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CHRONIC ILLNESS AND AGING

SECTION 5: OSTEOARTHRITIS—A CHRONIC INCAPACITATING DISEASE

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Although chronic illnesses in older adults have predictable psychological and social impacts, the specific characteristics of any disease influence the adaptive challenge it presents. To be effective, social work roles, interventions, and service delivery models need to be designed and developed to take account of the particular characteristics of the illness and its affect on patients, families, and communities. Such defining characteristics for the biopsychosocial assessment and interventions include, for example:

- Its prevalence
- Its life threat
- The disease and treatment trajectory over time
- The effects and side effects of required treatments
- The impact on patient functioning in all domains
- Societal attitudes to the disease
- Implications for care coordination

Presented here is the example of osteoarthritis: a disease that has a high prevalence in older adults; is the most common type of arthritis; is the leading physical illness cause of functional disability; often leads to depression in affected individuals as a result of common symptoms, such as pain and limited mobility; and only recently has been viewed as a public health issue among older adults that requires treatment, mainly through the use of disease management programs. The use of care coordination models with older adults with osteoarthritis has recently been identified as a complement to osteoarthritis disease management programs that have been endorsed by the Centers for Disease Control (CDC). Despite the evidence base for effectiveness of these disease management programs and their availability nationwide due to CDC support, many frail older adults are not utilizing them. Care coordination models can be used to address some of the modifiable barriers to program participation as well as safe and maximal independence necessary to age in place. Care coordination models for older adults with osteoarthritis should include health care system and social service systems

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Epidemiology: Osteoarthritis and Age

Prevalence Overview

- Arthritis is among the most common chronic diseases in the United States, affecting 46 million adults.

Furthermore, arthritis is the leading self-reported disability caused by a chronic illness: 19 million adults reported limited activity because of the disease in 2002 (Centers for Disease Control [CDC], 2008a). Arthritis is estimated to cost $81 billion a year and is responsible for 750,000 hospitalizations and 36 million outpatient physician visits each year (CDC, 2008a). More than half of all adults diagnosed with diabetes or heart disease also have some form of arthritis (CDC, 2007a). Overall projections concerning the prevalence of arthritis are presented in the chart below.

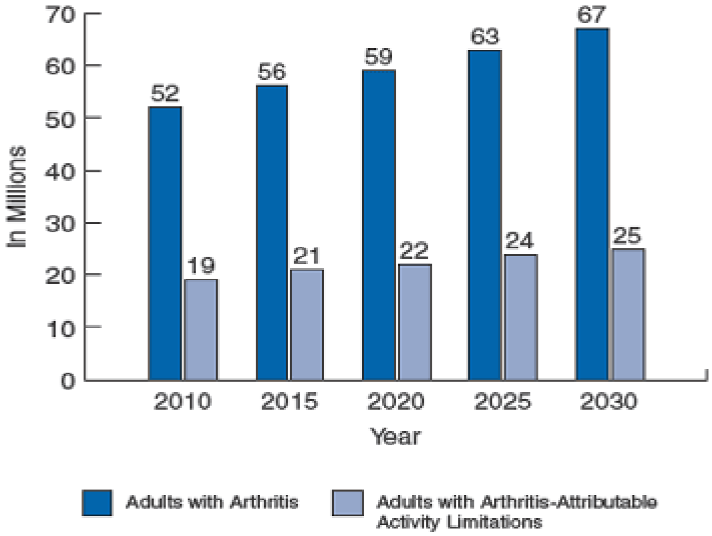


Figure 1. Projected number of adults with arthritis and arthritis-attributable activity limitations, 2005-2030.
(Source: Hootman & Helmick, 2006).

- Osteoarthritis is the most common type of arthritis, and its prevalence grows with increased age (CDC, 2008b).

The most commonly affected joints include the knees, hips, and hands (Lawrence et al., 2008). Lawrence and colleagues report that estimating the prevalence of osteoarthritis is difficult because the physical changes associated with the disease occur as a person ages, but many times no symptoms are associated with these changes. A diagnosis of symptomatic osteoarthritis requires that a person must have reported frequent pain in a joint, and there must be radiographic evidence of osteoarthritis in that joint. Most surveys of prevalence require individuals to have reported pain in the joint for a significant number of days (more than half) in one month to meet the symptomatic definition of the disease (Lawrence et al., 2008). Approximately 26.9 million people aged 25 and older are currently diagnosed with it. By 2030, 72 million people (20% of the U.S. population) will have reached age 65 and will thus be at increased risk for the disease (National Institute of Arthritis and Musculoskeletal and Skin Diseases, 2006). Figure 2 shows the projected prevalence rates.

