

Arthritis Media Coverage in 1999
M.A.S.H. Analysis of Print, Broadcast, and Internet Coverage
Targeting the Public and Health Care Professionals

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EXECUTIVE SUMMARY

Introduction and Methodology

The Centers for Disease Control and Prevention (CDC) is developing a national arthritis program targeting the public and health care professionals. The media will be a major channel for disseminating messages to these audiences, for it has the power to influence—if not shape—knowledge, attitudes, and behaviors. For example, 1999 was a eventful year for the field of arthritis treatment and management with the release of three new classes of drugs and the American College of Rheumatology meeting which highlighted new treatment options. To inform the development of the media strategy for CDC's arthritis program, Porter Novelli used its Media Analysis System for Health (MASH) to track the quantity and content of print, broadcast, and Internet coverage about arthritis that appeared in the media throughout the year of 1999 and that targeted the public and health care professionals. The findings from this research will assist with identifying message and information gaps and opportunities for disseminating CDC's program messages.

This report presents the findings from three components of this analysis:

- **General print and broadcast media:** A total of 90 stories, 49 from newspapers, 18 from magazines, 20 from television, and 3 from radio were analyzed.
- **Health care professional print publications:** To gain a sense of how popular the topic of arthritis has been as a focus of scientific scrutiny in the medical sphere over the past year, a search through the Medlars Online (MEDLINE) and the Cumulative Index to Nursing and Allied Health Literature (CINAHL) databases was conducted. This search yielded a total of 3,246 citations, 2,956 articles from MEDLINE and 290 from CINAHL. These articles could be about studies performed within or outside of the United States. The articles found by MEDLINE and CINAHL were not analyzed for content because a literature review of select articles was conducted separately from this MASH analysis.

A second search, along with a content analysis, was conducted among articles from the American Medical Association's *American Medical News* to gain a sense of how widely the topic of arthritis has been reported as news to the medical sphere. Only three articles from *American Medical News* that only mention but do not discuss arthritis in-depth were found and consequently analyzed for content.

- **Internet sites:** Eighteen of the most popular health information sites were analyzed for content. A mix of arthritis and non-arthritis specific sites were chosen.

It should be noted that publications not included in the databases of the various search services were excluded from this analysis. Nevertheless, this analysis provides a sense of the focus and dispersion of print media coverage pertaining to arthritis.

Key Findings

General Print and Broadcast Media

Overview of Media Coverage

- The 90 stories were most likely to be news pieces about topics such as new pharmaceutical drugs (n=51, 57%), followed by features focusing in-depth on topics such as ways to treat or manage arthritis [e.g., pharmaceutical drugs, the dietary drug methyl sulfonyl methane (MSM), the supplement s-adenosylmethionine (SAME), eating habits, exercise, etc.] (n=26, 29%). A very small number were tips in the forms of question and answer articles and interviews (n=10, 11%), book/magazine reviews (n=1, 1%), and columns/editorials (n=1, 1%).
- The vast majority of the 90 stories targeted those with a diagnosis or symptoms of arthritis (n=74, 82%). A small number targeted other audiences, namely females (n=3, 3%), the general public (i.e., no particular segment of the public) (n=17, 19%), and physicians (n=4, 4%).

Messages about Arthritis

- Arthritis was more likely to be portrayed as a very severe disease (n=27, 30%) than to be described as a mild disease (n=5, 6%).
- At the same time, the majority (n=67, 74%) of stories sent the message that people with arthritis can find treatments or manage their disease, mainly because they can access a variety of new drugs or therapies, although none went so far as to say that a cure is coming. In fact, few inaccuracies or myths were found in the stories analyzed. On the contrary, a few articles cautioned that certain available treatments should **not** be viewed as cures for arthritis. (See below for the types of treatments and management techniques mentioned.)
- Few inaccuracies or myths were found in the stories analyzed. On the contrary, a few articles cautioned that certain available treatments should **not** be viewed as cures for arthritis.
- The 90 stories were more likely to talk about specific types of arthritis (n=58, 64%) than to discuss arthritis in general terms (n=32, 36%). Rheumatoid arthritis and osteoarthritis were the types of arthritis specified most often.
- Stories were most likely to provide information about arthritis treatment or management (n=80, 89%) or about the symptoms of arthritis (n=66, 73%). A small minority cited statistics about the prevalence of arthritis (n=38, 42%), mentioned risk factors for arthritis (n=27, 30%), or discussed the etiology of arthritis (n=25, 28%). Almost none talked about how people are diagnosed with arthritis (n=2, 2%).

- The majority of stories providing information about arthritis treatment or management actually specified methods of doing so. Pharmaceutical drugs were mentioned most often (n=47, 52%), followed by alternative therapies (n=31, 34%). Other methods, including eating habits/weight loss (n=14, 16%) and exercise (n=11, 12%), were mentioned by few stories. Few stories talked about specific methods of injury prevention.
- It should be noted that, although the stories generally mentioned a variety of methods of treatment or management, none of them actually referred to a **comprehensive** treatment/management program.
- The majority of such stories provided more specific information about these methods of treatment or management (n=63, 70%), including how they help the body, the safety of such methods, potential side effects, and cost issues.
- **Yet very few stories provided information about when/how to talk to a health care professional about treatment or management (n=8, 9%) or about how decisions are made (n=2, 2%).**
- Stories providing information about arthritis symptoms were most likely to mention joint pain (n=59, 66%). Far fewer talked about other symptoms such as deformity/destruction of the joints/disability (n=24, 27%), or limitations in movement/every day activity (n=23, 26%). Other symptoms mentioned by no more than a few articles each were fatigue, sleep disturbance, weight loss, rash, fever, lesions, headaches, and damage to organs (such as the kidneys, nervous system, and skin).
- Stories providing statistics on the prevalence of arthritis typically mentioned the number of Americans with arthritis in general (giving statistics ranging from 20 million-45 million), the number of Americans with rheumatoid arthritis (citing statistics ranging from 2 million-3 million), and the number of Americans with osteoarthritis (providing statistics ranging from 20.7 million-37 million).
- Many of the stories talking about the risk factors for arthritis mentioned that age (particularly older age) places one at greater risk. Other risk factors mentioned less often were gender (usually female), obesity, genetics or family history, and discrepancy in leg length (i.e., the two legs are of a different length).
- Stories discussing the etiology of arthritis mentioned a variety of causes, namely severe wear or injury to joints, autoimmune disorders, infections or toxins (e.g., bacterial infection, uric acid, etc.), tick bites, breast implants, atrophied muscles, and flat feet. Many of these causes were tied to specific types of arthritis.
- Stories that provided information about diagnosing arthritis mentioned physical examinations, laboratory tests (e.g., urine and blood tests), and x-rays or imaging scans.

Calls to Action

- **Most stories did not include any “calls to action”; only 32 stories (36%) did.**
- The majority of stories did not recommend that those with symptoms or a diagnosis of arthritis consult a health care professional for diagnosis, treatment, or management. The 17 stories (19%) that did gave this recommendation for a variety of reasons, such as to find out more about new treatments, to make sure that new treatments are safe or will not interact negatively with treatments already prescribed, and to explore potential negative side effects from new treatments.
- **No stories suggested that arthritis patients attend a course, class, or support group.**
- The majority of stories did not recommend that patients seek additional information. The minority that did (n=24, 26%) pointed to a variety of sources including federal agencies, non-profit organizations, publications, and Internet sites/e-mail addresses. Almost none of these stories provided information on how to judge the credibility of information sources (e.g., such as those providing unsubstantiated treatment claims posted on Internet sites, supposed “cures” for arthritis, etc.).

Scientific Studies

- None of the stories focused solely on scientific studies; furthermore, the majority of stories did not even mention scientific studies. The minority that did mention studies (n=32, 36%) focused on methods of treatment/management, epidemiology, disease prevention, and laboratory research.
- Some of these stories briefly noted whether the studies support the efficacy of certain treatments, methods of disease prevention, and laboratory research (n=16, 18%). This was particularly true for studies about the efficacy of new drugs.
- Very few stories that mentioned scientific studies also provided cautionary information about those studies (n=11, 12%), such as a detailed profile of the study population (beyond the sample size and disease type) or other limitations of the study.
- None of the stories that mentioned scientific studies provided information on how to find more detailed information about those studies.

Special Events

- Almost none (n=8, 9%) of the stories mentioned special events involving the public or health professionals. Events mentioned were the Annual Meeting of the American College of Rheumatology and events sponsored by the Arthritis Foundation.

Sources Quoted or Mentioned

- Most stories quoted or mentioned at least one source (person or organization) as providing information about arthritis (82, 91%). Non-profit organizations were highlighted more often than any other source (n=36, 40%), followed by for-profit organizations or companies (n=27, 30%), universities (n=27, 30%), federal government agencies (n=26, 29%), medical institutions such as hospitals and research centers (n=19, 21%), and individual scientific experts (n=10, 11%). A very small number of stories quoted or mentioned celebrities (n=6, 7%) and medical societies or organizations (n=5, 6%).

Health Care Professional Print Publications

- A total of three articles mentioning but not focusing on arthritis were published in the American Medical Association's *American Medical News* in 1999. These articles mentioned arthritis in the context of pain management for arthritis patients, off-label drug promotion to physicians and patients, and the use of poetry therapy for arthritis patients.

