Letters to the Editor

LEPROSY: PRAISE AND CONCERN

Heartfelt thanks to you and Guest Editors Drs. David Parker, Mark Robson, and Brian Bennett for shining a spotlight on an important and easily overlooked infectious disease.[1] Hansen's Disease (HD, or leprosy) has challenged humanity for millennia, providing medical riddles that remain unsolved and offering a canvas on which societies have often projected their most hostile fears and aggressive inclinations.

The World Health Organization (WHO), the Nippon Foundation, and the Novartis Foundation for Sustainable Development all deserve considerable credit for their commitments to controlling HD worldwide. Their combined efforts have significantly contributed to the inspiring and overwhelming decline in the worldwide prevalence of a disease whose social side-effects can be considerably worse than its medical ramifications.

We write to highlight underappreciated perspectives and to caution against overreacting to the idea that this disease can now be comfortably disregarded. First, in 1991, the WHO revised down its estimate of the worldwide prevalence of HD from 10–12 million to 5.5 million.[2] Five causes were listed for this revision:

1. The large number of patients cured through multidrug therapy (MDT);
2. Elimination from existing registers of those individuals who do not qualify as "cases," as defined by the WHO Expert Committee on Leprosy in its sixth report[3] recommending that for the purpose of prevalence, only a patient requiring or receiving chemotherapy should be recognized as "a case of leprosy";
3. Possible late effects of intensive dapsone-based control activities in some areas;
4. Strengthening of leprosy control activities in many countries while introducing MDT; and
5. Naturally declining trends as observed in some parts of Africa.

While it is impractical to estimate the relative impact of these factors, it should not be overlooked that one factor in the apparent decline was an administrative one: changing the definition of a "case" to include only people "requiring or receiving chemotherapy." Second, the revised estimates—made in part to assist the development of control strategies—consciously discounted two to three million individuals "who no longer require chemotherapy but who have been left with residual deformities and who may require medical treatment and care."[4] One alarming fact that the declining prevalence masks is the knowledge that the disease incidence—the number of new cases arising in a specific time period, a statistic tightly related to the spread of the disease—has remained essentially unchanged for decades.

To truly control HD, efforts must continue so that we can identify and treat new cases with MDT. Equally important, however, are efforts to decrease the incidence of HD with approaches such as vaccination. Efforts to de-stigmatize HD are equally important because the overwhelming stigma currently associated with HD in many parts of the world seriously hinders people from seeking out and sustaining adequate treatment. One danger in getting prematurely excited about the decline in HD prevalence is the natural tendency to remove what little financial support currently exists for these critical, necessary pathways to the permanent control of this ancient disease.

Toward this end, we particularly fear that the photo essay[5] may have served to reinforce rather than reduce the stigma associated with HD. The subjects were viewed clinically through the lens of their disease rather than as fellow human beings deserving of dignity and respect. The images unwittingly evoked age-old stereotypes of sad and helpless victims rather than portraying people struggling with HD as the vibrant, dynamic individuals they are. Examples of images that serve instead to dignify and inspire can be found in the book, *Quest for Dignity: Personal Victories Over Leprosy/Hansen's Disease.*[6]

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REFERENCES

1. Bennett BH, Parker DL, Robson M. Leprosy: steps along the journey of eradication. Public Health Rep 2008;123:198-205.
2. Noordeen SK, Lopez Bravo L, Sundaresan TK. Estimated number of leprosy cases in the world. Bull World Health Organ 1992;70:7-10.
3. World Health Organization. WHO Expert Committee on Leprosy: sixth report. WHO Technical Report Series, No. 768. Geneva: WHO; 1988.

4. Smith PG. Revised estimates of global leprosy numbers. Lepr Rev 1992;62:317-8.
5. Parker DL. Leprosy: a photographic essay. Public Health Rep 2008;123:225-33.
6. International Association for Integration Dignity and Economic Advancement. Quest for dignity: personal victories over leprosy/Hansen's disease. 1997.

