Obtaining age-disaggregated data on COVID-19 — WHO perspective

Dr. Boris Pavlin

Acting Unit Head, Field Epidemiology Services, WHO Health Emergencies Programme

World Health Organization

Geneva

WHO Surveillance Systems for COVID-19

- Daily Aggregates of cases and deaths (covid19.who.int)
  - From Member States' public data via Regional Office dashboards
- Case-based (individual) detailed reports sent by Member States through several portals
  - Since January
- Weekly aggregate data submitted by Member States
  - Since March; revised in July
- Other, including:
  - Ad hoc collection of "intelligence" about major COVID-19-related events
    - e.g. higher rates in migrant worker dormitories
 - Qualitative weekly reports from humanitarian settings
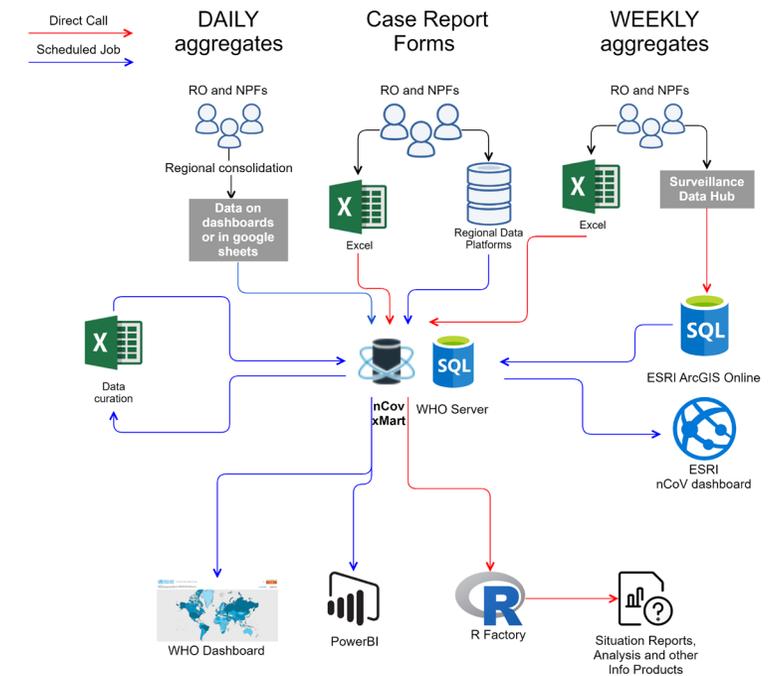
Limitations of Intel

- We are set up to glean cases and deaths directly from Member State sources (e.g. MOH websites), through our Regional Offices
  - All countries have these data
- Not set up to glean age/sex disaggregations from these sources
  - Many countries do not have/share publicly
  - No standardized display format so would have to be done manually for each country (and formats change frequently)
  - Age groups vary so cannot be aggregated (modeling being explored)

