

## **NEW REVIEWS**

A Systematic review of different models of home and community care for older persons

Behavioural interventions for weight management in pregnancy: A systematic review of quantitative and qualitative data

Exercise to prevent falls in older adults: an updated meta-analysis and best practice recommendations

Reduced dietary salt for the prevention of cardiovascular disease

Consumer oriented interventions for evidence-based prescribing and medicines use: an overview of systematic reviews

Printed educational materials: effects on professional practice and health care outcomes

Interventions for supporting informal caregivers of patients in the terminal phase of a disease

## **FORTHCOMING REVIEWS**

Protocol for a systematic review of the effects of schools and school environment interventions on health: evidence mapping and synthesis

Knowledge translation strategies for facilitating evidence informed public health decision making among managers and policy-makers

Workplace pedometer interventions for increasing physical activity

## **NEW REVIEWS**

### **A systematic review of different models of home and community care for older persons**

Costs and consumer preference have led to a shift from the long-term institutional care of aged older people to home and community based care, a pattern that is anticipated to grow. Home and community care services aim to assist older persons to live independently in their homes and to maintain or enhance their quality of life for as long as possible. A systematic review was conducted of non-medical home and community care services for frail older persons with the aim to evaluate different models of home and community care for older persons. Studies were included in the review if they evaluated the delivery of either case managed, integrated or consumer directed models of home and community services using quantitative outcomes, for community dwelling people who were predominately over 65 years, and were not selected because they had a specific medical condition. 35 papers were included in this review. Evidence from seven RCTs showed that case management improved function and appropriate use of medications, increased use of community services and reduced nursing home admission. There were also positive results for other clinical outcomes and decreased hospital admissions. Evidence showed that integrated care increased service use and did not improve clinical outcomes. Studies showed that consumer directed care improved satisfaction with care and community service use but had little effect on clinical outcomes. Overall the highest quality evidence showed that case management improved clinical outcomes and decreased nursing home

admission and hospital use. Case management decreased the use of services possibly by decreasing the need for such services but integrated care increased use of services possibly by facilitating access to needed services. The authors noted several limitations of the review including heterogeneity of the studies, including the significantly different health and social care systems in which the evaluations were conducted. Yet despite their dissimilarities, the authors suggested that the patterns observed in these studies are consistent with previous reviews of the individual models of care suggesting that common lessons can be drawn. The authors concluded that an ideal model could incorporate the key elements of all three models to maximise outcomes.

Low L-F, Yap M, Brodaty H. A systematic review of different models of home and community care for older persons. *BMC Health Services Research* 2011;11:93.

<http://www.biomedcentral.com/1472-6963/11/93/abstract>

### Exercise to prevent falls in older adults: an updated meta-analysis and best practice recommendations

The prevention of falls and mobility-related disability among older people is an urgent public health challenge, with one third of people aged 65 and over falling once or more annually. Due to increasing proportions of older people in the population, the impact of falls on older individuals, their carers and health services will continue to grow into the future. Trials and systematic reviews have provided clear evidence that falls in older people can be prevented with appropriately designed interventions. This systematic review update includes 54 randomised controlled trials, including 10 additional eligible trials, and focuses on exercise as a single falls prevention intervention. The findings of the meta-analysis remained unchanged, confirming that that exercise as a single intervention can prevent falls (RR 0.84, 95% CI: 0.77 to 0.91). Programs that included balance training, contained a higher dose of exercise and did not include walking training had the greatest effect on reducing falls. However trials with and without walking training led to a reduction in falls if they also included balance training and a high dose of exercise. An exploratory meta-analysis from trials conducted in residential care settings found that exercise resulted in a 7% reduction in fall rates (RR 0.93, 95% CI: 0.78 to 1.11). The authors recommend that exercise for falls prevention should provide a moderate or high challenge to balance, must be of a sufficient dose to have an effect and be undertaken for at least 2 hours per week on an ongoing basis. Additionally it is recommended that falls prevention exercise should be targeted at the general community as well as those at high risk for falls, and that walking training may be included in addition to balance training, but high risk individuals should not be prescribed brisk walking programs. The authors suggest that the above recommendations also apply to people in residential aged care and to people with cognitive impairment, however modification of implementation approaches are required to ensure safety and efficacy of exercise interventions in residential care settings and for those with cognitive impairment.

Sherrington C, Tiedemann A, et al. Exercise to prevent falls in older adults: an updated meta-analysis and best practice recommendations. *NSW Public Health Bulletin* 2011;22(4):78-83.

