

professionals with screening adolescents for NSSI and providing brief, targeted advice and counsel.⁷ Because of the high prevalence of NSSI among both male and female adolescents, youth-serving professionals should incorporate routine screening for NSSI and link to appropriate mental health services as part of best practices in assessing psychosocial risk and protective factors that affect health.

A comprehensive strategy to address adolescent NSSI must combine research, the refinement of clinical best practices, and the development of

multitiered prevention and intervention programs, including public health programs to address NSSI among youths in the general community. This integrated approach can help us identify effective individual and contextual strategies to reduce the burden of NSSI and safeguard youths. **AJPH**

Nicholas J. Westers, *PsyD*
Alison J. Culyba, *MD, PhD,*
MPH

CONTRIBUTORS

Both authors contributed equally to this editorial.

Short-Term Adverse Effects of Austerity Policies on Mortality Rates: What Could Their Real Magnitude Be?

 See also Cabrera de León et al., p. 1091.

Assessing the effects of policies on health matters. A lot. It matters in ways as ancient as humanity, and it matters in particularly challenging ways in this age of post-truths, alternative facts, fake news, plain lies, and other expressions of the reluctance to look at reality. Valid scientific studies are crucial in assessing the effects of policies. The article by Cabrera de León et al. (p. 1091) illustrates the importance of looking at the effects of politically and financially driven responses to the economic crisis. Also, their empirical analysis shows the need to assess how economic, fiscal, occupational, welfare, environmental, and sanitary policies have affected the conditions in which citizens work (or not) and live, or die; the performance of health systems; and indicators of population health.¹

The sharp increase in mortality in Spain from 2010 to 2011 reported by the authors is difficult to attribute to austerity policies because it largely precedes them. With the exception of 2012, public expenditures in Spain increased each year from 2007 to 2015. Social expenditures dropped only 0.1 gross domestic product points from 2010 to 2011.² The main austerity measures—especially those deriving from a Royal Decree Law, in force since July 2012—were implemented in 2012 and thereafter.³

A CHANGE IN THE STANDARD POPULATION

The putative mortality increase did follow the onset of the economic recession in 2007 and 2008.

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because of the change in the reference population; yet, they base their most important calculations on these unreliable data. Hence, their results should be considered with great caution.

Poverty and impoverishment—and the related lack or loss of social protection and welfare benefits—may be key in explaining the links between the economic recession, austerity measures, and increasing mortality in Spain and many other countries. The long-term high unemployment rate became even more dramatic in Spain after the onset of the crisis, increasing from 9.2% in 2005 to 22.1% in 2015,⁵ with the young population (48% of which was unemployed in 2015) particularly affected.⁴ The recession had a stronger impact

Crucially, the reliability of the age-adjusted overall mortality rates (AAMRs) used by Cabrera de León et al., particularly for 2011, is problematic: the population used to standardize rates changed in 2011.⁴ Before 2011, the standard population used for AAMRs was the Spanish population of July 1, 1999; since 2011, the European standard population provided by Eurostat has been employed.³ Cabrera de León et al. acknowledge in an appendix that the AAMR data they used are not comparable from 2010 to 2011

ABOUT THE AUTHORS

Cristina Hernández-Quevedo is with the European Observatory on Health Systems and Policies, London School of Economics and Political Science, London, England. Beatriz G. Lopez-Valcarcel is with the Department of Quantitative Methods for Economics & Management, University of Las Palmas de Gran Canaria, Canary Islands, Spain. Miquel Porta is with the Hospital del Mar Institute of Medical Research (IMIM), Universitat Autònoma de Barcelona, CIBER de Epidemiología y Salud Pública, Barcelona, Spain, and the Gillings School of Global Public Health, University of North Carolina, Chapel Hill.

