Contemporary Clinical Trials 36 (2013) 1–13

Contents lists available at ScienceDirect

Contemporary Clinical Trials

journal homepage: www.elsevier.com/locate/conclintrial

Experience Corps: A dual trial to promote the health of older adults and children's academic success ☆

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ARTICLE INFO

Article history:
Received 30 January 2013
Received in revised form 18 April 2013
Accepted 3 May 2013
Available online 13 May 2013

Keywords:
Healthy aging
Health promotion
Senior service
Children's academic success
Intergenerational programs
Community-based participatory research

ABSTRACT

Background: As the population ages, older adults are seeking meaningful, and impactful, post-retirement roles. As a society, improving the health of people throughout longer lives is a major public health goal. This paper presents the design and rationale for an effectiveness trial of Experience Corps™, an intervention created to address both these needs. This trial evaluates (1) whether senior volunteer roles within Experience Corps™ beneficially impact children's academic achievement and classroom behavior in public elementary schools and (2) impact on the health of volunteers.
Methods: Dual evaluations of (1) an intention-to-treat trial randomizing eligible adults 60 and older to volunteer service in Experience Corps™, or to a control arm of usual volunteering opportunities, and (2) a comparison of eligible public elementary schools receiving Experience Corps™ to matched, eligible control schools in a 1:1 control:intervention school ratio.
Outcomes: For older adults, the primary outcome is decreased disability in mobility and Instrumental Activities of Daily Living (IADL). Secondary outcomes are decreased frailty, falls, and memory loss; slowed loss of strength, balance, walking speed, cortical plasticity, and executive function; objective performance of IADLs; and increased social and psychological engagement. For children, primary outcomes are improved reading achievement and classroom behavior in Kindergarten through the 3rd grade; secondary outcomes are improvements in school climate, teacher morale and retention, and teacher perceptions of older adults.

Abbreviations: BHS, Brain Health Study; CARE, Baltimore City Commission on Aging and Retirement Education; COAH, Johns Hopkins Center on Aging and Health; EC, Experience Corps™; GHCC, Greater Homewood Community Corporation; IADL, Instrumental Activities of Daily Living; MMSE, Mini-Mental State Exam; MSA, Maryland School Assessment.

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1551-7144/$ – see front matter
http://dx.doi.org/10.1016/j.cct.2013.05.003

Summary: This trial incorporates principles and practices of community-based participatory research and evaluates the dual benefit of a single intervention, versus usual opportunities, for two generations: older adults and children.

1. Introduction

1.1. The world's populations are aging [1]

We will soon live one-third of our lives post-retirement [2]. For many people the opportunity to make a lasting contribution, known as *generativity*, is a key to successful aging [3,4]. Substantial unmet societal needs exist which could be addressed through the skills, experience, and generative goals of older adults, but there are few such roles. One major societal need is ensuring the early academic success of children, which predicts success throughout life [5].

Population aging calls for new approaches to help people stay healthy throughout longer lives. Health behaviors remain central to health and function to oldest ages, including physical [6,7], social [8,9], and cognitive activities [10,11], and social engagement [12,13]. Further, physical activity and social engagement predict cognitive function [14,15]. Positive health behaviors have potential to prevent significant amounts of aging-associated frailty, disability and loss of independence [16,17]. Notably, the major behavioral interventions tried are those to increase physical activity. However, few exercise programs are successful in recruiting a broad array of older adults or retaining them long-term, particularly those from subgroups at high risk for health disparities and adverse outcomes [18,19]. Additionally, although cognitive training programs have been successful in enhancing cognitive abilities and memory, generalizability to everyday activities is limited [20,21]. New approaches to support positive behaviors are needed that a) are attractive to diverse older adults, b) will motivate long-term participation, c) are beneficial to health and generalize to real health outcomes, and d) can have broad dissemination throughout communities.

1.2. Intervention rationale

We theorized that a program could be designed to provide older adults with generative roles that improve academic success of young children, and that this would be attractive to diverse older adults who would stay in such roles long-term if the impact was high and roles were meaningful [22–24]. Further, we theorized that if evidence-based health promotion was embedded in the program, targeting multiple behaviors to create additive or synergistic benefits, communities could be provided with long-term, "high dose" health promotion and prevention benefits, reaching older adults not reached by traditional health promotion programs [23,24].

1.3. Program origins

Building on this theoretical framework, we previously designed a program, entitled Experience Corps™ (EC) [23,24], which underwent demonstration implementation in 5 cities in 1995–7 [23], followed by the ongoing development and standardization of program components and pilot implementation in Baltimore, Maryland since 1998 [24–31]. The EC, detailed below, is now operating in multiple cities across the United States. Impact has been evaluated, to date, in several ways. First, our preliminary data indicate that the EC program is associated with improved risk factors of increased physical, cognitive, and social activities and generative fulfillment [23–30] for volunteers, and improved classroom behavior and reading performance in students [31] consistent with a priori hypotheses; this is based on the results of a pilot randomized trial of EC in Baltimore [24,25,27–30] and a case–control comparison study [26]. Separately, evaluations of the aspect of the program that specifically tutors in reading, a subset of the broader EC model, have been evaluated in 3 cities in a design in which teachers referred students who needed reading support, and they were randomly assigned to receive tutorship by EC volunteers or to a control group, and followed for 1 school year. These students showed gains in readership skills for students working with the EC volunteers, especially those who received at least 35 tutorship sessions in the year, compared to controls [32,33]. Further, case–control evaluation of EC volunteers in 17 cities across the United States indicates that EC participants report fewer self-reported depressive symptoms and functional limitations after 2 years of participation in EC, compared to controls [34]. However, definitive evaluation of bi-generational and cross-generational benefits remains to be determined, including effects on disability in older adults, aggregate effects on both reading success and school behavior in children, and evidence of the causal pathways in this multimodal intervention. The present study presents the design of the now-implemented trial of dual effectiveness of older volunteers serving in EC Baltimore both for schools and children and for older adults' health outcomes.

2. Materials and methods: study design

2.1. Overview

An intention-to-treat, randomized, controlled effectiveness trial recruiting adults 60 and older who are eligible and randomizing them to the intervention, EC participation, or to a usual volunteering opportunity, wait-list control. Those randomized to EC are assigned to serve for at least one year in a public elementary school, with grades Kindergarten through the third grade. Evaluations for older adults' outcomes are at baseline, 4, 8, 12, 16, 20, and 24 months. Schools receiving the EC program are compared to matched, nonparticipating schools. The impact of EC is evaluated at the level of the individual child as well as at the school level. The design and methods of the trial are described in detail below.

2.2. Principal hypotheses and objectives

The EC trial was designed [23,24] to test the hypotheses that older volunteers serving in this innovative model of senior