



Clinical interventions to reduce health inequalities within primary care: An agile scope of the literature

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Introduction

Despite efforts to address health inequalities in the UK, many people in certain areas are still dying earlier than they should. In Wales, the gap in life expectancy between the least and most deprived populations has been increasing in recent years for males and females, suggestive of growing inequality (Public Health Wales 2022). When people do not have the building blocks for a healthy life such as a warm home, healthy food, and access to good quality health care, it can lead to poor health conditions and lives being cut short. A fair access to care is one of the key building blocks and primary care is often the first point of contact - and one of the most trusted settings for many individuals. Therefore, primary care professionals are in a unique position to identify and address health inequalities and promote overall health and wellbeing.

This report outlines the findings of a search conducted by the Public Health Wales Evidence Service to identify evidence on primary, secondary and tertiary prevention interventions aimed at reducing health inequalities within primary care. The evidence from this agile scoping review will be used to inform the development of an equality framework and wider Public Health Wales projects on health inequalities within primary care.

Methodological considerations and limitations

Agile scoping reviews utilise rapid methodology to provide a broad overview of the evidence base on a topic of interest. They are intended to guide and inform further work rather than to be used for policy and practice. The findings and conclusions included are those of the source authors and not an interpretation by the Evidence Service. Factors relevant to answering the research question below identified from the studies have been extracted and briefly summarised within this report. If a specific factor is of interest, it is advisable to read the sources from where they were taken in more detail. If utilising any research included in this scope to inform policy, it is important to consider the methodological quality and generalisability of the findings to your context.

The search undertaken for this scope is unlikely to have identified all evidence relating to this topic, as searches were not exhaustive, but instead focussed on identifying robust systematic reviews.

Objectives

This agile scoping review aims to identify published evidence addressing the following question:

1. Which primary, secondary, and tertiary prevention interventions are effective in reducing health inequalities within clinical primary care?

Key Messages

- Six secondary sources of evidence – all systematic reviews – were identified.
- Included reviews mainly focused on interventions targeting a range of clinical conditions including obesity, common mental health disorders, and diabetes. Other studies focused on dental service utilisation, and interventions to promote breastfeeding. All outcomes were reported in the context of health inequalities.
- Most of the evidence identified were from studies conducted in USA.
- The evidence for some interventions were derived from studies conducted prior to 2014.
- A synthesis of UK evidence from one systematic review suggested that tailored weight loss programmes delivered in primary care settings can have positive short- and long-term effects on obesity-related outcomes in low-income groups.
- Educational programmes implemented by GPs were found to be effective at promoting breastfeeding in low-income women.
- Non-pharmaceutical primary care interventions, such as social prescribing, were effective at improving mental wellbeing in socioeconomically deprived groups. However, the impact of these interventions on anxiety and depression were inconsistent.
- Evidence supporting the use of primary care-based physical activity interventions was limited. Results of equity analyses suggested no differences in effect across levels or categories of place of residence, race, education, socioeconomic status, age, or disability.
- There is a lack of research into interventions aimed at reducing socioeconomic inequalities in adult dental visiting, and interventions that target community or structural causes of these inequalities.
- Evidence supporting the use of quality improvement interventions aimed at reducing health inequalities among people with diabetes in primary care, is inconclusive.

Findings

Six secondary sources of evidence were eligible for inclusion in this agile scoping review. All six secondary sources were systematic reviews, one of which contained a meta-analysis.

All six reviews were targeted at adult populations, however three reviews were targeted at the specific sub-populations; low-income women (Ibanez et al., 2012), people from socioeconomically disadvantaged backgrounds (Tanner et al., 2023), and socially disadvantaged people with type 2 diabetes (Terens et al., 2018).

The interventions reported in all six included reviews were conducted in the context of reducing health inequalities in a primary care setting. These interventions included; interventions targeting physical activity or sedentary behaviour, interventions to reduce inequalities in obesity, interventions to promote breastfeeding, interventions to reduce socio-economic inequalities in dental service utilisation, non-pharmaceutical interventions, and quality improvement (QI) interventions to reduce inequalities in diabetes care.

Included reviews were published between 2012 and 2023, and included mostly randomised controlled trials.

Two reviews (Attwood et al., 2016; Terens et al., 2018) adopted the PROGRESS-Plus framework (O'Neill et al., 2014) as a tool to capture characteristics possibly indicating disadvantaged status. The acronym PROGRESS-Plus summarises a number of social stratification factors understood to influence health opportunities, and stands for (place of residence, race or ethnicity, occupation, gender, religion, education, social capital, socioeconomic status (SES), plus age, disability and sexual orientation) (O'Neill et al., 2014).

A detailed summary of the included sources of evidence can be found in Table 3.

Interventions aimed at improving physical activity or obesity-related outcomes

Two reviews reported interventions aimed at improving physical activity or obesity-related outcomes within a health inequalities context.

Attwood et al (2016) explored equity effects in primary care-based physical activity interventions using the PROGRESS-Plus framework. The results indicated that only a small number of RCTs reported relevant analyses to allow for conclusions to be drawn regarding the differential effectiveness of physical activity interventions in this context. Where reported, results of equity analyses suggested no differences in effect across levels or categories of place of residence, race, education, socioeconomic status, age, or disability. Mixed findings were observed for gender, with some interventions showing greater effect in men than women and others vice versa. Most of the included studies were judged by the review authors to be at medium risk of bias.

