

B. AUBREY FISHER MEMORIAL

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LECTURE

## Health at the Margins: Poverty, Communication & Health

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# Health at the Margins: Poverty, Communication and Health by K. Viswanath

The B. Aubrey Fisher Memorial Lecture  
Department of Communication  
University of Utah  
October 22, 2009



## Introduction

These days, it is not uncommon to see headlines in the media about the revolutionary developments in biology—either in the form of a discovery of a new gene that is related to a disease or a new treatment for a serious disease. In the same vein, the breathless and often uncritical coverage in the media about the latest communication gadgets, such as smart phones or new platforms to obtain and/or share information, is common as well.

These twin revolutions in biology and communication foretell a promise of ready cures and more information than one can ask for, impacting both physical and mental well-being as never seen before. Yet, what is less quotidian in the public arena is the fact that untold millions are unable to reap the benefit from these revolutions, leaving behind a group that continues to suffer from a toxic mixture of

poverty, illness and ignorance. It may surprise some that the group of people that is poor is often—though not always—the same group that suffers

disproportionately from disease burden and from lack of access to information that can alleviate those burdens. A closer look at mounting evidence in epidemiology and communication reveal a pattern of growing disparities that span wealth, health and information. Understanding and elucidating the determinants that lead to

these inequalities is absolutely critical should we want to ensure a fair distribution of the fruits of biomedical and informatic revolutions.

We therefore start with a fundamental premise that communication is one central mechanism that explains the widening inequalities in health, and may also offer a solution to address those inequalities.

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More specifically, we contend that *inequalities in communication* contribute to *inequalities in health* and solutions to address health inequalities do well to take into account communication inequalities. We will start with a brief adumbration of health inequalities, followed by a wider discussion of the idea of communication inequality, ending with implications for future research, policy and practice.

## The Biomedical Context

Health is not just about biology, but rather is a product of interaction between biology and environment. The interaction is complex, situational, and is subject to a number of factors. Yet, the fact that there are widening disparities in health is beyond dispute. A series of reports from federal agencies, think tanks and universities, produced with deadening regularity, have documented the gulf among social classes, races and ethnicities on a variety of risk factors, diseases and their consequences across the entire health continuum—prevention, detection, diagnosis, treatment, survivorship and end-of-life issues.

A few facts may illustrate the point better. Tobacco use is the single most *preventable* cause of disease, disability, and death in the United States, killing more than 400,000 a year in the United States and over 5 million people worldwide. The International Agency for Cancer Research estimates that reducing cigarette use by half would save *20 to 30 million lives by 2025 and 150 million lives by 2050* (Stewart & Kleihues, 2003). In the US, tobacco control is often cited as major public health achievement, with the percentage of adult “current smokers” down from 42% in 1965 to about 21% in 2006 (Pleis & Lethbridge-Çejku, 2007).

Despite this tremendous progress, persistent tobacco-related health disparities (THRD) remain between high and low socioeconomic (SES) groups and between different racial and ethnic groups. These

disparities cut across the entire tobacco continuum: tobacco initiation and use; number of cigarettes smoked per day; access to resources and success in quitting; treatment; and health consequences such as cancer and heart disease (Fagan, Moolchan, Lawrence, Fernander, & Ponder, 2007). For example, about 40% of American Indians and Alaska natives smoke compared to 27% of non-Hispanic whites, while some Asian-Americans such as Chinese Americans smoke considerably less than other Asian-Americans. Education is one of the strongest predictors of tobacco use. Almost 40% of those with a General Education Development (GED) smoke, compared to 8% of those with graduate education (Fagan, Moolchan, Lawrence, Fernander, & Ponder, 2007).

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The consequences of smoking are also considerably more insidious for some groups than others. Blacks/African-Americans may smoke at comparable rates to their white

counterparts but have the highest overall incidence and deaths due to lung cancer. In contrast, Hispanics, especially Spanish-speaking Hispanics, are “light and intermittent” smokers, but the consequences of this difference remain unclear (Ackerson & Viswanath, 2009).

