

Research Brief

# Health News and the American Public, 1996–2002

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**Abstract** The Kaiser Family Foundation/Harvard School of Public Health *Health News Index*, a series of 39 surveys with a total of over 42,000 respondents from 1996 through 2002, measures how closely Americans follow major health stories in the news and what they understand about the issues covered in those stories. On average, four in ten adults reported following health news stories closely. The public reports paying the most attention to stories about public health, followed by health policy and disease-related stories. While knowledge about health news varies, individuals who follow health news stories closely are significantly more likely to give the correct answer to knowledge questions about those stories.

The news media plays a special role as the information provider to a wide and diverse audience. Most Americans get their information about the things happening in the world around them from the vast number of news outlets available to them. In terms of health care issues specifically, more than half of the public says that national, local, or cable news is their most important source of health information (Kaiser Family Foundation/Harvard School of Public Health 2001). The media not only provides information, it also often helps establish the salience of issues. Previous research shows that topics at the forefront of the media's agenda are often also the ones high on the public's agenda (Rogers and Dearing 1988). The media agenda-setting literature generally concludes that while the media

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rarely tells the public what to think, it does tell them what topics to think about (Cohen 1963). With regard to television news in particular, Shanto Iyengar and Donald Kinder (1987) used an experimental design to show that exposure to news stories focused on a particular issue had a significant impact on participants' responses to questions about the most important problem facing the country.

This information-providing role is even more pronounced when thinking about the nation's public policy agenda. The news media serves as a key intermediary, communicating information between policy makers and the public as a whole. The media reports on developments in the legislative process, explains the underlying issues, selects which spokespersons and experts will play a prominent role in discussions and debates, and provides cues about what issues should be at the forefront of people's concerns.

Given this special role played by the news media, understanding what people pay attention to and what they take away from health stories in the news provides insights into a key dimension of the health policy process. Equally important is understanding the relationship between attention to news and knowledge about news topics. Is news coverage contributing to a more informed public on complex health issues, or not?

The Kaiser Family Foundation (Kaiser)/Harvard School of Public Health (HSPH) *Health News Index* (HNI) provides a unique opportunity to explore these questions. A total of 39 surveys with over 42,000 respondents were conducted between August 1996 and December 2002. Taken together, these surveys allow exploration of how closely the public follows various major health news stories and what it understands about the health issues covered. Furthermore, the survey series allows examination of how demographic groups differ in their attention to and knowledge about health news. Previous studies of news stories in general have shown differences in attention and knowledge with respect to age, gender, and education (Pew Research Center for the People and the Press 1995; Keeter and Delli Carpini 1992; Eveland and Scheufele 2000). In this article, we will examine how these patterns differ when it comes to health news.

## **Methodology**

*Health News Index.* Since August 1996, the HNI has been produced on a bimonthly basis. A total of 39 surveys, with 42,921 respondents, were conducted between August 1996 and December 2002. The HNI measures which major health news stories Americans are following, how closely

they are following those stories, and what they understand about the health issues covered.

To develop the HNI survey, researchers at the Kaiser Family Foundation and the Harvard School of Public Health track health news stories on a daily basis over a one-month period to assess which stories have the greatest amount and widest distribution of media attention in both broadcast and print news. The broadcast component focuses on analysis of the nightly newscasts of ABC, CBS, and NBC. The print component includes daily analysis of the *Washington Post*, *USA Today*, and the *New York Times* and weekly analysis of periodical news magazines (*Newsweek*, *Time*, and *U.S. News & World Report*). To verify that particular health-related stories are receiving attention in regional and smaller media markets, we also perform periodic analysis of regional newspapers, including the *Los Angeles Times*, *Philadelphia Inquirer*, *Chicago Tribune*, and *Dallas Morning News*. We define health news stories as those stories related to national health policy, public health issues, or specific diseases and treatments. News about social policy issues indirectly related to health, including elections, economic policy, gun control, poverty, welfare, and Social Security, are also tracked and included in the surveys. In order to be included in the survey, a given health news story is generally required to have at least five *hits* in the broadcast news programs and/or the front page, national, or international sections of the national and regional newspapers. That is, when there is a breaking health news event, it is covered over the course of a week in at least five separate stories by different news organizations.

Following the news-tracking period, we design, field, and analyze a survey to assess how closely the public followed the major health stories. We compare public attention to health stories with attention paid to other major stories covered that month in order to put into context where health stories fall in relation to the biggest news stories of the day.<sup>1</sup> Also included in each survey is a short series of knowledge questions about the main health issues covered to assess whether or not the public takes away the main content of those stories. Most surveys went into the field within five days of the end of the tracking period (ranging from one to seventeen days) and were in the field for an average of five days (ranging from three to fifteen days).<sup>2</sup>

1. The nonhealth news stories included in the surveys are usually the two to three top news stories covered during the time period. These include stories such as terrorist attacks, airplane disasters, and U.S. military action, which all received much more attention in the media than most of the health news stories covered.

