A rapid review of barriers to oral healthcare for vulnerable people

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Key points

- Describes the common barriers to accessing oral healthcare experienced across all vulnerable groups.
- Argues that barriers to oral healthcare for people from vulnerable groups exist at individual, organisational and policy levels.
- Identifies and summarises possible solutions to address these barriers.

Abstract

Introduction People from vulnerable groups have higher levels of untreated dental disease compared to the general population, yet often experience barriers to accessing care. Difficulties accessing oral healthcare services have been suggested as one of the pathways that contribute to oral health inequalities.

Aim To conduct a rapid review of current literature related to barriers to oral healthcare for people from vulnerable groups.

Methods Electronic searching u sing MEDLINE via Ovid, covering articles from 2007 to 2017, and limited to the English language. Publication types included primary and secondary evidence from peer-reviewed journals and reports.

Results From a total of 536 records, 308 full-text articles were included in the final review. Barriers were summarised at the individual, organisational and policy levels. Common barriers across all vulnerable groups included lack of affordability, difficulties accessing care, lack of availability of appropriate care, and lack of public funding for specialised services. In addition, specific barriers were identified for certain groups. Potential solutions included the provision of training and information to patients and carers about oral health and accessing dental services, training dental professionals in caring for vulnerable groups, and better use of skill mix and guidance to ensure publicly-funded dental services are commissioned to meet the needs of vulnerable groups.

Conclusion This rapid review identified barriers to dental care for vulnerable groups at individual, organisational and policy levels to inform policymakers and commissioners.

Introduction

Various definitions for vulnerability have been proposed, however there remains little consensus.[1,2] A broad definition, suggested by Aday,[3] describes vulnerable populations as social groups who are at greater risk of poor physical, psychological and/or social health due to their social status. These marginalised groups often experience barriers to gaining access to oral healthcare.[4] They are also disproportionally affected by dental diseases.[5] Previous studies have shown certain groups to have higher levels of dental caries than the general population, such as individuals with special needs,[6] certain ethnic minority groups,[7,8] people experiencing homelessness,[9] people of low socioeconomic status,[10,11] and rural communities,[12] among others.

Despite a greater need for dental treatment, vulnerable individuals are less likely to receive routine dental care. This double disadvantage of poorer oral health and difficulties accessing dental services results in an inordinate burden of disease and potential adverse oral health outcomes. Indeed, difficulties accessing dental services have been suggested as one of the pathways that contribute to oral health inequalities.[13] Access to primary oral healthcare services contributes to good oral health through the provision of advice, early diagnosis, prevention and treatment of oral disease.[14]

Given the need to improve access to oral healthcare for vulnerable groups and reduce inequalities, a better understanding of the barriers they experience is needed to improve the provision and commissioning of these services. This review aims to describe the current literature related to barriers to oral healthcare for people from vulnerable groups.

Method

A rapid review method was chosen. Rapid reviews are an emerging type of review used to inform health-related policy, particularly when information is required in a short time frame.[15,16] A rapid review has been defined as:

'A type of systematic review in which components of the systematic review process are simplified, omitted or made more efficient in order to produce information in a shorter period of time, preferably with minimal impact on quality. Further, they involve a

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close relationship with the end-user and are conducted with the needs of the decision-maker in mind'.[17]

To ensure the rapidity of the review methodological approaches were used, such as: searching fewer databases, limiting the use of grey literature, restricting the types of studies included, limiting hand-searching of reference lists and journals, using a narrow time frame, involving only one reviewer, and limiting risk of bias assessment.[17]

