: Systematic review Search dates: Database inception - 2018 Types of included studies: Qualitative Quantitative | Review aim and setting: The aim of this review was to identify the cultural, social, structural and behavioural factors that influence asymptomatic breast and cervical cancer screening attendance | Groups identified and Authors conclusions: <ul style="list-style-type: none"> 4/6 studies showed that South Asian women have lower screening rates compared to host populations Lower screening rates were noted among: <ul style="list-style-type: none"> Women without health insurance Younger women Women with low levels of education | Comments/Limitations: Barriers and characteristics used interchangeably (i.e., low preference for the host countries language was described as a cultural barrier). |



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| | <p>Quality Appraisal tool used: CASP</p> | <p>in South Asian populations</p> <p>Focus: Barriers and enablers to South Asian women's attendance for asymptomatic screening of breast and cervical cancers in emigrant countries</p> <p>No. included studies: 51 (5 UK)</p> | <ul style="list-style-type: none"> Those with low knowledge (health literacy) was not consistently associated with reduced likelihood of attendance Less time spent in the host country was a strong predictor of non-attendance Those with a lower preference for the host countries language (n= 1) South Asian women were less likely to be attend mammography screening if their GP had qualified outside of the host country | |
| <p>Reference: Asthana S, Moon G, Gibson A, et al. (2018). Inequity in cardiovascular care in the English National Health Service (NHS): a scoping review of the literature. <i>Health & social care in the community</i>. 26(3): pp.259-272.</p> | <p>Study design: Scoping review (with CA)</p> <p>Search dates: 2004-2016</p> <p>Types of included studies: Quantitative</p> <p>Quality Appraisal tool used: Tool not stated</p> | <p>Review aim and setting: To synthesise and evaluate evidence relating to access to and/or use of English NHS services around (i) different points on the care pathway (i.e. presentation, primary management and specialist management) and (ii) different dimensions of inequality (socioeconomic, age- and gender-related, ethnic or geographical).</p> <p>Focus:</p> | <p>Groups identified and Authors conclusions:</p> <p>Variations across pathway: Presentation of CVD (help-seeking behaviour, uptake of health checks):</p> <ul style="list-style-type: none"> Mixed evidence of inequity in SES groups and gender Youth appeared to be a factor lowering rates of presentation and uptake of health checks High levels of presentation among South Asian patients. No other ethnic differences were found <p>Access to/use of specialist care for CVD (including CV rehab):</p> <ul style="list-style-type: none"> Lower use of CV rehab in women Lower rates of access to/use of revascularisation, CV rehab and stroke care in Older patients | <p>Factors identified in table 1. Access of NHS health checks Access to specialist services</p> |



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| | | <p>Cardiovascular care (whole pathway)</p> <p>No. included studies: 174 UK studies (all conducted in England or UK-wide. Evidence focusing exclusively on Scotland, Wales or NI was however excluded)</p> | <ul style="list-style-type: none"> Higher levels of access to specialist care in South Asians Mixed evidence for inequalities by SES Mixed evidence on access for black patients | |
| <p>Reference: Ahmed N, Bestall JC, Ahmedzai SH, et al. (2004). Systematic review of the problems and issues of accessing specialist palliative care by patients, carers and health and social care professionals. <i>Palliative medicine</i>. 18(6): pp.525-42.</p> | <p>Study design: Systematic review</p> <p>Search dates: 1997-2003</p> <p>Types of included studies: Quantitative, Qualitative, Mixed Methods Majority of the UK studies are qualitative: interview, questionnaires and surveys. Several retrospective review of records.</p> | <p>Review aim and setting: To determine the problems and issues of accessing specialist palliative care by patients, informal carers and health and social care professionals involved in their care in primary and secondary care settings.</p> <p>Focus: Palliative care in primary and secondary care settings</p> <p>No. included studies: 40 (18 UK)</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> Black and ethnic minority: lower referral rate to PC services Ethnic minority groups: lower utilisation rates of palliative care services vs white patients Older patients (65+) were less likely to be referred to PC <p>Referral Barriers to PC: <u>Patient or family issues:</u> refusal or lack of interest in hospice, lack of knowledge, family conflict about the best course of action for the patient, cultural or religious beliefs, failure to accept patients' prognosis.</p> | <p>Factors identified in table 1. Access to specialist services Referral to specialist care: palliative care</p> |



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| | Quality Appraisal tool used: Adapted from Payne et al. and Hawker et al. Majority of the included studies were of moderate quality. | | | |
| Reference: Best S, Vidic N, An K, et al. (2022). A systematic review of geographical inequities for accessing clinical genomic and genetic services for non-cancer related rare disease. <i>European Journal of Human Genetics</i> . 30(6): pp.645-652. | Study design: Systematic review Search dates: Jan 2010 – July 2021 Types of included studies: Quantitative, Qualitative and Mixed Methods Quality Appraisal tool used: Hawker tool | Review aim and setting: reveal what is known about geographical (in) equity in accessing clinical genomic or genetic services for people with a non-cancer related rare disease. Focus: Clinical genomic and genetic services No. included studies: 20 (4 UK) | Groups identified and Authors conclusions: <ul style="list-style-type: none"> Rural communities (focus of article) Barriers to equitable service provision: <ul style="list-style-type: none"> Distribution of workforce (centered in Urban areas) Lack of investment in rural services Duration of travel to services for patients (especially for those dependent on public transport) Time required leading to opportunity costs (time off work, childcare issues etc) Workforce capacity in rural areas leading to lack of genetic/genomic expertise | Comments/Limitations: |
| Reference: Brewster S, Bartholomew J, Holt RIG, et al. (2020). Non-attendance at diabetes outpatient appointments: a systematic review. <i>Diabetic medicine: a journal of the British</i> | Study design: Systematic review Search dates: Up to Feb 2019 | Review aim and setting: This review summarises the literature on non-attendance at | Groups identified and Authors conclusions: Non-attendance at appointments associated with: <ul style="list-style-type: none"> Young age Older age (> 70y) | Comments/Limitations: Authors note that a number of studies used univariate analyses, which fail to address possible confounding factors. |



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| <p><i>Diabetic Association. 37(9): pp.1427-1442.</i></p> | <p>Types of included studies: Qualitative and quantitative</p> <p>Quality Appraisal tool used: Hawker et al - tool for appraising disparate studies</p> | <p>diabetes healthcare appointments. The objectives were 3-fold:</p> <ol style="list-style-type: none"> 1. To establish the features of missed diabetes healthcare appointments, the characteristics associated with those not attending and the impact on health outcomes. 2. To explore factors that influence attendance or non-attendance at diabetes appointments. 3. To describe interventions to improve attendance at diabetes appointments. <p>Focus: Non-attendance at diabetes appointments</p> <p>No. included studies: 34 (16 UK)</p> | <ul style="list-style-type: none"> • Shorter duration of diagnosed diabetes • Financial pressures • Smoking • Increased alcohol intake • Parenthood (in particular being a single parent) <p>Mixed findings on non-attendance in:</p> <ul style="list-style-type: none"> • Men <p>Social deprivation was only found to be mildly associated with non-attendance(one Scottish study)</p> <p>Author's conclusions: Studies of characteristics of non-attenders provide conflicting information, but in most instances, non-attendance was more likely in young adults, those from a lower socio-economic background, and those who smoke.</p> | <p>Factors identified in table 1. Access to specialist care</p> |
| Reference: | Study design: Systematic review | Review aim and setting: The aim of | Groups identified and Authors conclusions: | Factors identified in table 1. |



