MIDCAREER TRAINING IN JOURNALISM:
AN ANALYSIS OF THE IMPACT OF PROGRAMS ON HEALTH COVERAGE

by

MARCIA A. APPERSON

(Under the Direction of Lee B. Becker)

ABSTRACT

Midcareer training has become more prevalent in journalism in the past decade, but the impacts of these training programs have scarcely been studied in the field. Journalists repeatedly ask for more training opportunities, and companies have been funneling millions of dollars into programs. Journalists who cover specialized areas, such as health and medicine, say they need more training to grapple with complex issues. This study explores whether training changes the way reporters construct the news.

Two components of a journalism training program held at the Centers for Disease Control in Atlanta, Georgia, were used as exemplars in this study. Articles written before the journalists participated in the training in 2002 were compared to articles the journalists wrote following the training. The results were mixed. They indicate the training may have some influence on how the reporters do their jobs after training but not as much as was expected.

INDEX WORDS: Midcareer Training, Journalism Training Programs, Health/Medical Reporting, News Construction, Content Analysis, Coding

MIDCAREER TRAINING IN JOURNALISM: AN ANALYSIS OF THE IMPACT OF PROGRAMS ON HEALTH COVERAGE

by

MARCIA A. APPERSON

B.S., James Madison University, 2000

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment

of the Requirements for the Degree

MATERS OF ARTS

ATHENS, GEORGIA

2004

MIDCAREER TRAINING IN JOURNALISM:
AN ANALYSIS OF THE IMPACT OF PROGRAMS ON HEALTH COVERAGE

by

MARCIA A. APPERSON

Major Professor:	Lee B. Becker
Committee:	Vicki Freimuth
	C. Ann Hollifield

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
August 2004

DEDICATION

This thesis is dedicated to my family and to my future husband, Pete. My father and stepmother instilled in me the value of education. It is because of them and the life they made possible for me that I was able to enjoy this journey through graduate school. I can never express how much their unconditional love and support has meant to me. I feel like Pete should earn his own degree for constantly being by my side as I have pursued mine. He has always been there to laugh during the lighter moments, be quiet when I am studying, and lift me when I stumble. This work could not have been completed without the help of these three very important people, and this dedication is a small thank you.

ACKNOWLEDGEMENTS

There are a number of people who made this project successful. First, I must thank my thesis committee. My major professor, Dr. Lee B. Becker, was a wonderful mentor and teacher. I could not have completed this thesis without his guidance. He was always there to give me high fives for my accomplishments and to push me on days when I wanted to give up. His commitment to academia, and particularly his students, is inspiring. Many thanks also go to Dr. Vicki Freimuth and Dr. Ann Hollifield, without whom I would not have completed this process. Their enthusiasm for this project was refreshing and energizing. I greatly appreciate the generosity and patience of these three professors.

This project may not have been completed at all, but certainly would not have been done in time, without the help of other students. Deserving of much thanks are: Windi Blizzard, Federico de Gregorio, Megan Guilliams, Genia Mussuri, Elvina Mustafaieva, Alex Wallace, Teah West, Katie Williams, and the rest of the staff at the James M. Cox Jr. Center for International Mass Communication Training and Research.

I want to thank all of my family and friends who supported me during this process. They understood both the excitement and the stress of graduate school and of writing a thesis, and they gave me enough space to enjoy it but were always close enough to comfort me.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

Chapter 1

INTRODUCTION

"Whether widely noticed or not, good journalism makes a difference somewhere every day…Disclosure of environmental, health, food and product dangers can save lives. Examination of the ways society cares for the poor, homeless, imprisoned, abused, mentally ill and retarded can give voice to the voiceless. News matters" (Downie and Kaiser, 2002, p.4-5).

Journalists once carried out their jobs as if they were jacks-of-all-trades. One day a reporter would write about politics, the next day the environment, and by the end of the week pound out a business story. But journalism, along with other occupations, has become more specialized. Rather than knowing general information about a lot of topics, reporters are now expected to be experts in a narrower area. Regardless of whether a journalist is a general assignment reporter or a beat reporter covering a specific issue, the goal remains the same:

> Journalists tell stories professionally, rather than as part of daily life, but they make use of all these possibilities, sometimes writing to soothe and sometimes to enliven, sometimes to honor and commemorate, and sometimes to embolden and impassion. They tell stories competitively, seeking to do better than their rivals at the next desk or on the next newspaper or TV station (Schudson, 2003, p. 182).

While journalists today strive toward many of the same professional goals that journalists have reached for years, the job has evolved. Some journalists are expected to cover increasingly complex topics and to possess a more sophisticated understanding in such areas as health/medicine, economics, and the environment.

Journalism schools do not usually prepare students to become specific beat reporters. They teach students the fundamentals of journalism—how to be reporters, how to ask questions, how to write articles. Melinda Voss left journalism after 26 years to pursue a master's degree in public health. "Having been a reporter, I knew all too well how little preparation and on-the-job

training journalists typically receive for covering such complex issues as fetal brain cell implants, HIV/AIDS and, as we have witnessed recently, bioterrorist threats" (Voss, 2003, 46). As Voss said she found out, journalists often enter the workforce with no specialized training, sometimes leading to inaccurate or misleading stories.

Professionals in the field criticize news organizations for not contributing enough of their budgets to training journalists. News organizations rank lower than companies in other industries in the amount of money and time devoted to training. In 2000, American companies devoted about an average of 2 percent of payroll to training. The news industry, however, spent about half of that, according to a study sponsored by the Council of Presidents of National Journalism Organizations and the John S. and James L. Knight Foundation (2002, p.11). An article in *Editor & Publisher* offers a mixture of reasons why journalists need this training and are seeking it out in increasing numbers. "Training at mid-career is needed to address the explosion in Web news sites, 24-hour broadcast news, and niche or specialty publications. These new enterprises require competent, experienced editors and writers who can identify trends and effectively combat the competition" (Strupp, 1999, p. 34). Reporters also "want to stay current" to put themselves in a better position for advancement or career changes (Strupp, 1999, p. 34). Advanced training makes journalists more competitive in the job field, and organizations and papers that offer training are more attractive employers.

"Training is, by its purpose, designed to change or reinforce workers' behaviors to increase an organization's efficiency or effectiveness. Attaining this goal is achieved when trainees' post-training observed job performances are greater than or equal to the employees' job performance standards" (Johnson and Ksumierek, 1987, p. 151). Whether the field is journalism or any other area, the purpose of training is "to alter and/or reinforce job related skills/behaviors

in order to decrease an organization's operating costs (efficiency) and/or increase employees' output (effectiveness) (Johnson and Ksumierek, 1987, p. 157). A study by Johnson and Kusmierek showed there is a gap between training programs and research assessing their success.

Organizations are trying to rectify the problems by funneling millions of more dollars into mid-career training seminars. The demand for training and subsequent funding has raised the question of whether the training being offered is actually having the intended effect. "In fact, there is an increasing concern in organizations that the investment made in training must be justified in terms of improved organizational performance—increased productivity, profit, or safety; reduced error, enhanced market share" (Salas and Cannon-Bowers, 2002, p. 472). With this investment of resources into training programs, reporters need to know it is worth their time away from work, and organizations need to know it is worth spending the money.

Objective

This thesis examines whether two specific journalism training programs held at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, are effective. In an effort to evaluate the programs' effectiveness, the thesis analyzes the content of news articles written both prior to and following the training programs. "The basis for training is rooted in the notion that individuals who are trained will be different at the end of the training. Training is a planned change" (Haccoun and Hamtiaux, 1994, p. 593). The thesis studies whether there is a significant change in health coverage attributable to the training by evaluating pre- and post-treatment news reports.

Chapter 2

LITERATURE REVIEW AND RESEARCH QUESTIONS

Two main bodies of literature need to be considered. One part of the literature comes from the journalism and mass communication field. The other body of literature includes scholarly research focused on training programs in other fields. The literature from the mass communication field shows that journalists are consistently asking for more training. The owners and managers are realizing the need and are increasingly spending more resources on training programs. In the late 1990s, some news organizations nearly doubled their training and development budgets as well as the number of employees they sent to training programs. However, there is a gap between the developments in midcareer training in journalism and the research focused on midcareer training in other fields. There is little research on midcareer journalism training programs published in scholarly journals in the mass media field compared to other industries such as health and psychology.

Training in Journalism

William L. Winter (1993) listed five objectives for newspaper training: improving jobs skills, preparing for new assignments, providing job enrichment, preparing for special assignments or handling special projects, and renewing employees' enthusiasm (p. 155). Most of those five objectives could be applied to any mid-career job training. There can be little doubt that journalists actually want more training opportunities, according to literature in the field. Jack Hart (1990) said journalists expect more from their jobs now and want satisfaction from their work. He suggests that midcareer training opportunities offer a "way to recharge their

motivation, sustain interest and avoid burnout" (p. 41). Stephan Russ-Mohl (1993) makes a similar suggestion in his remarks about midcareer training programs. Russ-Mohl says journalists are interested in continuing education for professional growth and self-realization (p. 11). Training is said to offer personal, as well as professional, benefits to the individual reporters. But those who have researched this area and those who argue in favor of more training also point out those companies that offer more training also benefit. Training benefits the individual as well as the entire industry.

Professionals have written columns and reports criticizing the lack of training journalists receive. They cite the lack of training in general in journalism, the lack of both in-house and outside training, the lack of training for minorities, and the lack of training on specialized issues. These criticisms are particularly sharp toward areas that require specialized training, such as science, business and health.

Several studies designed to find out from journalists what they want from their jobs found that training is a top priority. But, it is one that is not being fully met by the industry. Doug Ramsey (1990) found that healthcare topped the list of issues in which journalists wanted midcareer education. The Foundation for American Communication, an organization that provides midcareer training for working journalists, sent a survey to 1,000 journalists asking them which areas they were interested in receiving more education. The categories included economics, ethics, international affairs, legal topics, and science. The science category included health topics. Of the 90 respondents, the top three choices for midcareer training were health care, health care economics, and the environment. The environment category included health-related issues such as pesticides, toxic waste and waste disposal (Ramsey, 1990, p. 76). Ramsey

(1990) explained that reporters must face a growing number of complexities when covering certain areas and that more education would be advantageous:

> "Many public policy issues covered by journalists today involve heavy doses of science and technology. Grounding in basic analytical sciences is required for adequate coverage of topics such as global warming, pesticides, ozone holes, dangers of electromagnetic radiation, the disappearing rain forests, toxic waste dumps and others. At the very least, journalists need to understand basic principles of toxicology, epidemiology, statistics and risk assessment. Experienced science and medical reporters can benefit from such instruction."

According to the journalists who returned the surveys, they agreed that health was an area of particular concern in which they needed more instruction.

Detjen, Fico, Li, Xigen and Kim (2000) found similar results with environmental reporters. Questionnaires were mailed to 1,006 environmental reporters in April 1996 to find out more about the reporters' work patterns, problems they perceived in their work, and major issues they covered the previous year. About half, or 506 of the reporters, responded to the survey. Training was identified as a major need in this study. More than 60 percent of the respondents said training was their greatest need (Detjen et. al., 2000, p. 8). Newspaper reporters were more likely to say training was a major need than reporters working for magazines or newsletters (Detjen et. al., 2000, p. 9). Overall, Detjen, Fico, Li, Xigen and Kim (2000) found that fewer than half of the respondents reported having specific training to cover environmental issues (p. 10).

Other research focused on health reporters rather than environmental reporters support the findings by Detjen, Fico, Li, Xigen and Kim. Melinda Voss (2002), executive director of the Association of Health Care Journalists, found that health reporters lack the fundamentals needed to cover public health issues. Voss (2002), who stressed that inaccurate reporting can be harmful for the audience, noted: "Inadequate, misleading, or incomplete news reporting constitutes a

public health threat" (p.1158). In 1999, Voss conducted a survey of mid-Western health reporters. Of the 115 reporters who responded to the survey, 83 percent said they had no training (Voss, 2003, p. 46). The respondents identified several key issues that they found particularly difficult: understanding key health issues, putting the news in context, writing balanced stories, and analyzing statistics (Voss, 2003, p. 46).

Voss (2003) says health reporters get coverage wrong because they lack necessary job training. "The simple answer is that many journalists who cover health and medicine have had no specialized training" (Voss, 2003, p. 46). Voss used the data from the survey to strengthen her argument that news organizations need to do their duty by providing proper training. Voss offered several suggestions, such as making sure opportunities for professional development are offered to reporters also at smaller newspapers and that the programs focus on the fundamentals of health reporting, not just narrow subjects.

A couple of studies went beyond the more narrow focus of the research done by Voss and Detjen, Fico, Li, Xigen and Kim by expanding the research to reporters who covered all issues and not just specific beats. The Freedom Forum (1993) surveyed newspaper journalists throughout the country in the early 1990s. In the final report, "No Train, No Gain," Eric Newton points out that nearly all of the journalists who responded to the questionnaire said they wanted training, however, they were not receiving it (p. 1). The questionnaire was mailed to 2,000 journalists and 652 journalists working at 123 newspapers responded (p. 2).

This study found that regular training being offered at newspapers helped more with the basics, such as writing, reporting, and editing. However, training even in those areas was scarce and there was even less training offered for more specialized topics such as the environment and medicine (p. 7). Half of the respondents said they preferred outside training programs (p. 9).

