Education Saves Lives

John J. Frey, III, MD, *WMJ* Medical Editor

An article from the November 28 issue of *Science* may be one of the most important articles about health and society in decades, linking education worldwide to survival rates from natural disasters.[1] The authors make the case that more lives are saved by expanding education—particularly for young women and girls who are often family decision makers—than by large engineering projects seeking to mitigate the effects of rising seas and increased severity of storms. The more literate and educated the population, the fewer people die in hurricanes, tsunamis, tornadoes, floods, and natural disasters of all sorts. While the linkages are not apparent at first, the article discusses research that shows that education increases adaptive choices and decreases vulnerability. Education increases income and enables families to live in less high-risk locations. Lutz and colleagues use 30 years of data from around the world to show that increasing education would dramatically shift the population curve, not merely through the inverse relationship between education and birth rate, but by helping people make better personal choices of all kinds, including their geographic and built environments, which will save lives.

On a local rather than global level, we know that our patients who have less education and therefore lower incomes often engage in a disproportionate number of poor choices (eg, smoking and/or drug use) that lead to worse health outcomes such as mental health issues and obesity. They also suffer complications of chronic illness at higher rates than patients who have more education.[2] Office-based approaches to these problems can work around the edges, and health education constructed with ethnic and cultural input can have some positive effects.

> Education is an investment that pays off in many ways, some more evident than others, and disinvestment or neglect leads to long-term health outcomes that burden society.

But all the research on social determinants of health shows that education and culture almost always trump medical care. Practice redesign only goes so far—and often not that far with the people who need it most—without entering into systems in communities, such as schools, safe housing, and transportation, that need improvement as well. Education is an investment that pays off in many ways, some more evident than others, and disinvestment or neglect leads to long-term health outcomes that burden society.[3] Perhaps the best activity physicians could participate in is to be civically engaged in active ways in schools and communities where patients live their lives on a daily basis. Clinicians also need to be engaged in schools, from pre-K through college, to both educate students and themselves and to influence public policy relating to social needs. Doing so in a respectful and open-minded way is also an important part of clinicians' education about the challenges their patients face.[4]

The article by Ngui and colleagues[5] in this issue of *WMJ* describe a community-based social marketing and education campaign created in an attempt to increase immunization rates in vulnerable populations. The authors used interviews to assess how and what neighbors need to know about immunization practices and then developed a series of posters on basic themes directed toward a number of health habits. Some of these messages appeared on billboards, flyers, and other mediums, and the results are encouraging. People remembered the ads and signs, they understood their value, and they intended to act on the messages they contain. A strategy that engages citizens in their community's own health issues works. Neighbors' voices are essential to be effective.

While not comparing public marketing

strategies with office-based ones, one can't help thinking that catchy ads on buses may have more value to the population in Ngui's study than the reams of paper generated in offices for "meaningful use," which quickly find their way into the recycle bins just outside of clinic buildings.

One of the most important messages for clinicians from Ngui and colleagues' study is in its conclusions: "The long-term sustainability and effectiveness of a social marketing campaign in increasing immunization coverage for children will depend on continuing community-academic collaboration and engagement of the larger health care systems." Clinicians cannot sit in hospitals and clinics and hope to change the quality of health in the communities where their patients live.[6] Public health professionals and academic researchers cannot sit in front of computers to find the solution to complex societal problems. Joining the academic, practicing, public health, and large health systems together in Wisconsin has not been easy for a number of reasons to this point in time. For care to be effective, we need to join forces in serious efforts that require focusing on what there is to win for our state rather than what we have to lose by adjusting long-held positions and behaviors that have impeded collaborations from happening.

This issue of *WMJ* also contains an important study that explains the challenges that make the care of targeted populations—in the case of Garvey and Evenson,[7] women with abnormal Pap tests—effective. Physician adherence to complex and changing protocols, effective communication with patients, and office systems that lack agreement among various staff all make what should be straightforward plans not achieve the desired results. There is much to learn from this study and its honesty about barriers to overcome.

Finally, there is nothing like reading a scholarly review that affirms that our current methods of managing a ubiquitous problem—in this case beginning and stopping warfarin—and finding it to be based on solid science. Burmester and colleagues[8] look at the extensive literature on genetic factors that might influence the slope of discontinuing warfarin and, happily, they found none. Warfarin management may be one of the most effective protocols in chronic clinical care and office systems, and patients are well served by following current protocols.

REFERENCES

1. Lutz W, Muttarak R, Striessnig E. Environment and development. Universal education is key to enhanced climate adaptation. *Science.* 2014;346(6213):1061-1062. Epub 2014/11/29.

2. County Health Rankings and Roadmaps. Robert Wood Johnson Foundation. http://www.countyhealthrankings.org/our-approach/health-factors/education. Accessed Feb 11, 2015.

3. Currie J, Rossin-Slater M. Early-life origins of life-cycle well-being: research and policy implication. *Policy Anal Manage.* 2015 Winter;34(1):208-242.

4. Swain G, Grande KM. Hood CM, Inzeo PT. Health care professionals: opportunities to address social determinants of health. *WMJ.* 2014;113(6):218-222.

5. Ngui EM, Hamilton C, Nugent M, Simpson P, Willis E. Evaluation of a social marketing campaign to increase awareness of immunizations for urban low-income children. *WMJ.* 2015;114(1):10-15.

6. Isham GJ, Zimmerman DJ, Kindig DA, Hornseth GW. HealthPartners adopts community business model to deepen focus on nonclinical factors of health outcomes. *Health Aff* (Millwood). 2013;32(8):1446-1452. doi: 10.1377/hlthaff.2011.0567.

7. Garvey TD, Evenson AE. Increased patient communication using a process supplementing an electronic health record. *WMJ.* 2015;114(1):21-25.

8. Burmester JK, Berg RL, Schmelzer JR, Mazza JJ, Yale SH. Factors that affect rate of INR decline after Warfarin discontinuation. *WMJ.* 2015;114(1):16-20.

advancing the art & science of medicine in the midwest

WMJ

WMJ (ISSN 1098-1861) is published through a collaboration between The Medical College of Wisconsin and The University of Wisconsin School of Medicine and Public Health. The mission of *WMJ* is to provide an opportunity to publish original research, case reports, review articles, and essays about current medical and public health issues.

Visit www.wmjonline.org to learn more.