Internet Sites

Target Audiences

- The Internet media differed substantially from the general media in the types of audiences it targeted; it provided information useful to both the public and health care professionals of all types. In contrast, the general media rarely presented information targeting health care professionals. Even if the information by provided by the Internet sites was of a less scientific nature, it could have been used by health care professionals for patient education efforts (e.g., many Internet sites had factsheets or brochures that health care professionals could print and give to their patients).

Accessibility of Arthritis Information

- Compared to the general media, the Internet media sometimes made it more difficult for readers to locate information about arthritis by requiring them to identify relevant "hyperlinks" and "browse" through multiple pages before finding relevant information.
- The ease with which one could access information about arthritis varied across the 18 Internet sites: seven were arthritis-specific sites and thus provided immediate access to relevant information, eight had a hyperlink consisting of the word "arthritis" or containing the word arthritis (although the hyperlink was not immediately accessible for some sites), one had the hyperlink "rheumatology" (a broader term

under which arthritis falls), and two had no arthritis-related hyperlinks and required one to use a search function.

Overview of Content

- Compared to the general media, the Internet media provided a substantially larger range of information on a wider variety of topics and provided more in-depth information about arthritis.
- The 18 Internet sites focused on a variety of topics, some more than others. They focused mostly on (a) providing general information about arthritis, specifically about disease prevalence, risk factors, symptoms, etiology, diagnosis, and treatment or management; (b) directing readers to additional information sources; and (c) directing readers to additional scientific research.

Messages about Arthritis

- Almost all the Internet sites portrayed arthritis as a condition that can be severe but that is amenable to treatment or management. For example, one site noted that “current treatment strategies—including pain relief and other medications, a balance between rest and exercise, and patient education and support programs—allow most people with the disease to lead active and productive lives.”
- All 18 Internet sites provided information on many different types of arthritis. Such information was provided in a variety of formats including news articles, factsheets, tipsheets, frequently asked questions, drug lists, etc.
- Unlike the general media, the Internet media typically provided enough detail about the risk factors, etiology, and symptoms of various types of arthritis to help readers distinguish between the different types (e.g., they would note that osteoarthritis typically affects joints on one side of the body while rheumatoid arthritis often affects joints on both sides).
- When outlining risk factors, etiology, and symptoms for the various types of arthritis, Internet sites typically noted that readers who think they are symptomatic for the disease should consult a physician for a definite diagnosis.
- Some Internet sites (particularly www.rheumatology.org, www.nih.gov/niams, www.intelihealth.com, and www.ama-assn.org) provided extensive information about how arthritis is diagnosed through family/histories, physical examinations, laboratory test, and x-rays/imaging scans. Such information helped give the reader the clear sense of what to expect when visiting a physician for a diagnosis.
- All 18 sites provided extensive information on options for treatment or management. Similar to the general media, the Internet sites provided information about: pharmaceutical drugs, alternative therapies, surgery, exercise, diet, weight loss, home design, and psychological therapy.

- Unlike the general media, the Internet sites often discussed: assistive devices (e.g., canes, walkers, shoe inserts, etc.), lifestyle modifications (e.g., lifting objects, grocery shopping), and rest.
- Different websites provided different types of information about treatment or management. For example, one site was devoted to promoting a particular type of antibiotic therapy, another provided detailed information about pharmaceutical drugs.
- Some sites gave particularly detailed advice on when to talk to a health care professional and how to talk to a health care professional. Among other things, these sites counseled readers on the types of information to record (e.g., symptoms, family history, etc.) and the importance of asking questions for clarification.
- Unlike the general media, the Internet media often provided tips on how to manage arthritis and carry out every-day activities. One particularly good source for such tips was www.arthritisconnection.com, a site devoted primarily to providing tips on how to carry out every day activities. Among other things, it discussed ways to simplify grocery shopping (e.g., shop when the store is busy enough to have enough staff to assist in lifting items from shelves but not when the store is so busy that one must park far away from the store or stand in long lines), integrate exercise into every day life, make personal washing/grooming/dressing easier, have a successful vacation (e.g., questions to ask about facilities such as hotels, essentials to pack).

Scientific Studies

- Most Internet sites provided access to detailed information from scientific studies, routing readers to news articles, abstract/summaries, or to full-text journal papers.
- Such information was presented in a variety of ways. Several sites provided brief summaries of various types of studies pertaining to laboratory-, epidemiological-, and clinically-based research, but no hyperlinks to the actual articles themselves. One was devoted to searching through archives of peer-reviewed publications. Another provided particularly extensive information useful for readers interested in participating in clinical trials. Another directed readers to the latest research in an effort to solicit funds to continue such research with the stated goal of finding a cure for arthritis. Another cited scientific studies supporting a particular type of antibiotic therapy featured by that Internet site.

Direction for Further Information

- All 18 Internet sites provided hyperlinks directing readers to other sites. Similar to the general media, the Internet media directed readers to a variety of sources such as government agencies, non-profit organizations, for-profit organizations, medical societies, universities, and medical entities.
- Unlike the general media, the Internet sites often directed readers to different types of discussion groups (often called “message boards” and listservs, among other things). Such groups were typically comprised of arthritis patients sharing information on a wide variety of topics including treatment and management and the psychological burden of living with arthritis.

1. INTRODUCTION

The Centers for Disease Control and Prevention (CDC) is developing a national arthritis program targeting the public and health care professionals. The media will be a major channel for disseminating messages to these audiences, for it has the power to influence—if not shape—knowledge, attitudes, and behaviors. For example, 1999 was a eventful year for the field of arthritis treatment and management with the release of three new classes of drugs and the American College of Rheumatology meeting which highlighted new treatment options. To inform the development of the media strategy for CDC's arthritis program, Porter Novelli used its Media Analysis System for Health (MASH) to track the quantity and content of print, broadcast, and Internet coverage about arthritis that appeared in the media throughout the year of 1999 and that targeted the public and health care professionals. Objectives of this research were:

- To determine the type and target audience of media coverage around the topic of arthritis.
- To gain a better understanding of whether arthritis was positioned as a manageable or non-manageable disease.
- To learn whether the media provided specific information about arthritis.
- To find out what kinds of “calls to action” were recommended by the media.
- To determine whether the media presented findings from scientific studies.
- To learn whether the media publicized special events tied to arthritis.
- To find out what types of sources were quoted or mentioned by the media as providing information about arthritis.

The findings from this research will assist with identifying message and information gaps and opportunities for disseminating CDC's program messages.

2. METHODOLOGY

This analysis examined general print and broadcast coverage, health care professional print publications, and Internet sites (see Appendix A for a listing of the print publications, broadcast outlets, and Internet sites included in this analysis and Appendix B for a list of the reporters):

- **General print and broadcast media:** Newspaper and magazine articles and television and radio transcripts were collected using the Lexis-Nexis service, an online distributor of full-text news information. Criteria for the print and broadcast media were developed to select clips that had the main subject of arthritis and that were published in 1999. This search yielded a total of 325 newspaper articles, 18 magazine articles, 20 television transcripts, and 3 radio transcripts. Because of time constraints, every other newspaper article was selected for review; all magazine, print, and broadcast transcripts were analyzed. In the end, a total of 90 stories, 49 from newspapers, 18 from magazines, 20 from television, and 3 from radio were analyzed.
- **Health care professional print publications:** Two Internet bibliographic databases, Medlars Online (MEDLINE) and the Cumulative Index to Nursing and Allied Health Literature (CINAHL), were used to search for and gain a count of articles directed at physicians, nurses, and allied health professionals.¹ These databases covered a variety of sources including journals, books, dissertations, and reports. Articles were counted if they were indexed under arthritis, published in 1999, and written in English. This search revealed a total of 3,246 citations, 2,956 from MEDLINE and 290 from CINAHL. It should be noted that these articles could be about studies performed within or outside of the United States. The articles found by MEDLINE and CINAHL were not analyzed for content because a literature review of select articles was conducted separately from this MASH analysis. The information provided by this search, however, is useful for gaining of sense of how popular the topic of arthritis has been as a focus of scientific scrutiny in the medical sphere over the past year.

Only articles from *American Medical News* were specifically searched for analysis, but the search yielded 0 articles. This search and content analysis was conducted to gain a sense of how widely the topic of arthritis has been reported as news to the medical sphere. A second, broader search of the newsletter yielded three articles that merely mentioned arthritis; these articles are briefly summarized in this report.

- **Internet sites:** Internet sites were chosen for this analysis based on four different “ratings lists” from Go2Net, top10links, Media Metrix, and Jupiter. A mix of the most popular arthritis and non-arthritis specific sites were chosen for analysis. To be

¹ MEDLINE provides comprehensive coverage of the literature targeting physicians; however, it excludes much of the literature aimed at nurses and allied health professionals, thus a second search in CINAHL was conducted. It should be noted that MEDLINE and CINAHL contain some of the same sources, thus adding the numbers obtained from each search database may yield a total that is somewhat higher than what truly exists. At the same time, conducting the search in both databases provides a better sense of how popular the topic of arthritis is in the health and medical sphere.

included in this analysis, each site had to focus on presenting health information (e.g., versus selling products, etc.). A total of 18 sites were analyzed.