2. Previous research has shown that people quickly forget information picked up from the media, so the elapsed time between when a news story first aired and when a respondent was

All surveys were designed and analyzed by researchers at the Kaiser Family Foundation and the Harvard School of Public Health; fieldwork was conducted by Princeton Survey Research Associates,<sup>3</sup> with sample sizes ranging from 949 to 1,515 adults and a margin of sampling error of plus or minus three percentage points for each survey.<sup>4</sup> In total, we surveyed the public about attention to 224 separate health news stories (such as new guidelines recommending when women should receive mammograms, congressional debates about how to help the elderly with the cost of prescription drugs, and reports about HMOs pulling out of Medicare), 42 stories about social policies indirectly related to health, and 88 nonhealth news stories over the five-and-a-half-year time period. The surveys included a total of 237 knowledge questions about 139 of the stories we asked about (sometimes more than one knowledge question was asked about a single story, and sometimes no knowledge questions were asked about a given story).

*Coding of health news stories.* All health news and related stories were coded to reflect the basic type of health news story and the subject the story addresses. Possible story types include public health, health policy, disease/medical, and social policies indirectly related to health. Stories were further classified into one of thirty-one different subjects, ranging from AIDS to Medicare to patients' rights. (For more information about story coding, see the Appendix.)

*Data analysis.* Thirty-nine separate survey data sets (one every two months from August 1996 through December 2002) were combined in one relational database for this longitudinal analysis. Questions were coded and grouped according to category and subject as mentioned above. Possible responses to the question "how closely did you follow this story . . . ?" include "very closely," "fairly closely," "not too closely," and "not at all." For purposes of analysis, "very closely" and "fairly closely" are usually combined into "following closely (net)." When reporting results by category and subject, "percentage following closely" indicates the average percentage across all stories in the group. The same is true for knowledge

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asked a question about that story could have an effect on knowledge (and potentially on reported attention as well). The majority of respondents in these surveys were asked about news stories that aired between one and four weeks prior to the interview, so this effect should be minimal in this study. However, it would be an interesting area for further research.

3. With the exception of the August 1996 HNI survey, for which fieldwork was conducted by Market Facts, Inc.

4. Specific methodological information for each separate HNI survey, including interview dates, sample sizes, and response rates, are available by contacting the Henry J. Kaiser Family Foundation.

questions, where “percentage answering correctly” is an average of the percentage of respondents giving correct answers to each question in the subject or category group.<sup>5</sup>

Responses were also analyzed by demographic characteristics, including age, gender, race, and education level. Three data sets were missing some demographic variables and were not included in these analyses (August 1996, October 1996, and April 1997). For each individual news story, logistic regressions were performed using Stata software to determine significant relationships between demographic variables and attention to and knowledge about news.

### Attention to News

*On average, four in ten adults report following health news stories closely.* Overall, the public appears relatively interested in health news, with an average of 42 percent indicating that they follow health stories closely (Table 1). Policy stories indirectly related to health (including stories about elections, economic policy, gun control, poverty, and Social Security) were followed closely on average by more than half (55 percent) of the public. By comparison, nearly two-thirds (64 percent) of the public reported closely following leading nonhealth news stories, including airplane disasters, school shootings, and military conflicts, which often garnered much more media attention than the health news stories covered.

*The public pays the most attention to health news stories about public health, followed by health policy and disease-related stories.* The public reports paying the most attention to stories about public health, with nearly half (47 percent) reporting that they followed these stories closely on average (Table 1). Health policy stories were followed on average by about four in ten people (41 percent), and disease/medical stories were followed by a somewhat smaller share (38 percent). While these differences may seem modest, statistical testing on a story-by-story basis indicates that the differences are significant.<sup>6</sup> The results are particularly interest-

5. Percentage answering correctly is based on all respondents, including those whose response was “Don’t know.”

6. Within each category, stories were arrayed from lowest to highest attention (smallest to largest percentage following closely). Between categories, individual stories were matched at the minimum, maximum, and median levels of attention and at eight additional points along the attention continuum, representing deciles of attention. In all matched stories, health policy was followed closely by a higher percentage of the public than disease/medical, reaching significance in six out of eleven stories. Similarly, in all matched stories, public health was followed closely by a higher percentage than disease/medical, reaching significance in eight out of eleven stories.

**Table 1** Average Attention to News Stories by Category and Examples of Stories Garnering Different Levels of Attention within Each Category

Category	Mean Percent Following Closely	Mean Percent Following Very Closely
Nonhealth—Overall	64	34
Terrorist attacks on the World Trade Center and Pentagon (Oct. 2001)	95	85
Disappearance of Washington D.C. intern Chandra Levy (Aug. 2001)	62	29
Results of recent presidential election in Mexico (Aug. 2000)	19	5
Social Policies Indirectly Related to Health—Overall	55	26
Proposals in Washington for stricter gun control laws (June 1999)	76	43
Debate about how to reform Social Security system (April 1998)	52	22
President Clinton's poverty tour (Aug. 1999)	22	7
Public Health—Overall	47	20
Anthrax cases and the ongoing investigation (Dec. 2001)	83	50
Reports indicating a decline in death rates from cancer (Dec. 1996)	45	19
U.N. AIDS conference in New York (Aug. 2001)	22	7
Health Policy—Overall	41	17
President Bush's proposal to help seniors with prescription drug costs (Aug. 2001)	63	26
Debate in Congress about bill to ban late-term abortions (Oct. 1998)	42	19
Presidential candidate Bill Bradley's health care proposal (Oct. 1999)	16	6
Disease/Medical—Overall	38	14
Debate over mammograms (April 1997)	62	27
National Cancer Institute may have found melanoma vaccine (April 1998)	36	14
FDA approval of Vioxx for acute pain and arthritis (June 1999)	20	10
Total health (not including social policies indirectly related to health)	42	17

ing because they debunk a widely held belief that the public is always most interested in disease-focused health news stories.