Global Age Sex Pyramids (from Case-Based Reporting System)
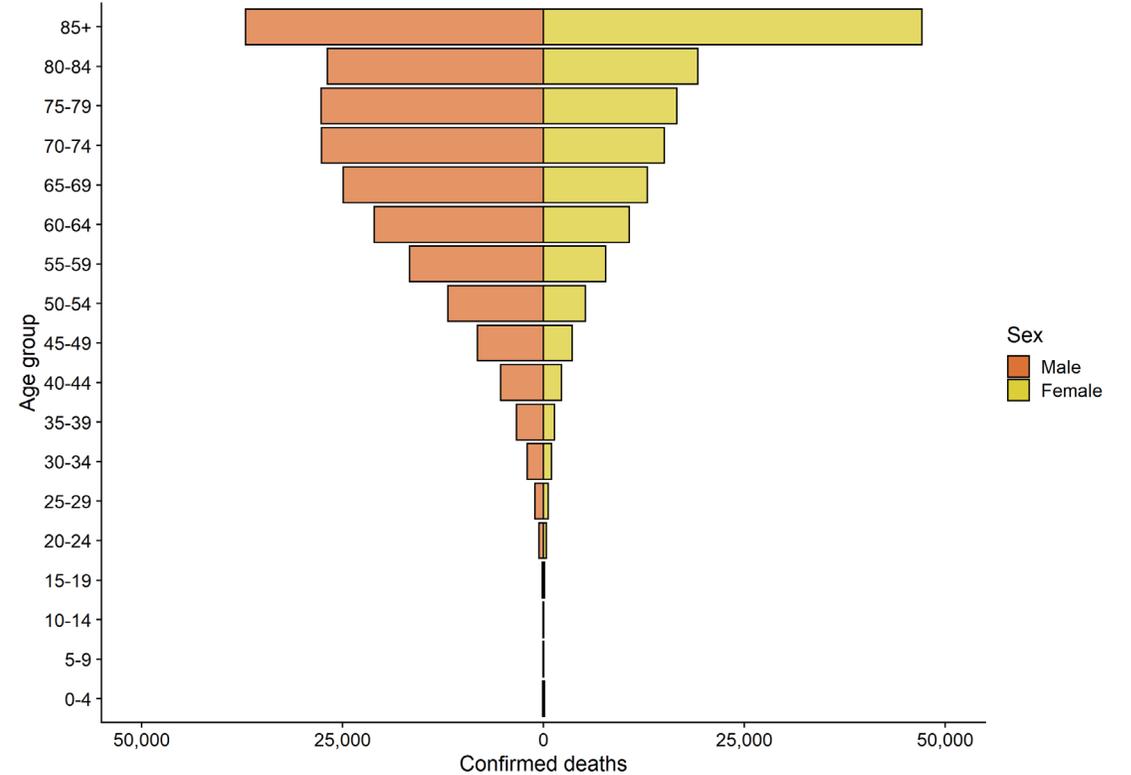

Confirmed cases with recorded age and sex
Data from 136 countries; n = 10,959,155
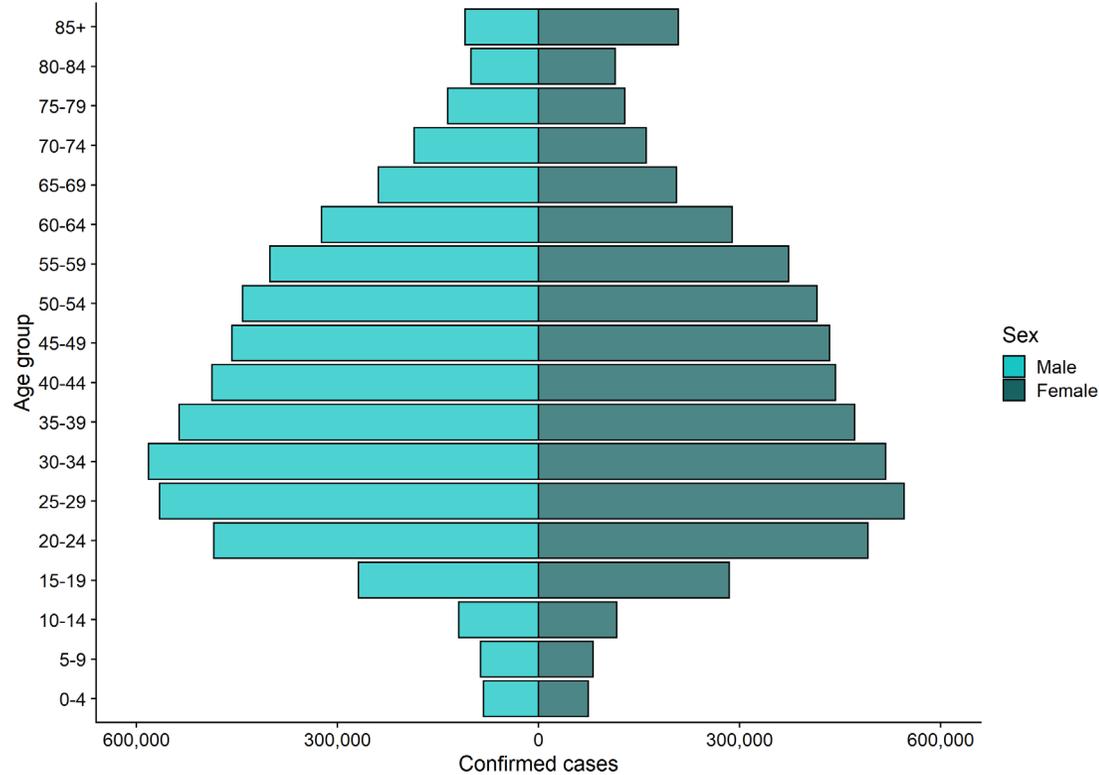
Source: Case report forms submitted to WHO