Hillier-Brown et al (2014) evaluated the effectiveness of interventions in reducing socio-economic inequalities in obesity among adults. The results indicated that at the individual level, there was evidence of the effectiveness of primary care delivered tailored weight loss programmes among deprived groups. Evidence from five high-quality experimental studies, suggested that primary care-delivered tailored weight loss programmes targeted at low-income groups can have positive short-term effects on weight outcomes (up to 9 months) but that these are not sustained in the longer term (after 12 months). Most of the individual level studies were judged to be of high quality by the review authors. An analysis of only UK evidence from seven studies (two experimental and five observational), suggested that tailored weight loss programmes delivered in primary care can have positive short- and long-term effects on obesity-related outcomes in low-SES groups, and are equally effective across the SES gradient.

Interventions aimed at promoting breastfeeding

Ibanez et al (2012) sought to identify effective programmes that can be implemented by GPs to promote breastfeeding in low-income women. The results showed that educational programmes delivered in the context of ongoing personal contact with a health professional, were effective at promoting breastfeeding in this population. Educational programmes were found to be effective at encouraging the initiation of any form of breastfeeding (RR 1.46, 95% CI: 1.03–2.08). Similarly, for studies that involved ways to encourage mothers to continue to breastfeed, the programmes used showed significant success rates after 3-month postpartum (RR: 1.15, 95% CI: 1.01–1.30). The successful programmes usually involved multiple 'short' follow-up appointments (<20 to 30 minutes duration). However, this review was conducted in 2012 with searches limited to studies published between 1985 and 2009, and findings may be outdated. In addition, the majority of the evidence were derived from US-based studies and this could limit the generalisability of findings to the UK context. This review was the only one to have conducted a meta-analysis.

Interventions to increase dental service use

Raison and Harris (2019) evaluated the effectiveness of interventions to reduce socio-economic inequalities in dental service utilisation. The evidence in this area was found to be limited, with mixed results, and mainly limited to those involving parents organising care for their children and pregnant women. The review authors concluded that there is a lack of research into interventions which aim to reduce socioeconomic inequalities in adult dental visiting, and interventions that target community or structural causes of these inequalities.

Interventions aimed at improving mental health

Tanner et al (2023) evaluated the effectiveness of non-pharmaceutical primary care interventions on common mental health disorders and associated socioeconomic inequalities. Social prescribing interventions were evaluated in the majority of studies (n = 10), while the remainder reported collaborative care (n = 2), and a new model of care (n = 1). Positive results were reported for the impact of the interventions on wellbeing in groups that were socioeconomically deprived. Inconsistent (mainly positive) results were reported for anxiety and depression. Overall, study quality was judged to be weak by the review authors.

Interventions to improve diabetes care

Terens et al (2018) investigated the impact of quality improvement (QI) interventions aimed at reducing health inequalities among people with diabetes in primary care. The existing evidence suggests that some QI interventions delivered in primary care can improve diabetes-related health outcomes in socially disadvantaged population subgroups such as ethnic minorities. However, due to the methodological differences and weaknesses that precluded meta-analytic synthesis, strong conclusions cannot be drawn concerning the potential benefits or harms of QI strategies to reduce inequalities in access to care for patients with diabetes in primary care. In addition, most of the evidence were derived from studies conducted in the USA, which could limit generalisability of findings to the UK context.

Options for further work

A range of interventions targeting various clinical conditions alongside health inequalities were identified in this review. It may be appropriate to conduct a scoping review of the primary literature on specific interventions, populations, or outcomes of interest to identify relevant research, particularly from the UK.

Methods

Appendix A (technical appendix) provides an outline of the general rationale and methods used to develop agile scopes. The following methodology outlines the approach undertaken for this agile scoping report.

As this is a broad topic, this agile scope 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 assess the majority of the evidence base, and although it does not intend to identify every publication on a topic, it would 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: Six reliable evidence sources were searched that adhere to robust systematic review principles¹. Google scholar, MEDLINE, Cochrane Database of Systematic Reviews, and Scopus were searched for published evidence using search terms and strategies designed specifically for each data source. Further supplementary searching was carried out on JBI Evidence Synthesis and NICE. Searches were conducted using a combination of the following terms:

- “primary care or primary health care or primary care setting”
- “health inequalities or health equity or health status disparities”
- “primary or secondary or tertiary prevention”

A full list of resources searched is included in appendix B (search appendix).

Study selection: Reviews produced using systematic methodology (including critical appraisal) i.e., systematic reviews, scoping reviews, rapid reviews etc. were assessed for inclusion. Two reviewers independently screened the reviews for relevance at title, abstract and full-text level against the inclusion criteria outlined in table 1.

Data extraction: Where possible, data reporting relevant characteristics were extracted from the included reviews into a data extraction table (table 3). A second reviewer checked the extracted data. Disagreements at any stage were resolved through discussion with a third reviewer.

Quality assessment: None of the included reviews were critically appraised for their quality. If evidence were required for policy and practice initiatives, a more detailed evidence review would be appropriate.

¹ 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.

Table 1: Inclusion Criteria	
Review question	
Which primary, secondary, and tertiary prevention interventions are effective in reducing health inequalities within clinical primary care?	
Participants	Adult populations using primary care settings – to include General Practice, Dentistry, Pharmacy and Optometry
Intervention	Clinical interventions – primary secondary and tertiary prevention (interventions targeting specific clinical disease or prevention programs to reduce health inequalities)
Comparison	No intervention or alternative interventions. Pre – post intervention (between group and within group comparisons)
Outcomes	Health inequalities outcomes, key health outcomes of interest (e.g., mortality, stroke, hospital admissions, hypertension, extractions, blindness etc.), and cost-effectiveness outcomes (if reported alongside health inequalities or health outcomes of interest)
Other Study Considerations	
Setting – Primary care Study design – Systematic reviews and meta-analyses Language of publication – English Date limit – since 2010 Countries – OECD (pre-1974)	

References

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- TERENS, N., VECCHI, S., BARGAGLI, A. M., AGABITI, N., MITROVA, Z., AMATO, L. & DAVOLI, M. 2018. Quality improvement strategies at primary care level to reduce inequalities in diabetes care: an equity-oriented systematic review. *BMC Endocrine Disorders*, 18, 31.