[http://www.publish.csiro.au/view/journals/dsp\\_journal\\_fulltext.cfm?nid=226&f=NB10056](http://www.publish.csiro.au/view/journals/dsp_journal_fulltext.cfm?nid=226&f=NB10056)

### Reduced dietary salt for the prevention of cardiovascular disease

The relationship of salt intake to blood pressure is the basis for the belief that restriction in dietary sodium intake will prevent blood pressure related cardiovascular events. An earlier Cochrane review of dietary advice identified insufficient evidence to assess effects of reduced salt intake on mortality or cardiovascular events. The objective of this review was to assess the long term effects of interventions aimed at reducing dietary salt on mortality and cardiovascular morbidity; and to investigate whether blood pressure reduction is an explanatory factor in any effect of such dietary interventions on mortality

and cardiovascular outcomes. Trials were included in the review if they were randomised with follow up of at least six-months, the intervention was reduced dietary salt, study participants were adults, and mortality or cardiovascular morbidity data were available. Seven studies met the review's inclusion criteria with end of trial follow-up of between seven to 36 months and longest observational follow up (after trial end) to 12.7 years. Relative risks for all-cause mortality in normotensive individuals (end of trial RR 0.67, 95% CI: 0.40 to 1.12; longest follow up RR 0.90, 95% CI: 0.58 to 1.40) and hypertensive individuals (end of trial RR 0.97, 95% CI: 0.83 to 1.13; longest follow up RR 0.96, 95% CI: 0.83 to 1.11) showed no strong evidence of any effect of salt reduction. Cardiovascular morbidity within these two populations also showed no strong evidence of benefit. Salt restriction increased the risk of all-cause death in those with congestive heart failure (end of trial RR: 2.59, 95% CI: 1.04 to 6.44). The review found no information on participants' health-related quality of life. The authors concluded that despite collating more event data than previous systematic reviews of randomised controlled trials (665 deaths in 6,250 participants), they were unable to demonstrate a robustly estimated effect of reduced dietary salt on mortality or cardiovascular morbidity in normotensive or hypertensive populations. Further RCT evidence is needed to confirm whether restriction of sodium is harmful for people with heart failure.

Taylor RS, Ashton KE, Moxham T, Hooper L, Ebrahim S. Reduced dietary salt for the prevention of cardiovascular disease. *Cochrane Database of Systematic Reviews* 2011, Issue 7.

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009217/frame.html>

### Consumer-oriented interventions for evidence-based prescribing and medicines use: an overview of systematic reviews

Numerous systematic reviews exist on interventions to improve consumers' medicines use, but this research is distributed across diseases, populations and settings. Such differences create challenges for decision makers seeking review-level evidence to inform decisions about medicines use. The objective of the review was to synthesise the evidence from systematic reviews on the effects of interventions which target healthcare consumers to promote evidence-based prescribing for, and medicines use by, consumers. Evidence on the effects on health and other outcomes for healthcare consumers, professionals and services was considered. The review included 37 reviews (18 Cochrane, 19 non-Cochrane). Reviews assessed interventions with diverse aims including support for behaviour change, risk minimisation, skills acquisition and information provision. Medicines adherence was the most commonly reported outcome, but others such as clinical (health and wellbeing), service use and knowledge outcomes were also reported. The evidence was sparse for several populations, including children and young people, carers, and people with multi-morbidity. Promising interventions to improve adherence and other key medicines use outcomes (e.g. adverse events, knowledge) included self-monitoring and self-management, simplified dosing and interventions directly involving pharmacists. Other strategies including reminders, education combined with self-management skills training and counselling, showed promise in relation to adherence but their effects were less consistent. For some interventions, such as information or education provided alone, the evidence suggested ineffectiveness; for many others there was insufficient evidence to determine effects on medicines use outcomes. No interventions were found to be effective to improve all medicines use outcomes across all diseases, populations or settings. Despite the large number of included reviews there are many gaps in the assembled evidence on medicines use strategies, such as those focussing on children, young people or carers, or those for people with more than one coexisting health problem. The authors concluded that decision makers faced with implementing interventions to improve consumers' medicines use can use this overview to inform these decisions and also to consider the range of interventions available; while researchers and funders can use this overview to determine where research is needed. However, the limitations of the literature relating to the lack of evidence for important outcomes and specific populations, should also be considered.

Ryan R, Santesso N, Hill S, Lowe D, Kaufman C, Grimshaw J. Consumer-oriented interventions for evidence-based prescribing and medicines use: an overview of systematic reviews. *Cochrane Database of Systematic Reviews* 2011, Issue 5.