Some might argue that a recent focus on bioterrorism is driving greater attention to public health news over other types of health news and that this finding about relatively higher attention to public health topics may be very time-specific. However, even when the four recent stories about anthrax and smallpox are excluded, the average percentage who reported closely following public health stories decreases only slightly, from 47 to 45 percent. In addition, it is an unfortunate reality that stories about bioterrorism may continue to be in the news for the foreseeable future, and if these trends hold, we might expect them to continue to receive the public's attention.

## Exploring Variations in Attention

### Topic-Related Variation

*Bioterrorism, abortion clinic violence, and tobacco are the topics that drew the greatest public attention during this time period.* Among specific health news topics, bioterrorism leads the list of stories followed most closely (Table 2). Reports about anthrax cases and the anthrax investigation in December 2001 were followed closely by more people than any other health news story in the past five and a half years (83 percent; Table 3). Stories about abortion clinic violence also caught the public's attention, with an average of six in ten (60 percent) indicating that they followed these stories closely.

In addition to the attention paid to bioterrorism and abortion clinic violence, the health news topic that has held the public's attention the most consistently over the past five and a half years is tobacco. On average, more than half (55 percent) of the public reported following tobacco stories closely. Twelve of the fifteen most closely followed health news stories were about public health, and five of these public health stories were tobacco related (Table 3).

The public also reports paying a lot of attention to health news and related stories that impact older Americans. Of the five health policy stories included in the top twenty health stories overall, three were related to Medicare and/or the elderly (President Bush's discount drug card proposal in August 2001 was followed closely by 63 percent; Medicare in the presidential and congressional campaigns in December 1996, by 61 percent; a report about the financial future of Social Security and Medicare in April

**Table 2** Average Attention to Health News Stories, by Subject

Subject	Mean Percent Following Closely
Bioterrorism	68
Abortion clinic violence	60
Tobacco	55
Flu	51
Prescription drugs coverage for elderly/Medicare	45
Cost of health care and insurance	45
Uninsured	44
Medicare	44
Health insurance benefits and practices	44
Medical information privacy	43
Cancer	42
Stem cell research	42
Heart disease	41
Abortion	41
Medical marijuana	41
Assisted suicide	39
Prescription drugs, not related to Medicare	38
Patients' rights	38
Alternative medicine	35
AIDS	33
Health care industry	32
Genetics and cloning	32
Reproductive health, excluding abortion	29

2001, by 61 percent). Social Security stories were followed on average by almost half (47 percent), and the debate about Medicare and prescription drugs was followed on average by nearly as many (45 percent).

Among specific diseases and conditions, people were most likely to closely follow stories about flu; on average, just over half (51 percent) of the public reported following these stories closely. Other disease-related topics were followed on average by fewer Americans, including cancer (42 percent), heart disease (41 percent), AIDS (33 percent), and reproductive health (29 percent, not including abortion). (Note: Five stories about AIDS conferences and World AIDS Day were followed at a lower rate than other AIDS stories. Excluding these stories, AIDS news was followed closely on average by 38 percent of the public).

**Table 3** Top and Bottom Fifteen Health News Stories Ranked by Percent Following Closely

Rank	Story	Percent Following Closely
1	Anthrax cases and the ongoing investigation (Dec. 2001)	83
2	Potential danger to small children from air bags in cars (Dec. 1996)	81
3	West Nile virus spreading in the United States (Oct. 2002)	78
4	Congressional legislation to reduce youth smoking (June 1998)	74
5	Anthrax investigation and contamination in federal buildings (Feb. 2002)	72
6	Reports about drug use among American teens (Oct. 1996)	69
7	Clinton effort to make it harder for kids to buy cigarettes (April 1997)	69
8	Flu outbreak (Feb. 2000)	67
9	Legal settlement between tobacco industry and the states (Dec. 1998)	66
10	Possible future bioterrorism involving smallpox (Dec. 2001)	66
11	Liggett Tobacco Co. admits cigarettes addictive (April 1997)	63
12	Bush's proposal to help seniors with prescription drug costs (Aug. 2001)	63
13	Government's civil lawsuit against tobacco industry to recover tax money spent on smoking-related health care (Oct. 1999)	62
14	Debate whether women should have annual mammograms (April 1997)	62
15	Abortion clinic bombings in Atlanta and Tulsa (Feb. 1997)	62
210	New federal action challenging Oregon's assisted suicide law (Dec. 2001)	22
211	International AIDS Conference (Aug. 1998)	22
212	International AIDS Conference (Aug. 1996)	22
213	U.N. AIDS conference in New York (Aug. 2001)	22
214	Concerns about new obesity drug, Xenical, being prescribed over the Internet (June 1999)	22
215	Medical journals' attempts to curb pharmaceutical companies' influence over drug studies (Oct. 2001)	21
216	FDA action on diet drugs Redux and Meridia (Oct. 1996)	21
217	National bipartisan commission studying future of Medicare (Feb. 1999)	21
218	Presidential candidate Al Gore's health care proposal (Oct. 1999)	21
219	FDA approval of Vioxx for acute pain and arthritis (June 1999)	20
220	Government decision about funding for stem cell research (Oct. 2000)	20
221	Discussions over FDA approval of colon cancer drug Erbitux (April 2002)	19
222	FDA consideration of a new drug to treat baldness in men (Dec. 1997)	17
223	Presidential candidate Bill Bradley's health care proposal (Oct. 1999)	16
224	New DNA tests for HPV, the human papilloma virus (Feb. 2000)	10