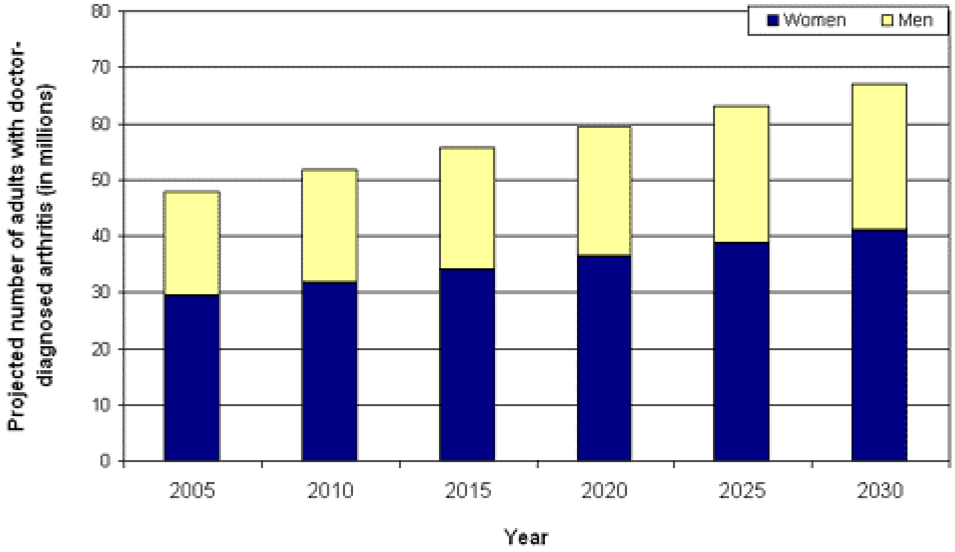


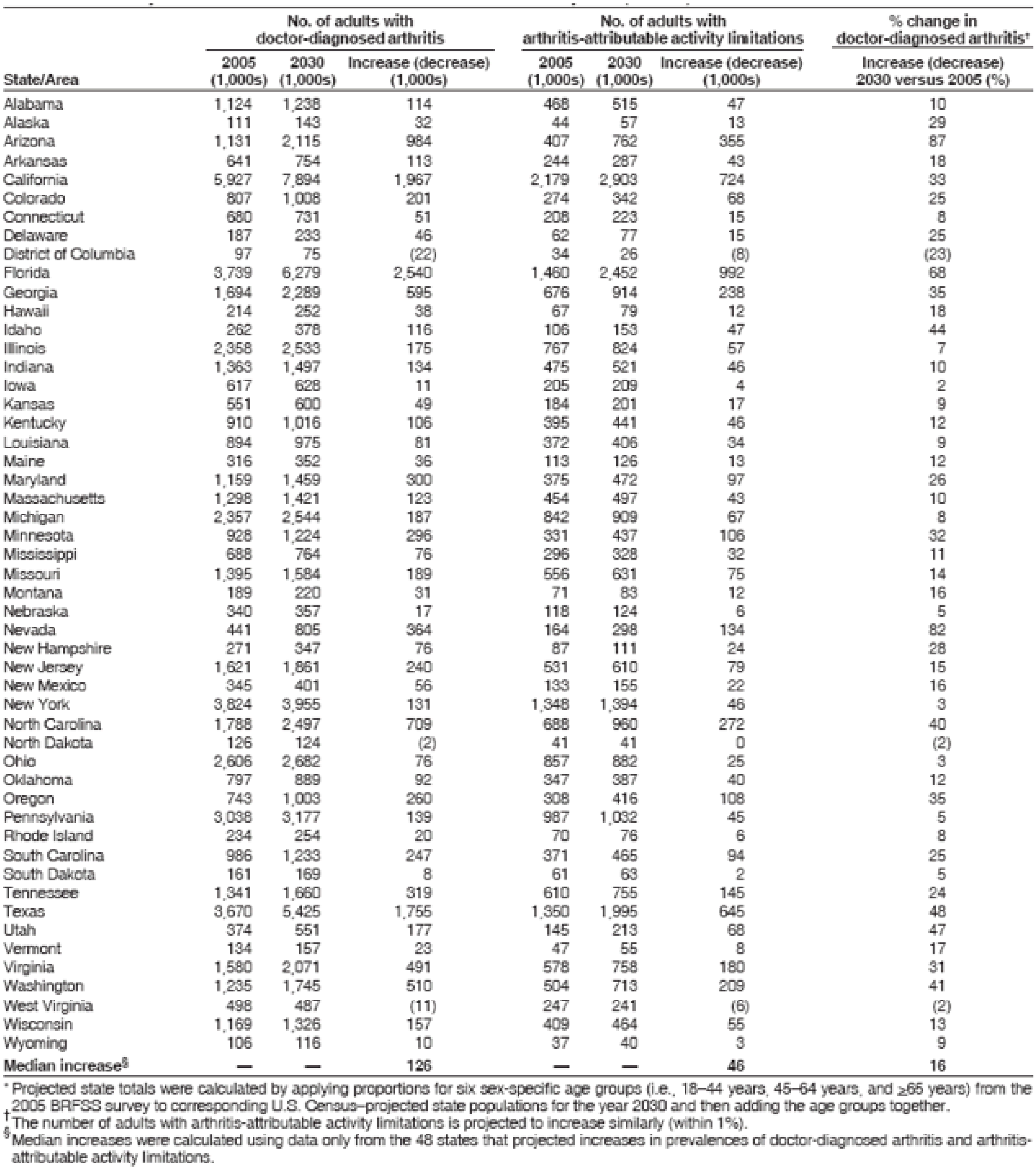
Figure 2. Projected prevalence of doctor-diagnosed arthritis, U.S. adults aged 18+ years, 2005-2030.
(Source: CDC, 2007b.)

The Changing Trajectory of Osteoarthritis as a Disease

- The number of people with osteoarthritis is expected to increase significantly in the next two decades.

By 2030, shifting demographics will result in a tripling of the population of adults 65 years of age or older (1 in 5 Americans, or 72 million). Furthermore, staggering increases in the prevalence of obesity, from 15% in 1980 to 33% in 2004, have the potential to significantly increase the number of older people reporting doctor-diagnosed osteoarthritis. Older age and obesity are both correlated with a higher prevalence of the disease. Freedman and colleagues (2007) reported that the number of cases nationally will increase by 16% between 2005 and 2030, with 14 states projecting that cases of doctor-diagnosed cases will increase from 30% to 87% by 2030. See Table 1 below for state-by-state projections (CDC, 2005).

Table 1. State-specific 2005 estimates and 2030 projections* of the numbers of adults with doctor-diagnosed arthritis and arthritis-attributable activity limitations.



