Report on Non-Attenders

Community Partnership Hub demonstration research project

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Executive Summary

What does this report cover, and why is this study important?
People who do not attend scheduled appointments at NHS or voluntary sector care settings are not having their healthcare needs met. Patients not attending their appointments without giving notice can also burden healthcare services and lead to increased waiting lists. In this study we aimed to identify the characteristics of "non-attenders" and understand what can be done to help to meet their needs in order to inform future service development in Exeter and Devon.

What did we do?
Our study conducted a review of scientific reports on characteristics of non-attenders and what interventions may be put in place to effectively reduce non-attendance. The purpose of this review was to summarise what research had already been conducted by other researchers.

What did we find?
The review evidence produced mixed findings with respect to non-attendance. Single or single parenthood status (two reviews) and lack of social support were the only characteristics consistently linked to non-attendance, and previously missing appointments was predictive of missing future appointments. We found some evidence that interventions which provide support for patients to navigate systems or help in planning attendance, and changes in service delivery, are effective in reducing non-attendance.

Recommendations
Further research could be conducted into how different types of service navigation, care planning and changed service delivery could improve attendance rates. Given the very mixed findings on which groups have higher rates of non-attendance, more monitoring of characteristics of non-attenders could also be conducted.

Introduction

This report summarises a three-month demonstration study for the Community Partnership Hub. The Hub connects public, voluntary, community and social enterprise (VCSE) sector organisations in Devon and the South West with researchers and students at the University of Exeter. Its aim is to help establish long-term, sustainable relationships which support partnerships through research projects, student placements, internships and volunteering.

A demonstration research project was conducted during the summer of 2022, to test ways of working between the university and local organisations. The projects conducted research in three areas which had been identified as priorities by the Healthy Exeter Panel, in order to inform future service development in Exeter and Devon. This report presents findings on one of these areas: characteristics of non-attenders and interventions for reducing levels of non-attendance at services. Understanding non-attendance is important because people who do not attend scheduled appointments at NHS or voluntary sector care settings are not having their healthcare needs met. Patients not attending their appointments without giving notice can also burden healthcare services and lead to increased waiting lists.

Methodology

An umbrella review – a review of the evidence from academic studies - was used to identify: characteristics of non-attenders in the UK and other industrialised countries; interventions adopted by other areas which may be relevant to services in Devon; and evidence about which types of interventions are effective or not. This type of review compiles evidence from multiple existing reviews. This method is useful for efficiently summarising the evidence on a particular topic and identifying where there is evidence of which interventions work or not. The protocol for this systematic 'umbrella' review of reviews was registered on PROSPERO (CRD42022344201).

Search strategy

Several iterations of scoping searches were piloted in different databases prior to the final searches taking place. This was to ensure that the search terms used yielded an appropriate number of relevant results, without being too sensitive or specific. After this scoping period, the final search strategy was applied to the following databases: Medline, Embase, APA PsycINFO, CINAHL, PROSPERO for protocols of existing reviews, and the Cochrane library of systematic reviews. For detail on the final search strategy for Medline, see table 1 below.

***Table 1**: the search strategy for Medline and Embase, and the number of titles this retrieved on the date of the final searches*

1	(frequent* adj3 attend*) or (frequent* adj3 user*) or (frequent* adj3 utili*) or (frequent* adj3 visit*) or (frequent* adj3 consultation*) or ('high-intensity' adj3 attend*) or ('high-intensity' adj3 user*) or ('high-intensity' adj3 utili*) or (heavy adj3 attend*) or (heavy adj3 user*) or (heavy adj3 utili*) or (heavy adj3 visit*) or (heavy adj3 consultation*) or (repeat adj3 attend*) or (repeat adj3 user*) or (repeat adj3 utili*) or (repeat adj3 visit*) or (repeat adj3 consultation*) or 'access to services' or 'hard-to-reach' or 'hard to reach' or overuse or underuse or 'non-attend*' or 'no-show*' or 'missed appointment*'
2	primary care' or 'primary healthcare' or 'social care' or emergency or hospital* or outpatient* or inpatient* or Emergency Service, Hospital/ or Primary Health Care/
3	review* or meta* (title)
4	1 and 2 and 3
	1021 results on MEDLINE, 30.06.2022

Screening

When databases had been searched, results were uploaded to Covidence software for managing systematic reviews. Title and abstract screening of all results was conducted by 1 reviewer (CR). 20% of the titles and abstracts were screened by two additional reviewers (SD and JS), to establish consensus in applying the inclusion and exclusion criteria. For more detail on the criteria for this review, see table 2 below.