Other studies have shown that individuals with lower SES or in certain racial/ethnic groups have less access to, and make less use of cessation services (Fagan, Moolchan, Lawrence, Fernander, & Ponder, 2007), and have less knowledge about the consequences of smoking (Viswanath et al., 2006). Community capacity for tobacco control varies widely by SES and race/ethnicity, and may influence tobacco use as well (Skeer, George, Hamilton, Cheng, & Siegel, 2004). Communication contributes its share in both promoting and reducing tobacco use, as has been well-documented in National Cancer Institute’s tobacco monograph, *The Role of Media in Promoting and Reducing Tobacco Use* (National Cancer Institute, 2008). These disparities are not limited to tobacco use alone.

Obesity rates in the US are among the highest in the world, with 68% of adults being overweight or obese (NIDDK, 2010). However, prevalence varies greatly by race/ethnicity and social class. In 2009, the CDC reported that 36% of blacks were obese, compared to 29% of Hispanics and 24% of whites. These divisions run even deeper when one looks at obesity rates among women. Nearly forty percent of black women are considered to be obese compared to only 22% of white women and 29% of Hispanic women (Centers for Disease Control and Prevention, 2009). Variation in obesity with SES must also be considered in addition, rather than substitution, to racial/ethnic divides. Individuals at the lowest income brackets report the highest obesity rates and conversely those at the highest income brackets report the lowest obesity rates (Wang & Beydoun, 2007). Most unfortunately, these prevalence trends by race/ethnicity and class hold true not only for US adults but for youth as well (Braveman, 2009; Flegal, Carroll, Ogden, & Johnson, 2002).

As an extension, it is of little surprise that there are also significant racial/ethnic and social inequalities in rates of diabetes, as well as diabetes-related complications, in the US. Studies have shown that blacks are 1.4 to 2.2 times more likely to have diabetes compared to whites, while Hispanic Americans have a higher prevalence of diabetes than non-Hispanic individuals. Moreover, the prevalence of diabetes among American Indians is 2.8 times higher than the overall national rate (AHRQ, 2010). Similar trends are seen across SES. Longitudinal studies have shown that children who grow up in poorer households are more likely to develop diabetes as adults compared to peers living in higher income households (Maty, Lynch, Raghunathan, & Kaplan, 2008). Social class as a child is specifically important in the case of diabetes since it can take upwards of 10 to 15 years for an individual to develop the disease. In terms of disease-related complications, end-stage renal disease is 2.6 times higher among blacks compared to whites and rates of early-stage kidney disease (proteinuria) are higher among Hispanics, blacks, and American Indians than among the white population (Carter, Pugh, & Monterrosa, 1996; Perneger, Brancati, Whelton, & Klag, 1994).

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Studies indicate that some of the disparities in complication rates may be attributable to the additional burden of higher hypertension rates among blacks compared to whites, which also places them at greater risk for coronary heart disease (AHRQ, 2010). Additionally, similar trends are seen across social class, with lower-SES individuals experiencing higher rates of renal failure as well as diabetes-related blindness (Bachmann et al., 2003; Pazmiño & Pazmiño, 2003).

In summary, in a variety of chronic and infectious diseases, with small exceptions, those who are in the minority and on the lower rungs of the social ladder lag on metrics of health, parallel to what one finds on wealth. In fact, the two are not unrelated. One may end up being a part of a vicious circle, as low income or education may lead to poor health which in turn may affect income potential. Equally dismaying is the fact that benefits from determinants of upward mobility, such as education, accrue unequally across racial and ethnic groups, leading to increased daily stressors and poor health. The picture, in short, is not pretty.

## Health and the Information Revolution

Interest in health information is intense and appears to have increased over time. Given the increasing variety of information delivery platforms, from mass media to more interactive media such as microblogs, tweets and other social media, and tens of millions of health-related Web sites, it is of little surprise that the amount of information available in the environment has increased over the last 20 years (Viswanath, 2005; Viswanath, 2006). While the amount of attention to any given topic may vary by situation and context, most attention in news media is on news discoveries and treatments rather than on prevention.

