2020

NAPCRG

48th Annual Meeting

International perspectives on primary health care & COVID-19 response

Presentation by
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Photo by United Nations COVID-19 Response

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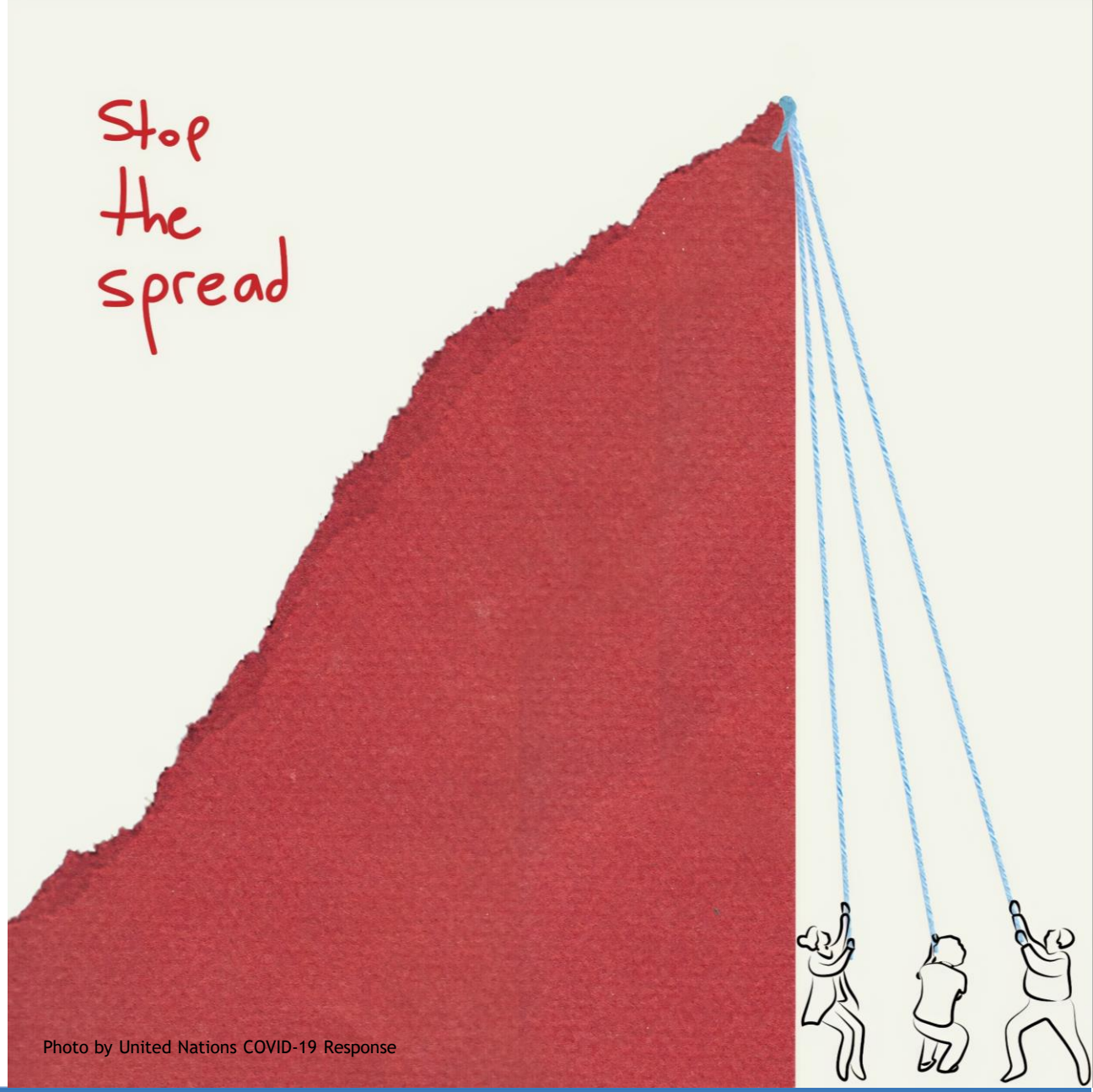
Introduction

