

Overview of burden-eu COVID-19 activities:

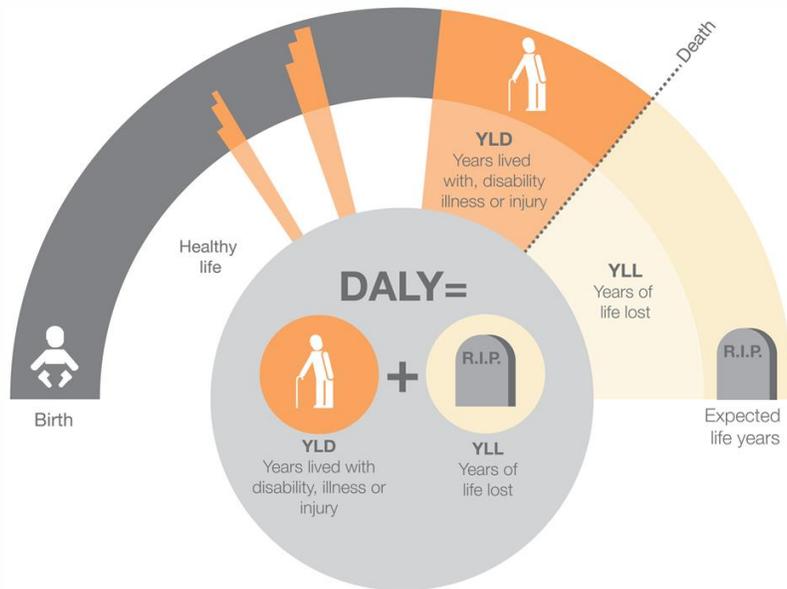
Fostering collaboration and methodological development

Grant Wyper
Public Health Intelligence Adviser

@GMAWyper
#BurdenEU



Disability-adjusted life years (DALYs)



- Summary measure of the impact of morbidity and mortality
 - Years Lived by Disability (YLD)
 - Frequency and severity of disease and injury
 - Years of Life Lost to premature mortality (YLL)
 - Frequency of death and age upon which it occurs
- Comparisons between causes of morbidity and mortality → informing public health priorities
- 'Health gap' between current health status compared to a counterfactual of living free of disease and injury