Appendix A: Technical document

AGILE SCOPES are stakeholder-driven, rapid, systematic overviews of the evidence on a topic. They provide a transparent and reliable overview of the evidence landscape and are useful to:

- establish what literature exists
- help to refine a broad question
- identify gaps in the evidence
- inform further work by stakeholders.

The scopes employ a process of *up to* three steps, depending on what evidence is available for the topic. Progress from one step to another is discussed and agreed with stakeholders.

1. The first step is to draw on existing systematic review evidence identified from trusted sources² (secondary evidence sources that use robust methodologies) where this exists. The Evidence Service does not undertake critical appraisal of these reviews. A brief report outlining evidence identified is produced.
2. If little or no evidence has been identified at this stage, a very simple search will be conducted in Medline using key words only to establish the benefit of conducting further searches in a broader range of databases. A summary of the search results (i.e. number, study design, relevancy etc.) will be provided in the agile scope to help inform stakeholders.
3. Where little or no trusted secondary evidence exists, and if identified as potentially beneficial from the Medline search conducted in step 2, the scope may be extended, at the request of the stakeholder to include a search for systematic reviews or primary literature in Google Scholar, Scopus or Medline, as appropriate. At this and any subsequent step, quality assessment of the identified evidence would be required.
4. Primary studies are not usually included, unless few or no systematic reviews are identified in the preliminary phase of step 1, or stakeholders request it following earlier work they have undertaken.

Considerations

- The scope does not attempt to identify all evidence on a given topic.
- Not all outcomes identified in the literature will necessarily be included in this scoping report for a number of reasons, including:
 - Outcomes included in the scope are limited to those that are relevant to the stakeholders' original question.

² The sources on the Evidence Service list of trusted secondary evidence resources are provided in Table 2

- Outcomes may not have been reported in the secondary sources, although it may exist in the primary literature. These outcomes will therefore not be included within the scoping report.
- Findings within included reviews are not assessed for generalisability to the Welsh context. *[It would be a complex process as secondary evidence is likely to include studies from multiple countries.]* This would need to be considered by stakeholders if using secondary evidence to inform policy and practice. Additional work could be requested if necessary.
- The scope summarises the findings and conclusions of the source authors. If a specific element of the report is of particular interest, it is advisable to read the source(s) from which it originates in more detail, as this will provide more context. Further work may be undertaken on specific areas if required.
- Hyperlinks to the included evidence are provided in the data summary table. In many instances, that evidence is freely available. If not, your Trust's Knowledge and Library service can help. [NHS Wales Library Service | NHSWLS](#)

Methods

All agile scopes follow a broad methodology and structure, with only small variations according to the question and evidence base identified. Through discussions with stakeholders, a research question and inclusion/exclusion criteria are developed using the PICO/PECO format (population, intervention/exposure, comparator, outcome). **Note: stakeholders are requested to indicate evidence/information they have already identified.**

As noted above, the methodology utilised is designed to provide rapid information to stakeholders. In the first step, restricting the search to sources from the trusted secondary evidence resources list reduces the time taken both in terms of search scope and by excluding the need for critical appraisal.

The search strategy developed is based on the inclusion criteria and uses key words. The scope is restricted to including only English language evidence and publication date limits may be imposed when the search results are too large to manage in a short timeframe, or where the stakeholder requires work to be completed within a specific timeframe. Additionally, the countries included may be limited, particularly where generalisability to a Welsh context is a particular concern.

All search results and screening for relevant systematic reviews are maintained in an EndNote library or suitable reference management system. Inclusion at title and abstract are calibrated by two reviewers independently screening the first 10% to 20% of systematic reviews for relevance, with the remainder being screened by a single reviewer. Full text screening decisions are made by two reviewers. Data on study characteristics and findings relevant to the question are extracted by one reviewer and checked by a second. The evidence is then summarised narratively to answer stakeholder questions. Evidence gaps within the secondary literature are reported.

If none, or limited evidence is identified from the trusted secondary sources list, a brief search is conducted in Medline using basic key word searches to establish the benefit of conducting further searches in a broader range of databases. A summary of the search results (i.e. number, study design, relevancy etc.) will be provided in the agile scope.

Findings

The agile scoping report contains a narrative summary and a data table. The narrative summary is a broad overview of the evidence identified, with a particular focus on elements highlighted as important by stakeholders. Data tables include the reference (with a hyperlink), information on study characteristics and findings. The information in the data tables will vary according to the question, types of included studies and requirements of stakeholders. The table also includes a comment section highlighting any elements of particular interest to stakeholders along with any limitations that should be considered.

The report concludes with an 'options for further work' section. These suggestions are based on the evidence identified and provide an explicit rationale where further evidence review work is recommended. This information will be informed by the additional brief search conducted in Medline to help assess how much additional information, and the likely benefits of conducting additional work are. These findings will be provided to stakeholders to ensure they can make an informed decision on what to do next.