A survey co-sponsored by the Knight Foundation and the Council of Presidents of National Journalism Organizations intended to follow-up on The Freedom Forum's findings in 1992-1993. In 2002, the two organizations sponsored a project conducted by the Princeton Survey Research Associates. The research project was the "biggest survey on the subject of journalism training ever done in the United States, and the first to cover all media" (p. 5). The information is based on telephone interviews with 1,964 news executives and staffers (p. 5). The findings, printed in a booklet titled "Newsroom Training: Where's the Investment?" show that journalists cited lack of training as their number-one job dissatisfaction (p. 9). More than two-thirds of the journalists in the country do not receive regular training (p.9).

The survey supported the findings from The Freedom Forum's survey 10 years earlier. The media industry had made steps toward offering more training, but the report concluded that journalists are still ill-equipped (p.15). More training is offered for basic journalism skills. Training for beat reporters, who cover topics such as health and science, generally is scheduled several times a year (p. 36). The survey showed the availability/frequency of training in beat coverage areas. The areas included ethics, government and politics, courts and police, education, diversity, and business and economics. However, the list did not include health, medicine or science (p.37).

"Newsroom Training: Where's the Investment?" provides an overview of what training newspaper people want and how that compares to what is actually being offered. However, it is just the first step. The report supports the outcry from journalists that they want more training. However, it does not evaluate the training programs and show whether journalists would actually benefit if more programs were provided. This research project was one of the firsts of its kind

and one of the most ambitious as far as the scope. But assessment of training programs is more prevalent in other industries.

As the report "Newsroom Training: Where's the Investment?" indicates, the industry has responded to these criticisms by offering more training. Hart (1990) says the burst of midcareer training in journalism is a strategic move, along with improving graphics and print quality, to raise penetration figures. "The explosion of interest in newsroom training has a lot to do with the fact that newspaper publishers and editors are finally waking up to the glum penetration figures that plague the industry. So they're casting about for all kinds of strategies that will help them get back in the fight for their distracted audiences" (p. 41). In the report "No Train, No Gain" Newton (1993) makes a monetary comparison that estimates it would cost $107.2 million to send every journalist working at a daily newspaper in the country to an outside training program (p.15). That figure accounts for about 1 percent of the revenue collected through advertising every year in the newspaper industry. If 20 percent of the workforce left over a span of five years, it would cost the industry about $100 million. Newton makes the comparison to show that the industry could spend the same amount it would cost to replace a fifth of the workforce as it would cost to develop and better satisfy the staff members it already has in place (p. 15). As Dick Thien said in the same report, "One of the most effective retention tools journalism has is job satisfaction, and one of the best ways to ensure job satisfaction is to help people learn, grow and get better at what they do" ("No Train, No Gain," 1993, p. 20).

Salas and Cannon-Bowers (2002) said there has been a surge of training-related research in the past decade (p. 472), and journalism has caught on to that trend. "Organizations have shifted their views about training from a separate, stand-alone event to a fully integrated, strategic component of the organization" (Salas and Cannon-Bowers, 2002, p. 472). *Editor &*

Publisher published the change in the number of employees in training programs at different organizations from 1998 to 1999 (1999). For example, Knight Ridder had 516 employees in training in 1998 and by 1999 that number had increased to 959. Similarly, enrollment at the Poynter Institute for Media Studies increased from 835 in 1998 to 1,067 the following year. The same was true for the annual budgets of these organizations; more money was contributed to training. Thomson Newspapers raised the annual budget devoted to training and development from $3.3 million in 1998 to $3.6 million in 1999. E. W. Scripps Co. almost doubled its training and development budget from $690,000 in 1998 to $1.1 million the following year (1999).

The Knight Foundation is one of those organizations increasingly devoting resources to training programs. Hodding Carter III, president and CEO of the Knight Foundation, said the organization is the "leading funder of mid-career and other university-based journalism programs" (Liebeskind, 2000, p.26). The Foundation pours millions of dollars into programs to support journalism. The Foundation asserts the "programs enable professional journalists to enhance their careers and students to learn the trade" (Liebeskind, 2000, p. 26). But, Voss concludes, training programs like those supported by the Knight Foundation need to be better assessed. "Few, if any, of these programs have been evaluated by outside parties to determine if they improve the knowledge and skills of participants—or, what's more important—if they actually raise the quality of news reports" (Voss, 2003, p. 46).

Training in Other Fields

One must go outside of the communication field when looking for research that is comparable in design and intent to the study here. Studies evaluating training programs are more easily found in health and psychology. Various studies indicate professional training programs

are successful, regardless of the industry. Studies show that training programs have a statistically significant positive impact on participants. And several studies indicate that this holds true over time.

As illustrated in the literature about journalism, the health profession has similar literature about the growing trend of training programs. Wilkinson, Gambles and Roberts (2002, p.731) said, "The increased demand for communication skills training is thus hardly surprising and training programmes designed to provide health professionals with key communication skills are increasingly becoming available." Wilkinson, Gambles and Roberts (2002) said training courses needed to be evaluated to assess the effectiveness (p. 732). In their analysis of 308 cancer nurses, the researchers show that the health training did have a positive affect on the nurses' communication skills when working with patients and, therefore, was effective.

The nurses were scored before and after training. Nurses were recorded as they talked to patients. The nine key areas that had been identified before the study included: introduction to nursing assessment, patient's understanding of admission, patient's awareness of diagnosis/condition, patient's history of present illness, patient's history of previous illness, physical assessment of patient, social assessment of patient, psychological assessment of patient, and closure of nursing assessment. The nurses showed a statistically significant improvement in all of those areas following the post-intervention (Wilkinson, Gambles, and Roberts, 2002).

A different pre-post study of HIV/AIDS education counselors by Britton, Rak, Clmini, and Shepherd (1999) showed similar results. Counselor education students were given a questionnaire at the beginning and end of a training course to assess their knowledge, skill, comfort, and willingness to work with HIV patients. The students said they were more confident

in their work and felt better prepared following the training. Britton, Rak, Clmini, and Shepherd (1999) concluded that the findings seemed to support the efficacy of training.

Studies, including the one mentioned above about education students, show positive results were maintained over time. The education students received a follow-up survey. The follow-up period ranged from 10 to 46 months with the median time being 25 months. Britton, Rak, Clmini and Shepherd (1999) concluded that a training model such as the one studied could have positive effects that are maintained over a substantial time period.

Another study of nurses supports the conclusion that the benefits of training are maintained over time. Lam, Kuipers and Leff (1993) assessed two groups of nurses at three points during a nine-month training course. The study found that the nurses gained knowledge about schizophrenia, and their beliefs and attitudes changed in the desired direction. This study shows again that the benefits of training were maintained over time, the significant gain in knowledge in the first test held through the nine months of training.

This study is different than those already mentioned in that it took into consideration other factors that could have potentially affected the results. The study on nurses is the first study mentioned thus far that tested whether the results could have been caused by a variable other than the training. The analysis took into consideration the nurses' ages, job positions, and years of work experience. The researchers concluded that none of the "demographic variables correlated significantly with a gain in knowledge or a change in attitudes and assumptions" (Lam, Kuipers, and Leff, 1993, p. 236). Furthermore, O'Donovan and Dawe (2002) in a literature review of research on training effectiveness, particularly in the psychotherapy field, found little evidence suggesting that gender, age, or ethnicity influence training effectiveness.

One of the weaknesses of the studies already mentioned is that they did not test the possibility that the changes would have been observed in people who did not receive training over the same time period. "Causal attributions in training evaluation require the empirical confirmation that post-training changes be larger than those changes that could have occurred by chance or through the action of contiguous events independent of the training experience" (Haccoun and Hamtiaux, 1994, p. 593). A control can be used in studies like the analysis proposed in this thesis to strengthen the likelihood that the training is indeed the causal agent. A control group is needed to make sure the effect was not due simply to time or continued experience. "It would be incorrect to assume that trainees enter courses as 'empty vessels'—rather, trainees bring with them a range of skills, previous experience and individual traits all of which influences the effectiveness of training" (O'Donovan and Dawe, 2002, p. 239-240). A control group can help strengthen the argument that the effect was indeed caused by the training and less likely caused by time or a gamut of variables each participant brings with them.

The kind of assessment seen in other fields is lacking in the mass media industry. Research similar to these health studies cannot be easily found in journalism. The results from studies in other areas have shown that the training is effective and has its desired influence. As Voss suggests, the journalism training programs need to be better evaluated.

Theory

News construction theory looks at news as a manufactured good. Michael Schudson (2003) looks at news as a daily work product that is affected by economic, political, social, and organizational influences. The construction and selection of news tends to follow a predictable pattern that stays fairly consistent under similar circumstances (McQuail, 2000, p. 277).

Journalism has established a set of ethics and standards as a profession that those in the field are taught to follow. Outside influences such as sources, money, resources and time can all contribute to how the news is constructed within that day-to-day routine. Midcareer training is just one of many possible influences on the construction of a news story. Training may change the way a reporter thinks about the news, gathers the news and, finally, puts the news together each day. In "No Train, No Gain," Newton (1993) notes: "People weave what they learn in training into their day-to-day routine until it becomes part of the fabric of their industry. What we don't know is just as likely to be woven into our daily routines, though we often don't realize it" (p.13).

Siriporn Yamnill and Gary N. McLean (2001) look at why people want to change their performance after receiving training. "Many organizations spend much money on training, believing that training will improve their employees' performance and hence the firm's productivity" (Yamnill & McLean, 2001, p. 195). But questions are still being raised about the return on this investment (Yamnill and McLean, 2001, p. 195).

Yamnill and McLean (2001) offer reasons to explain why participants' performance may change after attending training programs using E. F. Holton's model. The model says there are three factors affecting the transfer of training: 1) motivation to transfer, 2) transfer design and 3) transfer climate. The most relevant part of the model for this study is the first factor—motivation. Motivation is described as "trainees' desire to use the knowledge and skills mastered in the training program on the job (p. 197). Within this framework of motivation, Yamnill and McLean (2001) discuss several theories that help explain and predict behavior that contributes to work performance (p. 197). One of these theories is goal-setting theory. "Goal-setting theory holds that, once a hard task is accepted, the only logical thing to do is to try until the goal is

achieved or until a decision is reached to lower or abandon the goal (Yamnill & McLean, 2001, p. 199). This theory holds that intentions and values are two determinants of behavior.

The second part of the model, transfer design, looks at how the program is designed to allow participants to take what they learned in training and then apply it at work later. If the training offers the participants the chance to practice exercises and apply situations in the training programs to their workplace, there is an increased likelihood that the participants will use their newly acquired skills when they are faced with similar challenges at work. The principles theory falls under the framework of transfer design. "The principles theory suggests that training should focus on general principles necessary to learn a task so that the learner can apply them to solve problems in the transfer environment" (Yamnill & McLean, 2001, p. 201). The third and final part of the model, transfer climate, looks at the extent to which a participant can use learned skills on the job (Yamnill & McLean, 2001, p. 203).

Research Questions and Hypotheses

In light of previous research and the lack of work done assessing journalism training programs, the following research questions were developed in hopes of discovering potential relationships between journalism training and health reporting.

RQ1: Will journalists write an increased number of in-depth articles on their own initiative after training?

H1: Journalists will write more in-depth pieces that do not rely as heavily on routine or breaking news events. This will be indicated by an increase in enterprise stories.

RQ2: Will the journalists use different sources after training?

H2: The sources journalists use in their reporting will change after attending the training programs. Specifically, journalists will rely less on public relations and spokespeople following training and rely more on people they were in contact with during training.

RQ3: Will journalists use more statistics in their articles after training?

H3: Journalists will use more statistics in their reporting. One component of the CDC training programs is to teach the participants how to properly use and report statistics. This hypothesis is based on the research that suggests that participants in training programs feel they have greater knowledge and skills following training and they feel more confident performing their work (Britton, et. al., 1999).

Chapter 3

METHODS

There are hundreds of professional training programs in journalism. A web site by the Society of Professional Journalists contains a list of 274 training providers (Journalism Training). The list includes 197 journalism organizations, 44 colleges and universities, and 33 not-for-profit training institutions. General topics range from technology and photojournalism to management and career development. Writing topics vary greatly from education to the environment to sports to transportation (Journalism Training). Programs based just at university campuses and centers offer a glimpse of the wide array of topics. The programs include religion, law and business offered at Northwestern University's Medill School of Journalism, environment, entertainment, immigration issues, and social justice issues at USC Annenberg's School of Communication, law at Yale, and business and economics at Columbia University. Many of the programs advertise using similar approaches. They include classroom settings such as workshops and conventions, as well as more hands-on approaches such as case studies and shadowing professionals and experts. Two training programs held at the Centers for Disease Control and Prevention in Atlanta, Ga., offer many of these same components.

Background

The Knight Public Health Journalism Fellowship began in 2000, and the Knight Public Health Journalism Boot Camp started two years later. All training participants now begin with the Boot Camp. The Boot Camp and Fellowship are for journalists interested in public health.

The 10-day Boot Camp includes courses in statistics, presentations on public health issues, case studies and lab tours (CDC Foundation). The Fellowship has a similar purpose, but the journalists are able to cover more in this four-month program.

Specifically, the goals of the Boot Camp are to teach journalists the skills they need to be able to "analyze health risks, evaluate the importance of clinical studies, and improve their reporting on a wide range of public health issues" (CDC Foundation). The participants spend time in seminars, discussions, and taking tours. Journalists in print, broadcasting and Internet are invited to apply. According to the application, preference is given to journalists who have more than five years experience and who cover health, science or the environment (CDC Foundation).