In a similar vein, people are increasingly relying on the Internet for information on health and communicating with their providers. For example, recent research from the Pew Internet & American Life Project reported that the Internet has become the third-most popular platform to obtain news, and that health

and medicine are some of the more popular topics on which people seek information from the web (Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010). In fact, the same report suggests that people get their information from a variety of platforms and few people (7%) rely only on one platform. In another poll, Pew studies found that even though about 86% reported using doctors or health care providers as sources of health information, more than 1 out of 2 reported relying on the Internet (Fox & Jones, 2009). More interesting, more than half of online information seeking is for someone else, a role that can be characterized as that of a *proxy information agent* (Galarce, Ramanadhan, & Viswanath, In press; Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010).

In a related context, fast developing and evolving health information technologies (HITs) are enabling institutions such as hospitals and medical practices to connect medical records, *electronic health records* (EHRs), of patients with the capacity to provide information and communicate with teams of health care providers with the hope of making the experience seamless and efficient, and improve quality of care. In fact, the recent “stimulus bill” set aside almost 30 billion dollars to promote national health information technology infrastructure to encourage the adoption of EHRs (Jha et al., 2009).

In all, technological developments in communication and information offer tremendous promise to revolutionize health care in the coming decades.

## Communication Inequality

That the technological revolution will transform health care of the future, whatever the form or shape it may take, is not a matter of debate. And, that communication and information will play an essential – if not a central role – is also widely accepted. Of considerable debate, however, is the perplexing question of why some social groups appear to benefit less from these developments in communication than others and what it may mean to the future of population health.

The reason for the doubt stems from the observed phenomenon of inequalities in the

distribution of communication resources.

Communication inequality may be defined as the differences in access to and use of information resources, attention to and processing of health information and differential capacity to act on the information between different social groups at the individual level and differential capacity in generating, processing and disseminating information at the group level (Viswanath, 2006). This observation builds and expands on the well-known knowledge gap hypothesis formalized by Philip Tichenor, George Donohue and Clarice Olien exactly four decades ago, who observed a growing knowledge gap between social classes when information flows into a social system (Tichenor, Donohue, & Olien, 1970). The communication inequality framework incorporates a wider array of dimensions to the knowledge gap framework, adding to its explanatory power. Equally important, it draws attention to inequalities across the entire communication continuum, from access to the use of information. Our argument, at least in theory, is that each stage of the continuum is important and that differences in even one stage can potentially lead to problems downstream. Moreover, each stage provides an opportunity to successfully intervene to reduce inequalities.

A few illustrative data will make the point. A considerable body of work by our group and others has shown major differences between people from higher and lower socioeconomic status and different racial and ethnic groups in subscription to cable or satellite TV and the Internet, daily readership of newspapers, differential time spent with different media, preferences for different media, especially for health information, attention to health content in different media, processing (confusion) of health information, trust in media, knowledge gaps in health and consequentially intermittent smoking (Ackerson & Viswanath, 2009; 2008; Blake, Wallington & Viswanath, In Press; 2010; Kontos, Bennett, & Viswanath, 2007; Viswanath, 2006; Viswanath et al., 2006; Viswanath & Kreuter, 2007). Studies also show significant differences in health information-seeking, with those with more formal schooling more proactively seeking health information compared to those with less schooling (Ramanadhan & Viswanath, 2006).

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While it is clear that class and race are significant determinants of access to and use of information in the traditional media, the extent to which they continue to influence access to and use of Internet is startling. Despite the growing penetration and the use of Internet, the digital divide is persistent and stubborn. For example, data from Pew research shows that 43% of African-Americans reported having broadband connections at home compared with 57% of whites and 56% of English-speaking Hispanics. More surprising, 25% of low-income Americans, those whose household incomes are \$20,000 annually or less, report having broadband at home in 2008, a figure that came *down* from the 28% in 2007 (Horrigan, 2008).