Appendix B: Search Appendix

Table 2: Resources searched	
<p>Cochrane database of systematic reviews</p> <p>Systematic reviews on health care interventions, diagnostics, and public health interventions.</p>	<p>Date of search:</p> <p>10/06/2024</p> <p>359 results</p>
<p>NICE: National Institute for Health and Care Excellence</p> <p>Guidelines of health care and public health topics. Note: you should be looking for systematic evidence reviews that may underpin guidance on your topic, not the guidance itself. Not all recommendations are based on evidence reviews.</p>	<p>Date of search:</p> <p>21/05/2024</p> <p>4 results</p>
<p>Joanna Briggs Institute</p> <p>This organisation's journal, JBI Evidence Synthesis includes systematic and scoping reviews of both quantitative and qualitative evidence on healthcare and public health topics.</p>	<p>Date of search:</p> <p>21/05/2024</p> <p>14 results</p>
<p>Google Scholar</p>	<p>Date of search:</p> <p>10/06/2024</p> <p>157 results</p>
<p>Epistemonikos</p>	<p>Not searched, not relevant</p>
<p>Scopus</p> <p>Suitable for Social Science related topics, and distinguishing between authors with the same name, finding related works that share references or authors, or identify highly cited works on a particular topic, for example.</p>	<p>Date of search:</p> <p>10/06/2024</p> <p>379 results</p>
<p>MEDLINE</p> <p>Suitable for clinical and health related topics.</p>	<p>Date of search:</p> <p>07/06/2024</p> <p>1195 results</p>

Appendix C: Data extraction

Table 3: Data extraction of the reviews identified in the scoping search (in alphabetical order)			
Reference	Aim/Question	Abstract or summary	Comments
<p>Attwood, S., Van Sluijs, E., & Sutton, S. (2016). Exploring equity in primary-care-based physical activity interventions using PROGRESS-Plus: a systematic review and evidence synthesis. International Journal of Behavioral Nutrition and Physical Activity, 13, 1-16.</p>	<p>To summarise available evidence on potential differences in the effect of individual-level physical activity interventions across levels or groups of all eleven PROGRESS-Plus factors (place of residence, race/ethnicity, occupation, gender, religion, education, social capital, socioeconomic status, plus age, disability and sexual orientation).</p>	<p>Evidence Type: Systematic review</p> <p>Number of included studies: 24</p> <p>Included study designs: Randomised Controlled Trials (RCTs)</p> <p>Recency (search dates): Searches were conducted in August 2014 and updated in March 2016</p> <p>Population: Adults (≥16 years)</p> <p>Intervention type: Interventions targeting physical activity, fitness or sedentary behaviour, including as part of a multi-component intervention</p> <p>Outcome measures: A post-intervention measure of physical activity, fitness or sedentary behaviour</p> <p>Results:</p> <p><i>Description of included studies:</i></p>	<p>This review focused on interventions recruiting participants from primary care, however, the intervention itself may have been conducted elsewhere (e.g., exercise referral scheme).</p> <p>This review adopted the PROGRESS-Plus framework to consider health equity and to capture</p>

		<p>Of the eligible 173 RCTs, 24 reported subgroup or interaction analyses exploring intervention effects. Studies were conducted in USA (n = 10), UK (n = 6), Netherlands (n = 4), Canada (n = 2), Spain (n = 1), and Australia (n = 1). All were conducted in the context of primary care systems.</p> <p>Quality of included studies: Study quality was assessed using the Cochrane risk of bias tool. Five of the 24 RCTs were judged to be at low risk of bias, 19 to be at medium risk of bias and none to be at high risk of bias.</p> <p>Synthesis: Narrative and graphical syntheses</p> <p>Findings: No significant differences in intervention effects were seen in participants residing in either urban or rural settings, or in those with either poor versus good self-rated health or with no versus any disability based on Townsend Disability Score.</p> <p>For education, there was no strong indication that interventions produced different outcomes for participants who had completed more versus less than high/secondary school education, although one study found a significant trial arm by education interaction at interim 12-month follow-up (intervention effects favoured participants with higher education levels). However, this effect was not sustained at 24-months.</p> <p>For social capital, one RCT examined the indicator of social support, finding significantly larger post-intervention differences in physical activity between trial arms in those with higher baseline social support for exercise.</p>	<p>characteristics possibly indicating disadvantaged status.</p> <p>A meta-analysis of the intervention data was not possible due to incomplete reporting of subgroup and interaction analyses within the included primary studies.</p>
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		<p>For socio-economic status, no differences in intervention effect were reported in one RCT employing the Welsh Index of Multiple Deprivation, or another that classified participant socio-economic status as low, intermediate or high (measure unreported). Mixed findings were observed for gender (N = 22 RCTs), with some interventions showing greater effect in men than women and others vice versa. No RCTs examined differential effects by participant occupation, religion or sexual orientation.</p>	
<p>Hillier-Brown, F. C., Bambra, C. L., Cairns, J. M., Kasim, A., Moore, H. J., & Summerbell, C. D. (2014). A systematic review of the effectiveness of individual, community, and societal-level interventions at reducing socio-economic inequalities in obesity among adults. International journal of obesity</p>	<p>To systematically examine the effectiveness of interventions (individual, community and societal) operating via different approaches (targeted or universal) in reducing socio-economic inequalities in obesity among adults</p>	<p>Evidence Type: Systematic review</p> <p>Number of included studies: 103</p> <p>Included study designs: Randomised Controlled Trials (RCTs) and non-randomised controlled trials and observational studies including prospective and retrospective cohort studies (before-and-after studies), with or without control groups, and prospective repeat cross-sectional studies with or without control groups.</p> <p>Recency (search dates): Search dates not stated, however, electronic databases were searched from their inception to 11 October 2012.</p> <p>Population: Adults aged 18 years or older.</p> <p>Intervention type: Interventions at the individual, community and societal (environment and macro-policy) level which might reduce inequalities in obesity among adults (aged 18 years or older).</p>	<p>Updated findings were retrieved from a companion review (Bambra et al. 2015), which reported findings from two systematic reviews, one focused on children, and the other focused on adults.</p> <p>This review focused on interventions conducted in a range of settings including primary care. However,</p>

