Commentary on “In Amenable Mortality – Deaths Avoidable Through Health Care – Progress in the US Lags That of Three European Countries”

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Health care systems are often compared to evaluate and improve the delivery of healthcare to patients. The concept of ‘amenable mortality’ has been introduced as an indicator of quality of care.1 Amenable mortality is defined as deaths from a collection of diseases, such as diabetes and appendicitis, that are potentially preventable given effective and timely health care.1 This serves as a marker that highlights the performance of a health care system, although it has its limitations.

A study by Nolte et al. found that the United States was slower to progress in improving amenable mortality when compared to United Kingdom, Germany, and France.1 Table 1 showed that amenable mortality declined in all countries, although there was significant variation.1 Further, the authors compared those under 65 to those over 65 years old between the countries. Those in the US under 65 had larger amenable mortality compared to other countries. Whilst Those over 65 in all the countries declined in amenable mortality, the US had a slower improvement rate.1 In 2007 the US spent $7,290 US per capita on health care, more than twice the amount of France, Germany, and United Kingdom ($3,601; $3,588; $2,992 respectively) and yet the improvement in amenable mortality is half as good in certain populations compared to other Western countries.2 The commonality amongst the three European countries is that they provided universal health care, while the US did not have this option. This appears to be further evidence for the need for health care reform in the US.1

Not only did the authors demonstrate that the US lagged behind in comparison to other countries, but there was also an age-related discrepancy in amenable mortality within the country.1 This supports the hypothesis that amenable mortality reductions correlate to healthcare access: those over 65 have universal access to MediCare whilst those under 65 may or may not be covered by personal or employer insurance policies. Overall, both the number of uninsured individuals and the proportion of the population uninsured have increased between 1999 and 2006 in the US, with a slight decline in 2007 (Figure 1).3 In 2007, 45.7 million Americans were uninsured (approximately 15.3% of the population), thus lacking access to health care.1

However, a previous literature review has demonstrated that there are several problems with using amenable mortality as an indicator. First, there is variability in the definition of ‘amenable mortality’, making it difficult to compile evidence for this measure.4 Some studies that were evaluated used amenable mortality, while others used ‘preventable mortality’ (deaths preventable through primary care or public health guidelines), or ‘avoidable mortality’ (a combination of preventable and amenable mortality).2 Since there was no standard definition of amenable mortality, it would be difficult to compare the results of different studies.5

Secondly, it has been challenging to assess the impact of a healthcare system on amenable mortality, as several studies show there was weak or no association.1 Furthermore, some studies found that socioeconomic and lifestyle variables (i.e. smoking, employment status, etc.) had a larger effect on amenable mortality than the quality of the healthcare system.4 Lastly, the authors indicated that healthcare activity and quality variables should be defined to estimate the relationship between the healthcare system and amenable mortality. Their empirical analysis showed that no study they examined used these variables.5

While the authors reviewed the studies, they suggested three important points to consider: (1) time lag: interventions may show an effect on mortality, although this may be delayed; (2) disease incidence: a decline in mortality, may be due to a actual decline in incidence; (3) use of healthcare expenditure variable – larger expenditure may be correlated with larger mortality rates, but only because more resources are spent on treatment/prevention.6

Moreover, Machenbach et al. suggested that high mortality, incidence, and risk factors for the disease prior to introduction of an intervention play an important role in concealing the true effect of any new intervention.7 Nolte et al. illustrates, that the United Kingdom had a larger amenable mortality
than Germany in 1999, with both countries declining in amenable mortality in 2007 (Table 2).\(^1\) However, since the UK had a larger initial amenable mortality, this larger decline may be mistakenly interpreted as indicating a better health care system, when it should be attributed to the higher baseline mortality.

Amenable mortality can still be used as a measure for healthcare across nations; however, its limitations must be contemplated. Other measures of healthcare can help enhance the robustness of such results. Considering that, in 2007, the United States performed worse than the other three countries studied in both life expectancy and infant mortality, this would support amenable mortality as a good indicator (Table 3).\(^5,7\)

Currently, the US has established the Patient Protection and Affordable Care Act that is intended to reduce the number of uninsured Americans, as well as decrease the costs of healthcare.\(^8\) Future research assessing its impact on amenable mortality, both in comparison to other countries and within itself, would be of great interest.

**Ethical approval**

No ethical approval required for this study.

**Conflicts of interest**

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**Table 1** Reduction of Amenable Mortality People Aged 0–74 between 1999–2006/2007\(^1\)

| Country       | Men (%) | Women (%) |
|---------------|---------|-----------|
| United Kingdom | 36.9    | 31.9      |
| France        | 27.7    | 23.4      |
| German        | 24.3    | 22.7      |
| United States | 18.5    | 17.5      |

**Table 2** Age-standardized death rates (per 100,000) for all amenable causes in 1999 to 2006/2007 for men aged 0–64\(^1\)

| Country   | 1999 | 2007 |
|-----------|------|------|
| France    | 47.25| 37.13|
| Germany   | 60.66| 49.53|
| United Kingdom | 72.71 | 53.01|
| United States | 78.17 | 68.81|

**Table 3** Comparison of Life Expectancy and Infant Mortality in 2007\(^5,7\)

| Country      | Life Expectancy (years) | Infant Mortality (deaths per 1,000 live births) |
|--------------|-------------------------|-------------------------------------------------|
| German       | 80.0                    | 3.9                                             |
| France       | 80.9                    | 3.8                                             |
| United Kingdom | 79.9                 | 4.8                                             |
| United States | 77.9                  | 6.8                                             |

**Fig 1.** Number of Uninsured and Uninsured Rate: 1987 to 2007.\(^3\)