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| <p>Bunten A, Porter L, Gold N, et al. (2020). A systematic review of factors influencing NHS health check uptake: invitation methods, patient characteristics, and the impact of interventions. <i>BMC public health</i>. 20(1): pp.93.</p> | <p>Search dates: no limit stated (included articles published 2011-2016)</p> <p>Types of included studies: Quantitative (RCTs, Quasi-experimental)</p> <p>Quality Appraisal tool used: Adapted version of EPHPP tool</p> | <p>this systematic review is to highlight interventions and invitation methods that increase the uptake of NHSHCs, and to identify whether the effectiveness of these interact with broader patient and contextual factors</p> <p>Focus: NHS Health checks uptake (for 40-74 y)</p> <p>No. included studies: 9 UK studies</p> | <p>Socio-demographic factors for uptake of NHSHC's:</p> <ul style="list-style-type: none"> All studies found that older patients were more likely to attend than younger patients One study found a significant interaction between age and gender, with women in the youngest age-group (35–54 years) more likely to attend than men of the same age-group The majority of studies found that uptake was highest for female patients Effect of deprivation on uptake varied across studies. Findings on ethnicity and uptake were mixed. <p>Association between level of risk and uptake varied according to the specific risk factor under investigation, with medical risk (e.g. family history) being associated with higher uptake and lifestyle risk (e.g. smoking status) being associated with lower uptake.</p> | <p>Access of NHS health checks</p> |
| <p>Reference: Crawshaw AF, Farah Y, Deal A, et al. (2022). Defining the determinants of vaccine uptake and undervaccination in migrant populations in Europe to improve routine and COVID-19 vaccine uptake: a systematic review. <i>The Lancet. Infectious diseases</i>. 22(9): e254-e266.</p> | <p>Study design: Systematic review</p> <p>Search dates: 2000 – 2021</p> <p>Types of included studies: Any primary research, identified studies were cross-sectional, cohort,</p> | <p>Review aim and setting: To explore barriers and facilitators of vaccine uptake and sociodemographic determinants of under vaccination among migrants in the EU and European Economic Area, the UK, and Switzerland.</p> | <p>Groups identified and Authors conclusions:</p> <p>Under-vaccinated migrant groups:</p> <ul style="list-style-type: none"> children of foreign-born Pakistani mothers were more likely to be fully immunised than Pakistani children whose mothers were UK-born (n= 1) Asylum-seeker children have lower vaccine uptake compared to the general population. Differences also exist between sites (n= 1 Welsh study) | <p>Comments/Limitations: Only 2 UK studies related to 'Groups' were included in analysis so the UK data has been extracted and the (large proportion of non-UK data) omitted</p> |



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| | <p>case-control, qualitative, or other</p> <p>Quality Appraisal tool used: JBI Critical Appraisal Tools</p> | <p>Focus: Barriers to vaccine uptake for migrants in EU countries (& UK)</p> <p>No. included studies: 67 (not stated how many from UK)</p> | <p>Barriers: Access to vaccination:</p> <ul style="list-style-type: none"> • Low literacy • Language/ communication barriers • Lack of accessible, tailored, or translated information about vaccination for migrant populations • Lack of interpreting services • Insecure housing and frequent change of address/no fixed address <p>Possibly relevant other barriers, extracted in case</p> <ul style="list-style-type: none"> • Digital exclusion (1 study) • Fears and uncertainty around legal entitlement (not clear if quant/qual or mixed) • Location of delivery, e.g., schools inaccessible to European Roma • fear of being charged for care or asked about immigration status when accessing car • difficulties registering with a general practitioner (GP) • being refused care • Poor HCP knowledge of migrants' entitlements to health care and vaccination guidelines (resulted in patients being wrongly refused access to primary care or not offered recommended catch-up vaccinations) <p>variability in local procedures and resource allocation between asylum dispersal sites, including differences in accepting verbal history as proof of</p> | |
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| | | | vaccination status, staff allocation, and follow-up procedures | |
| <p>Reference: Croxford S, Yin Z, Burns F, et al. (2018). Linkage to HIV care following diagnosis in the WHO European Region: A systematic review and meta-analysis, 2006-2017. <i>PloS one</i>. 13(2): pp.e0192403.</p> | <p>Study design: systematic review and meta-analysis</p> <p>Search dates: Database inception to December 2017, but inclusion criteria was: published between 1st of January 2006 and 27th of February 2017</p> <p>Types of included studies: Observational studies using data collected for surveillance or research purposes and qualitative studies including quantitative outcome data on linkage to care</p> <p>Quality Appraisal tool used: AXIS (For cross-sectional studies, but authors state adapted to cover</p> | <p>Review aim and setting: To synthesise the evidence to achieve a better understanding of what proportion of patients are linked to care and what factors impact linkage</p> <p>Focus: Linkage to HIV care following diagnosis in the WHO European region</p> <p>No. included studies: 24 (7 UK)</p> | <p>Groups identified and Authors conclusions:</p> <p>Factors associated with delayed linkage or not being linked to care:</p> <ul style="list-style-type: none"> • Acquiring HIV through heterosexual contact • Injecting drug use • Being of younger age at diagnosis • Having lower levels of education • Being or feeling well at diagnosis • Being diagnosed outside an STI clinic <p>Authors conclusions: Overall, few countries in the WHO European Region have produced estimates on this essential HIV quality of care indicator. Where available, linkage estimates vary and reflect diverse healthcare systems, as well as political and socioeconomic factors that may hinder people living with HIV from seeking care such as migrants and people who inject drugs.</p> | <p>Factors identified in table 1. Referral to specialist care: HIV care</p> |



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| | longitudinal study designs) | | | |
| Reference: Chamberlain C, Owen-Smith A, Donovan J, et al. (2016). A systematic review of geographical variation in access to chemotherapy. <i>BMC cancer</i> . 16(1): pp.1-15. | Study design: Systematic review Search dates: Up to July 2015 Types of included studies: Quantitative: Cohort, correlational, and before and after Quality Appraisal tool used: Reporting clarity was evaluated with the STROBE observational checklist and methodological quality with the NICE adapted Graphical Appraisal Tool for Epidemiological studies (GATE) | Review aim and setting: To systematically identify published studies considering geographical barriers to use of cancer pharmaceuticals in the UK NHS. Focus: Geographical barriers to cancer pharmaceuticals in the UK No. included studies: 26 UK Studies | Groups identified and Authors conclusions: <ul style="list-style-type: none"> Geographical inequities (focus of article) Authors identified a considerable variation in chemotherapy prescribing between healthcare boundaries. The absence of associations with natural geographical characteristics (e.g. rurality) and receipt of chemotherapy suggests that local treatment habits, capacity and policy are more influential. | Comments/Limitations: Authors note included studies may be subject to confounding due to an absence of case-mix adjustment. |
| Reference: Durà-Vilà G and Hodes M. (2012). Ethnic factors in mental health service utilisation among people with | Study design: Systematic review Search dates: | Review aim and setting: to investigate whether there is ethnic | Groups identified and Authors conclusions: UK studies: Inconsistent findings: | Comments/Limitations: |



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| <p>intellectual disability in high-income countries: systematic review. <i>Journal of intellectual disability research: JIDR</i>. 56(9): pp.827-42.</p> | <p>1950 – 2009</p> <p>Types of included studies: all studies that reported quantitative or qualitative data</p> <p>Quality Appraisal tool used: quality appraisal performed but not with a tool</p> | <p>variation in uptake of mental health services by people with intellectual difficulties in high-income countries</p> <p>Focus: ethnic variation in uptake of mental health services by people with intellectual difficulties</p> <p>No. included studies: 9 (7 UK)</p> | <ul style="list-style-type: none"> South Asians: two studies suggest South Asians use MH services less than whites. One study found similar patterns of access. Ethnic minority groups with ID & a psychiatric disorder (compared to white) more likely to be referred to MH services in one study (increase most marked in people of African Caribbean origin), but fewer admitted from minority ethnic communities to an assessment and treatment unit for adults with ID and mental health problems and/or challenging behaviour in another study. <p>Less access/utilisation:</p> <ul style="list-style-type: none"> CAMHS uptake was statistically significantly lower for South Asians than for White British and for South Asians when compared to Black group. Family structure predicted CAMHS service utilisation: two-parent families used this service less than single-parent/foster families <p>Authors conclude that most of the studies in the review suggest an association between ethnicity and mental health service utilisation.</p> | |
| <p>Reference: Elgalib A, Fidler S and Sabapathy K. (2018). Hospital-based routine HIV testing in high-income countries: a systematic literature review. <i>HIV medicine</i>. 19(3): pp.195-205.</p> | <p>Study design: Systematic Review</p> <p>Search dates: 2006-2015</p> | <p>Review aim and Setting: Identify the facilitators and barriers to HIV screening in Emergency</p> | <p>Groups identified & Authors conclusions:</p> <ul style="list-style-type: none"> Younger age groups: Higher uptake of HIV testing Male sex: Increased uptake of HIV testing | <p>Factors identified in table 1. Access to screening services: HIV testing</p> <p>Barrier to uptake of HIV testing</p> |