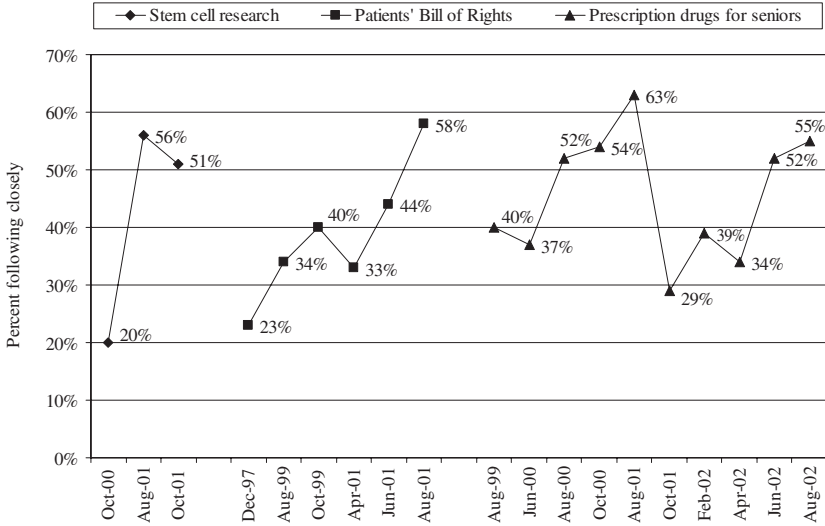
### Time-Related Variation

*As health policy debates escalate, public attention to news stories often follows suit.* While it is helpful to look at average attention to news stories by specific subject, it is important to keep in mind that there is often a lot of variation in the share of the public paying attention to different stories within a particular topic and even to the same story at different points in time. One way of looking at variations in attention within a particular story topic is to examine stories that relate to national health policy debates. For instance, while 20 percent of the public closely followed news about a government decision regarding stem cell research in October 2000, similar stories were followed closely by 56 and 51 percent in August and October 2001, respectively. When the Health Care Bill of Rights was endorsed by President Clinton in December 1997, less than one-quarter (23 percent) of the public followed the story closely. As the Patients' Bill of Rights debate continued in Congress over the next several years, attention to the story grew, peaking at 58 percent following closely in August 2001 (Figure 1).

A similar pattern of attention to news in the context of the Medicare and prescription drug coverage debate can also be discerned. Attention to stories about Medicare and prescription drug coverage increased from the time the debate was first introduced in 1999 (after a slight decrease in 2000), grew until August 2001, and fell off in October 2001 as more of the nation's attention focused on the September 11 attacks and the war on terrorism. As the debate heated up again in 2002, attention rose back to pre-September 11 levels.

### Focus-Related Variation

*Variation in attention within a given subject can also be explained in part by the focus of news stories, such as the effect on children and individuals, and the human interest factor.* Within certain subjects, particularly tobacco and other public health issues, stories that have an impact on children or teens are followed more closely than other stories. Among tobacco stories, the two that were followed most closely had to do with youth smoking (congressional legislation to reduce youth smoking was followed closely by 74 percent, and President Clinton's efforts to make it harder for youngsters to buy cigarettes were followed closely by 69 percent). Among reproductive health stories, three of the four most closely followed were related to teen sexual health and teen pregnancy, with an average of 33



**Figure 1** Percent Closely Following Major Health Policy Debates over Time

percent following closely, while the remaining reproductive health stories were followed on average by 27 percent. This pattern is also seen among public health stories that are not classified into any of our subcategories, where three of the top five stories were the potential danger to children from air bags in cars (81 percent), reports about drug use among American teens (69 percent), and a television ad campaign aimed at reducing teenage drug use (58 percent). The remaining stories in this category were followed on average by 43 percent of the public.

When it comes to stories about the health care industry, the public is more likely to follow stories in which individuals are directly affected. Three of the four most closely followed stories in this category include a report about medical errors in hospitals (51 percent), a Chicago hospital refusing to admit a mortally wounded teenager (41 percent), and medical trials at Johns Hopkins involving human subjects (30 percent). The public is less likely to follow health care industry stories related to medical research, such as the American Medical Association receiving funding from pharmaceutical companies (23 percent) and medical journals' attempts to curb pharmaceutical companies' influence over drug studies (21 percent).

Last, the inclusion of a recognizable public figure in a story appears to

increase attention (the human interest factor). For instance, a story about Nushawn Williams, an HIV-positive man who sexually transmitted HIV to a number of young women, was followed closely by over half (52 percent) of the public, a rate much higher than the average 33 percent rate at which AIDS stories were followed. Similarly, an assisted suicide story that focused on Dr. Jack Kevorkian was followed by 57 percent in April 1999, while a story about legal action involving assisted suicide was followed closely by a much smaller share (22 percent) in December 2001.

