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INTRODUCTION

Overview of Translational Research, Implementation Science, and Scale-Up

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Interventions that prove efficacious and effective in research settings must move beyond initial testing and be integrated into routine use. However, on average it takes 17 years for just 14% of clinical research to move into regular practice (Balas & Boren, 2000; Morris et al., 2011). The gap between what is known from research studies and what gets done in the real world is often referred to as the *know-do gap* (Green et al., 2009; World Health Organization, 2006).

Once effective interventions/programs are integrated into a specific setting, policy makers (e.g., governments and health authorities) and funders want to know how interventions that enhanced health on a small scale can be disseminated on a broader scale to positively impact population health. Despite the importance of implementing effective interventions at broad scale to improve population health, few physical activity interventions have been scaled-up (Gray et al., 2021; Lane et al., 2021; Naylor et al., 2015; Reis et al., 2016), which generates the *implementation to scale-up gap*. Moving research findings into practice and then scaling-up is critical to achieve a return on investment in the research landscape and to improve health outcomes in a broader population (Colditz & Emmons, 2018).

Translational Research and Implementation Science

As noted in the preceding Editorial Commentary, *Translational Research* seeks to produce meaningful and positively impactful results that directly benefit human health and wellness by facilitating multidisciplinary collaborations among basic science, clinical researchers, and health/wellness educators and practitioners. *Implementation Science* is the "scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care" (Eccles & Mittman, 2006, p. 1). Implementation is defined as "the process of putting to use or integrating evidence-based interventions within a setting" (Rabin et al., 2008, p. 118). There are many (>60) frameworks, models, and theories that serve to guide implementation (Tabak et al., 2012); however, their selection is not always systematic (Birken et al., 2017) and relatively few physical activity intervention studies cite implementation frameworks (Gray et al., 2021).

To understand how, why, and how well an intervention worked (or did not work), what happened as the intervention was delivered in real-world settings, and how stakeholders and participants responded to the intervention, data must be collected about implementation (Bauman & Nutbeam, 2014). The implementation evaluation should collect data to better understand factors that influenced implementation (i.e., implementation determinants, such as context, feasibility, and appropriateness) as well as measure implementation outcomes (e.g., dose and fidelity; Fixsen et al., 2005; McKay et al., 2019). To date, few interventions described indicators they assessed to evaluate implementation/scale-up (Gray et al., 2021).

Scale-Up

Relatively little is known about mechanisms that support or inhibit scale-up of effective interventions (Catford, 2009; Milat et al., 2014). Scale-up is defined as "the process by which health interventions shown to be efficacious on a small scale and/or under controlled conditions are expanded under real world conditions into broader policy or practice" (Milat et al., 2015, p. 2) or as "eliberate efforts to increase the impact of innovations successfully tested in pilot or experimental projects so as to benefit more people and to foster policy and program development on a lasting basis" (World Health Organization, 2010, p. 2). Although we use the term scale-up, others may prefer the term dissemination. Dissemination is defined as "an active approach of spreading evidence-based interventions to the target audience via determined channels using planned strategies" (Rabin et al., 2008, p. 118). Despite the importance of scale-up to improve population health, less than 5% of physical activity interventions for older adults, for example, have been scaled-up (Gray et al., 2021). Of those, thoughtful, planned evaluation of scale-up was lacking; few interventions were guided by a scale-up framework, and none clearly measured indicators of scale-up (Gray et al., 2021).

Summary

This brief overview is intended to orient readers to critically relevant fields of translational research and implementation and scale-up science, especially as they relate to health and wellness promotion and many other aspects of kinesiology research and practice. It is incumbent on kinesiologists to adopt and effectively use principles and practices from translational research and

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implementation and scale-up science, if our discipline is to continue to positively impact the health of people at a population level.

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