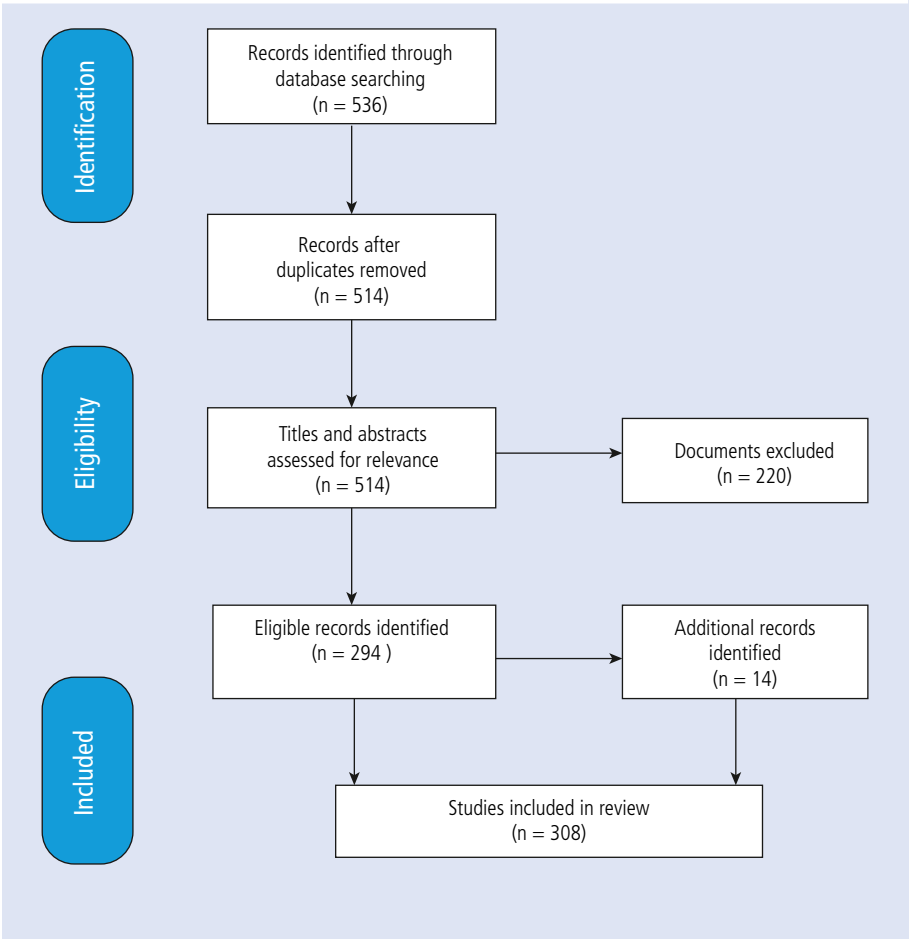
In this review electronic database searches were carried out using MEDLINE via Ovid, covering articles from 2007–2017. The search strategy included the following terms: oral/dental health, oral/dental care, oral/dental hygiene, dental health services, challenges, barriers, access, hindrance, impediment, disabled persons, intellectual disability, special care, special needs, elderly, assisted living, institutional, care homes, nursing homes, physically challenged, mental disorders, vulnerable populations, underserved, homeless, refugees, prisoners, ethnic, low-income, social class, and socioeconomic. Three separate searches were conducted, each focusing on different groups of vulnerable people. The complete search strategy is available in Supplementary Information 1 (online only). The publication types included in the search were primary and secondary evidence from peer-reviewed journals and reports. The search was restricted to publications in English. The results of all three searches were exported into a reference manager. Duplicates were then recorded and removed before the titles and abstracts of the remaining articles were reviewed. Where titles and abstracts appeared to be relevant, the full text was obtained for inclusion in the review. Reference list searching was also conducted.

For each included article the barriers, as identified in the publication, were extracted, collated and summarised for each vulnerable group, the full table is available in Supplementary Information 2 (online only). Where stated, potential solutions to overcome these barriers were also summarised.

Results

The search yielded 536 records. After removal of duplicates, the remaining 514 titles and abstracts were screened for eligibility, resulting in 220 documents being excluded. Reference list searching identified a further 14 records leading to 308 full-text articles being included in the final review. A PRISMA flowchart of the literature search from MEDLINE via Ovid is provided in Figure 1.

Fig. 1 PRISMA flowchart of literature search



The majority of the included literature was from peer-reviewed journals, with articles from 34 countries; the full list is available in Appendix 1. From the literature the main vulnerable groups were categorised based on sociodemographic characteristics such as: 1) people of low socio-economic status; 2) racial or ethnic groups; 3) migrants; 4) refugees; 5) people living in rural areas; 6) older people living in residential care; 7) older people living in their own homes; 8) people who are homeless; 9) people who are travellers; and 10) people who are in prison. The other groups related to people with specific conditions such as: 1) HIV; 2) autism; 3) blindness; 4) deafness; 5) epilepsy; 6) Down's syndrome; 7) Parkinson's disease; 8) medically-compromised; 9) mental illness; 10) schizophrenia; 11) learning disabilities; 12) physical disabilities; and 13) children with disabilities. Finally, the last group was patients treated specifically by the speciality of special care dentistry (SCD).

