INVESTIGATOR AWARDS IN
Health Policy Research

When Income Affects Outcome: Socioeconomic Status and Health

Jo C. Phelan, Ph.D., and
Bruce G. Link, Ph.D.

Jo C. Phelan, Ph.D., and Bruce G. Link. Ph.D., have no easy answers for improving the public's health. But they say they are certain of one thing: As long as we allow glaring disparities in wealth, education, and other socioeconomic factors to persist, we will continue to see glaring disparities in illness, health-related pain and suffering, and even death.

In their view, a person's health is as much a product of education, financial resources, and social status as it is of genetic make-up, personal habits, and exposure to disease. Phelan, an associate professor of social medical sciences at Columbia University's Mailman School of Public Health, and Link, a professor of epidemiology and social medical sciences there, are redefining the role that social conditions play in the health of populations. With support from a Robert Wood Johnson Foundation Investigator Award in Health Policy Research, they have explored the relationship between socio-economic status and health and found that seeming intangibles such as knowledge, power, prestige, and social connections are among the mix of social factors that shape a person's health.

Their message to policymakers: Focusing solely on individual risk factors — like smoking, obesity, physical inactivity, and substance use — as a means to improve public health is missing the forest for the trees. The best course, they argue, is to also think broadly and examine the effects of non-health policies — such as tax laws and regulations, minimum wage requirements, Head Start programs, and parental leave benefits — on poverty, education, access to power, and other social factors that affect health.

In short, Phelan's and Link's research challenges policymakers to address social inequalities in order to reduce inequalities in health. Social conditions, not viruses and pathogens, are the root causes of health inequalities, they assert. "If we truly wish to reduce inequalities in health, we must address the social inequalities that so reliably produce them," they say.

Their theory recognizes that "societies have always shaped patterns of disease and that they do so in ways that reflect the distribution of advantage and disadvantage in those societies." For example, health risks such as dirty water, poor hygiene, and diet typically can be minimized with access to new knowledge and treatments. But a person's ability to avoid risks and minimize the consequences of disease by tapping into those resources is directly related to his socioeconomic status and the fundamental social causes of disease, Phelan and Link say. Thus, people with access to wealth, knowledge, and power have the means to take advantage of all the relevant health information available in any specific place or at any given time.

A National Program of
The Robert Wood Johnson Foundation

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of New Jersey

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Exploring the Impact of Society on Disease and Health

The researchers put their theory of fundamental social cause to the test by empirically assessing the role that social resources associated with income and education play in predicting health outcomes. In every case, Phelan and Link report that measures of social resources remain strong predictors of health.

Advances in public health and breakthroughs in medical technology have contributed to the decline of such scourges as diphtheria, dysentery, typhoid fever, and syphilis. Despite these advances and breakthroughs, the link between socioeconomic status and many disease outcomes has not weakened. In fact, Phelan and Link argue, that connection may be stronger than ever, lending additional support to their theory of the fundamental relationship between social class and health.

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Phelan and Link have gone back in time to predict the future: The association between socioeconomic status and disease has endured — and it will continue to endure. As one set of risk factors — such as unsanitary water supplies and low immunization rates — is eradicated, a new set — such as pollutants, workplace injuries, and new infectious diseases — quickly replaces it. Those people in society with the resources needed to avoid or minimize health-related risks will be in a much better position to attain optimal health, no matter what the prominent risk and protective factors are in a given place or time.

To support their case, Phelan and Link point to the following examples:

- The association between smoking and socioeconomic status did not surface until well into the 1960s, when new information emerged about the dangers of smoking. Until then, people at all points on the socioeconomic scale were equally likely to smoke. But once this new information spread among the population, people of higher socioeconomic status were more likely to quit smoking and less likely to start than people of lower socioeconomic status.

- When HIV/AIDS emerged, it struck all segments of society with little regard for socioeconomic standing. But as public knowledge concerning risk factors improved and as new, expensive treatments became available, the socioeconomic gradient shifted. Today, HIV/AIDS is more common among people who are poorer and less educated.

- Similarly, the evidence suggests that coronary artery disease initially was more prevalent among people in the higher socioeconomic brackets. Again, as health conditions and health behaviors improved for persons in higher socioeconomic brackets, the disease distribution shifted. Today, coronary artery disease is more prevalent among people in the lower socioeconomic strata.

Phelan and Link predict that similar developments will unfold in the aftermath of the genomics revolution and the mapping of the human gene: People who enjoy greater wealth, education, and power will likely benefit the most from new discoveries in genetic medicine and treatment. As more is learned about how to enhance and manipulate genes to control and treat disease, they expect the socioeconomic gradient to strengthen.

Improving Health and Reducing Disparities: A Balancing Act for Society

Breakthroughs in medical science can do a lot to improve public health, but history has shown that, more often than not, information about and access to important new interventions are enjoyed primarily by people at the upper end of the socioeconomic ladder. As a result, the wealthy and powerful get healthier, and the gap widens between them and people who are poor and less powerful.