PARKER RESPONDS

I fail to find the commentary of Johansen et al. with regard to my photographic essay on leprosy constructive. The arts, and in this instance photography, have the capacity to serve as a bridge between medicine and the community. Photography has no simple meaning; rather, it serves as a metaphor for things that are transient. In the case of my photographic essay on leprosy, it simply reflects an important aspect of the community.[1]

According to photographer Susan Sontag, "A photograph passes for incontrovertible proof that a given thing happened. The picture may distort; but there is always a presumption that something exists, or did exist, which is like what's in the picture."[2] The camera may tell us what we already know or substantiate conclusions we may have reached through study methodologies. A photograph may also stir us to action to study conditions shown in images. It is precisely the disability associated with leprosy that is important to my images. This disability remains hidden and impacts millions. Photography helps change an abstract reality into something we believe is solid—a camera testifies and serves as an expert witness. I seriously doubt that my primary mission in taking these images has not been well-served in pointing to the disability associated with leprosy.

Citing the *American Journal of Public Health*, "The shock felt in the face of others suffering, the fact that change demands more than rational analysis. It requires experience." Photographs provide us a surrogate experience and, unlike even the most carefully detailed painting, we believe photographs. It is unclear what it means to say an image is "stereotypical." Certainly there is no part of reality that is deceptive and there are no images that unfairly portray a serious problem, but perhaps not every problem and every condition. Indeed, no single essay can accomplish this goal.

Leprosy was and still is a disabling disease. Citing a noted photo historian, "The power of the photograph to change events is randomly bestowed and does not include the power to control them."[3] If these images portray individuals who are disabled, perhaps it is because they have suffered and continue to do so. Living conditions remain poor, medical care may be sporadic, decent work is hard to find, and communities remain isolated. While this may be unjust and wrong, social documentary photography plays an important role in the documentation of injustice.

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REFERENCES

1. Parker DL. Leprosy: a photographic essay. Public Health Rep 2008;123:225-33.
2. Sontag S. On photography. New York: Picador Press; 2001.
3. Images in public health. Am J Public Health 2003;93:1626-9.
4. Goldberg V. The power of photography: how photographs changed our lives. New York: Abbeville Press; 1991. p. 188.

REDUCING TOXIC CHEMICAL LEVELS IN CIGARETTE SMOKE

I read with some considerable confusion the recent article by Richter and colleagues[1] on reducing toxicant levels as a new Healthy People 2010 objective. I have great respect for these authors but was confused by their position, as it is now clear that smoke yields (tar, nicotine, or the toxicants proposed by the authors) expressed per cigarette have no meaningful relationship with human exposure or risk. The 2004 Surgeon General's report,[2] NCI Monograph 13,[3] and the World Health Organization[4] have all made it clear that differences in these measures expressed per cigarette do not reflect differences in human exposure or differences in actual delivered dose to smokers of different brands. Therefore, it makes little sense to use them to set a reduction in toxicant level goal for Healthy People 2010. Indeed, when similar reductions were mandated for tar, nicotine, and carbon dioxide by the European Union, compliance by the tobacco manufacturers was largely achieved by increasing the amount of filter ventilation,[5] a change known to have little or no effect on actual exposure due to compensatory changes in smoking behavior.

I am hopeful that this is simply a case in which newer evidence has overtaken an older recommendation, but I would earnestly ask the authors (and the Healthy People 2010 process) to reconsider their position.

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REFERENCES

1. Richter P, Pechacek T, Swahn M, Wagman V. Reducing levels of toxic chemicals in cigarette smoke: a new Healthy People 2010 objective. Public Health Rep 2008;123:30-8.
2. Department of Health and Human Services (US). The health consequences of smoking: a report of the Surgeon General. Wash-

ington: DHHS, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health (US); 2004.
3. National Cancer Institute (US). Risks associated with smoking cigarettes with low machine-measured yields of tar and nicotine. Smoking and Tobacco Control Monograph No. 13. Bethesda (MD): Department of Health and Human Services, National Institutes of Health National Cancer Institute (US); 2001.
4. World Health Organization Study Group on Tobacco Product Regulation (TobReg). The scientific basis of tobacco product regulation: report of a WHO study group. Geneva: WHO; 2007.
5. O'Connor RJ, Cummings KM, Giovino GA, McNeill A, Kozlowski LT. How did UK cigarette makers reduce tar to 10 mg or less? BMJ 2006;332:302.

RICHTER AND PECHACEK RESPOND

We welcome the comments provided by Dr. Burns. As noted in our article,[1] a limitation of our approach is that a smoker's level of exposure to the toxic chemicals in cigarette smoke is influenced by both the chemistry of the cigarette smoke and the way the cigarette is smoked. We recognize that to successfully claim reductions in exposure or risk, changes in tobacco product emissions have to be documented with changes in exposure levels in smokers or reduced rates of tobacco-related diseases.