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| | <p>Types of included studies: Quantitative, Qualitative, Mixed Methods.</p> <p>Quality Appraisal tool used: Mixed methods appraisal tool (MMAT)</p> | <p>Departments (EDs) in the US and Acute Medical Units (AMU's) in the UK.</p> <p>Focus: HIV testing</p> <p>No. included studies: 14 (7 UK)</p> | <p>Barriers to HIV testing: <u>Patient-specific factors:</u> Perception of low HIV risk</p> | |
| <p>Reference: Foster H, Moffat KR, Burns N, et al. (2020). What do we know about demand, use and outcomes in primary care out-of-hours services? A systematic scoping review of international literature. <i>BMJ open</i>. 10(1): pp.e033481.</p> | <p>Study design: Scoping review</p> <p>Search dates: 1995 to March 2019</p> <p>Types of included studies: All study designs</p> <p>Quality Appraisal tool used: CASP tools for observational, RCTs, and systematic reviews</p> | <p>Review aim and setting: To synthesise international evidence for demand, use and outcomes of primary care out-of-hours health services (OOHSs)</p> <p>Focus: demand, use, and outcomes in primary care OOHSs</p> <p>No. included studies: 105 (37 UK)</p> | <p>Groups identified and Authors conclusions:</p> <p>Demographics of OOHS users:</p> <ul style="list-style-type: none"> The most frequent users of OOHS were children, especially those under 5 years old Although not always apparent when absolute numbers of contacts were reported, older adults (65 and over) had higher rates of contact than younger adults Women tended to use OOHS more than men, but men were more likely than women to use the ED out of hours Lower SES was associated with higher use of OOHS Having a chronic disease was associated with increased use of OOHS Mixed evidence for an association between ethnicity or migrant status and OOHS use (small no. studies) In England, TTA data found that, following contact with NHS Direct, white British or Bangladeshi children were most likely to be | <p>Factors identified in table 1. Access to primary care: OOHSs</p> |



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| | | | <p>referred to urgent care services including OOHS while children of Indian and 'other white' ethnicity were least likely to be referred</p> <ul style="list-style-type: none"> Six studies reported that proximity to an OOHS was associated with higher use. Three studies showed higher rates of OOHS use in more urban areas. Conversely, routine data in Ireland found rural cooperatives had higher OOHS use than urban cooperatives. In Finland, a retrospective review comparing three models of care found that OOHS use was higher where patients were able to attend their local primary care centre during out of hours compared with a model where OOHS access was more centralised | |
| <p>Reference: Fisher H, Trotter CL, Audrey S, et al. (2013). Inequalities in the uptake of human papillomavirus vaccination: a systematic review and meta-analysis. <i>International journal of epidemiology</i>. 42(3): pp.896-908.</p> | <p>Study design: Systematic review and meta-analysis</p> <p>Search dates: Inception to 9 March 2012</p> <p>Types of included studies: Designs not clearly stated, appears to be any observational study where vaccine uptake in women <18yrs was reported</p> | <p>Review aim and setting: to summarize evidence on the uptake of HPV vaccination programmes in adolescent young women by ethnicity and socioeconomic status</p> <p>Focus: HPV vaccination</p> <p>No. included studies: 29 publications related to 27 studies (1 UK)</p> | <p>Groups identified and Authors conclusions:</p> <p>Groups identified as less likely to initiate HPV Vaccination:</p> <ul style="list-style-type: none"> Black young women (less likely than White young women) Young women living in the most deprived areas were less likely to initiate HPV vaccination than those living in the least (UK specific; when combined with 3 non-UK studies no strong association was found). Young women who had no healthcare insurance (USA studies only) <p>Groups where no difference in uptake has been identified:</p> <ul style="list-style-type: none"> No difference identified between White and Asian young women (UK outcome). | <p>Comments/Limitations:</p> <p>Authors note considerable heterogeneity between studies.</p> <p>Factors identified in table 1. Access to HPV vaccination</p> |



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| | Quality Appraisal tool used: CASP for observational studies | | <ul style="list-style-type: none"> • Young women by primary caregiver educational attainment category <p>Inconsistent findings regarding differences in uptake between:</p> <ul style="list-style-type: none"> • Latina and White young women • by religious faiths and/or frequent service attendance <p>Additional outcomes available on HPV vaccination completion</p> | |
| <p>Reference: Forrest LF, Adams J, Wareham H, et al. (2013). Socioeconomic inequalities in lung cancer treatment: systematic review and meta-analysis. <i>PLoS medicine</i>. 10(2): pp.e1001376.</p> | <p>Study design: Systematic review and meta-analysis</p> <p>Search dates: Up to Sept 2012</p> <p>Types of included studies: Cohort studies (quantitative)</p> <p>Quality Appraisal tool used: Tool adapted from SIGN (2011) & Vandembroucke et al. (2007)</p> | <p>Review aim and setting: To examine the association between socioeconomic position (SEP) and receipt of lung cancer treatment.</p> <p>Focus: SEP & Lung Cancer treatment</p> <p>No. included studies: 46 (17 UK)</p> | <p>Groups identified and Authors conclusions: Association shown between low SEP and reduced likelihood of receipt of any type of treatment, surgery and chemotherapy.</p> <p><i>Universal healthcare system data extracted:</i></p> <ul style="list-style-type: none"> • Significant negative effect of lower SEP on the likelihood of receiving surgery (meta-analysis, 16 populations) • Significant negative effect of lower SEP on the likelihood of receiving chemotherapy (meta-analysis, 10 populations) • No association between SEP and receipt of radiotherapy was seen in the meta-analysis. | <p>Comments/Limitations: SEP outcomes detail: An individual measure of SEP (education level) was used in one study. All other studies used area-level measures of deprivation, income, poverty, or education level.</p> |
| <p>Reference: Goode J, Hoang H and Crocombe L. (2018). Homeless adults' access to dental services and strategies to improve their oral health: a</p> | <p>Study design: Systematic literature review</p> <p>Search dates:</p> | <p>Review aim and setting: To determine how and where homeless adults living in</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> • One study reports that the rate of failing to return for a second appointment is associated with drug use, ethnicity and receipt of government benefits. | <p>Comments/Limitations: Review includes both quantitative and qualitative studies. Where possible, we have only</p> |



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| <p>systematic literature review. <i>Australian journal of primary health.</i> 24(4) 287-298</p> | <p>2003-2017</p> <p>Types of included studies: Qualitative and quantitative</p> <p>Quality Appraisal tool used: Mixed Methods Appraisal Tool (MMAT)</p> | <p>developed countries receive oral health care, the barriers that prevent homeless adults accessing dental care and find strategies to promote oral health to homeless adults.</p> <p>Focus: Homeless adults' access to dental services</p> <p>No. included studies: 22 (8 UK)</p> | <ul style="list-style-type: none"> One study reports that "Only 27% sought oral health care when they had a perceived need" (note USA study) Homeless people are 2.27-fold more likely to use an ED for a non-traumatic dental problem compared with a matched low-income Population (Canadian study) <p>Barriers:</p> <ul style="list-style-type: none"> Inability to pay for dental care Homeless people found the process of registering for government assistance onerous (n= 1) | <p>extracted the findings from quantitative studies.</p> |
| <p>Reference: Giebel CM, Zubair M, Jolley D, et al. (2015). South Asian older adults with memory impairment: improving assessment and access to dementia care. <i>International journal of geriatric psychiatry.</i> 30(4): pp.345-56.</p> | <p>Study design: Systematic review</p> <p>Search dates: 1984-2012</p> <p>Types of included studies: Qualitative and quantitative</p> <p>Quality Appraisal tool used: Study quality was assessed using a modified eight criteria scale comprising of appropriate</p> | <p>Review aim and setting: This review explores facilitators and barriers to accessing mental health services by South Asian older adults as a minority ethnic group.</p> <p>Focus: South Asian older adults' barriers and facilitators in the pathway to culturally appropriate mental health care</p> <p>No. included studies:</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> South Asian older adults display limited service usage and delayed approach to services (n= 1) <p>Barriers:</p> <ul style="list-style-type: none"> Poor health literacy (n= 1) Bilingual and ethnic staff (n=1) Service sensitive to needs of ethnic minorities (n=1) | <p>Comments/Limitations: Mostly qualitative studies included in the review. Data has been extracted from quantitative studies (n= 3)</p> |



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| | standardised tools (Boyle, 1998; CASP, 1999; Connolly et al., 2012). | 18 (15 UK) | | |
| Reference: Halvorsrud K, Nazroo J, Otis M, et al. (2018). Ethnic inequalities and pathways to care in psychosis in England: a systematic review and meta-analysis. <i>BMC medicine</i> . 16(1): pp.1-17. | Study design: Systematic review and meta-analysis Search dates: Database inception-2017 (SRs and meta-analyses) A supplementary up-to-date evidence (primary studies) search was conducted, obtaining evidence from 2012-2017 Types of included studies: Systematic reviews, meta-analyses, quantitative primary studies Quality Appraisal tool used: AMSTAR | Review aim and setting: To conduct a systematic review and meta-analysis of research on ethnic inequalities in pathways to care for adults with psychosis living in England and/or Wales Focus: Ethnic inequalities in pathways to care for adults with psychosis living in England and/or Wales No. included studies: 40 UK studies | Groups identified and Authors conclusions: More likely to access/contact GP: <ul style="list-style-type: none"> • South Asian people (compared to white people) • Less likely to access/contact GP: <ul style="list-style-type: none"> • Black people (compared to white people) | Comments/Limitations: General practitioner (GP) involvement in the patients' pathways to care typically results from referral to GPs from a range of actors such as family members or the patients themselves. |
| Reference: Heslehurst N, Brown H, Pemu A, et al. (2018). Perinatal health outcomes | Study design: Systematic review of reviews | Review aim and setting: To summarise the | Groups identified and Authors conclusions: Migrant women: | Comments/Limitations: |