The Knight Fellowship program is similar to the Boot Camp, but its goal is to offer a "more in-depth experience" (CDC Foundation). Besides the time element, the Fellowship is also distinct from the Boot Camp because it offers fieldwork and hands-on experience. In the course of the program, the participants 1) accompany officers in an investigation of a disease outbreak, 2) participate in research projects with CDC scientists, 3) work in the field with public health officials, and 4) participate in classroom discussion. The time in the classroom is spent learning about epidemiology and biostatistics, public health interventions, public health structure, and health reporting (CDC Foundation). Like the Boot Camp application, the application for the Fellowship program also welcomes journalists in print, broadcasting or the Internet. Journalists need at least five years experience, and preference is given to those with a background in covering science or health/medicine (CDC Foundation).

Study Design

This study uses a pre-test, post-test design to examine the effects of participation in mid-career training programs on the work of journalists. Specifically, the study content analyzes the work of journalists who participated in a health-communication reporting training program both before and after that training experience. This project focuses on journalists who participated in the programs in 2002. Eighteen journalists participated in the training programs at the CDC during the summer and fall of 2002. All of the participants went through the Boot Camp. Twelve participants went only to the Boot Camp while the remaining six continued on through the four-month Fellowship program. Most of the participants during this year covered health for national or regional news organizations.

First Phase

The thesis is one piece of a larger project. The first phase of this entire, ongoing CDC project consisted of interviews. Staff members at the Cox Center interviewed each of the journalists who participated in the Boot Camp and Fellowship training programs in 2002. All 12 of the Boot Campers and all six of the Fellows were interviewed. The participants were asked about individual elements of the programs and what impact the training had on them once they completed it.

Then, efforts were made to interview an editor or supervisor of each participant. Eight of the Boot Campers' editors were interviewed and five of the Fellows' editors were interviewed. Again, these interviews asked the editors what impact the training had on the participants once they completed the programs and returned to work. All of the interviews from this phase were transcribed and summarized in reports that were completed in December 2003.

Second Phase

The second phase is a pretest-posttest assessment. It was designed to observe changes in the participants' journalistic work possibly caused by training. The first phase allowed feedback from the participants. The second phase looks at the impact on their work. The third phase will compare the work product of a similar group of journalists who did not receive training. The research for this thesis focuses only on the second phase.

Data Collection in Phase 2

About 2,000 articles were initially collected for the entire project. More than 900 news articles written by the participants in the CDC Boot Camp and Fellowship programs were collected using computer search engines. Newspaper articles that were written within a three-month period prior to the Boot Camp and a three-month period immediately following the Boot Camp were gathered for each participant except the free-lancer writers. Another 1,100 articles written by a control group of journalists were collected for phase 3, which will be discussed later. All of the articles, both for the participants and the control group, were collected in the same way.

To run the search, a journalist's name, specific publication, and the target dates were specified. The CDC Boot Camp ran from June 17 to June 26, 2002. The three-month timeframe before the Boot Camp ran from March 16 to June 16, 2002. For example, one of the female participants at the Boot Camp worked for *The Minneapolis Star-Tribune.* Her articles were found by searching in Lexis Nexis, which was accessed through the University of Georgia Library's web site. The news search within the Lexis Nexis Academic version was used. First, in this example, the news category was narrowed to "U.S. News." Then, the category was narrowed

even further to “Minnesota News Sources” from the list of sources. Within the list of news sources for that state, the particular newspaper was selected. Next, the journalist’s name was entered as the search term for author. Last, the specific dates for the three months prior to the Boot Camp were entered. In this case, the date range was from “03/16/02” to “06/16/02.” The search returned 26 articles. The search was repeated to collect the articles written by the same journalist within three months after Boot Camp. For this search, the criteria remained the same except the timeframe ran from June 27 to Sept. 27, 2002. The search returned 15 articles.

Two searches were done for each participant to collect articles written before and after the training programs. The search engine listed each article that matched these criteria. Every story was then copied and pasted into a Microsoft Word document and saved (see Appendix A).

Articles were collected for eight out of the 12 Boot Campers using this search procedure in Lexis Nexis. Articles written by one participant were collected using a different search engine, ProQuest, because Lexis Nexis did not carry the specific publication in its database. Articles were not collected for three journalists, all free-lance writers, because their work is not available through either of the search engines mentioned.

Articles written by the CDC fellows were collected using the same search methods as for the Boot Campers. The Fellowship program began with the Boot Camp, so the three-month timeframe used to collect articles written before the participants started was the same. However the Fellowship program ran for four months, therefore the target date after the program was different than the Boot Camp. The search for articles written by the fellows after they concluded the program ran from Oct. 29, 2002 to Jan. 29, 2003. Again, the articles that matched the specified criteria for name, publication and date were listed. Those articles were copied and saved as Word documents.

Articles written by five of the six fellows were collected. Out of those five, articles by one of the participants were collected using ProQuest because the publication was not available in the Lexis Nexis database. Articles written by the sixth fellow are not available in the search engines. Again, this journalist is a free-lance writer.

Formatting Articles

Once the articles had all been saved as Word documents, they were recorded and reformatted. First, information from each article was entered into an Excel spreadsheet. The publication, headline, page number, and journalist's name were all recorded. Once this information was recorded, all of the identifying information was then deleted from the stories. None of this information was seen by coders, so they never knew whose articles they were coding, where the articles were published, or whether the articles were written before or after the training programs.

After the information was stripped off of the top of the article, it was replaced with a six-digit identification number. When the coders read the articles, the only identifying information was this number. The journalists were organized in alphabetical order and then assigned numbers in order. The first three digits indicated which participant had written the article. The 100s were for the Boot Campers and the 200s were used for the Fellows. Therefore, the numbers ran from 101 to 109 and 201 to 205. The last three digits signified the order of the articles written by a particular participant. The articles were organized in chronological order. For example, the ID number 101001 signifies the article was written by the first Boot Camper in alphabetical order and this is the first article written by that participant during the designated time period. The

number 203045 would indicate a Fellow wrote the article. It was written by the third Fellow alphabetically, and it was the 45th article written by this journalist during the time studied.

Once the articles were assigned an identification number, they were all formatted. The articles were formatted to have the same page margins, same font and type size. Each page had one-inch margins. The font was Times New Roman and the type was 12-point size. All blank lines were erased and paragraphs were indented (see Appendix B). After the articles had all been reformatted and entered into the spreadsheet, it was easy to identify duplicates. Duplicates were removed from the spreadsheet. For instance, the Associated Press often posts the same article several times throughout the course of a day. In these cases, if the stories were the same, the duplicates would be taken out of the spreadsheet.

Code Book

A coding booklet was developed to use with each article for this project (see Appendix C). Instructions and definitions were given to each coder. The coding sheets (see Appendix D) asked readers to answer questions in these main categories: type of article, sources, affiliation, attributions, statistics, research, CDC, topic, medical terms and health risk.

Independent Variable

Training programs generally aim to offer participants opportunities to improve their skills and acquire the knowledge necessary to adequately perform their jobs. Journalism training is no different in that it intends to educate participants about particular job skills and topics. The Knight programs at the CDC have the same goals, aimed specifically at health/medical coverage. The journalism programs at the CDC are used here as examples of mid-career training. The purpose of the training is to better equip reporters with the knowledge and understanding they

need to cover health and science related stories. The CDC's stated objectives for the training programs are to study epidemiology (dealing with the transmission and control of disease), public health, bio-statistics, outbreak investigations, conduct disease surveillance, and work with local or state health departments.

Dependent Variables

The dependent variables include (1) generation of original story ideas, (2) professional contacts, and (3) understanding of and comfort with using statistics. The first variable, measured by an increase in enterprise articles, was chosen to test the concept that the journalists were capable of developing more of their own story ideas following the training. The participants should have gained broader knowledge and a deeper understanding of the particular issues they cover. With this new understanding, it could be expected that they are better equipped and better able to generate new and different story ideas. They should have to rely less on routine news. As a way to measure these concepts, coders were first asked to note whether articles were news, feature, or column/opinion articles. The next question asks, more specifically, whether the article is a routine/breaking story or an enterprise story. An enterprise story was distinguished from the other choices by describing it in the coding booklet as a more in-depth look at an issue that goes further than covering the initial breaking story. Enterprise reporting was explained as the "reporter must have taken some initiative in developing the story idea. It is not something that is just happening."

The second variable, measured by an increase in expert sources, was chosen to test the expectation that journalists were able to develop reliable contacts and sources in their coverage area. Working alongside the experts in the health/medical field, participants could have become

more comfortable calling those people after the training. They could rely less on press releases and elected officials, and perhaps more on health experts, researchers, and doctors. Coders answered a series of questions about the sources used in the articles. The questions were designed to collect information on the jobs and affiliations of sources used throughout each article. The variables used for the data analysis in this study include: public relations, health experts/officials, health practitioners, CDC, government sources and affiliations, researchers, and reporters.

Public relations included people and written documents. Prepared statements, press releases, and spokespeople were counted in this category. Health experts/officials included all of the instances the exact terms health "experts" or "officials" were used as sources. Health practitioners included such sources as doctors, nurses, dentists, surgeons, nutritionists, and veterinarians. The CDC category was intended to catch all of the sources affiliated with the CDC. Government sources included officials on local, state and federal levels such as the president, governors, senators, and mayors. The government affiliation category was meant to catch all of the sources listed that worked for the government. Researchers and analysts were counted in a category together. The category for reports included studies and surveys.

The third variable, measured by an increase in reporting statistics, was chosen to test the idea that the journalists were more knowledgeable about statistics and, therefore, more comfortable using the numbers in health reporting. Again, with opportunity to learn about analyzing and reporting statistics and then given the chance to practice using statistics while at training, the reporters should feel more confident in their ability to use statistics in their reporting. Coders were asked to record the number of sentences per article that contained at least one statistic. A statistic is "used to identify the meaningful numerical answer obtained from

applying a descriptive measure to a sample of numbers" (Jacobson, 1976, p. 44). Simple counts or numbers were not included here. To be counted in this category, the reporter either needed to have performed a computation or have given the reader the pieces of data needed to compute a statistic.

Coders

Three individuals were paid to code the articles during May and June 2004. Those workers coded all of the articles for this part of the project. One was a graduate student, one had just earned a bachelor's degree, and one was an undergraduate student. All of the coders worked several hours a day at the James M. Cox Jr. Center for International Mass Communication Training and Research. Each coder worked a set schedule at the Center each week, but the schedules varied among coders.

All of the coders were trained in early May 2004. Due to different work and class schedules, one coder had to be trained the week before the other two coders. The others went through training together. All of the coders were given a copy of the coding booklet and a blank coding sheet. They were asked to carefully read through the rules and instructions. After each coder felt they had thoroughly read through the booklet, the coders and researcher had a meeting. The researcher went through each question on the coding sheet, emphasizing rules and explaining the more difficult questions. After the researcher reviewed the entire coding sheet and discussed the examples, coders could ask questions. Once the researcher and coders felt comfortable with the coding sheet and instructions, the coders were given articles to begin practicing. The researcher coded the same articles (see Table 1). Once all of the coders completed the articles, the researcher compared answers and marked any discrepancies. The

researcher then met with the coders again and they discussed any inconsistencies. The coders were then given another batch of articles to practice coding. Again, the researcher coded the same articles and repeated the process of going over any inconsistencies with the coders. The coders spent about 12 hours practicing. One coder, who did not have as much experience with research or content analysis, asked to practice again. That coder was given five more articles and the process was repeated to ensure that the coders and researcher felt comfortable before the research began.

The coders knew they were helping with a study focused on some sort of journalism training. However, they were not informed about the training program, the trainees, or the purpose of the study. All they knew was that they were assigned the task of reading mostly health-related articles and answering the questions on the coding sheet. They did not know anything about the research hypotheses.

Reliability Check

Intercoder reliability was tested among all three coders. After each of the coders had been trained and had been coding for at least a week, the process was halted. The coders were then asked to code articles strictly for reliability purposes for two days. The coders read about 15 percent of the articles that had already been coded and entered into the database. The articles for the reliability check were chosen through systematic random sampling. The researcher rolled a die, which landed on four, to get a starting point. Starting with the fourth article in the database, the researcher then pulled every 10^{th} article. The researcher then went through each article and counted which variables were represented. Ten more articles were pulled to account for variables that were either not covered or were not counted but once or twice in the initial sample. Each

coder was then given a copy of every article in the sample that she/he had not already coded. The data were entered into an Excel spreadsheet and a software program, Program for Reliability Assessment with Multiple Coders (PRAM) (see www.geocities.com/skymegsoftware), was used to calculate Holsti's Reliability. Holsti's method is equal to percent agreement between two coders. Both equations look at agreement on the precise value assigned to a given variable (Neuendorf, 2002, p. 149). The agreement among the coders on variables used for this thesis, ranged from .55 to .92 (see Table 2). All except two of the variables had a Holsti's coefficient of .80 or higher. However, the reliability for statistics fell to .74 and government affiliation was the lowest at .55.

The same procedure was followed to test intracoder reliability, but this time each coder coded articles she/he had already coded. Each person recoded 20 articles she/he had already coded earlier in the process. The data were used to compare each individual coder's reliability (see Table 3). The reliability generally fell in the 90-percent range, with some reaching as high as 100 percent and several falling as low as 63 percent. Again, government affiliation had the lowest reliability with all three coders getting 60- or 63-percent reliability. For coders 1 and 2 government affiliation was the only variable in which their intracoder reliability reached below 80 percent. However, coder 3 had two other variables—government officials and statistics—that fell to 79-percent and 74-percent agreement, respectively. All the other variables had reliability of 80 percent or higher.