	No. of adults with doctor-diagnosed arthritis			No. of adults with arthritis-attributable activity limitations			% change in doctor-diagnosed arthritis†
State/Area	2005 (1,000s)	2030 (1,000s)	Increase (decrease) (1,000s)	2005 (1,000s)	2030 (1,000s)	Increase (decrease) (1,000s)	Increase (decrease) 2030 versus 2005 (%)
Alabama	1,124	1,238	114	468	515	47	10
Alaska	111	143	32	44	57	13	29
Arizona	1,131	2,115	984	407	762	355	87
Arkansas	641	754	113	244	287	43	18
California	5,927	7,894	1,967	2,179	2,903	724	33
Colorado	807	1,008	201	274	342	68	25
Connecticut	680	731	51	208	223	15	8
Delaware	187	233	46	62	77	15	25
District of Columbia	97	75	(22)	34	26	(8)	(23)
Florida	3,739	6,279	2,540	1,460	2,452	992	68
Georgia	1,694	2,289	595	676	914	238	35
Hawaii	214	252	38	67	79	12	18
Idaho	262	378	116	106	153	47	44
Illinois	2,358	2,533	175	767	824	57	7
Indiana	1,363	1,497	134	475	521	46	10
Iowa	617	628	11	205	209	4	2
Kansas	551	600	49	184	201	17	9
Kentucky	910	1,016	106	395	441	46	12
Louisiana	894	975	81	372	406	34	9
Maine	316	352	36	113	126	13	12
Maryland	1,159	1,459	300	375	472	97	26
Massachusetts	1,298	1,421	123	454	497	43	10
Michigan	2,357	2,544	187	842	909	67	8
Minnesota	928	1,224	296	331	437	106	32
Mississippi	688	764	76	296	328	32	11
Missouri	1,395	1,584	189	556	631	75	14
Montana	189	220	31	71	83	12	16
Nebraska	340	357	17	118	124	6	5
Nevada	441	805	364	164	298	134	82
New Hampshire	271	347	76	87	111	24	28
New Jersey	1,621	1,861	240	531	610	79	15
New Mexico	345	401	56	133	155	22	16
New York	3,824	3,955	131	1,348	1,394	46	3
North Carolina	1,788	2,497	709	688	960	272	40
North Dakota	126	124	(2)	41	41	0	(2)
Ohio	2,606	2,682	76	857	882	25	3
Oklahoma	797	889	92	347	387	40	12
Oregon	743	1,003	260	308	416	108	35
Pennsylvania	3,038	3,177	139	987	1,032	45	5
Rhode Island	234	254	20	70	76	6	8
South Carolina	986	1,233	247	371	465	94	25
South Dakota	161	169	8	61	63	2	5
Tennessee	1,341	1,660	319	610	755	145	24
Texas	3,670	5,425	1,755	1,350	1,995	645	48
Utah	374	551	177	145	213	68	47
Vermont	134	157	23	47	55	8	17
Virginia	1,580	2,071	491	578	758	180	31
Washington	1,235	1,745	510	504	713	209	41
West Virginia	498	487	(11)	247	241	(6)	(2)
Wisconsin	1,169	1,326	157	409	464	55	13
Wyoming	106	116	10	37	40	3	9
Median increase§	—	—	126	—	—	46	16

* Projected state totals were calculated by applying proportions for six sex-specific age groups (i.e., 18–44 years, 45–64 years, and ≥65 years) from the 2005 BRFSS survey to corresponding U.S. Census–projected state populations for the year 2030 and then adding the age groups together.

† The number of adults with arthritis-attributable activity limitations is projected to increase similarly (within 1%).

§ Median increases were calculated using data only from the 48 states that projected increases in prevalences of doctor-diagnosed arthritis and arthritis-attributable activity limitations.

(Source: CDC, Behavioral Risk Factor Surveillance System, 2005.)

Given that the current evidence-based exercise and disease management programs endorsed for osteoarthritis by the CDC are underused nationwide (only 11% of those diagnosed have participated) and that the disease is the leading physical cause of functional impairment in activities of daily living (ADLs), extending the reach of these program into communities will become increasingly important. Furthermore, it will become increasingly important to develop new interventions that address the broad range of biopsychosocial difficulties people with the disease experience (Freedman et al., 2007).

Impact of Osteoarthritis on Older Adults

- Osteoarthritis affects the ADLs and increases the risk of depression, which in itself has an additive impact. In addition, the peak age for diagnosis is higher in women (85+ years) than in men (75-84 years).

Osteoarthritis limits a person's ability to perform the ADLs, work, and leisure. Furthermore, common symptoms, such as pain and limited mobility, are likely to be related to depression, which has an additive impact on disability and quality of life in chronic illnesses, including arthritis (Stein, Cox, Affix, Belk, & Sateen, 2006; Vail & Walkup, 1998). As the graph (Figure 3) below illustrates, women of all ages are disproportionately affected by arthritis compared to men (CDC, 2008a).

