MARIAN LEVY AND MARLA B. ROYNE

The Impact of Consumers' Health Literacy on Public Health

The disturbingly low rates of health literacy in the United States translate into increased health risks across society as a whole, and vulnerable populations, in particular. The public health and economic implications of these trends are discussed, and suggestions for improving literacy are provided. If implemented, these suggestions have potential for enhancing public health and quality of life.

Despite technological advances and twice as much per capita spending on health care as other nations, health outcomes in the United States are among the worst in the industrialized world (United Nations Human Development Report 2007). Low health literacy contributes to the bleak reality of public health for society as a whole and vulnerable populations in particular: high rates of infant mortality; chronic diseases that can be offset by preventive practices (healthy diets, physical activity, avoidance of tobacco); and cancer mortality that could be reduced by early detection and screening.

As chronic illnesses have replaced infectious diseases as the leading causes of death, prevention of disease has taken the forefront in public health (Satcher 2007). Prevention strategies are organized along three levels, each affected by health literacy. Concomitantly, there has been a shift from sole emphasis on individual consumer behavior to encompass an ecological approach, considering the social and environmental determinants of health. This, too, has implications for health literacy.

The first level of prevention, known as *primary prevention*, refers to inhibiting the development of disease before it occurs. Entire populations are targeted with universal strategies designed to prevent problems from developing in the first place. For example, primary prevention of cardiovascular disease targets healthy eating and exercise behaviors. Emphasis is placed on the interaction between the individual consumer, social

Marian Levy is an associate professor and director of Master of Public Health Program, University of Memphis (mlevy@memphis.edu). Marla B. Royne is a professor and chairs the department of Marketing and Supply Chain Management, Fogelman College of Business and Economics, University of Memphis (mstaffrd@memphis.edu).

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networks, and environmental contexts. Low health literacy affects the ability of the consumer to identify and select healthy foods, read labels, and comprehend health education materials. On a community level, low health literacy interferes with community participation, engagement, and empowerment. Health literacy affords the knowledge and skills required for effective community mobilization and political advocacy needed to demand healthy school lunches, safe neighborhoods, and fitness opportunities.

Secondary prevention, also called "screening," refers to measures that detect disease before it is symptomatic. It is selective prevention and aimed at specific groups who may be at risk. Examples include early detection of cancer via mammograms, Pap smears, and colonoscopies. Individuals with limited health literacy are less likely to recognize the life-saving benefits of early detection. Therefore, cancer is detected at later stages, adversely impacting morbidity and mortality.

Tertiary prevention efforts focus on consumers already affected by disease and attempt to reduce resultant disability and restore functionality. This is targeted prevention that is aimed at people who have already demonstrated serious problems. Efforts are made to restore health and quality of life. Consumers with low health literacy levels experience difficulty accessing and receiving appropriate care. Many lack skills necessary for making appointments, arranging transportation, completing paperwork, communicating symptoms, comprehending instructions, and reading prescription labels (Kiefer 2001).

In an era of medical cost containment, levels of health literacy have significant economic and public health ramifications. Health care has become "consumer-centric," relying on consumers to navigate the health system, evaluate treatment options, and negotiate among multiple provider settings. Moreover, in the Medicare program, beneficiaries are confronted with decisions that demand them to analyze differences among health coverage options, prescription drug plans, and quality of care among a range of providers and hospitals. If consumers are unable to process and comprehend the needed information, they will be unable to make the healthiest and most financially prudent decision. The result is increased costs to society.

The economic consequences of low health literacy are profound. Recent estimates place the annual per capita cost of low health literacy at $3,905; this equates to the costs of health coverage for more than 60 million Americans. Some of this is attributed to the fact that individuals with limited health literacy skills use fewer *preventive* services and make greater use of *treatment* services related to disease and

medical complications, which are invariably more costly (Baker 1998, 2007; Gordon 2002; Scott 2002). Additionally, low literacy has been associated with more frequent use of emergency services, higher rates of hospitalization, and longer hospital stays (Friedland 1998; Howard 2005), services that are significantly more expensive than preventive behaviors. This is particularly disturbing given the increased focus on preventive measures in public health campaigns.

