

Congress should pass legislation reestablishing ONAC, and the federal government should set public noise exposure standards to protect health and to prevent hearing loss.

Consumer and industrial products should be labeled with noise ratings. The successful marketing of quieter dishwashers displaying decibel ratings demonstrates that these appliances can be built and sold. The goal of ALARA (As Low As Reasonably Achievable) used for radiation exposure should be adopted to reduce each person's daily noise dose. Noise sources that cannot be made quieter should be insulated or isolated, with standards set and enforced for indoor and outdoor noise levels. Effective noise control technologies have long existed, including noise reduction via design and material specifications as well as sound insulating, isolating, reflecting, or absorbing techniques; however, indoors all that may be needed is to turn down the volume of amplified sound.

In the 1950s, half of all American men smoked. When research showed that smoking caused cancer, heart disease, and other health problems, doctors and the public health community spoke out, leading to the first Surgeon General's report on smoking and health, decreased smoking rates, and, eventually, a largely smoke-free environment, with dramatic reductions in morbidity and mortality. People still have the right to smoke, just not where others are exposed to secondhand smoke.

A similar approach is needed for noise. Doctors and the public health community should speak up about the health dangers of noise. Laws should be passed and regulations implemented and enforced to reduce noise from fixed and mobile sources and to make places of public accommodation, cities, streets, highways, vehicles, and aircraft quieter. Quiet will prevent hearing loss and other health problems and will help millions

with hearing loss, who cannot understand speech in noisy environments with or without hearing aids, as well as those with tinnitus and hyperacusis.

People should still be allowed to make noise, just as they are still allowed to smoke, but not where others are exposed involuntarily to their noise. Where noise may be part of the experience, for example, clubs, concerts, and sports events, warning signs should be posted and hearing protection offered. If the United States could become largely smoke-free, it can also become quieter. As with smoke-free air, a quieter environment will benefit all. **AJPH**

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ACKNOWLEDGMENTS

I wish to acknowledge the support of David Sykes (Acoustic Research Council), Bryan Pollard (Hyperacusis Research, Limited), Jamie Banks, PhD (Quiet Communities, Inc.), and Gina Briggs (Silencity). My goal is to find a quiet restaurant where I can enjoy both the meal and the conversation with my wife, Ruth Cousineau, MD.

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Why Cognitive Health Matters

Cognitive health is recognized as a major factor in ensuring quality of life and optimal independence across the life span, yet it is inconsistently a priority of public health initiatives. Per the Centers for Disease Control and Prevention, “a healthy brain is one that can perform all the mental processes that are collectively known as cognition, including the ability to learn new things, intuition, judgment, language and remembering.”¹ Impaired cognition is associated with considerable socioeconomic burden, adding to the public health imperative.

A recent initiative by New York State's Office of Mental

Health, with its academic partner Columbia University, set a precedent for a state-level implementation of programs to address cognitive health in people with psychiatric illnesses. This is the first known statewide program in the United States to address the cognitive impairments associated with psychiatric disorders.

COGNITIVE HEALTH ACROSS THE LIFE SPAN

Most cognitive health initiatives address aging populations. It is generally appreciated that the dementias, seen mainly in aging

populations, cause significant morbidity and mortality, socioeconomic costs, and caregiver burden. Consequently, public health initiatives for this population are largely concerned with prevention and stabilization.² Both the Centers for Disease Control and Prevention and the National Institute on Aging support development of public

messages and programs to promote cognitive health in older adults.

Addressing cognitive health is not limited to aging populations. For children and young adults, cognitive health is mostly addressed and managed in schools, although the role of environmental toxins and sports-related brain injuries have garnered considerable attention in medical and public health forums. The National Institutes of Health and National Institute of

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This editorial was accepted October 20, 2016.

doi: 10.2105/AJPH.2016.303544

Mental Health (NIMH) support research to accelerate discoveries and reduce the burden of cognitive impairment caused by nervous system and psychiatric disorders across the life span.