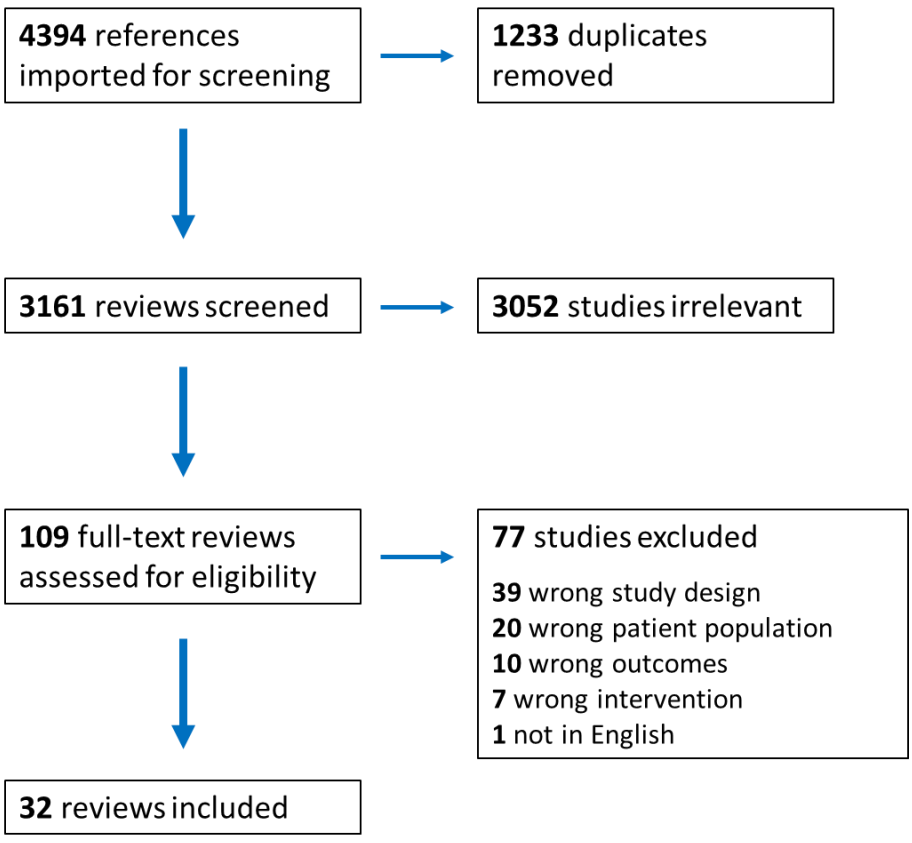
***Table 2:** the inclusion and exclusion criteria used for including reviews in this umbrella review*

Category	**Inclusion**	**Exclusion**
Population	Adults who attend health or social care services frequently, and adults who regularly do not	Children and adolescents aged under 18 Those with frequent attendance due to antenatal care

	attend booked appointments within health and social care	NOT frequent attenders or non-attenders
Intervention (focus of review)	Patient characteristics associated with frequent or non-attendance, and reviews focusing on interventions conducted in health or social care to either a) reduce frequent attendance or b) increase appropriate attendance in non-attenders	Other healthcare access-related topics, such as inappropriate or unnecessary usage of services, mistreatment of health and care staff, or frequent use/non-attendance of social work-related services, such as Child Protection
Comparator	N/A – any comparator was acceptable	
Study design	Systematic reviews and meta-analyses from 2005 onwards, defined as reviews with pre-defined strategies for searching, data extracting, and synthesising findings.	Pre-2005 Non-systematic literature and scoping reviews Protocols of reviews Primary research studies Studies unavailable in English

Full text screening was done in duplicate according to the criteria for inclusion and exclusion. CR screened all full texts, and JS and SD screened half of the full texts each, establishing a consensus around the final set of texts to be included in the review. For details of the process of screening texts, see figure 1 below.

Figure 1: *an illustration of the process of screening reviews for final inclusion in the umbrella review*



Data extraction
Once all full texts had been included, the key characteristics of each review were extracted into Microsoft Excel by CR according to a pre-defined framework. These key characteristics included the date of review, setting of the review (for instance, hospital emergency departments), whether the review explored characteristics of frequent/non-attenders or interventions to mitigate frequent/non-attendance, and the population group studied (for example, elderly populations). In-depth data extraction differed for reviews investigating interventions and characteristics. For those focusing on characteristics associated with frequent or non-attendance, each characteristic mentioned in a review was extracted and placed in a table. For each characteristic, the findings of each review were documented (for example, whether they were associated with frequent or non-attendance). For each characteristic, the number of primary studies reporting this characteristic within a review were also noted.