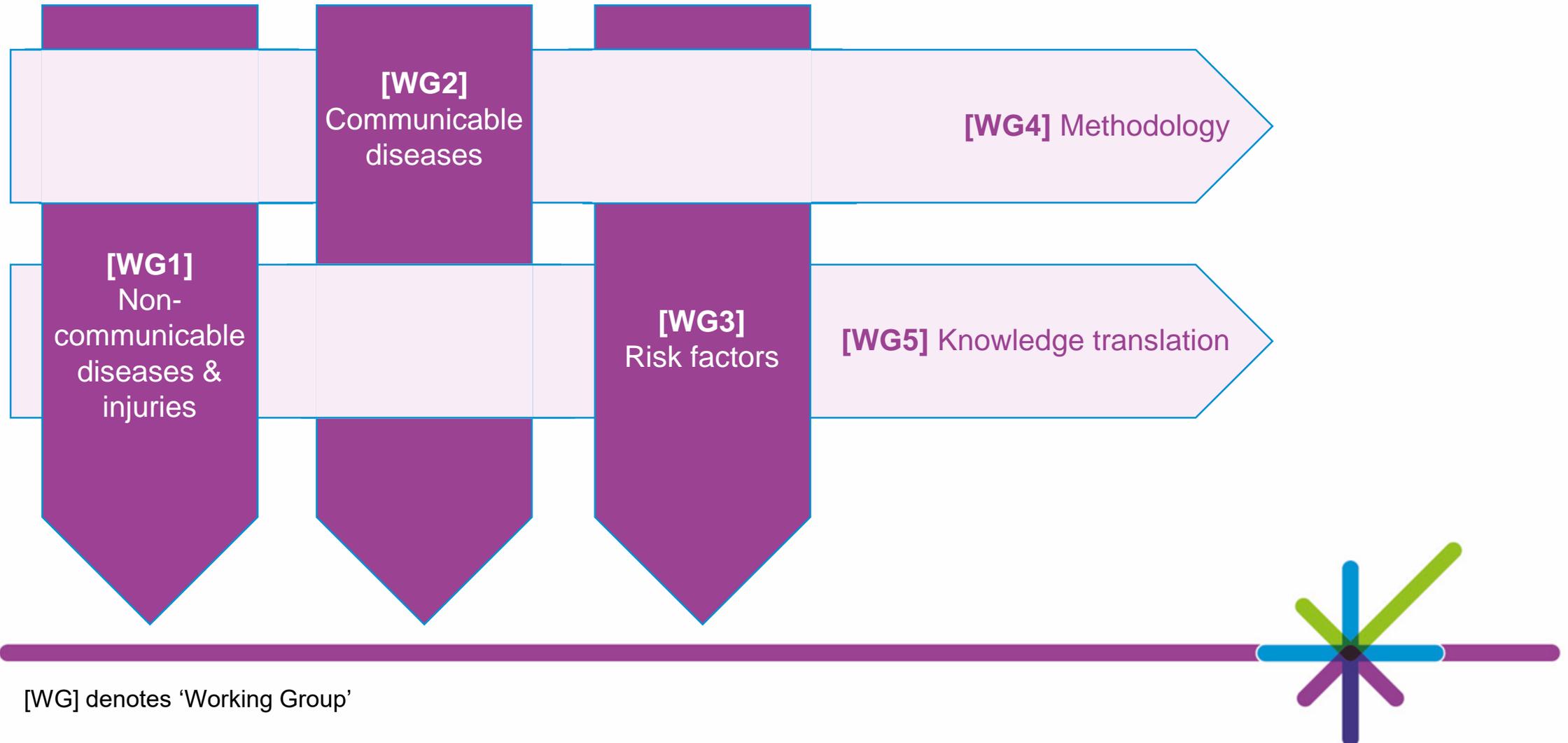


Burden assessment in the times of COVID-19

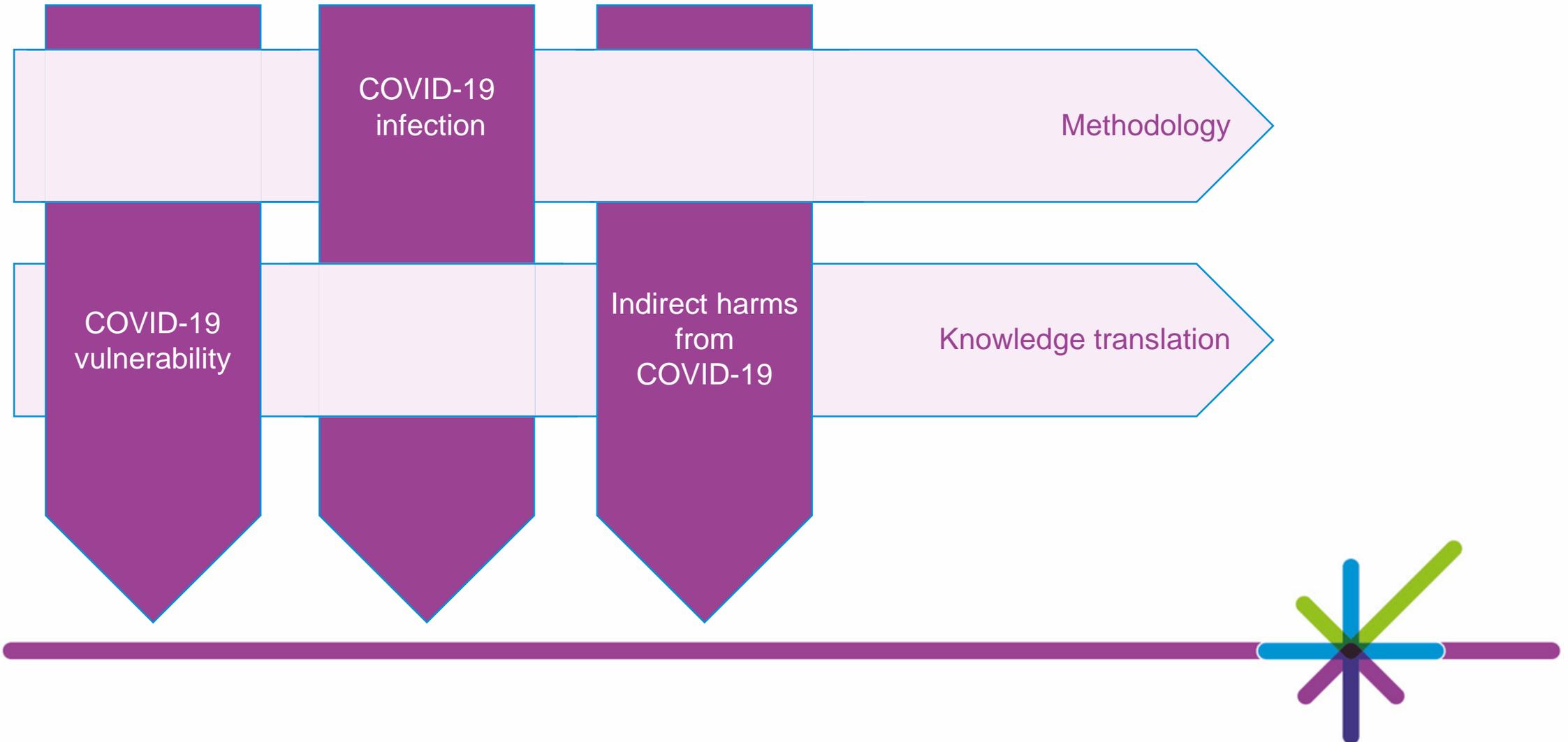
- How can existing burden of disease assessment provide support?
- How can we integrate COVID-19 into burden of disease assessment?