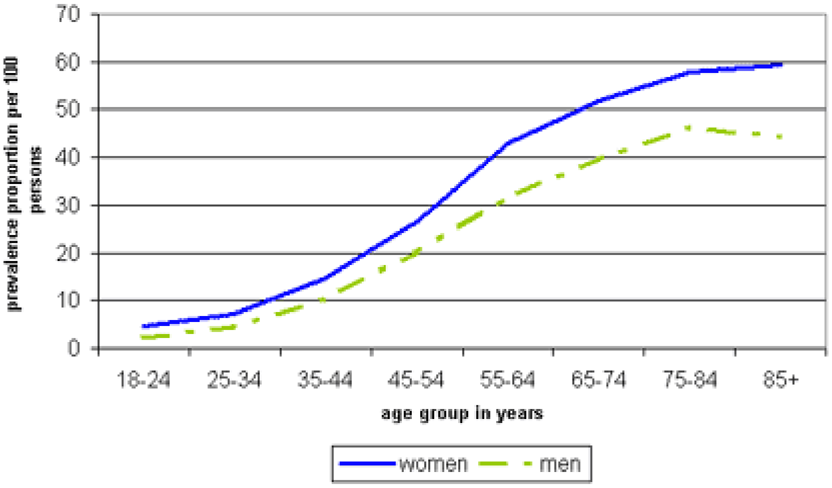


Figure 3. Sex-specific prevalence of doctor-diagnosed arthritis by age group, National health Interview Survey, 2003-2005.
(Source: CDC, 2008a.)

In 2006, women aged 85 and older accounted for 60% of all doctor-diagnosed arthritis reported. Not surprisingly, the figure for men peaks at approximately 47% between the ages 75 and 84 because of the difference in average life expectancy. The oldest old women report greater activity and work limitations, psychological distress, and severe joint pain than their male counterparts do (Theist, Helmick, & Hootman, 2007). Women also have higher rates of the disease than men do, especially after age 50, and the incidence of knee and hip involvement is most common among women. Replacement of the hip and knee joints also are the most costly treatments. Although older Black patients and people with low incomes have fewer surgeries, they have many more complications and a higher risk of mortality than White patients do.

The fact that the impact of osteoarthritis increases with age is attributable to both modifiable and nonmodifiable risk factors. Modifiable risk factors include excess body mass, joint injury, occupation, and muscle weakness, whereas nonmodifiable risk factors include genetic predisposition, older age, gender, and race (Asians are at lowest risk) (CDC, 2008b).

Factors Affecting the Impact of Osteoarthritis in Older Age

- Osteoarthritis is a significant public health issue for older adults.

The years 2002 to 2011 have been declared the United States (and International) Bone and Joint Decade (USBJD). As part of the worldwide Bone and Joint Decade initiative, U.S. patient and physician healthcare organizations, government agencies, and industry have come together as the USBJD to improve prevention programs for bone and joint diseases as well as to improve the quality of life of patients, and this begins with increased awareness, solid information, and increased research. The USBJD's activities include providing leadership and support for increased prevention, improved treatment, research, and education for all diseases affecting the joints and bones, including osteoarthritis. The ultimate goal of this effort is to improve the quality of life for individuals with bone and joint diseases worldwide (USBJD, 2002).

In response to this designation, the *National Arthritis Action Plan* (Arthritis Foundation, Association of State and Territorial Health Officials, CDC, 1999) and *Healthy People 2010* (DHHS, 2000) have identified arthritis as a major public health issue that can be addressed using prevention, education, and research strategies. According to these sources, existing disease management programs that have been empirically tested are effective means of increasing people's knowledge about arthritis and increasing their self-efficacy in managing the disease, while reducing their symptoms, such as pain and stiffness, depression, and social isolation. The ultimate purpose of these programs is to maximize the community-dwelling person's ability to remain independent and enjoy a satisfactory quality of life.

- Older adults underutilize programs proven to be effective in managing osteoarthritis.

The CDC recommends several evidence-based disease management programs that have empirically demonstrated their ability to improve the quality of life for people diagnosed with the condition. Using intervention screening criteria developed specifically to identify appropriate programs, the CDC (2007c) currently recommends two self-management education programs (The Arthritis Foundation Self-Help Program and the Chronic Disease Self-Management Program), three physical activity programs (Active Living Everyday, Arthritis Foundation Aquatics Program, and EnhanceFitness®), and two health communications programs that promote physical activity (Physical Activity: The Arthritis Pain Reliever and Buenos Dias, Artritis).

The CDC also has three physical activity programs on its "watch list," meaning that those programs are likely to be recommended, and two self-management programs and two physical activity programs on its "promising practices" list, meaning that preliminary findings from their evaluations are promising (CDC, 2007d). The CDC, in partnership with the National Arthritis Foundation and its state-level chapters, are collaborating to increase the capacity to deliver disease management programs throughout the country. Currently, 36 states receive funding to deliver disease management programs to people with all forms of arthritis.

- The Arthritis Foundation Self-help Program (Lorig & Fries, 2000), a course designed for people diagnosed with all types of arthritis by Kate Lorig at the Stanford Arthritis Center, is among the most popular disease management courses offered.

The Arthritis Foundation Self-help Program (adopted in 1981) is an educational program offered in a group setting to teach people different techniques to manage their arthritis and take a more active part in their own care. The course is generally taught over 6 consecutive weeks in sessions lasting 2 hours each. It is taught by a trained instructor using instructional techniques, such as active participation, lecture, discussion, brainstorming, and role playing. The topics covered include self-help principles, the disease process, exercise and fitness, pain management, relaxation, anger, fear and frustration, nutrition, problem-solving, communication skills, doctor-patient relations, medication, and nontraditional treatments. The program's impact on clients is determined by the following outcome measures: daily activity level, changes in symptoms, knowledge about arthritis, self-efficacy, depression, and client satisfaction. Rigorous evaluations have demonstrated the positive effects of participating in the program. Four years after the program, 20% of the participants reported decreased pain and 40% reported fewer visits to their physician. Capacity-building efforts in individual states have had similar outcomes when this evidence-based intervention has been translated into practice in community-based settings (Rizzo, Smith, Levine, & Greco, 2007).

- Despite the effectiveness of these disease management courses, only 11% of persons with arthritis participate in them.