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| and care among asylum seekers and refugees: a systematic review of systematic reviews. <i>BMC medicine</i> . 16(1): pp.89. | <p>Search dates: 2007-2017. Included SRs published between 2009 and 2017 and the publication years of the included studies were from 1956 to 2016</p> <p>Types of included studies: Systematic reviews with a quantitative, qualitative, or mixed methods evidence synthesis 14 quantitative, 9 qualitative and 6 mixed methods.</p> <p>Quality Appraisal tool used: The JBI Critical Appraisal Checklist for Systematic Reviews and Research Syntheses</p> | <p>current evidence base on perinatal health outcomes and care among women with asylum seeker or refugee status.</p> <p>Focus: Perinatal health outcomes among asylum seekers and refugees</p> <p>No. included studies: 29 (14 UK)</p> | <ul style="list-style-type: none"> All systematic reviews reported that access to perinatal care, including routine care and specialist care such as mental health support for postnatal depression, was worse amongst migrant women <p>Migrant women Barriers:</p> <ul style="list-style-type: none"> Unfamiliarity with local healthcare provision, culture and systems lack of information provision about how to get support language barriers to accessing perinatal healthcare Physician availability, long waiting lists for services, especially those specialising in migrant care poverty, safe housing, employment and caring for their other children (migrant women) Financial constraints were frequently reported including a lack of health insurance, cost of care and wider poverty issues such as having no phone, childcare, or transport unplanned pregnancy, being single and maternal education level lack of culturally appropriate therapists and services available and a preference for female health professionals due to religious reasons and the intimacy of body areas during pregnancy (from qual and mixed methods only – 2 reviews) <p>Asylum seekers and refugees:</p> | |
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| | | | <ul style="list-style-type: none"> language / communication Assumptions amongst refugees and asylum seekers that they would have to pay for healthcare when they were entitled to free care (from mixed methods and qual reviews – 2 reviews) | |
| <p>Reference: Hanratty B, Zhang T and Whitehead M. (2007). How close have universal health systems come to achieving equity in use of curative services? A systematic review. <i>International Journal of Health Services</i>. 37(1): pp.89-109.</p> | <p>Study design: Systematic review</p> <p>Search dates: 1980-2006</p> <p>Types of included studies: Any study design</p> <p>Quality Appraisal tool used: Downs and Black checklist for measuring quality</p> | <p>Review aim and setting: Aimed to analyse the use of services by some measure of socioeconomic group and ask how close universal health systems have come to achieving equity in use of curative services?</p> <p>Focus: use of curative health services in universal systems</p> <p>No. included studies: 26 (8 UK)</p> | <p>Groups identified and Authors conclusions:</p> <p>The authors found a pro-rich bias in use of specialist hospital services and a reasonably equitable access to primary health care by different socioeconomic groups. There was a wide inter-study variation in the difference in utilisation rates between people of high and low socioeconomic groups.</p> <p>Primary care:</p> <ul style="list-style-type: none"> There was little or no overall evidence of any variation in use of primary care by socioeconomic group, after adjusting for differential need, in 9 of the 13 studies Higher use of primary care by lower socioeconomic groups described in two UK studies Fewer visits to the (GP) by people of lower socioeconomic groups over 65 years of age described in a UK study Of the studies that looked specifically at GP services, the three most substantial ones were from the UK and Canada. They found use of GP services by people of lower socioeconomic groups to be higher than or about the same as use by other | <p>Comments/Limitations:</p> <p>Authors note that although included studies aimed to investigate use of health services, in almost all cases data was drawn from surveys designed for wider purposes.</p> <p>Authors note none of included studies had any major sources of bias.</p> <p>Factors identified in table 1. Access to primary care Access to specialist care</p> |



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| | | | <p>socioeconomic groups in the United Kingdom.</p> <p>Specialist care:</p> <ul style="list-style-type: none"> Evidence of inequalities in care found for outpatient and inpatient specialist services, though the extent of the differences varied greatly from country to country. <p>Use of specific hospital specialities:</p> <ul style="list-style-type: none"> The included studies relate to revascularization procedures for ischemic heart disease, and generally show some evidence of a pro-rich bias in use of specialist care (UK outcomes) <p>Children:</p> <ul style="list-style-type: none"> Assessments of use of primary care for children from different socioeconomic backgrounds found it to be equitable. | |
| <p>Reference: Jepson R, Clegg A, Forbes C, et al. (2000). The determinants of screening uptake and interventions for increasing uptake: a systematic review. <i>Health technology assessment (Winchester, England)</i>. 4(14): pp.i-vii, 1-133.</p> | <p>Study design: Systematic review</p> <p>Search dates: Database inception to October 1998</p> <p>Types of included studies: <u>studies of determinants of screening uptake:</u></p> | <p>Review aim and setting: to evaluate the determinants of screening and interventions to increase uptake.</p> <p>Focus: Screening uptake</p> <p>No. included studies: 65 determinant studies</p> | <p>Groups identified and Authors conclusions:</p> <p>Women more likely to attend mammography:</p> <ul style="list-style-type: none"> They had attended previous mammograms They had the Intention to attend They had health insurance Received recommendation from GP <p>Women more likely to attend Papanicolaou Smear testing if:</p> <ul style="list-style-type: none"> They had health insurance. | <p>Factors identified in table 1. Access to screening services: mammography, cervical screening, faecal occult blood test, prostate cancer screening</p> |



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| | <p>Randomised controlled trials (RCTs), controlled trials, cohort studies or case-control studies where there was a prospective time barrier between the measurement of determinants and the uptake of screening</p> <p><u>Studies of interventions to increase screening uptake</u> Any experimental study that evaluated the effectiveness of an intervention(s) that was intended to increase the uptake of a screening programme</p> <p>Quality Appraisal tool used: Checklists from the Centre for Reviews and Dissemination (no 4, 2000)</p> | (3 UK), 190 intervention studies | <ul style="list-style-type: none"> Unclear whether older or younger women were more likely to attend. <p>Determinants associated with participation in faecal occult blood test screening:</p> <ul style="list-style-type: none"> Older than 65yrs Previous participation in screening Able to carry out the activities of daily living <p>Determinants found to predict attendance at prostate cancer screening:</p> <ul style="list-style-type: none"> Higher level of education African-American, as opposed to Caucasian. <p>It was not possible to ascertain which factors were important for other specific screening tests (e.g., cystic fibrosis, tuberculosis, well-child and HIV screening) due to a lack of evidence.</p> | |
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| <p>Reference: Kamal A, Hodson A and Pearce JM. (2021). A Rapid Systematic Review of Factors Influencing COVID-19 Vaccination Uptake in Minority Ethnic Groups in the UK. <i>Vaccines</i>. 9(10).</p> | <p>Study design: Rapid systematic review</p> <p>Search dates: Jan 2020 – May 2021</p> <p>Types of included studies: Quantitative (cross-sectional and cohort studies), qualitative and mixed methods</p> <p>Quality Appraisal tool used: Mixed Methods Appraisal Tool</p> | <p>Review aim and setting: To identify factors influencing, and barriers to COVID-19 vaccination uptake between minority ethnic groups in the UK.</p> <p>Focus: Uptake and barriers to COVID-19 vaccination between minority ethnic groups in the UK</p> <p>No. included studies: 21 UK studies</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> Lower vaccine uptake in minority ethnic groups Lower uptake Black groups in comparison with other minority ethnic groups (Black African had the lowest uptake in subgroup analyses) Higher uptake was reported for Indian (6 studies), Bangladeshi (3 studies) and Chinese (3 studies) groups compared to other ethnic minority groups but uptake was lower than in White British groups <p>Barriers</p> <ul style="list-style-type: none"> Location of vaccine centres (1 study) Having to use public transport (1 study) People from minority ethnic backgrounds were more likely than White British groups to have received misinformation encouraging them not to have the vaccine Lack of access to information also resulted in communication barriers largely due to low health literacy, poor other language provision, and increased digitalisation of communications. This was particularly an issue for migrant groups due to lack of access to, or knowledge of, technology | <p>Comments/Limitations: Hesitancy outcomes not extracted</p> |
| <p>Reference: Kapadia D, Brooks HL, Nazroo J, et al. (2017). Pakistani women's use of mental health services and the role of social networks: a systematic review of quantitative and qualitative</p> | <p>Study design: Systematic review</p> <p>Search dates: 1960 – 2014</p> | <p>Review aim and setting: to clarify usage rates, and describe the nature of Pakistani women's social networks and how they may</p> | <p>Groups identified and Authors conclusions:</p> <p>Pakistani women:</p> <ul style="list-style-type: none"> Less likely to use specialist mental health services compared to white British women Lower rates of admission to inpatient mental health units (2/3 studies) | <p>Comments/Limitations: Barriers data is exclusively qualitative and therefore, has not been extracted.</p> |



