By Johan P. Mackenbach, Yannan Hu, Barbara Artnik, Matthias Bopp, Giuseppe Costa, Ramune Kalediene, Pekka Martikainen, Gwenn Menvielle, Bjørn H. Strand, Bogdan Wojtyniak, and Wilma J. Nusselder

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Trends In Inequalities In Mortality Amenable To Health Care In 17 European Countries

Johan P. Mackenbach (j.mackenbach@erasmusmc.nl) is a professor of public health and chair of the Department of Public Health, Erasmus University Medical Center, in Rotterdam, the Netherlands.

Yannan Hu is a postdoctoral fellow in the Department of Public Health, Erasmus University Medical Center.

Barbara Artnik is on the Faculty of Medicine, Department of Public Health, University of Ljubljana, in Slovenia.

Matthias Bopp is a senior researcher at the Epidemiology, Biostatistics, and Prevention Institute, University of Zurich, in Switzerland.

Giuseppe Costa is a professor of public health at the Turin University Medical School and chair of the San Luigi Hospital Epidemiology Unit and of the Azienda Sanitaria Locale (Regional Epidemiology Unit) in Turin, Italy.

Ramune Kalediene is dean of the Faculty of Public Health and head of the Department of Health Management at Lithuanian University of Health Sciences, in Kaunas.

Pekka Martikainen is a professor of demography in the Department of Sociology, University of Helsinki, in Finland.

ABSTRACT **Little is known about the effectiveness of health care in reducing inequalities in health. We assessed trends in inequalities in mortality from conditions amenable to health care in seventeen European countries in the period 1980–2010 and used models that included country fixed effects to study the determinants of these trends. Our findings show remarkable declines over the study period in amenable mortality among people with a low level of education. We also found stable absolute inequalities in amenable mortality over time between people with low and high levels of education, but widening relative inequalities. Higher health care expenditure was associated with lower mortality from amenable causes, but not from nonamenable causes. The effect of health care expenditure on amenable mortality was equally strong, in relative terms, among people with low levels of education and those with high levels. As a result, higher health care expenditure was associated with a narrowing of absolute inequalities in amenable mortality. Our findings suggest that in the European context, more generous health care funding provides some protection against inequalities in amenable mortality.**

Reducing inequalities in health between socioeconomic groups has become a major goal of health policy in many European countries.[1,2] Although the causes of these health inequalities lie mostly outside of the health care system, ensuring equal access to health care is often seen as one of the main pillars of the strategies used to reach this goal.[3] However, the extent to which health care reduces inequalities in health remains largely unknown.

One possible way to investigate the effectiveness of health care in reducing health inequalities is to study trends in mortality across socioeconomic groups from conditions amenable to health care (known as amenable mortality). Conditions amenable to health care include a number of infectious diseases, some cancers, some cardiovascular diseases, and some other diseases, such as asthma. In the 1970s, "avoidable" or "amenable" mortality was proposed as a measure of the effectiveness of health care services.[4,5] Since then, studies have shown remarkable declines in amenable mortality over time, which probably reflect gradual improvements in the quality or accessibility of health care services as well as changes in health behaviors and social environments.[6–9]

Studies have also found large inequalities in amenable mortality between socioeconomic groups at a given point in time, which suggests that there are socioeconomic inequalities in the quality or accessibility of health care services.[10–18] Studies looking at trends in amenable mortality by socioeconomic group are potentially more powerful than cross-sectional studies for identifying health care impacts, but such trend studies have been rare.