- Findings from an international survey of the perspectives of primary care experts about their country's national response
- Mixed methods study reporting on whether our primary care respondents perceived:
  - that their country had and executed a pandemic plan
  - the decision-making and pandemic response was primarily based on medical facts, economic models, or political ideals
  - initially intended to develop herd immunity or flatten the curve;
  - the level of decision-making authority (federal, state, regional);
- Correlations with country-level death rates
- Personal perceptions and experiences of respondents



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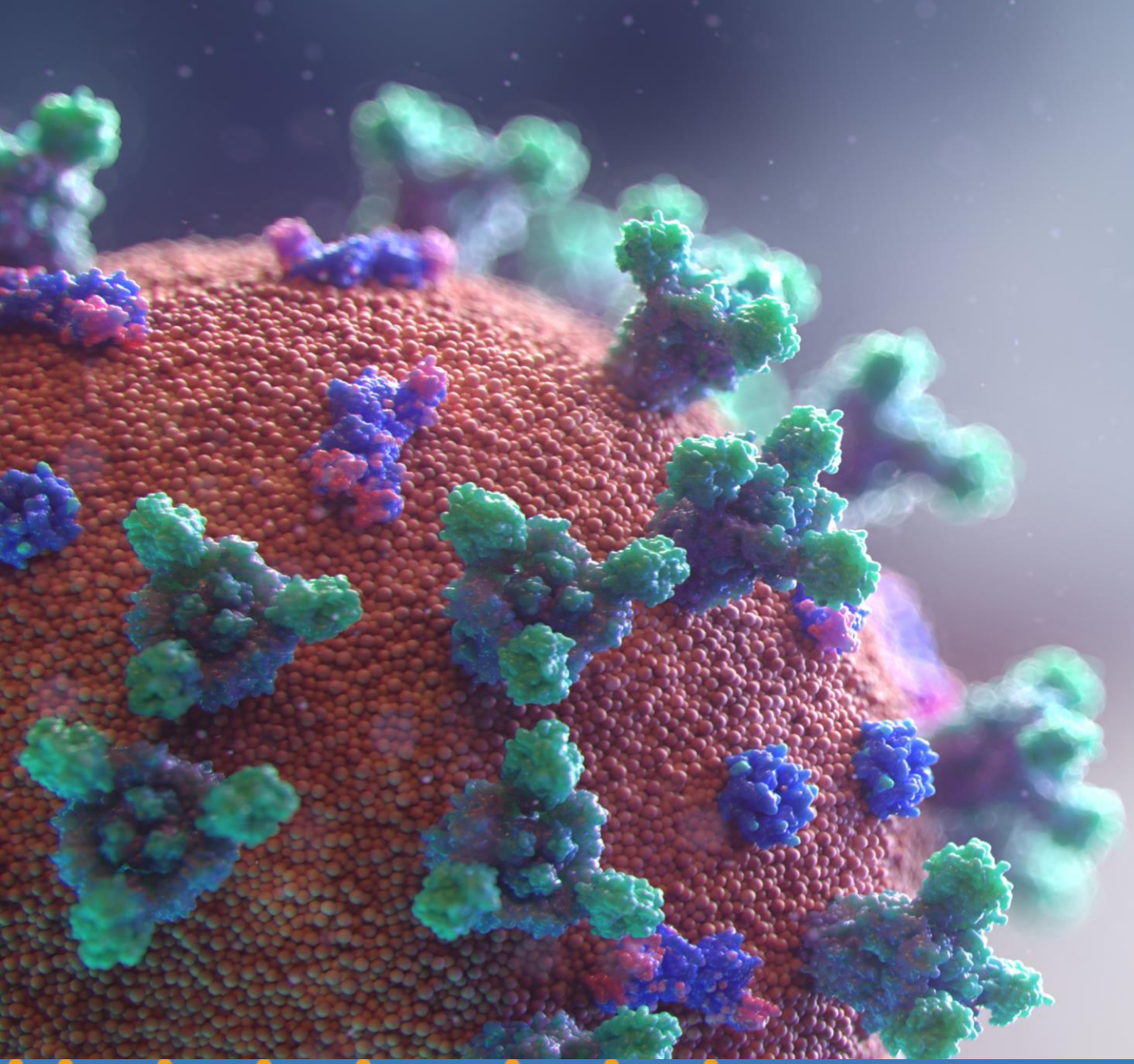