Burden-eu transversal 'Working Group' structure



Fitting the many faces of COVID-19



BOD assessment for COVID-19 vulnerability

- Evidence emerged that specific groups of patients were more vulnerable to severe outcomes from COVID-19 infection
- Identification through existing health conditions and risk-factors
- Ability to investigate, using existing burden of disease assessments
- Group within burden-eu convened to compare the extent of population-level vulnerability to COVID-19 by considering differences in elderly population and pre-existing health conditions*

* Wyper GMA, Assunção R, Cuschieri S. et al. Population vulnerability to COVID-19 in Europe: a burden of disease analysis. Arch Public Health. 2020;78:47. <https://doi.org/10.1186/s13690-020-00433-y>



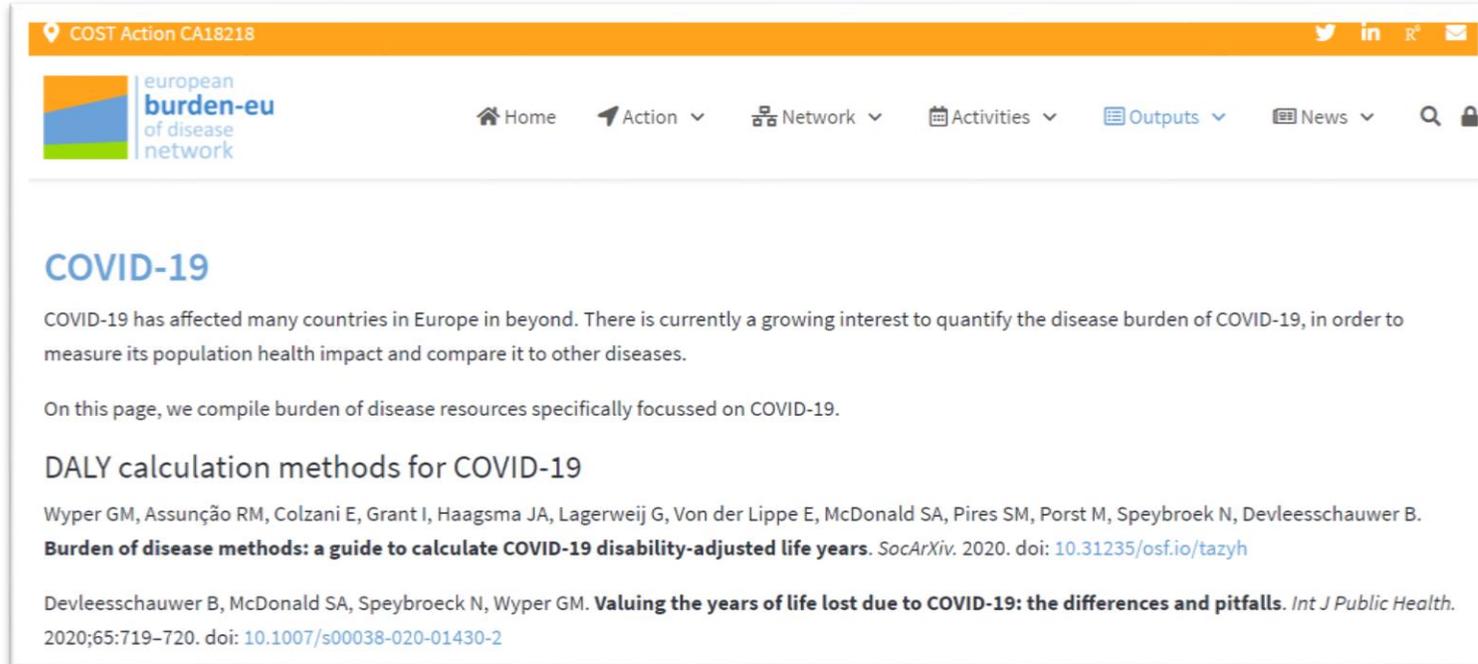
Establishing COVID-19 as a cause in BOD studies