In consultation with Porter Novelli staff members working on the media component of CDC's national arthritis program, separate coding schemes were developed to track the general print and broadcast media and the Internet media (see Appendix B for the general media codesheet and Appendix C for the Internet codesheet). Next, one Porter Novelli staff member coded the general print and broadcast media clips, and another summarized the *American Medical News* clips and coded the Internet sites.

It should be noted that publications not included in the databases of the various search services were excluded from this analysis. Nevertheless, this analysis provides a sense of the focus and dispersion of print media coverage pertaining to arthritis.

DETAILED FINDINGS

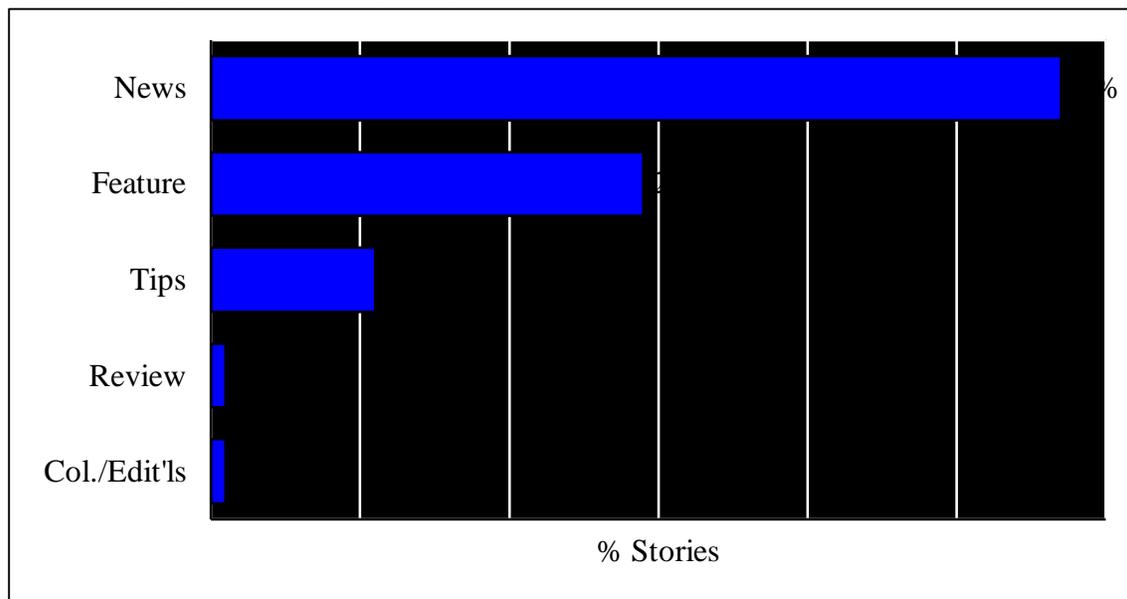
3.1 General Print and Broadcast Media

3.1.1 Overview of Media Coverage

Types of Stories

As illustrated by Figure 1, stories were most likely to be news pieces about topics such as new pharmaceutical drugs (n=51, 57%), followed by features focusing on a topic in-depth (n=26, 29%). Among other things, feature stories focused on the beneficial effects of treatments [e.g., pharmaceutical drugs, alternative therapies such as the dietary drug methyl sulfonyl methane (MSM) or the supplement s-adenosylmethionine (SAMe)], and the benefits gained by other management regimens (e.g., improved eating habits and exercise). A small number of stories were tips in the forms of question and answer articles and interviews (n=10, 11%), book/magazine reviews (n=1, 1%), and columns/editorials (n=1, 1%).

Figure 1: Types of Stories (n=90)



Target Audience

Figure 2 shows that the vast majority (n=77, 85%) of stories targeted a specific segment of the public, particularly those with a diagnosis of arthritis or those with symptoms of the disease (n=74, 82%). Almost none (n=3, 3%) targeted females. A small number (n=17, 19%) of stories were aimed at the general public, that is, they did not focus on any particular segment of the public.

Only four stories (4%) were directed toward a health care professional of some type, and all of these were aimed at physicians.

Figure 2: Target Audience (n=90)

	# Stories (%)
Segment of the public	77 (85%)
Diagnosed with or symptomatic for arthritis	74 (82%)
Females	3 (3%)
General public (no segment)	17 (19%)
Physicians	4 (4%)

3.1.2 Messages about Arthritis

Arthritis was more likely to be portrayed as a chronic, painful, or very severe disease (n=27, 30%) than to be described as a mild disease (n=5, 6%). The following quotes better illustrate how stories described arthritis as a serious disease:

"[Arthritis] is the most common cause of long-term disability." (Los Angeles Times, 15 September 1999)

"This crippling autoimmune disease [rheumatoid arthritis] can lead to deformity, and sometimes even death. And patients may experience such intense pain they are unable to lead normal lives." (ABC Good Morning America, 8 June 1999)

At the same time, the majority (n=67, 74%) of stories sent the message that people with arthritis can find treatments or manage their disease, mainly because they can access a variety of new drugs or therapies (n=65, 72%), although none of them went so far as to say that a cure is coming. In fact, few inaccuracies or myths were found in the stories analyzed. On the contrary, a few articles cautioned that certain available treatments should **not** be viewed as cures for arthritis. (See below for the types of treatments and managements mentioned.)

"Through medication and exercise, Barroso has learned to cope and is able to lead a fairly active life of work and school." (Houston Chronicle, 8 November 1999)

"There is no cure [for rheumatoid arthritis], but the pain can be managed." (NBC Today, 9 October 1999)

"Celebrex, developed by the G.D. Searle unit of Monsanto Co., is the first of a new class of anti-inflammatory drugs designed to be particularly useful in chronic

ailments like arthritis. ... Many people, particularly those with arthritis who feared taking strong painkillers because they can cause ulcers, digestive bleeding and other serious problems, are finding welcome relief with the new treatments." (Los Angeles Times, 26 June 1999)

"Today exercise, and especially walking, is recommended because it can actually ease arthritis pain." (Prevention, 1 April 1999)

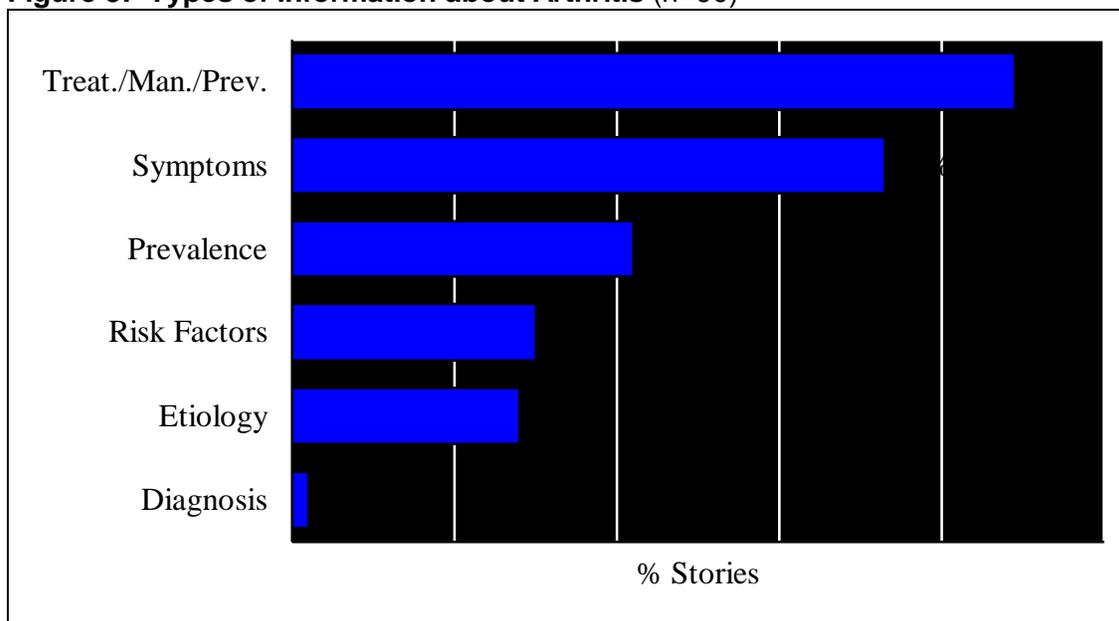
"The key to preventing, or at least controlling, the pain of 40 million Americans afflicted by osteoarthritis may lie with the food they eat." (Chicago Tribune, 13 January 1999)

Stories were more likely to talk about specific types of arthritis (n=58, 64%) than to discuss arthritis in general terms (n=32, 36%). Rheumatoid arthritis (n=41, 46%) and osteoarthritis (n=33, 37%) were the types of arthritis mentioned most often. Other types mentioned, each by no more than a few stories, were:

- Fibromyalgia
- Gout
- Juvenile arthritis
- Lupus
- Lyme disease
- Polymyalgia rheumatica (giant cell arthritis)
- Scleroderma
- Spondylarthropathies

Figure 3 shows that stories were most likely to provide information about ways to treat or manage arthritis (n=80, 89%), followed closely by symptoms of arthritis (n=66, 73%). A minority cited statistics about the prevalence of arthritis in general or of specific types of arthritis (n=38, 42%), mentioned risk factors for arthritis (n=27, 30%), or discussed the etiology of arthritis (n=25, 28%). Almost none of the stories talked about how people are diagnosed with arthritis (n=2, 2%).