Summary of the main common barriers

While the literature on barriers to oral healthcare for vulnerable people was summarised by category, there were several common barriers noted across most of them. These barriers have been summarised at the level of the individual person or patient, the level of the dental service organisation and at the higher policy level (Box 1).

Individual-level barriers common across vulnerable groups

Most of the literature investigated barriers at the level of the individual. The most common individual-level barrier was that services were unaffordable or perceived to be unaffordable for the public, patients, parents or carers.[18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81] Lack of affordability was not confined to the literature on people of low socioeconomic status but was an issue across most vulnerable groups and from most countries. This financial barrier includes the direct cost of the service and indirect costs such as cost to the carers and cost of transportation. This was compounded

Box 1 Summary of the main common barriers

Individual level:

- Services unaffordable or perceived to be unaffordable for the public, patients and patients/carers
- Lack of appropriate knowledge of what services are available and their cost
- Difficulties with obtaining affordable and appropriate transport
- Oral health not perceived as a priority for patients or carers due to other daily difficulties
- Low levels of oral health literacy
- Previous difficulties accessing dental care
- Language or communication difficulties
- Perceived negative attitude from dental workforce
- Dental fear and/or anxiety
- Difficulties making and keeping appointments due to health problems, getting time off work or lack of a carer.

Organisational level:

- Lack of availability of routine, preventive, urgent and specialised care
- Insufficient appropriate informatioln provided to patients, the public, parents and carer
- Lack of confidence and training of dental professionals in treating patients from vulnerable groups
- Communication difficulties with patients and carers
- Lack of cultural or disability awareness
- Physical barriers to accessing dental care
- Lack of knowledge among carers and other health, social, education or community services
- Poor transition arrangements e.g. Child to adult services or home dwelling to institutional.

Policy level:

- Lack of public funding for dental services for vulnerable groups
- Lack of integration between dental and other health, social, education or community services
- Services not commissioned based on oral health needs assessments
- Workforce not trained to meet the needs of specific vulnerable groups
- Services fail to meet the needs of vulnerable groups
- Policies fail to address the social determinants of health.

by the lack of knowledge of the cost of available services.[52,53,54,82,83] In terms of transportation, it was not only the cost of transportation that was a barrier but difficulties in finding suitable transportation.[20,35,38,41,45,49,51,53,73,76,78,80,82,84,85,86,87,88,89,90,91,92]

People from various vulnerable groups were said to perceive oral health as a low priority due to other daily difficulties in their lives and other comorbidities.[19,22,40,51,62,91,93,94,95,96,97,98,99] Low levels of oral health literacy were cited for many groups,[23,43,59,61,67,69,83,100,101,102,103,104,105] which has been described as the ability to access or process information to improve oral health. Related to this, people were found to lack knowledge of what services were available and how to make appointments.[33,42,52,55,59,61,65,72,95,106] Previous difficulties accessing dental care were cited as barriers to accessing services in the future.[39,41,64,84,107] Difficulties were also identified in keeping appointments due to health problems,[51,65,92,108,109,110] getting time off work, or lack of a carer.[23,27,30,38,73,76,81,111,112,113] Language or communication difficulties were common barriers, with specific problems highlighted for groups such as those from minority ethnic groups, refugees, migrants, those with hearing impairments or mental illness.[20,38,42,43,51,65,67,76,81,82,83,90,113,114,115,116,117,118,119,120,121] Dental fear and anxiety,[22,30,33,41,48,49,53,63,65,78,91,94,95,103,105,106,112,122,123,124,125,126,127,128] and a perceived negative attitude from the dental workforce[51,92,103,124] were common individual-level barriers identified across vulnerable groups.

