1. Health communication as an important field of study

The field of health communication research, education, and application has grown rapidly over the past four decades as a major transdisciplinary area of research, education, and outreach. Health communication scholarship combines expertise from the communication sciences (including the sub-fields of interpersonal, group, organizational, intercultural, family, political, strategic, and environmental communication, rhetorical studies, journalism, mass media, and computer-mediated communication inquiry), the social sciences (with disciplines such as sociology, psychology, anthropology, economics, and political science), the physical sciences (with disciplines such as biology, pharmacology, and chemistry), and with professional fields of study (including Medicine, Nursing, Pharmacy, Dentistry, Health Administration, Public Health, Public Policy, Epidemiology, and Health Informatics) to examine the powerful influences of communication on health and illness [1–5]. The study of health communication can be organized into five major interrelated areas of study (as described in the five-volume “Benchmarks in Health Communication” reference book series) [6–10], which each of the five areas bridging multiple scholarly and professional disciplines:

1) Communication in the delivery of care, that connects health communication science with the communication sub-fields of interpersonal and group communication, intercultural communication, verbal and nonverbal communication, organizational communication, and natural and social sciences such as biology, health technologies, health psychology and medical sociology, as well as with health care professional fields such as medicine, nursing, pharmacy, dentistry, social work, clinical psychology; health administration, therapy disciplines (counseling, physical therapy, occupational therapy, psycho-therapy, etc.),

2) Communication and health promotion, that connects health communication science with communication subfields such as mass communication, journalism, strategic communication, and campaign communication, along with natural and social sciences such as health psychology, social marketing, nutrition, exercise physiology, addiction sciences, and public policy, as well as with professional fields such as public health, health education, health promotion, counseling, social work, and epidemiology.

3) Health risk communication, that connects health communication science with communication subfields such as environmental communication, public affairs, international communication, intercultural communication, journalism, strategic communication, and campaign communication, with natural and social sciences such as health psychology, social marketing, political science, risk analysis, and public policy, as well as with professional fields such as risk management, social work, counseling, international relations, public health, health education, and epidemiology.

4) E-health communication, that connects health communication science with communication subfields such as computer-mediated communication, digital communication, information sciences, media studies, journalism, and strategic communication, with natural and social sciences such as computer science, technology studies, artificial intelligence, robotics, health psychology, and public policy, as well as with professional fields such as engineering, computer programming, risk management, medical records administration, international relations, public health, and health education.

5) Communication in managing health care systems, that connects health communication science with communication subfields such as organizational communication, group communication, public relations, and strategic communication, with natural and social sciences such as industrial psychology, organizational sociology, political science, and public policy, as well as with
professional fields such as public administration, health administration, medical records management, accounting, supervision, public health, health education, medicine, nursing, pharmacy, and other health educational fields of study.

Research in these five major areas of health communication inquiry have generated strong evidence that demonstrates that strategic health communication can help reduce health risks, incidence, morbidity and mortality, and improve quality of life [11].

Many health communication courses have been introduced and are now being offered regularly to undergraduate, graduate, and health professional students in different academic disciplines, such as communication, public health, health education, medicine, nursing, pharmacy, health administration, public administration at colleges and universities around the world. Professional in-service health communication education programs focusing on topics such as conducting health care interviews, gathering health information, delivering difficult news, health education, health promotion, interprofessional relations, collaborative decision-making, intercultural communication, are commonly offered to practicing health professionals (including medical doctors, nurses, pharmacists, health administrators, dentists, and social workers) to maintain their professional accreditation and as part of professional development programs at health care delivery systems and health promotion agencies. Active health communication research programs are underway at universities, health care centers, government agencies, foundations, and corporations locally, nationally, and around the globe. Health communication has become a uniquely transdisciplinary field of study, representing scholars and practitioners from many diverse fields of study.

2. Communication research to promote the health of vulnerable populations

A large body of health communication research focuses on promoting the health of vulnerable and at-risk populations by examining the influences of key communication mechanisms and processes on health outcomes [12–14]. This research includes studies that examine the role of communication in promoting relational coordination between interdependent health care providers and consumers in the delivery of care, best strategies for the effective dissemination of relevant health information to guide health decision making, adapting message strategies to meet the health literacy levels of different targeted audiences, the best social influence practices for promoting adoption of health behaviors and therapies; and effective strategies for providing social support. These studies promote understanding of critical health communication mechanisms and processes.

Large-scale health communication research programs, such as the Health Information National Trends Survey (HINTS) studies being conducted in the US, China, Germany, Japan, the Netherlands, Switzerland, Israel, Colombia, and Singapore track key communication practices and influences in society, examining issues such as health information access and utilization, public understanding of health issues, information gaps, channel utilization, and source preferences [15–17]. Still other intervention-based health communication research studies test new communication programs, policies, tools, and technologies for disseminating relevant health information, influencing health behaviors, and enhancing health outcomes for at-risk populations [18].