Correspondence should be sent to Miquel Porta, MD, PhD, MPH, Hospital del Mar Institute of Medical Research, Universitat Autònoma de Barcelona, Carrer del Dr. Aiguader 88, E-08003 Barcelona, Catalonia, Spain (e-mail: mporta@imim.es). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

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on the poorest households, with the Gini coefficient (inequality gap) increasing from 32.2 in 2005 to 34.6 in 2015.⁴ Working conditions (physical and psychosocial), environmental pollution, nutritional habits, and other life conditions deteriorated as well.⁶

The inclusion of valid data from more countries and on additional socioeconomic factors could have nuanced or refuted the conclusions of Cabrera de León et al.; in particular, their conclusion that “the marked excess mortality from 2011 to 2015 in Spain is attributable to austerity policies” (p. 1091).

LAG BETWEEN CRISIS ONSET AND AUSTERITY POLICIES

In Spain, part of the government’s response to the financial crisis entailed a series of measures designed to reduce public spending on health and funding of other social policies. The main reform instrument targeting the health system was the earlier-mentioned Royal Decree Law,³ which introduced changes in the population covered (non-registered immigrants were excluded, with exceptions), redefined copayments for drugs according to income levels, and split benefits into four categories with varying degrees of public financial support. The reforms also made households responsible for some of the costs related to health care and pharmaceuticals. Important as these changes were, other fundamental determinants of mortality act beyond such frames.

The supposed excess of mortality attributed by Cabrera de León et al. to government austerity policies occurred primarily

in 2011, before the implementation of restrictions in health care coverage; the maximum lag subsequent to the onset of the crisis was approximately three years only. Copayments increased in July 2012, and public health care funding dropped just 2% in 2011 but 6% in 2012.

Could we be seeing a “harvest effect” among citizens at high risk for short-term death, who might have had their life shortened by austerity measures? If this was the case, it would be appalling. Yet, evidence and models of health determinants indicate that, in postindustrial societies, social patterns of mortality are the result of long-term economic, social, and environmental processes; only certain specific causes of death are affected in the short term. Most oncological, cardiovascular, and respiratory deaths are not caused by short-term social processes.

Better data and analyses are needed on the effects of policy alternatives on mortality and related causal processes. However, this need should not be an excuse to delay just and efficient policies. European data show that the gap between the poorest and the richest with respect to health status and lifestyle factors persisted before, during, and after the economic crisis.⁴ Some influences on the gap (e.g., income-related inequalities in health) may have worsened in the period of interest, whereas others improved (e.g., income-related inequalities decreased in terms of self-assessed health and increased with respect to certain lifestyle factors).⁴ An evaluation of valid mortality data according to socioeconomic position in a larger number of countries would help to test whether—mediated and unmediated by austerity policies—a broadening of the gap between worse-off and better-off groups

caused by the recession had an immediate effect on mortality.

INFLUENCE OF OTHER FACTORS

Government choices during financial crises often have disastrous effects on human health and the real economy. However, reality is not only influenced by governments. Politics and social processes are never simple. First, coinciding with Spain’s austerity measures, other public health reforms were introduced. In 2010, for instance, a law on tobacco consumption and market regulation extended the provisions of the 2005 Anti-Tobacco Law, increasing protection of minors and nonsmokers. In late 2011, a progressive public health law was approved; although never formally enacted by the conservative federal government, it likely strengthened existing and new policies.⁷ Additional regulations increased taxation of alcohol and tobacco products. Second, regional and local health systems discouraged use of ineffective or iatrogenic medical interventions, a long overdue policy. Unfortunately, waiting lists for and delays in diagnosis and treatment also increased during the recession, and they continue.

A valid analysis of the actual middle- and long-term effects on mortality of these mixed measures and policies—and of the other effects of the socioeconomic corrosion itself—is essential to gain an understanding of the real magnitude of the adverse effects, and to assess whether these effects were partly compensated by healthy social policies and networks. Indeed, we must consider the beneficial effects of the existing

welfare state, regional and local governments, other public and private institutions, citizens’ organizations, and other health assets and networks. The effects of these realities must also be considered when we look at reality. We know that the economic recession has impoverished and harmed many Spaniards and other citizens worldwide, and that it has increased social inequality; however, on the basis of the existing evidence, we honestly cannot say whether austerity policies have yet had a substantial impact on mortality rates. *AJPH*

Cristina Hernández-Quevedo, PhD, MSc
Beatriz G. Lopez-Valcarcel, PhD
Miquel Porta, MD, PhD, MPH

CONTRIBUTORS

M. Porta prepared the first draft and subsequent versions of the editorial on the basis of contributions from C. Hernández-Quevedo and B. G. Lopez-Valcarcel. B. G. Lopez-Valcarcel and C. Hernández-Quevedo reviewed all versions and contributed to all revisions of the editorial.

