International Journal of Nursing
Peer Reviewed | Open Access | Free Online Journal | www.ijnonline.com
Published Biannually | ISSN: 2279-0195.

REVIEW

Strategies Promoting the Participation In Prevention And Rehabilitation Services: An Overview Of Reviews

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ABSTRACT

Background: Preventive health care, secondary prevention and rehabilitation can avert early mortality and reduce the burden of disease, yet cancer-screening programs experience problems with uptake, and participation in self-management programs is rarely discussed.. Since interventions designed to promote uptake of health services are often based on similar ideas, a cross-disciplinary review of interventions is appropriate and resource-effective.

Methods: This paper reviews the literature on interventions encouraging uptake of 1) chronic disease self-management program, 2) cancer screening and 3) service access to inform the development of interventions promoting uptake of rehabilitation and preventive services. EMBASE, the Cochrane Library and DARE were searched in 2011. Included were reviews published in English since 2000 reporting any intervention promoting service uptake in adults with an outcome of service use or access. Excluded were workplace interventions and health care professionals. Data was extracted and summarized qualitatively. Results were synthesized into an overview of all types of interventions found.

Results: Systematic searches on 1) self-management programs; 2) screening and 3) service access yield 2488, 522 and 325 results respectively. Twenty-four reviews were included. While most of the evidence stems from the cancer screening literature little information from the service access literature and on interventions that encourage self-management program participation became apparent. Personalized, tailored and direct communication appears to be an effective method for promoting enrollment. Access-enhancing and direct contact interventions seem promising for underrepresented groups.

Conclusion: The similarity of intervention designs across health issues support future cross-disciplinary investigations to inform strategy development.

Keywords: *Review; health promotion; screening.*

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Article Info:
Submitted: Nov 16, 2011;
Accepted: Mar 15, 2012;
Published: Jul 01, 2012.

Introduction:

Across the globe chronic diseases such as cancer, respiratory illness and diabetes are long lasting conditions that will become the leading cause of mortality by 2020 (World Health Organization, 2011). Preventive healthcare such as screening programs seek to detect diseases early, whereas secondary prevention and cardiac or pulmonary rehabilitation target modifiable risk factors including poor diet or tobacco use and provide assistance in disease self-management (1-3). Preventive and rehabilitation services avert premature death, disability and reduce the burden of disease (Bethell, Lewin, & Dalal, 2009; Daly et al., 2002; Jepson et al., 2000); yet a number of health care services have low participation rates (Beswick et al., 2004; Jepson, et al., 2000).

Most North American and European countries offer cardiac rehabilitation but for various reasons uptake remains below desirable with rates of around 30% and 40% in the United States and the United Kingdom, respectively (Bjarnason-Wehrens, 2008; Daly, et al., 2002; The National Audit of Cardiac Rehabilitation, 2010; Thomas et al., 2007; Wenger, 2008). In contrast, there is evidence that invitation to breast cancer screening rates and screening rates themselves have increased by 40-50% over the past decade (The NHS Information Centre Workforce and Facilities, 2010). Mammography and cervical screening in insured US populations and in England have risen to an average of around 75% (Ross, Bradley, & Busch, 2006; The NHS Information Centre Public Health Indicators and Population Statistics team, 2010; The NHS Information Centre Workforce and Facilities, 2010) National screening programs, such as the NHS programs, generally increase the uptake of screening amongst the population as a whole, however uptake of screening in areas with lower life expectancy remains slightly below average for mammography screening (The NHS Information Centre Public Health Indicators and Population Statistics team, 2010). Furthermore, health inequalities, the difference in health status between different socioeconomic strata (SES), exist in cancer screening for Latinas and African-American women in the United States, which is likely related to service access due to the fee-for-service system (Corcoran, Dattalo, & Crowley, 2010; Graham, 2007; Hall, Lemak, Steingraber, & Schaffer, 2008). In the UK, uptake of cervical and bowel cancer screening is lower in Asian groups, even if socioeconomic and demographic characteristics are controlled for, but since screening services are free of charge this may be a matter of service use (Szczepura, Price, & Gumber, 2008). Factors such as illness experiences or perceived consequences of a health care service can impact uptake (Conrad & Barker, 2010). What influences service uptake differs and for some population groups preventive health care may not be a priority. The use of health care may differ between those with equal access and equal need due to preference but, as Oliver and Mossialos (Oliver & Mossialos, 2004) state, the lack of skills or information are not acceptable reasons causing differential use. With this in mind, attention needs to be paid to health inequalities and other potentially underrepresented groups.