Confirmed deaths with recorded age and sex
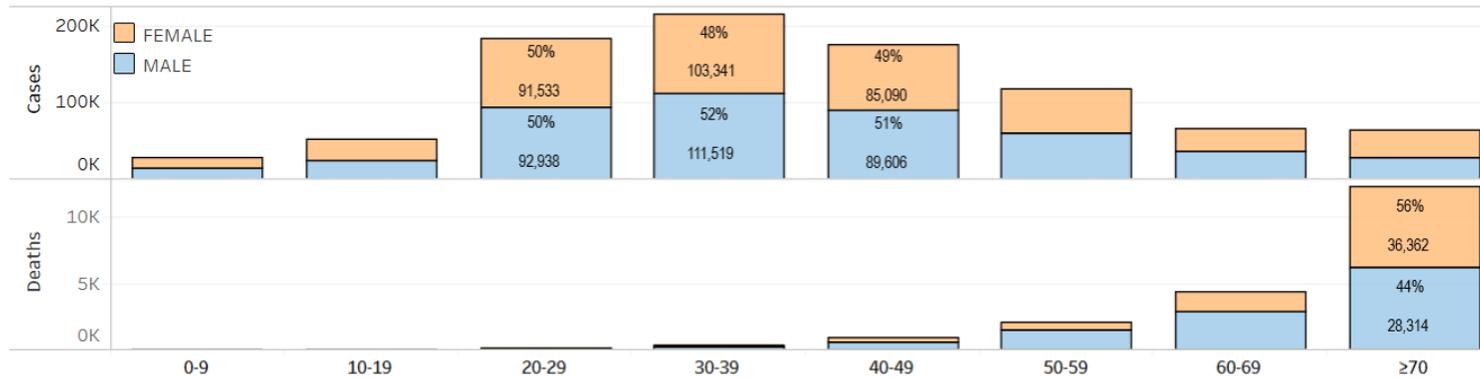Data from 80 countries; n = 358,791

Source: Case report forms submitted to WHO

Country Comparisons (PAHO Publicly Available Data from CRFs)
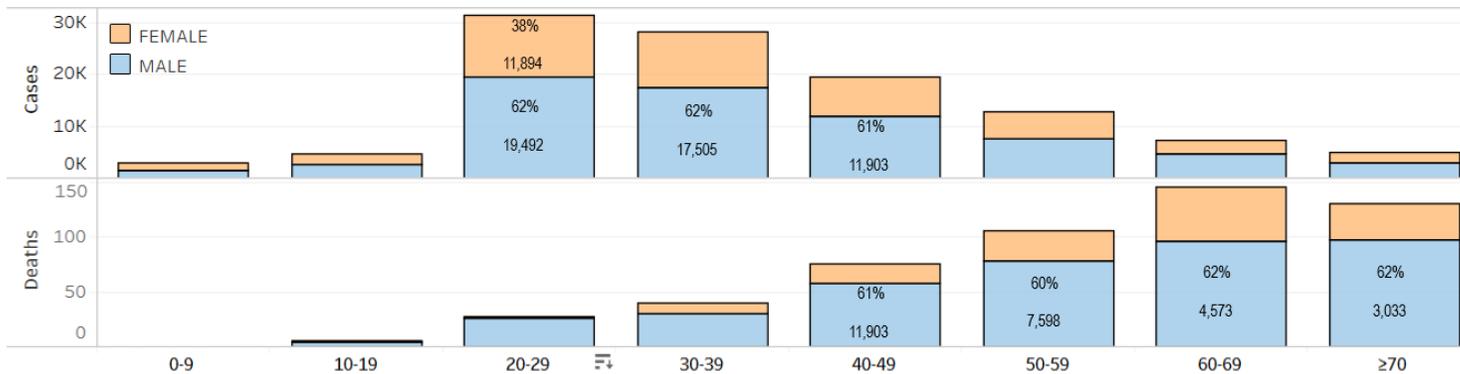
Argentina