Our hypothesis is that economic recession may have forced those with limited discretionary income to forego subscription to the Internet, a recurring expenditure. What this clearly demonstrates is the

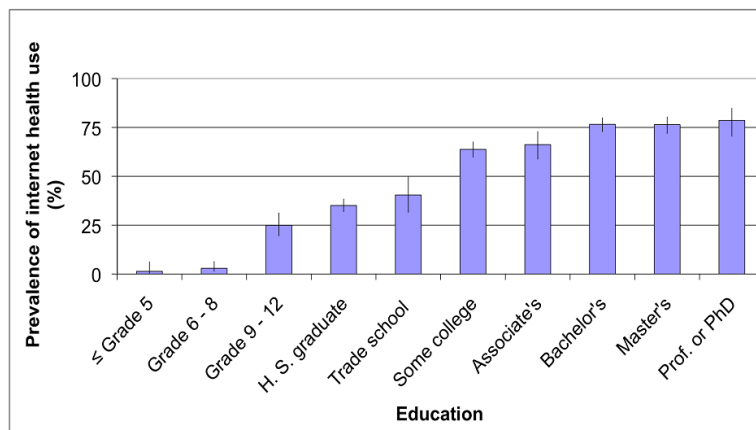
extent to which enjoyment of the so-called “new media” is subject to the vicissitudes of economics and poverty.

The lower end of the economic spectrum suffers from a particularly

devastating lack of access to information, and the data in this regard are telling. Data from the 2005 Health Information National Trends Survey (HINTS) tell a powerful story. People whose incomes fall 100% below the Federal Poverty Level (FPL) are one-third as likely as those whose incomes are 300% over the FPL to report home internet use (Figure 1).

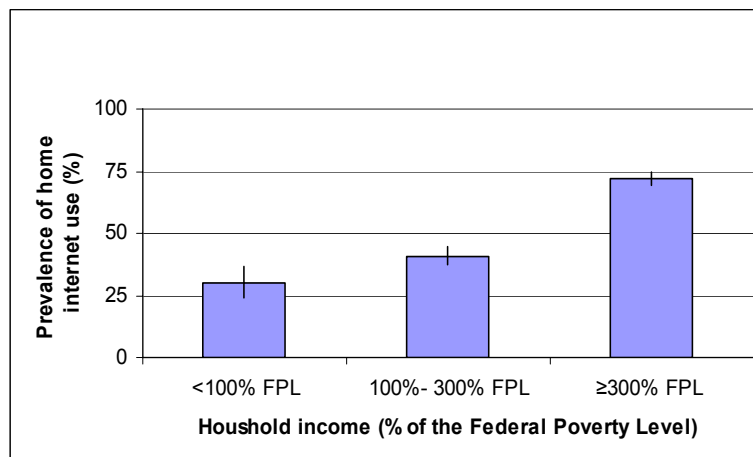
**Despite the growing penetration and the use of Internet, the digital divide is persistent and stubborn.**

**Figure 1: Use of interest for health by education, 2005 HINTS**



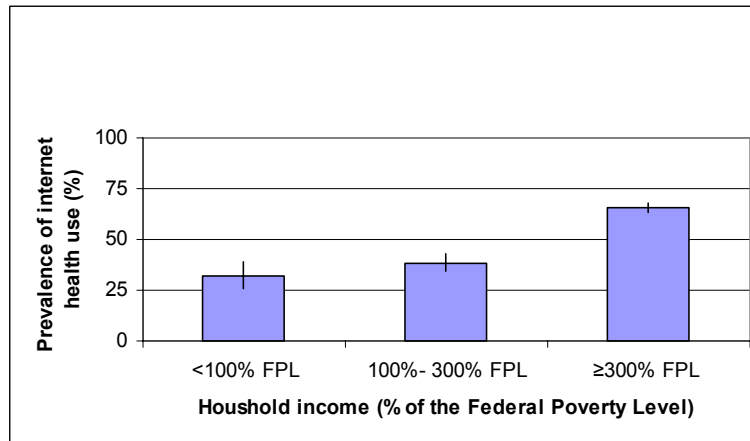
Those with more formal education are more likely to report using Internet for health compared to those with less schooling (Figure 2).