A similar picture can be observed in chronic disease care. Effectiveness and implication of the expert patient programme, the UK's adaptation of the Stanford model, appear to be limited and concerns that those of a lower socio-economic status are not being reached exist (Jordan & Osborne, 2007; Warsi, Wang, LaValley, Avorn, & Solomon, 2004). And although research investigates how to encourage self-care in chronic conditions interventions to promote participation in self-management programs and their effectiveness for different patient groups are rarely discussed (Eakin, Bull, Glasgow, & Mason, 2002).

Apparent commonalities promoting the use of such services, for example peer support (Dennis, 2003), suggest that cross-disciplinary explorations may reveal patterns useful for the development of interventions promoting service use in the future. This paper is exploring interventions designed to encourage 1) disease self-management program use, 2) cancer screening uptake, and 3) service access in general with a secondary objective of exploring underrepresented groups..

Methods

Definitions: To help clarify the focus of the paper the terms intervention, uptake and underrepresented groups are defined. The term intervention is used ambiguously in the literature.

Interventions can either promote uptake of a new service, or where patients have accessed a health care service already, interventions try to modify the patients' current health status. The latter has multiple outcomes including health care utilization, which is mainly the changed need for health care in response to the intervention. The way systematic reviews group studies together presents a challenge when extracting the evidence for service uptake interventions alone. The goal of the current review is to find interventions that specifically promote uptake of another health care service.

Uptake is defined here as having been invited to a health care service followed by (self) reported participation. This stands in contrast to opportunistic partaking whereby the invitation to the health care intervention occurs in the setting where the intervention is then accessed and available immediately.

Referring to the discussion above, the term underrepresented groups is used here as an umbrella term for groups that use or access a service less than expected (Oliver & Mossialos, 2004). Depending on the health care area this may include patients with lower socioeconomic status or education (health inequalities), ethnic background or older age.

Search strategy: A number of health services researchers identified areas facing challenges with participation rates. The areas suggested include 1) disease self- management programs, 2) cancer screening programs, and 3) service access in general. Three different search strategies (Appendix A) were used to look for reviews on interventions to increase uptake:

1. EMBASE was searched for terms related to self-management programs and uptake.

2. The Centre of Reviews and Disseminations' database DARE as well as the Cochrane Library of systematic reviews were searched using terms related to screening (testing, screening, prevention programs etc.) and uptake (attendance, accept, participation etc.). In addition, EMBASE was searched using the same terms, plus a review filter and terms related to underserved populations.

3. The Cochrane Library and DARE/HTA were searched for service access literature reviews.

The systematic searches were conducted in 2011.

Eligibility criteria: The eligibility criteria for study inclusion were reviews published in English and after January 2000.

- Population: adults
- Intervention: any intervention promoting service uptake
- Outcome: service use or access depending on intervention target
- Study design: reviews

Two exclusion criteria were developed namely workplace interventions since this could exclude harder to reach populations and studies targeting health care professionals as patients. The author scanned titles and abstracts against the criteria.

Data Extraction and Synthesis: The author extracted data on review topic, strategies applied and the review authors' conclusion. Due to the diversity of intervention designs and content quantitative analysis was not appropriate. A narrative synthesis of the results is provided.

Results

This section will first present the findings on self-management, followed by screening, service access, and reviews by intervention type leading to an overview of all types of interventions found.

Chronic disease (self-) management programs

Since disease specific searches yielded very few findings, a general search was conducted which yielded 2488 results. All titles were screened and 62 abstracts were assessed. Two reviews that assessed interventions promoting uptake of chronic disease (self) management services were found.