Total confirmed cases and deaths by age group
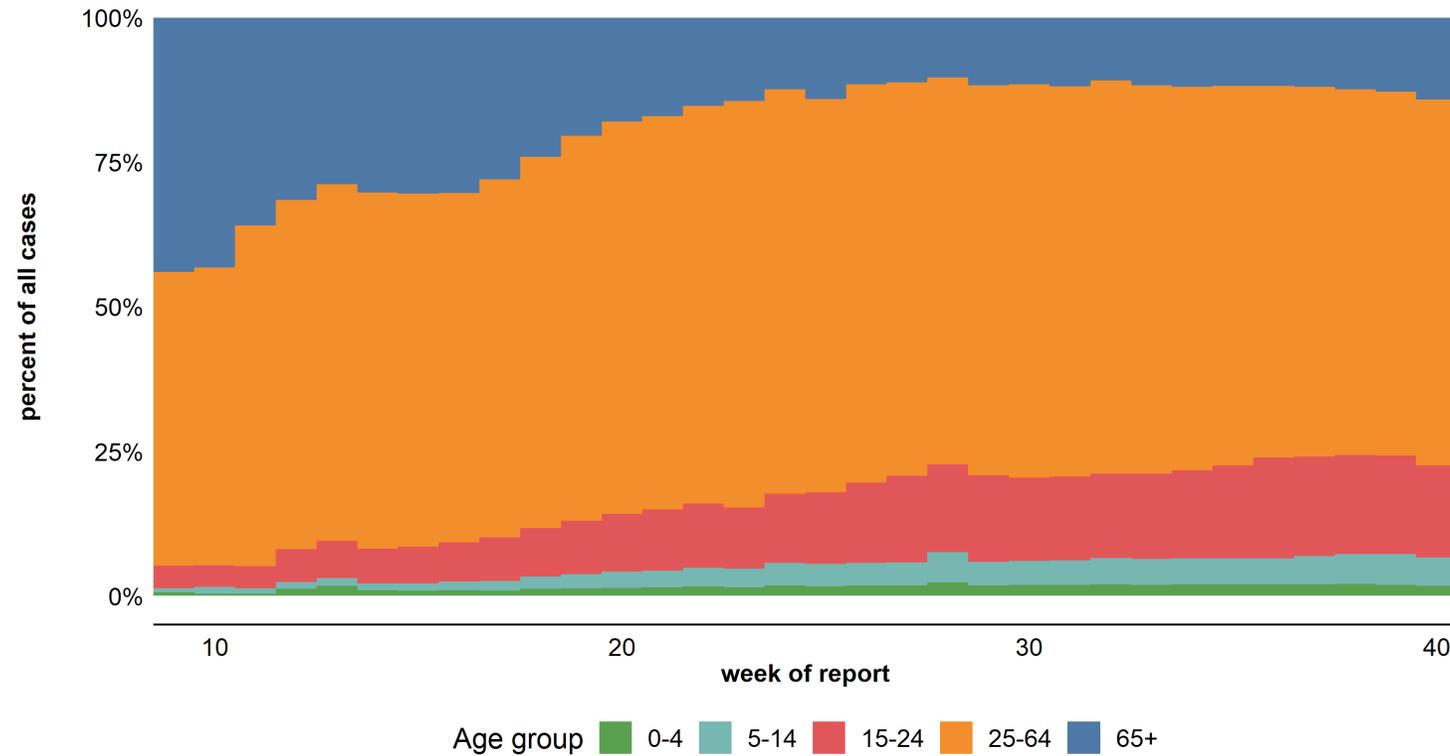