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| research. <i>Health & social care in the community</i> . 25(4): pp.1304-1317. | <p>Types of included studies: Qualitative and quantitative</p> <p>Quality Appraisal tool used: For quantitative papers the Study Quality Tool (Zazaet al.2000) was used; for qualitative papers, the Critical Appraisal Skills Programme (CASP) Qualitative Checklist (CASP, 2014a); for mixed-methods papers, the Mixed Methods Appraisal Tool (MMAT) (Pluyeet al.2011) and for systematic reviews, the CASP Systematic Review Checklist (CASP, 2014b)</p> | <p>influence mental health service use in the UK.</p> <p>Focus: Mental health service use among Pakistani women in the UK</p> <p>No. included studies: 21 UK studies</p> | <ul style="list-style-type: none"> Mixed findings in relation to use of outpatient services compared to white women Less likely to have most recently visited the GP about a mental illness, but over the last 12 months, there was no difference in their consultation rates compared to white women | |
| <p>Reference: Knight A and Lindfield R. (2015). The relationship between socio-economic status and access to eye health services in the UK: a systematic review. <i>Public health</i>. 129(2): pp.94-102.</p> | <p>Study design: Systematic review</p> <p>Search dates: 1990 – March 2013</p> | <p>Review aim and setting: To determine the existence and nature of an association between socio-economic status and</p> | <p>Groups identified and Authors conclusions:</p> <p>Evidence was mixed, with equal evidence of a positive association between lower socio-economic status and reduced access to eye health services, and no association existing.</p> | <p>Comments/Limitations:</p> <p>Authors note that no two papers assessed the relationship between SES and access to eye care in the same way.</p> |



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| | <p>Types of included studies: Not clearly stated, seems to be quantitative only (studies from the UK that assessed the relationship between any marker of SES and access to, use of, or provision of, eye health)</p> <p>Quality Appraisal tool used: Adapted STROBE checklist</p> | <p>access to eye health services in the UK</p> <p>Focus: Eye health services in the UK</p> <p>No. included studies: 37 UK Studies</p> | <p>Several papers found different types of association between SES and access depending on the measures used.</p> | |
| <p>Reference: Lueckmann SL, Hoebel J, Roick J, et al. (2021). Socioeconomic inequalities in primary-care and specialist physician visits: a systematic review. <i>International journal for equity in health</i>. 20(1): pp.1-19.</p> | <p>Study design: Systematic review</p> <p>Search dates: 2004 – Jan 2019</p> <p>Types of included studies: Quantitative</p> <p>Quality Appraisal tool used: RoBANS risk of bias tool</p> | <p>Review aim and setting: To summarize the evidence on socio-economic inequalities in consulting primary-care and specialist physicians in the general adult population in high-income countries.</p> <p>Focus:</p> <p>No. included studies:</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> The probability of utilising primary care was often not influenced by SES in the general population, but the disadvantaged visited their primary-care physician more frequently <p>The highest-SES groups often had higher probabilities for specialist visits, but studies often found no associations of SES with (conditional) frequencies of specialist visits.</p> | <p>Comments/Limitations:</p> <p>SES indicators included income, education, occupation, social class, or any combination of these indicators.</p> |



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| | | 57 (five studies were analyses from multiple EU countries which included the UK) | | |
| Reference: Mayland CR, Powell RA, Clarke GC, et al. (2021). Bereavement care for ethnic minority communities: A systematic review of access to, models of, outcomes from, and satisfaction with, service provision. <i>PLoS one</i> . 16(6): pp.e0252188. | Study design: Systematic review Search dates: 1995 to 2020 Types of included studies: any study design Quality Appraisal tool used: Mixed Method Appraisal Tool | Review aim and setting: to synthesize the existing evidence on bereavement care for ethnic minority populations Focus: bereavement care for ethnic minority populations No. included studies: 7 UK studies | Groups identified and Authors conclusions: Ethnic minority populations (focus of article) Barriers: <ul style="list-style-type: none"> • Lack of awareness of bereavement care • Variability in support (i.e. access to interpreting services and psychological support) • Lack of bereavement support on offer (e.g. type and format of support services not always suitable for ethnic minority communities). | Comments/Limitations: |
| Reference: Mosquera I, Mendizabal N, Martín U, et al. (2020). Inequalities in participation in colorectal cancer screening programmes: a systematic review. <i>European journal of public health</i> . 30(3): pp.416-425. | Study design: Systematic review Search dates: 2000 – July 2018 Types of included studies: Quantitative and/or qualitative primary study that analysed gender | Review aim and setting: To identify the social inequalities in the participation in CRC screening programmes Focus: colorectal cancer screening participation | Groups identified and Authors conclusions: <ul style="list-style-type: none"> • Women participated more than men (reported in UK studies and others). Nevertheless, there were also studies that found no significant differences by sex, and some in which the attendance rate was higher among men, all of these using sigmoidoscopy • In general, educational level was positively associated with screening participation • There was a significant gradient favouring those in a most advantaged position, and it | Factors identified in table 1. Access to screening services: colorectal cancer screening |



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| | <p>and/or socioeconomic inequalities in the participation in CRC screening programmes (opportunistic or organised) implemented by public and private institutions and addressing 45- to 75-year-old population</p> <p>Quality Appraisal tool used: study quality assessment tools of the National Heart, Lung, and Blood Institute for quantitative studies, and the NICE quality appraisal checklist for qualitative studies</p> | <p>No. included studies: 96 studies from 102 articles (29 UK)</p> | <p>seemed there was a higher attendance rate for men than for women</p> <ul style="list-style-type: none"> Area deprivation was strongly associated with screening attendance, being higher among the least deprived areas using FOBT, sigmoidoscopy, and in colonoscopy after positive test <p>Results also available for residence, employment, and ethnicity, but no clear trends across all studies.</p> <p>Although men are at a higher risk of developing CRC, they generally were less likely to participate in screening programmes. Screening attendance was higher among the least deprived areas</p> | |
| <p>Reference: Meads C, Hunt R, Martin A, et al. (2019). A Systematic Review of Sexual Minority Women's Experiences of Health Care in the UK. <i>International journal of</i></p> | <p>Study design: Systematic review</p> <p>Search dates: 2010 -2018</p> | <p>Review aim and setting: To evaluate studies on health experiences of UK sexual minority women</p> | <p>Groups identified and Authors conclusions:</p> <p>lesbians and bisexual women:</p> <ul style="list-style-type: none"> Less likely to visit the GP than heterosexual women (one study) | <p>Comments/Limitations:</p> |

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| <p><i>environmental research and public health</i>. 16(17).</p> | <p>Types of included studies: quantitative and qualitative</p> <p>Quality Appraisal tool used: CASP</p> | <p>Focus: Sexual minority women's experiences of health care</p> <p>No. included studies: 26 UK studies</p> | <ul style="list-style-type: none"> Have low uptake of cervical screening (comparative information for heterosexual women not reported) <p>Adolescent Sexual minority girls:</p> <ul style="list-style-type: none"> Visited GP more than heterosexual, but reported feeling more uncomfortable than heterosexual girls (one study) <p>Barriers:</p> <p>Sexual minority women:</p> <ul style="list-style-type: none"> Have lower trust than straight women Misinformation about need for cervical screening Refused or discouraged from cervical screening | |
| <p>Reference: Martin A, Saunders CL, Harte E, et al. (2018). Delivery and impact of the NHS Health Check in the first 8 years: a systematic review. <i>The British journal of general practice: the journal of the Royal College of General Practitioners</i>. 68(672): pp.e449-e459.</p> | <p>Study design: Systematic review</p> <p>Search dates: up to November 2016</p> <p>Types of included studies: Quantitative observational data or analyses (cross-sectional or longitudinal)</p> | <p>Review aim and setting: To review quantitative evidence on coverage (the proportion of eligible individuals who attend), uptake (proportion of invitees who attend), and impact of the NHS Health Check</p> <p>Focus: NHS health check</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> Odds of taking up an invitation increased significantly with older age, being female and lower deprivation. <p>Where reported, uptake was higher in non-smokers, those with higher CVD risk, and those with hypertension or raised cholesterol</p> <p>Ethnicity: Only two studies reported the effects of ethnicity. One was in 29 practices in Ealing (West London), and found invitees of South Asian or mixed ethnicity were more likely to attend than white British, while there was no difference for black</p> | <p>Factors identified in table 1. Access to NHS health checks</p> |



