

Workshop: Burden of disease of COVID-19 – strengthening the collaboration for national studies

Burden of disease methods: Integrating COVID-19 to the cause list

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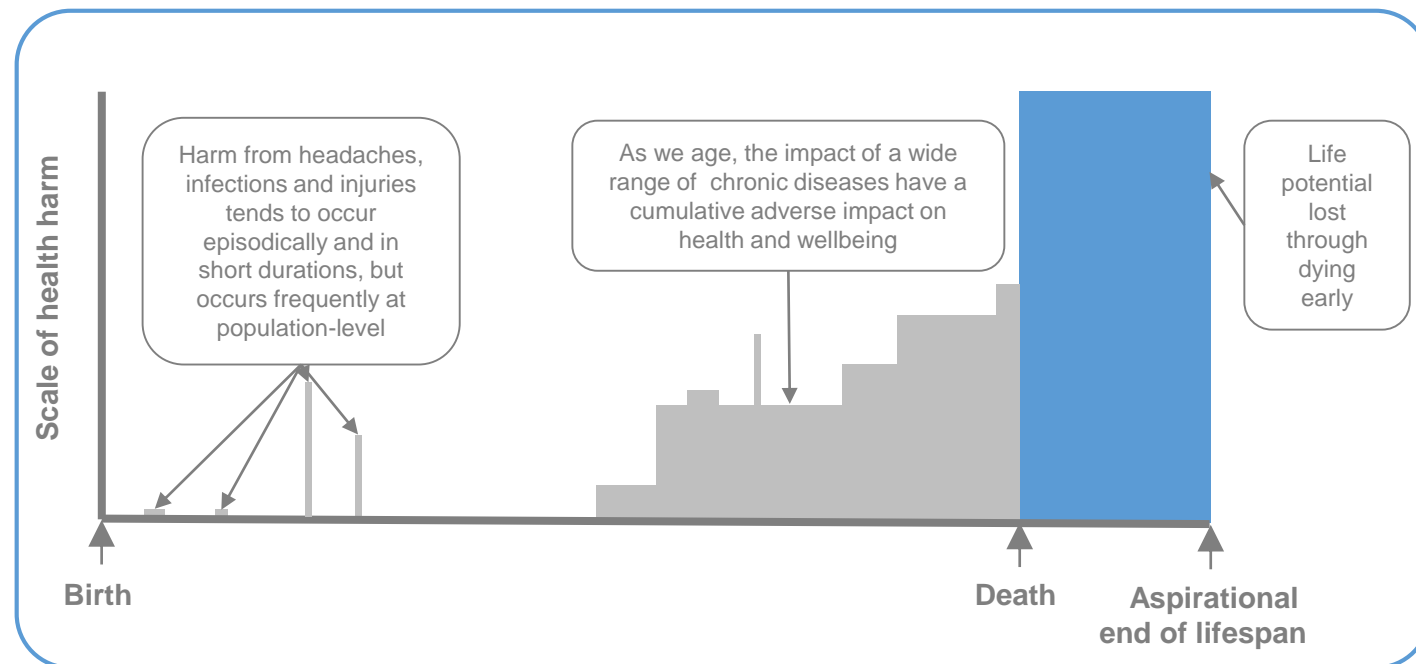
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Burden of disease methods: recap

- Disability-adjusted life years (DALYs) are a summary measure of the impact of morbidity and mortality
 - Years lived with disability (YLD) measures the frequency and severity of disease
 - Years of life lost (YLL) measures the frequency and age upon which death occurs
- Allows comparisons between otherwise heterogeneous causes of disease to inform where the largest public health losses are
- ‘Health gap’ between current state of health compared to a counterfactual of living free of disease and injury



Early pandemic context

- COVID-19 death numbers were quickly stacking, and as time progressed, it was clear that it would be one of the leading causes of death, in both country and international contexts
- Emerging attempts to treat COVID-19 different
 - “They were going to die soon anyway”
 - Misuse of life expectancy at birth to frame versus the age people were dying from COVID-19 at
- The need to standardize comparisons across causes and to segment direct and indirect COVID-19- and pandemic-related harms

Burden-eu action

1. Establish methods for valuing YLL due to COVID-19 infection
2. Establish methods for estimating DALYs due to COVID-19 infection
 - a) Peer-reviewed model
 - b) Developing plain English protocol to assist countries to undertake their own national assessments
3. Capturing the BOD-related research landscape for COVID-19

Valuing the YLL to COVID-19

- Dispel myths over YLL calculations and encourage transparency and documentation of methods
- Many within-country life expectancies are highly variable but it's less common to have stratified sub-national approaches
- 2020 paradox that increased mortality risks due to COVID-19 would result in lower YLL, as the 'value' of life is decreased

 Springer Link

Commentary | [Open Access](#) | [Published: 20 July 2020](#)