3. The central role of information in health care and health promotion

I focus my health communication inquiry on the central role of information in health promotion [11,19]. Health care providers, consumers, caregivers, and policy-makers need relevant health information to make good decisions about disease prevention, care, and successful survivorship [20]. Salient and motivating health information can have profound influences on health behaviors and improve health outcomes [21]. Relevant health information is needed to help reduce the many uncertainties regarding prevention, detection, diagnosis, and treatment of health problems, guiding informed decision making to enhance quality of life. Health communication research helps to manage the high equivocality of health care and health promotion [22]. Responding effectively to health problems is complex, with the need to address many different health risks, each with unique symptoms, causes, and treatments. We live in a rapidly changing health information environment, where new advances expand health knowledge, such as the need to keep abreast of new strategies for disease prevention, screening, diagnosis, and treatment. There are significant barriers to disseminating complex and changing health information to diverse audiences, especially for at-risk populations, who may suffer from limited levels of information access, health literacy, education, and social capital [13,23]. I endeavor to use applied health communication inquiry to increase access, understanding, and use of health information to help enhance health decision making for vulnerable populations.

4. Multi-method collaborative health communication research process

To conduct health communication research that can enhance health outcomes for vulnerable populations I have developed a four-phase research process that includes the:

1) **Assessment Phase**: needs and audience analysis research is conducted, and community partners are recruited with the use of surveys, interviews, focus-groups, observational research, as well as archival and textual analysis research to make sense of the important health issues, concerns, and barriers faced by at-risk populations.

2) **Design Phase**: formative evaluation data are translated into communication programs and interventions (health education programs, campaigns, technologies, etc.) with the use of message testing research, user-centered design, and usability studies) to develop strategies for addressing health communication problems.

3) **Implementation Phase**: process evaluation research is conducted with message tracking, interviews, observations, and message testing to assess the effects of communication interventions on the targeted audiences’ levels of exposure to, awareness of, and acceptance of new health information.

4) **Evaluation Phase**: summative evaluation research is conducted with field experiments, surveys, interviews, and observations to assess the sustained influences of communication interventions on knowledge, attitudes, behaviors, costs, and health outcomes to guide institutionalization, community ownership, and policy development to address important health issues.
5. Health communication inquiry cuts across the continuum of care

Transdisciplinary health communication inquiry has become a pervasive area of applied science that can help address a broad range of important health issues across the continuum of care [23] in areas such as:

1) Prevention: health communication inquiry can examine how to enhance disease prevention for key audiences with the use of evidence-based strategic health communication campaigns, health education efforts, and behavior change intervention programs.

2) Detection: health communication inquiry can examine how to enhance early detection of health problems, with the promotion and design of disease screening programs, as well as by monitoring awareness, support, and use of relevant screening programs.

3) Diagnosis: health communication inquiry can examine how to enhance diagnoses of health problems by promoting effective communication strategies for gathering full diagnostic information, accurately interpreting diagnostic information, and delivering diagnoses meaningfully.

4) Treatment: health communication inquiry can examine the best communication strategies for enhancing health care treatments through consumer/provider collaboration, informed treatment decision-making, and with treatment monitoring and follow-up.

5) Survivorship: health communication inquiry can examine how to meet the communication needs of survivors of serious health problems by helping them readjust to life after treatment, the provision of social support and therapeutic communication, and helping survivors learn how to live with uncertainty.

6) End of Life: health communication inquiry can examine how to enhance end-of-life care through effective communication about transitions from active treatment to end-of-life care, the provision of palliative care and symptom management, and developing programs for providing needed social support.

6. The influences of health communication inquiry

Major health care systems and government agencies have developed specialized health communication administrative and research units to ensure that the best health care and health promotion communication practices are being used. For example, the US National Cancer Institute houses the Health Communication and Informatics Research Branch as a major unit of their Behavioral Research Program that coordinates national health communication research programs, such as the US-based Health Information National Trends Survey (HINTS). The International Studies to Investigate Global Health Information Trends (INSIGHTS) research program is built upon the US-based HINTS research, expanding data collection from North America to many countries in Asia, Europe, the Middle East, and Latin America. New local, national, and international guidelines, legislation, and policies have been introduced to guide best health communication practices. More than ever before, there is growing awareness that all people engage in health communication in terms of the ways they access health information, talk about health with one another, and seek to influence others’ health behaviors.

Future health communication scholarship should be designed to build upon basic research findings about relevant health communication processes and mechanisms (concerning issues such as relational development, social influence, collaborative decision making, information dissemination, and social support) with surveillance research that tracks the ways that key publics (such as consumers, providers, and health care administrators) use communication to access relevant health information and make important health decisions, using this body of research findings to guide building and testing evidence-based and targeted health communication interventions that address important health issues [11,21]. This is a critical process of knowledge synthesis that enables health communication researchers to leverage health communication inquiry into the creation of evidence-based health communication programs, services, technologies, and polices that can enhance important health outcomes [24].

Declaration of competing interest

There is no conflict of interest for the author, Dr. Gary L. Kreps for the manuscript: The Value of Health Communication Scholarship: New Directions for Health Communication Inquiry.

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