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| | Quality Appraisal tool used: CASP checklists | No. included studies: 26 UK studies (with one additional dataset) | or other groups, and those with missing data were less likely to attend. The other was across four general practices in the East of England and found no difference in uptake between participants of white and non-white ethnicity. | |
| Reference: Mcfadden A, Siebelt L, Gavine A, et al. (2018). Gypsy, Roma and Traveller access to and engagement with health services: a systematic review. <i>European journal of public health</i> . 28(1): pp.74-81. | Study design: Systematic review Search dates: 2000 – 2015 Types of included studies: 30 Quantitative, 44 qualitative and 25 mixed methods Quality Appraisal tool used: Quantitative studies were assessed for risk of bias according to individual elements: not a validated checklist | Review aim and setting: to examine empirical studies of Gypsy, Roma and Traveller access to and engagement with health services; and to identify the best evidence for ways to enhance Gypsy, Roma and Traveller peoples' engagement with health services. Focus: Gypsy, Roma and Traveller access to and engagement with health services. No. included studies: 121 publications reporting 99 studies (49 UK) | Gypsy, Roma and Traveller (focus of article) Barriers: Health service issues: <ul style="list-style-type: none"> • Difficulties registering with health services, especially primary care • Lack of correct documentation (e.g. proof of identity) • Refused services or site visits from healthcare professionals • Difficulties accessing services (e.g. distance to reach services and inflexibility of services) Discrimination and negative attitudes of health service personnel: <ul style="list-style-type: none"> • Attitudes of health service personnel • Poor communication and relationships between health service staff and Gypsy service-users Culture and language: <ul style="list-style-type: none"> • Cultural issues e.g. role of family and numbers of family visitors, gender of health care professional, sensitive topics • Need for better cultural awareness and diversity training • Mobile lifestyle (e.g. lack of continuity of follow-up care) | Comments/Limitations: |



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| | | | <p>Health literacy barriers:</p> <ul style="list-style-type: none"> Difficulties understanding how to access dental, mental health and sexual and reproductive health services <p>Service user attributes:</p> <ul style="list-style-type: none"> men have more difficulty talking about health <p>Economic barriers:</p> <ul style="list-style-type: none"> lack of financial resource to afford transport to health services or to be able to use a phone to make appointments | |
| <p>Reference: Martins T, Hamilton W and Ukoumunne OC. (2013). Ethnic inequalities in time to diagnosis of cancer: a systematic review. <i>BMC family practice</i>. 14(1): pp.1-8.</p> | <p>Study design: Systematic review</p> <p>Search dates: 2000 – 2012</p> <p>Types of included studies: 7 Quantitative (observational, retrospective cohort studies)</p> <p>Quality Appraisal tool used: Critical Appraisal Skills Programme (CASP) checklist for cohort studies</p> | <p>Review aim and setting: To systematically review evidence on ethnic inequalities in cancer diagnosis, focussing on patient and primary care intervals of diagnosis (in the UK and countries where access to healthcare is comparable to the NHS)</p> <p>Focus: inequalities in cancer diagnosis by ethnic groups in the UK and in countries with a similar health care</p> | <p>Groups identified and Authors conclusions:</p> <p>Five studies focused on breast cancer with one study also including several other cancer sites in addition to breast: lung, prostate, colorectal non-Hodgkin's lymphoma (NHL) and ovarian. One study focused on prostate and one on oesophagogastric cancer.</p> <p>Three studies investigated ethnic differences in patient delay (delay occurring in the interval between first symptom and first GP presentation). Two studies investigated delays between GP presentation and specialist care visits, and two studies investigated both.</p> <p>There was insufficient evidence to confirm or refute ethnic inequalities in diagnostic intervals of cancer. Conversely, the review found no evidence to suggest that ethnic minority groups were doing better at any stage of cancer diagnostic pathway.</p> | <p>Comments/Limitations: Evidence for ethnic inequalities in cancer diagnosis was limited and methodologically weak</p> |



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| | | <p>system - in terms of costs, availability, and access</p> <p>No. included studies: 7 (6 UK)</p> | | |
| <p>Reference: Murfin J, Irvine F, Meechan-Rogers R, et al. (2020). Education, income and occupation and their influence on the uptake of cervical cancer prevention strategies: A systematic review. <i>Journal of clinical nursing</i>. 29(3): pp.393-415.</p> | <p>Study design: Systematic review</p> <p>Search dates: 2006 - 13 June 2018</p> <p>Types of included studies: cross-sectional</p> <p>Quality Appraisal tool used: AXIS (Appraisal tool for Cross-Sectional Studies)</p> | <p>Review aim and setting: To report a systematic review of the literature exploring how education, in-come and occupation influence the uptake of cervical screening and HPV vaccination among eligible women in developed countries, including the UK, USA, Spain, Germany and Norway</p> <p>Focus: cervical screening and HPV vaccination among eligible women</p> <p>No. included studies: 10 (1 UK)</p> | <p>Groups identified and Authors conclusions:</p> <p>Cervical Screening:</p> <ul style="list-style-type: none"> Girls with higher levels of education more likely to participate in screening Inconsistent evidence for an association between income and screening uptake. <p>HPV Vaccination:</p> <ul style="list-style-type: none"> Mothers with lower education less likely to initiate the vaccine for their daughters Relationship between highest levels of education and vaccination uptake compared to lowest educational levels but there were no significant differences between similar levels of education, such as high school and college or primary and lower secondary. Evidence for an association between income and vaccination uptake with majority of the studies suggesting girls from lower income household were less likely to have initiated the vaccine. Findings do seem to suggest difference between highest and lowest group but little variation between groups of similar income. Employment status – neither study found occupation/ employment status to be statistically significant in vaccination initiation. | <p>Factors identified in table 1. Access to screening services: cervical screening Access to HPV vaccination</p> |



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| | | | Authors conclude that socioeconomic factors are associated with cervical cancer screening uptake and the initiation of the HPV vaccination. The strength and direction of their relationships is variable between countries, potentially stemming from different methods of implementing prevention strategies. Education appears to have more impact on prevention uptake than income, and occupation shows no significance. However, limited research into occupation and its association makes this difficult to confirm. | |
| Reference: Nagata JM, Hernández-Ramos I, Kurup AS, et al. (2013). Social determinants of health and seasonal influenza vaccination in adults ≥65 years: a systematic review of qualitative and quantitative data. <i>BMC public health</i> . 13: pp.388. | Study design: Systematic review Search dates: 1980 -2011 Types of included studies: 42 quantitative (descriptive studies and cross-sectional surveys, two ecologic studies, and one controlled trial), 13 qualitative and 3 mixed methods Quality Appraisal tool used: Quality Assessment and | Review aim and setting: To assess the social determinants of health preventing adults ≥ 65 years old from accessing and accepting seasonal influenza vaccination Focus: Vaccine coverage and barriers (and linked social determinants) to influenza vaccination uptake in adults ≥65 No. included studies: 58 (can't tell how many UK). Nine studies were multinational, | Groups identified and Authors conclusions: All relating to older adults (>65+) <ul style="list-style-type: none"> • Mixed evidence for Gender having an effect on uptake • Older aged older adults more likely to get vaccinated than younger (75+ vs 65-74) • Mixed evidence for Marital status (Being married and having social support versus single/ widowed) and uptake • Mixed evidence for Higher education being associated with higher uptake • Ethnic minorities reported as having lower vaccination rates (studies from USA) • Mixed evidence for Socioeconomic status. Lower SES has been correlated | Comments/Limitations: Review includes LMIC's and it is difficult to establish what countries outcomes relate too, however the review does state that most reports in the review are focused on high income countries. |



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| | Review Instrument (QARI) checklist | including countries from Asia, Europe, Latin America, and the Middle East. > 50% studies from developed countries and 6 from rural areas. | <p>with lower vaccination uptake; however, other reports showed no difference, or even reverse gradient.</p> <ul style="list-style-type: none"> In the UK, likelihood of vaccination increased as the number of chronic diseases increased, adjusted by gender, age, health status, and hospital visits (consistent with general trend). Mixed evidence for Rurality/ social deprivation and access to vaccination <p>Barriers:</p> <ul style="list-style-type: none"> Behavioural beliefs about consequences: Behavioural beliefs are based on the patient's probability calculation of susceptibility to and severity of influenza, their knowledge about vaccine effectiveness, and their healthcare and social cost of the vaccine. Accessibility: Different aspects of accessibility for the elderly are distance to the health centre, convenience of its location, transportation, language, access to healthcare, and legal status. Insufficient availability of seasonal influenza vaccine available is a major health system barrier, (particularly in low- and middle-income countries) | |
| Reference: Netuveli G, Hurwitz B, Levy M, et al. (2005). Ethnic variations in UK asthma frequency, morbidity, and | Study design: Systematic review and meta-analysis | Review aim and setting: Ethnic variations in the UK for asthma | Groups identified and Authors conclusions: | Comments/Limitations: Barriers were not investigated |