First Objective:

To share some background on the study, how it came about and the original hypothesis as well as some interesting results, especially surrounding the influence of having a strong primary care system and pandemic outcomes at a national level

Second Objective:

To discuss the role of PC and the complex interplay of many political factors which contribute to pandemic response and outcomes at a national level

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Meet the research team

Prof Felicity Goodyear-Smith, University of Auckland, **NZ**

Dr Karen Kinder, Technical University of Berlin, **Germany**

Prof Bob Phillips, American Board of Family Medicine, **USA**

Assoc Prof Andrew Bazemore, American Board Family Medicine, **USA**

Cristina Mannie, Mast Analytics, **South Africa**

Stefan Strydom, Mast Analytics, **South Africa**

Aimee Eden, American Board of Family Medicine, Lexington, KY, **USA**

Melina Taylor, American Board of Family Medicine, Lexington, KY, **USA**

Joe George, American Board of Family Medicine, Lexington, KY, **USA**

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How the study came about

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Original Hypothesis

Countries perceived to have stronger primary care have lower COVID-19 mortality rates

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Study design

- Online survey (English & Spanish)
- Convenience sample
- International PHC experts (clinicians, researchers, policymakers)
- Compare perceptions on PC system strength, pandemic preparedness and response with COVID-19 mortality rates in countries globally

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Data collected

- 1035 respondents from 111 countries
- Survey included 34 questions on primary care attributes, information technology, pandemic preparedness and response strategy in their countries
- 73% of respondents identified as primary care clinicians; 17% identified as academics or researchers
- Remaining 10% made up of secondary/tertiary specialists, policymakers, NGOs and international agencies

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Study challenges

- Challenges with number of respondents in each country
- Outcome measure – which measure to use (e.g. cases vs mortality)
- How to determine PC strength
- Individual-level vs country-level variables
- Data not suited to regression modelling (explanatory model)

