Global years of life lost to COVID-19

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In a nutshell

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- **Scope**: 42 countries up to November 2020.

- **Compared to other leading causes of death**: a natural comorbidity “adjustment”.

- **Subgroups**: we break it down by age and gender.
• **Not all deaths are equal**: conflicting narratives on the magnitude of the pandemic, YLL as a way to “organize” the discussion.
Why YLL?

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- “**Only the elderly and feeble are dying**”**: Most YLL to COVID-19 are not among the oldest age groups (true everywhere, more so in mid and low income countries).
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  • “You are not accounting for comorbidity bias”: We focus on ratios, not on the absolute values YLL.
Why now (then)?

- Three fundamental pieces of information become available:
  - Age and gender-specific death counts: COVerAGE-DB (h/t Tim & Enrique).
  - Excess mortality: Human Mortality Database weekly all-cause mortality data publicly available.
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As of November 22, **COVID-19** has resulted in **913,834 deaths** (our sample).

- Total: **14,957,594 YLL**.
- **Relative impact**: 2 to 7 times the average seasonal influenza YLL (heavily affected countries).
- **Age distribution**: Only about 1/4 YLL result from deaths in ages over 75 and ∼1/3 from deaths under 55.
- **Gender**: Men have lost 49% more life years than women.
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- **COVID-19 related excess mortality**: we compute the cumulative positive excess mortality since the last week of February 2020.
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Results: influenza
Results: heart

C. Ratio of years of life lost due to COVID-19 vs heart diseases
Results: excess mortality

D. Ratio of years of life lost due to COVID-19 vs excess mortality
Results: age
Results: gender

![Bar chart showing the ratio of male to female years of life lost across different countries.](chart)

- **Average**: 1.482
- **Weighted Average**: 1.376
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Conclusion: summary

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• **Men are more affected**: although there is substantial variation in the gender differences across countries.
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- **YLL and policy evaluation**: YLLs can be used to improve policy evaluation (instead of simply deaths).