Guatemala

Total confirmed cases and deaths by age group

Age Trends over Time - Cases

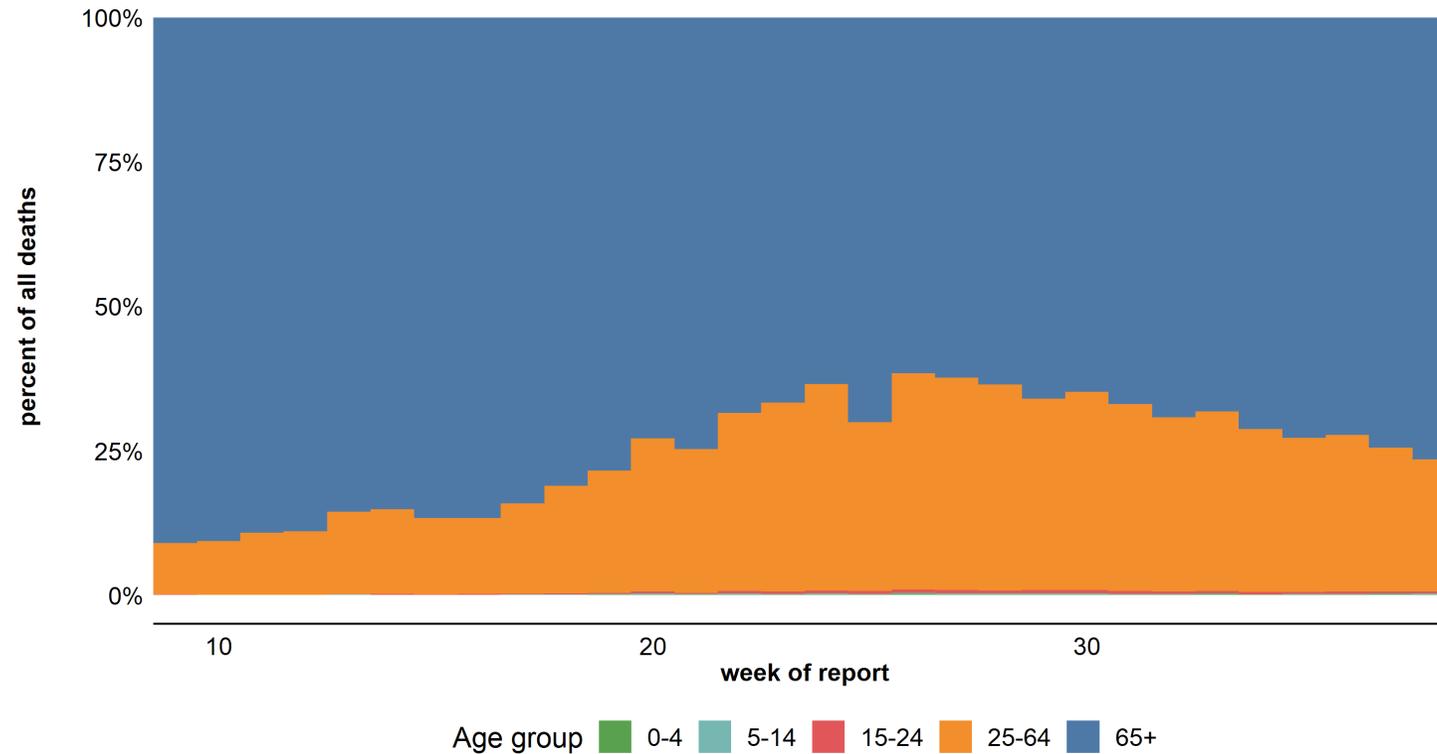**Change in age distribution of COVID-19 cases over time**