### **Knowledge about News**

*Individuals who follow health news stories closely are significantly more likely to give the correct answer to knowledge questions about those stories.* On average, knowledge questions, designed to assess whether the key pieces of information contained in the news stories were absorbed by the public, were answered correctly by 36 percent of respondents. Knowledge questions were answered correctly on average by 47 percent of those who reported following the applicable news story closely versus 29 percent of those who reported not following it closely (Table 4). Large percentage point differences between these groups exist in every health news category, and in 204 out of the 230 health news knowledge questions asked over the time period (89 percent of the questions), the difference in knowledge between these two groups was statistically significant. Even after controlling for age, race, gender, education, and income using logistic regression, closely following a particular news story remains a statistically significant predictor of answering correctly for 81 percent of all knowledge questions asked.

It is interesting to note that there is no significant difference overall in the average percentage giving the correct answer between those who report following a story very closely and those following fairly closely,<sup>7</sup> indicating that a baseline level of attention is important in correlating with knowledge, but that increased attention above this baseline does not usually coincide with greater knowledge levels.

As with attention to news, it is important to keep in mind that there are often large variations in the public's knowledge about health news within specific topics. For example, the percentage of the public correctly answering questions about tobacco news ranged from 15 percent who knew the

7. Correct answers were given on average by 49 percent of those following very closely versus 46 percent of those following fairly closely, with a statistically significant difference in about one in five (22 percent) of the questions.

**Table 4** Average Percent Correctly Answering Health and Related Knowledge Questions, by Attention Level

Category	Mean Percent Answering Correctly				Mean Percentage Point Difference*	Percent Significant**
	Total	Following Closely	Not Following Closely	Following Closely		
Public health	48	56	40	40	16	82
Disease/medical	41	53	31	31	22	97
Social policies indirectly related to health	41	48	30	30	18	82
Health policy	30	40	23	23	17	92
Total health (not including social policies indirectly related to health)	36	47	29	29	18	89

\*Mean percent of those following closely who answered correctly minus mean percent of those not following closely who answered correctly.

\*\*This column represents the proportion of all knowledge questions in a category where those following a story closely were significantly more likely ( $p < 0.05$ ) to give the correct answer than those not following the story closely.

**Table 5** Health and Related News Stories with the Largest Differences in Attention (in Each Direction), by Age

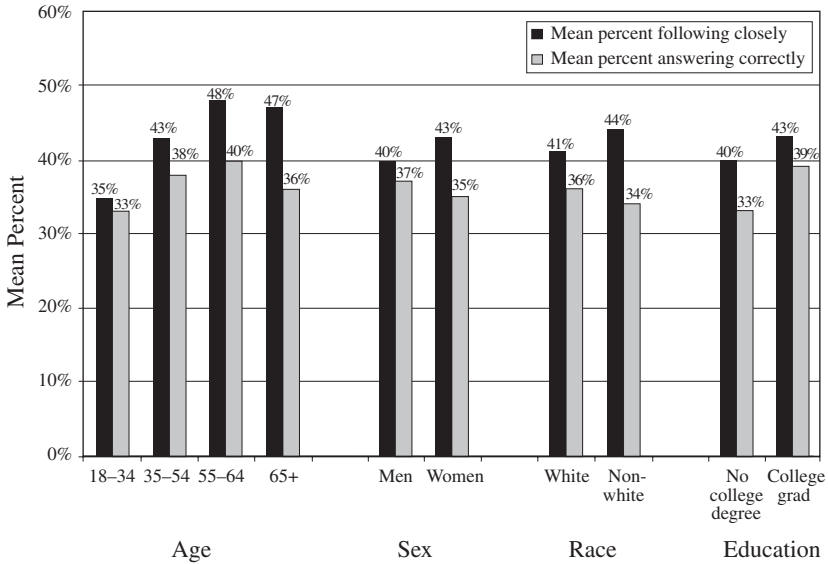
Question	Percent Following Closely		Percentage Point Difference*
	18–64	65+	
Announcement about the financial condition of the Medicare Trust Fund (Aug. 1996)	39	67	28
National commission studying Medicare and its future (June 1998)	36	60	24
Government report about the financial future of Social Security and Medicare (April 2001)	57	80	23
FDA announcement about the weight loss drug fen-phen (Aug. 1997)	49	39	-10
Reports about the effectiveness of a new AIDS drug cocktail (Oct. 1997)	34	23	-11
Scientists completing map of the human genetic code (Aug. 2000)	42	30	-12

\* Percent of 65 and over following closely minus percent of 18–64 following closely.

content of a tobacco tax proposal by congressional Republicans in April 1998 to 80 percent who knew that a reduction in the amount of cigarette advertising was part of a legal settlement between the tobacco industry and the states in June 1997. Variations in knowledge can also be found within a single health news story. In October 1999, six in ten adults (60 percent) knew that a government report said that the number of uninsured Americans had increased, but one-third as many (21 percent) knew that the number of Americans with no health insurance was about 40 million.