Assigning articles

The coders worked different amounts of hours at the Center and worked at different paces. Therefore, the researcher needed to make sure that each coder always had enough articles

to keep busy. When the articles were printed, they were organized by journalists and in chronological order by the date of publication. The articles were then shuffled as a way to randomize the order of the articles before they were given to the coders. By mixing the articles, it ensured that one coder did not read all of the articles for one journalist. It also ensured that a coder did not read articles from just one of the time periods being studied.

Each group of articles written by each participant in the journalism training programs was divided into three piles, one for each coder. For example, the researcher took all of the articles written by Journalist A, which were initially in chronological order, and shuffled them. Then, the article on top was put in a pile, the second article was put in a different pile and then the third was put in yet another pile. The process started over with the fourth article, which was put in the pile with the first article. The fifth article was placed in the pile with the second article, and so on. The process was repeated until all of the articles written by Journalist A had been distributed into three piles. Once the articles were separated into three piles, one for each coder, they were shuffled again. When a pile was handed to a coder, the coder had articles written by different journalists during the different timeframes. The coders did not know when they were reading articles by different reporters or whether the articles were written before or after training. These steps were repeated for all of the articles.

After piles of articles had been selected for each coder, the numbers were entered into a simple spreadsheet to keep track of the coding and data entry. Each spreadsheet had a coder's name at the top and then listed every article assigned to that coder. There was a column for the coder to enter the date she/he completed coding the article. Then there was a column for the researcher to check after the data had been entered. Each day the coders came into work, picked up their packet of articles and began coding. At the end of their workday, the coders updated

their sheets by filling in the dates next to the articles they had completed. Then they put their completed coding sheets in a designated box and the articles into a separate box. The researcher then entered all of the data into SPSS.

Third Phase

The data collected by following the steps in the second phase were used for the purposes of this thesis. The third phase has been designed and will add more insight to this project in the end. For this next step, the same procedures will be followed using articles collected from a control group. A group of health/medical reporters, who worked at publications comparable to those where the Boot Campers and Fellows worked, was compiled to serve as a control. A list of journalists working at similar newspapers, magazines, radio stations, and wire services was used. News organizations similar in location and size to those where the participants worked were used to complete the control group. In some cases, the same organization in the 2002 participant group was used again for the control group, but articles from a different health reporter were collected. (For example, a reporter from the *Wall Street Journal* was one of the 2002 participants. A different health reporter from the *Wall Street Journal* was listed for the control group.) The *Editor and Publisher International Yearbook* was used to compare circulations. Once the organizations were chosen, health reporters were found by looking at staff listings on the web sites. When that approach still left a few spots empty for the control group, names were collected from journalism health associations, such as the Association of Health Care Journalists.

Once a control group similar in makeup to the participant group was compiled, articles were collected. The articles for the control group were collected in the same manner as the participant group. Names, dates, organizations were specified in the search engines. Then the

articles were copied into Word documents. Since the journalists in the control group did not attend training, there was no way to determine which end date should be used for the post-treatment articles. Therefore, articles published during all three timeframes used for the participant group were collected for the control. Articles written from March 16 to June 16, 2002, June 27 to Sept. 27, 2002, and from Oct. 29, 2002 to Jan. 29, 2003 were collected for each person in the control group. More than 1,100 articles written by these journalists have been collected.

Chapter 4

FINDINGS

A total of 917 articles were originally collected for this study. After removing duplicates, a total of 626 articles were coded (see Table 4). Of those articles, 320 of them were written before the journalists attended the training programs and 306 of the articles were written once the journalists returned to work after receiving the training. Of the total 626 articles, 441 of those were written by the journalists who attended the Boot Camp and the remaining 185 were written by the journalists who participated in the Fellowship program. The findings presented here are intended to answer each of the research questions stated earlier.

Enterprise Articles (RQ1: H1)

The first research question (RQ1) asked whether journalists would write an increased number of in-depth articles on their own initiative after training. The researcher hypothesized (H1) that the journalists would write more in-depth pieces that relied less on routine or breaking news events. The first question on the coding sheet asked the coders to categorize each article as 1) news, 2) feature, or 3) column/opinion. The next question asked whether the article was 1) routine/breaking news or 2) an enterprise story.

The number of enterprise stories actually dropped from before the journalists attended training to after they returned to work (see Table 5). The journalists wrote a total of 79, or 24.7 percent, articles that were categorized at "enterprise" stories before training. After the training, the journalists wrote 61, or 19.9 percent, articles that were categorized as "enterprise" stories. Analyzing the Z score, a significant relationship ($p<.05$) is not found with $z = 1.44 < 1.96$. The

percentage of articles categorized as "routine/breaking" news rose slightly from 74.1 percent before training to 79.4 percent after training. The percentage of enterprise stories written by Boot Campers and Fellows was the same. Twenty-two percent of the articles written by the Boot Campers and 22 percent of the articles written by the Fellows were categorized as "enterprise stories."

Sources (RQ2: H2)

The second research question (RQ2) asked whether the journalists would use different sources after attending the training programs. The researcher hypothesized (H2) that the sources used in the journalists' reporting would change after receiving training. Specifically, the researcher hypothesized that journalists would rely less on public relations after training. The coders were asked to count and record the different sources and their affiliations used throughout each story.

Public Relations

Using a one-way ANOVA, a means comparison was done on the articles written before training and those written after training. There was not a significant change in the number of times a public relations source was used in the coverage (see Table 6). Analyzing the t test, the relationship between the articles written before and after training is not significant ($p<.05$) with $t = 1.11 < 1.658$. The mean is 0.28 before training and 0.33 after training. There was a greater change among the articles written by the Boot Campers. The mean is 0.26 for the articles written before Boot Camp and the mean is 0.39 after training. However, the mean for the Fellows dropped. The articles written before training have a mean of 0.31, but the mean dropped to 0.2

after training. The correlation between the Boot Campers and Fellows is also insignificant ($p<.05$). The $t = 1.056$.

Health experts/officials

There was a significant change ($p<.05$) in the number of health experts and officials used throughout the articles (see Table 7). The t test = $4.5>1.658$. As expected, there was an increased number of health experts used in the stories written after the journalists attended training. The mean increased from 0.07 to 0.21. There was a greater increase between the groups of articles written by the Boot Campers. Of the total articles written by the Boot Campers, 8 percent of the articles written before training used health experts as sources while 27 percent of the articles written after training used health experts. There was a smaller change in the articles written by the Fellows. Of those articles, 3 percent of the articles written before training used health experts as sources. Six percent of the articles written after training used health experts. There is also a significant ($p<.05$) correlation between the group of articles written by the Boot Campers and the articles written by the Fellows, with $t = 3.655$.

Health practitioners

The number of health practitioners (doctors, surgeons, nurses, etc.) used in the health coverage had a significant change ($p<.05$), but in the opposite direction as expected (see Table 8). The number of times these sources were used in stories dropped from the before articles to the after articles. The mean is 0.38 for the articles written before training, and it dropped to 0.22 for the articles written after training. The $t = 2.51>1.658$. The difference between groups of articles written by Boot Campers as compared to the Fellows is similar. The Boot Campers started with a mean of 0.37 before training and it dropped to 0.21 after training. The mean for the

articles written by the Fellows before training is 0.41, and it dropped to 0.24. There is not a significant ($p<.05$) correlation between the Boot Campers and the Fellows, with $t = .523$.

CDC

There was a significant increase ($p<.05$) in the number of sources affiliated with the CDC who were used in the articles (see Table 9). The mean for the number of sources affiliated with the CDC used in the stories jumped from 0.08 in the before articles to 0.25 in the articles written after training. Analyzing the means, $t = 5.59>1.658$. The articles written by the Boot Campers had the largest change. The mean went from 0.09 before training to 0.39 after training. Articles written by the Fellows also saw a significant increase, but not as large as the Boot Campers. The mean went from 0.06 before training to 0.26 after training. However, the difference between the Boot Campers and the Fellows is not significant ($p<.05$), the $t = 1.415$.

Government

Government sources were categorized in two ways. In the list of sources, coders were asked to record the number of times a government official such as a mayor, senator, or city councilman was used as a source in a story. The coders were later asked to count and record the number of sources who were affiliated with the government.

There was a significant ($p<.05$) decrease in the total number government officials who were used as sources in the articles (see Table 10). Before the training, government officials were used a mean of 0.61. That number dropped to 0.39 following the training. The $t = 2.77>1.658$. The articles written by the Boot Campers followed the same pattern, with the mean dropping from 0.82 to 0.43. However, the number of government officials used as sources in the articles written by the Fellows actually increased after training. The mean went from 0.15 before

training to 0.28 after training. The difference between the Boot Campers and the Fellows is significant, the t = 4.865.

There was not a significant change ($p<.05$) in the number of sources affiliated with the government (see Table 11). These tallies were different than the numbers in the source list because a source could have been listed under researcher or public relations but have been affiliated with the government. For example, if a spokesperson for a senator was used as a source, the person would have been counted in the public relations category under the source list and then counted in the government category under the affiliation list. Therefore, as this example illustrates, the numbers for the government officials and government affiliations differed. The mean for the number of sources affiliated with the government is 1.6 for the articles written before training. The mean is 1.56 for the articles written after training. The $t = .27<1.658$. The articles written by the Boot Campers and Fellows followed a similar pattern as the one illustrated by the total number of before and after articles, and that difference is significant. The $t = 3.906 > 1.658$. However, this variable had a low reliability. Holsti's coefficient for this variable fell to .55. The reliability needs to be kept in mind when discussing the findings here.

Researcher

There was a slight decrease in the mean number of researchers and analysts used as sources (see Table 12), however the change is not significant ($p<.05$). The t-test equals 1.35. Of the total number of articles written before training, the mean is 0.13. The mean dropped to 0.09 for the articles written after training. There was a similar change when the articles were divided depending on whether they were written by Boot Campers and Fellows, however that difference is not significant. The $t = .131<1.658$.

Reports

There was a significant ($p<.05$) decrease in the use of reports as sources (see Table 13). The $t = 2.35>1.658$. There was a significant drop in the number of times reports were used in articles after the journalists received training, and the change was most pronounced in the group of articles written by the Boot Campers. The mean is 0.34 for the articles written by the Boot Campers before training. The mean dropped to 0.2 after training. The mean is 0.37 for the articles written by the Fellows before training, and the mean dropped to 0.3 after training. However, the differences between the Boot Campers and the Fellows is insignificant, the $t= .099$.

Statistics and Research (RQ3: H3)

The third question (RQ3) asked whether the journalists would use more statistics in their articles after the training. The researcher hypothesized (H3) that the journalists would use more statistics and research findings in their reporting. The journalists were taught how to use and report statistics as part of the CDC training. This hypothesis is based on the research that suggests that people feel more confident in performing their work and feel they have greater knowledge after attending training (Britton, et. al., 1999).

Statistics

Statistics was another variable that had a low reliability coefficient. The reliability fell to .74 for this variable, which needs to be remembered when considering these findings. There was a decrease in the use of statistics (see Table 14), but the change is not significant ($p<.05$). The use of statistics was counted by how many sentences contained statistics. The $t = 1.08<1.658$. The mean number of sentences with statistics dropped from 1.70 to 1.46. The mean number of sentences with statistics in stories written by the Boot Campers dropped from 1.57 before

training to 1.31 after training. The mean number of sentences with statistics in stories written by the Fellows dropped from 1.99 before training to 1.84 after training. These differences in Boot Campers and Fellows is significant, the t = .929.

Research findings

The number of articles that reported research findings dropped from before the journalists attended training to after they returned to work (see Table 15). The journalists wrote a total of 109 articles, or 34.1 percent, that did report research findings before training. After the training, the journalists wrote 70 articles, or 22.9 percent, that reported research finding. Analyzing the Z score, the difference is significant ($p<.05$) because $z = 3.10>1.96$. The difference between the Boot Campers and the Fellows is also significant. The t = 2.272.

Chapter 5

DISCUSSION

The purpose of this study was to explore whether training has an impact on journalists' work product. The training programs used in this study—two components held at the CDC for health/medical reporting—were chosen as exemplars of training programs. The results here are mixed and the hypotheses were generally not supported. As discussed in the previous chapter, the training did have a significant impact on some elements of the articles written after the journalists attended the training programs. However, the training did not have a significant impact on other variables, and, in some cases, the changes observed were in the opposite direction of what was expected. The chart below summarizes the findings of this study:

HYPOTHESES	RESULTS
H1: Journalists will write more in-depth articles that do not rely as heavily on routine or breaking news events.	**NOT SUPPORTED**
H2: The sources journalists will use in their reporting will change after attending the training programs.	**MIXED RESULTS**
Public Relations	**No**
Health experts/officials	**Yes**
Health practitioners	**No**
CDC	**Yes**
Government (sources)	**No**
Government (affiliation)	**No**
Researcher	**No**
Reports	**No**
H3: Journalists will use more statistics in their reporting.	**NOT SUPPORTED**

It is possible there is a mistake in concluding there is no difference in most of these variables when there actually were differences before and after training. One reason more

differences were not shown could be because the coding sheet is not a perfect measurement. The definitions used in the coding booklet directly affect the question of validity (Wimmer and Dominick). Some of the terms could be ambiguous, but the purpose of the booklet is to give the coders concrete definitions. The coders were not to use preconceived ideas. They were to strictly follow what was explicitly laid out in the booklet. To minimize instances when there could be overlap in categories, the coders were instructed to code based on the first information given in the story as a way to ensure consistency. For instance, if a source had two occupations, the booklet instructs coders to count the first job given in the story.

