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Cost implications of self-management education intervention programmes in arthritis

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The purpose of this review is to examine cost implications, including cost-effectiveness analyses, cost-savings calculated from health-care utilisation and intervention delivery costs of arthritis-related self-management education (SME) interventions.

Methods: Literature searches, covering 1980–March 2012, using arthritis, self-management and cost-related terms, identified 487 articles; abstracts were reviewed to identify those with cost information.

Results: Three formal cost-effectiveness analyses emerged; results were equivocal but analyses done from the societal perspective, including out-of-pocket and other indirect costs, were more promising. Eight studies of individual, group and telephone-delivered SME calculated cost-savings based on health-care utilisation changes. These studies had variable results but the costs-savings extrapolation methods are questionable. Meta-analyses of health-care utilisation changes in two specific SME interventions demonstrated only one significant result at 6 months, which did not persist at 12 months. Eleven studies reported intervention delivery costs ranging from $35 to $740 per participant; the variability is likely due to costing methods and differences in delivery mode.

Conclusions: Economic analysis in arthritis-related SME is in its infancy; more robust economic evaluations are required to reach

Abbreviations: ACR, American College of Rheumatology; AoA, Administration on Aging; ARRA, American Recovery and Reinvestment Act; ASMP, Arthritis Self-Management Program; CDSMP, Chronic Disease Self-Management Program; EPP, Expert Patient Programme; EQ-5D, EuroQol-5 Dimension; ER, emergency room; ES, effect size; HeiQ, health education impact questionnaire; MCS, mental component score; NCOA, National Council on Aging; OA, osteoarthritis; OA Agenda, A National Public Health Agenda for Osteoarthritis; OARSI, Osteoarthritis Research Society International; PCS, physical component score; QALY, quality adjusted life years; RCT, randomised controlled trial; SF-36, medical outcomes study short form-36; SME, self-management education; SMS, self-management support; UK, United Kingdom; US, United States; VAS, visual analogue scale.

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sound conclusions. The most common form of analysis used changes in health-care utilisation as a proxy for cost-savings; the results are less than compelling. However, other value metrics, including the value of SME as part of health systems' self-management support efforts, to population health (from improved self-efficacy, psychological well-being and physical activity), and to igniting patient activation, are all important to consider.

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As the United States (US) struggles to come to grips with the epidemic of chronic disease, self-management support (SMS) strategies are receiving increased attention for their impact on both health-care delivery and quality of life. SMS is a core element of the patient-centred medical home [1], and a key goal in the US Department of Health and Human Services strategic framework for addressing multiple chronic conditions [2]. Although SMS is important in all chronic diseases, nowhere is supporting patient self-management more essential than in the management of arthritis. In rheumatoid and other systemic inflammatory forms of arthritis, the biologic medications offer the possibility of altering the course of the disease [3], but only if the patient takes the medication appropriately – a key self-management decision. In all forms of arthritis, there is a multitude of daily self-management decisions – such as should I exercise today? How much of this medication should I take? Does this symptom or side effect warrant a consultation with my doctor? – all of which influence arthritis symptoms and the impact arthritis has on quality of life.

In the US, patient self-management, and SMS is also addressed in *A National Public Health Agenda for Osteoarthritis 2010* [OA Agenda] [4], a strategic document designed to catalyse public health action to reduce the burden of osteoarthritis (OA). The OA Agenda modified the Institute of Medicine [5] definition slightly and defined SMS as the systematic provision of education and supportive interventions by health-care or other providers to strengthen patients' skills and confidence in managing their health problems. This includes regular assessment of progress and problems, goal setting and problem-solving support [4]. Although there are a variety of strategies used to support patient self-management [6], self-management education (SME) is the most well developed. The OA Agenda defines SME as interactive educational interventions specifically designed to enhance patient self-management, and focussed on building generalisable skills such as goal setting, decision making, problem solving and self-monitoring [4]. The interactive nature of SME, as well as the focus on problem solving and action planning, is what distinguishes SME from traditional patient education [7].

The importance of SME in arthritis is recognised internationally in the clinical arena by its inclusion in clinical guidelines. For example, the American College of Rheumatology (ACR) guidelines for management of OA of hand, hip and knee conditionally recommend self-management interventions including psychosocial interventions [8]; guidelines issued by the Osteoarthritis Research Society International (OARSI) in 2008 for management of hip and knee OA specify that patients should have access to lifestyle information and education with an initial focus on self-help and patient-driven treatments rather than passive therapies delivered by health-care professionals [9]. The arthritis objectives in *Healthy People 2020*, the health blueprint for the US, includes a specific objective to increase the proportion of adults who have had effective, evidence-based arthritis education as an integral part of the management of their condition [10].

While a variety of SME programmes have been developed and some have been evaluated, the most extensively developed and widely disseminated arthritis SME intervention is the Arthritis Self-Management Program (ASMP) developed at Stanford University in the mid-1980s [11]. This intervention was originally known as the Arthritis Self-Help Course in the US [12], and Challenging Arthritis in the United Kingdom (UK) [13]; organisations in 10 countries are licenced to provide ASMP (http://patienteducation.stanford.edu/organ/asmpsites.html; accessed 8 August, 2012). More recently, a sister intervention, the Chronic Disease Self-Management Program (CDSMP), is becoming more widely