Valuing the years of life lost due to COVID-19: the differences and pitfalls

[Brecht Devleesschauwer](#), [Scott A. McDonald](#), [Niko Speybroeck](#) & [Grant M. A. Wyper](#) 

[International Journal of Public Health](#) **65**, 719–720 (2020) | [Cite this article](#)

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YLL recommendations



- Paradox in comprehensive BOD studies avoided by using a standard life table (GBD, WHO)
- Ethical advantages
 - Equal life locally, nationally and globally
 - [WHO SAGE roadmap for prioritizing uses of COVID-19 vaccines in the context of limited supply](#)
- Comparative advantages and their increasing importance during global pandemic
- Adjustment would result in loss of focus of the factors and environment responsible for increased mortality risks

A disease model for COVID-19 DALYs

- Many network members were starting to think about calculating COVID-19 DALYs
- Group convened to discuss and establish health states and data inputs:
 - Input from European Centre for Disease Prevention and Control (ECDC)
 - 12 people, 7 countries, 10 institutions

A guide for COVID-19 DALY calculations

- Consensus model and approach published in the International Journal of Public Health
- Discussions over potential data inputs, including their benefits and drawbacks



International Journal of Public Health
HINTS AND KINKS
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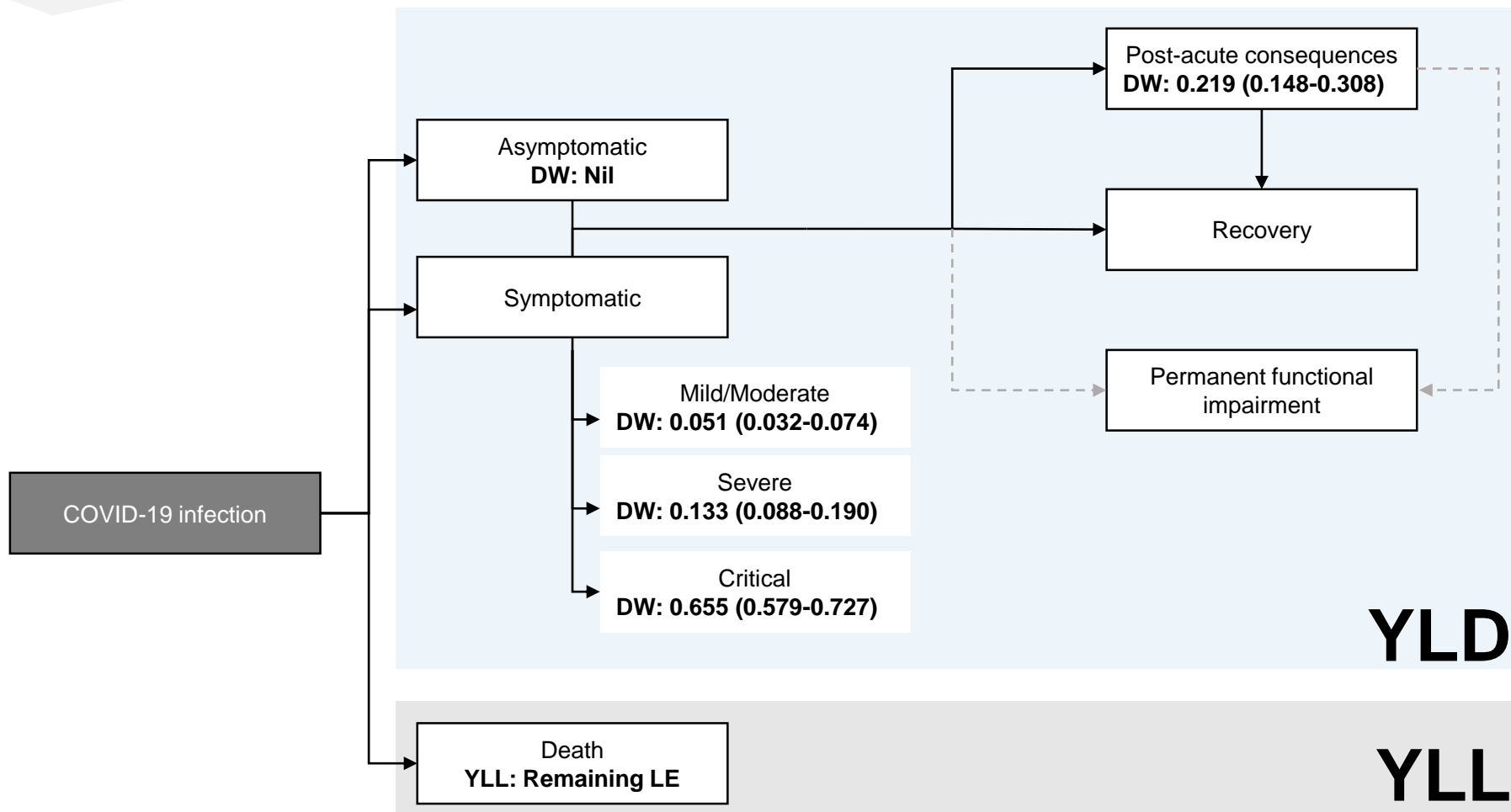
Burden of Disease Methods: A Guide to Calculate COVID-19 Disability-Adjusted Life Years