Some of the hypotheses were not supported because there was not a statistically significant difference from before training to after training. However, in many of these instances the data show there is simply little difference or the change is flat. These differences that often went in the expected direction but were too small to be significant could be attributed to error in coding. The nature of the coding made reliability difficult. The coders may have had some background in mass media, but they were not trained as journalists. It took some time for them to become comfortable with the terms (i.e. routine news versus enterprise news, news story versus feature story, sources, attributions) on the coding sheet. It was also a challenge to get exactly the same count for some variables, such as the total number of sources. Oftentimes the coders would be within one number of matching the others, but it was difficult to get all three coders to match perfectly all of the time. Whatever the reason for the low reliability, it needs to be pointed out that reliability for several of the variables is below an acceptable level. The argument could be made that those variables should be thrown out because of low reliability. In fact, the low reliability could work in favor of the researcher's hypotheses. Perhaps the variables with low reliability, such as statistics and sources affiliated with the government, would actually have

supported the hypotheses had the reliability been higher. The unreliability provides a picture that is less conclusive.

There were significant increases in the number of times health experts and sources affiliated with the CDC were used in the articles written after the training. This was expected. The journalists who participated in the training programs were exposed to these sources and worked alongside health and CDC experts. The reporters likely felt more comfortable contacting these people for health stories after working with them during training.

There was not a significant increase in the number of enterprise stories following training. The researcher hypothesized (H1) that the journalists would develop more stories on their own initiative rather than rely as heavily on routine news following training. But there were no significant changes observed. The numbers of stories written before training and after training were similar. Even when broken down between articles written by Boot Campers and Fellows, the totals are comparable before and after training.

The researcher expected the journalists to have written more enterprise articles during the time studied after training. But, three months may not have been enough time. There are a number of factors that go into the daily construction of a newspaper, magazine or radio show that could have affected this finding. Enterprise pieces can easily take months to develop and get ready for print. It is realistic to think that the journalists may have gotten new story ideas at training but that they did not have enough time to develop those ideas into stories and have them printed or aired within three months after returning to work. Enterprise stories also tend to be longer than routine stories. It is possible that breaking news or routine news stories were the priority during the three months studied here, and therefore there was little room left for enterprise stories. Time and space constraints could very well have impacted the results.

Some of the variables involving the number of times certain sources were used showed no significant changes. Again, error in coding could be a potential reason. The number of times public relations (people or written documents) and researchers/analysts were used in stories both showed no significant changes. The researcher hypothesized (H2) that the use of public relations sources would actually decrease. As the reporters become more comfortable covering health and medical issues, they should have to rely less on spokespeople or released statements. The more reporters can develop their own story ideas and go directly to the sources, the less they need public relations. However these results may show just how entrenched and intertwined the public relations industry may have become with the daily news construction process. Oftentimes in breaking and daily news situations reporters can only get in touch with PR people and thus have to solely rely on them. It may have been better to examine the number of PR sources used in enterprise stories, which reporters have more time to work on, in order to better grasp if the training had an affect. In the case of health practitioners (doctors, surgeons, nurses, etc.), government officials and reports, there was a significant change but in the opposite direction of what was expected. In these cases, the number of times these types of sources were used actually declined.

The researcher hypothesized (H3) that there would be an increase in the use of statistics. A statistic was defined as a product of manipulation of the data. A statistical measure is a way of summarizing or organizing data. A computation had to be done to calculate a statistic and, therefore, basic figures and numbers did not count here. The journalists took courses in statistics during the CDC training programs. Therefore, the researcher thought a gain in knowledge and subsequent comfort using the material might be illustrated by an increase in reporting statistics

and research findings. However, there was not a significant increase in the number of sentences per article that contained at least one statistic.

The lack of a significant change could have been caused by the fact that there were three stories in the group of articles written before training that each had 28 to 30 sentences containing statistics. Overall, the number of sentences containing statistics ranged from 0 to 30 with a mean of 1.58. There were several articles with a high number of sentences with statistics in the before articles, but there was not a single article with that many sentences containing statistics in the articles written after training. The group of articles written after training had one article with 17 sentences containing at least one statistic, but that was the maximum for that group. There was another article with 16 sentences containing statistics and one article with 11. Other than those three articles, all of the articles written after training had 10 or less sentences with statistics. If those three articles with high frequencies of sentences with statistics written before training were considered outliers and thrown out of the calculations, then there actually was an increase in the mean number of sentences containing statistics. Without those outliers, the articles written before training had a mean of 1.43, which is slightly lower than the mean of 1.46 for the articles written after training. It is a small difference, but in the expected direction.

A control group would help prove whether the explanations offered above would hold. Any changes in the articles written by a control group of journalists could be compared to the findings here. Such a comparison could have several outcomes. Analysis of the control group could help support the hypotheses of this study. If the control group does not show significant differences for those same variables as in this study, then it would support the claim that training did in fact have some impact on the quality of sources used in the articles written once the journalists returned to work. Or, the control group could at least help support the explanations

offered in this discussion. If, for example, there is also a decrease in the number of enterprise stories written during the later time period for the control group, it could indicate that there was breaking news filling the papers and airways, thus making less room for enterprise stories. Or, if the findings from the control group are similar to the participant group, they could support the theory that the day-to-day construction of the news is so routine that training does not really matter. If data from the control group show significant changes not observed here, it could mean training has no impact on journalists' work product, or it could mean the reliability did have a negative effect on this study. The results from a control group might support the claims in this thesis. It is difficult to know what was happening during the time the articles were collected for this study. The researcher cannot say for sure why the number of stories identified as enterprise pieces dropped or why there was not a significant increase in the use of statistics. A control group would be an important addition to this research and would give a fuller picture of what was happening in journalism during the time studied.

If these findings do hold true in repeated studies or with a control group, then the data are at odds with what the journalists said during interviews in the first phase of this project. All of the journalists whose articles were used for this study had been interviewed about their experiences at the training programs. Becker, Vlad, Mace, and Apperson (2004) found the journalists' feedback to be positive overall. The participants said they gained knowledge on health topics, developed contacts and working relationships, and returned to work with new story ideas. The evidence from the interviews suggested the journalists felt the program had "an impact on the participants, on their newsrooms, and on the quality of health reporting" (p. 14). However, the data presented in this thesis for the most part contradict what the participants said

during those interviews. The data, taken on face value, provide little evidence to support the participants' claims.

There are several reasons the data presented here contradict what was discovered from the interviews. First, the journalists could have just been saying what they thought was the "right" answer. They had taken time off of work to go to the training program. It would have been difficult for them to return to work and say it had been a waste of time. Second, it is reasonable to assume the training did in fact make an impact on the journalists but the changes just do not show up in this coding project. It is possible the content analysis did not measure the real impact of the training. Third, assuming the findings here are correct, the participants could have been wrong and the training did not have the impact they thought. Or, at least, the training did not have the impact on the news articles themselves.

The findings indicate the training generally did not have an impact on the news stories. There are a few explanations for why the articles are no different after training. Reporters who have been in the field for quite a while are less likely to change their work habits. These are the reporters accepted into this particular training program. The CDC limits the program because it requires reporters have at least 5 years experience and prefers they have a background in covering science or health/medicine. By having these acceptance guidelines, the training programs are ensured to attract the older, more experienced journalists. Organizations such as the Associated Press and Wall Street Journal generally have more experienced news staff and, therefore, could be less open to changing their journalistic styles. Basically, it seems the program is seeking the wrong participants if the CDC and Knight Foundation are seeking greater changes in how reporters cover health/medical issues. It might not be only the people involved in the process, but the process itself that does not foster change. The day-to-day routine of journalism

and the work environment can prevent creativity and filter out any possible changes on news articles caused by the training.

News construction says that journalism is a routine practice. Reporters follow a daily pattern. Regardless of what journalists may learn at training, it is possible for the routine to continue and not be affected by outside factors such as training. For example, according to the results, a reporter who has medical expertise would construct a story similar to a reporter who had no medical training. In that case, midcareer training would have little or no impact on the construction of the daily news product. The results of this study support that idea.

Is it possible that just about anyone could follow the daily pattern of constructing a news piece? Is journalism just like an assembly line that goes through the same motions and grinds out the same product day after day? Or is it possible that such factors as training could help journalists change their habits and ultimately influence the journalism industry? These are all questions that people in journalism should consider. The issues raised here show why research in this area is important to the profession.

The argument can be made that the field of journalism is largely comprised of the same type of people with similar backgrounds. The lack of variations about the demographics of reporters and editors narrows the views and perspectives of those in the business and, consequently, those represented in the news. Day after day these same people go through the steps of putting together a newspaper or a radio show. The editors have the same meetings at the same time and make similar decisions. The reporters do their daily jobs of interviewing, researching, and writing. At the end of the day, they construct a story that may be on a different topic than the previous day but it was put together in the same manner. It goes to the same editor who made similar decisions the previous day. And so the beat goes on.

But, is it really that routine? Does news basically come from a cookie cutter-like system? Is it that insulated from outside influences? The argument can be made the field of journalism is indeed changing. People from different backgrounds with a variety of degrees and interests are entering the field. For instance, there are an increasing number of women entering the profession. These people may add a variety of perspectives and voices to the news. The reporters might interview different people, and editors might choose to put topics other than business and politics on the front pages. Outside influences such as training could cause these people to think differently and ultimately change the daily routine. Take for example a reporter who attended the Fellowship program. The reporter was exposed to CDC officials and other health experts. They learned firsthand how the Centers and local health departments operate. When the reporter returned to work and sat down to write a health-related article, she/he may have thought differently about the story and contacted different sources than she/he would have before the training. The question is whether those changes in the reporter's thinking and job skills would have been reflected in the written story. Or, is the system so standardized that those changes were washed out in the editing process before the article ever made it to the public? The data in this study say there were not many changes that altered the news article after training, but the participants said in their interviews that the training did have an impact on their jobs. This struggle demonstrates why continued research on this topic is important to the journalism field.

Implications

If this study were repeated or supported by further research, it could have major ramifications for the journalism field. Studies within the field have shown repeatedly that journalists ask for more and more training. The lack of training has been cited as a major source

of job dissatisfaction (*Newsroom Training*, 2002, p. 9). In response to these complaints, companies began pouring millions of dollars into training programs. But what happens if they find out the programs are not working or at least are not having the intended impact?

This study explored the difference in articles written before and after training. In some instances, the impact on the work product was different depending on whether the journalists attended the Boot Camp or Fellowship. Journalists already have difficulty getting time off of work to attend training. If the Fellowship program does not show a more significant change, it could become more difficult for reporters to justify leaving work for extended periods to attend training programs. On the other side, if the Fellowship does have a greater impact on the journalists' reporting then it would perhaps make it easier for them to justify leaving work for several months for training. Journalists, companies, and sponsors of training programs all have vested interests in this type of research. The findings could have major implications on how they think about training and who they target.

Limitations

The research design did serve its purpose for this study, but there were some limitations and weaknesses. Overall, this study demonstrates that training may not have the expected impact on health coverage. But this study is a snapshot made by only a few variables. These variables were chosen to see whether the training had an impact on the construction of the work product in several key areas. But the entire coding project consisted of other important sections on the CDC, health topics, health risks, and the use of scientific and medical terms. Information that could be run by Microsoft Word was also collected and recorded before the coding began. This data includes the length of each article, number of words, number of sentences and lines,

readability, and reading grade level. Conclusions can be drawn from this data without the same concerns for reliability since a computer calculated it rather than a person. Analysis of these variables will give a fuller picture of the training effectiveness.

One disadvantage of the pre-test, post-test design is the lack of causality. This thesis cannot say for certain any observed effects on the work product were in fact caused by the independent variable (training). There is a possibility that the same changes would have occurred even if the journalists did not attend the training. The changes could have been caused by the passage of time. The journalists' continued work experience and the knowledge they gained on the job could have caused the differences. For example, the journalists may learn more on the job in the passing of four months regardless of whether they went to training. This flaw cannot be fixed until a control group is tested.

Content analyzing the news articles caused several weaknesses. Since the unit of analysis is a news story, the thesis can only study the recorded information. Therefore, the thesis cannot tell anymore about the social behaviors or attitudes in the process. It can rely only on the information pulled from the printed copies of news articles. It cannot assume what the reporter was thinking or what circumstances surrounded reporting the story on that particular day. Because the assessment was done using content analysis, it is easier to measure the manifest meaning rather than latent meaning. If all of the questions involved counting visible content, then it is easier to have reliability and also validity. However, the manifest meaning tends not to be as important as the latent, or underlying, meaning. But, it is difficult to measure the underlying meaning reliably and validly.

Future Research

As mentioned in Chapter 3, the next phase of this project has already been designed. The study will be repeated with a constructed control group of journalists who did not attend any training programs during the designated time. The importance of this additional research has already been discussed. It is unknown whether a control group would support the hypotheses here, but it would certainly strengthen the case for whatever the data from that group indicate.

One of the major pieces missing in this research is an assessment of the accuracy of the health reporting. As Voss (2002) suggested, inaccurate health coverage can be a threat to the public. The coders who worked on this project were not trained in health reporting and, therefore, could not decipher what was factual and reliable information. It would be an important next step in the research process to focus on the accuracy of the articles after training compared to the accuracy of the health coverage before the journalists attended the training programs. The changes in the use of sources and statistics are not as important if the articles are not accurate in the first place. Accuracy is of the utmost importance in journalism, and the lack of accuracy could make the other variables seem less important.

As this study shows, there are numerous additions that future research could make to the early study of this topic. Midcareer training—its impacts or lack thereof—needs more attention in the mass communication field. It is an area that is critically important to journalism—for the journalists, companies, and the entire profession.