<http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD007768/frame.html>

### Printed educational materials: effects on professional practice and health care outcomes

Printed educational materials (PEMs) are widely used passive dissemination strategies to improve knowledge, awareness, attitudes, skills, professional practice and patient outcomes. Traditionally they are presented in paper formats such as monographs, publication in peer-reviewed journals and clinical guidelines, and appear to be the most frequently adopted method for disseminating information. The objective of this review was to determine the effectiveness of printed educational materials (PEMs) in improving process outcomes (including the behaviour of healthcare professionals) and patient outcomes, and to explore whether particular characteristics of PEMs (e.g. source, content, format, mode of delivery, timing/frequency, complexity of targeted behaviour change) can influence process outcomes. The review included RCTs, controlled clinical trials, controlled before and after studies and interrupted time series analyses that evaluated the impact of printed educational materials on healthcare professionals' practice and/or patient outcomes. Any objective measures of professional performance (e.g. number of tests ordered, prescriptions for a particular drug), or patient health outcomes (e.g. blood pressure) were included. Twenty-three studies were included in this review. Evidence indicated that PEMs appear to have small beneficial effects on professional practice. RCTs comparing PEMs to no intervention observed an absolute risk difference median: +4.3% on categorical process outcomes (e.g. x-ray requests, prescribing and smoking cessation activities) (range -8.0% to +9.6%, 6 studies), and a relative risk difference +13.6% on continuous process outcomes (e.g. medication change, x-rays requests per practice) (range -5.0% to +26.6%, 4 studies). In contrast, the median effect size was -4.3% for patient outcome categorical measures (e.g. screening, return to work, quit smoking) (range -0.4% to -4.6%, 3 studies). Two studies reported deteriorations in continuous patient outcome data of depression score, smoking cessation attempts. One study comparing PEMs with educational workshops observed minimal differences. Two studies comparing PEMs and education outreach did not have statistically significant differences between the groups. The authors concluded that when compared to no intervention, PEMs when used alone may have a beneficial effect on process outcomes but not on patient outcomes. However the clinical significance of the observed effect sizes is not known and there is insufficient information about how to optimise educational materials. It is also not known under what circumstances and contexts PEMs are more effective or what specific characteristics of printed educational materials make them more effective.

Farmer AP, Légaré F, Turcot L, Grimshaw J, Harvey E, McGowan J, Wolf FM. Printed educational materials: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2008, Issue 3.

<http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD004398/frame.html>

### Interventions for supporting informal caregivers of patients in the terminal phase of a disease

Patients in the terminal phase of a disease may have complex needs. It is often family and friends who play a central role in providing support through informal caring which may involve considerable physical, psychological, and economic stresses. A range of supportive programmes for caregivers is being developed including psychological support and practical assistance. The objective of this review was to assess the effects of supportive interventions that aim to improve the psychological and physical health of informal caregivers of patients in the terminal phase of their illness. The review examined RCTs of interventions which provided practical and emotional support and/or the facilitation of coping skills. Of the eleven RCTs included in the review, nine interventions were delivered directly to the caregiver,

seven of which provided support in the caring role; one involved a family life review; and one grief therapy. None provided practical support. Two interventions aimed to support caregivers indirectly via patient care. The review found low quality evidence that interventions directly supporting the caregiver significantly reduced psychological distress in the short term (8 trials: standardised mean difference (SMD) -0.15; 95% CI: 0.28 to -0.02). There was also low quality evidence that these interventions in the short term may marginally improve coping skills and quality of life, but neither results were statistically significant (SMD -0.05; 95% CI -0.24 to 0.14; SMD 0.08; 95% CI -0.11 to 0.26, respectively). One study assessed physical outcomes of sleep improvement and found no difference. No study examined interventions' effect on the carers' health service use or looked for potential harms. Evidence was less clear on the indirect interventions with both trials in this category finding non-statistically significant effects of a reduction of psychological distress. There were no assessments of whether the indirect interventions helped carers cope with their role, improved quality of life, affected health service use, or had potential harms. The authors concluded that there is evidence that supportive interventions may help reduce caregivers' psychological distress. These findings suggest that practitioners should enquire about the concerns of caregivers and consider that they may benefit from additional support. However, there is a need for further research to explore the benefits identified, and to assess the interventions' effects on physical health.

Candy B, Jones L, Drake R, Leurent B, King M. Interventions for supporting informal caregivers of patients in the terminal phase of a disease. *Cochrane Database of Systematic Reviews* 2011, Issue 6.