Studies from Finland have found evidence of widening relative inequalities (that is, propor-

tional differences between subpopulations) but stable absolute inequalities (that is, differences in terms of deaths per 1,000 people) in amenable mortality.[15,19] In contrast, ecological studies based on small-area statistics found narrowing absolute inequalities in amenable mortality in both Canada[20] and England.[21] In the latter case, the authors also found evidence that increased health care expenditure in socioeconomically deprived areas contributes to these areas' favorable amenable mortality trends.[21]

With the exception of the study in England, the effect of changes in health care financing schemes and expenditure levels on inequalities in amenable mortality has not been studied, although there is some evidence that increased health care spending lowers overall mortality from amenable causes.[22] We expect higher levels of health care expenditure to also reduce inequalities in amenable mortality, if increased spending benefits all socioeconomic groups. This is because in the absence of inequalities in access to health care—that is, if health care interventions were allocated according to need—increased spending would lead to more health care interventions in all socioeconomic groups, and therefore to equally strong relative (that is, proportional) declines in amenable mortality in groups with low and high socioeconomic status. Because the starting levels of amenable mortality are higher in groups with lower socioeconomic status, increased spending would lead to a reduction of absolute inequalities in amenable mortality.[23]

Systematic analyses of trends in inequalities in amenable mortality that covered a range of countries would allow an analysis of the determinants of these differential mortality trends, but such studies have been lacking until now. We set out to study trends in inequalities in mortality from conditions amenable to health care intervention in a range of European countries since the 1980s. We considered the following research questions: whether (and if so, how much) progress in reducing these inequalities had been made over the study period, and what the country-level determinants of trends in inequalities in amenable mortality had been.

Study Data And Methods

DATA For this analysis we selected all European countries for which comparable data on mortality by level of education (as an indicator of socioeconomic status) and on educational inequalities in mortality were available for the period 1980–2010. There were seventeen such countries: Denmark, Finland, Norway, and Sweden in the north; Austria, Belgium, England (including Wales), France, and Switzerland in the west; Italy and Spain in the south; and the Czech Republic, Estonia, Hungary, Lithuania, Poland, and Slovenia in the east. Most data covered complete national populations. The exceptions were England (including Wales) and France, for which there were only 1 percent representative samples; and Italy and Spain, for which data were available only for Turin and Barcelona, respectively. Most data stemmed from a longitudinal mortality follow-up after a census. (Table S1 in the online Appendix gives an overview of the data sources.)[24]

As noted above, we used level of education as an indicator of socioeconomic status. Our three levels (low, middle, and high) corresponded to the International Standard Classification of Education categories of 0–2 (roughly equal to less than eleven years of schooling in the United States), 3–4 (twelve to fifteen years), and 5–6 (sixteen years or more), respectively.[25] We focused on educational inequalities in mortality (instead of occupational inequalities, for example) because comparable data on educational attainment were available for both men and women in most European populations. In addition, education is the most stable measure of socioeconomic status because it is normally completed early in adulthood, which avoids most problems of reverse causation (that is, health outcomes at older ages cannot change a person's level of education).

Our selection of amenable causes is largely similar to that in previous studies[5,8,17] but is limited to conditions amenable to health care (thus, we excluded conditions such as lung cancer, which is amenable to primary prevention through policies largely outside of the health care system) and to conditions for which comparable data could be collected from our sources.[12] The following conditions in several categories were selected: infectious diseases (tuberculosis, pneumonia/influenza, HIV/AIDS, other infectious and parasitic diseases), cancers (cervical or uterine, testicular, and colorectal cancers; Hodgkin's disease; and leukemia), cardiovascular diseases (cerebrovascular, rheumatic heart, hypertensive, and selected other heart diseases), and other diseases (asthma; appendicitis, hernia, cholelithiasis, or cholecystitis; peptic ulcer; prostate hyperplasia; maternal deaths; congenital heart disease; and conditions originating in the perinatal period). For comparison, we also studied trends in mortality from nonamenable causes. We created a group consisting of all other causes of death with the exception of ischemic heart disease, because the latter has been labeled partly amenable by some authors.[26] *International Classification of Diseases* (ICD) code numbers,

Gwenn Menvielle is a senior researcher at the Institut Pierre Louis d'Epidémiologie et de Santé Publique (IPLESP UMRS 1136), Institut Nationale de la Santé et de la Recherche Médicale, in Villejuif, France.

Bjørn H. Strand is a senior researcher in the Division of Epidemiology, Norwegian Institute of Public Health, in Oslo.

Bogdan Wojtyniak is head of the Department of Monitoring and Analyses of Population Health, National Institute of Public Health–National Institute of Hygiene, in Warsaw, Poland.

