



Published in final edited form as:

Am J Occup Ther. 2009 ; 63(2): 220–226.

The Issue is: Human Occupation for Public Health Promotion: New Directions for Occupational Therapy Practice With Persons With Arthritis

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Keywords

health promotion; occupational therapy; public health

Health promotion has been described as “the process of enabling people to increase control over, and to improve, their health” ([WHO], 1986). It is one of the five intervention approaches of the *Occupational Therapy Practice Framework* (American Occupational Therapy Association [AOTA], 2002, 2008). As early as the 1970s, there were calls for occupational therapy to become active in health promotion (Brunyate Weimer, 1972). More recently, the American Occupational Therapy Association (AOTA) articulated a role for occupational therapists in health promotion (AOTA Commission on Practice, 2001), charging practitioners to promote health and wellness in both individuals and communities through engagement in human occupation to promote healthy lifestyles. Although occupational therapy practice traditionally focuses on individuals, to evaluate the impact of occupational therapy health promotion programs, the profession will need to assume a greater public health focus.

This article presents the thesis that a public health focus is needed to facilitate wider adoption of health promotion practices in the profession. Occupational therapy for people with arthritis is used to illustrate health promotion, using a public health focus. This population was selected because arthritis is a leading cause of disability in U.S. adults (McNeil & Binette, 2001) and dramatic advances in rheumatologic care over the past decade are fundamentally changing the clinical course of arthritis. Today, people with arthritis are diagnosed early and treated

aggressively, so joint deformities and activity limitations are far less common (Pisetsky, 2006; Vital & Emery, 2005). To be responsive to these changes, occupational therapy will need to focus on preventive rather than compensatory strategies. Although this manuscript focuses on occupational therapy practice in rheumatology, the issues raised in regard to the profession's role in health promotion and public health are applicable to other clinical populations.

The purpose of this paper is to review health promotion in occupational therapy and to present a rationale for a greater focus on public health for occupational therapy practitioners working with people with chronic conditions, such as arthritis. Expanding the focus of occupational therapy will require changes in how practice is delivered and how we in the profession collect and report outcomes of occupational therapy interventions. We describe the challenges for the profession in achieving a wider public health impact and present two arthritis intervention programs that have begun to address these concerns.

Public Health Focus for Occupational Therapy

A major difference in perspective between public health and occupational therapy is that public health focuses on groups of people (populations), whereas traditionally, occupational therapy focuses on individuals. In addition, public health interventions are prevention oriented (American Public Health Association, 2007). Thus, adoption of a public health focus requires occupational therapy practitioners to expand their vision of practice to address population health. Scaffa (2001) articulated this paradigm shift as one that integrates the health of individuals and communities. Incorporating this broad perspective requires a reconceptualization of occupational therapy interventions and their outcomes.

Population-Level Outcomes

The U.S. Surgeon General and prominent public health entities, such as the Centers for Disease Control and Prevention (CDC), have reported limitations in performing basic (ADLs) and instrumental (IADLs) activities of daily living as key indicators of health and wellness (Centers for Disease Control and Prevention, 2001; U.S. Department of Health and Human Services, 1996). Yet occupational therapy, which also identifies these activities as vital to health and wellness, seldom contributes to public health discussions because it fails to report ADLs and IADLs at the level of population health. The impact of occupational therapy programs needs to be reported using public health indicators.

Since 1980, the U.S. Surgeon General has charged the health care community to achieve goals that will improve the health of U.S. citizens (U.S. Public Health Service, 1980). The latest report, *Healthy People 2010*, set forth six goals for the prototype population of this article—that is, people with arthritis—that are particularly relevant to occupational therapy (U.S. Public Health Department, 2000). Those goals are presented in Table 1.

