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An Alumni-based Evaluation of Graduate Training in Health Communication: Results of a Survey on Careers, Salaries, Competencies, and Emerging Trends

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Published information about career options and the core competencies necessary for health communication professionals (HCPs) is limited. Although the number of graduate programs in health communication continues to grow, no formal assessment of the success of this type of training has been conducted. The current study presents the results of an evaluation of the Master's Program in Health Communication offered collaboratively by Emerson College and the Tufts University School of Medicine. The program was one of the first of its kind and has graduated more health communication students than any other in the United States. To conduct the assessment of the program, the two schools collaborated on the development of an on-line survey for the alumni. Of the 131 graduates eligible to participate, 106 completed the survey. The survey yielded detailed information on the following: (1) career options for individuals with master's degrees in health communication; (2) value of graduate coursework for developing competencies in health communication; (3) salary expectations for individuals with graduate degrees in health communication; and (4) emerging trends in the field. These findings have important implications for the development of new programs and the refinement of existing ones in health communication.

Because of continued growth of the field as a whole in the twenty-first century, evidence suggests that there is a greater demand for individuals to fill jobs that have primary responsibilities in health communication. For instance, in the section on health communication objectives for the new millennium, *Healthy People 2010* states that there is a need "to expand the pool of health communication professionals" (U.S. Department of Health and Human Services, 2000, pp. 11–17). Although the *Healthy People 2010* declaration is an optimistic one for those who wish to pursue health communication careers, limited information exists about the nature of the jobs that HCPs are qualified to hold and the type of training that is necessary to prepare them adequately for the performance of job duties. This study sheds light on

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these issues by presenting a case study of one master's level health communication program based on detailed information collected from the program's alumni.

Review of the Literature

Although the literature on careers and training in health communication is extremely sparse, a few published studies exist that provide educational guidelines and direction for employment opportunities. Maibach, Parrott, Long, and Salmon (1994) were the first team of scholars to take a systematic approach that delineated the necessary components of a rigorous model for the formal training of HCPs and identified the job potential for graduates of health communication degree programs. More specifically, they assembled a working group of 15 experts in the field to ask them questions focused on issues relevant to the education of health communication professionals at the master's degree level. Maibach and his colleagues queried the experts about matters related to the role of master's level professionals including the appropriate use of mass communication to promote health goals; the required competencies for professionals; the appropriate balance within training for theory, research skills, and practice; best ways to evaluate the attainment of required competencies; appropriate candidates for master's level programs; and potential area of employment for graduates. Although the experts offered many suggestions, some of the most important conclusions that emerged from the process included the following:

- HCPs should have the ability to apply relevant theories to the development of programs and evaluation efforts at individual and societal levels;
- graduates should have a working knowledge of a full range of health communication goals and the ability to assess and select the right media for attaining those goals;
- training should include a balance of theory, research skills, and practice;
- degree candidates should have a practical capstone experience that simulates a consultancy;
- many different educational backgrounds could serve as an appropriate foundation for graduate education in health communication; and
- graduates with a master's degree in health communication will be employable in sectors such as local, state, and federal agencies; community and other nonprofit organizations; voluntary health agencies; large health care organizations; academic institutions; government planning agencies; large corporations (for in-house health programs); and consulting firms, including public relations agencies.

Five years after Maibach and colleagues published their findings, another team (Fowler, Celebuski, Edgar, Kroger, & Ratzan, 1999) investigated job opportunities and competencies for HCPs from a different perspective. Fowler and colleagues surveyed 104 employers of HCPs, representing large, medium, and small organizations. Most of the respondents did not have a background in health communication themselves. The employers indicated that regardless of the type of responsibilities undertaken by HCPs, there are several important skill areas that stand out as important for practitioners, including written and oral communication skills, computer skills, leadership abilities, marketing skills, ability to use media effectively, project management skills, research and evaluation skills, and health and medical knowledge. The results showed too that those who wish to become HCPs can enhance their

employment prospects by gaining practical experience through internships and volunteer work while enrolled in degree programs. The respondents to the survey also predicted an increase in the need for employees with health communication skills in the twenty-first century, and the evidence revealed that "job seekers can also look forward to choosing between opportunities in many different areas of responsibility" (p. 339).

More recently, the Institute of Medicine (2003) weighed in on the issue by publishing the recommendations of an expert panel. Although the report focused on the future of public health education as a whole, the panel addressed the specific need for the proper training of individuals who fill health communication roles. By stating that there is "a critical gap in the need for understanding and skills-based performance and practice in communication" (p. 72), the commission suggested that there are too many individuals who currently perform health communication responsibilities who might lack the requisite skills and knowledge. The panel's recommendations mirrored many of the competencies identified by experts and employers in the previous studies, but, unlike Maibach and collegues (1994) and Fowler and colleagues (1999), the Institute of Medicine did not identify specific areas of employment well suited to HCPs who possess the prescribed core competencies.

In an overview describing the foci and requirements of established programs, Cline (2003) wrote that a "program" refers to "institutions that have formal tracks, emphases, concentrations, specializations, certificates and/or degree programs in health communication; that is; these institutions have committed faculty and curricular resources to developing the area of health communication in a *systematic* way" (p. 5). According to Cline, schools that meet her definition for having a health communication program include Emerson College/Tufts University, University of Florida, Johns Hopkins University, University of Iowa, University of Kentucky, Michigan State University, Penn State University, Purdue University, University of Southern California, and Texas A & M University. Cline acknowledged that many other departments and schools actively are engaged in health communication research, offer graduate level courses in health communication, or both, and others are in the process of developing formal programs.