In an effort to increase participation, the *National Arthritis Plan* (1999) recommended the development and implementation of community-wide strategies, including public awareness campaigns and marketing, to increase the penetration and reach of these programs in the community. State-level efforts have demonstrated some success with these strategies. For example, a disease management capacity-building initiative implemented by the New York State chapters of the Arthritis Foundation has resulted in the training of 634 new course instructors, the delivery of 354 new disease management courses statewide, and the participation of more than 6,000 clients with arthritis in disease management courses over 3 years throughout the state (Rizzo, et al., 2007).

Critical Challenges of Osteoarthritis in Older Adults

- First Challenge: Managing osteoarthritis and co-morbidities.

As stated earlier in this module, many people with doctor-diagnosed osteoarthritis are managing other diseases, such as heart disease and diabetes. However, two co-morbidities (pain and depression) require special attention because of their interrelatedness in osteoarthritis and their negative impact on functional limitations and quality of life.

Pain is common, and its intensity increases with age and duration of the disease. In their review of the literature, Jakobsson and Halberg (2002) concluded that increased pain caused by the disease can lead to increased depression. Furthermore, they reported that social support can buffer against the negative effects of the pain on quality-of-life outcomes, including depression.

Analyses of 1996 Health and Retirement Survey data revealed a significant association (an attributable risk of 18%) between arthritis and major depression, likely the result of functional limitations related to progression of the disease (CDC, 2004). Zautra and Smith (2001) suggested that depressive symptoms are likely to be related to weekly elevations in the degree of pain. When Lin and colleagues (2003) examined the impact of depression management on the pain and functional outcomes among older adults diagnosed with arthritis, they found that, compared with counterparts who received standard care, the people who received antidepressants or six to eight sessions of psychotherapy or both experienced significant decreases in the intensity of pain, in interference with ADLs caused by progression of disease, and in interference with ADLs resulting from pain.

Despite the fact that the interrelatedness of pain, limited ADLs, and depression associated with osteoarthritis is well established, primary care physicians often fail to include an assessment of ADL limitations, depression, or anxiety when examining their osteoarthritis patients (Memel, Kirwan, Sharp, & Hehir, 2000). One critical role for social workers is to include assessments of these factors when working with older adults diagnosed with the disease and addressing them with empirically tested interventions, including antidepressants, psychotherapy, disease management programs, and training in pain coping skills (Keefe et al., 2002).

◆ Second Challenge: Increasing the participation in evidence-based programs for osteoarthritis, especially among high-risk underserved populations.

Statewide efforts funded by the CDC and state-level departments of health have demonstrated some success with increasing the numbers of people with arthritis who participate in disease management programs. Despite these successful efforts, however, only 1% of the arthritis population in New York State participates in these programs. Furthermore, the vast majority of participants are non-Hispanic Whites, who have some college education, some form of medical insurance, and minimal impairment of ADLs, which suggests disparities in the recruitment, enrollment, and retention of people at high risk: e.g., people of color, those who are less educated, and those with more impairment in the ADLs (Rizzo et al., 2007).

Qualitative studies that examine the barriers to use of health services that influence participation in disease management programs for osteoarthritis (exercise-based programs) are extremely limited in the available literature. Of the three identified studies (Der Ananian, Wilcox, Saunders, Watkins, & Evans, 2006; Kamwendo, Askenbom, & Wahlgren, 1999; Lambert et al., 2000), only Der Ananian and colleagues (2006) examined the barriers to participation in disease management programs. In their study of 46 individuals with various types of arthritis, they found that three categories of individual barriers influenced participation in exercise programs are (1) physical (pain, mobility, co-morbidity, arthritis-related illness, and fatigue), (2) psychological (attitudes/beliefs, perceived negative outcomes, and depression), and (3) social/environmental (insufficient advice from physicians regarding the benefits of exercise, competing roles/responsibilities, lack of available exercise programs, lack of transportation, and weather. (Der Ananian et al., 2006; Schoster et al., 2005).

Studies of patient satisfaction with disease management programs suggest that people with osteoarthritis have needs that are not being addressed by these programs. For example, Holman and Lorig (2004) identified the primary determinants of health that participants in such programs want addressed to self-manage their arthritis: (1) access to information about the diagnosis and its implications and available treatments, (2) continuity of care, (3) coordination of care, (4) strategies for coping with symptoms, such as pain, fatigue, and loss of independence, and (5) ways to adjust to consequences of the disease, such as fear, depression, and uncertainty. Although most programs include cursory mention of items 1, 4, and 5, few, if any, address items 2 and 3.

These studies suggest that disease management programs alone are not the answer to the prevention and management of increased symptoms of osteoarthritis. First, because they are not reaching a majority of the most vulnerable people who have the disease, including, but not limited to, people of color, those with increased limitations in ADLs, and those with lower levels of education. And second, because they do not meet all the identified needs of people with osteoarthritis. One promising intervention that addresses both difficulties is social work care coordination.

◆ Third Challenge: Developing and implementing interventions that identify and address the biopsychosocial issues that have a significant impact on osteoarthritis and are not addressed in current interventions.

The Institute of Medicine (IOM) has identified care coordination[1] as one strategy to improve the quality of care for Americans with chronic and advanced illnesses along six dimensions of care: safety, effectiveness, patient centeredness, timeliness, equity, and efficiency. A recent review of Medicare demonstration projects on care coordination identified the following key gaps in current research: (1) lack of a uniform definition of care coordination and a conceptual model, (2) poorly defined care coordination interventions, (3) little focus on management of advanced and terminal illness (only 1 of 20 interventions), and (4) an underdeveloped measurement field for care coordination (Brown et al., 2007). These gaps have made it difficult for investigators to evaluate the effectiveness and efficiency of care coordination models to address the complex care that people with chronic illnesses need.