For reviews focusing on interventions, the names of the interventions were extracted, alongside a description of the intervention according to the review, how outcomes were measured, findings, and findings by population group, if applicable. For each intervention type, the number of primary studies reporting this intervention within each review were also noted. To ensure this extraction was accurate and logical, this was reviewed by other reviewers on the team.

Synthesis of findings
Also conducted in Microsoft Excel, narrative synthesis was undertaken to make sense of these findings across reviews. During this process, any common characteristics or interventions which were mentioned across multiple reviews were collated. This meant that for each characteristic or intervention, a table was produced detailing which reviews they were mentioned in, alongside the findings for each review, and additional details about population group-specific findings. After this, these tables were synthesised narratively, in order to produce a full description of what was said in the literature about each intervention and characteristic. This process was conducted by CR and overseen by other members of the review team.

Findings

Characteristics of non-attenders

Table 3: *number of reviews which analysed levels of non-attendance by social, health and sociodemographic characteristics*

Characteristic	Number of reviews reporting
Age	6
Socioeconomic status	5
Gender	5
Mental health	4
Employment status	3
Previous missed appointments	3
Race/Ethnicity	3
Chronic physical condition	3
Smoking status	3
Marital status	2
Health literacy	2
Education	2
Geographical location	2
Social capital	2

Age

Age of non-attenders was the most widely reported characteristic in the included reviews, featuring in six of the seven included reviews (1–6). These were set in hospital outpatients/community hospital settings (3 reviews), all healthcare settings (1 review), primary care (1 review), and mental health care (1 review). The population of interest in these reviews included diabetes clinic non-attenders, cancer screening non-attenders, and mental healthcare non-attenders.

Overall, results were mixed. Three reviews, set in cancer screening, diabetes clinics, and primary care, found that younger people were more likely to be non-attenders at these services than older people (1,4,5). In all three of these reviews, primary studies were also reported which found no trend. Three reviews reported no overall trend related to age (2,3,6). In these cases, some primary studies reported younger people to be more likely to miss appointments, whilst others reported no trend, and some reported older people to be more likely to be non-attenders.

Socioeconomic status

The next most widely reported characteristic of non-attenders was socioeconomic status, reported in five reviews (1,3–5,7). These were spread amongst hospital outpatients/community hospital settings, all healthcare settings, mental health care and primary care. Populations included cancer screening non-attenders, diabetes clinic non-attenders, and mental health non-attenders. Socioeconomic status was measured by income, financial pressures, and deprivation.

Three out of five reviews found that socioeconomic status was linked to missed appointments. These were located in cancer screening in hospitals, diabetes clinics in hospitals, and in primary care (1,4,5). Overall, lower socioeconomic status, higher self-reported financial pressure, and living in a deprived area were all linked to an increased likelihood of missed appointments. Two reviews found no trend, which were set in diabetes clinics, and mental healthcare (3,7).

Gender

Gender of non-attenders was reported in five reviews (2–6). These were set in hospital outpatients/community hospitals, all healthcare settings, primary care, and mental health care. Overall, there was no trend in any of the five reporting reviews with regards to gender. Many reviews reported studies showing no association between gender and missing appointments (2–4,6). Others reported contradicting findings, with some studies indicating females were more likely to miss appointments, and others reporting the same finding for men (3,5). Across all primary studies, men were most likely to miss appointments, but this was outweighed by the large number of studies that showed no trend.

Mental health status

Mental health status of non-attenders was explored in four of the seven reviews (3–6). These were set across hospital outpatients/community hospitals, primary care, all healthcare settings, and mental health care. Populations of interest included diabetes clinic non-attenders, general primary care non-attenders, and mental health care non-attenders. Mental health was sometimes referred to generally as the presence or absence of a diagnosis of a mental health disorder, and in some reviews, specific conditions were referenced, such as anxiety or depression. Results were mixed regarding the link between mental health diagnoses and the likelihood of missing appointments.

Two reviews reported a link between mental health and missing appointments (4,5). The first was set in diabetes clinics, and found that clinical anxiety and depression were both linked to missing appointments (4). The second was set in primary care, and found that the presence of a mental health diagnosis was associated with an increased likelihood of missing appointments (5). Two other reviews, set in all healthcare settings and mental health care, found no such association (3,6).

Employment status

Employment status of non-attenders was explored in three of the seven reported reviews (2–4). They were set in hospital outpatients/community settings, and all healthcare settings. All three reviews focused on diabetes clinic non-attenders. Results on this association were mixed. One review reported on one study that found that unemployment was associated with missed appointments in a hospital outpatients diabetes clinic (2). The other two reviews reporting on employment found that most studies reported no association between employment status and missing appointments (3,4).