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| health-service use: a systematic review and meta-analysis. <i>The Lancet</i> . 365(9456): pp.312-7. | <p>Search dates: 1981 – 2002</p> <p>Types of included studies: Quantitative</p> <p>Quality Appraisal tool used: Not stated. However, study quality was assessed using criteria for internal and external validity. Both an individual and scale approach was used and studies judged to be at high risk of bias were excluded.</p> | <p>frequency, morbidity, and health-services use, and to understand possible reasons for any differences.</p> <p>Focus: Ethnic variations in health-service use for individuals with asthma</p> <p>No. included studies: 13 UK studies [7 studies in children (5-15 years)]</p> | <ul style="list-style-type: none"> • Age adjusted GP consultation rate for asthma per 1000 people was higher in South Asian and Afro-Caribbean groups compared to white groups. When adjusted for age, sex, and social class, ORs for South Asians were still significant (n= 1) • Patients born outside the UK had significantly lower risk of consultation for asthma. These results indicate that immigrant status is an important determinant of health-service use for some minority ethnic communities in the UK (n=1). • South Asian children had increased risk of admission (n=2). • Compared with white people, south Asian and black people of all ages had greater risk of admission (n=3) | |
| <p>Reference: Phung V-H, Asghar Z, Matiti M, et al. (2020). Understanding how Eastern European migrants use and experience UK health services: a systematic scoping review. <i>BMC health services research</i>. 20(1): pp.173.</p> | <p>Study design: Systematic scoping review</p> <p>Search dates: 1980 – 2016</p> <p>Types of included studies: 7 Quantitative, 5 qualitative, and 1 mixed methods</p> | <p>Review aim and setting: to build on existing knowledge of how Eastern European migrants use and experience UK healthcare services to inform ser-vice delivery improvements this population.</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> • Polish migrant women are more likely to visit their GP compared to Polish men, especially those aged 25-44. The reasons for visiting the GP were not significantly associated with age (n= 1) • Eastern European migrants return to their countries of origin to use healthcare services (n= 1 quant study) • Recent Polish migrants were more likely to use A&E inappropriately compared to the indigenous population. The study found that | <p>Comments/Limitations:</p> |



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| | <p>Quality Appraisal tool used: JBI check list for cross-sectional studies, CASP qualitative checklist, The Mixed Methods Appraisal Tool</p> | <p>Focus: Eastern European migrants' use and experiences of UK health services</p> <p>No. included studies: 13 UK studies</p> <p>Of the quantitative/ mixed methods studies: 4 focused on sexual health, 1 on family planning, 2 on primary care and 1 on ED use by Polish migrant workers.</p> | <p>ED attendances at a hospital in Telford, a town in the UK West Midlands, increased from an average of 134 from 2000 to 2003 to 357 in 2005. Of these 357, 152 (43%) were not registered with a GP. The overall rate of ED attendance for unregistered patients was 7.4% (n=1).</p> <p>Barriers:</p> <ul style="list-style-type: none"> Limited understanding of how the NHS worked, particularly what healthcare services they were entitled to and when they were meant to use them Language and communication barriers and their (sometimes negative) experiences of it influenced the extent of accessing NHS. Concerns about the availability and suitability of interpreting services compounding the language barrier Role of social networks: When appropriate interpretation or translation services were unavailable, EE migrants with limited command of English sometimes needed familial and social networks, including children to mediate in healthcare encounters. | |
| <p>Reference: Ryan-Ndegwa S, Zamani R and Akrami M. (2021). Assessing demographic access to hip replacement surgery in the United Kingdom: a systematic review. <i>International journal for equity in health</i>. 20(1): pp.224.</p> | <p>Study design: Systematic review</p> <p>Search dates: December 2005 – 4 February 2021</p> <p>Types of included studies:</p> | <p>Review aim and setting: to 1) determine which patients experience inequalities in access to hip replacement surgery; 2) determine where these patients are located in the UK</p> | <p>Groups identified and Authors conclusions:</p> <p>Socioeconomic inequalities was the most widely measured variable affecting access to hip replacement surgery.</p> <ul style="list-style-type: none"> One study found that in England the most deprived patients received 70% lower surgical provision relative to need compared to the least-deprived. | <p>Factors identified in table 1. Access to specialist services: hip replacement surgery</p> |



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| | <p>Observational designs (cross-sectional, ecological and longitudinal)</p> <p>Quality Appraisal tool used: a checklist adapted from Mújica-Mota et al (doi 10.1186/1472-6963-12-225)</p> | <p>and 3) explore other variables that influence the observations, such as differences between hospitals</p> <p>Focus: Hip replacement surgery</p> <p>No. included studies: 16 UK studies</p> | <ul style="list-style-type: none"> One study found that when adjusted for age and sex, hip replacement rates were higher in the least-deprived quintile (Q1) than the most-deprived (Q5), with a Q5/Q1 ratio of 1.35 (CI: 1.25–1.45); that is, Q1 patients were 35% more likely to undergo surgery than Q5 patients One study found greater access inequality in the West Midlands, London and the north of England, with patients in the south of England experiencing greater provision relative to need. <p>Increased rurality in England was associated with greater provision relative to need, as were longer road travel times for care (one study).</p> | |
| <p>Reference: Robertson J, Raghavan R, Emerson E, et al. (2019). What do we know about the health and health care of people with intellectual disabilities from minority ethnic groups in the United Kingdom? A systematic review. <i>Journal of Applied Research in Intellectual Disabilities</i>. 32(6): pp.1310-1334.</p> | <p>Study design: Systematic review</p> <p>Search dates: 1990 - 2018</p> <p>Types of included studies: Quantitative research, qualitative research, evaluation or audit</p> <p>Quality Appraisal tool used: Mixed Methods Appraisal Tool</p> | <p>Review aim and setting: to summarise what is known about the health status of those with intellectual disabilities from minority ethnic, and the physical or mental health care of people with intellectual disability from minority ethnic communities in the UK</p> <p>Focus: ethnic minority groups with intellectual disabilities</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> Service receipt higher if the person with intellectual disabilities is from a household with higher income For children with mild or moderate intellectual disabilities attending special schools in London, access to speech and language therapy highest for the Middle East/Arab group, followed by White Europeans, and Mixed ethnic group/Other ethnic groups, and lowest for Black groups South Asian (on the LIDR in one study) less likely to use specialist intellectual disability psychiatric services than white For children with mild or moderate intellectual disabilities attending special schools in London, child and adolescent | <p>Comments/Limitations:</p> <p>Barriers not extracted as exclusively from qualitative studies.</p> |



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| | | <p>No. included studies: 25 UK studies</p> | <p>mental health service use was significantly lower for South Asian children than for the White British group</p> <ul style="list-style-type: none"> trend for lower CAMHS use for South Asian children than the Black group Young South Asian people with intellectual disabilities, lower use of mental health services, and professionals such as psychiatrists, clinical psychologists or behaviour nurse specialists. <p>Conclusion: People with intellectual disabilities from minority ethnic communities in the UK experience significant inequalities in access to health care</p> | |
| <p>Reference: Robards F, Kang M, Usherwood T, et al. (2018). How Marginalized Young People Access, Engage With, and Navigate Health-Care Systems in the Digital Age: Systematic Review. <i>The Journal of adolescent health: official publication of the Society for Adolescent Medicine</i>. 62(4): pp.365-381.</p> | <p>Study design: Systematic review</p> <p>Search dates: 2006 – 2017</p> <p>Types of included studies: Qualitative, quantitative and mixed methods</p> <p>Quality Appraisal tool used: Qualitative studies: CASP Quantitative: Glasziou (2001) Mixed methods studies were</p> | <p>Review aim and setting: To examine how marginalized young people access and engage with health services and navigate health-care systems in high-income countries.</p> <p>Focus: Marginalised young people barriers and/or facilitators to access, engagement, and/or navigation of health-care systems.</p> <p>No. included studies: 68 (7 UK)</p> | <p>Groups identified and Authors conclusions:</p> <p>Marginalised young people (focus of article)</p> <p>Barriers:</p> <ul style="list-style-type: none"> Language and communication barriers (inclusive language) Professionals' knowledge Practical barriers: Transport, Cost, Location of programme Not knowing where or which service to use, or perceived limited availability of services Staff competency in relating to gender and sexuality diverse young people was identified as a gap | <p>Comments/Limitations:</p> |