Figure 3: Types of Information about Arthritis (n=90)



Treatment and Management of Arthritis

Most (n=80, 89%) stories provided some type of information about ways to treat or manage arthritis. The vast majority (n=78, 87%) of stories specified a wide variety of ways to treat or manage arthritis, as shown by Figure 4. Such stories were most likely to mention pharmaceutical drugs (n=47, 52%), followed by alternative therapies (n=31, 34%). Other types were mentioned less often are listed below. Few stories talked about specific methods of injury prevention. It should be noted that, although the stories generally mentioned a variety of methods of treatment or management, none of them actually referred to a **comprehensive** treatment/management program.

Figure 4: Ways to Treat or Manage Arthritis (n=90)

	# Stories (%)
Pharmaceutical drugs (prescription or over the counter)	47 (52%)
Alternative therapies (e.g., massage, magnet therapy, herbal medicines, acupuncture)	31 (34%)
Injections (e.g., gold shots, vaccines)	13 (14%)
Exercise	14 (16%)
Eating habits/weight loss	11 (12%)
Surgery (e.g., joint replacements)	5 (6%)
Clothing tips	3 (3%)
House design	1 (1%)
Blood filtration	1 (1%)
Psychological therapy (e.g., stress management, journal writing)	1 (1%)

The majority (n=63, 70%) of stories provided more specific information about the treatment or management methods mentioned. Stories were most likely to talk about how such methods help the body (n=46, 51%). Smaller but significant minorities

discussed safety (n=25, 28%), potential side effects (n=24, 27%), and cost issues (n=20, 22%). For example, many stories discussed pharmacological drugs that were recently released to the public.

Almost none of the stories discussed when/how to talk to a health care professional about treatment or management (n=8, 9%) or how decisions are made (n=2, 2%).

Symptoms of Arthritis

The majority (n=66, 73%) of stories mentioned specific types of arthritis symptoms, particularly joint pain (n=59, 66%). Far fewer talked about deformity, destruction of the joints, or disability (n=24, 27%) or limited movement or every day activity (n=23, 26%). Other symptoms mentioned were fatigue, sleep disturbance, weight loss, rash, fever, lesions, headaches, and damage to organs (such as the kidneys, nervous system, and skin). Figure 5 presents these findings.

Figure 5: Types of Arthritis Symptoms (n=90)

	# Stories (%)
Joint pain (e.g., tenderness, stiffness, or swelling of joints)	59 (66%)
Deformity, destruction of joints, or disability	24 (27%)
Limited movement or every day activity	23 (26%)
Lesions/rashes	3 (3%)
Fever	2 (2%)
Fatigue	1 (1%)
Sleep disturbance	1 (1%)
Weight loss	1 (1%)
Headaches	1 (1%)
Damage to organs	1 (1%)

Statistics on Prevalence of Arthritis

A minority (n=38, 42%) of stories presented statistics on the prevalence of arthritis. Most of these stories highlighted the:

- Number of Americans with arthritis in general, giving statistics ranging from 20 million-45 million
- Number of Americans with rheumatoid arthritis, citing statistics ranging from 2 million-3 million
- Number of Americans with osteoarthritis, providing statistics ranging from 20.7 million-37 million

Risk Factors for Arthritis

A small minority of stories mentioned any risk factors for arthritis in general or for specific types of arthritis (n=27, 30%). Many of these stories mentioned that age (particularly older age) placed one at greater risk. Other risk factors mentioned as putting one at greater risk for arthritis were:

- Gender (usually female)
- Obesity
- Genetics or family history
- Discrepancy in leg length (i.e., the two legs are of a different length)

Etiology of Arthritis

A small minority (n=25, 28%) of stories discussed ways in which arthritis is caused. The various causes mentioned, many of which were tied to specific types of arthritis, were:

- Severe wear or injury to joints
- Autoimmune disorders
- Infections or toxins (e.g., bacterial infection, uric acid, etc.)
- Tick bites (Lyme disease)
- Breast implants
- Atrophied muscles
- Flat feet

Arthritis Diagnosis

Only two stories discussed ways in which arthritis is diagnosed. These stories mentioned that a person may be diagnosed for arthritis through physical examinations, laboratory tests (e.g., urine and blood tests), and x-rays or imaging scans.

3.1.4 Calls to Action

Most stories did not include any “calls to action”; only a minority (n=32, 36%) did.

Most stories did not recommend that people with symptoms consult a health care professional for diagnosis, treatment, or management; only a very small minority (n=17, 19%) did. Below are some examples of stories that did:

“Here is more information from the Arthritis Foundation about some of the new arthritis drugs that are mentioned in the main story of this page. If you have arthritis, you should discuss these options with your doctor.” (Chicago Tribune, 8 October 1999)

“No matter what [treatments] people decide to take,’ Mr. Nitzberg says, ‘we recommend they take it to their doctors and make sure it meshes with their (prescribed) treatment.” (Dallas Morning News, 20 July 1999)

“The FDA has also approved a pill, Arava, the first new DMARD developed specifically to treat rheumatoid arthritis in more than 13 years, as well as a biologically-engineered injection, Enbrel, that patients can give themselves. Both have side effects, so check with your doctor.” (Better Homes and Gardens, 1 April 1999)

Moreover, no stories mentioned attending a course, class, or support group.

The majority of stories did not recommend that patients seek additional information; only a small minority (n=24, 26%) did. These stories typically directed patients to a variety of information sources including federal agencies, non-profit organizations, publications, and Internet sites/e-mail addresses (n=23, 26%). Very few (n=3, 3%) stories mentioned ways to judge the credibility of information sources (e.g., such as those providing unsubstantiated treatment claims posted on Internet sites, supposed “cures” for arthritis, etc.). The following list outlines the information sources mentioned:

Federal Agencies

- Food and Drug Administration (provides information on drug treatments and monitors drug safety)
 - www.fda.gov
- Center on Drug Evaluation Research
- Federal Trade Commission (explains how to distinguish between valid and unsubstantiated arthritis remedies)
 - www.ftc.org
 - 1-877-FTC-HELP
- IMS Health (supplies market research, business analysis, forecasting and sales management services to the pharmaceutical industry)

Non-Profit Organizations

- Arthritis Foundation
 - PO Box 7664, Atlanta, GA 30357
 - 1-800-283-7800; 202-537-6800; 1-800-364-8000; 713-529-0800 (local chapter in Houston); 1-800-207-8633
 - www.arthritis.org

Publications

- *Book of Arthritis*, by Duke University Medical Center
- *The People's Pharmacy Guide to Home & Herbal Remedies*
- *Vitamin Remedies that Really Work*, by Lynn Capeheart
- *The Miracle of MSM*, by Dr. Ronald Lawrence
- *The Arthritis Foundation's Guide to Alternative Therapies*, by Judith Horstman

Internet Sites/E-mail Addresses

- pharma.org (drug industry website)
- ianmedical@aol.com (author who is a physician and who wrote *Time* article on new drugs for treating arthritis; can provide further information about drug treatment)
- cbshealthwatch.com (provides information about various arthritis treatments)
- time.com/personal (provides information about s-adenosylmethionine or SAME, a dietary supplement)
- gorman@time.com (author who wrote *Time* article on and can provide further information about s-adenosylmethionine or SAME, a dietary supplement)
- today.msnbc.com (provides information about treating osteoarthritis)

3.1.5 Scientific Studies

None of the stories focused solely on scientific studies; furthermore, the majority of stories did not even mention any scientific studies. Only a minority (n=32, 36%) did, talking about methods of treatment/management, epidemiology, disease prevention, and laboratory research to simulate muscle and bone movement. Some of these stories briefly noted that the studies supported or did not support the efficacy of certain treatments, methods of disease prevention, and laboratory research (n=16, 18%); this was particularly true for studies about the efficacy of new drugs.

Very few (n=11, 12%) stories that mentioned scientific studies also provided cautionary information about the studies mentioned, such as a detailed profile of the study population (beyond the sample size and disease type) and the limitations of the study.

None of the stories that mentioned scientific studies provided information on how to find more detailed information about those studies.