As is apparent from these examples, a key feature of public health goals is that they are stated to reflect a change in the number or proportion of people in the population with health problems. This reporting strategy contrasts sharply with the sample “average” statistics typically reported in the literature for occupational therapy outcomes. Rather than describe the results of an intervention for arthritis-related pain as the average (\pm standard deviation) change in pain score on a visual analog scale, an occupational therapy clinic or practice might report the change (reduction) in the proportion of adults with arthritis pain who have limitations in one or more areas of occupation. Outcomes of occupational therapy services reported in terms of the “average” functional status score are of little use to public health officials. Instead we need to describe the impact of occupational therapy services at a population or service-level such as the proportion of people receiving occupational therapy who are limited in none, 1-3, or more than 3 activities of daily living.

Population-Level Interventions

If an occupational therapy program is to report the impact of its intervention for an entire group or population, everyone treated in that occupational therapy program must receive the same basic intervention. To affect public health, occupational therapy practitioners need to agree to do the same intervention and to apply it broadly. AOTA has a consistent message about backpack health; other population-wide occupational therapy interventions also must have a similarly consistent message. The public health intervention model applied to direct client care is exemplified in the University of Southern California (USC) Lifestyle Redesign[®] programs (Salles-Jordan, 2007). These programs are applied to a wide range of people at risk for functional decline, such as those who are elderly or obese. Regardless of the population served, all the programs are structured with four basic elements: (1) didactic presentation of educational material, (2) peer discussion, (3) direct experience, and (4) exploration (Salles-Jordan, 2007). This basic structure is modified to address the specific clinical issues of the population served, such as weight loss or pain management. Other examples of occupational therapy health promotion programs include those targeting people with multiple sclerosis and people with HIV/AIDS (Clark et al., 1997; Neufeld & Kniepmann, 2001; Pizzi, 2001).

Taking a public health view of intervention may appear daunting for occupational therapy practitioners used to providing services one client at a time, but it is really about considering each client within the broad public health context. For example, when practitioners recognize that arthritis clients' inactivity is a health burden for society, questions about physical activities can be included in *all* assessments of occupational performance for such clients. This concept is not unfamiliar to many occupational therapy practitioners. Beginning in 2007, occupational therapy practitioners who are paid under the Medicare Physician Fee Schedule could participate in the Medicare Physician Quality Reporting Initiative. Under this program, practitioners may report on their adherence to a risk-of-future-falls assessment quality measure. This measure is reported as the percentage of clients age 65 years and older who were screened for future fall risk at least once within the preceding 12 months (Centers for Medicare and Medicaid Services, 2008). When a practitioner reports the risk of future falls quality measure in at least 80% of eligible cases, he or she receives a bonus payment (Franklin, 2007).

While the approximately 130 current measures are mostly relevant to physician care, quality measures are being developed in a wide range of areas relevant to occupational therapy. These quality indicators are only developed when clear evidence of the benefits for all clients to receive a particular screening or intervention is established. Quality measures require that we identify effective screenings and interventions, demonstrate the benefit, deliver them consistently to all relevant clients, and report the results of interventions consistently across all relevant clients. The more that occupational therapy programs can report indicators of health at the population (group) level, the more that their societal impact can be quantified in terms of improvements in the public's health. A key challenge for our profession in this century is to agree to a set of evidence-based practice strategies, to agree to name each strategy with a consistent term that can be identified with the profession and, for each intervention strategy, to agree to implement them widely across entire practices and states.

Agenda for Achieving an Increased Role in Health Promotion for Persons With Arthritis

We propose six areas that need to be addressed to move the knowledge base forward. We propose that they could act as the basis from which to build an agenda for occupational therapy research in health promotion.

1. Identify People at Risk for Activity and Participation Limitations

We need to identify the people with health risks, comorbidities, occupational profiles, and performance skills and patterns that put them at risk for activity limitations, reduced quality of life, and health concerns. Doing so requires that we identify a standard set of screening tools to evaluate these issues. For example, the Physician Quality Reporting Initiative identified falls risk assessment as an important factor because the evidence suggests that falls result in subsequent disability and expenditures and that intervention can reduce fall risk. This example illustrates the importance of screening as a first step. This research will focus on establishing the links between risk factors and later onset of occupational performance deficits and developing reliable assessment tools that are practical to use in today's fast-paced outpatient settings.