**Figure 2: Home internet use by household income, 2005 HINTS**



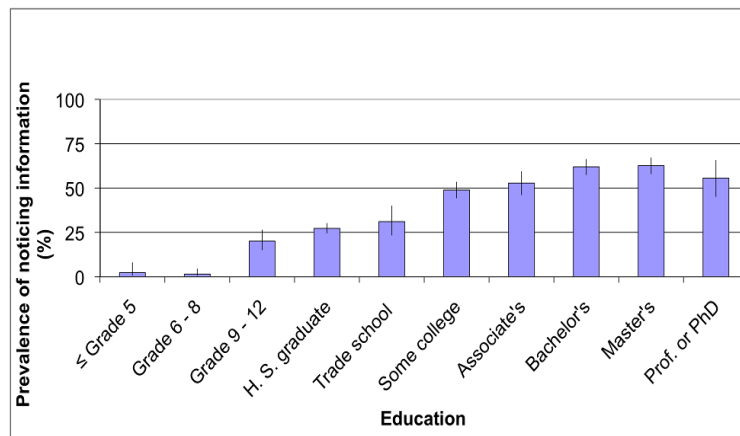
While about 70% of those 300% over the Federal Poverty Level (FPL) reported using the Internet for *health*, only a little more than 30% of those 100% below the FPL reported doing so (Figure 3).

**Figure 3: Use of Internet for health by household income, 2005 HINTS**



Attention to a topic is known in our field as a robust predictor of knowledge in the conventional media, and it varies by social class (Viswanath, 2005; Viswanath et al., 2006). Data from HINTS 2005 mirror a similar trend with the Internet. Again, those at higher educational levels, not surprisingly, reported noticing health information more on the Internet compared to those with less education, with those less than high school education noticing the least (Figure 4).

**Figure 4: Noticing health information on the Internet by education, 2005 HINTS**



The theme could be repeated on a variety of dimensions of health communication where data paint a compelling picture of education, income, race and ethnicity acting as powerful determinants of how people access information, how much attention they pay it, what they learn and what they do with it.

These inequalities in communication are also reflected at the group and organizational level. Some

organizations and groups have greater capacity to generate, process and disseminate information compared to other groups, thereby enhancing their ability to influence the public agenda. The case of tobacco is an interesting illustration of this proposition. The tobacco industry, through its sponsorship of research, “think tanks” and writers, used sophisticated public communication strategies to counter the

arguments of tobacco control advocates and scientific research documenting the deleterious effects of tobacco use (National Cancer Institute, 2008). Several analyses of tobacco industry documents demonstrate their attempts to discredit government reports by influencing journalists (Muggli, Hurt, & Becker, 2004). If one were to fight such industries that contribute to enhanced risk for disease, inequalities in communication could act as significant deterrents.

In a different context, in the domain of health care, a series of reports by Jha and colleagues document an emerging digital divide where hospitals that care for poor patients are falling behind in the adoption of electronic health records (Jha et al., 2009). They report that having electronic health records (EHRs) is associated with better-quality health care, and hospitals that treat the poor, elderly, African American and Hispanic patients are much less likely to have EHRs. Lack of capital is cited as a major barrier to the adoption of EHRs among hospitals treating a larger proportion of poor patients. Last, they suggest that differences in quality of care are muted, if not disappear, if EHRs are adopted.

## Conclusions: A Plea for More Attention to Class and Poverty

It is evident that class matters. Why poverty and class have not been more central to health communication inquiry is worth brief speculation. We presume that the challenge lies in how we both conceptualize class and poverty and the methods we use to collect data. We need more theoretical formulations that place class and poverty at the center of our theoretical frameworks and explain the disparate outcomes in health or wealth—or any outcome for that matter. In fact, we have been working on precisely such

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a model, the Structural Influence Model (SIM), that strives to link social determinants such as poverty, race, neighborhoods and other social contextual conditions with health outcomes

through health communication dimensions such as access to and use of information, attention, processing and a capacity to act on information (Viswanath, Ramanadhan, & Kontos, 2007).