The increase in programs that train HCPs is a positive sign that more health communication positions will be filled by qualified professionals, and a review of the curricula offered by the formal programs identified by Cline (2003) suggests that most provide a foundation that reflects recommendations outlined in previously published reports (e.g., Maibach et al., 1994). The reports are based, however, primarily on the observations of employers with minimal formal training in health communication themselves (e.g., Fowler et al., 1999) or academicians who are high-level experts but who have not necessarily held positions typical of those filled by HCPs with a master's degree in health communication (e.g., Institute of Medicine, 2003; Maibach et al., 1994). The perspective of those who actually have received formal training and who work in the field is missing. Previous reports speculated on career possibilities, but the literature lacks specifics on the realities of the job market for HCPs.

Data from the perspective of those with formal graduate training and work experience in health communication will become even more crucial as the number of programs increases. As graduate program directors in health communication labor to recruit the best students, prospects will want to know whether the training they will receive will prepare them adequately for satisfying careers, and they will

want to inquire about the range of employment options available to them and salary expectations once they complete their formal training. They also will expect educators to anticipate emerging trends in health communication to prepare students adequately for future employment. At present, program administrators often must rely on anecdotal information to answer the queries of prospective students.

Research Questions

The review of the extant literature leads to several research questions:

RQ1: What educational background is necessary for individuals who begin formal graduate training in health communication at the master's level?
RQ2: What career choices are available to individuals who receive master's level graduate training in health communication?
RQ3: What are the salary expectations for individuals who receive master's level graduate training in health communication?
RQ4: Does master's level graduate training in health communication adequately train individuals in the core competencies necessary for successful careers as health communication professionals?
RQ5: What are the emerging trends in the field that those with formal training in health communication anticipate?

A Case Study

To answer the research questions, we collected data from the graduates of the one of the health communication graduate programs that meets Cline's (2003) criteria: Emerson/Tufts Master's Program in Health Communication.[1] The choice is an appropriate one, because it is the one of the first programs of its kind, and more individuals have received the master's degree in health communication from Emerson/Tufts than any other health communication graduate program in the country.[2]

Founded in 1994, the Emerson/Tufts program had as its principal goal to offer state-of-the-art academic graduate training in health communication to the growing number of people in public health, medical care, health insurance, and public and private sector agencies for whom communication sciences is an important part of their daily role. The master's program brings together the faculty and resources of the Tufts University School of Medicine and Emerson College, which are close downtown Boston neighbors. Tufts Medical School, established in 1893, has trained more than 9,000 physicians since its inception, while Emerson College for its part has been a leader in the field of communication studies since 1880.

The program has evolved steadily over the past 10 years. Initially designed as a 40-credit-hour program,[3] it was tailored to exploit the demonstrated strengths

[1]Throughout the text, we refer to the program as the Emerson/Tufts program. The decision to place the Emerson name first is arbitrary.

[2]The claim that the Emerson/Tufts program has more master's graduates in health communication than any other program is based on informal discussions with program administrators from similar programs around the country.

[3]For those unfamiliar with the credit-hour system, a credit hour is roughly equivalent to 10 contact hours in a classroom setting. Hence, a four credit-hour course implies 40 classroom contact hours during a semester.

and competencies of the faculties of the two collaborating institutions. In general, Emerson faculty were charged with teaching the core courses in communication theory and practice, while Tufts faculty assumed responsibility for teaching core content areas such as epidemiology and biostatistics, public health, and medicine. The program was identical whether a student was an Emerson matriculant or a Tufts matriculant, the only difference being that Tufts students received a master's of science (M.S.) degree from the School of Medicine while Emerson students received a master's of arts (M.A.) degree from Emerson College. Students who successfully completed the program also received a certificate indicating that they had successfully completed the Emerson/Tufts Master's Program in Health Communication. Adjustments were made in the program that increased the number of credit hours first to 44 in 1996 and then to 48 in 1998.

The program remained essentially unchanged until 2001 when an effort was made to create a program that retained the collaborative elements of the original program while at the same time allowing potential applicants to make more informed choices when trying to choose between applying through Emerson versus Tufts. A core set of four courses common to both programs was identified: communication theory and message development to be taught at Emerson and epidemiology/biostatistics and introduction to clinical medicine to be taught at Tufts. Under this restructuring, students can also take up to two additional electives at the sister institution. For its part Emerson reduced the number of credits required for the master's degree from 48 to 40, while the Tufts program remained at 48.

Table 1 summarizes the basic curriculum features that currently constitute the two programs.[4] The focus in graduate training has been on a combination of theory, research, and practice since the program's inception. Although the students receive a firm grounding in theoretical and methodological principles, heavy emphasis is placed on application. For instance, students frequently intern at one of the many hospitals and other health-related organizations in the Boston area. Each student also is required to complete the Applied Learning Experience (ALE) during the final semester of graduate training. Completed in lieu of a master's thesis, the ALE is a capstone that allows students to serve as unpaid consultants for a local organization or agency where they take the lead on a carefully defined health communication project, which culminates in a tangible end product such as a communication plan or message material for an intervention.

Emerson has roughly two students for every Tufts student in the master's program. Together there are approximately 40 to 45 students enrolled at any given time between the two programs.[5] Students at Tufts and Emerson for the most part have quite similar demographic characteristics, although Tufts students tend to be slightly older and Tufts tends to attract more students with some form of science training or experience (e.g., biology, medicine, nutrition). Throughout the history of the program, most of the matriculants have been women. Only 8% of the students who have graduated from the program since its inception have been men.