In 2007, the Agency for Health Care Research and Quality (Owens, 2007) released a meta-analysis of evaluations of care coordination programs, which concluded that the effectiveness of these programs is likely to depend on matching the program with the care coordination problem (i.e., management of osteoarthritis). Therefore, the development of an effective care coordination program for community-dwelling individuals with osteoarthritis would need to begin with a clear understanding of the characteristics of this population that inhibit their ability to manage the disease effectively through beneficial personal health practices and such health services as disease management programs.

Social Work Role: Biopsychosocial Assessment of Health Needs and Services

Both physical and psychological problems are highlighted for individuals with osteoarthritis because of symptoms of pain, limited mobility, and decreased ability to perform activities of daily living as the disease progresses. As the disease progresses and individuals become more disabled, they may become clinically depressed and unable to care for themselves in their home environments. At later stages of the disease, social support networks and family members often need to be engaged to support the client both physically and emotionally.

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[1] Care coordination is defined as "the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services. Organizing care involves the marshalling of personnel and other resources needed to carry out all required patient care activities, and is often managed by the exchange of information among participants responsible for different aspects of care" (Owens, 2007, p. 18).

Table 2, which is adapted from *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs* (Committee on the Psychosocial Services to cancer patients/Families in a Community Setting, Institute of Medicine, 2007), describes seven domains of biopsychosocial health needs assessed by social workers and the biopsychosocial health services they have implemented to meet those needs. The table has been modified to include the needs and services unique to osteoarthritis as a chronic illness.

Table 2. Biopsychosocial Needs and Formal Services Required to Address Them

Biopsychosocial Needs	**Formal Services Required to Address Them**
Information about illness, treatments, health, and services for patients and caregivers	▪ Provision of information, e.g., on illness, treatments, effects on health, biopsychosocial services, and helping patients/families understand and use information. ▪ Varies by intensity of osteoarthritis symptoms and disease duration.
Help in coping with emotions accompanying illness and treatment	▪ Peer Support Programs. ▪ Counseling/psychotherapy to individuals or groups. ▪ Pharmacological management of psychological symptoms. ▪ Pharmacological treatment for depression/anxiety coupled with psychotherapy and pain coping skills training.
Help in managing illness	▪ Comprehensive disease management/self-care programs. ▪ Coordinated care programs that organize patient care to facilitate more appropriate delivery. ▪ Development & implementation of outreach strategies to engage vulnerable populations in disease management programs.
Assistance changing behaviors to minimize impact of disease and delay/prevent disease progression	▪ Behavioral/health promotion interventions such as: ◆ Provider assessment/monitoring of health behaviors such as diet, smoking, exercise. ◆ Brief physician counseling. ◆ Patient education on risk reduction.
Material and logistical resources such as transportation, home care, assistive equipment, home modification	▪ Provision of resources, improvement of home environment. ▪ Help to provide and manage resources needed to allow patient to remain in the community with maximum independent and quality of life.
Help in managing disruptions in work, activities, family life, and social network Preparing for care transitions due to disease progression	▪ Family/caregiver education, counseling. ▪ Assistance with activities of daily living (ADLs), and instrumental activities/chores (IADLS). ▪ Legal protections and services. ▪ Social network development. ▪ Social network maintenance over time (friends & family*)*.
Financial advice and/or assistance Identifying sources of funding for many non-covered equipment items and non-prescription NSAIDS	▪ Financial planning/counseling including management of activities such as bill paying. ▪ Insurance counseling/advocacy. ▪ Eligibility assessment for other benefits (SSI and SSDI. ▪ Supplemental financial grants. ▪ Ongoing assistance with out of pocket expenses, such as assistive devices and home modifications.

Adapted from Institute of Medicine (2007). *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs*. National Academies Press: Washington DC. p.68.

Social Work Role: Care Coordination

- To date, the health system's focus on osteoarthritis patients' biopsychosocial needs has been twofold: medical treatment of the disease (including but not limited to, joint replacements, physical therapy, and pharmacological interventions to reduce pain), and management of the disease through evidenced-based programs (e.g., the Arthritis Foundation Self-help Program) to delay or prevent progression of the disease.

The current literature focused on prevention and treatment of osteoarthritis has not identified a clear role for social workers. Disease management programs, regarded as the gold standard of care for prevention and management of the disease, are often implemented by lay people with arthritis or by paraprofessionals or professionals trained in the medical model (health educators, physical therapists, physical therapy assistants, nurses, public health workers, and nutritionists). One role for social workers in treating affected individuals is to become instructors of disease management programs endorsed by the CDC and the National Arthritis Foundation (see description above on pp 6-7).

However, disease management programs fail to address many of the biopsychosocial issues identified by individuals diagnosed with osteoarthritis as negatively impacting their ability to remain in the community with maximum physical function and quality of life. These include (1) access to information concerning diagnosis and its implications and available treatments; (2) continuity of care, (3) coordination of care, (4) strategies for coping with symptoms, such as pain, fatigue and loss of independence, and (5) ways to adjust to consequences of the disease, such as fear, depression, and uncertainty (Der Ananian et al., 2006). In addition, some evidence indicates that the available disease management programs are not successful at recruiting the populations that could benefit the most from them (Rizzo et al., 2006, 2007). Three categories of individual barriers that influence participation in exercise programs are (1) physical (pain, mobility, co-morbidity, arthritis-related illness, and fatigue), (2) psychological (attitudes/beliefs, perceived negative outcomes, and depression), and (3) social/environmental (insufficient advice from physicians regarding the benefits of exercise, competing roles/responsibilities, lack of available exercise programs, lack of transportation, and weather. (Der Ananian et al., 2006; Schoster et al., 2005).