Organisational-level barriers common across vulnerable groups

The most common organisation-level barrier was the lack of availability of dental care to meet the needs of vulnerable groups including routine, preventive, urgent and specialised care.[30,32,33,42,43,44,51,55,57,60,65,66,84,85,103,106,113,115,119,120,125,127,129,130,131,132,133,134] This lack of availability was said to lead to long waiting times.[21,42,67,68,71,74,80,84,116,118,125,130,131,132,135] Referral pathways between services were also stated to be difficult to negotiate for organisations involved in the care of vulnerable groups.[120,136] The literature found poor transition arrangements to be a barrier; for example, moving from services for children to adults or for people moving from living at home to residential care.[65,134,137,138,139]

Some organisation-level barriers mirrored the individual barriers described above, such as insufficient information provided by organisations to individuals in appropriate formats,[38,41,44,74,82,140] communication difficulties during dental care,[62,65,116,118,141] and lack of cultural or disability awareness among the dental workforce.[83,142] Dental professionals and other healthcare professionals involved were found to lack confidence and training in treating people from vulnerable groups.[59,69,74,80,91,103,113,124,125,140,143,144,145,146] Similarly, carers and other health, social, education or community services were said to lack knowledge about key oral health messages and ways to access dental services.[65,69,103,109,110,134,147,148,149,150]

Finally, physical barriers to accessing dental care were cited including location of services (and appropriate transport to them), lack of car parking, as well as physical barriers within the dental setting such as lack of handrails, lack of suitable toilet facilities and wheelchair inaccessibility into and within the dental practice.[59,63,68,,70,72,74,76,77,78,79,81,90,92,96,113,124,151,152,153]

Policy-level barriers common across vulnerable groups

Policy-level barriers were less commonly referred to in the literature, although three types were identified. The main policy-level barrier was a lack of public funding for dental services for vulnerable groups.[30,32,33,35,38,39,40,41,103,106,112,115,125,129,133,154,155,156] The level of public funding varied between countries, changed over time and varied between different groups but was a recurring barrier cited. The second main policy-level barrier was a lack of integration between dental and other health, social, education or community services.[65,128,147,150] The third policy-level barrier was that dental services were not commissioned based on oral health needs assessments so were not of sufficient capacity or design to meet the needs of vulnerable groups.

Specific barriers identified for vulnerable groups

In addition to the common barriers described above, specific barriers were identified for certain vulnerable groups (Table 1). These barriers were also categorised as individual level, organisational level and policy level.

Summary of the main solutions

While the main purpose of the rapid review was to identify barriers to dental care for vulnerable groups, most of the papers

Table 1 Barriers specific for different vulnerable groups (cont. on page 147)

Group	Barrier
Socio-demographic factors	
Low socioeconomic status	**Individual-level barriers** Lack of social support[115] Perceptions of poorer quality care available[36,129] Lack of time to attend appointments[30] if during working hours[111] Large families compound problems for those with low income associated with transport, childcare and costs[122]
Racial and minority ethnic groups	**Individual-level barriers** Perceived poor quality of available services[39,41] Cultural differences on oral healthcare seeking behaviours[41,112,142] Priority/beliefs about oral health of people, patients, parents or carers[40] **Organisational-level barriers** Lack of data on racial or ethnic groups and languages[157]
Refugees	**Individual-level barriers** Cultural differences in oral health care-seeking behaviours[117,158] **Organisational-level barriers** Lack of interpreters[116]
Migrants	**Individual-level barriers** Cultural differences in oral health care-seeking behaviours[82]
Rurality	**Organisational-level barriers** Poor retention of workforce[44] Technological constraints[86]
Older people living at home	**Individual-level barriers** Cultural practices[51] Lack of social networks/contacts[51] Limited ability to express need for dental treatment[159] **Organisational-level barriers** Lack of availability of domiciliary dental care[103] including dentists unwilling to provide domiciliary care[148,160] Unclear roles and responsibilities among professionals caring for older people[161] **Policy-level barriers** Shortage of skilled geriatric oral healthcare professionals[51,103,160,162] Lack of priority for oral health in healthcare policy[103,143] Unsupportive systems for individuals confined at home or living in residential care[103,159] Socioeconomic inequalities[103,124]
Older people living in institutions	**Individual-level barriers** Physical frailty, functional limitations[51] and behavioural issues[109,110] **Organisational-level** Care providers lack of time for oral care[109,110,147] Difficulty providing clinical care in a non-dental environment[136,148] Limitations in time and staff[103]and necessary supplies[109] Shortage of skilled geriatric oral healthcare professionals[51]
People who are homeless	**Individual-level barriers** People unaware of their oral health needs and disengaged from services[52] Lack of trust in dental professional[53,54] Concurrent issues of mental and physical illness, substance abuse and victimisation[53] **Organisation-level barriers** Negative attitude of dentists to people who are homeless[52] **Policy-level** Lack of policies and services specifically aimed at the needs of homeless people[53,54,163]
People who are travellers	**Organisation-level barriers** Negative attitudes of dental professionals[55] Lack of specific services to meet the need of travellers[55]
People who are in prison	**Organisation-level barriers** Lack of dental facilities in prisons[125] Lack of workforce and planning[125]
People with specific conditions	
People with autism	**Individual-level barriers** Communication, social and behavioural issues[38,90,119,120] Parents anxiety due to their child's sensory sensitivities and behavioural challenges[120] **Organisation-level barriers** Lack of support for people with autism to find dental services willing to provide care[120]
People with blindness or visual impairment	**Individual-level barriers** People experiencing difficulty navigating to and within dental services[74] People experiencing difficulty completing necessary forms[74]