Vulnerable populations are particularly at higher risk for low health literacy; this increased risk ultimately translates into increased health problems. Vulnerable groups include the elderly, racial and ethnic minorities, individuals with less than a high school education, low-income groups, and individuals with limited English proficiency.

For example, older Americans are proportionately more likely to have low rates of health literacy. Studies point to the inability of many elderly to independently navigate the health care environment, process health information, self-manage a chronic disease condition, or make appropriate health decisions. Many older Americans face significant challenges in health literacy related to understanding the Medicare program. As noted by Sofaer (Informing Older Consumers about Health Care Quality 2000) "The choice content facing older Americans is complex, and their knowledge about the 'underpinning' of their health care coverage, the Medicare program, is limited, as is their knowledge of other traditional and newly emerging insurance options." The consequences of low health literacy for the elderly are dire, as recent research with a large sample of community-dwelling elderly indicates that poor health literacy (measured by reading fluency) "had a strong independent association with mortality" (Baker et al. 2007). The public health implications are great, for it has been estimated that nearly half (44%) of adults aged 65 and older are functionally illiterate. (National Center for Education Statistics 2006).

Vulnerable populations also include those with limited English proficiency, such as immigrant populations. While Hispanics currently constitute approximately 12.5% of the U.S. population, by 2050, an estimated 102 million Hispanics will reside in the United States, nearly 24.5% of the total U.S. population. The public health implications for this group are profound. The inability to speak English is significantly related to lower levels of care seeking and consequently, diminished access to health care (NCLR 2004). More specifically, linguistic issues can result in inaccurate histories, nonadherence, poor continuity of care, less preventive screening, miscommunication, difficulties with informed consent, inadequate analgesia, use of harmful remedies, delayed immunizations, and lower

likelihood of having a primary care provider (Woloshin 1997). Children whose parents primarily or exclusively speak Spanish were less likely to have a regular source of medical care, and less likely to have visited a health care provider in the past year, even after adjusting for relevant covariates including current health status, disability, usual source of care, medical care use, nonreceipt of needed care, refusal of medical care, access to care, and financial problems from illness (Kirkman-Liff 1991). Non-English speaking patients are less likely to receive adequate information about the course of treatment and understand fewer medication instructions (Shapiro and Saltzer 1981). In one anecdotal case, a young child taking medication for an earache never improved until a subsequent visit when the health provider questioned the mother. It was only at this later visit when she learned that the medication was to be taken orally, not spooned into the child's ear.

According to *Hablamos Juntos* (We Speak Together), a national program of the Robert Wood Johnson Foundation:

> Language barriers can affect the delivery of adequate patient care through poor exchange of information, loss of important cultural information, misunderstanding of physician instruction, poor shared decision-making and ethical compromises. Linguistic difficulties can also result in decreased compliance with medication regimes, poor appointment attendance, and decreased satisfaction with services.

Hablamos Juntos reports that 80% of limited English proficient patients have difficulty explaining symptoms or asking questions of a provider who speaks only English. Language barriers lead to a serious information gap in health literacy, comprehension of medical interactions, access to care, and subsequent health care costs.

The Institute of Medicine Report (Health Literacy: A Prescription to End Confusion 2004) recommends several potential avenues for change. These suggestions include supporting health literacy research, developing and applying culturally appropriate new measures of health literacy, developing and testing approaches to improve health communication with culturally diverse populations, incorporating health-related tasks into existing lesson plans, and continuing education and curricula in professional health-related schools that promote health literacy.

While these actions are laudable and some of them are currently in process, they will likely take considerable time and effort to implement. There are short-term actions, however, that can be initiated immediately for quicker impact. For example, written materials can be redone to include shorter sentences, simpler messages, active voice, large print, and pictures. Nonprint media, such as visual aids, video communications,

television, radio, and audiotapes, can be produced to provide medical instructions. In addition, physicians, pharmacists, and other health care workers should take extra time to ensure consumer comprehension and to follow up with patients and families. Finally, all health care workers should be provided with training in cultural competence. Such programs require relatively minimal investment with substantial potential outcomes in terms of increased understanding among low literate populations.

