

Evidence Compass



Summary Report

'Stepped-down' Intervention Programs to Promote Self-Managed Physical Activity in Service Veterans and their Dependants

Summary of the Rapid Evidence Assessment

November, 2019



Australian Government
Department of Veterans' Affairs

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This project utilised a Rapid Evidence Assessment (REA) methodology. An REA streamlines traditional systematic review methods in order to synthesise evidence within a shortened timeframe. The advantage of an REA is that rigorous methods for locating, appraising and synthesising evidence from previous studies can be upheld. Also, the studies reported can be at the same level of detail that characterise systematic reviews, and results can be produced in substantially less time than required for a full systematic review. Limitations of an REA mostly arise from the restricted time period, resulting in the omission of literature such as unpublished pilot studies, difficult-to-obtain material and/or non-English language studies. A major strength, however, is that an REA can inform policy and decision makers more efficiently by synthesising the evidence in a particular area within a relatively short space of time and at less cost.

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Acknowledgements

This REA was funded by the Department of Veterans’ Affairs (DVA). We acknowledge the work of researchers from The University of Queensland (Australia), and Leeds Beckett University (UK), who were responsible for conducting the REA and preparing this report. These individuals include: Associate Professor Nicholas Gilson, Dr Zoe Papinczak, Dr Gregore Iven Mielke, Professor Catherine Haslam, Professor Jim McKenna, and Professor Wendy Brown.

For citation:

Gilson ND, Papinczak ZE, Mielke GI, Haslam C, McKenna J, Brown WJ (2019). *Intervention Strategies to promote Self-Managed Physical Activity in Service Veterans and their Dependents - A Rapid Evidence Assessment. Summary Report*. Report prepared for the Department of Veterans Affairs. Centre for Research on Exercise, Physical Activity and Health, The University of Queensland, Australia.

Executive Summary

- A ‘stepped-down’ program is where clients transition from the care of a health professional (e.g. an exercise physiologist, physiotherapist, or occupational therapist), to self-managed care. Thus, a self-managed physical activity program is where clients take responsibility for initiating and maintaining their own physical activity regimes, instead of being dependant on supervision from a health expert.
- Presently, health care treatment models provided by the *Department of Veterans’ Affairs* (DVA) may not enable or create channels for clients to transition to self-managed physical activity after a course of allied health treatment.
- The health benefits associated with regular physical activity (e.g., enhanced physical function, reduced risk of chronic diseases, reduced risk of falls, improved quality of life, enhanced cognitive functioning, and improved psycho-social wellbeing) may be promoted and sustained post-treatment through engaging clients in ‘stepped-down’ programs.
- Consequently, the aim of this Rapid Evidence Assessment (REA) was to: 1) examine the scientific literature for evidence on the effectiveness of interventions to promote self-managed physical activity in service veterans and/or their dependants; 2) assess studies that compared the effectiveness of ‘stepped-down’ models of PA self-management to ‘usual care’ controls and; 3) identify key behaviour change techniques that have been used in these studies to successfully promote physical activity change.
- The overarching purpose of the review was to use the findings to inform the development of *Active Choices*, a DVA-funded ‘stepped-down’ program that seeks to facilitate the transition of clients from allied health service provision, to self-managed physical activity preferences, within their local active communities.
- Literature searches were conducted to identify randomised controlled trials that assessed self-managed interventions to promote physical activity and/or physical function/fitness, with participants who were service veterans and/or their dependants (e.g. spouses).
- Data were extracted on study characteristics, intervention strategies (assessed against a taxonomy of behaviour change techniques), and outcomes (physical activity, physical function/fitness, and where available, psychological health and social support, and health care costs). The overall strength of the evidence base was assessed on study quality (poor, fair, or good), the direction of change in study outcomes (positive or no effect),

and the generalisability of study findings to the Australian context. These elements were used to rate the evidence base as ‘supportive, promising, unknown, or unsupportive’.