2. Design Intervention Models to treat Communities

Although there will always be a place for the traditional face-to-face interaction, pressure to manage health care costs and to treat clients who live remotely are encouraging professionals to think about alternative modes of delivering health promotion services. For example, an initial assessment might be face-to-face, but follow-up contact might be made by telephone. As Internet technology becomes more readily available in clients' homes, it is opening up opportunities for both delivering information and connecting with others. In addition, there is increasing evidence to suggest that peer-support models provide an important component of health promotion strategies. For example, telephone peer support has been successfully used to promote health behavior in veterans with diabetes and heart failure (Heisler et al., 2007; Heisler & Piette, 2005). This research will focus on how to effectively deliver therapeutic information in new formats and styles of communication in digital environments.

3. Examine New Models of Treatment Intensity

Little research suggests how frequently and intensively or for how long traditional compensatory or remedial occupational therapy services should be provided to people with arthritis, and virtually no evidence exists for occupation-based health promotion services. Research in this area will examine whether health promotion services can delay the onset of occupational limitations and ascertain the timing and intensity required to produce the desired effects. For example, one can imagine a situation in which clients and occupational therapists are in contact every few months for a brief session to check in on progress, revise goals, and modify intervention and health promotion strategies.

4. Determine Measures of Population Change

Determining the effectiveness of occupation-based health promotion services for people with arthritis will rely on both selecting appropriate outcome measures and reporting them as population-based statistics. The *Healthy People 2010* (U.S. Public Health Service, 2000) goals provide a good starting point. To the extent that occupational therapy services can create changes in health goals that are recognized as being of public importance, the value of the profession to the health care community will also be recognized. We propose three areas of measurement to reflect occupational therapy concerns: (1) prevention and screening, (2) monitoring and treatment, and (3) outcomes. These areas have been adapted from work in chronic disease prevention (Landon et al., 2007). Professionwide consensus on a complete list of indicators is required. Consensus does not necessarily imply conformity: It is not necessary that all therapists use the same falls risk assessment, but it is necessary that all therapists do a falls risk assessment.

An immediate challenge that Table 2 makes clear is that we may not have a sufficient range of valid instruments to evaluate each area. In addition, it might be daunting to clinicians to

consider collecting these data and reporting them to show the effectiveness of the intervention. The work of Landon and colleagues (2007), who implemented a health prevention program in multiple clinics across the country, can serve as a useful model. In their model, clients need only be seen once in the clinic or practice, that is, they have a minimum of one exposure to the intervention. To the extent possible, data are abstracted from the clients' medical records. Data are routinely collected on clients for health care monitoring, not just as part of a study. The authors suggest allowing for a "run-in" phase. That is, collect baseline data for 6 months to a year before implementing the new health promotion intervention; the time should be used for developing and planning implementation of the intervention throughout a clinic or practice or across a system of care.

5. Enhance Interdisciplinary Practice

Because many people with arthritis receive their primary care from nurse practitioners, nursing can be an important source of referrals for occupational therapy. Health promotion has been a focus of nursing practice for many years, particularly in community and home health nursing. Indeed, many current health promotion programs were designed and led by nurses (Rankin, Butzlaff, Carroll, & Reedy, 2005; Wilbur, Vassalo, Chandler, McDevitt, & Michaels Miller, 2005; Winder, Hiltunen, Sethares, & Butzlaff, 2004). Interdisciplinary health promotion can involve traditional team members, including physicians and physical therapists, but might also include other professionals such as nutritionists or chiropractors.