<http://onlinelibrary.wiley.com/doi/10.1002/1471-2458/11/453>

## **FORTHCOMING REVIEWS**

### **Protocol for a systematic review of the effects of schools and school environment interventions on health: evidence mapping and synthesis**

Schools may have important effects on students' and staff's health. Rather than treating schools merely as sites for health education, 'school-environment' interventions treat schools as settings which influence health. School environment interventions can address health directly, while other interventions aim to address risk factors for adverse outcomes, taking a social ecological approach to promoting health. This systematic review will aim to map and synthesise evidence on what theories and conceptual frameworks are most commonly used to inform school-environment interventions or explain school level influences on health; what effects school-environment interventions have on health/health inequalities; how feasible and acceptable are school-environment interventions; what effects other school-level factors have on health; and through what processes school-level influences affect health. The authors will review interventions aiming to promote health by modifying schools' physical, social or cultural environment via actions focused on school policies and practices relating to education, pastoral care and other aspects of schools beyond providing health education. Participants are staff and students aged 4-18 years. Published research unrestricted by language, year or source will be reviewed. The review will comprised of two stages: the first will map studies descriptively by focus and methods; the second stage will involve additional inclusion criteria, quality assessment and data extraction. Evidence will be synthesised narratively and statistically where appropriate.

Bonell C, Harden A et al. Protocol for a systematic review of the effects of schools and school environment interventions on health: evidence mapping and synthesis *BMC Public Health* 2011;11:453.

<http://www.biomedcentral.com/1471-2458/11/453>

## Knowledge translation strategies for facilitating evidence informed public health decision making among managers and policy-makers

Evidence-informed decision making is a term increasingly used to acknowledge that decisions are informed by a spectrum of evidence rather than relying on singular sources. Evidence-informed public health decision making operates in a complex environment and is influenced to varying degrees by numerous factors. The term knowledge translation (KT) is increasingly used in public health research, policy and practice settings to describe the processes needed to facilitate evidence-informed decision making. KT interventions are becoming increasingly popular in public health. As a result, there has been a proliferation of KT strategies. However little is known about their effectiveness to facilitate evidence-informed public health decision making. The objective of this review is to determine the effectiveness of knowledge translation strategies aimed at facilitating evidence-informed public health decision making by managers and policy-makers. Cluster randomised controlled trials, quasi-experimental studies, or controlled before and after studies and interrupted time series studies will be considered for inclusion in this review. In addition a secondary supplementary analysis will be conducted to examine the body of KT research beyond these study designs. This will include studies of KT interventions that have been implemented and evaluated using either quantitative or qualitative methods. This review will focus on public health decision-makers that seek to improve health and other outcomes at the population level. Participants include public health decision-makers, policy-makers, policy analysts or public health managers who may be employed within government at the local, state or federal or national level. It is anticipated that these decision-makers will have a particular focus on the social determinants of health. Public health practitioners who are making decisions about individual clients will be excluded as will non-government organisations. Studies carried out in high income and in low income settings will be considered for inclusion.

Armstrong R, Waters E, Dobbins M, Lavis JN, Petticrew M, Christensen R. Knowledge translation strategies for facilitating evidence-informed public health decision making among managers and policy-makers (Protocol). *Cochrane Database of Systematic Reviews* 2011, Issue 6.

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009181/frame.html>

## Workplace pedometer interventions for increasing physical activity

The workplace has become a key setting for health promotion and disease prevention. Workplace health programme evaluations have demonstrated improvements in the leading global risk factors for chronic disease and have also been found to benefit the employer. The objective of this review is to assess the effectiveness of pedometer interventions in the workplace for increasing physical activity and improving subsequent health outcomes. This review will focus on individual or cluster-randomised controlled trials (RCTs) of employed adults examining workplace health programmes that incorporate the use of a pedometer. It will include interventions in which the pedometer is the sole component of the intervention, or the pedometer is the main focus of the intervention but is supported by components to increase motivation or broader health promotion interventions that incorporate pedometers as one of many components. However, the pedometer must be incorporated into the health programme for the entire length of the programme and the participants must be able to view their step count. All comparator groups will be included in the review, including any intervention without a pedometer, or no intervention. The primary outcome is physical activity, including self-reported, objectively measured or observed activity. If pedometer-based, workplace health programmes are found to be effective at improving physical activity, the impact of this improvement on other health risk factors will be assessed. These secondary health risk factors of interest will include: sedentary behaviour, cardiovascular disease risk factors; quality of life; adverse effects, including injury.

Freak-Poli RLA, Cumpston M, Peeters A, Clemes SA. Workplace pedometer interventions for increasing physical activity (Protocol). *Cochrane Database of Systematic Reviews* 2011, Issue 7.

<http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD009209/frame.html>

*PulsE* can also be viewed on the Sax Institute [website](#)



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Please feel free to forward this bulletin to any colleagues who may be interested.