- Searches identified 28 papers (representing 19 unique datasets and intervention programs), that met inclusion criteria. All studies originated in the USA. Participants ($n=45$ to $n=1092$) were typically older aged (mean age 55+ years) male veterans with high risk comorbidities (e.g. diabetes, post-traumatic stress disorder, or musculoskeletal disorders). Only one study targeted dependants.
- The primary outcomes of physical activity or physical function/fitness were assessed in 93% ($n=26$) and 36% ($n=10$) of selected studies respectively. Secondary outcomes of interest included psychological health and social support (21%; $n=6$ studies), and health care costs (7%; $n=2$ studies).
- Overall, 64% ($n=18$) of studies (service veterans only) found positive intervention effects (physical activity, physical function/fitness, psychological health or social support).
- When considering only those selected studies that compared a ‘stepped-down’ intervention to a ‘usual care’ group ($n=14$), 79% of studies ($n=11$) observed a positive between-group intervention effect in the primary outcome of physical activity; the mean magnitude of change was 53 minutes/week of self-reported moderate intensity physical activity.
- Intervention duration was typically 6 to 12 months. The behaviour change techniques most frequently utilised by intervention programs that observed positive intervention effects were education, social support, goal setting and review of goals, self-monitoring, devices (e.g. pedometers) to facilitate change, feedback and graded task strategies.
- Study quality (good), and direction of change (positive intervention effects observed in the majority of studies), indicated that the overall effectiveness of ‘stepped-down’ intervention programs to promote self-managed physical activity in service veterans was: **Promising – evidence suggestive of beneficial effect but further research required.**
- The REA found no Australian based studies that met inclusion criteria, or positive intervention effects with dependants. The generalisability of findings to DVA clients was therefore rated as: **Unknown – insufficient evidence of beneficial effect, and further research required.**
- The review findings highlight that ‘stepped-down’ programs have the potential to help service veterans’ transition from allied health care to effective self-management of physical activity; they also identify key behaviour change techniques that should be embedded within intervention programs.

- However, as a pre-requisite to larger, scalable studies, the findings also emphasise the need for well-controlled, proof of concept research with DVA clients in the Australian context. These studies should utilise more accurate, objective measures of physical activity change, test intervention programs with lower risk, relatively healthy clients, and importantly include dependants, as well as service veterans, in study recruitment.

1. Background

The numerous health and social benefits which accrue when people start and maintain a program of regular physical activity is well established. This is particularly true for older Australians (65+ years) whose functional fitness and social connectedness is enhanced by being habitually active.¹

Most DVA clients are older Australians², and the increasing number of these clients seeing allied health professionals such as exercise physiologists and physiotherapists, and presumably becoming more physically active as a result, is testament to the success of DVA strategies for promoting better health for service veterans and their dependants. However, there is a risk that some allied health providers may be ‘over-servicing’ and providing treatment to DVA clients for longer than is clinically necessary. For example, data from the DVA indicate that from the period of 2011/12 to 2016/17, there was a 51% increase in the number of services DVA clients received, despite a 19% reduction in the number of clients who accessed health services.³

DVA’s current programs are structured around treatment by an allied health professional that may not enable or create channels for DVA clients to ‘step-down’ to self-managed physical activity after a course of allied health treatment.

- A **‘stepped-down’ program** is where clients transition from allied health care to self-managed behaviour.
- Thus, a **self-managed physical activity program** is where individuals take responsibility for initiating and maintaining their own physical activity regimes, as opposed to being dependant on supervision from a health expert or professional.

Assisting DVA clients in ‘stepping-down’ to self-managed physical activity may promote a range of positive health outcomes that are associated with regular physical activity. These include reduced risk of illness from chronic diseases (e.g., Type II diabetes, heart disease, stroke, dementia), improved physical function, reduced risk of falls and fall-related injuries, improved quality of life, enhanced cognitive function and reduced symptoms of depression and anxiety.^{4,5} ‘Stepped-down’ physical activity programs may also help in sustaining the health benefits achieved through allied health treatment and improve social connectedness through promoting engagement in group-based interactions and networks.

Given that very little is known about ‘stepped-down’ models of care, and strategies to transition DVA clients to active communities following treatment by an allied health professional, the aims of the current review were to:

1. Examine the scientific literature for evidence on the effectiveness of interventions to promote self-managed physical activity in service veterans and/or their dependants;
2. Assess studies that compared the effectiveness of ‘stepped-down’ models of PA self-management to ‘usual care’ controls and;
3. Identify key behaviour change techniques that had been used by these studies to successfully promote physical activity change.

The overarching purpose of the review was to use the findings to inform the development of *Active Choices*, a DVA-funded ‘stepped-down’ program that seeks to facilitate the transition of clients from allied health service provision, to self-managed physical activity preferences, within their local active communities.

2. Evaluation of the Evidence

2.1 Review Aims #1 and #2

Study quality, the **direction of change** (positive or no effect) observed in the primary outcomes of interest (physical activity and physical function/ fitness), and the **generalisability** of the body of evidence to the Australian context were used to rate the overall strength of the evidence base as ‘supportive’, ‘promising’, ‘unknown’ or ‘unsupportive’.