6. Find Opportunities to Act Locally but Think Nationally

Although health promotion activities for people with arthritis are delivered at local clinics and practices, a challenge for occupational therapy in the future will be to leverage the power of national reporting systems. Most existing databases (e.g., Medicare Beneficiary files, the Medical Expenditure Panel Survey, the National Health Information Survey) have only limited information about occupational therapy assessment and interventions and person-level risk factors and outcomes. Recently, the AOTA board of directors decided that the development of an Occupational Therapy Outcomes Database was a key priority in achieving the Centennial Vision (AOTA, 2007). This initiative provides a valuable opportunity for occupational therapy practitioners in health promotion to describe the effect of the profession on the public health of people with arthritis. However, the impact will be only to the degree we can identify and agree on the preventive screening, intervention, and outcome variables and the extent to which we will commit to reporting on them. In addition, we need to explore the development of cooperative groups to foster opportunities to merge datasets across clinics and practices and health care systems.

Two Examples of Occupation-Based Health Promotion Programs for People With Arthritis

The intervention programs described in this article are part of large clinical trials and were not originally intended to address all the agenda items we now propose; however, we do think that many of the tenets of each program exemplify how occupational therapist practitioners can begin to address public health concerns in occupational therapy practice. Both programs address Agenda Item 1 by providing an intervention to participants who have received a doctor's diagnosis for arthritis or fibromyalgia but have not necessarily experienced occupational dysfunction; that is, participants would not typically be seen by an occupational therapy practitioner. Moreover, Agenda Item 6 has yet to be implemented because these programs are part of ongoing clinical trials.

RIC Improving Motivation for Physical Activity in Arthritis Clinical Trial (IMPAACT)

The goal of the RIC IMPAACT program [is to increase participants' involvement in lifestyle physical activity. Although the program does not discourage involvement in formal exercise, the goal of the program is to help individuals with arthritis be more active in their everyday lives. The physical activity promotion program includes six components:

1. Identifying supports and barriers to participation in lifestyle physical activity using the Arthritis Comprehensive Treatment Assessment (ACTA), a semistructured interview that examines barriers and facilitators in occupational performance (Mallinson T, Ehrlich-Jones L, Fischer H, Semanik P, Lyons JS, Chang RW. (2004) The Arthritis Comprehensive Treatment Assessment (ACTA): A User's Guide and Training Manual. Unpublished Document Version 3.1.3. Rehabilitation Institute of Chicago.
2. Identifying client-centered goals for physical activity
3. Developing an action plan to move physical activity from volitional or conscious activity choices to habituated behaviors that reflect individual barriers and supports
4. Establishing an agreement in writing
5. Developing a strategy for recording progress in physical activity (using a pedometer and step calendar)
6. Planning for future meetings with the health care professional (physical activity advocate). In our current program, the advocates are nurses and occupational therapy practitioners whose primary role is to help participants become more physically active. The advocate works with the client's other health care providers and makes referrals as necessary to other disciplines, including physicians, nurses, psychologists, physical therapists, and occupational therapy practitioners.

Our program addresses Agenda Items 2, 3, and 5 in the following ways. We chose an interdisciplinary, health promotion and prevention model of intervention in which clients have only intermittent contact with a health care provider for a period of 2 years. At a minimum, the client and the advocate meet every 3 months, either in person, by telephone, or electronically. Intermittent contact is negotiated depending on the client's preference or need and may be by phone, e-mail, fax, or face to face. This model of low intensity, sustained contact was chosen because we thought it best reflects how people acquire new habits. In addition, the aim of our program is to help clients make a lifestyle change, thereby reducing reliance on a health care provider to maintain their physical activity.

This program collects screening, monitoring, and outcomes data (Agenda Items 1 and 4) to monitor public health indicators. Preventive screening includes measuring current level of physical activity by means of accelerometry and self-report using the Yale Physical Activity Survey (DiPietro L (1996). The epidemiology of physical activity and physical function in older people. *Medicine and Science in Sports and Exercise*, 28(5), 596-600 ; reporting the percentage of people with self-reported falls; quantifying the percentage of participants with fatigue using the Brief Fatigue Inventory (Mendoza TR, Wang XS, Cleeland CS, Morrissey M, Johnson BA, Wendt JK, Huber SL (1999) The rapid assessment of fatigue severity in cancer patients: use of the Brief Fatigue Inventory. *Cancer*, 85(5), 1186-1196. identifying the number of participants reporting pain, per the Brief Pain Inventory; and reporting the percentage of participants who are aware of the U.S. Surgeon General's guidelines for physical activity U.S. Department of Health and Human Services (1996). Ongoing monitoring and treatment include the use of a pedometer and a daily log to identify the percentage of people who record their daily steps as part of a physical activity promotion plan.