<p>(2005), 38(12), 1483–1490.</p>		<p>Outcome measures: Studies were included if they reported a primary outcome that is a proxy for body fatness (weight and height; body mass index; waist measurement/waist to hip proportion; percentage body fat; skin fold thickness) and if they examined differential effects with regard to socio-economic status or were targeted specifically at disadvantaged groups or were conducted in deprived areas.</p> <p>Results: <i>Description of included studies:</i> Of the eligible 103 primary studies (41 experimental and 62 observational studies) in adults, 33 studies of individual-level interventions (12 treatment, 21 prevention); 60 studies of community level interventions (32 treatment, 27 prevention, one treatment and prevention); eight societal (environmental)-level studies (eight prevention); and two societal (macro)-level studies (two prevention). Studies were conducted in USA (n = 62), UK (n = 12), and other European countries (n=18). Only seven individual-level studies (UK=4, USA=3) were conducted in the context of primary care systems.</p> <p><i>Quality of included studies:</i> Study quality was assessed using the Cochrane Public Health Review Group-recommended Effective Public Health Practice Project Quality Assessment Tool for Quantitative Studies. Of the seven primary care studies, four were judged to be of high quality and three were low quality.</p> <p><i>Synthesis:</i> Narrative syntheses</p>	<p>only the findings relevant to primary care settings have been included in this report.</p> <p>Study authors focused on the synthesis of only the 'best-available' evidence for each intervention type, individual, community and societal. Only individual level interventions were conducted in primary care settings and are reported in this review.</p>
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		<p><i>Findings:</i> <u>Individual-Level Intervention</u> Four high-quality (Two RCTs, a randomised controlled pilot study and a cluster randomised controlled pilot study) targeted studies examined primary care-delivered tailored weight loss programmes (monthly face-to-face lifestyle counselling on a healthy diet and physical activity behaviours) targeted at low-income groups, which can have positive short-term effects on weight outcomes (up to 9 months) but these are not sustained in the longer term (after 12 months). One RCT of 106 low-income African American women found that, after 6 months, the intervention group demonstrated a significant weight loss [-2.0 kg, standard deviation (SD) 3.2 kg] compared with the control group (+0.2 kg, SD 2.9 kg; p = 0.03). A small (n = 36) randomised controlled pilot study of overweight post-partum women living in areas of moderate to high deprivation in the UK, found that, after 12 weeks, body weight loss was significantly greater in the intervention group than in the comparison group (-1.6 kg vs. 0.2 kg; p = 0.018), with significant improvements in BMI (-0.7 kg/m² vs. 0.1 kg/m²; p = 0.009) and percentage body fat (-1.5% vs. -0.5%; p = 0.029) too. There were no significant differences in waist circumference or physical activity. A cluster randomised controlled pilot study investigated the effects of a tailored weight loss programme in 51 low-income adults (majority women) considered to be at high risk of diabetes in four areas of the USA. Post intervention (after 6 months), 25% of the intervention group achieved a clinically significant weight loss compared with only 11% of</p>	
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		<p>the control group. However, physical activity and nutritional changes were similar among the control and intervention groups. Intention-to-treat analysis from another RCT showed that, after 9 months, weight loss among 86 low-income African American women was significantly higher in the intervention group than in the control group (-1.52 ± 3.72 kg vs. 0.61 ± 3.37 kg; $F = 12.32$; $p < 0.01$) although this was not sustained at 12 months ($F = 3.80$; $p = 0.10$).</p> <p><u>Synthesis of UK evidence</u> The UK evidence comes from seven studies (two experimental and five observational) and suggests that tailored weight loss programmes delivered in primary care can have positive short- and long-term effects on obesity-related outcomes in low-SES groups, and are equally effective across the SES gradient.</p>	
<p>Ibanez, G., de Reynal de Saint Michel, C., Denantes, M., Saurel-Cubizolles, M. J., Ringa, V., & Magnier, A. M. (2012). Systematic review and meta-analysis of randomized controlled trials evaluating primary care-</p>	<p>To identify effective programmes that can be implemented by GPs to promote breastfeeding in low-income women.</p>	<p>Evidence Type: Systematic review and meta-analyses</p> <p>Number of included studies: 10</p> <p>Included study designs: RCTs</p> <p>Recency (search dates): Search dates not stated, however, electronic databases were searched from January 1985 to March 2009.</p> <p>Population: Low-income women</p> <p>Intervention type: Primary care-based interventions implemented by GPs to promote breastfeeding</p>	<p>Most of the included studies were conducted in the USA, with only one UK study identified. This could impact on the generalisability of findings.</p>