It is clear that health literacy is both a consumer and public health issue that exacts enormous societal costs. Low literacy affects a range of populations with critical health and financial implications, but society as a whole bears the financial burden of low health literacy. Additional stakeholders include the insurance industry, policy makers, and educational training institutions. The long-term solution lies in improving the literacy of the population at large through schools and other community-based programs. It is particularly important to offer these programs to geographically diverse areas to reach the vulnerable populations that suffer the most severe consequences of low health literacy. Such programs should stress basic knowledge, critical thinking, problem-solving, and analytic ability to educate the groups on a myriad of pertinent health topics. But the population as a whole must also be educated. The bottom line is that health literacy affects all consumers from a financial and a health standpoint. Consequently, consumers must demand better from our educational institutions, our health institutions, as well as ourselves.

REFERENCES

2007. United Nations Human Development Report, based on 2004 WHO data. (http://hdr.undp.org/en/).

Baker, David W., Ruth M. Parker, Mark V. Williams, and W. Scott Clark. 1998. Health Literacy and the Risk of Hospital Admission. *Journal of General Internal Medicine*, 13 (12): 791–798.

Baker, David W., Michael S. Wolf, Joseph Feinglass, Jason A. Thompson, Julie A. Gazmararian, and Jenny Huang. 2007. Health Literacy and Mortality among Elderly Persons. *Archives of Internal Medicine*, 167 (14): 1503–1509.

Friedland R.B. 1998. Understanding Health Literacy: New Estimates of the High Costs of Inadequate Health Literacy. In *Proceedings of Pfizer Conference Promoting Health Literacy: A Call to Action* Washington, DC: Pfizer, 6–10.

Gordon M.M., R. Hampson, H.A. Capell, and R. Madhok. 2002. Illiteracy in Rheumatoid Arthritis Patients as Determined by the Rapid Estimate of Adult Literacy (REALM) Score. *Rheumatology*, 41 (7): 750–754.

Howard, David H., Julie A. Gazmararian, and Ruth M. Parker. 2005. The Impact of Low Health Literacy on the Medical Costs of Medicare Managed Care Enrollees. *American Journal of Medicine*, 118 (4): 371–377.

Institute of Medicine. 2004. *Health Literacy: A Prescription to End Confusion* Washington, DC: National Academies Press.

Kiefer, Kristen M. 2001. *Health Literacy: Responding to the Need for Help.* Washington, DC: Center for Medicare Education. www.MedicareEd.org.

Kirkman-Liff, Bradford and Delfi Mondragón. 1991. Language of Interview: Relevance for Research of Southwest Hispanics. *American Journal of Public Health*, 81: 1399–1404.

National Center for Education Statistics. 2006. *The Health Literacy of America's Adults: Results from the 2003 National Assessment of Adult Literacy* Washington, DC: U.S. Department of Education.

National Council of La Raza (NCLR). 2004. *The Health of Latino Communities in the South: Challenges and Opportunities*. www.nclr.org (Accessed 9/22/04).

Older Americans 2008. *Key Indicators of Well-Being. Federal Interagency Forum of Aging Related Statistics*, XVI. www.agingstats.gov (Accessed 2/21/09).

Quality Interagency Coordination Task Force, Workgroup on Consumer Health Information. Informing Older Consumers about Health Care Quality: Issues in Implementing a Research and Action Agenda. Discussion Paper by Shoshanna Sofaer. October, 2000. http://www.quic.com/consumer/conference/sofaer1.htm.

Satcher, David and Eve J. Higginbotham. 2007. The Public Health Approach to Eliminating Disparities in Health. *American Journal of Public Health*, 98 (3): 400–403.

Scott, Tracy L., Julie A. Gazmararian, Mark V. Williams, and David W. Baker. 2002. Health Literacy and Preventive Health Care Use among Medicare Enrollees in a Managed Care Organization. *Medical Care*, 40 (5): 395–404.

Shapiro, J. and E. Saltzer. 1981. Cross-cultural aspects of physician-patient communication patterns. *Urban Health*, 10 (10): 10–15.

Woloshin, Steven, Nina Bickell, Lisa M. Schwartz, Francesca Gany, and H. Gilbert Welch. 1995. Language Barriers in Medicine in the United States. *Journal of the American Medical Association*, 273 (9): 724–728.