The outcomes reported in this program include the percentage of people who report the following: days off work associated with their arthritis (self-report), independence with ADLs and IADLs per the Health Assessment Questionnaire Disability Index and Western Ontario and McMaster Universities Osteoarthritis Index Bruce B, Fries JF. (2003) The Stanford Health Assessment Questionnaire: a review of its history, issues, progress, and documentation. *Journal of Rheumatology*, 30(1), 167-178. Bellamy N, Buchanan WW, Goldsmith CH, Campbell J, Stitt LW. (1988) Validation of the WOMAC: a health status instrument for measuring clinically important patient relevant outcomes in antirheumatic drug therapy in patients with osteoarthritis of the hip or knee. *Journal of Rheumatology*, 15(12), 1833-1840., falls or injuries related to physical activity, and physical activity levels of at least moderate intensity on most days of the week per accelerometer data.

Pittsburgh Fibromyalgia Program

The Pittsburgh Fibromyalgia Program Rogers JC, Holm MB, Breland HL, Johnson BD, Shih M, Starz TW. (2005) Subjective and objective parameters of fibromyalgia. *Arthritis and Rheumatism*, 52(8) Supplement, S415. is a computer-based self-management program designed to promote a wellness lifestyle in adult women with fibromyalgia. Fibromyalgia is one of more than 100 disorders of connective tissues that are considered part of a broad category known as arthritis. Participants are enrolled if they are diagnosed by a rheumatologist as having fibromyalgia for at least 1 year. Participation is not based on the presence of occupational dysfunction. The development of a healthier lifestyle is encouraged through four major program components: education, subjective monitoring, objective monitoring, and comparison of objective and subjective data.

Participants are educated about their disease, health, and wellness through written materials such as Arthritis Foundation brochures and Internet-based materials (Agenda Item 2). The Web sites selected for the program provide information about physical activity, nutrition, sleep, emotions, and everyday activities. After installing the URLs to these Web sites on the participants' computer desktops, participants are informed about the content on each site, its relation to health promotion, and specific site features (e.g., one site allows the user to graph minutes of exercise). In accordance with the decisional control given to participants by the self-management philosophy, participants decide the extent to which they will use the sites.

A second tenet of the program is to change behavior through health monitoring (Agenda Item 3). This program extends the use of monitoring technology from tracking one specific health indicator, like blood pressure, to monitoring multiple parameters related to health as well as to a healthy, well-balanced lifestyle. To accomplish monitoring, a URL for accessing the Healthy Daily Routine (HDR – a study-specific tool) is also installed on participants' computer desktops. The HDR is an Internet-based site for establishing wellness goals as well as monitoring progress toward those goals. As appropriate, participants establish goals for physical activity, nutrition, sleep, activity, emotional response, activity performance, activity pacing, fatigue, and pain reduction. Progress toward goal achievement is recorded on a daily basis on the HDR (Agenda Item 4).