Cognitive deficits are prominent in most serious mental illnesses, and such deficits are often persistent even as other symptoms fluctuate. In 2014, 4.2% of US citizens, aged 18 years and older, had serious mental illnesses, whereas about 20% of children have at some point had a seriously debilitating mental disorder.³ Deficits are evident on a variety of neurocognitive measures, including attention, processing speed, working memory, verbal learning, and problem solving, on the order of 0.5 to 2 SD below the normative mean.⁴ Cognitive deficits have significant implications for psychosocial functioning, contribute to the profound psychosocial disability that people with serious mental illnesses often experience, and add significantly to illness burden.⁴ A recent NIMH task force has underscored the great significance placed on systematic efforts to improve cognition from early prodromal stages to full-blown illness.⁵ Enhancing cognition and addressing cognitive deficits are public health concerns.

BARRIERS TO ADDRESSING COGNITIVE HEALTH

Public health initiatives that address cognitive symptoms associated with psychiatric illness are rare in the United States for the following reasons:

- Cognitive health is not well addressed in the behavioral health professional programs.

- A misperception exists among clinicians and the lay public that cognition is not malleable.
- The relation between cognition and functional outcome is poorly understood.
- Funding is inadequate to support cognitive interventions.
- Lack of precedent can in and of itself be a barrier.

In psychiatry, cognitive symptoms are often viewed as an indication of nonpsychiatric disorders. A recent NIMH task force called for recognition that cognition is in fact a symptom of psychiatric disorders, and impaired cognition explains why patients do not transition from primary symptom relief to recovery.⁵

A MODEL COGNITIVE HEALTH PROGRAM

The New York State Office of Mental Health cognitive health initiative has shown that it is possible to implement a service to address cognition associated with psychiatric conditions, to operationalize cognitive health efforts in a large system of care, and to draw attention to the fact that addressing cognitive deficits means promoting recovery. The Office of Mental Health serves more than 700 000 people annually in New York, a state of 19.5 million people, and operates emergency, inpatient, outpatient, forensic, crisis, and residential services for adults and children, as well as two research institutes. As the largest state mental health system in the United States, it is relatively unique in breadth of geographic regions and cultural and linguistic groups served. In July 2014, the Office of Mental Health partnered with Columbia University to set up a Cognitive Health Service that

could be implemented throughout the system of care. This involved setting up a mechanism to train staff and implement and supervise clinical services that address cognitive health.

Thinking Well is an Office of Mental Health campaign intended to focus on the need for cognitive health to make a good recovery. This initiative includes education about cognitive health and wide-scale enhancements for the delivery of treatments that promote optimal cognitive health. Components of Thinking Well include literature and informational sheets for providers, patients, and families (for example see: https://www.omh.ny.gov/omhweb/cogdys_manual/CogDysHndbk.pdf); a Web site for Office of Mental Health providers; and statewide archived grand rounds, Web-based free lectures, and clinician focus groups to inform Office of Mental Health staff about implementation efforts. Staff training was further supplemented with lectures and workshops at Columbia University's sponsored annual Cognitive Remediation in Psychiatry conference and Internet-based learning at <http://www.teachrecovery.com>, a Web site built to train professionals about treatments for cognitive disorders.

Cognitive Remediation to Promote Recovery (CR2PR) is the first implemented treatment arm of this Office of Mental Health cognitive health initiative, and it was developed to serve patients identified as having cognitive impairments that hamper recovery goal attainment. Cognitive remediation is a behaviorally based training intervention with moderate effect sizes that aims to decrease cognitive deficits so that everyday functioning will improve.⁴ Cognitive remediation garnered

international attention as a treatment that harnesses the potential for neuroplasticity that exists even when psychiatric illness affects brain functioning.⁵ Pharmacological interventions remain crucial as treatments for the symptoms of psychosis and affective dysregulation, but they do not treat difficulties in cognition.⁶ Furthermore, no medication is indicated to specifically address cognitive impairments in patients with serious mental illnesses.