Table 1 Barriers specific for different vulnerable groups (cont. from page 146)

Group	Barrier
People with specific conditions	
People with deafness or hard of hearing	**Organisation-level barriers** Lack of interpreters[113] Confusion over whether patients are entitled to sign language interpreter services or dental practices not arranging this when required legally to do so[74]
People with Down's syndrome	**Individual-level barriers** Dental anxiety[70] Inability to cooperate with treatment[70] **Organisation-level barriers** Lack of understanding among general dentists of concurrent medical problems[144]
People who are medically compromised	**Individual-level barriers** Due to medical problems may not tolerate some procedures and find oral hygiene difficult[133] **Organisation-level barriers** Administratively difficult to manage care of these patients[133] Numbers of patients exceeds capacity of services available[133] Health professionals unaware of dental consequences of medical treatment[24]
People with mental illness	**Individual-level barriers** Feelings of shame, guilt, stigma, helplessness and low self-esteem[64,65] Confusion and lack of recall of conversations[65] Public services perceived as inadequate[64,65] **Organisational-level** Lack of protocols[65] Lack of staff time[65] General dentists not willing to treat these patients[65] Limited specialised expertise in managing individuals with high treatment needs[65,99] Discrimination regarding the use of limited resources[64] **Policy-level** Service organisation with move from institutional to community living[65]
People with learning disabilities	**Individual-level barriers** Lack of consent[66] Complicating medical histories[134] Inability to cooperate with treatment[66] Inability to communicate dental pain[91] **Organisational-level** General dentists not willing to treat these patients[68,70] Shortage of specially trained or experienced dental professionals in treating individuals with learning disabilities[69,71,134] **Policy-level** Service organisation as people with learning disabilities move from institutional to community living[134]
People with physical disabilities	**Individual-level barriers** Patients difficulty tolerating dental procedures[164] Lack of car parking[72] Lack of toilet facilities[72] Difficulty enduring waiting times when patients may suffer from bladder, bowel infections and pressure sores[92] **Organisational-level** Negative attitudes from dental professionals to disability[92] Lack of staff time needed by dental liaison or nursing staff to arrange appointment and required documentation[73,153] Salary costs paid by the nursing facility when staff members must leave the facility to accompany a resident[73] GDPs perceive there is a lack of time to treat patients with physical disabilities and that they need to be seen in specialist clinics[72] Lack of domiciliary services[72] **Policy-level barriers** Service organisation as people with learning disabilities move from institutional to community living[137]
Children with disabilities	**Organisational-level** Lack of knowledge and negative attitude of dental workforce to children with disabilities due to their behavioural, physical and learning disabilities[80] Perceived lack of specialised dentists[138] **Policy-level barriers** Lack of supportive policies and guidelines[150]
Speciality-specific	
Special care dentistry (SCD)	**Organisational-level barriers** Difficulties obtaining consent[81,165] Lack of domiciliary care[81] Negative attitudes from dental professionals to treating special care dentistry patients[139] Lack of equipment for example, dental chair for use with a wheelchair and hoist[81] Lack of general anaesthesia and sedation facilities[81] **Policy-level barriers** Dental contracts do not provide remuneration to address complexity of patient care[81]

included provided some potential solutions to overcome the barriers described. The solutions proposed in the literature can be summarised as:

1. Provide training and information to patients, parents and carers about improving oral health and ways to access dental services
2. Improved undergraduate and postgraduate dental training, including outreach training with vulnerable groups to facilitate this training and increase availability of dental services more generally
3. Use a range of dental care professionals to ensure an appropriate skill mix for addressing the oral healthcare needs of vulnerable groups
4. Implementation of guidance and pathways of care that meet the needs of vulnerable people and ensure equality of access. These publicly-funded dental services should include routine dental services with a preventive focus and provision of care to address urgent care needs and specialist services. The dental services should be integrated with other health, social and community care services to provide seamless care pathways
5. Implementation of policies to address the broad structural determinants of oral health.