REFERENCES

Becker, L.B., Vlad, T., Mace, N.R., Apperson, M. (2004, July). *Midcareer training of journalists: Evaluating its impact on journalistic work*. Paper presented to the Professional Education Section of the International Association for Media and Communication Research, Brazil.

Britton, P.J., Rak, C.F., Clmini, K.T., Shepherd, J.B. (1999). HIV/AIDS education for counselors: Efficacy of training. *Counselor Education & Supervision*, 39 (1), 53-66.

CDC Foundation. (2004). *Knight public health journalism fellowships & boot camp*. Retrieved 1/14/2004 from http://www.cdcfoundation.org

Detjen, J., Fico, F., Li, Xigen, L. and Kim, Y. (2000). Changing work environment of environmental reporters. *Newspaper Research Journal*, 21 (1), 2-12.

Downie, L., Jr. and Kaiser, R.G. (2002). *The News About The News*. New York: Alfred A. Knopf.

Haccoun, R.R. Hamtiaux, T. (1994). Optimizing knowledge tests for inferring learning acquisition levels in single group training evaluation designs: The internal referencing strategy. *Personnel Psychology*, 47 (3), 593-605.

Hart, J. (1990). The Classroom & the Newsroom: Missed opportunities for journalism education. *Newspaper Research Journal*, 11 (4), 38-50.

Jacobson, P.E., Jr. (1976). *Introduction to Statistical Measures*. Illinois: The Dryden Press.

JournalismTraining.org. (2004). *Training provider directory*. Retrieved 6/3/2004 from http://www. journalismtraining.org

Lam, D.H., Kuipers, L. and Leff, J.P. (1993). Family work with patients suffering from schizophrenia: the impact of training on psychiatric nurses' attitude and knowledge. *Journal of Advanced Nursing*, 18, 233-237.

Liebeskind, K. (2000). The helping hands of journalism. *Editor & Publisher*, 133 (50), 26-27.

McQuail, D. (2000). *McQuail's Mass Communication Theory*. London: SAGE Publications.

Neuendorf, K.A. (2002). *The Content Analysis Guidebook*. London: SAGE Publications.

Newsroom Training: Where's the Investment? (2002). Council of President of National Journalism Organizations and the John S. and James L. Knight Foundation.

Newton, E. (1993). The training gap. In Brian J. Buchanan (Ed.), *No train, no gain: Continuing training for newspaper journalists in the 1990s* (pp. 1-16). Final report of key findings from a 1992-1993 survey of American newspaper journalists by the Freedom Forum.

No train, no gain: Continuing training for newspaper journalists in the 1990s. (1993). Final Report of Key Findings from a 1992-1993 Survey of American Newspaper Journalists by The Freedom Forum.

O'Donovan, A., Dawe, S. (2002). Evaluating training effectiveness in psychotherapy: lessons for the AOD field. *Drug & Alcohol Review*, 21 (3), 239-246.

Ramsey, D. (1990). Educating professional journalists: Their wants & needs. *Newspaper Research Journal*, 11 (4), 72-79.

Russ-Mohl, S. (1993). "…Entitled to one more year in academia": Mid-Career programs and continuing education in journalism—changes of the 1990s. In Stephan Buchloh and Stephan Russ-Mohl (Eds.), *Securing Quality: European and American Perspectives of Continuing Educating in Journalism* (pp. 8-20). Berlin: Freie Universitat Berlin.

Salas, E., and Cannon-Bowers, J.A. (2001). The science of training: A decade of progress. *Annu. Rev. Psychol*, 52, 471-499.

Schudson, M. (2003). *The Sociology of News*. New York: W.W. Norton & Company.

Strupp, J. (1999). From the newsroom to the classroom. *Editor & Publisher*, 132 (25), 34-41.

Voss, M. (2003). Why reporters and editors get health coverage wrong. *Nieman Reports*, 57 (1), 46.

Voss, M. (2002). Checking the pulse: Midwestern reporters' opinion on their ability to report health care news. *American Journal of Public Health*, 92 (7), 1158-1160.

Wilkinson, S.M., Gambles, M., and Roberts, A. (2002). The essence of cancer care: the impact of training on nurses' ability to communicate effectively. *Journal of Advanced Nursing*, 40 (6), 731-739.

Wimmer, R.D., and Dominick, J.R. (2003). *Mass Media Research*. United States: Thomson/Wadsworth.

Winter, W.L. (1993). A view across the Atlantic—Programs in the USA. In Stephan Buchloh and Stephan Russ-Mohl (Eds.), *Securing Quality: European and American Perspectives of Continuing Educating in Journalism* (pp. 149-166). Berlin: Freie Universitat Berlin.

Appendix A

ORIGINAL STORY COPIED FROM LEXIS NEXIS

Arkansas Democrat-Gazette (Little Rock, AR)

August 16, 2002, Friday

SECTION: NEWS; Pg. B2

LENGTH: 412 words

HEADLINE: 10 more birds test positive for virus

BYLINE: DANIEL YEE, ARKANSAS DEMOCRAT-GAZETTE

BODY:
Ten more birds have been found to have the West Nile virus, state health officials said Thursday.
A total of 119 birds and two horses in 28 counties have tested positive for the mosquito-borne virus. Crittenden County, where 19 dead birds have tested positive, remains the county with the highest number of West Nile virus cases. Pulaski County follows with 14.
Arkansas does not have any confirmed human cases of the virus, although two people in Arkansas County are suspected of having it, and samples from them are being reviewed at federal laboratories. The state Department of Health is screening samples from 16 other people.
Elsewhere, more than 150 people have been reported infected in eight states, including Louisiana, Mississippi and Texas. Seven people have died from the virus in Louisiana and two in Mississippi.
Experts expect the virus to continue to spread. This year, infected birds have been found in 37 states.
"It's quite clear that we expect the virus will, in fact, go coast to coast. It's just a matter of time," said Dr. Lyle Petersen, an infectious disease expert with the federal Centers for Disease Control and Prevention in Atlanta.
West Nile virus is transmitted by mosquitoes that bite humans or animals after feeding on infected birds.
Most infected people don't become ill. One in five people infected will develop "West Nile fever," a mild flulike illness that lasts only a few days. Symptoms typically show up within 14 days after a mosquito bite.
The symptoms include fever, muscle and joint aches, listlessness and, in the most severe cases, headaches that lead to encephalitis, which is swelling of the brain.
Only about 1 in 150 people develop serious symptoms, such as encephalitis.
Health officials worry about the elderly and people with weak immune systems because they have the highest risk of developing serious symptoms or dying from the virus.
The key, health officials say, is for people not to panic and to take precautions like using insect repellent, wearing long-sleeved clothes when outside and emptying containers of standing water where mosquitoes can breed.
"Personal protection people may look at that as maybe too simplistic, but it's never good to be

bit by a mosquito," said Dr. Anthony Marfin, medical epidemiologist for the CDC's division of vector-borne infectious diseases. "Reducing your exposure [to mosquitoes] reduces your risk of developing mosquito-borne illness."

LOAD-DATE: August 16, 2002

Appendix B

FORMATTED ARTICLE WITH IDENTIFICATION NUMBER

ID: 109107

Ten more birds have been found to have the West Nile virus, state health officials said Thursday.

A total of 119 birds and two horses in 28 counties have tested positive for the mosquito-borne virus. Crittenden County, where 19 dead birds have tested positive, remains the county with the highest number of West Nile virus cases. Pulaski County follows with 14.

Arkansas does not have any confirmed human cases of the virus, although two people in Arkansas County are suspected of having it, and samples from them are being reviewed at federal laboratories. The state Department of Health is screening samples from 16 other people.

Elsewhere, more than 150 people have been reported infected in eight states, including Louisiana, Mississippi and Texas. Seven people have died from the virus in Louisiana and two in Mississippi.

Experts expect the virus to continue to spread. This year, infected birds have been found in 37 states.

"It's quite clear that we expect the virus will, in fact, go coast to coast. It's just a matter of time," said Dr. Lyle Petersen, an infectious disease expert with the federal Centers for Disease Control and Prevention in Atlanta.

West Nile virus is transmitted by mosquitoes that bite humans or animals after feeding on infected birds.

Most infected people don't become ill. One in five people infected will develop "West Nile fever," a mild flulike illness that lasts only a few days. Symptoms typically show up within 14 days after a mosquito bite.

The symptoms include fever, muscle and joint aches, listlessness and, in the most severe cases, headaches that lead to encephalitis, which is swelling of the brain.

Only about 1 in 150 people develop serious symptoms, such as encephalitis.

Health officials worry about the elderly and people with weak immune systems because they have the highest risk of developing serious symptoms or dying from the virus.

The key, health officials say, is for people not to panic and to take precautions like using insect repellent, wearing long-sleeved clothes when outside and emptying containers of standing water where mosquitoes can breed.

"Personal protection people may look at that as maybe too simplistic, but it's never good to be bit by a mosquito," said Dr. Anthony Marfin, medical epidemiologist for the CDC's division of vector-borne infectious diseases. "Reducing your exposure [to mosquitoes] reduces your risk of developing mosquito-borne illness."

Appendix C

CODING BOOKLET

Content Analysis of Newspaper Articles

ID Number
Write the six-digit identification number that appears at the top of the article.

1. Categorize each article
For each article, mark the category that you think best describes that story. Mark only one category for each article.

A *news story* includes stories of a timely nature about events or conflicts that have just happened or are about to happen. Usually a hard news story gives a basic account of what happened, why, and how it affects readers.

A *feature story* is also called "soft news." These stories usually entertain or inform. They typically have less immediacy than hard news and tend to focus more on human interest.

A *column or opinion* piece gives the writer's personal opinion. These pieces are almost always written in first person.

2. Is the article a routine/breaking news story or an enterprise story?
For all news and feature articles, mark the category that best describes each story. Mark only one answer.

If you marked that the article is a column or opinion piece in Question 1, then mark "does not apply" for this question.

Routine/breaking news is coverage of events or conflicts that have just happened. Fires, meetings, and speeches are examples of routine/breaking news. If an article tells that a new study was just released or says someone announced that they are resigning, it is routine/breaking news. These stories are basically an account of what happened and why.

Here are several examples of leads on routine/breaking news stories:

- "The family of a Warrensville Heights woman who died after being fed an apparent overdose of an over-the-counter dietary supplement during a clinical trial has sued University Hospitals and its academic partner, Case Western Reserve University."

- "In the first legal challenge to federally funded programs that teach sexual abstinence, the American Civil Liberties Union plans to file suit today against the state of Louisiana for allegedly using tax dollars to promote religion."

- "Doctors could disclose patient information without written permission and parents would get more access to their children's records under medical privacy rules announced Thursday by the government."

In these examples, an action is happening or is about to happen—family has sued, ACLU plans to file suit today, the government announced medical privacy rules. The reporter is covering what is unfolding and explaining why.

An *enterprise article* is the result of a reporter doing a more in-depth article further than covering the initial resignation announcement, fire, or speech. Rather than covering a story as it unfolds, a reporter must develop his/her own ideas to develop an enterprise article. The reporter must have taken some initiative in developing the story idea. It is not something that is just happening.

Here are several examples of leads on enterprise news stories:

- "There's a nasty little secret about space shuttle travel: Upon astronauts' return to Earth, few can deplane on their own power. The reason is because an astronaut must adjust from Earth's gravity to zero gravity and back again. Zero gravity causes all kinds of problems on the human body."

- "It took 39 years for someone to tell Suzi Robinson of Fayetteville that she had a major health problem: she had a hole in her heart. Robinson, a third-grade teacher at Washington Elementary School, likely was born with the heart problem—called an atrial septal defect—but it was never diagnosed."

- "Since the day Agnes Duckett was diagnosed with a rare brain disorder similar to Alzheimer's, her husband, Don, was determined to care for her himself. But when Agnes, 65, lost her ability to speak last year, Don was suddenly confronted with the awesome challenge of finding a nursing home for his wife of 48 years."

Unlike the routine/breaking news stories, these leads do not focus on something that is immediately unfolding. It is likely that the reporters thought of these ideas and took the initiative to develop these stories, rather than relying on a recent action (announcement, lawsuit, etc.).

3. Count and record the number of sources that fall into each category.
A *source* is any person, document, or other thing that provides information. For each article, count the number of sources.

For each source, you will need to make a note of the occupation *and* affiliation.

For example: "…a spokeswoman for the St. Louis City Health Department said."
Here, the person is a spokeswoman so it would be counted as the type of source in Question 3.
The health department would be counted separately as an affiliation in Question 4.

* Whenever possible, each source should be counted in the list in Question 3 and in the list in Question 5. Question 3 will not always equal Question 5, because sometimes a source's job and affiliation are not both identified.

Examples

- "The Illinois Department of Public Health said…" [This is a specific affiliation. However, the job/position is not mentioned, so it would be counted in the "unspecified source" category.]
- "Health officials Tuesday reported…" [this would be counted in the type of sources list only]

First, put each source into a category from the list of different types of sources. Each source should be put into only ONE of these categories, even if the source is used or quoted multiple times throughout the article. If the person has two jobs/positions, list only the job that is mentioned first in the story.

Here are examples for each of the categories listed:

Expert

- If the person is referred to as a health "expert" or health "official"

Patient/victim

- Bill Wilmer was diagnosed with diabetes 10 years ago

Academic (professor, teacher, dean)

- Dr. Marcia Apperson, who teaches journalism at James Madison University
- Dean John Soloski

Researcher/analyst

- Researcher Douglas Kirby
- Dr. Alexander Arrow, a medical technology analyst

Health practitioner (doctor, dentist, nurse, etc.)