[4]For an extensive review of the history and origins of the Emerson/Tufts Master's Program in Health Communication, see Ratzan, Stearns, Payne, Amato, Liebergott, and Madoff (1994).

[5]Tufts also has offered a master's of public health (MPH) with a concentration in health communication since 2000. Although the MPH students take some of the same courses, this study does not include any of those students.

Table 1. Overview of the Emerson/Tufts health communication curriculum

Course requirements
Common core
• Health Communication Theory (Emerson)
• Media Strategies for the Health Professional (Emerson)
• Epidemiology/Biostatistics: Reading and Interpreting the Medical Literature (Tufts)
• Introduction to Clinical Medicine (Tufts)
Emerson specific
• Research Methods
• Applied Learning Experience
• 16 credits of electives
Tufts specific
• Survey Research Methods
• New Technologies
• Introduction to Public Health
• Writing About Health
• Ethical Issues in Health Communication
• Health Behavior
• Professional Communication
• Applied Learning Experience
• 8 credits of electives

Method

Participants

The program first admitted students in September 1994. One hundred and thirty-one individuals have received the master's degree in health communication from either Emerson or Tufts as of December 2003. The goal of the study was to obtain information from as many of the graduates as possible. Because we chose to administer the survey instrument on-line by contacting the program's graduates via e-mail, we needed to develop a comprehensive sampling frame of e-mail addresses of the alumni. We began the process by compiling all known data from the alumni offices, career services, and our own personal mailing lists. We then sent e-mails to those for whom we had contact information in order to confirm the accuracy of the e-mail addresses. The message explained the alumni initiative we planned to undertake and the need to have up-to-date e-mail addresses to distribute the survey. The message requested that the graduates send a return e-mail verifying the accuracy of the address.

Using the confirmed addresses as the starting point for the second stage of building the sampling frame, we then sent follow-up e-mails to all of those individuals for whom we had verified addresses. In the e-mail, we explained that we needed their help finding other graduates. Each e-mail included an attachment with a list of the alumni for whom we still did not have accurate addresses. We asked the alumni to review the list to see if they had a current e-mail address (or any contact information) for anyone on the list. When the graduates supplied information on

classmates, we immediately followed up with the newly acquired addresses to verify their accuracy. With each new confirmation, we sent the list of missing alumni to ask for assistance with locating those not yet found. Concurrent with this iterative process, we sought possible contact information, including home phone numbers, through Internet searches. We also sent letters via standard mail to those for whom we had a postal address on record but no e-mail address. In the letter, we explained the alumni initiative and asked that they send an e-mail to one of the codirectors of the program verifying that we had located the individual. By the end of process, we confirmed e-mail addresses for 119 of the 131 graduates of the program. We were not able to locate the remaining 12 alumni at that time.

Instrument

We created a survey instrument that would allow us to gather information about the following: detailed contact information; complete job history since graduating with the master's degree in health communication; educational history prior to obtaining the health communication graduate degree; sector of health communication in which the alumni currently (or mostly recently) works; salary expectations for individuals with a master's degree in health communication; information on how they obtained jobs after leaving the program; assessment of the education that they received while in the Emerson/Tufts program; and observations about emerging trends in the health communication field.

Because part of the survey included contact information, anonymity could not be guaranteed for the entire instrument. We wanted to provide the opportunity, however, for the alumni to answer the evaluative portion of the survey with the confidence that their answers could not be linked back to specific individuals. To solve the problem, we used Zoomerang®, an on-line survey development and implementation tool. After creating the questions for the survey, we divided it into two sections. The first section, which was not anonymous, included the questions on contact information and job history. We placed the job history questions in the nonanonymous section, because the program directors already knew enough about the career paths of graduates that they would have been able to identify the answers of a substantial percentage of the respondents. The second section of the survey contained all of the other questions.

Using a programming function in Zoomerang®, we constructed the on-line survey so that the questions from the two sections appeared on screen for the respondents in consecutive order with the nonanonymous portion appearing first. Once the participants finished the questions on contact information and job history, they hit a submit button that recorded their answers to the first portion of the instrument in an electronic file. The program then linked them automatically to the start of the questions for the second portion. After completing the second part of the survey, they hit another submit button that recorded their responses in a separate electronic file. The responses from the two files cannot be linked. As a result, we were able to guarantee anonymity for responses to the second part of the survey.

After creating a first draft of the survey, we contacted 8 graduates of the program—4 who received the degree from Emerson and 4 who received the degree from Tufts—to ask them to pilot test the instrument on hardcopy. Based on their feedback, we made numerous changes to the questions to improve clarity before programming the questions into Zoomerang®. We also asked the participants in

the pilot group to provide information on the amount of time it took to complete the items. We estimated that the final instrument, which included both close-ended and open-ended questions, would take approximately 15–20 minutes to complete.

Procedure

Approximately 2 weeks prior to the launch of the survey, we sent an e-mail to all of the alumni for whom we had confirmed addresses telling them that the web link to the survey would be sent to them via e-mail on December 3, 2003. During the process of establishing the database of alumni, we also informed them that they would be asked to complete a survey in the near future. When we sent the web link, a cover letter from the two codirectors provided context and directions. The letter included a rationale for the need for the data; an estimate of the amount of time needed to complete the survey; an explanation of how the anonymous and nonanonymous information would be stored in separate electronic files; a guarantee that they would receive a summary of the results upon completion of the study; and contact information for the codirectors in case questions or concerns arose. The URL for the on-line survey, which they could click on or paste into the address line of their Internet homepage, appeared at the bottom of the letter. We requested that they complete the survey within week.