Wilma J. Nusselder is an assistant professor in the Department of Public Health, Erasmus University Medical Center.

from editions 8 through 10, for amenable mortality are listed in Table S2 in the Appendix.[24]

We restricted the mortality analyses to people ages 35–79. We used a higher upper age limit than most previous studies of amenable mortality because as life expectancy rises, life-saving health care interventions are increasingly applied at higher ages. However, to assess whether our conclusions would still hold if we had used a more conventional upper age limit, we performed a sensitivity analysis with an upper age limit of 70 years. As this analysis provided essentially the same results (see Appendix Table S7),[24] it is clear that our conclusions are not sensitive to the chosen age range.

For the countries and midpoints of the periods covered by our analysis, we also collected data on potential determinants of amenable mortality, mainly from the World Health Organization's Health for All family of databases[27] and from the Organization for Economic Cooperation and Development's website.[28] We first considered national income, because levels of amenable mortality have previously been shown to vary strongly with levels of prosperity.[5,29] We examined national income as per capita gross domestic product (GDP) in purchasing power parity US dollars—which many previous analyses have shown to be a powerful predictor of national mortality rates.[30,31]

We then considered a number of measures of health care financing and expenditure: per capita health care expenditure (in US dollars), health care expenditure as a percentage of GDP, per capita public health care expenditure (in US dollars), public health care expenditure as a percentage of GDP, and private households' out-of-pocket spending on health as a percentage of total health spending. For comparison, we also studied the effect of social transfers, because some previous studies have found the latter to reduce mortality.[32] Data on social transfers, measured as the proportion of GDP spent on social security benefits, were extracted from the Comparative Political Data Set.[33]

ANALYSIS For simple descriptive purposes, mortality rates by educational level were directly age-standardized using the European Standard Population and five-year age ranges.[34] We quantified both relative and absolute inequalities in amenable mortality, using the rate ratio and the rate difference between people with low and high levels of education calculated from the age-standardized mortality rates.

To answer our research questions, we conducted two series of negative binomial regression analyses using death counts as the dependent variable and person-years at risk as the offset variable.[35] We chose negative binomial regression (instead of Poisson regression, for example) because of overdispersion of the observed number of deaths.[36] Our general approach was to stratify the analyses by education and to use bootstrapping to assess whether differences between education levels were significant.

Our findings suggest that more generous spending on health care helps reduce absolute inequalities in mortality, at least in the European context.

To quantify inequalities in mortality trends, we regressed amenable mortality among people with low or high education on the period (linear term), controlling for age and country dummy variables. To assess the possible role of GDP, health care expenditure, or social transfers in determining inequalities in mortality trends, we regressed amenable mortality among people with low or high education on GDP, health care expenditure, and social transfers, controlling for age, period dummy variables, and country dummy variables. In both analyses we used country fixed effects to remove the possible influence of time-invariant confounders—that is, other country characteristics that might be associated both with GDP, health care expenditure, or social transfers and with amenable mortality. In the second analysis we also used period fixed effects to remove the possible influence of common time trends, such as the gradual rise of GDP or health care expenditure over time—which could produce spurious associations with gradually declining mortality. We calculated clustered standard errors to take into account the dependence of observations within countries.

All analyses were also stratified by sex. Descriptive statistics for the key variables in our analysis are in Appendix Table S3.[24]

LIMITATIONS Our study had several limitations. First, for Spain and Italy, only urban and relatively prosperous populations could be included. However, recent national-level studies

of these countries[37,38] found that inequalities in the whole of Spain and Italy were similar to those in Barcelona and Turin, respectively, so there is no reason to think that our study misrepresented the situation in these two countries.