Therefore, it is important for social workers to identify the primary determinants of health behaviors that inhibit patients' participation in disease management programs and other positive health practices for management and to use the findings to develop a social work care coordination model that can more fully address all the biopsychosocial needs of patients. By virtue of their professional training, social workers are well positioned to assist clients who have needs in the areas identified above. Four specific ways social workers can address some of these needs include the following:

1) Incorporate better screening and assessment of functional impairment, pain, depression, and anxiety of patients with osteoarthritis when they implement the treatments described in the program's manual (e.g., the Arthritis Foundation Self-help Program).
2) Educate patients about their diagnosis and it implications as well as available treatments; include the disease as a part of the routine assessment of all older adults the practitioners work with, given its increasing prevalence with age.
3) Advocate for the delivery of disease management programs in tandem with social work intervention strategies for coordination of care in health facilities and in nontraditional settings that may attract underserved populations (e.g., churches, community centers, and libraries).
4) Develop and implement better outreach and screening and assessment strategies for use with the most vulnerable and underserved populations (e.g., people of color, people of low income, and frail older adults with few social supports).

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Curriculum Resources

Suggested Readings:

Books

- Centers for Disease Control and Prevention. (2003). *Promising practices in chronic disease prevention and control: A public health framework for action*. Atlanta, GA: U.S. Department of Health and Human Services. Available at http://www.hpclearinghouse.ca/downloads/Promising_Practices_cdc.pdf

An overview off the CDC's visions of how states and their partners can reduce the prevalence of chronic illness. It also describes some of the most promising resources for disease management and includes links to Web sites that offer tool kits, and training opportunities.

- Lorig, K., & Fries, J. (2000). *The arthritis helpbook: A tested self-management program for coping with arthritis and fibromyalgia* (5th ed.). Cambridge, MA: Perseus Books.

The participant manual for the Arthritis Foundation Self-Help Program. Instructors also receive copies of this book when they are trained to teach the program. The training manual and book are available in Spanish and English.

- Lorig, K., Halsted, M., Holman, D., Sobel, P., & Laurent, D. (2000). *Living a healthy life with chronic conditions: Self-management of heart disease, arthritis, diabetes, asthma, bronchitis, emphysema, & others*. Palo Alto, CA: Bull Publishing Company.

The manual for participants in the Chronic Disease Self-Management Program. Instructors are also given copies of this book when they are trained to teach this program. The training manual and book are available in Spanish and English.

- National Arthritis Foundation. *Arthritis Foundation Self-help program instructor training manual*. Washington, DC: Author.

This manual is used along with the book by Korig & Fries (listed above) to train instructors to deliver the Arthritis Foundation Self-Help program. The manual is also available in Spanish. Both manuals can be used as excellent training manual examples with students.

Reports

- National Arthritis Foundation, Association of State and Territorial Health Officials, and Centers for Disease Control and Prevention. (1999). *National arthritis action plan: A public health strategy*. Atlanta, GA: CDC.

Journal Articles

The following articles address some aspects of disease management programs in general as well as specifically for programs in arthritis.

- Badamgarav, E., Croft, J., Hohlbauch, A., Louie, J. S., O'Dell, J., Ofman, J. J., et al. (2003). Effects of disease management programs on functional status with rheumatoid arthritis. *Arthritis & Rheumatism, 49*, 377-387.
- Holman, H., & Lorig, K. (2004). Patient self-management: A key to effectiveness and efficiency in care of chronic diseases. *Public Health Reports, 119*, 239-243.
- Krause, D. (2005). Economic effectiveness of disease management programs: A meta-analysis. *Disease Management, 8*, 242-250.
- Lorig, K. R., Ritter, P. L., Stewart, A. L., Sobel, D. S., Brown, B. W., Bandura, A., et al. (2001). Chronic disease self-management program: 2-year health status and health care utilization outcomes. *Medical Care*, 39, 1217-1223.
- Nolte, S., Elsworth, G. R., Sinclair, A. J., & Osborne, R. H. (2007). The extent and breadth of benefits from participating in chronic disease self-management courses: A national patient-reported outcomes survey. *Patient Education and Counseling, 65*, 351-360.
- Weingarten, S., Henning, J., Badamgarav, E., Knight, K., Hasselblad, V., Gano, A., Jr., et al. (2002). Interventions used in disease management programmes for patients with chronic illness—which one works? Meta-analysis of published reports. *British Medical Journal, 325*, 925-928.

Films & Media

- National Arthritis Foundation. (2006). *Take control with exercise*. A DVD based on the Arthritis Foundation Exercise Program. Washington DC: Author.

This is an exercise tape that people with arthritis can use at home. It can be used to demonstrate the components of the arthritis exercise program to students. This program is the second most attended disease management program for people with osteoarthritis.

- Centers for Disease Control & Prevention Directors of Health Promotion and Education. (2004). *Implementing self-management education: Successes and challenges in arthritis.* Produced by the Alabama Department of Public Health. (Available in VHS and DVD; running time, 2 hours, 20 minutes.)

This video provides students with a discussion of the difficulties and successes inherent in implementing arthritis disease management programs in the community. The video consists of a panel discussion with high-level individuals throughout the U.S. who have implemented arthritis disease management programs in their states.

- School of Public Health, University at Albany, State University of New York. (2003). *Dispelling the myths of arthritis: How to take control.* Albany, New York: Author. (Available in VHS; running time, approximately 1 hour.)

The aim of this video is to help dispel myths that all of us have regarding arthritis. It can be used in class to for discuss about misconceptions about aging individuals with chronic illness and how social workers can help dispel these myths.