One week after the initial launch, 35% of the graduates to whom we sent the link had completed the survey. For the next 6 weeks, with the exception of the week between Christmas and New Year's Day, we sent e-mail reminders to the alumni from whom we had not received a response. In early January 2004, we also sent the link to the one individual who graduated from the program at the end of the Fall 2003 semester. When we closed the survey in mid-January 2004, 81% ($N = 106$) of the 131 individuals who graduated from the program had responded to the survey; the response rate for the 119 for whom we had valid e-mail addresses was 89% (i.e., 106 out of 119).

Human Subjects Approval

The Institutional Review Boards of both Tufts and Emerson approved the survey instrument and the data collection procedure prior to the launch of the survey.

Results

Educational Background

Table 2 shows that people who successfully pursue graduate study in health communication enter the program with a wide variety of educational backgrounds. When asked to record their undergraduate area of study, the largest number, as one might expect, said that they majored in communication ($N = 25$), but the vast majority entered the program with undergraduate majors representing 32 other unique areas of concentration. The most common include psychology, biology, English, sociology, journalism, philosophy, political science, nutrition/dietetics, and marketing. Most of the rest come from backgrounds in the social sciences, humanities, or health-related disciplines.

Table 2. Undergraduate majors of health communication master's degree graduates

Major	Number of respondents
Communication	25
Psychology	13
Biology	11
English	6
Sociology	6
Public Relations	5
Journalism	4
Philosophy	4
Political Science	4
Nutrition/Dietetics	4
Marketing	4
Creative Writing	2
Nursing	2
Anthropology	2
History	2
Pharmacy	2
Kinesiology	2
Pre-Med	1
French	1
Spanish	1
Modern Languages	1
Latin American Studies	1
Economics	1
American Studies	1
Social Ecology	1
Business	1
Criminology	1
Counseling	1
Rehab Counseling	1
Human Development	1
Health Management	1
Interdisciplinary Studies	1
Speech Pathology	1

Note. The numerals represent the raw numbers of program graduates who majored in a particular area of study. The numbers add to more than the number of people who actually participated in the survey, because some reported double majors.

Careers In Health Communication

Results from the survey clearly demonstrated that a master's degree in health communication provides an individual with a very marketable credential. The degree also gives professionals the flexibility to work in a wide variety of organizations and employment sectors. We uncovered evidence for this finding through the answers to multiple questions on the survey. In the anonymous portion of the instrument, we asked, "In which type of organization are you currently (or were you last)

employed?" A drop-down box gave respondents multiple options to describe their employment sector. Table 3 shows that the graduates of the Emerson/Tufts program currently fill positions in many different areas and that no one sector dominates. At the top of the list, 12% said that they work in a federal, state, or local government agency, while an equal percentage apply their skills in a hospital or medical practice setting. The other most commonly identified employment sectors include 11% in advertising, public relations, or marketing firms, 10% in educational institutions, 9% in the pharmaceutical and biotech industry, 9% in nonprofit and voluntary organizations, 7% in the health insurance industry, and 7% in information technology. Percentages for other sectors appear in Table 3.

More detailed information about career paths came from the nonanonymous portion of the survey where we asked for details about job history. More specifically, respondents provided information for each job they have had since completing the health communication degree in the Emerson/Tufts program. The history included the names of the organizations for which they are (or were) employed, job titles and responsibilities, and a designation of whether the jobs were full or part time. The results show that 64% of the graduates have held at least two positions since finishing the master's degree. A few described multiple jobs within the same organization, but the vast majority of individuals who have had more than one job have changed organizations within their careers. Ten examples that illustrate the types of career paths that the graduates have followed appear in the Appendix.All are for individuals who have held positions in at least two different organizations.

Salary Expectations For Health Communication Professionals

To develop estimates for salary expectations for individuals with a master's degree in health communication, we presented the alumni with two questions. First, we asked,

Table 3. Employment sectors for current or most recent jobs of program graduates

Employment sector	% of respondents
Federal, state, or local government agency	12
Hospital or medical practice	12
Advertising, PR, or marketing firm	11
Educational institution	10
Pharmaceutical or biotech industry	9
Nonprofit advocacy or voluntary organization	9
Health insurance industry (not a clinical setting)	7
Information technology	7
Self-employed	5
Health system	3
Research organization (not a college or university)	2
Professional membership association	2
Consulting firm	2
Not employed	2
Other	8

Note. The percentages are based on a total of 101 individuals who responded to this question. Percentages add to more than 100% due to rounding. The "Other" category includes those sectors identified by no more than one respondent.

"Please indicate the annual salary range you think a RECENT health communication master's level graduate might expect if entering a full-time job in the sector in which you currently (or were last) employed." The respondents recorded their answers using a drop-down box with choices that reflected $5,000 ranges (e.g., $50,000–$54,999). The response for the lowest range was "Less than $25,000," and the response for the highest range was "$70,000 or more." Ninety-nine graduates responded to this question. The follow-up question asked, "Please indicate the typical annual salary range you think someone might expect if she or he has had a master's degree in health communication for FIVE YEARS and has had at least FIVE YEARS of relevant experience. Again, answer with respect to the sector in which you currently (or were last) employed." Similar to the first question, choices appeared in a drop-down box in $5,000 increments. Based on the assumption that salaries will be higher with more experience and a greater number of years past graduation, the response for the lowest range was "Less than $40,000," and the response for the highest range was "$90,000 or more." The results from the pilot test confirmed the appropriateness of the choices.