- Dallas physician Hal Wallis
- Dr. George Badley, a veterinarian in Little Rock
- Doctor, nurse, dentist, nutritionist, surgeon, etc.

Business titles (CEO, vice president, owner, director, etc.)

DOES NOT necessarily have to work for a corporation, but has a title such as "director" or "administrator"

- Catherine Weiss, director of the an ACLU project
- Larry Minnix, president and chief executive officer of the American Association of Homes and Services for the Aging

Government official (governor, senator, mayor, etc.)

- President George W. Bush
- Gov. Sonny Perdue

Public Relations (human and written sources)

- Prepared statement
- Press release
- "It doesn't change anything for us," Robert Alvey, spokesman for the Arkansas Dept. of Health, said of the additional cases.

Letter/e-mail/memo

- "…according to e-mails sent to the company by CDC officials."

Report/study

- "As many as 400,000 Arkansans lack health insurance, according to a study…"
- "According to a 1998 survey…"
- "…a federal report released Thursday…"
- "The Institute of Medicine's report in late 2000 concluded…"

Journal

- Circulation, the journal of the American Heart Association

Newspaper/news outlet

- New York Times
- Associated Press

Web site

- Mydoc.com

Legal document

- Lawsuit (affiliation is the person/organization/etc. filing the suit)
- Filed complaint (affiliation is who filed the compliant)
- Law, statute, legal code (affiliation is the government)

Other—related to health: Any other source that does not fit into one of the categories above but is somehow related to health. SPECIFY answers by writing in the source's occupation.

Other—unrelated to health: Any source that does not fit into one of the categories above and is not related in any way to health. SPECIFY answers by writing in the source's occupation.

Unspecified source: Any source that is used in the article but a specific job or position is not identified. This category should catch the remaining sources that do not fit into the list above.

4. Write the TOTAL number of sources used in the article

For the grand total, put the total number of sources used throughout the entire story. Do not count the sources more than once. This number should match the tally in Q3.

5. Identify each source's affiliation in the list of categories below

Put each source into a category from the list of affiliations when possible. Each source should be put into only ONE of these categories, even if the source is used or quoted multiple times throughout the article.

Here are examples for each of the categories listed:

CDC

- "Julie L. Gerberding, the new director of the Centers for Disease Control and Prevention, said…"

Government

- U.S. Rep. Dennis Kucinich
- Director of state department of health
- Officials with the Dept. of Health and Human Services
- City manager, mayor, etc.

University/college/school

- John Hopkins University
- Boston College

Hospital/doctor's office/medical center

- St. Mary's Health Center
- New York Hospital Queens

Health association/organization

- American Heart Association
- Community Health Centers of Arkansas
- "We're focusing on [what] we can do—education and prevention," said Linda Cullers, program director for the American Lung Association.
- "…said Richard Knapp, executive vice president of the Association of American Medical Colleges."

Business/Corporation

- WebMD Corp.
- ePhysician Inc.
- HealthSouth Corp.

6. Number of attributions throughout the story

An attribution is credit given to a source for providing information in an article. The attribution *may* be a direct quote, but it does NOT have to be a quotation. <u>One source may have more than one attribution</u>. For example, a professor at the University may be quoted three times throughout

an article. In that case, there is one source (professor) but three attributions. For the purposes of this project, differentiate between attributions by paragraphs.

Example:

- "We're very excited about the opportunity to provide quality health care for people not currently able to access it," said Bob Young, director of Healthy Connections.

In this example, Bob Young is the source. You would count him as one source for Question 3. This is also a quote attributed to Bob Young. So, you would count it as one attribution for this question. If he were quoted again in the same article, you would count that as a second attribution.

If a source is quoted more than once, count each paragraph in which they are quoted as <u>separate</u> attributions. For example:

"Kids don't exercise for the same reasons adults do," Jesse Elder explains. "An adult exercises to lose weight, to feel better, or maybe just because their doctor has told them to. Kids aren't motivated by those things, at least not until they reach pre-adolescence."

"We had to make the workout enjoyable."

In this example, Jesse Elder is the source. Since his comments are broken into two separate paragraphs, you would count that as <u>TWO</u> attributions. In cases where quotations are stacked such as these, count them as <u>separate</u> attributions.

Note: these are NOT attributions:

- A federal health agency on Wednesday granted two Arkansas Community health centers $1.27 million to treat people lacking insurance.
- Hospital and Health Department officials said no one would be forced to get the vaccine.

These are merely general statements that serve as a lead or a transition. It is not a specific source or attribution. Do not count general statements such as these as an attribution. Wait for specific sources and attributions.

7. Number of sentences that contain at least one statistic

Find each statistic used throughout the story and count how many sentences contain these statistics. Note, this is not the total number of statistics, but the total number of *sentences* with statistics.

A statistic is a numerical fact or data. It is presented to give information about a subject. Not all numbers are statistics. DO NOT include simple counts.

Examples:

- "The rate of such smokers went from 27.5 percent in 1991 to 36.4 percent in 1997."
- "One in five working-age adults in the state does not have health insurance."
- "Between 3 percent and 15 percent of that group die from the disease."

You would count each of these examples once because the statistics, even if there are several in each example, fall within one sentence.

Do not include numbers that are simple counts. You would not count the following examples as statistics.
Examples:

- Four CDC officials
- 10 people work at the Cox Center

8. Does this article report research findings?
Mark yes if the article reports on research findings.

Examples:

- The average annual cost of caring for an individual in the advanced stages of AIDS is $34,000 in the United States, according to a first-time study done by the University of Alabama.
- The national ADAP budget has grown 329 percent since fiscal year 1996, while access to the program varied depending upon geography, said a Kaiser Family Foundation study released this year.

Mark no for all stories that do not mention research findings.

If you mark no to this question, do not automatically assume that the answer to the following question is no or does not apply. That will generally be the case, but there are some instances in which the methodology is discussed but there are no findings yet.

9. Does it talk about research methodology?
Mark yes if the article mentions research methodology. For example, if the article covers a research project or a report, it may mention the methods used in the research. It may also mention the method used to analyze statistics. If so, mark yes on the coding sheet.

An example from an article about a national survey:

- "The data book uses 10 indicators that include child health statistics—such as rates of infant mortality and teen deaths—and such social factors as unemployed parents or single-parent household."

If the article does not mention any kind of research methodology, mark no. If you marked no in Q8, do not automatically assume that the answer to this question is "no" or "does not apply." Some articles discuss future research in which the methodology is known but the data has not yet been analyzed.

If the article is not about research and there is no reason for any mention of research methodology, mark does not apply. For example, if the article is about an exercise class, there is no reason the reporter would mention research methodology. In this case, mark does not apply.

10. Number of times "CDC" or "Centers for Disease Control and Prevention" is mentioned in the article (not including affiliation count)
Count each time these specific words or letters appear in the story.

DO NOT include the times when the Centers are mentioned as a source's affiliation. You should not include the number you used for Question 5. Simply count every time the Centers are mentioned when not attached to sources' names or descriptions.

Examples:

- "The network will be a smaller version of a similar network the federal *Centers for Disease Control and Prevention* has with state health departments."
- "The *CDC* in Atlanta…"

You would count each of these examples as one mention.

DO NOT count the following examples:

- "We don't know how big a problem this is," said *CDC scientist* Dr. Marion Kainer."
- Kainer *of the CDC* said she has not been able to verify…

11. Is the CDC the main focus of the article?
Mark yes if the *majority* of the article covers the CDC. Mark yes if the CDC is a major part of the topic.

Example:

- "The country's leading public-health agency said it will take at least 20 clinics and as many as 4,680 volunteer nurses, doctors, social workers, translators and support staff to vaccinate a million people against the deadly smallpox virus in the event of an attack."
- "Sen. Max Cleland proposed establishing a new bioterrorism center at the federal Centers for Disease Control and Prevention."

Mark no if the CDC is used only as a source, if it is briefly mentioned but does not play a big part in the story, or if it is not mentioned at all.

12. If the article is about the CDC, is the coverage *predominantly* positive or *predominantly* negative toward the Centers?
If the article is mostly favorable or mostly critical of the CDC, mark the corresponding answer.

Examples of positive coverage:

- "world's No. 1 center for infectious diseases"
- "nation's leading public health agency"
- "because of its expertise, it is able to take a leadership role, which obviously we would like in terms of public health."
- "CDC is doing everything possible to assess the availability of flu vaccine…"

Other words that may be used to positively describe the CDC include: efficient, effective, world reputation, heroic efforts, impeccable credentials, etc.

Examples of negative coverage:

- "says he was appalled at the organization's lack of preparedness."
- "an agency tarnished by confusing public messages"
- "experts in public health and health care have long found the CDC overcomplicated."
- "The CDC scrambled to assess…"

Other words that may be used to negatively describe the CDC include: struggle, harm, unprepared, sluggishness, stalled, etc.

These are examples of positive and negative coverage. However, just a few words would generally not make the entire article positive or negative. Mark those choices only if the tone of the articles seems predominantly positive or negative.

If the article is about the CDC but it does not seem to lean toward being either predominantly positive or predominantly negative, mark "balanced/neutral."

If the article is not about the CDC, mark "does not apply."

13. Is the article about journalism training programs at the CDC?
Mark yes if the story mentions these journalism programs at the Centers. They are also referred to as a Bootcamp program and a Fellowship.

If there is no mention of the journalism training programs at the Centers, mark no.

14. Is this article related to a health issue?
Mark yes if the article is any way related to a health issue.

Mark no if there is no connection to health.

15. Generally, list the topic this article covers
In a few words, write the article's main subject. You do not need to write a lengthy answer, nor do you need to write in a complete sentence. Just jot down a brief description of the main subject.

Examples:

- Health-care costs jump
- Smallpox vaccine program
- Electronic prescriptions can reduce errors
- Health centers receive federal grants

16. Does the article use scientific and/or medical terms
If the article use words or phrases that are known in the science and medical fields but are terms that average readers are not familiar with, mark yes.

Examples:
- Encephalitis
- Concurrent therapy

If the story does not use any such terms, mark no.

17. Are the terms explained in the article?

If the article explains the terms described in the previous answer, mark yes.

Examples:
- "One in 150 infected people develop encephalitis, a potentially fatal swelling of the brain."
- "…provide 'concurrent' therapy, in which several patients with different ailments perform individualized therapy at the same time."

If the article does not explain medical/scientific terms used, mark no.

If the article does not use medical/scientific terms throughout the article, then mark "N/A," for not applicable, for this question.

18. Does this article focus on a health risk or threat?
Mark yes if the article is about a health risk or threat.

Examples:
- West Nile virus
- Diabetes
- Breast cancer

Mark no if the article does not *focus* on a health risk or threat. If the article covers another topic but happens to mention a potential health risk in a sentence or two, still mark no.

19. Does the article explain specifically how susceptible people are to the threat?
Here are some examples of stories explaining how susceptible people are to a health threat:
- "Household members of a person with untreated whooping cough have a 90 percent chance of developing the highly contagious but treatable disease."
- "Each year, about 200 women in Arkansas are diagnosed with cervical cancer, a rate that's about 15 percent higher than the national average, doctors say."

If the article does not explain to readers how susceptible they may to the health threat, mark no. If the story is not about a health threat, mark "does not apply."

20. Does the article mention predictors of risk?
"Predictors of risk" refer to factors that can indicate whether a person has a higher chance of getting the disease or being affected by the health problem. For example, If someone's family has a history of heart attacks, that person may be at a higher risk of having a heart attack. A person over 65 years old has a greater risk of catching some diseases.

Examples:

- family history, hereditary
- gender
- age
- diet

21. Does the article offer advice or explain how readers can deal with this risk?
Mark "yes" if the article tells readers how they can try to avoid getting the illness/disease or if the article explains what people should do if they have already been exposed to the risk.

Examples:

- "Health officials added that anyone who believes he has been exposed to the virus should wash any wounds with soap and water, seek medical attention and contact his county's health unit."
- "Health officials suggest people cover their arms and legs when going outside or using mosquito repellent in areas that have mosquitoes. They ask that people also keep containers and tires free of standing water."

This also includes stories that cover more complex preventive procedures or cures. For example, a story about a new gene therapy that helps combat an immune system disorder is covering a possible way of dealing with or preventing the health threat. For these types of stories, answer yes.

If the article is about a health threat, but the article does not explain how to avoid it or how to deal with the problem, then mark no.
If the article is not about any kind of health risk or a health threat, mark does not apply.

22. Does the article explain an individual's chances of survival if affected by the health problem?
If the article explains how a person's survival may be impacted by the health risk, mark yes.

For example, an article about someone breaking an arm or leg may suggest the person is not going to die. However, articles about heart attacks or some forms of cancer may suggest a person's life is more at risk. Mark yes if the article explains chances of surviving if someone is afflicted with the health threat.

Mark no if the article does not indicate chances of surviving.
If the article does not cover a health risk or threat, mark does not apply.

23. Does the article explain what impact the health risk has on <u>society</u> (not just individuals)?
Question 22 asks how an individual is affected by the health problem. This question asks whether the article explains the possible implications on the larger community. Mark yes if the article explains how the greater public may be impacted. For example, if the article explains the economic, financial, political, etc. impacts on society then mark yes.