<p>based interventions to promote breastfeeding in low-income women. Family practice, 29(3), 245-254.</p>		<p>Outcome measures: Breastfeeding outcomes – categorised as initiation, short-term duration (6 weeks to 2 months) and long-term duration (3–6 months).</p> <p>Results:</p> <p><i>Description of included studies:</i> Ten studies were eligible for inclusion in the review. Of these, nine were conducted in the USA and one in the UK. The 10 studies covered a total of 1445 ‘mother and child’ pairs. All included studies were conducted in a primary care-based setting. Seven studies designed a programme involving multiple visits or appointments for the treatment group. Five studies gave a brochure to the treatment group. Four studies provided telephone support for the treatment group and one for both the treatment and control groups. One study showed a video to the treatment group.</p> <p><i>Quality of included studies:</i> The methodological quality of the included studies was assessed using the methods adapted from the French National Authority for Health (HAS) criteria. An overall quality rating for this review was not reported however, based on the results on Table 1, the included studies in this review had a varied quality rating and the factors greatly contributing to lower quality ratings were small sample size (eight studies), presence of confounding factors or inappropriate outcomes (one study), a lack of intention to treat analysis (seven studies) and no study was retrospective.</p>	
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		<p>Synthesis: Meta-analyses.</p> <p>Findings: The results from the meta-analyses showed that the interventions were successful in promoting the initiation and duration of breastfeeding in women from low-income backgrounds.</p> <p>The studies that assessed ways of encouraging the initiation of any form of breastfeeding showed that educational programmes are effective [relative risk (RR) for starting breastfeeding, 1.46, 95% confidence interval (CI): 1.03–2.08].</p> <p>For studies that assessed ways to encourage mothers to continue breastfeeding, the programmes used showed no significant success rates before 3 months of breastfeeding (RR: 1.15, 95% CI: 0.97–1.37) but significant success rates after 3-month postpartum (RR: 1.15, 95% CI: 1.01–1.30). The successful programmes usually involved multiple ‘short’ follow-up appointments (<20 to 30 minutes).</p> <p>The pooled RR of exclusive breastfeeding could not be calculated due to the small number of studies on the topic.</p>	
<p>Raison, H., & Harris, R. V. (2019). Interventions to reduce socio-economic inequalities in</p>	<p>To undertake a systematic review of interventions to reduce socio-economic inequalities in dental service utilisation in adults.</p>	<p>Evidence Type: Systematic review</p> <p>Number of included studies: 6</p> <p>Included study designs: RCTs, non-RCTs, controlled before and after studies, interrupted time series studies and repeated measures studies.</p>	<p>The review authors concluded that there is a lack of research into interventions which aim to</p>

<p>dental service utilisation-a systematic review. Community Dental Health, 36(1), 39-45.</p>		<p>Recency (search dates): Search dates not stated, however, electronic databases were searched from 1970 to October 2018.</p> <p>Population: Adults</p> <p>Intervention type: Interventions to reduce socio-economic inequalities in dental service utilisation in adults.</p> <p>Outcome measures: The primary outcome was a measure of dental service use such as either a proportion visiting the dentist in the last 12 or 24 months; or the reason given for the last visit to the dentist</p> <p>Results:</p> <p><i>Description of included studies:</i> Six studies were eligible for inclusion in this review. Of the six studies, three were RCTs, one a cluster RCT, one a non-RCT, and one a repeated cross-sectional study. All six studies were conducted in the USA and published between 1976 and 2014. Three studies were targeted to parents, and two towards pregnant women.</p> <p><i>Quality of included studies:</i> The Cochrane Collaboration tool for assessing risk of bias was used to assess RCTs, NRCTs and cluster RCTs. Apart from a lack from blinding, many of the RCTs were found to have a low risk of bias. No overall risk of bias was reported</p>	<p>reduce socioeconomic inequalities in adult dental visiting, and interventions that target community or structural causes of these inequalities.</p>
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		<p>however, one study was judged to be at “high” risk of bias for sequence generation, allocation concealment and blinding; and “low” risk of bias for incomplete outcome data and selective reporting domains.</p> <p>Likewise, another study was judged to be at “low” risk of bias for sequence generation, allocation concealment, incomplete outcome data and selective reporting; and “high” risk of bias for blinding.</p> <p><i>Synthesis:</i> Narrative synthesis</p> <p><i>Findings:</i> <u>Interventions targeting pregnant women</u> Cibulka et al. (2011) delivered their intervention to mothers before their 24th week of pregnancy. It consisted of completing a pre- and post- intervention questionnaire, watching a 5 min DVD presentation about periodontal disease and techniques for efficient toothbrushing and flossing. Participants were also scheduled to receive a dental check-up, along with a reminder postcard sent 1-2 weeks prior to this appointment. The intervention also included the use of Advance Practice Nurses (APN) in ante-natal clinics to discuss oral health with participants, and to distribute oral hygiene supplies such as a toothbrush, toothpaste and dental floss. Results indicated a significant increase in dental service use by the experimental group compared to control (p=0.006, unadjusted OR 2.7; 95% CI 1.37 to 5.3). In addition, the intervention group showed an increase in oral health perception, daily toothbrushing and</p>	
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		<p>flossing frequencies and reduced their consumption of cariogenic drinks. Cibulka et al. (2011) showed that when low-income pregnant women were scheduled a dental check-up appointment and sent a reminder 1-2 weeks before the appointment, attendance increased 29.5% from baseline compared to 2.8% within the control group.</p> <p>Riedy et al. (2015) used counsellors to deliver motivational interviewing (MI) to ante-natal mothers, focusing on individual dental needs, dental risks and barriers to care. This included written protocols and video-recorded 'real life' examples to guide discussion and assure fidelity. Participants also received written oral health education information. Results showed that the MI intervention did not significantly increase dental attendance when compared to health education control alone (adjusted OR = 0.34; 95% CI = 0.16 – 0.74).</p> <p><u>Interventions targeting parents</u></p> <p>Reiss et al. (1976) issued all participants (intervention and control) with a 'note' (prompt) containing information on the results of their child's dental screen. In addition, one intervention group (termed the three-prompt) received a phone call by school staff to reinforce the note (dental screening results), and a home visit by a dental hygienist to repeat recommendations on the note. The other intervention group (termed the one-prompt plus \$5 incentive) received a \$5 dental coupon after their child completed a dental examination. Attendance at an initial dental visit (up to 17 weeks post intervention) was used as the primary outcome measure. While both interventions</p>	
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		<p>were effective at increasing the number of initial dental visits, the one-prompt plus \$5 dental coupon generated the most immediate uptake, more participants completed courses of dental treatment and it was the most cost effective.</p> <p>The intervention reported by Binkley (2007) involved a case manager or home visitor visiting both participants and dental practices. Similar levels of utilisation were noted across the groups (p=0.39, unadjusted OR 1.29; 95% CI 0.73 to 2.27). However, participants in the intervention who completed all study activities were almost three times more likely to see the dentist than similar families in the control group.</p> <p>A large study by Dela Cruz et al. (2012) incorporated postcards aimed at enhancing enrolment for a Baby and Child Dentistry programme among low income families. One intervention postcard contained enrolment information (intervention 1), while the other also included oral hygiene information as well (intervention 2). The control group did not receive a postcard. No significant difference was demonstrated between intervention 1 and control (unadjusted OR 1.06 95% CI 0.93 to 1.21) and between intervention 2 and control (unadjusted OR 1.10; 95% CI 0.97 to 1.26), perhaps due to the ceiling effect of high attendance in the control group.</p> <p><u>Interventions targeted at the community level</u> Clarke (2007) recruited 13 Community Health Advisors to disseminate oral health education within their community.</p>	
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		There was a greater pre-post increase in regular attendance for the intervention community relative to the comparison community (+5.45% for intervention vs. +2.5% for comparison. However, the significant intervention effect disappeared after an intention-to-treat analysis was carried out.	
Tanner, L. M., Wildman, J. M., Stoniute, A., Still, M., Bernard, K., Green, R., Eastaugh, C.H., Thomson, K.H & Sowden, S. (2023). Non-pharmaceutical primary care interventions to improve mental health in deprived populations: a systematic review . British Journal of General Practice, 73(729), e242-e248.	To synthesise evidence for the effects of non-pharmaceutical primary care interventions on common mental health disorders and associated socioeconomic inequalities	<p>Evidence Type: Systematic review</p> <p>Number of included studies: 13</p> <p>Included study designs: Quantitative primary evidence</p> <p>Recency (search dates): Bibliographic searches were undertaken on 1 June 2021</p> <p>Population: People from socioeconomically disadvantaged backgrounds</p> <p>Intervention type: Non-pharmaceutical interventions delivered by or referred to from primary care teams.</p> <p>Outcome measures: Quantitative measures of: Healthcare use related to CMDs; Medication use related to CMDs; CMD screening and assessment tools</p> <p>Results: Description of included studies: Thirteen studies were eligible for inclusion in the review. Included study designs comprised three RCTs, one non-randomised controlled trial, one cohort study with a between-groups design, and eight cohort studies with a</p>	