Figure 1 summarizes the salary expectation data. Predictably, these data show that recent graduates can expect lower salary levels than those with a master's degree and 5 or more years experience. The median salary expectation was $40,000–$44,999 and $60,000–$64,999 for recent graduates and graduates with 5 years of postmaster's degree experience, respectively. Also of interest is the fact that 10% of recent graduates reported salary level expectations of $55,000 or more, with 7% at $70,000 or more. Most of those reporting higher salary expectation levels work in the private sector, most notably in the pharmaceutical or biotechnology industries or in advertising, marketing, or public relations agencies. There was a far wider distribution of salary expectation projections for those with a master's degree for 5 years and 5 or more years of experience.

Core Competencies

To assess the core competencies crucial for health communication professionals, we posed two open-ended questions to the alumni on the anonymous portion of the survey. The first questions asked, "What skills and/or knowledge did you obtain in the Emerson/Tufts program that have been of greatest practical application for your career?" Of the 106 graduates who responded to the survey, 95 answered this question. The research team reviewed the responses and coded them into categories. Table 4 shows the results for all of the categories in which at least two people identified the same skill or knowledge set. The most common response was "knowledge of message strategy and campaign planning" (34% of those who provided a response). Other common responses included "knowledge of and behavioral communication theory" (31%); "presentation skills" (26%); "medical knowledge/content" (25%); "research methods" (20%); and "skill in epidemiology and biostatistics of reading the medical literature" (16%).

The second question that assessed core competencies asked, "Based on your experience, are there core content areas or skill areas that you wished had been addressed in your program of study in the health communication program that were not?" As with the previous open-ended question, the research team reviewed the responses and coded them into categories. Table 5 shows the results for all of the categories in which more than 2 people identified the same skill or knowledge set. For this question, only two-thirds ($N = 70$, 66%) of the alumni who responded to

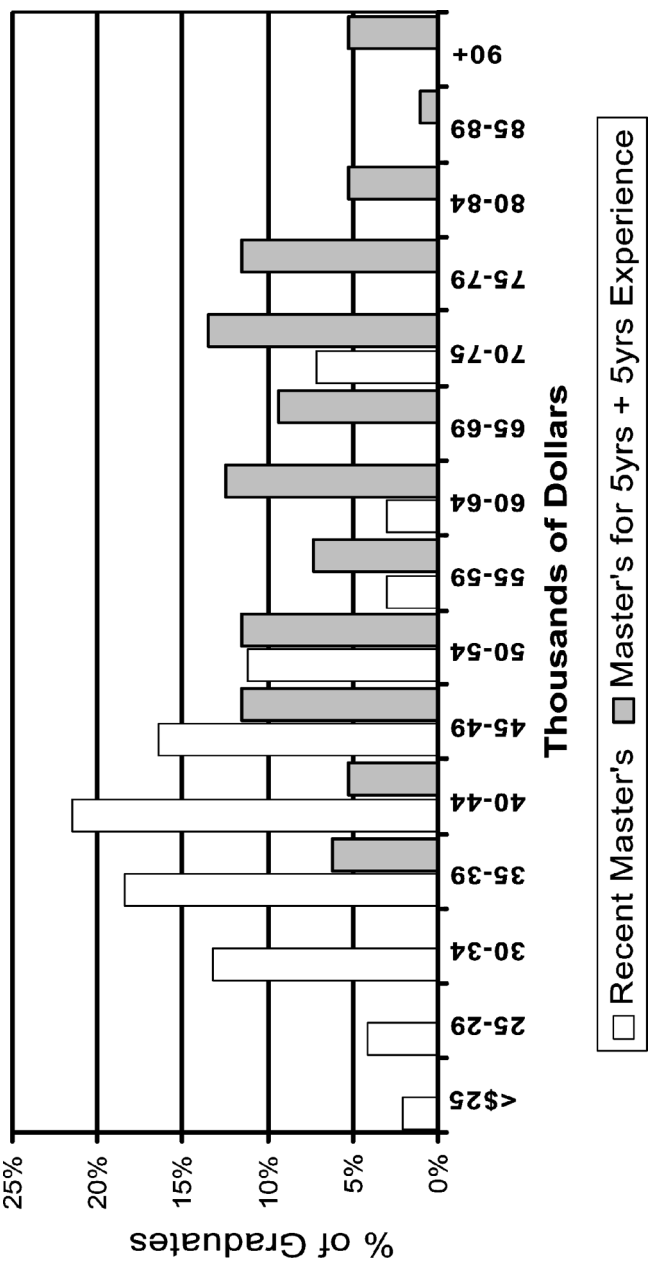

Figure 1. Reported salary expectations for recent graduates and those with a master's degree in health communication for five years and five years of work experience.

Table 4. Skills and/or knowledge obtained in program of greatest application for careers

Skill or knowledge	% of respondents
Knowledge of message strategy and campaign planning	34
Knowledge of behavioral and communication theory	31
Presentation skills	26
Medical knowledge/content	25
Research methods	20
Skill in epidemiology and biostatistics for reading the medical literature	16
General writing skills	9
Knowledge of health care/public health system	9
Ethics	8
Media skills	7
Web design/new tech skills	7
Interpersonal/group communication skills	4
Proposal writing skills	2
Cultural knowledge	2
How to service clients	2
Evaluation skills	2

Note. The percentages are based on a total of 95 individuals who responded to this question. The numbers add to more than 100% because of multiple responses. Categories were not included that were identified by only one person.