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Making the Invisible Causes of Population Health Visible: A Public Health of Consequence, August 2018



See also Cabrera de León et al., p. 1091; Mooney et al., p. 987; and Mehta et al., p. 1059.

As we continue to promote causal thinking in population health,¹ we note that the causes that affect population health are, in some respects, well enumerated. In the United States, we know that heart disease is the leading cause of death, followed by cancer and then chronic lower respiratory disease. And yet, as we have argued frequently in these columns, these causes of death (or, conversely, their absence, which leads to good health) are simply one way of looking at the production of health. Another way, which has equal validity, would be to suggest focusing on the behaviors that contribute to these causes of health, leading us to focus on smoking, toxic substances, the use of firearms, and obesity as the causes of death.² Yet another approach would tackle the more foundational drivers of population health, which would focus on the contributions of low education, poverty, and spatial racial residential segregation as the causes of health and disease.³

None of these approaches are wrong—all are correct. Indeed,

although, for example, low education sets one on a trajectory that will include a poor living environment, limited opportunities for exercise, and, subsequent, obesity, all of these ultimately manifest as cardiovascular disease, and it is cardiovascular disease that compromises health. Therefore, an understanding of health requires an understanding of the complex causal architecture that creates health in the first place and structured thinking about how we can grapple with these complex causes to improving health.⁴

One of the challenges we face with this reckoning, however, is that it is unusual for one discipline to engage with all of these factors; this leads to fragmented knowledge and limits our full grasp of the factors that contribute to health. In that regard, throughout its history *AJPH* has played an important role in shaping our thinking about the full range of factors that shape health, highlighting forces from the biologic to the macrosocial that contribute to population health. Three articles in this issue highlight forces that we see discussed

infrequently in the health literature, reminding us of their centrality in the creation of population health.

THREE HIDDEN FORCES THAT PRODUCE HEALTH

First, Cabrera de León et al. (p. 1091) focus on the contribution of austerity measures to public health. Using data from Spain and the United States from 2000 to 2015, they show that the advent of economic austerity measures in Spain in 2010 reversed previous health gains and contributed to more than half a million deaths more than the expected number over a five-year period. Although the epidemiologic relationship between economic function and population health is by no means straightforward,⁵ it is also abundantly clear that economic

policies do have an impact on population health. The article in this issue of *AJPH* adds to this literature and contributes to the science that aims to understand how these policies influence health to provide guidance to policy-makers about the health consequences of economic decisions.

Second, Mooney et al. (p. 987) tackle an issue that substantially challenges US population health even though we seldom recognize it as a driver of health: incarceration. The incarceration rate in the United States is higher than that of any other country in the world, and it is about five times higher than the worldwide median. There are about 2 million incarcerated adults, or nearly 1 in 100 Americans. Another nearly 5 million people are on probation or parole, for a total of 7 million adults: about 1 in 35 US residents are under correctional supervision. The criminal justice system perpetuates racial inequities, thus continuing centuries of minority disenfranchisement. African Americans constitute 13% of Americans but 40% of the incarcerated population, contributing to the profound and persistent racial disparities that

ABOUT THE AUTHORS

Sandro Galea is with the School of Public Health, Boston University, Boston, MA. Roger D. Vaughan is an *AJPH* associate editor and is with The Rockefeller University, New York, NY.

Correspondence should be sent to Roger D. Vaughan, The Rockefeller University, 1230 York Ave, Box 327, New York, NY 10065 (e-mail: roger.vaughan@rockefeller.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

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