		<p>before–after, within-groups design. Nine studies were from England, two from Scotland, one from Canada, and one from Australia. Most of the interventions were targeted at people from socioeconomically deprived backgrounds. Social-prescribing interventions were evaluated in 10 studies, collaborative care in two studies, and a new model of care in one study.</p> <p><i>Quality of included studies:</i> The quality of each study was assessed using the Effective Public Health Practice Project Quality Assessment Tool for Quantitative Studies. One RCT received a global ‘strong’ quality assessment rating and one study received a global ‘moderate’ rating; the remainder received a global ‘weak’ overall rating</p> <p><i>Synthesis:</i> Narrative synthesis was used alongside effect direction plots</p> <p><i>Findings:</i> <u>Anxiety and depression</u> Four studies reported effects of non-pharmaceutical primary care interventions on anxiety. The interventions included collaborative care (n = 2) and social prescribing (n = 2). Three of the studies reported positive effects of the interventions on reducing anxiety (based on direction of effect). The fourth study showed a reduction in anxiety relative to the usual-care group for one and ≥3 meetings with a community link practitioner, but an increase in anxiety for two meetings.</p>	
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		<p>Five studies reported effects of non-pharmaceutical primary care interventions on depression. The interventions involved social prescribing (n = 2), collaborative care (n = 2), and a new model of care (n = 1). Four studies reported a reduction in depression associated with the intervention; the fifth study reported mixed or conflicting findings.</p> <p><u>Measures of distress</u> One single- arm, before-and-after cohort study, comprising a sample of participants who were mostly unemployed, reported a reduction (positive outcome) in mean distress among recipients of a social- prescribing intervention.</p> <p><u>Wellbeing</u> Five cohort studies assessed the effects of non-pharmaceutical primary care interventions on wellbeing, using either the Warwick–Edinburgh Mental Wellbeing Scale or the short-form version of the tool. Four of the studies evaluated social-prescribing interventions and one study included a multicomponent new model of care intervention. Four of the studies reported improvements in wellbeing based on direction of effect; the fifth study reported a lower rate of improved wellbeing among individuals in the IMD quintile of greatest deprivation compared with those in the IMD quintile of least deprivation.</p> <p><u>Self-reported mental health</u> One single- arm, before-and-after cohort study assessed the effects of a social-prescribing intervention on self-reported mental health in participants. An improvement in self-</p>	
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		<p>reported mental health was reported following the intervention.</p> <p><u>Healthcare utilisation for common mental health disorders</u> Two studies reported results regarding the effects of social prescribing on healthcare utilisation for common mental health disorders; both reported inconsistent (positive and negative) results.</p>	
<p>Terens, N., Vecchi, S., Bargagli, A. M., Agabiti, N., Mitrova, Z., Amato, L., & Davoli, M. (2018). Quality improvement strategies at primary care level to reduce inequalities in diabetes care: an equity-oriented systematic review. BMC Endocrine Disorders, 18, 1-18.</p>	<p>To: a) describe the extent to which effects on social inequalities are considered in randomised controlled trials (RCTs) evaluating the effects of quality improvement (QI) interventions to improve quality of diabetes care and b) synthesise evidence on the effectiveness of QI strategies to reduce health inequities in diabetes care in the primary care setting.</p>	<p>Evidence Type: Systematic review</p> <p>Number of included studies: 58</p> <p>Included study designs: Randomised controlled trials (cluster or individual)</p> <p>Recency (search dates): Search dates not stated, however, electronic databases were searched from 1 January 2005 to 31 May 2016</p> <p>Population: Socially disadvantaged people with type 2 diabetes</p> <p>Intervention type: Single or multicomponent quality improvement (QI) interventions aimed to reduce inequalities in diabetes care</p> <p>Outcome measures: <u>Primary outcomes:</u> 1. Clinical and laboratory parameters (change in HbA1c level, systolic and diastolic blood pressure, lipid levels, Body Mass Index - BMI) 2. process indicators or adherence to guidelines</p>	<p>This review adopted the PROGRESS-Plus framework to consider health equity and to capture characteristics possibly indicating disadvantaged status.</p> <p>Pooling of results and quantitative synthesis was precluded by marked heterogeneity (mainly clinical)</p>