Table 5. Skills and/or knowledge that should have been addressed but were not

Skill or knowledge	% of respondents
New technologies	11
Health care finance/business skills	10
Marketing skills	9
Knowledge of health care system structure	9
Proposal writing skills	9
Public relations skills	7
Knowledge of working with the media	7
Knowledge of health policy	6
General writing skills	4
Epidemiology and biostatistics	4
Journalistic writing skills	4
Broadcast/video production skills	4
Knowledge of health in the private sector	4
Project/staff management skills	4
Ability to explain the field of health communication	4

Note. The percentages are based on a total of 70 individuals who responded to this question. Categories were not included in the table that were identified by fewer than 3 respondents.

Table 6. Emerging trends in health communication identified by program graduates

Trend	% of respondents
Risk communication	17
Crisis communication/bioterrorism	14
Internet/e-learning	13
Public health funding and finance	9
Cultural competence	9
Technological advances in medicine	7
Health literacy	7
Obesity	7
Issues in the pharma/biotech industry	6
Social marketing	3
Ethics	3

Note. The percentages are based on a total of 69 individuals who responded to this question. Categories were not included that were identified by fewer than two respondents.

the survey provided an answer. The results show that there was no one skill or knowledge set that a large percentage of the alumni identified as lacking in their graduate training. The most common response was the "application of new technologies to health communication," which was cited by only 11% of the individuals who answered the question. Other common responses included "health care finance/business skills" (10%); "knowledge of how the health care system is structured" (9%); "proposal writing skills" (9%); and "marketing skills" (9%).

Satisfaction With the Program

To complement the open-ended questions that asked about core competencies, we also assessed overall satisfaction with the program with a single scaled item on the anonymous portion of the survey that said, "Using the following 7-point scale, indicate how satisfied you were with the education you received in the Emerson/Tufts health communication program." The scale used anchor points in which "1" represented a response of not at all satisfied and "7" represented extremely satisfied. Ninety-two percent ($N = 98$) of the 106 alumni who responded to the survey answered this question. Overall, the graduates gave a positive evaluation to the program. Eighty-seven percent of those who answered the question marked a "5" or higher; 56% percent marked a "6" or "7." The overall mean was 5.59.

Emerging Trends in Health Communication

From their perspective as professionals in the field, we wanted the alumni to identify key health communication issues for the future. To gather the information, we placed an open-ended question on the anonymous section of the survey that asked, "Since graduating from the program, what new or emerging trends or content areas in health communication have you noticed that you feel the program ought to address?" Approximately two-thirds (65%, $N = 69$) of the 106 alumni who responded to the survey answered the question. The research team reviewed the

responses and coded them into categories. Table 6 shows the results for all of the categories in which more than 2 people identified the same trend. The most common response was "risk communication" with 17% of the graduates who answered the question identifying it as a trend that should be addressed in a health communication graduate program. Other common responses included "crisis communication/bioterrorism" (14%); "use of the Internet/e-learning" (13%); "public health funding and finance" (9%); "cultural competence" (9%); "technological advances in medicine" (7%); "health literacy" (7%); "obesity" (7%); and "issues in the pharmaceutical/biotech industry" (6%).

Discussion

Educational Background of Students

The data support the contention of Maibach and colleagues (1994) that many different educational backgrounds can serve as an appropriate foundation for graduate education in health communication. While a large percentage of those surveyed reported having majored in a communication-related area, others entered the program from a wide variety of disciplines and backgrounds including biology, psychology, English, philosophy, nursing, pharmacy, political science, and sociology to name a few. This diversity of backgrounds and experiences poses a real challenge for curriculum development. How, for example, does one develop a core course in communication theory that can enlighten and inform those with a communication studies background while at the same time meet the educational needs of a biology major? Or how does one teach the fundamentals of epidemiology and biostatistics to the humanities major who might not have taken a math course since high school?

The data are encouraging, because they suggest that it is possible to offer a rigorous health communication curriculum that meets the needs of a diverse group of students. For example, when asked to rank their overall level of satisfaction with their educational experience on a 7-point scale, 87% rated their experience using the choices on the positive end of the scale above the midpoint. Successful graduate health communication programs need to be able to accommodate the backgrounds of a diverse student body. Although our goal is a challenge, our data show that it is attainable.

Career Options and Salary Expectations

A look at the career choices and options that our respondents report shows that both the nonprofit and the profit-making worlds are viable alternatives for those with graduate training in health communication. Many of the graduates of the program in this study work in traditional sectors typically associated with health communication such as public health agencies, hospitals, educational institutions, and nonprofit advocacy and voluntary organizations. The corporate sector, however, also is a common path for health communication graduates to follow. While we cannot be certain of the appropriate classification of all of the most recent jobs reported, we estimate that approximately 45% of the graduates in our sample are in the private sector (e.g., the pharmaceutical/biotechnology industry; advertising, marketing, or PR agencies; health insurance companies; information technology industry). The examples that appear in the Appendix illustrate this trend. Although many enter the private sector, the curriculum might provide too great an emphasis on public

sector issues. In response to the open-ended questions, some of those surveyed expressed the opinion that not enough emphasis was given to the private sector and by implication too much of the focus of the curriculum was on public sector/population-based health communication initiatives. This is an issue that programs need to address if they are truly going to prepare graduates for a wide-variety of health communication roles in the future.