Since 2015, CR2PR has been implemented at 16 adult outpatient New York State-operated clinics across 13 psychiatric centers. These clinics serve patients with serious mental illnesses aged 18 to 65 years, monolingual and bilingual, in rural and urban settings. It took an average of 6 months to start a program at any given site with the use of Web-based, face-to-face, and manualized implementation strategies. Continuous quality improvement strategies are used to maintain the fidelity and efficacy of these programs.

The Office of Mental Health initiative recognizes that cognitive remediation's effect on functional outcome is best realized when the treatment is tied to overall recovery goals⁷; therefore, maximizing wellness, addressing cognitive deficits, and achieving patient-centered recovery goals are the three pillars of CR2PR. This is the first known statewide program in the United States to address cognitive health in people with serious mental illnesses.

A NATIONAL PUBLIC HEALTH CONCERN

Although state efforts are important, a national focus to

systematically and comprehensively improve the way cognitive health is addressed is necessary. Currently, the public receives mixed messages about what cognitive health is,² and most professional schools devote minimal, if any, training to identify and address the treatment of cognitive impairment. Clinicians need education about the importance of intervention. This is essential to improving behavioral health services. Obstacles must be removed. Professional help for cognitive problems should be easier to find, and reimbursement for cognitive

rehabilitation treatments needs to move beyond select diagnostic groups, given evidence of broader effectiveness. A national approach is necessary to build on the state efforts made to date. **AJPH**

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A. Medalia wrote the first draft of the editorial, and M. Erlich edited the editorial.

ACKNOWLEDGMENTS

THINKING WELL and Cognitive Remediation to Promote Recovery are

supported by the New York State Office of Mental Health.

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A Course on Religion and Public Health at Harvard

Research has gradually accumulated suggesting that religious participation is a powerful social determinant of health.^{1–3} The role of religion in shaping health is given relatively little attention in most public health curricula today. When religion is discussed, it is often in the context of being an impediment to public health progress. However, the research, which has become increasingly rigorous, suggests that religious participation in general, and religious service attendance in particular, is a powerful health resource affecting outcomes ranging from longevity and depression to cancer survival and suicide. To neglect it in discussions of public health and social determinants of health is to miss an important aspect of life that appears to confer substantial health to large portions of the world's population.

Courses on religion and health are slowly beginning to

emerge in public health curricula. Here we briefly describe a course that the first author has taught at the Harvard T. H. Chan School of Public Health. We also discuss potential lessons for public health from the rapid incorporation of courses on spirituality and health within medical school curricula over the past two decades.

COURSE ON RELIGION AND PUBLIC HEALTH AT HARVARD

The course on religion and public health at Harvard was first taught in the winter session beginning in January 2015. The first cohort of students attending the course included a Muslim student, a Buddhist, someone who identified both as Jewish and as spiritual but not religious, three Catholics, and a Protestant. About half of the participants had experience in health care as a nurse, physician,

or social worker. Some took the course for credit and others audited. Two reference texts were used: Idler's *Religion as a Social Determinant of Health*² and Koenig et al.'s *Handbook of Religion and Health*.¹ Course content included a mixture of lecture and class discussion. Students were assessed through a series of critical responses to readings, class participation, and a final project on a topic of their choosing.

The course included a brief overview of the religious landscape of the world and the United States; religious conceptions of health; measures of religious involvement; empirical research suggesting protective associations

between religious participation and longevity, depression, and suicide; methodological challenges in religion and health research; studies on forgiveness and gratitude; the role of religion and spirituality in end-of-life settings; and potential partnerships between religious and public health institutions.

MORTALITY

The empirical research review component of the course began with research on religious service attendance and mortality. Studies in the 1970s suggested a protective effect but were criticized for the possibility of reverse causation: that only those who were healthy could attend services. Subsequent studies controlled for various measures of baseline health,

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This article was accepted September 25, 2016.

doi: 10.2105/AJPH.2016.303501