Previous missed appointments

The link between having a history of missing appointments and the likelihood of being a non-attender was explored in three reviews (2,3,5). These were set in all healthcare settings, primary care, and hospital outpatients. Two reviews were focused on diabetes clinic non-attenders, and the primary care-based review was focused on general non-attenders. Although the number of primary studies reported across the reviews was low (6, across 3 reviews), the evidence suggests a clear link between having previously missed appointments and being a non-attender (2,3,5).

Race/ethnicity

Race and ethnicity of non-attenders was reported in three reviews (3–5). These were set in all healthcare settings, primary care, and hospital outpatients. Two reviews were focused on diabetes clinic non-attenders, and the primary care-based review was focused on general non-attenders. Overall, results were mixed. The review set within primary care reported that Non-White individuals were more likely to miss appointments (5). In diabetes clinics in hospitals, some ethnicities (Malay, Indian) were more likely to miss appointments (4). A third review reported no overall trend (3).

Chronic physical health conditions

The presence or absence of chronic physical health conditions was reported in three reviews (3,5,6). These were set in primary care, all healthcare settings, and mental health care. The populations of interest were general primary care non-attenders, diabetes clinic non-attenders, and mental healthcare non-attenders. Chronic physical health conditions were defined as comorbidities, and physical health status. Overall, no association between chronic physical health conditions and missing appointments was reported. In primary care, it was reported that the presence of at least one physical health condition was associated with an increased likelihood of missing appointments (5). In the remaining two reviews, no such association was found (3,6). In the review focused on diabetes clinic non-attenders, two primary studies reported that there was an increased likelihood of missing appointments in those with lower comorbidities, whereas another study within this review reported no association (3).

Smoking status

Three reviews reported on the link between smoking and missed appointments, all set in diabetes clinics, within a hospital outpatient setting or all healthcare settings (2–4). Overall, results were mixed. One review found an association between smoking and missing appointments in four primary studies (4). The other 2 reviews found equal numbers of studies reporting an association between smoking and missed appointments, and studies reporting no trend (2,3).

Marital status

Reported in two reviews, marital status was explored within the context of hospital outpatients/community hospitals diabetes and cancer screening clinics (1,4). It was found that being single or divorced was linked to increased attendance at cervical cancer screening (1). It was also found that single parenthood was associated with missed appointments in a diabetes clinic setting (4).

Health literacy

Reported in two reviews, health literacy was explored in the context of diabetes clinic non-attenders within a hospital outpatient setting or within all healthcare settings (2,3). It was reported as 'knowledge of disease' and 'health literacy'. One review, set in hospital diabetes clinics, found that knowledge of disease was negatively associated with missed appointments (2). This means that lack of knowledge was associated with an increased likelihood of missing appointments, and vice-versa. In another review, no association was found between health literacy and missed appointments in diabetes clinics (3).

Education level

Education level was reported as a characteristic of non-attenders in two reviews (3,5). These were set in primary care, and diabetes clinics within all healthcare settings. Results were mixed, with the review set within primary care reporting on one study that found that lower education levels were associated with an increased likelihood of missed appointments (5). The other review found no overall association between education levels and non-attendance (3).

Geographical location

Geographical location was reported in two reviews, set in primary care, and diabetes clinics within all healthcare settings (3,5). This was defined in both reviews as the residential location of the non-attender. One review found that those from deprived areas were more likely to miss diabetes clinic appointments (3). The other review in primary care found that living further away from the appointment destination was associated with an increased likelihood of missing appointments (5).

Social capital

Social capital of non-attenders was reported in two reviews, defined as 'social support' in one study, and 'social deprivation' in another study (3,4). These reviews were both set in diabetes clinics, one in all healthcare settings, and one in hospital outpatient settings. Overall, an association was found between a lack of social support and non-attendance at diabetes clinics, however some studies were reported which found no association between the two.

Interventions to reduce non-attendance

Table 4: *number of reviews which examined different types of interventions to reduce non-attendance*

Intervention	Number of reviews reporting
Patient navigation/care planning	3
Patient reminders	2
Changing healthcare delivery	2
Changing referral methods	2

Patient navigation/care planning

Patient navigation or care planning was reported in all three reviews reporting on interventions to increase attendance in non-attenders (4,8,9). These reviews were set in safety net settings, mental health care, and hospital outpatient diabetes clinics. Two reviews, set in safety net settings and hospital diabetes clinics, reported on patient navigators, where patients received personal guidance to help negotiate the logistical aspects of navigating the healthcare system (4,8). Another review, set in mental health settings, reported on an intervention focused on patients forming 'if-then' plans to

manage feelings towards attending appointments (9). Generally, these interventions resulted in a reduction of missed appointments. Patients' 'if-then' care plans in mental health care significantly reduced missed appointments (9). Patient navigation in diabetes clinics also improved attendance and clinical outcomes (4). In young people in one primary study, improvement was found at 24 months after the intervention was first implemented. In safety net settings, patient navigation had no significant effect on appointment attendance (4).

