Panel 1: Population and development: the effects of the pandemic on the region's population dynamics

**IMPACT ON MORTALITY AND OVERALL HEALTH**

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COVID-19 Impacts on Mortality

• TYPES
  ▪ Direct
  ▪ Direct-indirect (when COVID-19 is miscoded)
  ▪ Indirect (people who died because of the pandemic context but not because of the disease)
  ▪ Competing Risks (people who would have died from a different cause in the same year but died of COVID-19)

• TIMELINE
  ▪ Immediate
  ▪ Mid- to long-term
COVID-19 Impacts on Overall Health

• **TYPES**
  - Long COVID
  - Poverty & Hunger
  - Worsening health due to postponed procedures/checks
  - Late diagnosis
  - Conditions amenable to primary care
  - Reproductive health

• **TIMELINE**
  - Immediate
  - Mid- to long-term – How long?
Excess deaths associated with COVID-19, Jan 2020 - Dec 2021

Knutson et al, 2022

Brazil:
- 21% 160/100k

Mexico:
- 19% 242/100k

Peru:
- 9% 431/100k

Graphs showing comparisons of expected and observed data trends over time.
Decline in $e_0$

Global life expectancy, 2010–2021

- Brazil – 3.7 (M), 3.6 (F)
- Mexico – 4.3 (M), 3.7 (F)
- Peru – 6.0 (M), 5.3 (F)

Heuveline, 2022

Heuveline, 2022

Castro et al, 2021
Figure 2 1 Latin America and the Caribbean (25 countries and territories):* average extent of disruptions in the provision of essential health-care services, by type of delivery, 2021

(Averages of countries)

- Average disruption of services as a group: 16, 11, 7, 35
- Primary care (n = 20): 23, 23, 10, 55
- Rehabilitative, palliative and long-term care (n = 15): 10, 16, 14, 40
- Auxiliary services (n = 21): 26, 7, 5, 38
- Emergency, critical and operative care (n = 18): 12, 4, 4, 20


* The countries and territories included are: Bahamas, Belize, Bermuda, Bolivia (Plurinational State of), Brazil, Cayman Islands, Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Vincent and the Grenadines, Suriname and Uruguay.

Arsenault, 2022
Organ Transplantation

Aubert et al, 2021
Risk and 6-month excess burden of death, at least one post-acute sequela, by organ system.

Adjusted HRs (dots), 95% CIs (error bars), estimated excess burden (bars), and 95% CIs (error bars).

Burdens are presented per 1,000 persons at 6 months of follow-up.

Al-Aly et al, 2022
Long-term cardiovascular outcomes of COVID-19

Yan Xie, Evan Xu, Benjamin Bowe, and Ziyad Al-Aly

Cerebrovascular disorders
- Stroke
- TIA
- Atrial fibrillation
- Sinus tachycardia
- Sinus bradycardia
- Ventricular arrhythmias
- Atrial flutter
- Pericarditis
- Myocarditis
- Acute coronary disease
- Myocardial infarction
- Ischemic cardiomyopathy
- Angina
- Heart failure
- Non-ischemic cardiomyopathy
- Cardiac arrest
- Cardiogenic shock
- Pulmonary embolism
- Deep vein thrombosis
- Superficial vein thrombosis

Dysrhythmia

Inflammatory heart disease

Ischemic heart disease

Other cardiac disorders

Thrombotic disorders

MACE

Any cardiovascular outcome

Excess burden per 1,000 persons (95% CI)
Uncertainties

- Delayed procedures and consultations
  - Duration of consequences
- Mental health
- Hunger & Increased inequalities
- Long COVID
  - Morbidity → Mortality

Certainties

**Strengthen Health Systems (PHC)**
**Detailed Data → Rights-based Approach**

- **REALITY**: One gets more than is needed, while the other gets less than is needed. Thus, a huge disparity is created.
- **EQUALITY**: The assumption is that everyone benefits from the same supports. This is considered to be equal treatment.
- **EQUITY**: Everyone gets the support they need, which produces equity.
- **JUSTICE**: All can see the game without supports or accommodations because the cause(s) of the inequity was addressed. The systemic barrier has been removed.
Thank you

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