Second, for most countries the mortality data were collected in the framework of a longitudinal mortality follow-up of a population census, in which socioeconomic information about the population at risk and that about the deceased came from the same source—the census. However, data for Barcelona, the Czech Republic, Estonia, Hungary, and Poland were derived from unlinked cross-sectional studies, in which the socioeconomic information on the population at risk came from the census, and that on the deceased came from the death certificate (for an overview of all data sources, see Appendix Table S1).[24] It has been shown that cross-sectional studies may produce over- or underestimations of mortality inequalities as compared to studies using a longitudinal design.[39] However, because our analysis focused on changes over time, and the study designs in each of these countries remained the same, it is unlikely that our results were biased as a result of these differences in data design.

Third, despite the European Commission's efforts at harmonization,[40] cause-of-death certification and coding practices differ across European countries.[41,42] This could bias our results, particularly if such differences are dependent on the socioeconomic status of the deceased—for example, if there is less diagnostic information available or death certificates are less accurate for decedents with low education than for those with higher education. Although there is no direct evidence to support or refute this possibility, a previous study found only minor educational inequalities in the proportion of "ill-defined" causes of death in the countries in our study.[43] This suggests that the potential for bias in our results from this source is limited.

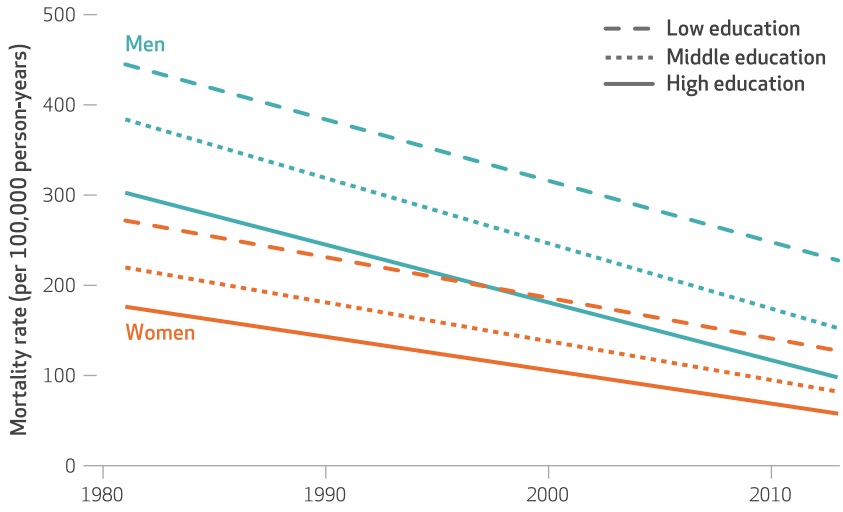
Study Results

The total number of deaths due to amenable conditions in our data set (taking all countries and periods together) was 2,098,667, and these occurred in 763,481,143 person-years of observation. Mortality from conditions amenable to health care has declined strongly over time (Exhibit 1). This applies to men and women in all three educational groups.

Absolute declines—that is, declines measured in numbers of deaths per 100,000 person-years—have been somewhat larger among people with low education than among those with

EXHIBIT 1

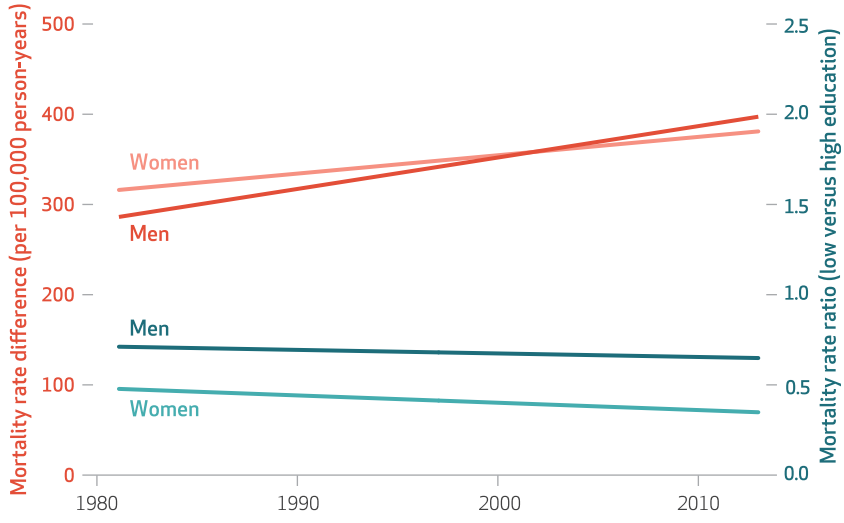
Trends in amenable mortality rates in 17 European countries, by sex and level of education, ca. 1980–2010