Another theme to emerge from an analysis of the employment history data is the amount of flexibility and mobility that graduates have as they pursue their career interests postgraduation. The master's degree in health communication degree appears to provide an entrée to a wide variety of different career settings. Even a cursory look at the career histories in the Appendix makes it quite clear that the ability to move from one sector to another without being stereotyped as a public or private sector person is quite phenomenal. Truly, it can be said that this degree opens doors, creates opportunities, and facilitates mobility in ways that few master's degree programs do. Although this could be a function of the novelty of the degree, more likely it reflects the explosion of interest in health information at all levels and the paucity of quality content available to meet the demand.

With regard to earning potential, our data show that pursuing health communication as a career might not be a path to wealth, but respectable salaries exist, as does the potential for significant compensation increases, especially in the private sector. Respondents reported that for those with a master's degree for 5 years and 5 or more years of relevant experience salary expectations improve considerably. The median reported expectation level for those with the degree for 5 years is $60,000–$64,999 per year. Examination of Figure 1 suggests that more than 20% of the graduates can expect to make $75,000 or more per year within a relatively short amount of time. In assessing the validity of these estimates, we note that 57% of the respondents in our survey are at least 5 years postgraduation. Therefore, these estimates are not based on mere speculation but on actual knowledge of the job market.

Further, the amount of variability that we observed in salary expectation ranges is really a reflection of the range of possibilities that exist in the job market for people trained in health communication. This simply reinforces one of the overwhelming themes that come across from our data, namely, that a degree in health communication supports a wide variety of career options.

Training in Core Competencies

The job history and salary data suggest that the training received in a health communication master's degree program equips individuals with the skills and knowledge to make important contributions to the field. Do graduates feel, however, that the training they received was adequate? A major challenge that faces the architects of health communication programs is the need to balance theory with practice and to provide trainees with both a sound theoretical understanding of certain core skill and knowledge areas as well as opportunities to practice new skills. The structure of a master's program that requires integrating so many core disciplines provides little opportunity for in-depth study. Such programs are, by definition, generalist programs. Hence, we were pleased to find that respondents, most of whom have 5 or more years experience in the field, did not identify a consistent set of major core competency areas that were missing from their education. Of those who responded to the question about core competencies that might have been neglected

($N = 70$), most graduates responded about the need for application of new technologies to health communication, which only 11% of the respondents to the question identified. Relatively small percentages also named business skills, knowledge of the structure of the health care system, grant writing skills, and marketing skills. Although there is minimal evidence of significant deficiencies, the results suggest that there is some room for improvement. HCPs not only require skills in communication and health, but they also need to build skills that will allow them to take advantage of the latest technologies and implement programs and operations efficiently. That is, we should expect that they know how to be effective managers within twenty-first century health-related organizations. Students increasingly will look for both breadth and depth in their educational experience. Because graduates of these programs need to be prepared to assume varied roles in multiple settings, the onus is on program planners to create programs to meet these needs.

Among the essential skills and areas most cited as having been satisfactorily addressed are message development, theory application, presentation skills, research methods, and the ability to read the medical literature. Indeed, what comes through most clearly from listening both to graduates in the current study as well as academicians and employers (see Fowler et al., 1999; Maibach et al., 1994) is that oral and written presentation skills along with critical thinking and reasoning skills are among the most prized qualities in graduates from programs such as these. The programs that can teach and refine these skills will produce high levels of satisfaction both among their graduates and those who employ them.

Emerging Trends in Health Communication

One issue that deserves special mention relates to emerging health communication trends. Not surprisingly in a post-9/11 environment, risk communication and crisis communication received the greatest number of mentions. This is, we suspect, both a reflection of the realities of a post-9/11 world as well as a reflection of where the funds are to support health communication initiatives. It also reflects, however, a coming of age of risk communication as a discipline in a field of interest for the private sector as much as for the public sector.

Similarly, the Internet and e-learning approaches to teaching and training were mentioned by the next largest group of respondents. These too are areas in which in recent years there has been an explosion of interest fueled by constraints on travel, the penetration of computer-based technology into everyday life, and the desire for career development and enhancement despite the lack of time and resources. This is a trend that will require traditional health communication programs to respond, whether through the provision of more course offerings on-line or teaching students about the skills and tools necessary to develop and deliver materials using e-learning approaches.

Although few of the graduates surveyed are employed in international settings or venues, we still see international health as an important area for programs to consider. Our small number of graduates pursuing jobs in international venues might be more of a reflection of the demographics of the applicant pool and less a reflection of where the jobs are located. Indeed, the international or global market for people trained in the science and practice of health communication, campaign development, and program implementation potentially is enormous. Programs wishing to address this demand should first look at their applicant pools and second review their curricula for the extent to which it is germane to global

health issues. We believe that this is one of the most promising avenues for program development in the future.

Finally, the changing demographics in the American population, the enormous growth in culturally and linguistically diverse populations, and the continuing importance of health literacy, to name just a few, all are trends that demand the attention of program developers and administrators. The challenge for programs will be to continue to teach the basic core knowledge and skills required to produce competent health communication professionals while at the same time not overwhelm programs with myriad additional course and credit hour requirements and costs. Our data show that the rewards for graduates of these programs are many in terms of flexibility, mobility, and potential earning power. It is likely that 10 years from now when successor surveys such as this are published that the variety of career paths described will be even more diverse than today.