We believe that conceptualization of relative status of individuals and how that difference affects an individual or group’s wellbeing requires a deeper analysis of social organization and how resources are distributed in the system. It raises not just academic but political and moral questions, which are possible reasons why we may shy away from this approach.

It is equally likely that the methods and measures we use and our analytical strategies do more to mask the disparities than reveal them. For example, we seldom oversample the poor or minorities in our surveys, something that is necessary for a deeper analysis. Our measures, too, have to be more expansive to account for nuanced distinctions and differences among social groups—something that gets glossed over when categories are collapsed. Sometimes, income alone is insufficient and other indicators of class such as wealth and indebtedness may be more powerful predictors.

Our analytical models usually “control” for effects of education or income or race or ethnicity instead of testing for interactions and combined effects of these attributes on outcomes of interest. Last, it is possible that the individual level of analysis continues to be the more dominant strain in most health communication research. Whatever the reasons, it is imperative that we pay greater attention to our theories and methods to advance the science and practice of health communication accounting for class and poverty.



In closing, I argue that class and poverty are central to understanding communication inequalities and health disparities. At a time of great transformation in health and communication science, it is imperative we ask such questions as: Who speaks for the poor and who gives them voice? As information systems are being designed, who will sit at the table to influence the information architecture of the future? What are the capacity to manipulate information technologies? And,

lastly, what are the consequences for the society if some groups are unable to take advantage of the biomedical and information revolutions of our age? Answers to these questions are not only of academic interest but are a moral and ethical imperative allowing us to generate not “politically correct” but “correct” science (Krieger, 2005).

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## B. Aubrey Fisher

B. Aubrey Fisher served as a faculty member in the Department of Communication at the University of Utah from 1971 to 1986. He began his professional career as a high school teacher and radio announcer in South Dakota. After receiving his Masters and Ph. D. degrees from the University of Minnesota, he spent four years on the faculty at the University of Missouri.

Professor Fisher was a prominent scholar in interpersonal communication and communication theory. His published work includes three books and more than thirty-five articles and book chapters. He was considered one of the most notable and influential communication scholars of his time. He held numerous offices in professional organizations, including president of the Western Speech Communication Association, president of the International Communication Association, and editor of the *Western Speech Communication Journal*.

The B. Aubrey Fisher Memorial Lecture was established by the Department of Communication in 1986 to recognize Professor Fisher's outstanding achievements and to provide a forum for presenting original research and theory in communication.

## K. "Vish" Viswanath

K. "Vish" Viswanath is an Associate Professor in the Department of Society, Human Development, and Health at the Harvard School of Public Health. He is also a faculty member in the Center for Community-Based Research at the Dana-Farber Cancer Institute and Director of the Health Communication Core of the Dana-Farber/Harvard Cancer Center. Professor Viswanath earned two Bachelors degrees in Hyderabad, India, in journalism and chemistry. He received a Masters degree (1986) and Ph.D. in Mass Communication from the University of Minnesota (1990).

Professor Viswanath was recruited to Harvard University in 2004 from the National Cancer Institute, where he served for four years as the Acting Associate Director of the Behavioral Research Program, Division of Cancer Control & Populations Sciences. Before NCI, he was a tenured faculty member at Ohio State University in the School of Journalism and Communication with an adjunct appointment in the School of Public Health.

His research is in the role of communication in health with a particular focus on communication inequalities and health disparities. He has written more than 90 journal articles and book chapters concerning communication and health disparities, e-health and digital divide and the delivery of health communication interventions to underserved populations. He received the Mayhew Derryberry Award from the American Public Health Association for his contribution to health education research and theory in November 2009.

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