Norris et al (Norris et al., 2006) conducted a review of studies on community health care workers (CHW) in diabetes care and found a reduction in inappropriate health care use. Most of the included studies targeted minority populations. Since the tasks of the CHW differed, for example calling patients, it is not clear whether service access promotion was part of the CHWs role.

Brownstein et al's (Brownstein et al., 2007) review, which looked at hypertension and CHW, included only one study on uptake of new services. Most studies included targeted urban African Americans.

Overall, the two reviews show that promoting uptake of self-management programs is rarely addressed in research. And although community health workers may have some positive effects, there is not enough evidence to draw conclusions in terms of self-management program use.

Screening

The screening search found 552 titles (287 EMBASE, 25 Cochrane Reviews, 65 CRD HTA and 175 DARE). A total of 49 abstract were scanned resulting in 15 systematic reviews on interventions to increase the uptake of screening (one on screening and immunizations). Six reviews focused on underrepresented groups, namely low-income, Black/ethnic minority, Latina, and 'traditionally underrepresented'. No other specific populations were mentioned.

When considering systematic reviews that assess interventions targeting underrepresented groups (Appendix B), it was found that logistic, financial and access-enhancing interventions are most successful in promoting screening (Bailey, Delva, Gretebeck, Siefert, & Ismail, 2005; Han et al., 2009; Legler et al., 2002; Masi, Blackman, & Peek, 2007). Access-enhancing includes, for example, bringing services to patients, providing assistance with finances, tackling structural or financial barriers(Legler, et al., 2002). In addition, provider – targeted interventions and physician reminders also have an impact (Kupets & Covens, 2001; Masi, et al., 2007). Peer support was effective (Bailey, et al., 2005) and patient reminders (letter/phone) are found to be ineffective by some and effective by other reviews. One review explicitly concluded reminder letters to be less effective in lower socioeconomic groups (Tseng, Cox, Plane, & Hla, 2001).

Several reviews that did not focus on specific patient groups (Appendix C) found that patient reminder letters or phone calls are successful (Bonfill Cosp, Marzo Castillejo, Pladevall Vila, Marti, & Emparanza JosÈ, 2001;

Jepson, et al., 2000; Stone et al., 2002; Tseng, et al., 2001). In reference to the former, tailoring(Sohl & Moyer, 2007), personalization and physician recommendation were found to have a greater impact. Furthermore, direct contact strategies (calls and visits) also increased screening (Denhaerynck et al., 2003). One review found cost elimination and organizational change to work (Stone, et al., 2002). A combination of patient and physician reminder was found to be effective in one review (Jepson, et al., 2000), whereas another did not find the combination to be more effective than patient reminders alone (Yabroff, Mangan, & Mandelblatt, 2003). Mixed results for provider education became apparent (Jepson, et al., 2000; Yabroff, et al., 2003), and provider feedback was deemed unsuccessful(Stone, et al., 2002). Audiovisual and educational material and education in general had little impact (Jepson, et al., 2000).

Service access

The search for service access interventions yielded 325 papers (Appendix D). Three reviews assess the promotion of vaccinations (Briss et al., 2000; Maglione, Stone, & Shekelle, 2002; Thomas Roger, 2010). Personalized reminders (phone calls or letters) appear to be effective in promoting vaccinations. Home visits may also encourage uptake. Physician reminders were effective overall but not in the review focusing on the elderly, which were also the target population for mass mailings that found little effect (Maglione, et al., 2002).

Additional findings

While searching the literature and reference lists four papers were found that compare types of interventions across diseases. The intervention categories were peer phone calls, community health workers, and mass media (Appendix E). Peer support appears to be successful in some but not other cases(Dale, Caramlau, Lindenmeyer, & Williams, 2008) and mass media can support use of services(Grilli, Ramsay, & Minozzi, 2002). Community health workers are used in a variety of health areas (Andrews, Felton, Wewers, & Heath, 2004; Swider, 2002). Although the reviews had some mixed findings, there appears to be at least a partial effect. This could be due to the variations in type of role, duration and health issues (Andrews, et al., 2004). It is to note that because the reviewers grouped interventions by strategy the effect on multiple outcomes is evaluated. Only reviews that included studies assessing health care access or use as an outcome were included. As mentioned earlier, it is difficult to disentangle the effect on participating in a new service because patients may already partake.