		<p>(HbA1c measure, blood pressure measure, foot exam, dilated eye exam, evidence-based patient/family education). <u>Secondary outcomes:</u> 1. Measures of diabetes self-management behaviour (home glucose monitoring, regulation of diet and exercise, diabetes knowledge, confidence and skills to control diabetes adherence to medications, attendance at office appointments when needed or as scheduled by the provider) 2. Clinical outcomes (diabetes complications, avoidable hospital admissions, emergency admission and death).</p> <p>Results: <i>Description of included studies:</i> Fifty-eight RCTs met eligibility criteria. The majority of studies (n = 54) used a parallel RCT design while four trials were cluster RCTs. Most of trials were conducted in the USA (n = 47); the remaining studies were carried out in Canada, Asia, the United Kingdom, New Zealand, Australia, Trinidad and American Samoa. Seven (12%) trials used at least one PROGRESS-Plus factors for examining differential intervention effects, and gender, age, race and education were those most often considered. Twenty-nine studies (50%) focused on interventions delivered at the patient level, and twenty-six at the health care organisation level (45%). The remaining three studies (5%) described interventions at the provider level.</p> <p><i>Quality of included studies:</i></p>	
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		<p>unadjusted ($-0.23 \pm 0.11\%$ vs $0.13 \pm 0.13\%$, $p < 0.04$, $n = 526$) and adjusted analysis (MD= 0.40, 95% CI 0.10–0.70; $p = 0.009$).</p> <p>An intensive training group intervention addressing both diabetes and cardiovascular diseases, combined with problem-solving training sessions, was effective in improving glycemic control (MD = -0.72, 95% CI -1.42 to -0.01, $p = 0.02$, $n = 56$).</p> <p>Two studies ($n = 265$) showed improvements in glycemic control as measured by HbA1c ($8.2\% \pm 0.4$ vs $8.6\% \pm 0.3$, $p = 0.004$ and 7.6 ± 1.8 vs 8.2 ± 2.5; $p = 0.006$, respectively), comparing behavioural education programmes via telehealth or using a computerised self-management programme vs standard care.</p> <p>One study reported a greater improvement in HbA1c levels in low-income participants receiving sessions led by a multidisciplinary team than in the control group (7.6% vs 9.3%; $p = 0.001$, $n = 80$).</p> <p>One study found that an education programme with incentives and self-monitoring devices produced a significant reduction in HbA1c ($7.29\% \pm 0.58$ vs $7.73\% \pm 0.57$; $p < 0.05$, $n = 132$).</p> <p>Two trials did not find a significant decrease in HbA1c in the study population, but reported a positive association for a subgroup of participants.</p> <p>Eighteen trials reported data on change in BMI, three found significant improvements in the experimental group.</p> <p>Eighteen studies reported data on diet adherence. Seven studies observed between group differences although using different instruments and scales.</p> <p>Provider level</p>	
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		<p>Two studies evaluating reminder and reminder+feedback interventions showed an improvement in glycaemic control (HbA1c) compared to the usual care or no intervention group (0.6% vs 0.2%, $p < 0.02$, $n = 399$; MD= - 0.80 $p < 0.001$, $n = 2046$, respectively). One study found an improvement for LDL cholesterol for all intervention arms, with the greater change observed in the reminders+feedback group (- 18 mg/dl). No studies reported differences between intervention and control arms for blood pressure and BMI.</p> <p><u>Health care system level</u></p> <p>The majority of studies that evaluated interventions targeting the health care system ($n = 20$), showed significant effect in at least one of the outcomes considered in this review.</p> <p>As far HbA1c, nine studies reported a significant reduction of HbA1c values with a mean difference ranging from -0.29% to - 0.8%. Seven studies found a significantly greater reduction in HbA1c levels in the experimental group between baseline and follow up. Significant differences in blood pressure were found between groups in three studies.</p> <p>Of the 14 trials reporting BMI outcome, only one showed an adjusted MD of 0.40 kg/m² (95% CI 0.20 to 0.60) when enhanced care through a diabetes-specialist nurse and link worker were compared to usual care. Seventeen trials assessed the impact of QI interventions on total cholesterol and/or HDL cholesterol, LDL cholesterol, and triglycerides. In three studies there were significant differences in change from baseline between Groups.</p>	
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