Patient reminders

Patient reminders were reported in two reviews, set in a safety net setting, and in mental healthcare (8,9). Reminder types were varied, but their overarching aim was to help remind patients about their appointment, and sometimes to help them to reschedule. The studies measured the effectiveness of reminders by measuring appointment attendance. Three reminder types were reported by the two reviews. Telephone reminders were reported by both reviews, and text messaging and reminder letters were each reported in one of the two reviews. Telephone reminder calls showed mixed results: in one review in mental health care, some studies reported a decrease in missed appointments, whereas others reported an increase in missed appointments (9). In another review set in safety net settings, no effect on non-attendance was reported (8). Text messaging reminders in safety net settings also showed no effect on non-attendance (8). Orientation and reminder letters in mental health care reduced missed appointments in three of five primary studies (9).

Changing healthcare delivery

Two reviews reported interventions where healthcare delivery was altered in some way to increase attendance (4,9). These were set in hospital diabetes clinics and mental health care. Interventions were evaluated by measuring appointment attendance. In diabetes clinics, one intervention was described as patient information provision and service restructuring, where the clinic efficiency, appointment flexibility, and staff attitudes were improved, and patients were kept informed of changes in the clinic (4). In the same review on diabetes clinics, one primary study also reported allowing patients to attend their appointments virtually, via Skype (4). In mental health care, participants were given the opportunity to choose their therapist's treatment style to one of their own preference (9). Overall, changing service delivery was associated with improved attendance, and increased patient satisfaction in all cases. In the hospital diabetes clinic, both offering service restructuring and virtual appointments were associated with improved attendance and patient satisfaction (4). Service restructuring and increased appointment flexibility were strongly associated with improved patient satisfaction in younger patients (4). In mental health care, choosing therapy style was associated with reduced missed appointments, which was trending towards significance (9).

Changing referral methods

A variety of interventions involving changing referral methods were reported by two reviews (8,9). These reviews were set in safety net healthcare settings, and in mental health care. These interventions were all evaluated by measuring appointment attendance. Five unique interventions were reported in total, with no interventions being reported across both reviews. In safety net settings, interventions included in-person referrals, where patients were introduced to clinicians in-person; patient contracts, where patients signed a non-legally binding contract stating they would attend future appointments; and facilitated appointment scheduling, where patients had appointments organised on their behalf by healthcare professionals (8). In mental health care settings, opt-in systems were reported, where patients had to initiate appointment referral; as well as accelerated intake interventions, where the time between referral and the first session was reduced (9).

Overall, results were mixed. Some interventions appeared to be more successful than others. Accelerated intake in mental health care increased appointment attendance in two small primary

studies (9). Opt-in referral systems did not have a significant effect on increasing appointment attendance in mental health care (9). In safety net settings, the most successful intervention for increasing appointment attendance was facilitated appointment scheduling, but in primary studies, confidence intervals were wide, indicating a large amount of uncertainty (8). Neither in-person referrals or patient contracts in safety net settings showed any association with increased appointment attendance (8).

Summary

The review evidence produced mixed findings with respect to non-attendance. Single or single parenthood status (two reviews) and lack of social support were the only characteristics consistently linked to non-attendance, and previously missing appointments was predictive of missing future appointments. We found some evidence that interventions which provide support for patients to navigate systems or help in planning attendance, and changes in service delivery, are effective in reducing non-attendance.

Table 5: *Summary of interventions to reduce non-attendance*

Type of intervention	**Evidence review findings**
Patient navigation/care planning	Attendance generally improved through (1) support for patient navigation of care (2) 'if then' plans to manage attendance.
Patient reminders	Mixed findings
Changing service delivery e.g. increasing flexibility of appointment or choice of treatment style	Overall, associated with improved attendance, and increased patient satisfaction
Changing referral methods	Mixed findings. Accelerated referral may be effective in mental health settings.

Limitations

The evidence review was limited in that it was rapid and non-exhaustive and did not include a formal quality appraisal.

Recommendations

Further research could be conducted into how different types of service navigation, care planning and changed service delivery could improve attendance rates. Given the very mixed findings on which groups have higher rates of non-attendance, more monitoring of characteristics of non-attenders could also be conducted.

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