Intervention strategies

From the 24 included literature reviews a list of interventions used to promote service uptake was derived (Table 1). Out of the major groups, patient- targeted interventions are most often used in studies and there appears to be a tendency towards multi-component interventions.

INTERVENTION	**REFERENCE**
Population-level	
Media	
Mass media	(Black, Yamada, & Mann, 2002; Jepson, et al., 2000; Legler, et al., 2002; Stone, et al., 2002)
Mass media & other	(Black, et al., 2002; Corcoran, et al., 2010)
System-level	
System-level	(Stone, et al., 2002)
Same day screening	(Masi, et al., 2007) (opportunistic)
Electronic system implementation	(Kupets & Covens, 2001)
Provider-level	
Audit and feedback	(Jepson, et al., 2000; Kupets & Covens, 2001; Stone, et al., 2002; Yabroff, et al., 2003)
Reminder (chart/computerized)	(Jepson, et al., 2000; Kupets & Covens, 2001; Masi, et al., 2007; Yabroff, et al., 2003)
Administrative/nurse assistance	(Masi, et al., 2007)
Education, workshop	(Jepson, et al., 2000; Masi, et al., 2007; Yabroff, et al., 2003)
Multiple	(Masi, et al., 2007; Yabroff, et al., 2003)
Patient-level	
Access enhancing	(Bailey, et al., 2005; Han, et al., 2009)
Financial assistance	(Bailey, et al., 2005; Jepson, et al., 2000; Legler, et al., 2002; Masi, et al., 2007; Stone, et al., 2002)
Logistic assistance	(Bailey, et al., 2005; Jepson, et al., 2000; Legler, et al., 2002)
Referral	(Bailey, et al., 2005)
Financial incentive/reward	(Jepson, et al., 2000)
Reminder	
Mailed questionnaire	(Edwards, Unigwe, Elwyn, & Hood, 2003)

INTERVENTION	REFERENCE
Letter & other strategies combined	(Bonfill Cosp, et al., 2001; Masi, et al., 2007; Yabroff, et al., 2003)
Prints	
Printed information	(Bonfill Cosp, et al., 2001; Corcoran, et al., 2010; Edwards, et al., 2003; Grilli, et al., 2002)
Print & voucher	(Corcoran, et al., 2010; Masi, et al., 2007)
Video and print	(Bailey, et al., 2005)
TV advert and print	(Black, et al., 2002)
Electronic or audiovisual	(Kupets & Covens, 2001)
Direct contact	
Direct contact	(Bonfill Cosp, et al., 2001; Legler, et al., 2002)
Professional outreach	
Visit	(Denhaerynck, et al., 2003; Sohl & Moyer, 2007)
Phone calls	(Denhaerynck, et al., 2003; Jepson, et al., 2000; Sohl & Moyer, 2007)
Peer lead	(Denhaerynck, et al., 2003; Sohl & Moyer, 2007)
Visit	(Denhaerynck, et al., 2003; Sohl & Moyer, 2007)
Phone calls	(Bailey, et al., 2005; Dale, et al., 2008; Denhaerynck, et al., 2003; Sohl & Moyer, 2007)
Multiple strategies	(Black, et al., 2002; Edwards, et al., 2003; Jepson, et al., 2000; Masi, et al., 2007)
Individual/group/ community education	(Bailey, et al., 2005; Bonfill Cosp, et al., 2001; Corcoran, et al., 2010; Edwards, et al., 2003; Jepson, et al., 2000; Masi, et al., 2007; Stone, et al., 2002)
Community outreach (multiple strategies)	(Andrews, et al., 2004; Black, et al., 2002; Brownstein, et al., 2007; Corcoran, et al., 2010; Han, et al., 2009; Jepson, et al., 2000; Legler, et al., 2002; Norris, et al., 2006; Swider, 2002; Yabroff, et al., 2003)
Patient & Provider level	
Reminder for both	(Jepson, et al., 2000; Kupets & Covens, 2001; Masi, et al., 2007; Yabroff, et al., 2003)
Reminder & other strategy	(Masi, et al., 2007)
Multiple for both	(Masi, et al., 2007; Yabroff, et al., 2003)
Other multi-component interventions	(Bailey, et al., 2005; Black, et al., 2002; Jepson, et al., 2000; Kupets & Covens, 2001; Yabroff, et al., 2003)