3.1.6 Special Events

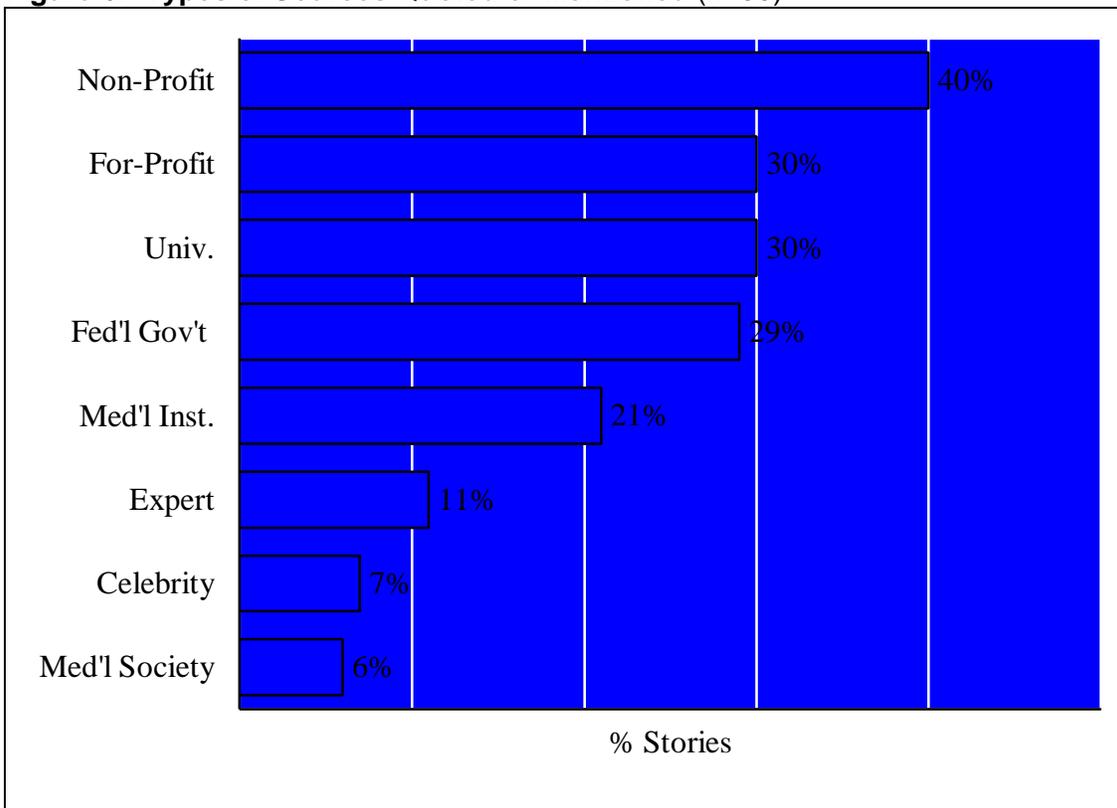
Very few (n=8, 9%) of the stories mentioned special events involving the public or health professionals. Events mentioned were:

- Annual Meeting of the American College of Rheumatology
- Jingle Bell Run, sponsored by the Arthritis Foundation
- Dublin Challenge (scheduled to take place in Ireland in October 2000), sponsored by the Arthritis Foundation
- Arthritis Awareness Day, sponsored by the Arthritis Foundation
- Scaramouche, a gala event sponsored by the Arthritis Foundation and held in Cleveland, Ohio, to raise money for arthritis programs and research (Scaramouche was the name of a man who became a masked clown in 18th century France to conceal his true identity; during the event, attendees were given prizes for wearing the most innovative masks)

3.1.7 Sources Quoted or Mentioned

Most (n=82, 91%) stories quoted or mentioned at least one source (person or organization) as providing information about arthritis. Non-profit organizations were highlighted more often than any other source (n=36, 40%), followed by for-profit organizations or companies (n=27, 30%) and universities (n=27, 30%), federal government agencies (n=26, 29%), medical institutions such as hospitals and research centers (n=19, 21%), and individual scientific experts (n=10, 11%). A very small number of stories quoted or mentioned celebrities (n=6, 7%) and medical societies or organizations (n=5, 6%). Figure 6 illustrates the types of sources quoted or mentioned.

Figure 6: Types of Sources Quoted or Mentioned (n=90)



The specific sources quoted or mentioned are listed below. Stories were most likely to highlight the Arthritis Foundation and the Food and Drug Administration. None of the stories quoted or mentioned the Centers for Disease Control and Prevention.

Non-Profit Organizations

- Arthritis Foundation (AF)
- American Association of Retired Persons (AARP)
- Arthritis Society (Canadian organization)
- American Council on Science & Health
- Institute of Medicine (IOM)
- U.S. Water Fitness Association

For-Profit Organizations

- Amgen Inc.
- BASF Corp.
- Bayer AG
- Boehringer Ingelheim
- Bristol Myers-Squibb
- Centocor, Inc.
- Cypress Biosciences
- Eli Lilly & Co.
- G.D. Searle & Co.
- Genzyme Corp.

- Hoechst Marion Roussel
- Immunex Corp.
- Johnson & Johnson
- Merck
- Monsanto
- Pfizer, Inc.
- Pharmaceutical Proteins, Ltd.
- Pharming Group
- Planet RX
- Rotta Research Lab (Milan)
- Searle
- Soma
- Kaiser Permanente
- Aetna - US HealthCare
- Pharmavite
- GNC

Universities

- Baylor University
- Case Western Reserve
- Columbia University
- Cornell Medical College
- George Washington University
- Georgetown University
- Harvard University
- John Hopkins University
- New York Medical College
- North Carolina State University
- Stanford University
- State University of New York
- University of Arizona
- University of California
- University of Illinois
- University of Landau
- University of Liege (Belgium)
- University of Maryland
- University of Michigan
- University of Missouri
- University of Nebraska
- University of North Carolina
- University of Pennsylvania
- University of Texas
- Washington University
- Yale University

Federal Government

- National Institutes of Health (NIH)
- Federal Trade Commission (FTC)
- Food and Drug Administration (FDA)

Medical Institutions

- Alfred A. Smith Susan Smith D. Richardson Joint Mechanics Lab
- Arlington Orthopedic Associates
- Arthritis Center of Nebraska
- Beth Israel
- Brigham & Women's Hospital
- Children's Hospital in Denver, CO
- Clinical Research Unit at Denver Arthritis Clinic
- Rush-Presbyterian-St Luke's Medical Center
- Hospital for Joint Diseases in NYC
- Hospital for Special Surgery in NY
- Lehigh Rheumatology Associates
- Maricopa Medical Center
- Maryvale Hospital Health Institution
- Medical Center of Arlington
- Metroplex Clinical Research Center
- Osteopathic Medical Center (Fort Worth)
- Piedmont Hospital
- Rosalind Russell Medical Research Center for Arthritis
- Rush-Presbyterian-St. Luke's Medical Center
- Scripps Clinic's Musculoskeletal Center
- St. Barnabas Medical Center
- Tufts-New England Medical Center

Experts

- Curtis Fritz, M.D.
- Donnica Moore, M.D.
- Elton Adams M.D.
- Fox, M.D.
- Herbert S.B. Baraf
- Ian Smith, M.D.
- Paul Lam, M.D.
- Ronald Lawrence, M.D.
- Stephen Barrett, M.D
- Thomas Schnitzer
- Vicki Kramer

Celebrities

- James Coburn
- Joe Montana
- Shirley Johnson
- Wayne Gretsky

Medical Societies or Organizations

- People's Medical Society
- American College of Rheumatology
- American Medical Association (AMA)

Other (Miscellaneous)

- Alexia Nalewaik
- ARAMIS Surveillance Program
- CBS Health Watch
- Consumer Reports
- Framingham Study
- Homedics Inc.
- Inge Kracke
- Joe Gradeon, pharmacologist & co-author of "The People's Pharmacy Guide....."
- Lindsey Duncan, Naturopathic Doctor
- LL Bean
- Lynn Capehart
- Nikken
- Osteoarthritis Early Awareness Campaign
- Pam Richards
- Pro Matura
- Sears
- Sybil Goldrich
- Vanguard
- Webster's Medical Desk Dictionary
- Weinberg Group (consultants to pharmaceutical companies)

3.2 Health Care Professional Print Publications

A total of three articles mentioning but not focusing on arthritis were published in the American Medical Association's *American Medical News* in 1999. These articles mentioned arthritis in the context of pain management for arthritis patients, off-label drug promotion to physicians and patients, and the use of poetry therapy for arthritis patients. Following is a more description of the articles that mentioned arthritis, along with quotes showing the context in which arthritis was mentioned.

Stapleton, Stephanie. "Dr. Satcher courts AMA for 2010 plan." *American Medical News*, December 27, 1999.

U.S. Surgeon General David Satcher, MD, PhD, addressed the American Medical Association's House of Delegates during their Interim Meeting and asked them for assistance in advancing Healthy People 2010. He applauded improvements in certain areas of health, but he also pointed to areas in need of further attention, with arthritis being one of those areas.

“The quality of life is a major focus,’ Dr. Satcher said. Healthy People 2010 will include objectives such as improving pain management in general and reducing pain associated with arthritis and the lower back specifically.”

Stapleton, Stephanie. "More off-label drug promotion in the offing." *American Medical News*, August 23/30, 1999.

Legal debate over how much freedom drug companies should have in promoting drugs off-label to physicians and the public has been occurring, and it is likely to have far-reaching implications for future marketing efforts. At odds are the right to freedom of speech under the First Amendment and the need to protect the health of the public.

"'Every drug is ripe for [off-label promotion] to a certain extent,' said Larry Sasich, PharmD, an analyst for Public Citizen's health research group. 'Companies are always looking to broaden their markets.' Take Roche's Vioxx, for example, he said. It recently was approved for acute pain and osteoarthritis. But it likely will be positioned for other uses as well, such as treating rheumatoid arthritis, he said."

Shelton, Deborah L. "Healing Words." *American Medical News*, May 17, 1999.

There's a growing interest to use poetry in medical practice, for the benefit of both the patient and the health care practitioner.

"A study published in *JAMA* April 14 reported on the health benefits of written expression for patients. Researchers studying 112 patients with asthma or rheumatoid arthritis who wrote about traumatic life experiences found a greater reduction in symptoms at four months than for those in a control group (47% compared with 24%).

'These gains were beyond those attributable to the standard medical care that all participants were receiving,' the authors wrote. It was the first study to demonstrate that writing about stressful experiences improved physician ratings of disease and objective indices of disease severity in chronically ill patients."