SOURCE Authors' analysis of harmonized data sets obtained from national statistical offices and similar agencies in the seventeen countries studied. **NOTES** Low, middle, and high levels of education are defined in the text. Mortality rates were age-standardized. The lines represent simple linear regression lines relating age-standardized mortality rates to calendar year. Appendix Figure S1 shows the underlying scatter plots (see Note 24 in text).

EXHIBIT 2

Trends in inequalities between low and high levels of education in amenable mortality rates in 17 European countries, by sex, ca. 1980–2010



SOURCE Authors' analysis of harmonized data sets obtained from national statistical offices and similar agencies in the seventeen countries studied. **NOTES** Low and high education are defined in the text. Mortality rates were age-standardized. The lines represent simple linear regression lines relating rate differences or rate ratios to calendar year. The rate differences and rate ratios were calculated from the age-standardized mortality rates of those with low and high education. Appendix Figure S2 shows the underlying scatter plots (see Note 24 in text). Trends in rate differences and rate ratios were significant ($p < 0.05$).

high education. As a consequence, there has been a slight and nonsignificant ($p > 0.05$) decline in the rate differences between the two groups (Exhibit 2). However, the rate ratios comparing people with low education to those with high education have strongly and significantly ($p < 0.05$) increased over time, among both men and women, from an average value of around 1.5 in 1980 to an average value of around 2.0 in 2010 ($p < 0.05$). This is due to the fact that relative declines in amenable mortality—that is, declines measured as a fraction or percentage of mortality rates at the start of the study period—have been larger among people with high education, compared to those with low education.

Stronger relative declines among people with high education than among those with low education were also found in our regression analyses. For all amenable causes combined, the estimated annual mortality decline in our study period was 3.5 percent for men with high education versus 2.2 percent for those with low education; the declines for women were 3.3 percent and 2.1 percent, respectively (Exhibit 3). Stronger relative declines among people with high education, compared to those with low education, were found for most specific causes of death as well, with only a few exceptions. Mortality from "other infectious diseases" increased over time among people with low education. Mortality from nonamenable causes has also declined over time, but less strongly than mortality from amenable causes, among men and women with high or low education.

When we added explanatory factors to our regression models, we found that national income, as measured by per capita GDP, was strongly

EXHIBIT 3

Inequalities by educational level in amenable mortality and in trends in amenable mortality in 17 European countries, by sex, ca. 1980–2010.

	Men			Women		
	Mortality rate ratio[a]	Annual change in mortality, by education		Mortality rate ratio[a]	Annual change in mortality, by education	
		High	Low		High	Low
AMENABLE CAUSES						
All	2.02	−3.5%[b,c]	−2.2%[b,c]	2.01	−3.3%[b,c]	−2.1%[b,c]
Infectious diseases						
Tuberculosis	5.01	−8.7[b,c]	−6.6[b,c]	4.95	−9.5[b,c]	−4.9[b,c]
Pneumonia	3.12	−4.2[b,c]	−2.2[b,c]	2.73	−4.8[b,c]	−1.8[b,c]
Other infectious diseases	2.09	1.0[c]	3.4[b,c]	1.85	−1.0[c]	3.4[b,c]
Cancers						
Colorectal cancer	1.26	−1.9[b,c]	−1.0[b,c]	1.19	−2.3[b,c]	−1.3[b,c]
Hodgkin's disease	1.49	−5.0[b]	−5.1[b]	1.23	−4.9[b]	−3.9[b]
Leukemia	1.14	−2.0[b]	−1.5[b]	1.12	−2.5[b]	−1.9[b]
Cardiovascular diseases						
Cerebrovascular disease	2.10	−4.9[b,c]	−3.6[b,c]	2.14	−4.6[b,c]	−3.5[b,c]
Rheumatic heart disease	1.84	−8.8[b]	−7.2[b]	2.11	−9.3[b,c]	−7.5[b,c]
Hypertensive disease	2.02	−1.6[b,c]	−0.6[c]	2.74	−1.4[b]	−1.6
Other heart disease	2.16	−1.7[b,c]	−0.9[c]	2.19	−1.9[b]	−0.9
Other diseases						
Asthma	3.06	−10.5[b,c]	−7.3[b,c]	2.76	−7.0[b,c]	−4.6[b,c]
Appendicitis[d]	2.62	−1.2	−1.6	2.58	−2.9[b]	−1.7
Peptic ulcer	2.71	−4.4[b]	−3.5[b]	2.42	−3.3[b]	−2.3[b]
NONAMENABLE CAUSES						
All	2.16	−1.7[b,c]	−0.8[b,d]	1.53	−1.8[b,c]	−0.2[d]