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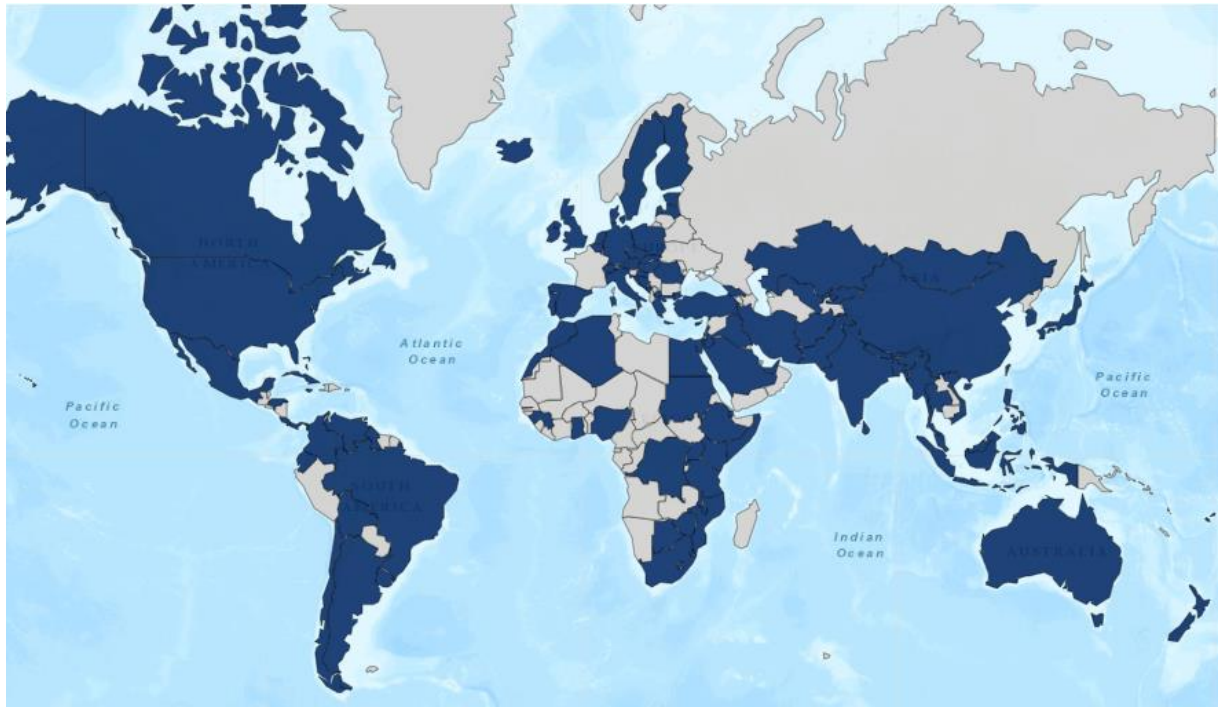
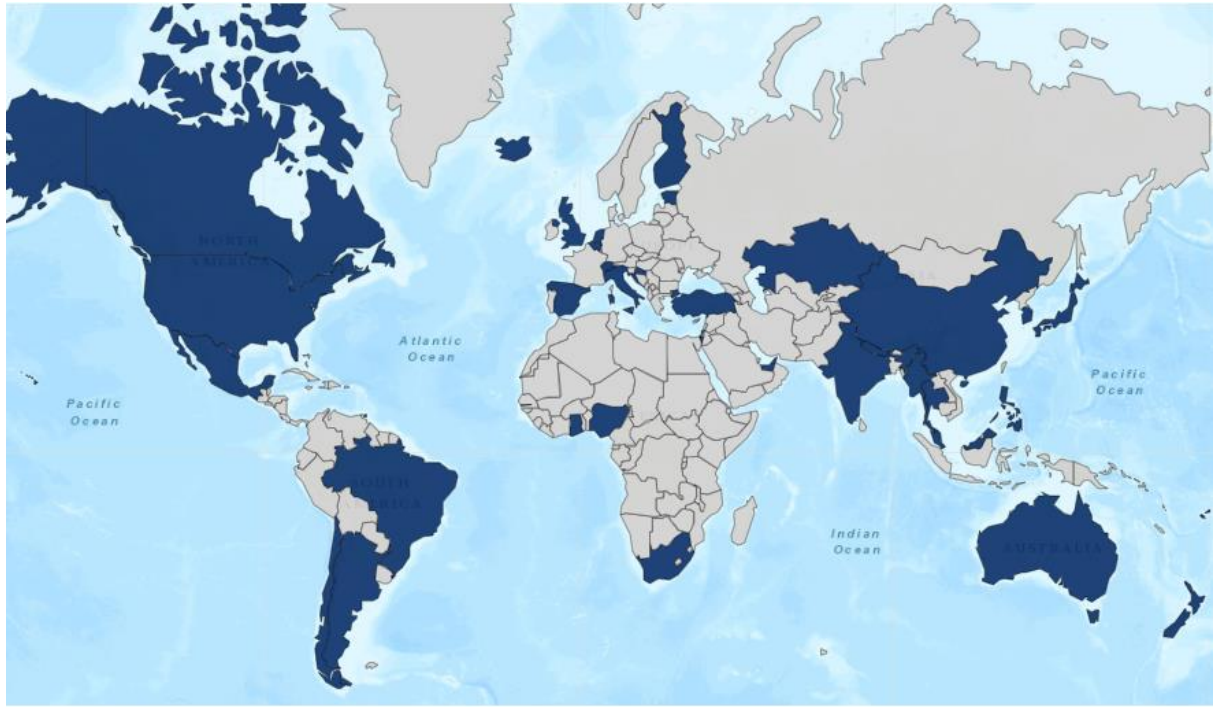
Geo-distribution of respondents

111 countries represented by the survey



38 countries with at least 5 responses



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Outcome measure used

- Cumulative death rate

Used since COVID-19 had now spread to nearly every country with second waves in some cases

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How PC strength was determined

- Survey questions used to make up the measure
  - Availability of accessible, comprehensive care for all or majority of the population
  - Primary care coordination and gatekeeping of specialist care
  - Use of a unique patient identifier within the healthcare system
  - Comprehensive patient records
  - E-consultations prior to the pandemic
  - Affirmative responses were considered indicative of stronger PC

- How countries were classified
  - K-means clustering was performed to identify subgroups based on the PC strength variables