3.3 Internet Sites

3.3.1 Target Audiences

The Internet media differed substantially from the general media in the types of audiences it targeted; it provided information useful to both the public and health care professionals of all types. In contrast, the general media rarely presented information targeting health care professionals. Even if the information by provided by the Internet sites was of a less scientific nature, it could have been used by health care professionals for patient education efforts (e.g., many Internet sites had factsheets or brochures that health care professionals could print and give to their patients).

3.3.2 Accessibility of Arthritis Information

Compared to the general media, the Internet media sometimes made it more difficult for readers to locate information about arthritis by requiring them to identify relevant “hyperlinks” and “browse” through multiple pages before finding relevant information. The ease with which one could access information about arthritis varied across the 18 Internet sites:

- Of the 18 Internet sites, seven were arthritis-specific and thus devoted specifically to the disease (see Appendix A for list of Internet sites). Such sites provided information of immediate relevance to readers searching for information about arthritis.
- The other 11 sites were non-arthritis specific and instead focused on health overall. These sites presented different ways to access information about arthritis, as outlined (in descending order from easiest to most difficult):
 - Eight had a hyperlink consisting of the word “arthritis” or containing the word arthritis. Not all sites contained the hyperlink on the first page, as illustrated by Figure 7.

Figure 7: Accessibility of 11 Non-Arthritis Specific Internet Sites

	# Hyperlinks Clicked to Access Information	Titles of Hyperlinks
www.drkoop.com	0 (hyperlink on front page)	Arthritis
www.intelihealth.com	0 (hyperlink on front page)	Arthritis
www.thriveonline.com	0 (hyperlink on front page)	Drug Duo Treats Persistent Arthritis
www.onhealth.com	3	Conditions A-Z/A/Arthritis
www.women.com	3	Health/Conditions and Ailments A-Z/Arthritis
www.mediconsult.com	2	Mediconditions/Arthritis
www.webmd.com	3	Enter Consumer Site/Condition Centers/Osteoarthritis (or Rheumatoid arthritis)
www.ama-assn.org	4	Consumer Health Information/Main/Specific Conditions/Arthritis

- One had the hyperlink “rheumatology,” a broader term under which arthritis falls, on the first page.
- Two (www.mayohealth.org and www.emj.com) had no arthritis-related hyperlinks and required one to use a search function.

3.3.3 Overview of Content

Compared to the general media, the Internet media:

- Provided a substantially larger range of information on a wider variety of topics.
- Provided more in-depth information about arthritis.

The 18 Internet sites focused on a variety of topics, some more than others. They focused mostly on:

- Providing general information about arthritis, specifically about disease prevalence, risk factors, symptoms, etiology, diagnosis, treatment or management.

- Directing readers to additional information sources.
- Directing readers to additional scientific research.

Internet sites focused less on providing information about:

- How to donate to a fund or charity devoted to such things as arthritis research
- Types of grants available to health care professionals and researchers
- Techniques instructing health care professionals on how to diagnose and treat arthritis
- Case studies or biographies of patients with arthritis
- Information on how to subscribe to arthritis-specific publications
- Information on how to volunteer through local support groups, speakers' bureaus, exercise classes, events, health booths, telephone support lines, medical and scientific committees, etc.
- Events such as walkathons for the public
- Events such as scientific conferences for health care professionals
- Advocacy or legislation regarding issues such as health insurance, paying for new drugs, and agenda-raising in the legislatures (over issues such as patient care, federal funding for research etc.)
- Interactive games (one site had a "calculator" for assessing one's risk of experiencing negative side effects from taking NSAIDS, a type of drug for treating arthritis)

3.3.4 Messages about Arthritis

Almost all the Internet sites portrayed arthritis as a condition that can be severe but that is amenable to treatment or management. The following quotes illustrate the context in which these messages were conveyed:

"If you're among the one out of six Americans who have arthritis, you know what it's like to struggle with everyday tasks, like opening a door or getting up from a chair. But there are ways to help ease the pain and stiffness." (www.arthritis.org)

"For many people with arthritis, the weekly trip to the grocery store is something to be dreaded. It requires a tremendous physical effort that can strain the joints, frazzle the nerves and tap every ounce of energy. However, with a bit of planning, this unavoidable task can be accomplished with a minimum of stress and effort." (www.arthritisconnection.com)

"Although rheumatoid arthritis can have serious effects on a person's life and well-being, current treatment strategies—including pain relief and other medications, a balance between rest and exercise, and patient education and support programs—allow most people with the disease to lead active and productive lives. In recent years, research has led to a new understanding of rheumatoid arthritis and has increased the likelihood that, in time, researchers can find ways to greatly reduce the impact of this disease." (www.drkoop.com)

“With early diagnosis, most arthritic conditions can be managed sufficiently to minimize both the pain and the disruption to your daily life. In many instances, early diagnosis and treatment can also work to curtail the actual damage that the condition can inflict on your system.” (www.intelihealth.com)

All 18 Internet sites provided information on many different types of arthritis. Such information was provided in a variety of formats including news articles, factsheets, tipsheets, frequently asked questions, drug lists, etc.

Several of the non-arthritis specific sites (www.mediconsult.com, www.women.com, www.ama-assn.org, www.webmd.com, www.thriveonline.com, www.drkoop.com) and one arthritis-specific site (www.arthritisconnection.com) focused more heavily on osteoarthritis and rheumatoid arthritis because they are the two most common forms of arthritis (although they did not exclude information on other types of arthritis). In contrast, the other six arthritis-specific sites and three of the non-arthritis specific sites (www.medscape.com, www.intelihealth.com, www.onhealth.com) did not focus on any particular type of arthritis.

The Internet sites typically provided hyperlinks for each type of arthritis, thus directing readers to information about prevalence, risk factors, etiology, symptoms, and options for treatment or management.

Risk Factors, Etiology, Symptoms, and Diagnosis

Unlike the general media, the Internet media typically provided enough detail about the risk factors, etiology, and symptoms of various types of arthritis to help readers distinguish between the different types (e.g., they would note that osteoarthritis typically affects joints on one side of the body while rheumatoid arthritis often affects joints on both sides).

When outlining risk factors, etiology, and symptoms for the various types of arthritis, Internet sites typically noted that readers who think they are symptomatic for the disease should consult a physician for a definite diagnosis.

Some Internet sites (particularly www.rheumatology.org, www.nih.gov/niams, www.intelihealth.com, and www.ama-assn.org) provided extensive information about how arthritis is diagnosed through family/histories, physical examinations, laboratory test, and x-rays/imaging scans. Such information helped give the reader the clear sense of what to expect when visiting a physician for a diagnosis.

Treatment and Management

All 18 sites provided extensive information on options for treatment or management. Similar to the general media, the Internet sites provided information about: pharmaceutical drugs, alternative therapies, surgery, exercise, diet, weight loss, home design, and psychological therapy. Unlike the general media, the Internet sites often discussed: assistive devices (e.g., canes, walkers, shoe inserts, etc.), lifestyle modifications (e.g., lifting objects, grocery shopping), and rest.

Different websites provided different types of information about treatment or management:

- One site, www.rheumatic.org, was designed to promote a particular type of antibiotic therapy designed by Thomas McPherson Brown, M.D.
- Another site, www.mediconsult.com, provided the most detailed amount of information about pharmaceutical drugs, providing for the consumer: the brand name, generic name, dosage form (e.g., tablet, oral, etc.), how the drug helps the body, profile of those who should not take the drug (e.g., other illness, medication history), prescription regimen (e.g., what foods to take the medication with), side effects, and storage information. The site also provided for health care professionals: a diagram of the chemical structure, mechanism of action, and pharmacokinetics.
- Some sites (www.arthritisconnection.com, www.nih.gov/niams, www.ama-assn.org, and www.intelihealth.com) gave particularly detailed advice on when to talk to a health care professional and how to talk to a health care professional. Among other things, these sites counseled readers on the types of information to record (e.g., symptoms, family history, etc.) and the importance of asking questions for clarification.
- Unlike the general media, the Internet media often provided tips on how to manage arthritis and carry out every-day activities. One particularly good source for such tips was www.arthritisconnection.com, a site devoted primarily to providing tips on how to carry out every day activities. Among other things, it discussed ways to simplify grocery shopping (e.g., shop when the store is busy enough to have enough staff to assist in lifting items from shelves but not when the store is so busy that one must park far away from the store or stand in long lines), integrate exercise into every day life, make personal washing/grooming/dressing easier, have a successful vacation (e.g., questions to ask about facilities such as hotels, essentials to pack).

3.3.5 *Scientific Studies*

Most Internet sites provided access to detailed information from scientific studies, routing readers to news articles, abstract/summaries, or to full-text journal papers. Such information was presented in a variety of ways:

- Several sites such as www.drkoop.com provided brief summaries of various types of studies pertaining to laboratory-, epidemiological-, and clinically-based research, but no hyperlinks to the actual articles themselves.
- The Internet site www.bmj.com was devoted to searching through archives of the British Medical Journal, the official peer-reviewed publication of the British Medical Association, as well as other journals. It provided the studies in both abstract and full-text format. Other sites including www.rheumatology.org also provided access to journals.
- One particular site, www.mediconsult.com provided some of the most extensive information on clinical trials, stating the study sponsor, purpose, recruitment and

exclusion criteria for participation, and contact information for those interested in participating in the trial.