Discussion

The purpose of the scoping review was to investigate interventions that promote preventive health service uptake, self-management program use and service access. The paper found many reviews on interventions to increase access and use of cancer screening, fewer studies on service access and little information on interventions to engage patients in self-management programs. Although most of the evidence stems from the cancer screening literature, the commonalities of interventions to promote uptake with cardiac rehabilitation, immunization and use of services related to chronic diseases emerge. This supports their relevance for informing interventions designed across health care disciplines. A broad overview of interventions used to promote uptake is given which guides the reader to review papers evaluating these methods. Previously, Rimer's typology listed seven similar categories of interventions to increase breast cancer screening but no comparison across health care area was made (Rimer, 1994).

The lack of results around uptake of self-management programs demonstrates that such programs are being developed and integrated but the provision of services is variable. A tendency to provide individual rather than group (program-based) patient support remains because of the unique situations each patient faces. The usefulness of self-management programs due to such individual patient situations may be questioned.

Patient-level interventions: Strong evidence for patient reminders specially tailored and personalized letters and phone calls became apparent. While printed materials alone have limited effects on behavior change, and automated reminder systems have mixed impacts in diabetes care uptake, tailoring seems effective and its importance is emphasized here (Harris, Smith, & Veale, 2005; Noar, Benac, & Harris, 2007).

In terms of provider-level interventions provider education alone was not supported by the literature and should not be considered as a first step when looking for ways of promoting service use. In addition, provider reminders may only be appropriate where patient contact occurs. There is evidence for nurse or administrative assistance as well as for combining patient and provider reminders. Due to the variety of clinical practice this intervention appears less straightforward, of higher resource need and may be a good but not always a feasible choice.

When targeting underrepresented groups, access-enhancing or cost reduction services appear to increase use. Reminders were less effective probably because access is a barrier to use in those underrepresented groups. Therefore, access rather than use is the main concern for underrepresented groups in the US, which determined the choice of intervention strategy.

Goldman and Smith (2002) suggest that less educated patients need simpler regimes and more monitoring (Goldman & Smith, 2002), which would suggest the use of peers. Peer support and community health workers had a mixed impact upon screening uptake and the evidence on service use in chronic disease patients remained inconclusive. The roles, duration and health issues varied greatly between trials, which may partly explain this finding (Andrews, et al., 2004). Just as in the cardiac rehabilitation uptake literature, the impact of peers is unclear and further research is suggested.

While access-enhancing strategies and the reduction of financial barriers were found to be more successful when targeting underrepresented groups, personalized, tailored letters and phone calls appear to be an appropriate, low risk and cost effective option for trying to promote use of preventive and rehabilitation services. Although letters were found to be less effective in underrepresented groups likely due to financial barriers, as Sheldon (Sheldon, 2011) suggests, any well planned structured health care intervention can have a significant impact on health inequalities

Limitations: Albeit there was little overlap of included studies between the six reviews looking at underrepresented groups in screening; reference overlap for all remaining studies was not assessed. The majority of studies were conducted in the United States, which may limit the relative importance of intervention methods depending on the health care system elsewhere. This scoping review is by no means a complete overview of the research literature and further investigation into detailed mechanism is suggested.

Key Message

Personalized, tailored direct communication appears to be a low risk and cost effective methods for recruiting patients. The role and effects of community health workers is worth exploring in more detail because some positive impacts have been observed. Lack of evidence on how health care providers engage with chronic disease patients to encourage self-management program attendance became apparent. Access-enhancing strategies encourage use of services in underrepresented groups. Targeting and tailoring to the characteristics of each group appear to be supporting use but the evidence is less clear.

Acknowledgement

I would like to thank Professors Robert J. Lewin and Karl Atkin. This studentship is funded by NIHR CLAHCR.

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