New research has found only a weak relation between biomarker levels and smoking machine-derived smoke yields.[2,3] Further, it is not yet known what level of change in smoke emissions or exposure is needed to measurably reduce the toxicity of smoked tobacco products. Recognizing the complexity of the tobacco product-exposure-disease framework, any systematic monitoring of smoke emissions provides information on a factor relevant to understanding the harms caused by tobacco. The absence of this type of data clearly prevented the scientific community from reaching an earlier understanding of factors underlying changing patterns of lung cancer histology among cigarette smokers.

We consider the revised developmental Healthy People 2010 objective 27-20 as the start of a process to reach an overall goal of understanding and reducing population-level exposures to toxic chemicals in cigarette smoke. To strengthen the surveillance of how cigarettes adversely affect public health, future revisions to the objective will draw upon the strongest available evidence by considering measures of exposure, addiction, and other tobacco-related morbidities.

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REFERENCES

1 Richter P, Pechacek T, Swahn M, Wagman V. Reducing levels of toxic chemicals in cigarette smoke: a new Healthy People 2010 objective. Public Health Rep 2008;123:30-8.
2. Hammond D, Fong GT, Cummings KM, O'Connor RJ, Giovino GA, McNeill A. Cigarettes yields and human exposure: a comparison of alternative testing regimens. Cancer Epidemiol Biomarkers Prev 2006;15:1495-501.
3. Scherer G, Engl J, Urban M, Gilch G, Janket D, Riedel K. Relationship between machine-derived smoke yields and biomarkers in cigarette smokers in Germany. Regul Toxicol Pharmacol 2007;47:171-83.

ADOPTING COMPETENCIES FOR A GRADUATE SCHOOL CURRICULUM IN EPIDEMIOLOGY

I applaud Hagopian et al.[1] for being among the first to describe, in detail, their process for developing curriculum competencies in global health. Their article will be extremely helpful to other public health schools and programs in creating not just global health competencies, but competencies in other academic areas as well. The New York Medical College School of Public Health used similar methods to adopt competencies for our master of public health program in epidemiology.

First, we constructed a master list of candidate competencies (n=31), suggested by other public health schools and programs, the Association of Schools of Public Health, and the Council on State and Territorial Epidemiologists.[2,3] Second, we distributed a form via e-mail to full-time and part-time epidemiology faculty members, asking them to rate each candidate competency on a scale of one (not important) to five (very important). Third, after the forms were returned, we computed a mean score for each candidate competency. Finally, full-time faculty members reviewed and discussed candidate competencies with the highest mean scores and formally adopted a subset (n=10) of those candidate competencies. Full-time faculty members also considered for adoption a few new candidate competencies suggested by the raters as they returned the forms. The final list of selected competencies is now displayed in the school's catalogue, on the school's website, and in every epidemiology course syllabus.

I offer one suggestion to others who are about to launch a similar effort. Consider contextualizing each candidate competency with a brief vignette or sample test items.[4] This should shed light on the intended meaning of each candidate competency, which will be helpful for raters.

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REFERENCES

1. Hagopian A, Spigner C, Gorstein JL, Mercer MA, Pfeiffer J, Frey S, et al. Developing competencies for a graduate school curriculum in international health. Public Health Rep 2008;123:408-14.
2. Association of Schools of Public Health. MPH core competency development project [cited 2006 Jan 6]. Available from: URL: http://www.asph.org/document.cfm?page=851
3. Council of State and Territorial Epidemiologists. CDC/CSTE development of applied epidemiology competencies [cited 2006 Jan 6]. Available from: URL: http://www.cste.org/competencies.asp
4. Mager RF. Preparing instructional objectives, 2nd ed. Belmont (CA): Lake Publishing Company; 1984.

ERRATUM

The legal case from which I cited several documents was incorrectly referenced in my article, "Contested Science and Exposed Workers: ASARCO and the Occupational Standard for Inorganic Arsenic" (Public Health Rep 2008;123:541-7). An appeal, rather than the original case, was referenced. The correct case name and number for the citations in question (#21, 23, 24, 38, and 41) is Branin v ASARCO 93-CV-5132.

Documents from Branin v ASARCO were accessed at the Seattle Federal Records Center.

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