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A few interesting findings

No correlation found between PC strength and lower COVID-19 mortality

Countries where respondents felt that a pandemic response strategy was in place and executed on average experienced lower COVID-19 mortality

Overall, respondents' confidence that their countries had a pandemic strategy and executed it was low

Respondents in most countries believed their initial response strategy was aimed at "flattening the curve", with a few notable exceptions

Respondents in most countries believed their response strategy was primarily based on medical considerations, with a few notable exceptions

Respondents in most countries believed their response was led by national government, with a few notable exceptions

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Results

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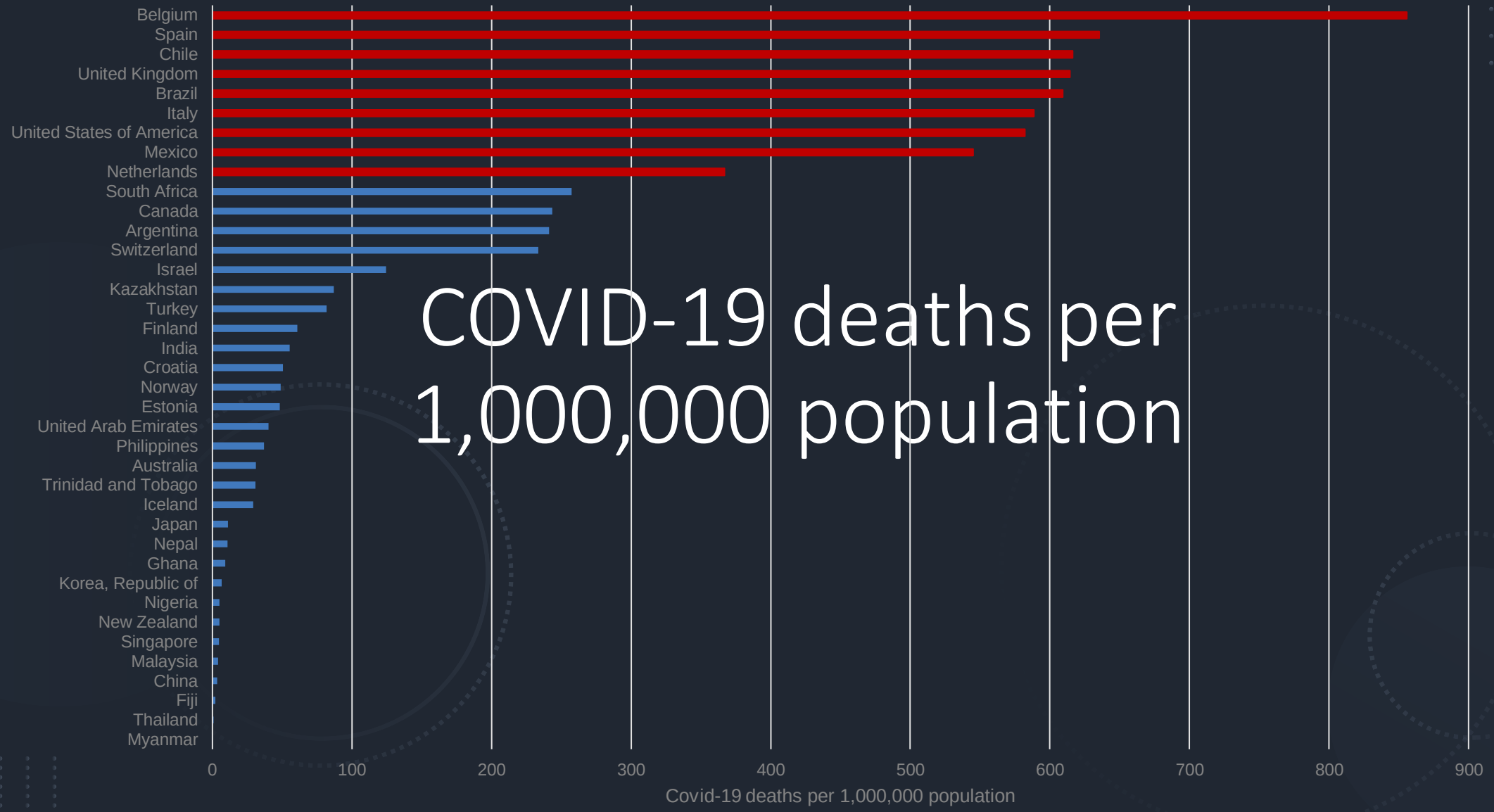
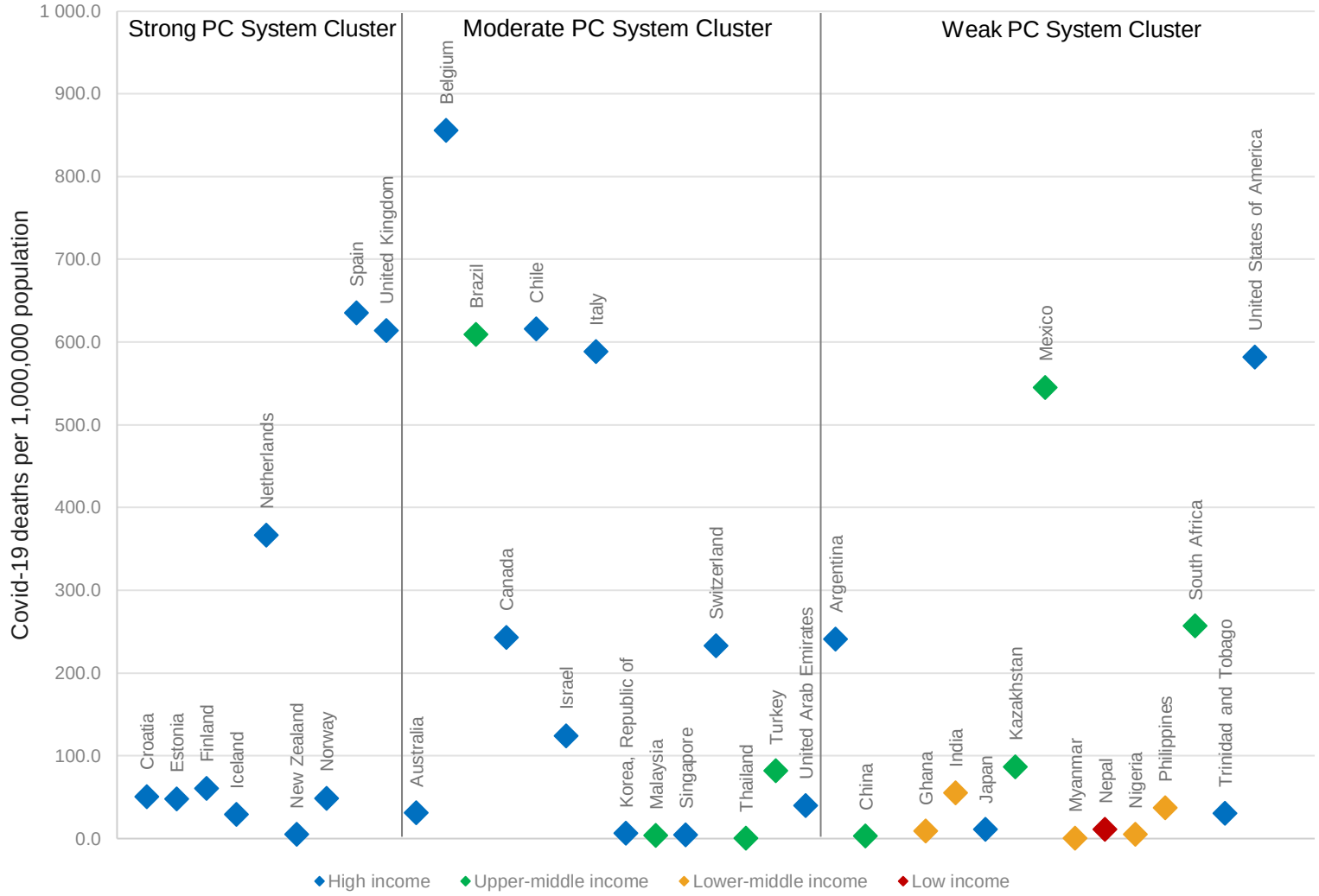
COVID-19 deaths per 1,000,000 population