SOURCE Authors' analysis of harmonized data sets obtained from national statistical offices and similar agencies in the seventeen countries studied. **NOTES** Low and high education are defined in the text. All models controlled for age and country. Appendix Table S4 provides details on the regression model and full results of regression analysis for all amenable causes (see Note 24 in text). [a]Low versus high education. All values are significantly different from 1.00 ($p < 0.05$). [b]Significant difference from 0.0% ($p < 0.05$). [c]Significant difference between low and high ($p < 0.05$). [d]Or hernia, cholelithiasis, or cholecystis.

associated with amenable mortality: When national income goes up, amenable mortality goes down. The effect is about equally strong for people with low education and those with high education. Because of this strong effect, we controlled for GDP in subsequent analyses in which we studied the effect of various measures of health care expenditure and social transfers on inequalities in amenable mortality (see Appendix Table S5; more detailed results are available in Appendix Table S6).[24] These analyses show that higher health care expenditure was significantly associated with lower amenable mortality, but higher spending on social transfers was not. The analyses also show that the relative effect of health care expenditure on amenable mortality is similarly strong among people with low education and those with high education.

Of different measures of health care expenditure, health care expenditure as a percentage of GDP was most consistently associated with lower amenable mortality among both people with low education and people with high education. For example, the effect of health care expenditure as a percentage of GDP on amenable mortality among men with low and high education was 0.926 and 0.928 ($p < 0.05$), respectively (Exhibit 4). This indicates that a 1-percentage-point increase in health care expenditure's share of GDP was associated with declines of amenable mortality of 7.4 percent and 7.2 percent, respectively. Higher out-of-pocket spending was associated with higher amenable mortality only among men with low education—not among men with high education or among women in either educational group (Appendix Table S5).[24]

Rises in health care expenditure as a percentage of GDP were associated with equal relative (Exhibit 4) but considerably stronger absolute (Exhibit 5) declines in amenable mortality among the low than the high educated. Increased expenditure as a percentage of GDP was also associated with a substantial narrowing of absolute inequalities in amenable mortality.

Exhibit 4 shows the results of a regression analysis for specific causes of amenable mortality, with health care expenditure as a percentage of GDP as the explanatory variable. Although most of the effects were not significant, we did find that increased health care expenditure resulted in lower amenable mortality among people with low education for cerebrovascular disease (men and women), "other heart disease" (men only), asthma (women only) and peptic ulcer (men and women). Higher health care expenditure was not significantly associated with lower mortality from nonamenable causes, with the exception of men with low education—among whom the effect was considerably smaller than that observed for mortality from amenable causes.