Twenty-eight papers met the inclusion criteria for the current review. **Study quality** (mean score of 10.7 out of a total possible score of 15), and **direction of change** (64% of studies observed a positive intervention effect in outcomes of interest), indicate that the overall effectiveness of self-managed physical activity interventions for service veterans is:

- **Promising – evidence suggestive of beneficial effect but further research required.**

However, the REA found no positive intervention effects for the dependants of service veterans, and no studies located in Australia met inclusion criteria. The **generalisability of findings to DVA clients** (both service veterans and their dependants) was therefore rated as:

- **Unknown – insufficient evidence of beneficial effect, and further research required.**

2.2 Review Aim #3

The frequency of intervention strategies used by studies that: 1) compared ‘stepped-down’ vs ‘usual care’ treatments; and 2) reported positive intervention effects in physical function/physical fitness, were mapped using a modified taxonomy of behaviour change techniques.⁶

Ranked in order of prevalence:

- 80-100% of successful intervention programs used education, social support, goal setting and review of goals;
- 60% of the interventions adopted self-monitoring, devices (e.g. pedometers) to facilitate change, feedback and graded task strategies;
- 40% of successful programs utilised problem solving and barrier identification;
- 20% elicited change by providing information on how to perform behaviour, and engaging participants in cognitive restructuring, social comparisons, motivational interviewing and messages, modelling, and action planning.

3. Recommendations and Future Directions

The main limitation of the extant evidence relative to the purpose of this REA, is that the search identified no studies with Australian service veterans and their dependants that met inclusion criteria. Therefore, the main recommendation of the REA is that:

- Well-controlled, proof of concept studies that test the efficacy of ‘stepped-down’ physical activity programs with DVA clients are needed as a pre-requisite for larger, scalable initiatives.

In terms of gaps and other limitations in the evidence base, the review findings indicate that Australian-based efficacy studies should:

- **Utilise accelerometers to measure physical activity change** as most published studies have used self-report questionnaires to assess intervention effects.
- **Base intervention programs on established behaviour change theory** as very few studies utilised established theory to design, implement and evaluate a comprehensive battery of behaviour change techniques.
- **Assess the impact of programs on physical function/fitness, psychological health and social impact**, as these outcomes are under-represented in the evidence base.

- **Integrate health care analyses into program evaluation** as evidence is very limited on the extent to which the implementation of 'stepped-down' programs impact health care utilisation and costs.
- **Test intervention programs with lower risk service veterans and dependants** as the current evidence base is largely based on high risk service veterans with chronic conditions and disease comorbidities.

References

1. Brown WJ, Moorhead GE, Marshall AL. *Choose Health, Be Active: A Physical Activity Guide for Older Australians*. Canberra: Commonwealth of Australia, 2005. Available from:
[https://www1.health.gov.au/internet/main/publishing.nsf/Content/3244D38BBBEBD284CA257BF0001FA1A7/\\$File/choosehealth-brochure.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/3244D38BBBEBD284CA257BF0001FA1A7/$File/choosehealth-brochure.pdf)
2. Australian Government Department of Veterans' Affairs. *Treatment Population Statistics: June 2018*. Canberra: Commonwealth of Australia, 2018. Available from:
<https://www.dva.gov.au/sites/default/files/files/publications/datastatistical/treatmentpop/TPopDec2018.pdf>
3. Australian Government Department of Veterans Affairs. *Review of DVA Dental & Allied Health Arrangements*. Canberra: Commonwealth of Australia, 2018. Available from:
https://www.dva.gov.au/sites/default/files/files/health%20and%20wellbeing/research_dev/healthstudies/dentalalliedreport.pdf
4. U.S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA: US Department of Health and Human Services, Centres for Disease Control and Prevention, National Centre for Chronic Disease Prevention and Health Promotion, 1996. Available from:
<https://www.cdc.gov/nccdphp/sgr/pdf/sgrfull.pdf>
5. 2018 Physical Activity Guidelines Advisory Committee. *2018 Physical Activity Guidelines Advisory Committee Scientific Report*. Washington, DC: US Department of Health and Human Services, 2018. Available from: https://health.gov/paguidelines/second-edition/report/pdf/PAG_Advisory_Committee_Report.pdf
6. Michie S, Ashford S, Sniehotta FF, Dombrowski SU, et al. A refined taxonomy of behaviour change techniques to help people change their physical activity and healthy eating behaviours: The CALO-RE taxonomy. *Psychology and Health* 2011; 26: 1479-1498.