- COVID-19 is amongst the leading causes of death in most countries
- Emerging attempts to treat COVID-19 different
 - “They were going to die soon anyway”
 - Misuse of life expectancy of birth to frame remaining life expectancy
- The need to standardise comparisons across causes and to segment direct and indirect harms
- Methods are well established, so not trying to “fit a narrative”



Scanning the landscape

- Capturing BOD related COVID-19 research
 - <https://www.burden-eu.net/outputs/covid-19>



The screenshot shows the website for the European Burden of Disease Network (burden-eu.net). The page is titled "COVID-19" and contains the following text:

COVID-19 has affected many countries in Europe in beyond. There is currently a growing interest to quantify the disease burden of COVID-19, in order to measure its population health impact and compare it to other diseases.

On this page, we compile burden of disease resources specifically focussed on COVID-19.

DALY calculation methods for COVID-19

Wyper GM, Assunção RM, Colzani E, Grant I, Haagsma JA, Lagerweij G, Von der Lippe E, McDonald SA, Pires SM, Porst M, Speybroeck N, Devleeschauwer B. **Burden of disease methods: a guide to calculate COVID-19 disability-adjusted life years.** *SocArXiv*. 2020. doi: [10.31235/osf.io/tazyh](https://doi.org/10.31235/osf.io/tazyh)

Devleeschauwer B, McDonald SA, Speybroeck N, Wyper GM. **Valuing the years of life lost due to COVID-19: the differences and pitfalls.** *Int J Public Health*. 2020;65:719–720. doi: [10.1007/s00038-020-01430-2](https://doi.org/10.1007/s00038-020-01430-2)



Valuing the years of life lost 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
- Paradox that increased mortality risks due to COVID-19 may actually result in lower YLL, as the 'value' of life is decreased

International Journal of Public Health (2020) 65:719–720
<https://doi.org/10.1007/s00038-020-01430-2>

COMMENTARY

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

Brecht Devleesschauwer^{1,2} · Scott A. McDonald³ · Niko Speybroeck⁴ · Grant M. A. Wyper⁵

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* Devleesschauwer B, McDonald SA, Speybroeck N, Wyper GMA. Valuing the years of life lost due to COVID-19: the differences and pitfalls. Int J Public Health. 2020;65(6):719-720. <https://doi.org/10.1007/s00038-020-01430-2>



Recommendations for the value of mortality loss

- Paradox in comprehensive BOD studies avoided by using a standard life table (GBD, WHO)
- Ethical advantages
 - Equal life locally, nationally and globally
- Comparative advantages
 - Increasing importance during global pandemic
- Adjustment would result in loss of focus of the factors and environment responsible for increased mortality risks