Discussion

Remarkable declines in mortality from conditions amenable to health care occurred among both people with low education and those with higher education in the period 1980–2010 in the European countries covered by this study. However, while absolute inequalities have been largely stable, relative inequalities have risen considerably due to faster relative mortality declines among those with higher education for most amenable causes, with only a few exceptions. Higher health care expenditure was associated with lower mortality from amenable causes, but not from nonamenable causes. The effect of health care expenditure on amenable mortality was equally strong, in relative terms, among people with low and high educations, and as a result

EXHIBIT 4

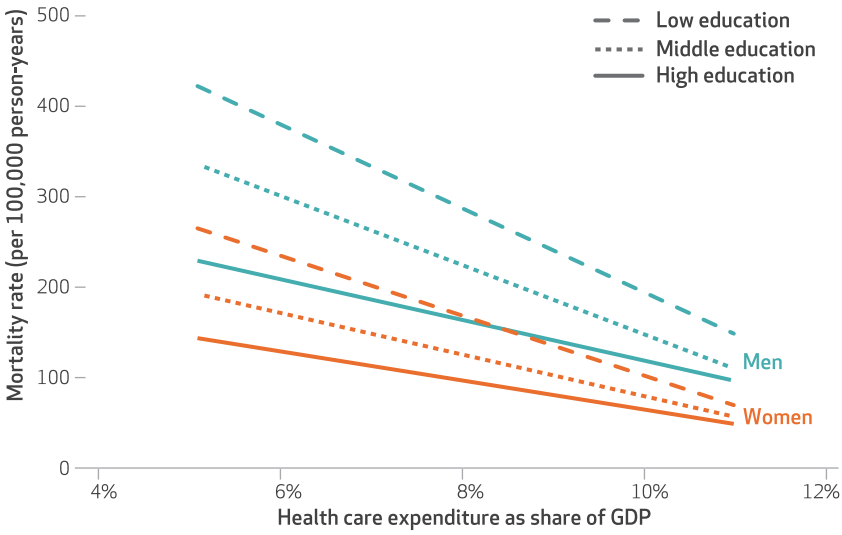
Estimated effects of a 1-percentage-point increase in the health care expenditure share of gross domestic product on mortality from selected amenable conditions in 17 European countries, by sex and education level, ca. 1980–2010

	Estimated effects			
	Men		Women	
	Low	High	Low	High
AMENABLE CAUSES				
All	0.926[a]	0.928[a]	0.931[a]	0.919[a]
Infectious diseases				
Tuberculosis	0.892	1.007	0.965	1.068
Pneumonia	1.008	0.973	1.003	1.080
Other infectious diseases	1.049	1.066	1.021	1.117
Cancers				
Colorectal cancer	0.974	0.984	0.945	0.983
Hodgkins disease	1.157	0.811	1.274	0.920
Leukemia	1.065[b]	0.903[b]	1.013	0.959
Cardiovascular diseases				
Cerebrovascular disease	0.909[a]	0.939	0.914[a]	0.891
Rheumatic heart disease	1.655	1.239	1.356	1.398
Hypertensive disease	0.870	0.865	0.915	0.896
Other heart disease	0.902[a]	0.864[a]	0.924	0.858[a]
Other diseases				
Asthma	0.962	0.794[a]	0.785[a]	0.921
Appendicitis[c]	0.882	0.880	0.823	0.656
Peptic ulcer	0.868[a]	0.964	0.803[a]	0.945
NONAMENABLE CAUSES				
All	0.944[a]	0.964	0.961	0.952

SOURCE Authors' analysis of harmonized data sets obtained from national statistical offices and similar agencies in the seventeen countries studied. **NOTES** Low and high education are defined in the text. Effects are presented as mortality rate ratios for a one-unit increase in the independent variable—that is, for a 1-percentage-point increase in health care expenditure as a percentage of gross domestic product (GDP). All models controlled for age, GDP, period dummy variables, and country dummy variables. Appendix Table S5 provides details on the regression model and full results of regression analysis for all amenable causes (see Note 24 in text). [a]Significant difference from 1.00 ($p < 0.05$). [b]Significant difference between high and low education ($p < 0.05$). [c]Or hernia, cholelithiasis, or cholecystis.