| | assessed using both checklists | | | |
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| <p>Reference: Ricci-Cabello I, Ruiz-Perez I, De Labry-Lima AO, et al. (2010). Do social inequalities exist in terms of the prevention, diagnosis, treatment, control and monitoring of diabetes? A systematic review. <i>Health & social care in the community</i>. 18(6): pp.572-587.</p> | <p>Study design: Systematic review</p> <p>Search dates: 1967 to December 2007</p> <p>Types of included studies: Observational designs (cross-sectional, cohort and case control)</p> <p>Quality Appraisal tool used: Strengthening the reporting of observational studies in Epidemiology (STROBE) checklist.</p> | <p>Review aim and setting: to establish the possible existence of social inequalities in the prevention, diagnosis, treatment, control and monitoring of diabetes in OECD countries which have universal healthcare systems</p> <p>Focus: Prevention, diagnosis, treatment, control and monitoring of Diabetes</p> <p>No. included studies: 25 (11 UK)</p> | <p>Groups identified and Authors conclusions:</p> <p>Inconsistent findings for:</p> <ul style="list-style-type: none"> Gender inequalities in access to healthcare and use of education services for diabetes management (DM) (UK study - no gender inequalities with respect to adherence to diabetic retinopathy screening services) Mixed evidence for inequalities in access to DM services for ethnic minorities. Mixed evidence for Socioeconomic inequalities in access to healthcare services for control of DM. (Spanish and German studies found lower SES associated with more frequent visits to GP, but UK study reported higher SES associated with more visits, and lower SES associated with lower adherence to retinopathy screening service (One UK study did not report this). <p>This review shows that even in countries with a significant level of economic development and which have universal healthcare systems in place which endeavour to provide medical care to the entire population, socioeconomic and ethnic inequalities can be identified in the provision of healthcare to DM sufferers. However, higher quality and follow-up articles are needed to confirm these results.</p> | <p>Factors identified in table 1. Access to specialist care: diabetes management</p> |
| <p>Reference: Smith D, Thomson K, Bambra C, et al. (2019). The breast cancer paradox: A systematic review of the association between area-</p> | <p>Study design: Systematic review</p> | <p>Review aim and setting: to examine the association between area-level</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> 11/13 studies (of which 10 were statistically significant) demonstrated a negative | <p>Comments/Limitations:</p> |



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| level deprivation and breast cancer screening uptake in Europe. <i>Cancer epidemiology</i> . 60: pp.77-85. | <p>Search dates: 1st January 2008 and 28th January 2019</p> <p>Types of included studies: Observational designs</p> <p>Quality Appraisal tool used: JBI checklist for analytical cross-sectional studies</p> | <p>socio-economic deprivation and breast cancer screening uptake in Europe</p> <p>Focus: breast cancer screening uptake</p> <p>No. included studies: 13 studies from 14 articles (4 UK)</p> | <p>association between area-level deprivation and screening, with women living in more socio-economically deprived neighbourhoods less likely to attend breast cancer screening</p> <ul style="list-style-type: none"> All four studies from England also found a negative association between screening uptake and area-level deprivation. | |
| <p>Reference: Schröder SL, Richter M, Schröder J, et al. (2016). Socioeconomic inequalities in access to treatment for coronary heart disease: a systematic review. <i>International journal of cardiology</i>. 219: pp.70-78.</p> | <p>Study design: Systematic review</p> <p>Search dates: 1996 - 2015</p> <p>Types of included studies: Quantitative studies (all studies are observational)</p> <p>Quality Appraisal tool used: RoBANS</p> | <p>Review aim and setting: to summarize the existing evidence on the relationship between socioeconomic inequality and access to treatment for Coronary Heart Disease (CHD)</p> <p>Focus: Treatment for CHD</p> <p>No. included studies: 57 (8 UK)</p> | <p>Groups identified and Authors conclusions:</p> <ul style="list-style-type: none"> Patients with low socioeconomic status had lower rates for any invasive coronary procedure compared to patients with high socioeconomic status (18 of 22 studies) Inconsistent evidence of socioeconomic inequalities in access to drug treatment and Cardiac Rehabilitation. <p>Compared to countries without a Universal health coverage (UHC), access to treatment in countries with UCH was less often associated with SES.</p> | Comments/Limitations: |
| Reference: | Study design: Systematic review | Review aim and setting: to | Groups identified and Authors conclusions: | Factors identified in table 1. |



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| <p>Tobin J, Rogers A, Winterburn I, et al. (2022). Hospice care access inequalities: a systematic review and narrative synthesis. <i>BMJ Supportive & Palliative Care</i>. 12(2): pp.142-151.</p> | <p>Search dates: 1987 – 2019</p> <p>Types of included studies: Any</p> <p>Quality Appraisal tool used: Gough's 'Weight of Evidence' criteria</p> | <p>investigate the characteristics of those who access hospice services, focusing on the evidence concerning the presence and nature of any inequalities</p> <p>Focus: Access/use of hospice care</p> <p>No. included studies: 130 (90 UK)</p> | <ul style="list-style-type: none"> Reduced access reported in UK for: Pakistani/Indian/Bangladeshi Caribbean Chinese African Geography: Access greater for those living in Urban areas, closer proximity to a hospice. Socioeconomic status: lower hospice access for people living in areas of lower-SES <p>Barriers to service referral:</p> <ul style="list-style-type: none"> Availability of services in specific regions may act as a barrier to GP referral | <p>Access to specialist services: hospice care Referral to specialist care: hospice care Barriers to referral</p> |
| <p>Reference: Williams P, Murchie P and Bond C. (2019). Patient and primary care delays in the diagnostic pathway of gynaecological cancers: a systematic review of influencing factors. <i>The British journal of general practice: the journal of the Royal College of General Practitioners</i>. 69(679): pp.e106-e111.</p> | <p>Study design: Systematic review</p> <p>Search dates: 2000-2017</p> <p>Types of included studies: Controlled and uncontrolled quantitative studies, qualitative studies.</p> <p>Quality Appraisal tool used:</p> | <p>Review aim and setting: Aimed to address the research question: what factors influence patient and primary care delay in the diagnostic pathway of gynaecological Cancer?</p> <p>Focus: Referrals to secondary care Gynaecological services, diagnostic delay.</p> | <p>Groups identified and Authors conclusions: More likely to present earlier to primary care:</p> <ul style="list-style-type: none"> Females Over 75s Housebound Retired Women undergoing regular screening <p>More likely to delay presentation to primary care:</p> <ul style="list-style-type: none"> Females of working age Rurality/distance from Health Care <p>Diagnostic delay</p> <ul style="list-style-type: none"> Higher education associated with less delay <p>Referral to specialists</p> | <p>Comments/Limitations: Heterogeneity of included studies Lack of common methodology does not permit definitive conclusions.</p> <p>Factors identified in table 1. Access to specialist services: Referral to specialist care: gynaecological cancer care</p> |



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| | CASP study specific tools | No. included studies: 37 (21 UK studies) | <ul style="list-style-type: none"> Increasing age increased delay in referral GPs less likely to delay referral of women with higher SES (in Denmark) Rurality increased delay (only one study) <p>Inconsistent findings /no clear trends for referral</p> <ul style="list-style-type: none"> Ethnicity Socioeconomic status <p>Shorter system delays were seen in wealthy females and patients referred by GPs who did not see them routinely. Patients described as 'less compliant' and those who had a high alcohol intake had greater system delays, as did patients referred by a female GP</p> | |
| Reference: Wilson C, Alam R, Latif S, et al. (2012). Patient access to healthcare services and optimisation of self-management for ethnic minority populations living with diabetes: a systematic review. <i>Health & social care in the community</i> . 20(1): pp.1-19. | Study design: Systematic review Search dates: 1995–2010, including relevant hand-searched literature pre-dating 1995 Types of included studies: Quantitative and qualitative Quality Appraisal tool used: CASP qualitative, CASP RCT, DARE York Manual for other | Review aim and setting: to synthesise and evaluate evidence relating to patient self-management and access to healthcare services for ethnic minority groups living with diabetes Focus: ethnic minority groups living with diabetes No. included studies: 47 (32 UK) | Groups identified and Authors conclusions: <ul style="list-style-type: none"> African patients have more frequent annual check-ups in secondary care but lower use of preventative services (1 USA Study) Caribbean and Black African patients have reported higher utilisation of health-check ups than white patients in primary care settings (1 UK study) <p>Barriers:</p> <ul style="list-style-type: none"> Providers' lack of cultural understanding and effective communication may be a barrier to improving access in ethnic minority populations <p>Limited English language is a barrier in accessing services for many South Asian groups, but</p> | Comments/Limitations: Authors do state that "whilst some evidence points to lower uptake of preventive services by ethnicity, there appears to be little difference in utilisation by ethnic group" however this is not referenced, and we are unsure where this finding has come from. |



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| | quantitative studies | | perhaps less so for African and Caribbean where English is regarded as a common language | |
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