### Demographic Differences

*Older individuals are more likely than their younger counterparts to say that they follow health news closely.* Just over one-third (35 percent) of those aged eighteen to thirty-four report closely following health news stories on average, compared with 43 percent of those aged thirty-five to fifty-four, 48 percent of those aged fifty-four to sixty-five, and 47 percent of those aged sixty-five and older. This difference is explained in part by the fact that older individuals are more likely to closely follow health policy stories that have an impact on their lives. In thirty-two out of thirty-three stories related to either Medicare or Social Security, those aged sixty-five and older were significantly more likely than those aged eigh-



**Figure 2** Annual Percent Paying Attention to and Correctly Answering Questions about Health News, by Demographic Group

teen to sixty-four to follow the story closely, with an average difference of eighteen percentage points. Even after controlling for gender, race, education, and income in a logistic regression, age remains a statistically significant predictor of attention for all thirty-two stories (Table 5).

While older individuals tend to give correct answers to knowledge questions more often than their younger counterparts on specific topics (particularly prescription drug coverage for the elderly), the knowledge gap is considerably smaller than the attention gap by age (Figure 2).

*Women report closely following some health news more often than men, especially disease-related news.* Of 218 health news stories tracked over the time period, 68 stories (31 percent) were followed more closely by women, 9 stories (4 percent) were followed more closely by men, and the remainder showed no significant difference between the sexes. Women are particularly more attentive to news stories about diseases—especially cancer and flu—and about prescription drugs. Women followed thirty-seven out of the sixty-one disease-related stories at a significantly higher rate than men, with an average gap between the sexes of fifteen percentage points (in thirty-three out of these thirty-seven stories, the relation-

**Table 6** Health and Related News Stories with the Largest Differences in Attention (in Each Direction), by Gender

Question	Percent Following Closely		Percentage Point Difference*
	Men	Women	
Ongoing discussions about mammograms for women (April 2002)	27	64	37
Debate over whether women should have annual mammograms (April 1997)	45	77	32
Controversy over whether women should have regular mammograms (Feb. 1997)	35	65	30
Negotiations among the White House, Congress, and tobacco companies (April 1998)	66	53	-13
Resignation of FDA Commissioner David Kessler (Dec. 1996)	30	17	-13
Performance-enhancing substances and their use by professional athletes (Oct. 1998)	48	29	-19

\* Percent of women following closely minus percent of men following closely.

ship between gender and attention remained significant even after controlling for age, race, education, and income in a logistic regression). By contrast, men paid more attention than women to thirteen out of forty-one stories about social policies indirectly related to health (this relationship remained significant even after controlling for age, race, education, and income in a logistic regression in twelve out of the thirteen stories) (Table 6).

Knowledge differences between the sexes appear to mirror differences in attention. While men are significantly more likely to give the correct answer to questions about social policy stories indirectly related to health, women have the advantage when it comes to disease-related questions.

*Nonwhites are more likely than whites to report closely following stories about a variety of topics, including AIDS, welfare and poverty, reproductive health, and the uninsured.* In thirteen out of the sixteen stories about AIDS, a significantly higher proportion of nonwhites than whites reported following the story closely, with an average difference of twelve percentage points. Even after controlling for age, gender, education, and income in a logistic regression, the relationship between race and attention remains statistically significant in twelve out of these thirteen AIDS stories (Table 7).

**Table 7** Health and Related News Stories with the Largest Differences in Attention (in Each Direction), by Race

Question	Percent Following Closely		Percentage Point Difference*
	White	Nonwhite	
Government report of decrease in percentage of minorities living in poverty (Oct. 1998)	22	44	22
Government report about AIDS-related death rates (Aug. 1997)	37	56	19
Institute of Medicine report about how racial minorities are treated in the health care system (April 2002)	22	40	18
Debate over federal funding for stem cell research (Aug. 2001)	58	44	-14
State of the U.S. economy and decreasing federal budget surplus (Oct. 2001)	69	54	-15
Bush's plan to help elderly pay for prescription drugs (Oct. 2000)	59	41	-18

\* Percent of nonwhites following closely minus percent of whites following closely.

Nonwhites were also more attentive than whites to stories about welfare and poverty (more nonwhites than whites reported closely following both of two stories, with an average gap of sixteen percentage points; race was a significant predictor of attention for both stories even after controlling for age, gender, income, and education in a logistic regression), reproductive health (more nonwhites than whites reported closely following four out of seven stories, with an average gap of ten percentage points; race was a significant predictor of attention for all four stories even after controlling for age, gender, income, and education in a logistic regression), and the uninsured (more nonwhites than whites reported closely following five out of nine stories, with an average gap of nine percentage points; race was a significant predictor of attention in four out of these five stories even after controlling for age, gender, income, and education in a logistic regression). On the other hand, a larger percentage of whites than nonwhites reported closely following two out of the three stories about stem cell research, with an average percentage point difference of 13 percent (race was a significant predictor of attention for both stories even after controlling for age, gender, income, and education in a logistic regression).

On most topics, whites and nonwhites displayed similar levels of knowl-

**Table 8** Health and Related News Stories with the Largest Differences in Attention (in Each Direction), by Education

Question	Percent Following Closely		Percentage Point Difference*
	No College Degree	College Grad	
Scientists completing map of human genetic code (Aug. 2000)	27	57	30
Cabinet nominees and Senate confirmation hearings (Feb. 2001)	50	75	25
Debate over federal funding for stem cell research (Aug. 2001)	44	68	24
Reports indicating a decline in death rates from cancer (Dec. 1996)	49	40	-9
Bush's appointment of commission to make recommendations about Social Security (June 2001)	52	43	-9
Recommendations by HMOs about length of hospital stay for mastectomy (Dec. 1996)	53	44	-9

\* Percent of at college grads following closely minus percent of no college degree following closely.

edge. However, more whites than nonwhites were able to correctly answer questions about bioterrorism and alternative medicine.