- The site www.curearthritis.org was devoted primarily to directing readers to the latest research and to soliciting funds to continue such research in the hopes of finding a cure for arthritis.
- Unlike the other sites, www.rheumatic.org cited scientific studies supporting a particular type of antibiotic therapy featured by that Internet site.

3.3.6 *Direction for Further Information*

All 18 Internet sites provided hyperlinks directing readers to other sites. Similar to the general media, the Internet media directed readers to a variety of sources such as government agencies, non-profit organizations, for-profit organizations, medical societies, universities, and medical entities.

Unlike the general media, the Internet sites often directed readers to different types of discussion groups (often called “message boards” and listservs, among other things). Such groups were typically comprised of arthritis patients sharing information on a wide variety of topics including treatment and management and the psychological burden of living with arthritis.

APPENDIX A List of Publications

Newspapers (listed in descending order by # stories analyzed)

		Circulation	# Stories
Chicago Tribune	Chicago	653,554	7
Dallas Morning News	Dallas	484,597	7
Houston Chronicle	Houston	549,101	5
Baltimore Sun	Baltimore	327,102	4
Los Angeles Times	Los Angeles	1,095,007	4
New York Times	New York	1,074,741	3
Plain Dealer	Cleveland	383,586	3
San Diego Union-Tribune	San Diego	385,995	3
St. Louis Dispatch	St. Louis	318,423	3
USA Today	(national)	1,662,060	2
Washington Post	D.C.	808,884	2
Arizona Republic	Phoenix	484,630	1
Boston Globe	Boston	472,668	1
Daily News	New York	721,256	1
Orange County Register	Santa Ana	364,404	1
San Francisco Chronicle	San Francisco	490,003	1
Wall Street Journal	(national)	1,774,880	1
		TOTAL	49

Magazines (listed in descending order by # stories analyzed)

	<u>Circulation</u>	# Stories
Prevention	3,311,244	7
Newsweek	4,483,123	3
Time	4,150,223	2
Better Homes and Gardens	7,615,315	1
Field and Stream	1,790,400	1
Men's Health	1,450,000	1
Money	1,935,014	1
US News and World Report	2,303,328	1
Women's Sports and Fitness	350,000	1
TOTAL		18

Television (listed in descending order by # stories analyzed)

	# Stories
CNN News	2
NBC Today	3
ABC Good Morning America	6
ABC World News Tonight	1
CBS Evening News	2
NBC Later Today	1
CNN Moneyline	1
CNBC News	1
CBS This Morning	1
NBC Nightly News	2
TOTAL 20	

Radio (listed in descending order by # stories analyzed)

	# Stories
NPR All Things Considered	2
NPR Morning Edition	1
TOTAL 3	

Health Care Professional Newsletters

	Sponsor	# Stories
American Medical News	American Medical Association	3
TOTAL		3

Internet Sites (not listed in any particular order)

Sponsor

Arthritis-Specific

www.arthritis.org
www.arthritisconnection.com
www.curearthritis.org
www.nih.gov/niams

www.rheumatology.org/index.asp
www.pslgroup.com/ARTHRITIS.HTM
www.rheumatic.org (A Legacy of Health:
The Life and Work of Thomas McPherson
Brown, M.D.)

Arthritis Foundation
Searle
Arthritis National Research Foundation
National Institute of Arthritis and
Musculoskeletal and Skin Diseases
American College of Rheumatology
P\SL Consulting Group, Inc.
Christine Ann Adlard

Non-Arthritis Specific

www.medscape.com
www.ama-assn.org
www.drkoop.com
www.thriveonline.com
www.emj.com
www.women.com
www.onhealth.com
www.intelihealth.com
www.webmd.com
www.mayohealth.org
www.mediconsult.com

Medscape
American Medical Association
www.drkoop.com, Inc.
ThriveOnline
British Medical Journal
Women.com Networks
OnHealth Network Co.
InteliHealth
Healthon/WebMD
Mayo Clinic
Mediconsult Network

APPENDIX B

List of Reporters

Adams, Noa
Assuras, Thalia
Attkisson, Sharyl
Bazell, Robert
Booth, Herb
Brokaw, Tom
Ciampa, Linda
Cimons, Marlene
Clark, Cheryl
Clark, Kim
Comarow, Avery
Condor, Bob
Couric, Katie
Cowley, Geoffrey
Doumo, Allen J.
Edwards, Bob
Ferraro, Susan
Garcia, Leslie
Gibson, Charles
Goldstein, Laura
Gorman, Christine
Graedon, Joe
Graedon, Teresa
Gugliotta, Guy
Harrar, Sari
Haybron, Ron
Heins, Kathleen
Henderson, Florence
Jennings, Peter
Johnson, Tim
Kagan, Daryn
Katayama, Fred
Kiser, Sherry Weis
Kolbe, Marina
Langreth, Robert
Lyden, Jacki
Mann Lake, Deborah
Manning, Anita
Matus, Jordan
McCafferty, Keith
McCord, Holly
McEwen, Mark
McGreevy, Ralph W.
McKenzie, John
Meisol, Patricia
Neergaard, Lauran
Neighmond, Patricia

Newman, Kevin
Perlman, David
Pratt, Steven
Reynolds, Bob
Robinson, Gaile
Rock, Andrea
Rosenberg, Ronald
Sawyer, Diane
Schober, Bob
Seigen Thaler, John
Siwek, Jay
Smith, Ian V.
Snyder, Jodie
Snyderman, Nancy
Spilner, Maggie
Thornton, Jim
Tong, Scott
Tyler, Varro E.
Underwood, Anne
Vargas, Elizabeth
Villalba, Constanza
Wertheimer, Linda
Wiener, Leonard
Williams, Jack
Young, Alida E.

APPENDIX C

General Media Codesheet

Publication: _____

Byline: _____ Date: _____

I. Type of Publication

- A. Newspaper
- B. Consumer magazine
- C. TV
- D. Radio

II. Type of Article

- A. News
- B. Feature
- C. Column/Editorial
- D. Announcement (e.g., health fair, class)
- E. Q&A/Tips
- F. Other (*specify*) _____

III. Target Audience

- A. Public
 - 1. Specific segment indicated, according to...
 - a. Arthritis status
 - (1) Diagnosed with arthritis
 - (2) Symptomatic
 - b. Gender
 - (1) Male
 - (2) Female
 - c. Ethnicity
 - (1) White
 - (2) Non-white
 - (a) Black
 - (b) Hispanic
 - (c) Asian/Pacific Islander
 - (d) American Indian/Alaska Native
 - 2. General public (no specifics indicated)
- B. Health care professional
 - 1. Doctor
 - a. Primary care
 - b. Specialist (*specify*) _____
 - c. Not specified
 - 2. Nurse
 - a. Nurse practitioner (NP)
 - b. Other type
 - c. Not specified
 - 3. Pharmacist
 - 4. Other (*specify*) _____
 - 5. Not specified

IV. General Information about Arthritis

- A. Way in which arthritis is referred to
 - 1. General (no specific types mentioned)
 - 2. Specific types mentioned
 - a. Osteoarthritis

- b. Rheumatoid arthritis
- c. Other (*specify*) _____

- B. Prevalence/Incidence of arthritis (*specify number, who, and type of arthritis*) _____

C. Risk factors

- 1. Age
 - a. 21 or younger
 - b. 22-44
 - c. 45-64
 - d. 65 or older
- 2. Gender
 - a. Male
 - b. Female
- 3. Race
 - a. White
 - b. Black
 - c. Hispanic
 - d. Asian/Pacific Islander
 - e. American Indian/Alaska Native
- 4. Genetic inheritance
- 5. Obesity
- 6. Other (*specify*) _____

D. Types of symptoms

- 1. Pain/tenderness/stiffness/swelling in joints
- 2. Limited movement/every day activity
- 3. Deformity/destruction of joints/disability
- 4. Other (*specify*) _____

E. How arthritis is caused/etiology

- 1. Severe wear/injury to joints
- 2. Infection/toxins
- 3. Autoimmune disorder
- 4. Other (*specify*) _____

V. Current State of Arthritis

- A. Severity/burden placed on sufferers
 - 1. Mild (e.g., mild aches and pains)
 - 2. Serious (e.g., debilitating, deforming)
- B. FOR PUBLIC: Treatability or manageability of arthritis
 - 1. Arthritis IS treatable or manageable (there are ways to decrease pain or improve quality of life)
 - a. Variety of/new drugs/therapies
 - b. New research breakthroughs
 - c. Cure is coming

- d. Other (*specify*) _____
- 2. Arthritis is NOT treatable or manageable /looking for arthritis treatments is a waste of time/arthritis sufferers are powerless
- 3. Other (*specify*) _____

C. FOR HEALTH CARE PROFESSIONALS:
Treat./manage. of arthritis

- 1. Positive
 - a. There is hope for patients
 - b. Patients can be empowered
 - c. It is possible to treat symptoms or manage the disease
 - d. Other (*specify*) _____
- 2. Negative

VI. Arthritis Diagnosis

- A. Family/self history
- B. Physical examination
- C. Laboratory tests (e.g., fluid, blood, urine)
- D. X-rays/imaging studies
- E. Other (*specify*) _____