Grant M. A. Wyper^{1*}, Ricardo M. A. Assunção², Edoardo Colzani³, Ian Grant⁴, Juanita A. Haagsma⁵, Giske Lagerweij⁶, Elena Von der Lippe⁷, Scott A. McDonald⁶, Sara M. Pires⁸, Michael Porst⁷, Niko Speybroeck⁹ and Brecht Devleesschauwer^{10,11}

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Keywords: COVID-19, disability-adjusted life year, years lived with disability, years of life lost, coronavirus, European burden of disease network

Outcome tree for COVID-19 burden



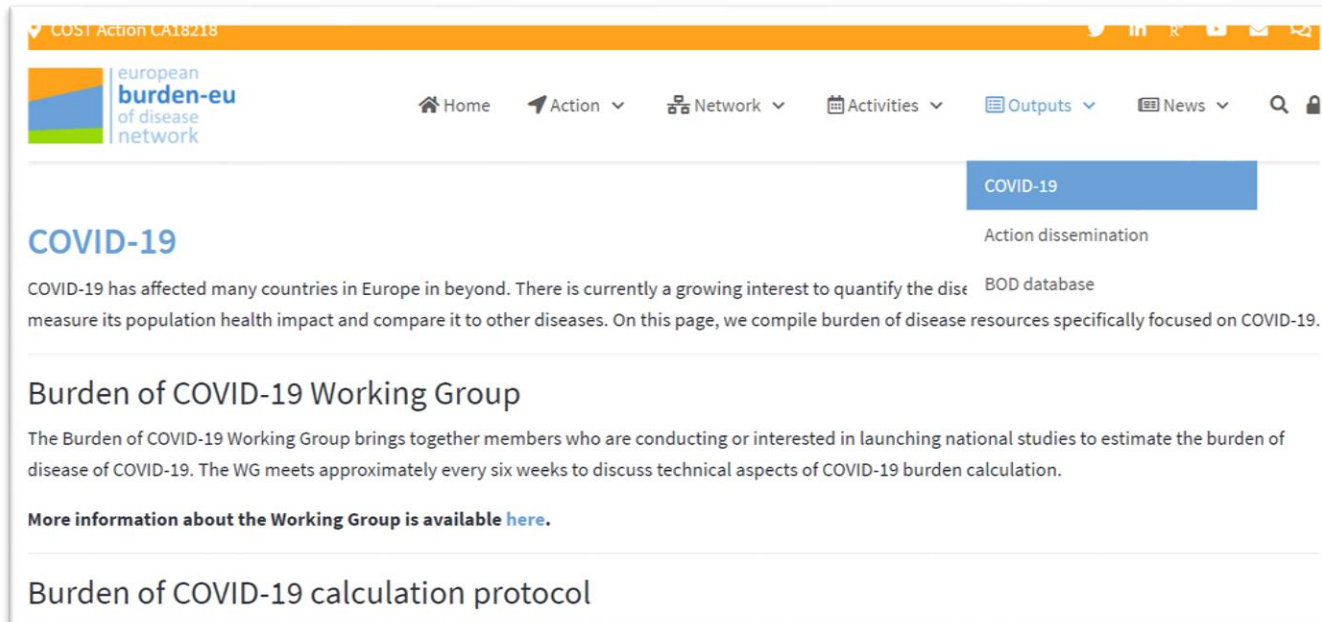
A protocol to assist assessments



- Provide guidance for data requirements, methodology and communicating results
- Encourage knowledge and experience sharing
- Contact us at info@burden-eu.net

Capturing COVID-19 research

- Burden-eu BOD-related COVID-19 research repository
 - Peer-reviewed research: 2 methods; 20 research papers;
 - Non-peer reviewed research: 2 institutional reports; 8 pre-print papers
- <https://www.burden-eu.net/outputs/covid-19>



The screenshot shows the website for the European Burden of Disease Network (BOD database). The page is titled "COVID-19" and is part of the "Action dissemination" section. The text on the page reads: "COVID-19 has affected many countries in Europe in beyond. There is currently a growing interest to quantify the disease BOD database measure its population health impact and compare it to other diseases. On this page, we compile burden of disease resources specifically focused on COVID-19." Below this, there is a section titled "Burden of COVID-19 Working Group" which states: "The Burden of COVID-19 Working Group brings together members who are conducting or interested in launching national studies to estimate the burden of disease of COVID-19. The WG meets approximately every six weeks to discuss technical aspects of COVID-19 burden calculation." A link is provided for more information: "More information about the Working Group is available [here](#)." At the bottom of the visible section, the text "Burden of COVID-19 calculation protocol" is partially visible.