*Individuals with higher levels of education follow some health news more closely and give the correct answer to knowledge questions more often than those with less education.* In 31 percent of cases, people with a college degree were significantly more likely than their less-educated counterparts to report following health news closely. The largest differences in attention by education were in stories about genetics, cloning, and stem cell research (all six stories were followed more closely by college graduates, with an average gap in attention of twenty percentage points), abortion (ten out of eleven stories were followed more closely by college grads, with an average gap of nine percentage points), and social policy stories having to do with election and budget issues (twenty-one out of twenty-four stories were followed more closely by college grads, with an average gap of fourteen percentage points). With the exception of two stories about abortion, the relationship between education and attention in the above-mentioned categories remains statistically significant even after controlling for age, gender, race, and income in a logistic regression (Table 8).

Given past research findings, it is somewhat surprising that education is not a significant predictor of attention in a higher proportion of health news stories. After controlling for age, gender, race, and income using logistic regression, education remains a statistically significant predictor of attention for 33 percent of all health news stories, compared with 51 percent of nonhealth news stories and 68 percent of social policy stories indirectly related to health. This indicates that the gap in attentiveness between those with more education and those with less education is somewhat smaller for health news than for other types of news.

Over half (54 percent) of all health news knowledge questions were answered correctly by a significantly higher proportion of college graduates than of nongraduates. This difference is most pronounced in disease/medical and public health stories. It is interesting to note that the smallest gaps in knowledge by education are in stories related to health policy topics, including Medicare and the uninsured.

*Overall, age is the characteristic most often associated with higher rates of attention to health news.* We performed logistic regression analysis for each individual news story, using attention (“following closely”) as the dependent variable and age, gender, race, education, and income as independent variables. When controlling for all these factors, being over age sixty-five was a statistically significant predictor of attention in 103 out of 213 health news stories (48 percent). Other characteristics were statistically significant predictors of attention for fewer stories, including having a college degree (33 percent of health news stories), being nonwhite (33 percent of health news stories), and being female (31 percent of health news stories). While age and education were also the factors most often associated with higher attention to nonhealth news, somewhat opposite trends exist in nonhealth news when it comes to race and gender. In fact, being female was a negative predictor of attention for 29 percent of nonhealth news stories, and being nonwhite was a negative predictor of attention for 18 percent of nonhealth news stories.

A similar logistic regression analysis was performed for each individual knowledge question, using knowledge (“answering correctly”) as the dependent variable and attention (“following closely”), age, gender, race, education, and income as independent variables. When controlling for all these factors, attention was a statistically significant predictor of answering correctly in 147 out of 181 health news knowledge questions (81 percent). Besides attention, having a college degree was a statistically significant predictor of knowledge for 52 percent of health news questions. Being female was a significant predictor of knowledge for 29 percent of

knowledge questions about disease/medical news, while being male was a significant predictor of knowledge for 23 percent of health policy news questions and for 20 percent of public health news questions.

## Discussion

Overall, we can say from this multiyear study that the public does pay attention to a variety of health news stories and often knows key pieces of information from those stories. The challenge for journalists, however, is to appeal to a large and diverse audience and explain the complex information that is often part of health news. The study's findings indicate that health policy stories, which are often especially complex and more removed from people's daily lives, may require more repetition in the media in order for the public to retain the information contained in them. This raises the question of the news media's role in educating the public, while still appealing to a diverse audience base.

Contrary to expectations and conventional wisdom in the newsroom, the public does not necessarily follow disease-related stories more closely than other types of health news. In fact, in comparison to public health and health policy stories, fewer people follow disease-related news. This finding is significant because of the emphasis placed on disease-focused health news in both local and national media markets. A 1997 media content study by the Kaiser Family Foundation and the Center for Media and Public Affairs found that "local and national health news mirrored each other and were dominated by the causes, treatments and cures of diseases" (Kaiser Family Foundation/Center for Media and Public Affairs 1997). Given this focus, and the marketing emphasis of news organizations on disease-related news, the relatively lower levels of attention found in this study to this type of news is surprising.

One possible explanation for this is that individuals may only tune in to news about diseases and conditions that they feel are personally relevant, and they may pay less attention to news about diseases with which they have no personal experience. This would explain why more people closely follow news about flu and cancer, and fewer people closely follow AIDS news. This interpretation is supported by the fact that four out of the five disease-related stories followed most closely by women were stories about breast cancer, and the disease-related story followed most closely by men was one about the drug Viagra.

It is also important to note that the HNI measures attention to breaking health news stories (i.e., those stories that get picked up by multiple national media outlets), as opposed to special reports on diseases and con-

ditions that might be run by one or two media outlets. It may be that the latter type of story, containing “news you can use” about a specific disease, would attract greater attention than the breaking news disease-related stories measured by this survey.