Case Study

Mrs. Santiago is an 87-year-old woman who has presented at the Emergency Department (ED) of the hospital where you worked five times in the past three months. On each occasion, she complained of severe spasms of pain in her left hip and knee that on two of the five occasions caused her to fall at home and come to the ED via ambulance. Fortunately, on these two occasions, she suffered only minor bruises and scrapes. You have been asked to see Mrs. Santiago in the ED for two reasons: 1) to ensure a safe discharge since her diagnosis of OA does not permit admission to the hospital and 2) to ensure that a longer term plan is in place to prevent another visit to the ED for her OA pain.

From her previous ED medical charts, you have the following information:

1) Medical History: Mrs. Santiago was hit by a cab driver while she was walking home from her job as a waitress when she was 57 years old. She had a steel rod placed in her left femur and a full cast on her right leg. She was in traction for 2 months. After spending several months in the hospital and a physical rehabilitation center, Mrs. Santiago was sent home. However, she stated that, "it always hurt to walk, and every time the weather changed she just wanted to stay in bed." She had to quit her job as a waitress and only went out to grocery shop at the corner store and to the local health clinic when she could get there. She can no longer use the subway and relies on her church to find people to take her to the doctor. In the past 10 years, she has been diagnosed with hypertension and diabetes, which she regulates with medication "when she has the money to buy it." About 3 years ago, Mrs. Santiago complained to a neighborhood health clinic resident that her pain in her hip and knee had gotten much worse. X-rays confirmed a diagnosis of osteoarthritis (OA) in her left knee and hip. The physician prescribed NSAIDS and participation in a disease management program. Mrs. Santiago never followed through with either treatment. She reported, in past ED visits, that she just takes aspirin and uses a hot water bottle when she "gets to hurtin' something awful." During two of her previous visits, she was given steroid injections to relieve her pain, and she says this is the only thing that works. Currently, she has no regular physician, and she has never seen an orthopedic surgeon or rheumatologist for her OA. The ED physician gave her another injection and has recommended that she see a surgeon for possible hip replacement surgery. Mrs. Santiago reports that "she ain't havin' no surgery in this hospital."
2) Occupational History: Mrs. Santiago was a waitress until she became permanently disabled after the cab accident. She receives a small Social Security Disability check monthly. She also has Medicare. She has never applied for any social services including Medicaid or SSI or HEAP. She lives in a rent-controlled apartment and says she gets by "with help from her church and the local food pantry at the end of each month."

3) Family History: Mrs. Santiago came to New York City from Puerto Rico when she was 22 years old with her husband. They settled in her current apartment in the Bronx. She worked as a waitress and he was a day laborer. They had one child. Her husband died in a construction site accident when she was 53 years old. A year later her only son, Roberto, was killed in a gang related shooting. He was mistaken as a gang member on his way home from work at a local diner as a dishwasher. Mrs. Santiago has lived alone since the death of her husband and son. She was active in her church until her accident. Since that time, she has lost touch with many of her friends. She has one sister in Puerto Rico that she talks to on the phone once a month. A friendly visitor comes from her local church once a week to give her communion.
4) Psychological History: Mrs. Santiago denies that she has been depressed. However, previous records indicate that she has lost 30 pounds since her first ED visit and that she has a flat affect. She also reported in her last two visits that she wants to sleep all the time and doesn't even want to visit with her church members anymore when they come to see her. She says she is tired of being in pain all the time.

- Using Table 3 (the biopsychosocial health needs and formal services required to address them) answer the following questions regarding this case:
  - Of the seven assessment areas outlined in the power point, what information do you have for each?
  - Given the current situation, which of the seven areas will be most prominent for your assessment and development of a treatment plan for the short term and the long term?
  - Formulate questions you would ask in each of these areas.
- How important is it to gain a better understanding of Mrs. Santiago's culture and religious beliefs to complete her assessment and care coordination plan? What would you want to know and how would you go about getting this information?
- As an ED social worker how would you design and develop a social work care coordination model that you could use with Mrs. Santiago and similar patients to help minimize their use of the ED inappropriately and appropriately maximize their use of community-based services to manage their illnesses? What would be your short-range discharge plan to get Mrs. Santiago out of the ED and home safely? What plan would you put in motion to minimize her inappropriate use of the ED in the future?
- Of the four ways that were identified in the Table (and PowerPoint file for this section) to address the needs of older OA patients, which ones would be prominent in this case? Justify your choices.

Web Resources

- Disease Management Association of America: http://dmaa.org.

This Web site is connected to a trade organization for people working in the disease management industry. Here, one can find excellent general information about disease management programs. The site also includes the “DM LitFinder” data base, which allows one to easily browse the peer-reviewed literature on the clinical, financial, and humanistic outcomes of disease management programs. Currently, eight conditions are included in the data base: asthma, congestive heart failure, diabetes, chronic obstructive pulmonary disease (COPD), coronary artery disease, end-stage renal disease, depression, and high-risk pregnancy.

- The Arthritis Foundation: http://www.arthritis.org.

This Web site is a comprehensive one that includes materials for both researchers and people with arthritis. The site has extensive materials on all of the Arthritis Disease Management Programs. You can access free materials and pamphlets and connect to state chapter Web sites to identify sites of arthritis programs in each state. The foundation also updates the site frequently to include the most current research reports available.

- The Arthritis Program: http://www.cdc.gov/arthritis.

The Centers for Disease Prevention and Control Web site has an extensive section on arthritis programs. On this site, you will find the most recent arthritis-related statistics, articles about arthritis research, arthritis intervention programs, educational materials about each type of disease, and information about the CDC’s latest activities in this area. The site also provides links to other important Web sites concerning arthritis.