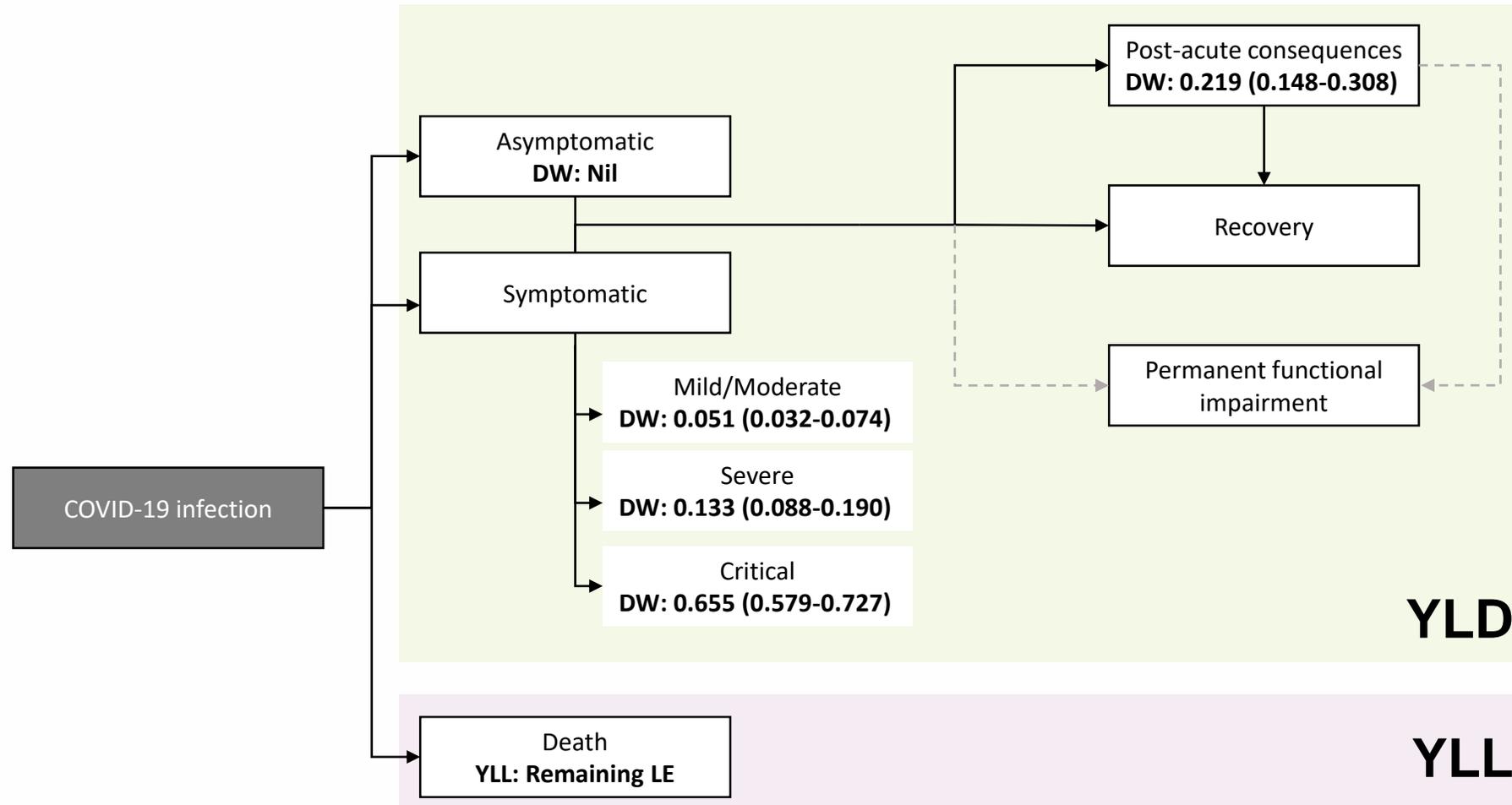
A disease model for non-fatal COVID-19 outcomes

- 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
- Discussions over uncertainties around data inputs to aid knowledge translation
- Consensus model, and approach, made available as a pre-print*

* Wyper GMA, Assunção R, Colzani E et al. Burden of disease methods: a guide to calculate COVID-19 disability-adjusted life years. SocArXiv. 2020. <https://doi.org/10.31235/osf.io/tazyh>



Outcomes tree for COVID-19 burden



* Wyper GMA, Assunção R, Colzani E et al. Burden of disease methods: a guide to calculate COVID-19 disability-adjusted life years. SocArXiv. 2020. <https://doi.org/10.31235/osf.io/tazyh>



A protocol to estimate COVID-19 DALYs



Publication of a [burden-eu guide on calculating COVID-19 DALYs](#)

📅 Published: 23 October 2020

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



Ongoing and future activities

- Continue to support and encourage efforts to integrate COVID-19 into burden of disease assessments
- Promote the importance of methodological transparency/impact
- Integration of emerging evidence into non-fatal outcomes tree
- Opportunities to study and assess the indirect harm from COVID-19
 - Foresight studies: forecast and actual DALYs
 - Disease severity: e.g. restricted access to vital services



Useful links

- [Protocol for estimating COVID-19 DALYs](#)
- [Burden of disease methods: a guide to calculate COVID-19 disability-adjusted life years](#)
- [Burden of disease COVID-19 resource webpage](#)
- [Valuing the years of life lost due to COVID-19: the differences and pitfalls](#)