Another possible explanation for relatively lower attention to disease-related news versus other types of health news could be that people rely on other sources in addition to the news media in getting disease-related information (such as doctors, other health professionals, friends and family, and their local news). When asked which is their most important source of news and information about health issues in the December 2002 HNI survey, respondents chose a variety of sources, including television (19 percent), their doctors (12 percent), newspapers (9 percent), employers (9 percent), the Internet (8 percent), friends and family (6 percent), magazines (6 percent), and radio (3 percent). Given this large variation, it is possible that people turn to a larger variety of sources for disease-related information than for other types of health news.

One of the more difficult aspects of this type of study is evaluating the interaction between attention to news and knowledge. Several authors have explored this topic before, but problems often exist, given the difficulty of establishing causality between attention and knowledge (i.e., people who pay closer attention to a news story are likely to be more interested in the topic and have a greater knowledge base about the topic to begin with). In an experimental setting, Russell Neuman, Marion Just, and Ann Crigler (1992: 97) controlled for this and found that “paying attention to news about the topic is essential to acquiring knowledge, independent of interest or cognitive skill.” Although we cannot control for prior knowledge in this study, we found a strong correlation between attention and knowledge, even when controlling for demographic factors such as education, age, gender, race, and income. While we cannot make the assumption that greater attention to news *leads* to greater knowledge, looking at the two measures simultaneously provides greater insights than examining either measure alone.

For instance: Why are knowledge questions about health policy stories the least likely to be answered correctly, even though people report following these stories at similar rates to other types of stories? One possible explanation lies in the fact that the nature of health policy stories is different from that of other health stories. These stories tend to be more detailed, complicated, and removed from people’s everyday lives, and people have less direct experience with which to evaluate the information contained in them. Therefore, it may be more difficult to sort out the complexities in health policy stories than in other health stories. As a result,

fewer people are able to correctly answer questions related to them, even if they are paying attention.

The demographic analysis presented in this study demonstrates that, at least to a certain extent, different demographic groups pay attention selectively to the stories that might affect them personally—again, raising the question about the news media's role in informing the public and the need to simultaneously cover breaking news and appeal to a wide audience.

Several previous studies have found that men have a significantly higher level of knowledge about political news than women do (Pew Research Center for the People and the Press 1995; Parker and Deane 1997; Keeter and Delli Carpini 1992). Interestingly, these gaps do not exist when it comes to health news. What is it about health news that makes it at least as appealing to women as to men? This pattern may be due, in part, to the fact that women have more contact with the health care system than men do, through caring for children and older family members. This idea is consistent with previous research that has found that, while men score higher on most measures of political engagement, women have the same level of interest in local politics (Verba, Burns, and Schlozman 1997). Additionally, Michael Delli Carpini and Scott Keeter (1997) found that women were more likely to correctly name the local school head. Their explanation is that women's experience with politics is greater at the local level, since they tend to be more involved in school affairs as the chief family representative to the school system. So when it comes to health news, as with local politics, the advantage of experience may cancel out the edge that men usually have over women on policy interest and knowledge.

This study raises some interesting questions regarding the role of self-interest in motivating people's attention to health news. We found that older individuals are particularly more likely to follow news related to Medicare and Social Security, and that self-interest may play a factor in attention to disease-related news. In addition, our findings that gender and education do not play as large a role in attention to health news as they do with other types of news indicate that there may be something about health news that makes it of more universal interest. Further study into what motivates people's attention to health news would be an interesting and informative next step.

Finally, groups interested in health policy might want to conclude from this study that the public is more interested in their issues than they might have thought. News organizations might want to reexamine the belief that the public is more interested in disease and medical stories than stories about policy and public health.

## Appendix: Story Type Codes and Examples

**Health Policy**—Information or actions influencing the systems that affect the health care marketplace, access, and delivery of care. This category includes stories in which the main actor is any branch, representative, or would-be representative of the government or a nongovernmental party trying to influence said actors. It also includes all business and quality news connected with the private and public health sector that impacts the marketplace, access, or delivery of care. Examples: President Bush's order on funding international family planning groups, discussions in Congress about a Medicare prescription drug benefit, presidential candidate Al Gore's health care proposal, reports of rising health insurance premiums, health maintenance organizations (HMOs) and other health plans pulling out of Medicare, and medical journals' attempts to curb pharmaceutical companies' influence over drug studies.

**Public Health**—Stories that represent widespread problems affecting health or public safety which are not necessarily under the control of the individual. This includes social issues related to health as well as epidemics, outbreaks, and rates of various conditions. Examples: the legal settlement between the tobacco industry and the states, a government report about the number of AIDS-related deaths, the potential danger to small children from air bags in cars, and the West Nile virus spreading in the United States.

**Disease/Medical**—Health stories relating to new information on specific diseases and conditions or treatments (including U.S. Food and Drug Administration [FDA] action on specific drugs), as well as all stories regarding recommended screening and prevention methods. Examples: the debate over whether women in their forties should have annual mammograms, the implant of the first self-contained mechanical heart, FDA approval of the morning-after pill, and a new experimental vaccine that may protect women against cervical cancer.

**Social Policies Indirectly Related to Health**—Stories about political and policy issues that are not directly related to health care, but which we know impact health conditions and/or policy, such as elections and politics, economic policy, gun control, poverty levels, welfare, and Social Security. Examples: the debate in Washington about the federal budget, President Clinton's poverty tour, proposals in Washington for stricter gun control laws, and reports on the condition of the Social Security trust fund.

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