What does this mean for policymakers who, on the one hand, are challenged to improve the health of the general public and, on the other hand, to reduce health disparities? Phelan's and Link's research suggests that there is a tradeoff.

During the 1950s, for example, infant mortality was much higher among blacks than whites. Over time, as health officials sought to improve the overall infant mortality rates for both blacks and whites, infant mortality dropped significantly in both groups. Despite the overall improvement, however, the disparity between the two groups actually increased because the white infant mortality rate was so much lower to begin with.

Phelan and Link view their research on society's capacity for shaping health as a call to action. They assert that it is "the job of health professionals to stay vibrantly attuned to these processes." Similarly, they urge health policymakers to begin thinking more broadly about non-health policies, because they ultimately have an impact on health beyond their stated policy goals.

It's up to society — and especially to policymakers — to take a close look at the broader picture of public health, its social determinants, and policies that, though seemingly unrelated to health, have a significant impact on it.

Phelan and Link urge medical sociologists and social epidemiologists to inject a fresh perspective into the debate on these and other issues by analyzing more thoroughly their potential health impacts — in short, to create a health impact statement to augment policy discussions on specific issues.

That, they argue, is where the rubber could meet the road — and where serious headway in improving public health by reducing socioeconomic inequalities could be made. In Phelan's and Link's eyes, how society chooses to deal with social inequalities is in fact a matter of life and death; the health of its population is at risk.

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About the Investigators

Jo C. Phelan, Ph.D., is an associate professor of sociomedical sciences at Columbia University's Mailman School of Public Health. Previously, Phelan taught in the Department of Sociology at both the University of Southern California and the University of California at Los Angeles. With degrees in psychology and sociology and postdoctoral training in psychiatric epidemiology, Phelan has written extensively on socioeconomic status and social disparities as well as mental illness, stigma, and homelessness.

In 1992, Phelan received the Patricia Kendall Student Paper Award from the American Association for Public Opinion Research in New York. More recently, in 2001 she received the Award for Best Publication from the American Sociological Association Section on the Sociology of Mental Health.

Bruce G. Link, Ph.D., is a sociologist and a psychiatric/social epidemiologist at Columbia University's Mailman School of Public Health. Currently a professor of epidemiology and sociomedical sciences at Columbia University and a research scientist at the New York State Psychiatric Institute, Link's interests have focused not only on socioeconomic status and health, but on the health consequences of stigmatization and marginalization, the process of stress, the prevalence of homelessness, and the connection between mental illness and violent behaviors.

His current research dates back to his graduate school days, when he became interested in the factors that link socioeconomic status and mental health outcomes. Early on, Link's work focused on occupations as risk factors, especially for schizophrenia and major depression. This work ultimately led him to systematically explore the types of causes that link socioeconomic status to health outcomes.

Link's groundbreaking contributions to the field of medical sociology have not gone unnoticed by his peers. His colleagues awarded him the Leonard Pearlin Award for Career Contributions by the American Sociological Association, and in 2002 he was elected to the Institute of Medicine.

Publications

Through combined efforts under their Robert Wood Johnson Foundation Investigator Award in Health Policy Research, Dr. Phelan and Dr. Link have written seven articles and book chapters that explore and explain the persistent association between socioeconomic status and mortality:

- Phelan JC, Link BG, Diez-Roux A., Kawachi I., Levin B. "Preventability of Death and SES Gradients in Mortality: A Fundamental Cause Perspective." Submitted.
- Link BG, Phelan JC. "McKeown and the Idea that Social Conditions are Fundamental Causes of Disease." *American Journal of Public Health*. 43:(2)247-53, 2002.
- Link BG, Phelan JC. "The Fundamental Cause Concept as an Explanation for Social Disparities in Disease and Death." In *The Handbook of Medical Sociology,* Bird C., Conrad P., Fremont A. Upper Saddle River, N.J.: Prentice Hall, 2000.
- Diez-Roux A., Link BG, Northridge M. "A Multilevel Analysis of Income Inequality and Cardiovascular Disease Risk Factors." *Social Science and Medicine*. 50:673-87, 2000.
- Link BG, Northridge M., Ganz M., Phelan JC. "Social Epidemiology and the Fundamental Cause Concept: On the Structuring of Effective Cancer Screens by Socioeconomic Status." *Milbank Quarterly*. 76:375-402, 1998.
- Link BG, Phelan JC. "Understanding Sociodemographic Differences in Health—The Role of Fundamental Social Causes." *American Journal of Public Health*. 86:471-3, 1996.
- Link BG, Phelan JC. "Review: Why Are Some People Healthy and Others Not? The Determinants of Health of Populations." *American Journal of Public Health*. 86:598-9, 1996.

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