EXHIBIT 5

Effect of the health care expenditure share of gross domestic product on amenable mortality rates in 17 European countries, by sex and education level, ca. 1980–2010



SOURCE Authors' analysis of harmonized data sets obtained from national statistical offices and similar agencies in the seventeen countries studied. **NOTES** Low, middle, and high levels of education are defined in the text. Mortality rates were age-standardized. The lines represent simple linear regression lines relating age-standardized mortality rates to health care expenditure. Appendix Table S6 provides details about the regression model and full results of the regression analysis for all amenable causes. Appendix Figure S3 shows the underlying scatter plots (see Note 24 in text).

higher health care expenditure was associated with a narrowing of absolute inequalities in amenable mortality.

A previous study compared the magnitude of socioeconomic inequalities in mortality from amenable conditions between different countries at a given point in time.[12] However, to our knowledge, ours is the first study to compare trends in mortality from amenable conditions in different countries by socioeconomic status.

It has often been noted that in a context of declining mortality, relative inequalities tend to widen, whereas absolute inequalities may be stable or even decline.[23,44] The explanation of this phenomenon is straightforward. The only way to reduce inequalities in mortality is to achieve stronger declines in lower than in higher socioeconomic groups. This has proved to be difficult for relative declines in mortality (that is, declines expressed as a percentage of the original mortality rate), because it requires that interventions have greater reach or effectiveness among lower socioeconomic groups. It is easier, although still challenging, to achieve larger absolute declines in lower socioeconomic groups (that is, expressed in number of deaths per 100,000 people), because starting levels of mortality are higher in these groups.[45] This is consistent with what we found in our study: Although relative declines in amenable mortality were larger among people with high education, leading to a rise in relative inequalities, absolute inequalities remained stable, due to almost equally large absolute declines among people with low and high education (Exhibit 2). Although it would have been even better to see a narrowing of absolute or even relative inequalities, the strong declines in amenable mortality among people with low education are certainly a valuable achievement.

Our main findings are that higher health care expenditure, measured in different ways, was associated with lower amenable mortality, and that this effect was equally strong in relative terms among people with low education and those with high education. These results were obtained with regression models that controlled for GDP and both country and period fixed effects and should therefore be robust against various sources of confounding. The fact that we did not observe a similar effect of level of health care expenditure on mortality from nonamenable causes lends support to a causal explanation of our findings, and so does the fact that we did not observe any effect of the level of social transfers on amenable mortality. We did not directly study the effect of income inequality on inequalities in amenable mortality, but previous analyses have shown that income inequality is unrelated to inequalities in mortality in European countries.[46]

Because starting levels of amenable mortality are higher among people with low education than among those with high education, equal relative effects for the two groups imply larger absolute effects for the former group. Therefore, our findings suggest that more generous spending on health care helps reduce absolute inequalities in mortality, at least in the European context—in which most countries have national health systems or social health care insurance schemes that to some degree guarantee equality of access to health care.[47,48]

The only previous analysis of the impact of the level of health care expenditure on inequalities in amenable mortality was a regional study in England, which found that the policy of increasing National Health Service funding to socioeconomically deprived areas, compared to more affluent areas, led to a reduction in geographical inequalities in mortality amenable to health care.[21] However, because that study looked at the impacts of an explicitly redistributive policy, its results cannot be compared directly with ours. Future studies that use more detailed data on how increased health care expenditure at the macro level was allocated to specific interventions for specific patient groups will be necessary

to better understand how health care narrows absolute inequalities in mortality.

It would be interesting to see whether our results for a range of European countries are generalizable to other countries—particularly the United States, which combines relatively unfavorable mortality trends and substantial health inequalities with very high levels of health care expenditure.[49–51] Previous studies have shown that trends in amenable mortality in the population at large have been less favorable in the United States than in most European countries.[26] In light of the available evidence, we would not be surprised to see larger inequalities in amenable mortality trends in the United States than in Europe.

Conclusion

Our findings suggest that European health care systems were successful in reducing mortality from conditions amenable to health care among people with low education during our study period. Although inequalities in amenable mortality between people with low and high education in general were not reduced, our results indicate that more health care could reduce absolute inequalities in amenable mortality. Although specific policy recommendations will have to be based on more detailed studies, our demonstration of a link between more health care funding and smaller health inequalities lends important support to the idea that health care can be an effective policy instrument for reducing health inequalities. ■

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NOTES

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