Discussion

The purpose of this rapid review was to synthesise and describe the barriers to oral healthcare for vulnerable groups from the current international literature to provide a better understanding on which to inform commissioning and the provision of services. To our knowledge, this is the first comprehensive review aimed at synthesising barriers experienced by several vulnerable groups from different countries. The existing reviews on barriers to oral healthcare for people from vulnerable groups focus only on specific vulnerable categories.[65,109,116]

People from vulnerable groups continue to face a high burden of dental disease and difficulties accessing oral healthcare. There were common barriers experienced by almost all vulnerable populations, in addition to barriers specific to the characteristics of each group.[166] It is also important to appreciate that some individuals experience accumulative challenges as they belong to more than one vulnerable group; for example, an unemployed individual with physical disabilities living in a rural area who is from a minority ethnic group. Thus efforts to facilitate access must recognise and address the complex nature of the barriers faced.

This review identified the financing of dental services to be an issue at an individual level, with people unable to afford care and at organisational and policy levels. Indeed, the solutions suggested within the literature included the need for more public funding for dental services and/or ways to provide dental services for vulnerable groups more efficiently, such as through better use of skill mix or through the involvement of students. However, funding was not the only issue raised with a lack of integration of dental services with other health, social and community services cited as another recurrent barrier. Other recent reviews and reports[166,167,168,169,170] have shown that globally there is a lack of coordination between dentistry and other services.

A strength of this review was the comprehensive reproducible search strategy and data extraction by two reviewers, as well as the rapid review approach. This enabled a relatively quick, yet in-depth, synthesis of the current evidence on barriers to oral healthcare for vulnerable groups to inform service providers, policy discussions and commissioning decisions.

There are, however, a number of limitations as a result of the methodological approach taken to ensure rapidity and due to the focused nature of the literature reviewed. The rapid review covered a ten-year period only, included only studies reported in English and only one database was searched. While this approach may be sufficient to capture most of the contemporary literature for these vulnerable groups, some relevant literature will have been omitted. Additionally, the lack of consensus of a definition of vulnerability means that certain individuals or groups may have been excluded. The included literature used a variety of different terms, for example learning disabilities, learning difficulties, mental disabilities and patients with special needs. The variety of terms used reflects differences internationally and changes in terminology over time. Some studies focused on specific conditions like autism or epilepsy, while others grouped conditions together or focused on groups of people or patients. Within groups, a range of severities of conditions means the identified barriers may apply to a lesser or greater extent. Also, some people have a combination of disabilities which make accessing care more complex and disabilities are commonly compounded by low socioeconomic status.[74] In this review, the literature for specific groups has been combined although different definitions and severities may exist. There are also differences between countries in attitudes towards vulnerable groups and in the legislation about the rights of people with disabilities and how this legislation is enforced. Similarly, there are differences in how dental services are organised and funded, which make some barriers specific to certain settings. The barriers identified in this review may be barriers perceived by the public, patients or dental professionals rather than actual barriers. The potential solutions stated are those suggested by the authors and have not been evaluated in terms of their clinical and cost-effectiveness.

Conclusions

Barriers to dental care for vulnerable groups have been identified at individual, organisational and policy levels, with significant commonalities between these groups. Numerous solutions to overcome these barriers have been identified, although there is little evidence to confirm the effectiveness or cost-effectiveness of these solutions.

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Appendix 1 Countries of origin for included articles

Australia	India	Norway
Belgium	Indonesia	Poland
Brazil	Ireland	Saudi Arabia
Cameroon	Japan	South Africa
Canada	Jordon	Sweden
China	Korea	Spain
Denmark	Malaysia	Tanzania
Egypt	Mexico	Thailand
France	Netherlands	Timor-Lest
Germany	Nicaragua	Turkey
Greece	Nigeria	United Kingdom
		United States of America