**S1 Appendix. Age-adjustment methodology.**

For each year, we calculated the age-standardized estimates for total hospitalization, in-hospital mortality and case fatality rates using the age-adjustment methodology proposed by Ahmad et al. [1]. This procedure aims to standardize or age-adjust the in-hospital mortality and hospitalization rates and can be calculated as a weighted average of the age-specific rates, for each of the populations to be compared. The weights represent the relative age distribution of the standard external population. So, the age-adjustment methodology provides, for each population, a standardized rate that reflects the number of events that would have been expected if the populations being compared had had identical age distribution.

Therefore, the age-adjusted in-hospital mortality rate in 2009 and 2010, for example, can be calculated by the equations (1) and (2).

$$M^{2009} = \sum r_i^{2009}\left(\frac{n_i}{\sum_i n_i}\right) \tag{1}$$

$$M^{2010} = \sum r_i^{2010}\left(\frac{n_i}{\sum_i n_i}\right) \tag{2}$$

where $n_i$ is the WHO World Standard population in the $i$th age group [1] (see Table below), $r_i^{2009}$ and $r_i^{2010}$ are the in-hospital mortality rates per 100,000 inhabitants for age group $i$ in 2009 and 2010, respectively.

Regarding the age-adjusted hospitalization rate, the formulation is similar, as demonstrated in equations (3) and (4).

$$I^{2009} = \sum z_i^{2009}\left(\frac{n_i}{\sum_i n_i}\right) \tag{3}$$

$$I^{2010} = \sum z_i^{2010}\left(\frac{n_i}{\sum_i n_i}\right) \tag{4}$$

where $z_i^{2009}$ and $z_i^{2010}$ are the hospitalization rates per 100,000 inhabitants for age group $i$ in 2009 and 2010, respectively.

In terms of case fatality, we divided the age-adjusted in-hospital mortality rate by the age-adjusted hospitalization rate, as demonstrated by the equations (5) and (6).

$$F^{2009} = \frac{M^{2009}}{I^{2009}} \tag{5}$$

$$F^{2010} = \frac{M^{2010}}{I^{2010}} \tag{6}$$

The Table below presents the WHO World Standard population for each age group $(n_i)$ used in this work, as proposed by Ahmad et al. [1].

**Table. Standard Population Distribution (percent). Adapted from Ahmad et al. [1].**

| Age Group | WHO World Standard (%) |
|-----------|------------------------|
| 0-4 | 8.86 |
| 5-9 | 8.69 |
| 10-14 | 8.60 |
| 15-19 | 8.47 |
| 20-24 | 8.22 |
| 25-29 | 7.93 |
| 30-34 | 7.61 |
| 35-39 | 7.15 |
| 40-44 | 6.59 |
| 45-49 | 6.04 |
| 50-54 | 5.37 |
| 55-59 | 4.55 |
| 60-64 | 3.72 |
| 65-69 | 2.96 |
| 70-74 | 2.21 |
| 75-79 | 1.52 |
| 80-84 | 0.91 |
| 85+ | 0.63 |
| Total | 100 |

**Reference**

[1] Ahmad OB, Boschi-Pinto C, Lopez AD, Murray CJ, Lozano R, Inoue M. Age Standardization of rates: A new who standard. In: Organization WH, editor. 2001. p. 1–14.