A third tenet of the program is that subjective measures of health behaviors should be supplemented with objective measures (Agenda Item 4). For objective measurement, participants wear a body sensor (SenseWear Pro2 Armband BodyMedia, Pittsburgh, PA) on their upper arm at all times except when bathing. The sensor collects data about the number of steps, amount of sleep, galvanic skin response, skin temperature, and ambient temperature. Using a button on the sensor, participants indicate when they take a medication to relieve pain. Weekly, participants electronically forward subjective and objective data to the program coordinator. The project coordinator, who is an occupational therapist, uses the data to provide the participant with information about his or her lifestyle in terms of physical activity patterns,

sleep quality, and energy expenditure. The project coordinator helps the participants compare the accuracy of their perceptions of activity to the data provided by the body-worn sensor. Day-by-day matching of activity level with fatigue and pain perception helps participants recognize the relationships between activity, rest, pacing, and fatigue and pain and, hence, develop healthier daily living routines. Routinely and as needed, the project coordinator consults with the interdisciplinary team (occupational therapy, rheumatology; Agenda Item 5). Program outcomes focus on increasing physical activity, activity pacing, and reducing the subjective and objective impact of fibromyalgia on everyday activities as measured by the HDR and body sensor (Agenda Item 4).

Summary

Occupational therapy seldom reports the outcomes of intervention programs to reflect the impact on public health indicators. Consequently, our professions' effect on public health goals is limited. We propose professional coherence in intervention practices and in reporting of screening, monitoring, and outcome indicators in population-level statistics that will enable occupational therapy to take an integral role in health promotion for people with chronic diseases (or disorders), including those with arthritis, in the 21st century.

Acknowledgments

This article was supported in part by a Switzer Fellowship to the first author from the National Institutes of Disability and Rehabilitation Research (H133F040010), by a grant from the National Institutes of Disability and Rehabilitation Research (H133G020159) to the third author, and by a grant from the National Institute for Arthritis and Musculoskeletal and Skin Diseases to the last author (R01AR05291). The authors acknowledge the support of Jillian Bateman OTD, OTR/L, for her comments on earlier drafts of this article.

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Table 1
Summary of Goals From *Healthy People 2010* for People With Arthritis

Six Goals From *Healthy People 2010* for People With Arthritis That Are Relevant to Occupational Therapy

- 1 Increase the mean number of days without severe pain among adults who have chronic joint symptoms.
 - 2 Reduce the proportion of adults with chronic joint symptoms who experience a limitation in activity because of arthritis.
 - 3 Reduce the proportion of all adults with chronic joint symptoms who have difficulty in performing two or more personal care activities, thereby preserving independence.
 - 4 Increase the employment rate among adults with arthritis in the working-age population.
 - 5 Increase the proportion of adults who have seen a health care provider for their chronic joint symptoms.
 - 6 Increase the proportion of persons with arthritis who have had effective, evidence-based arthritis education as an integral part of the management of their condition.
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Table 2
Proposed Prevention and Screening, Monitoring and Treatment, Client Outcomes Measures

Intervention Components	Quality Indicators	Measures (Examples Only)	Population Outcomes
Preventive screening	Satisfaction with ADLs	Self-report	% of clients evaluated for satisfaction with IADLs
	Evaluation of current physical activity level	Accelerometer/self-report	% of clients receiving evaluation of current physical activity
	Identification of barriers to physical activity	Interview	% of clients receiving evaluation of barriers to physical activity
	Fall risk assessment	Questionnaire	% of clients receiving a falls risk assessment
	Fatigue assessment	Questionnaire	% of clients receiving a fatigue assessment
	Pain assessment	Self-report	% of clients receiving a pain assessment
Monitoring and treatment	Physical activity plan	Use of pedometer and daily activity log	% of clients receiving pedometer and log
	Awareness/knowledge	Information about physical activity	% of clients receiving information about surgeon general's guidelines
	Goal setting and tailored intervention plan	Written goals and intervention plan	% of clients receiving a written goals and treatment plan
Results	Independence in ADL/IADLs	Observation of occupational performance	% of clients who experience difficulty with less than three ADLs
	Days off of work	Self-report (occupational profile)	% of clients who had fewer than 5 days off of work
	Physical Activity	Accelerometry	% of clients who performed moderate intensity physical activity on most days of the week
	Satisfaction with ADLs	Self-Report	% of clients who were satisfied with daily living
	Falls	Questionnaire	% of clients who reporting falls in the past year

Note. ADL = activities of daily living; IADL = instrumental activities of daily living.