VII. Arthritis Treatment/Management

- A. When to talk to doctor or other health care professional about treatment/management/prev.
- B. How decisions about treatment/management are made
- C. Types of treatment or management
 - 1. Pharmaceutical drugs
 - 2. Alternative therapies (e.g., herbal medicines, massage, vitamins, etc.)
 - 3. Injections (e.g., gold shots)
 - 4. Blood stem cell transplants
 - 5. Surgery
 - 6. Exercise/stretching
 - 7. Diet
 - 8. Home design
 - 9. Psychological therapy (e.g., stress management)
 - 10. Other (*specify*) _____
- D. Specifics about treatment or management
 - 1. How it helps the body
 - 2. Negative side effects
 - 3. Who should NOT take treatment or management
 - 4. Safety of treatment/management (e.g., FDA status, newness)
 - 5. Comparison against other treatments/managements
 - 6. Cost of treatment/management
 - 7. Other (*specify*) _____

VIII. Calls to Action/Tools/Programs

- A. Consult a health care professional for diagnosis/treatment/management
- B. Get information
 - 1. How to judge source's credibility
 - 2. Types of sources (*specify who and vehicle*) _____
- C. Attend a course/class/support group (*specify sponsor and program*) _____
- D. Other (*specify*) _____

IX. Scientific Studies

- A. Focus of study
 - 1. Epidemiology (i.e., those at risk for arthritis)
 - 2. Diagnosis
 - 3. Treatment/Management (e.g., new drugs, side effects, therapy)
 - 4. Other (*specify*) _____
- B. Data shows that diagnosis/treatment/management is effective
- C. Cautionary information about study
 - 1. Clearly defines study population (beyond sample size and patients' disease type)
 - 2. States limitations of study (e.g., study only involved a certain segment of arthritis sufferers, size of study sample was not large enough, findings were not statistically significant)

X. Special Events (*specify event and sponsor*)

XI. Sources Quoted/Mentioned (must provide information about arthritis)

- A. Federal government
 - 1. Cent's for Disease Control and Prev. (CDC)
 - 2. National Institutes of Health (NIH)
 - 3. Dept. of Health and Human Services (DHHS)
 - 4. Other (*specify*) _____
- B. Non-profit organization
 - 1. Arthritis Foundation (AF)
 - 2. American Assn. of Retired Persons (AARP)
 - 3. Association of Territorial Health Organizations (ASHTO)
 - 4. Other (*specify*) _____
- C. For-profit organization/company

1. Pharmaceutical (*specify*)

2. Managed care company (e.g., HMO)
(*specify*)

3. Health food industry (e.g., GNC)
(*specify*)

D. Medical/health society (*specify*)

E. Medical/scientific expert (*specify*)

F. University (*specify*)

G. Hospital (*specify*)

H. Local entity (e.g., state health department,
senior center)

I. Celebrity (*specify*)

J. Other (*specify*)

APPENDIX D

Internet Codesheet

Website address: _____ Sponsor: _____

I. Target Audience

- A. Public
- B. Health care professional
 - 1. Doctor
 - a. Primary care (e.g., general practitioner, family practitioner)
 - b. Specialist (*specify*) _____
 - c. Not specified
 - 2. Nurse
 - a. General nurse practitioner
 - b. Specialist nurse (*specify*) _____
 - c. Not specified
 - 3. Pharmacist
 - 4. Other (*specify*) _____
 - 5. Not specified

II. Content Areas Presented on First Page (information or hyperlinks)

- A. Information specific to patients/consumers/public (e.g., in the form of factsheets, tipsheets, frequently asked questions, drug lists)
- B. Information specific to health care professionals (e.g., techniques for administering diagnostic tests, treatments, etc.)
- C. General background information about arthritis (e.g., types, statistics, symptoms, etc.)
- D. Direction for further information (e.g., organizations, websites, discussion groups, etc.)
- E. Research/studies on arthritis
- F. News
- G. Fundraising
- H. Grant distribution
- I. Stores/Shopping (e.g., for drugs)
- J. Case studies/biographies of individuals with arthritis
- K. Subscription/Volunteering
- L. Guides for locating health care professionals
- M. Calendar/Events for the public (e.g., walk-a-thons, contests)
- N. Calendar/Events for health care professionals (e.g., conferences, summits)
- O. Games (e.g., quizzes, risk calculators, surveys or polls, etc.)
- P. Advocacy/Legislation

III. General Information about Arthritis

- A. Way in which arthritis is referred to
 - 1. General (no specific types mentioned)
 - 2. Specific types mentioned
 - a. Osteoarthritis
 - b. Rheumatoid arthritis
 - c. Other (*specify*) _____
- B. Prevalence/Incidence of arthritis (*specify number, who, and type of arthritis*) _____
- C. Risk factors
 - 1. Age
 - a. 21 or younger
 - b. 22-44
 - c. 45-64
 - d. 65 or older
 - 2. Gender
 - a. Male
 - b. Female
 - 3. Race
 - a. White
 - b. Black
 - c. Hispanic
 - d. Asian/Pacific Islander
 - e. American Indian/Alaska Native
 - 4. Genetic inheritance
 - 5. Obesity
 - 6. Other (*specify*) _____
- D. Types of symptoms
 - 1. Pain/tenderness/stiffness/swelling in joints
 - 2. Limited movement/every day activity
 - 3. Deformity/destruction of joints/disability
 - 4. Other (*specify*) _____
- E. How arthritis is caused/etiology
 - 1. Severe wear/injury to joints
 - 2. Infections/toxins
 - 3. Autoimmune disorder
 - 4. Other (*specify*) _____

IV. Current State of Arthritis

- A. Severity/burden placed on sufferers
 - 1. Mild (e.g., mild aches and pains)
 - 2. Serious (e.g., debilitating, deforming)
- B. FOR PUBLIC: Treatability or manageability of arthritis
 - 1. Arthritis IS treatable or manageable

(there are ways to decrease pain or improve quality of life)

- a. Variety of drugs/therapies
- b. New research breakthroughs
- c. Cure is coming
- d. Other (*specify*) _____

2. Arthritis is NOT treatable or manageable /looking for arthritis treatments is a waste of time/arthritis sufferers are powerless

3. Other (*specify*) _____

C. FOR HEALTH CARE PROFESSIONALS:

Treatability or manageability of arthritis

1. Positive

- a. There is hope for patients
- b. Patients can be empowered
- c. It is possible to treat symptoms or manage the disease
- d. Other (*specify*) _____

2. Negative

V. Arthritis Diagnosis

- A. Family/self history
- B. Physical examination
- C. Blood tests
- D. X-rays
- E. Other (*specify*) _____

VI. Arthritis Treatment/Management

- A. When to talk to doctor or other health care professional about treatment/management/prev.
- B. How decisions about treatment/management are made
- C. How to talk to doctor
- D. Types of treatment/management
 1. Pharmaceutical drugs
 2. Alternative therapies (e.g., herbal medicines, massage)
 3. Blood stem cell transplants
 4. Surgery
 5. Exercise/stretching
 6. Diet
 7. Home design
 8. Psychological therapy (e.g., stress management)
 9. Other (*specify*) _____
- E. Specifics about treatment/management
 1. How it helps the body
 2. Negative side effects
 3. Who should NOT take treatment/management
 4. Safety of treatment/management (e.g., FDA status, newness)
 5. Comparison against other treatments/managements
 6. Cost of treatment/management
 7. Other (*specify*) _____

VII. Calls to Action/Tools/Programs

- A. Consult a health care professional for diagnosis/treatment/management
- B. Get information
 1. How to judge source's credibility
 2. Specifies sources
- C. Attend a course/class/support group (*specify sponsor and program*) _____
- D. Other (*specify*) _____

VIII. Scientific Studies

- A. Focus of study
 1. Epidemiology (i.e., those at risk for arthritis)
 2. Diagnosis
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 4. Other (*specify*) _____
- B. Data shows that diagnosis/treatment/management is effective
- C. Cautionary information about study
 1. Clearly defines study population (beyond sample size or patient's disease type)
 2. States limitations of study (e.g., study only involved a certain segment of arthritis sufferers, size of study sample was not large enough, findings were not statistically significant)

IX. Hyperlinks to Other Websites (must provide information about arthritis)

- A. Federal government
 1. Cent's for Disease Control and Prev. (CDC)
 2. National Institutes of Health's (NIH) National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
 3. Dept. of Health and Human Services (DHHS)
 4. Other (*specify*) _____
- B. Non-profit organization
 1. Arthritis Foundation (AF)
 2. American Assn. of Retired Persons (AARP)
 3. Association of Territorial Health Organizations (ASHTO)
 4. Other (*specify*) _____
- C. For-profit organization/company

1. Pharmaceutical (*specify*) _____
2. Managed care company (e.g., HMO) (*specify*) _____
3. Health food industry (e.g., GNC) (*specify*) _____

- D. Medical/health society (*specify*) _____
- E. Expert (e.g., medical, scientific) (*specify*) _____
- F. University (*specify*) _____
- G. Hospital (*specify*) _____
- H. Local entity (e.g., state health dept., sen. Cent.) _____
- I. Celebrity (*specify*) _____
- J. Discussion groups/newsgroups/listservs (*specify*) _____
- K. Other (*specify*) _____