Limitations

We realize that this study is not without certain limitations. First, the study sample was drawn from graduates from just two companion programs, and, second, we do not have any meaningful information about nonrespondents. With respect to the first limitation, it should be pointed out that the 131 graduates produced by the Emerson/Tufts program comprise a significant proportion of all master's level graduates in health communication in the United States over the last 10 years. Hence, it is reasonable to assume that their experiences provide a fair reflection of the experiences, especially with regard to employment trends and identified core competencies, of all individual who have earned a master's degree in health communication in the United States in the last decade. Second, while it is true that we failed to reach every single graduate with our approach, we did collect data from 81% of the alumni, which is extremely respectable by any survey research standard. We have no reason to believe that those who could not be located are different in any meaningful way from our respondents or that their absence threatens the validity of our findings.

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Appendix

Ten Examples of Career Paths of People With a Health Communication Master's Degree

Example 1

A 2001 alumna chose a career path that has taken her to multiple offices within one of the federal government's premier health agencies. After receiving her health communication degree, she became a technology transfer fellow at one of the agency's institutes where she coordinated a consumer advocacy program and assisted in the development of the advocacy program website. She also produced and edited public education messages and publications for the institute's information service. After completing the fellowship, she moved to another institute within the agency where she coordinates the planning, development, and implementation of national health education programs for Asian American and Pacific Islander populations.

Example 2

A female graduate from 2000 began her career with a major pharmaceutical company where she marketed diabetes and allergy products to physicians and nurse practitioners. She transitioned from the profit-making world to the nonprofit sector when she took a position as regional advocacy director for one of the country's largest health-related voluntary organizations. She now lobbies elected officials on the local, state, and federal level about health-related legislation, and communicates information on the organization's legislative agenda to lawmakers, volunteers, and media representatives.

Example 3

A 1999 alumna entered the corporate sector after starting work in a nonprofit organization. Her first job after completing her master's degree was as a health communication specialist with a state health department where she developed social marketing strategies and communicated with health care providers regarding health department programs and services. She left her state government position to become a senior account executive with a large public relations firm where she manages accounts for food and nutrition companies.

Example 4
A 1997 graduate got her start as a researcher with a television network news division in New York City, then received a promotion to producer with the same organization. After winning an Emmy for a segment that she produced, she moved to one of the country's leading manufacturers and distributors of over-the-counter medicines where she is the director of media and scientific communication. In her position, she manages external communication, oversees the strategic planning for all public relations activities, and serves as a company spokesperson.

Example 5
A 2002 alumna applied her health communication training first in Africa and now at a major American university. She started as a project coordinator for an international nonprofit organization where she managed a public health initiative in Tanzania. Now she is a research associate at a premier academic institution in the northeast, conducting investigations on the health behavior of older adults.

Example 6
A male graduate from 1996 has developed a career path in the area of marketing and public relations. He started as a communication specialist for the Medicare Health Care Quality Improvement Program for an organization where he was involved in the development of educational materials, special events planning, and media relations. He then took a leadership position with a health care related quality improvement organization as director of communications and marketing. He oversaw the marketing and communications functions for the entire organization and had responsibilities in web design and development, organizational branding, strategic planning, and support of national health campaigns. Most recently he was the director of public affairs and strategic communication for the second largest hospital system in Massachusetts where he headed all internal and external communications.

Example 7
A career in health-related writing has been the choice for a 1998 graduate. At a health-related data corporation, she served as both a senior editor and managing editor. Her responsibilities included developing content and style of on-line health magazines; editing and managing the daily publication of 11 health magazines; researching and writing health and medicine articles; managing a pool of freelance writers; writing, editing, and managing the development of patient education materials; and writing consumer versions of articles from medical journals. She now is the clinical communications manager for a medical device company, where she manages clinical publications for the cardiovascular division. She also develops the annual clinical publications strategy and writes and edits clinical and preclinical sections of study reports and regulatory submissions.

Example 8
A 1996 alumna has focused her career on web-related issues. As content development manager for a contracting firm she oversaw content development, delivery, and maintenance of six web sites for the U.S. Department of Health and Human Services in Washington, DC. One specific project was to develop and manage new content areas, including guidelines and selection criteria for quality health

information and health care, for www.healthfinder.gov, which is the federal government's gateway consumer health site. In her role as a freelance contractor, she now conducts environmental scans of publicly funded research on the Internet and e-health applications utilized in disease management and behavioral change programs.

Example 9

One of the most diverse postgraduate careers belongs to a 1997 alumna who has worked for a public health commission, a voluntary organization, a medical practice, and a hospital. She started as a health educator for the public health commission of a large city in the northeast where she conducted HIV/AIDS and other infectious disease prevention education for the community. Next, as a youth programs specialist for a major voluntary organization, she promoted several programs. After rising to the position of program director for the same organization, she oversaw similar programs and planned professional education conferences for physicians. After a transition to communications director for a medical practice in the south, she coordinated marketing activities for the business. She continues to work in the same state as a community education coordinator for a local hospital where she organizes and implements education programs.

Example 10

A 1996 female graduate, after beginning as a project coordinator for a managed care organization where she wrote training manuals and edited an in-house newsletter, moved to the nonprofit world. She subsequently assumed two different positions there. First, she was director of public education for a state chapter of a health-related foundation; she then became Director of Development for a national health-related association. In both nonprofits, she had major fundraising responsibilities. She then transitioned to the corporate sector where she first served as senior account manager for a medical communications firm and now is account executive for an organization that provides a similar service. In both companies, responsibilities included analyzing the market to identify new business opportunities and providing ongoing counsel and advice to major clients.