total cases: 16,798,974

Age Trends over Time - Deaths

Change in age distribution of COVID-19 deaths over time
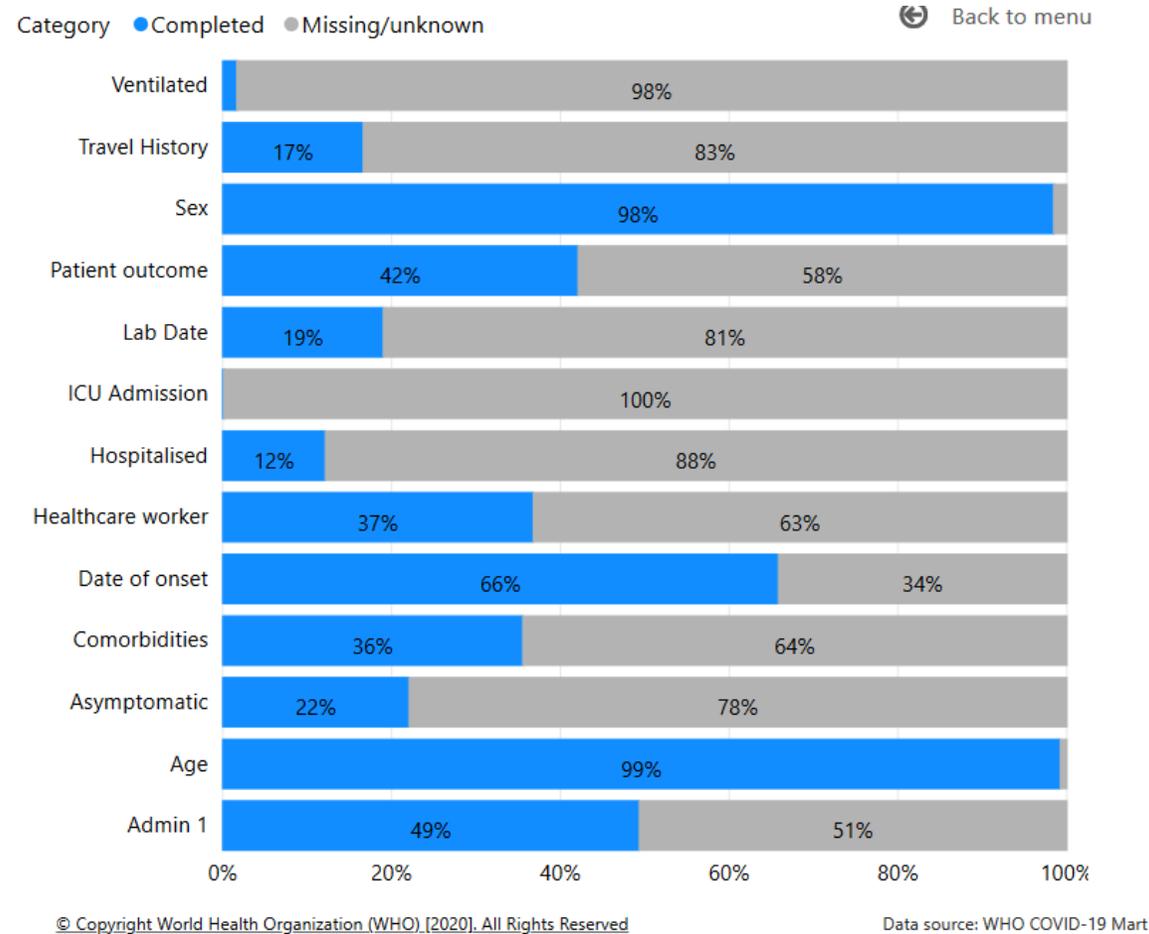
total deaths: 514,256

Possible Explanations of Trends

- Early detection and testing were initially focused on identifying cases with severe symptoms, which are more frequently observed among older people
- Changes to case definitions and general awareness are now leading to detection of more mild cases, many of whom tend to be younger
- Expanded availability of testing in communities
- Outbreak hotspots shifting over time to countries with lower age profiles (e.g. developing countries, or countries with substantial expatriate dormitory populations)
- Risky behavior after easing of public health and social measures implemented to reduce the spread of the virus / 'pandemic fatigue', which may have increased transmission among younger population
- Resurgence in deaths amongst older population could also be linked to 'pandemic fatigue' or second waves in countries with older age profiles
- Other?

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Limitations of Case Report Forms (CRFs)

- Not all countries report (n=135)
- Most countries that do report, have low completeness amongst all cases (36% of all global cases are represented, (14355784/39446072), with 5 countries accounting for 76% of the CRFs
- We are limited in what we could ask (everyone wanted their issue covered)
- Countries are very limited in what fields they complete (next slide)
- Unable to share country-specific data due to sensitivities

Limitations of CRF – Completeness of fields

Category ● Completed ● Missing/unknown

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Category	Completed	Missing/unknown
Ventilated	2%	98%
Travel History	17%	83%
Sex	98%	
Patient outcome	42%	58%
Lab Date	19%	81%
ICU Admission		100%
Hospitalised	12%	88%
Healthcare worker	37%	63%
Date of onset	66%	34%
Comorbidities	36%	64%
Asymptomatic	22%	78%
Age	99%	
Admin 1	49%	51%

Data source: WHO COVID-19 Mart

Limitations of Weekly Aggregate Data

- Low number of countries participating (so far)
- Some countries submitting are not providing age group data
- Limited variables
  - Sex x Age Groups x Probable and Confirmed
  - Hospitalized
  - Discharged
  - Deaths
  - Health Workers
  - Tests

AGE GROUPS
- 0-4,
- 5-9,
- 10-14,
- 15-19,
- 20-29,
- 30-39,
- 40-49,
- 50-59,
- 60-64,
- 65-69,
- 70-74,
- 75-79,
- 80 and over.

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Possible Solutions

- Advocacy
- Age group standardization
- Platform interoperability
- Surveys / ad hoc requests
- Manual extraction
- Others?