Examples:

- An article considering how many Americans to vaccinate against smallpox considers the impact on communities:

Many communities have yet to figure out where to set up clinics, who will administer the shots and how to educate masses of people about the health risks that the vaccine carries, experts told the council…

Among the challenges are where would people go for vaccinations, and are these clinics prepared to handle a crush of patients. Also, what health care providers would be available to run the vaccinations and how can officials efficiently inform large numbers of people about the risks and benefits of an experimental drug.

- An article on obesity looks beyond the individuals and assesses the impact on a county.

The obesity epidemic is worsening and more of the county's future workforce could be disable from Type 2 diabetes, a disease commonly seen among obese adults.

If the article does not mention any of the societal implications, mark no. If this question is not relevant to the article, mark does not apply.

24. In your view, is this article confusing?
In your opinion, if you find the article confusing for any reason then mark yes. If you do think the article is confusing, mark no.

25. Are sources with different viewpoints and opinions used in the article?
Mark "yes" if the article presents different opinions.

Here are several hypothetical examples:

- If there is a lawsuit, the article includes people from opposite sides of the case.
- If insurance rates are increasing, the article may include information from the insurance companies as well as customers who are being affected by the increase in costs.
- If the article covers a public health risk, it uses both officials and people who are susceptible to the risk as sources in the story.

The opinions do not necessarily have to be opposing views or in conflict with one another.

If the article does not present more than one viewpoint or opinion, mark "no." If all of the sources are of a similar opinion or on the same side of a conflict, mark "no."

If the article's topic makes it impossible, or if it would not make sense to offer different views in the article, mark "does not apply."

Appendix D

CODING SHEET

ID Number:

Coder's Name:

Date of coding:

TYPE OF ARTICLE

1. Categorize each article

    - ❑ 1) News
    - ❑ 2) Feature
    - ❑ 3) Column/opinion piece

2. Is the article a routine/breaking news story or an enterprise story?

    - ❑ 1) Routine/breaking news
    - ❑ 2) Enterprise story
    - ❑ 3) Don't Know
    - ❑ 4) Does not apply

SOURCES

3. Count and record the number of sources that fall into each category below:

    TYPE OF SOURCE:

    ____ Health expert/official

    ____ Health patient/victim

    ____ Academic (professor, teacher, dean)

    ____ Researcher/analyst

    ____ Health practitioner (doctor, surgeon, dentist, nurse, etc.)

____ Business titles (CEO, vice president, owner, director, etc.)

____ Government official (governor, senator, mayor, etc.)

____ Public Relations (spokesperson, press release, media office)

____ Letter/e-mail/memo

____ Report

____ Journal

____ News outlet (wire, newspaper, etc.)

____ Web site

____ Legal document (lawsuit, law, legal code, etc.)

____ Other—related to health SPECIFY: _____

____ Other—unrelated to health SPECIFY: _____

_____ Unspecified source (do not know job/position)

4. Write the **TOTAL** number of sources used in the article: _____

AFFILIATION

5. Identify each source's affiliation in the list of categories below:

AFFILIATION

____ Centers for Disease Control

____ Government

____ University/college/school

____ Hospital/doctor's office/medical center

____ Association/organization

____ Business/corporation

____ Other—related to health SPECIFY: _____

____ Other—unrelated to health SPECIFY: _____

ATTRIBUTIONS

6. Number of **attributions** throughout the story: _____

STATISTICS

7. Number of **sentences** that contain at least one statistic: _____

RESEARCH

8. Does this article report research findings?

   - ❑ 1) Yes
   - ❑ 2) No

9. Does it talk about research methodology?

   - ❑ 1) Yes
   - ❑ 2) No
   - ❑ 3) Does not apply

CDC

10. Number of times "CDC" or "Centers for Disease Control and Prevention" is mentioned in the article (not including affiliation count): _____

11. Is the CDC the main focus of the article?

    - ❑ 1) Yes
    - ❑ 2) No

12. If the article is about the CDC, is the coverage predominantly positive or predominantly negative toward the Center?

- ❑ 1) Predominantly positive
- ❑ 2) Predominantly negative
- ❑ 3) Balanced/neutral
- ❑ 4) Does not apply

13. Is the article about journalism training programs at the CDC?

- ❑ 1) Yes
- ❑ 2) No

TOPIC

14. Is this article related to a health issue?

- ❑ 1) Yes
- ❑ 2) No

15. Generally, list the topic this article covers.

MEDICAL TERMS

16. Does the article use scientific and/or medical terms?

- ❑ 1) Yes
- ❑ 2) No

17. Are the terms explained in the article?

- ❑ 1) Yes
- ❑ 2) No
- ❑ 3) Does not apply

HEALTH RISK

18. Does this article focus on a health risk or threat?

- ❑ 1) Yes
- ❑ 2) No

19. Does the article explain specifically how susceptible people are to the threat?

- ❑ 1) Yes
- ❑ 2) No
- ❑ 3) Does not apply

20. Does the article mention predictors of risk?

- ❑ 1) Yes
- ❑ 2) No
- ❑ 3) Does not apply

21. Does the article offer advice or explain how readers can deal with this risk?

- ❑ 1) Yes
- ❑ 2) No
- ❑ 3) Does not apply

22. Does the article explain an individual's chances of survival if affected by the health problem?

- ❑ 1) Yes
- ❑ 2) No
- ❑ 3) Does not apply

23. Does the article explain what impact the health risk has on society (not just individuals)?

- ❑ 1) Yes
- ❑ 2) No
- ❑ 3) Does not apply

EVALUATION

24. In your view, is this article confusing?

- ❑ 1) Yes
- ❑ 2) No

25. Are different viewpoints and opinions presented in the article?

- ❑ 1) Yes
- ❑ 2) No
- ❑ 3) Does not apply

Appendix E

TABLES

Table 1: Reliability Between Researcher and Individual Coders

Coder Pair	Variable	Holsti's Reliability
Researcher & Coder 1	Enterprise	100%
(N = 5)	Health Experts	100%
	Researcher/analyst	100%
	Health Practitioner	100%
	Public Relations	80%
	Government official	100%
	Government affiliation	60%
	Report	100%
	CDC	100%
	Statistics	80%
	Research findings	100%
Coder Pair	**Variable**	**Holsti's Reliability**
Researcher & Coder 2	Enterprise	83%
(N = 6)	Health Experts	67%
	Researcher/analyst	83%
	Health Practitioner	100%
	Public Relations	100%
	Government official	100%
	Government affiliation	83%
	Report	100%
	CDC	83%
	Statistics	83%
	Research findings	100%
Coder Pair	**Variable**	**Holsti's Reliability**
Researcher & Coder 3	Enterprise	72%
(N = 7)	Health Experts	72%
	Researcher/analyst	100%
	Health Practitioner	86%
	Public Relations	86%
	Government official	100%
	Government affiliation	72%
	Report	86%
	CDC	86%
	Statistics	100%
	Research findings	71%

Table 2: Intercoder Reliability

Variable	Coder Pair	Percent Agreement
Enterprise	1,2	87%
	1,3	77%
	2,3	77%
	Holsti's Coefficient	**.80**
Health Experts	1,2	85%
	1,3	81%
	2,3	87%
	Holsti's Coefficient	**.84**
Researcher/analyst	1,2	92%
	1,3	89%
	2,3	89%
	Holsti's Coefficient	**.90**
Health Practitioner	1,2	81%
	1,3	94%
	2,3	75%
	Holsti's Coefficient	**.83**
Public Relations	1,2	89%
	1,3	98%
	2,3	89%
	Holsti's Coefficient	**.92**
Government official	1,2	87%
	1,3	89%
	2,3	85%
	Holsti's Coefficient	**.87**
Government affiliation	1,2	66%
	1,3	51%
	2,3	47%
	Holsti's Coefficient	**.55**
Report	1,2	83%
	1,3	83%
	2,3	81%
	Holsti's Coefficient	**.82**
CDC	1,2	92%
	1,3	92%
	2,3	92%
	Holsti's Coefficient	**.92**

N = 46

(continued) Table 2

Variable	Coder Pair	Percent Agreement
Statistics	1,2	70%
	1,3	72%
	2,3	79%
	Holsti's Coefficient	**.74**
Research findings	1,2	87%
	1,3	85%
	2,3	85%
	Holsti's Coefficient	**.86**

N = 46

Table 3: Intracoder Reliability

Coder	Variable	Percent Agreement
1	Enterprise	90%
	Health Expert	95%
	Researcher/analyst	95%
	Health Practitioner	95%
	Government officials	85%
	Public Relations	100%
	Report	90%
	CDC	90%
	Government affiliation	60%
	Statistics	80%
	Research findings	100%
Coder	**Variable**	**Percent Agreement**
2	Enterprise	90%
	Health Expert	95%
	Researcher/analyst	95%
	Health Practitioner	95%
	Government officials	85%
	Public Relations	100%
	Report	90%
	CDC	90%
	Government affiliation	60%
	Statistics	80%
	Research findings	100%
Coder	**Variable**	**Percent Agreement**
3	Enterprise	95%
	Health Expert	90%
	Researcher/analyst	100%
	Health Practitioner	100%
	Government officials	79%
	Public Relations	100%
	Report	95%
	CDC	100%
	Government affiliation	63%
	Statistics	74%
	Research findings	95%

N = 20

Table 4: Number of articles written before and after training

	Boot Camp	Fellow	Total
Before	221 35.3%	99 15.8%	320 51.1%
After	220 35.1%	86 13.7%	306 48.9%
Total	441 70.4%	185 29.6%	626 100%

Table 5: Percent of stories identified as enterprise articles written before and after training

	Routine/Breaking	Enterprise	N/A	Total
Before	237 74.1%	**79** **24.7%**	4 1.3%	320 100%
After	243 79.4%	**61** **19.9%**	2 .7%	306 100%
Total	480 76.7%	140 22.4%	6 1.0%	626 100%

$z = 1.44 < 1.96$

Table 6: Mean number of public relations sources used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	0.26	0.31	**0.28**
	SD	0.565	0.723	0.618
	N	221	99	320
After	Mean	0.39	0.2	**0.33**
	SD	0.747	0.505	0.692
	N	220	86	306
Combined	Mean	0.32	0.26	0.3
	SD	0.664	0.632	0.655
	N	441	185	626

t = 1.11

Table 7: Mean number of health experts/officials used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	0.08	0.03	**0.07**
	SD	0.29	0.172	0.26
	N	221	99	320
After	Mean	0.27	0.06	**0.21**
	SD	0.58	0.235	0.516
	N	220	86	306
Combined	Mean	0.18	0.04	0.14
	SD	0.468	0.204	0.412
	N	441	185	626

t = 4.5

Table 8: Mean number of health practitioners used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	0.37	0.41	**0.38**
	SD	0.985	0.937	0.969
	N	221	99	320
After	Mean	0.21	0.24	**0.22**
	SD	0.569	0.667	0.598
	N	220	86	306
Combined	Mean	0.29	0.34	0.31
	SD	0.808	0.825	0.813
	N	441	185	626

t = 2. 51

Table 9: Mean number of sources affiliated with the CDC used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	0.09	0.06	**0.08**
	SD	0.353	0.314	0.341
	N	221	99	320
After	Mean	0.39	0.26	**0.25**
	SD	0.759	0.884	0.797
	N	220	86	306
Combined	Mean	0.24	0.15	0.21
	SD	0.61	0.65	0.622
	N	441	185	626

t = 5.59

Table 10: Mean number of government officials used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	0.82	0.15	**0.61**
	SD	1.399	0.437	1.227
	N	221	99	320
After	Mean	0.43	0.28	**0.39**
	SD	0.77	0.546	0.717
	N	220	86	306
Combined	Mean	0.63	0.21	0.5
	SD	1.145	0.493	1.015
	N	441	185	626

t = 2.77

Table 11: Mean number of sources affiliated with the government used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	1.77	1.22	**1.6**
	SD	1.911	1.594	1.834
	N	221	99	320
After	Mean	1.75	1.09	**1.56**
	SD	1.777	1.334	1.688
	N	220	86	306
Combined	Mean	1.76	1.16	1.58
	SD	1.843	1.477	1.763
	N	441	185	626

t = .27

Table 12: Mean number of researchers/analysts used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	0.14	0.13	**0.13**
	SD	0.404	0.395	0.401
	N	221	99	320
After	Mean	0.09	0.1	**0.09**
	SD	0.318	0.344	0.325
	N	220	86	306
Combined	Mean	0.11	0.12	0.12
	SD	0.364	0.371	0.366
	N	441	185	626

t = 1.35

Table 13: Mean number of reports used in stories before and after training

		Boot Camp	Fellow	Total
Before	Mean	0.34	0.37	**0.35**
	SD	0.66	0.75	0.688
	N	221	99	320
After	Mean	0.2	0.3	**0.23**
	SD	0.514	0.768	0.597
	N	220	86	306
Combined	Mean	0.27	0.34	0.29
	SD	0.595	0.757	0.647
	N	441	185	626

t = 2.35

Table 14: Mean number of sentences containing statistics in articles before and after training

		Boot Camp	Fellow	Total
Before	Mean	1.57	1.99	**1.7**
	SD	2.666	4.132	3.191
	N	221	99	320
After	Mean	1.31	1.84	**1.46**
	SD	2.128	2.58	2.272
	N	220	86	306
Combined	Mean	1.44	1.92	1.58
	SD	2.413	3.489	2.781
	N	441	185	626

$t = 1.08$

Table 15: Percent of stories reporting research findings in articles written before and after training

	Yes	No	Total
Before	**109** **34.1%**	211 65.9%	320 100%
After	**70** **22.9%**	236 77.1%	306 100%
Total	179 28.6%	447 71.4%	626 100%

$z = 3.10 > 1.96$