PC strength vs Mortality & confounders



Subgroup	Number of countries	Spearman's ρ	p-value
All countries	38	0.5275	0.0007
Countries with testing policy = 1	25	0.5297	0.0065
Countries with testing policy = 2	6	0.3714	0.4685
Countries with border closures = 0	7	0.6071	0.1482
Countries with border closures = 3	13	0.4622	0.1118
Countries with border closures = 4	9	0.5500	0.1250
Younger countries	19	0.4952	0.0311
Older countries	19	0.1667	0.4953
Oldest countries	10	0.0303	0.9338
High income countries	23	0.2490	0.2519
Upper-middle income countries	9	0.2176	0.5739
Lower-middle income countries	5	-0.3591	0.5528

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Pandemic strategy executed vs Mortality

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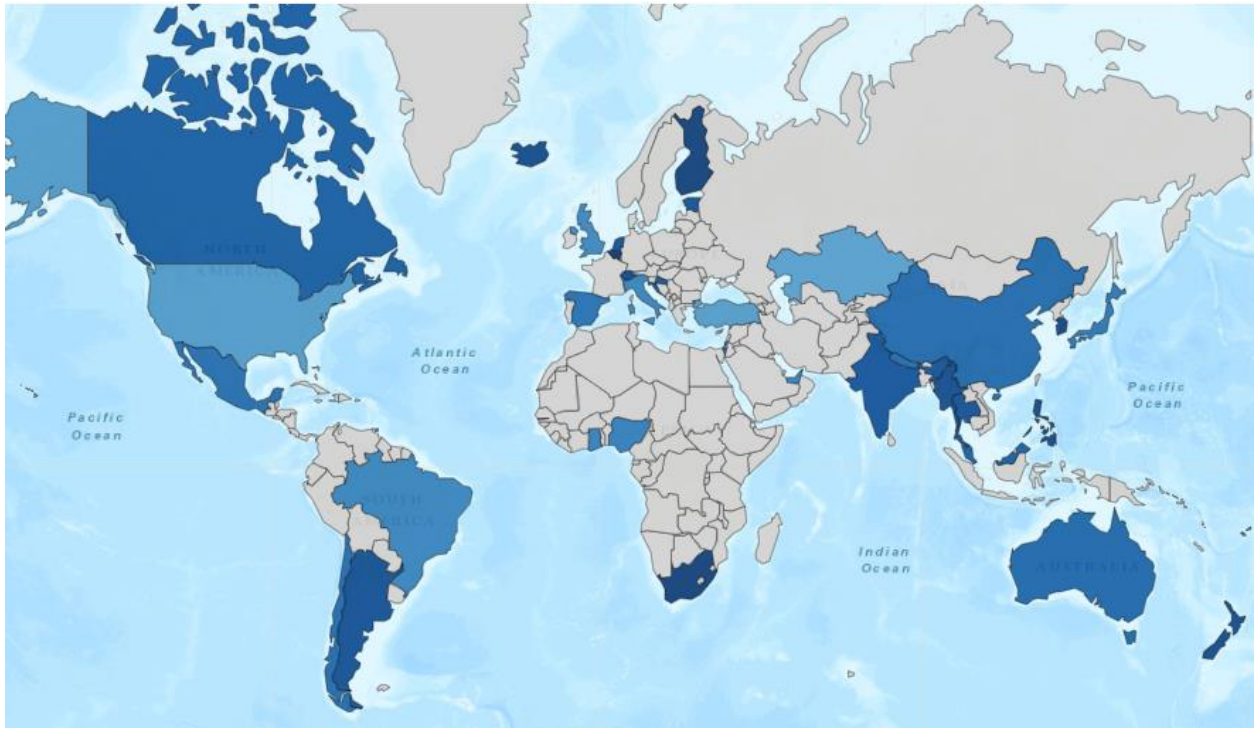
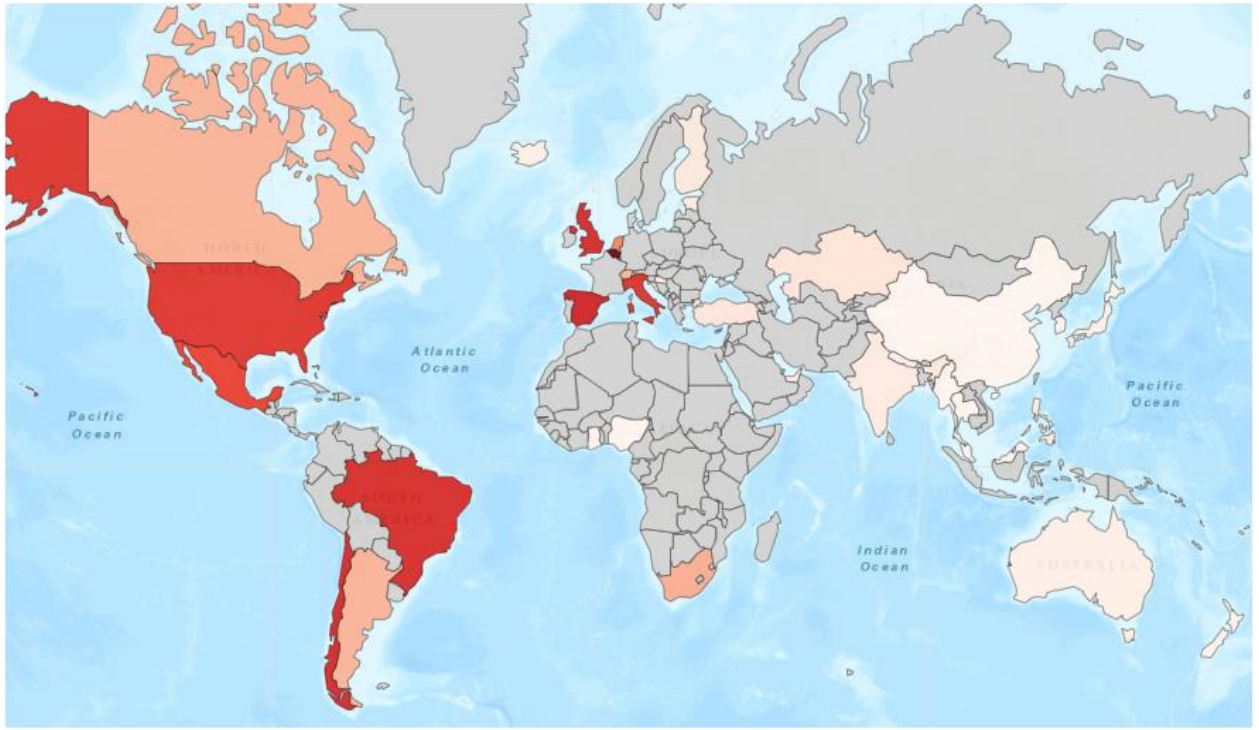
High mortality, no pandemic plan executed	High mortality, pandemic plan executed
Belgium (855.68/million): ‘In the first phase, all attention was focused on providing sufficient ICU-bed capacity in hospitals…. Primary care reacted quickly, but with insufficient protection and testing capacity.’ **Spain** (635.21/million): ‘We have been late, we don´t have proper protection and we don´t have enough test.’ ‘We have a strong primary care with high accessibility to the entire population.’ ‘Unfortunately, PHC has not been used properly in Spain to prevent COVID. All information in the media, and the majority of resources were focused on hospital.’ **UK** (62.61/million): ‘Initial models the UK government used were different to those in other countries. They also discussed behavioural science as a reason for not locking down too soon.’ ‘UK government took far too long to implement social distancing policies’ ‘The public health response was sluggish’ **Kazakhstan** (8.69/million): ‘Primary care facilities were ignored first 2 weeks of quarantine, had to provide usual care, visit patients at home, and were not provided by PPE’	**Brazil** (59.91/million): ‘Very different throughout the country… In the place I live… measures were taken earlier than the federal government, and more strict, test are available and also correct PPE, which I know is not the case in the north; Brazil is a continental and very unequal country’ ‘Part of the population (30%) with a private plan and the rest totally dependent on the governments response to the pandemic.’ ‘Brazil has a large number of people that uses private health sector, although we do have a universal health system…. there was poor coordination between public and private health sectors.’
Low mortality, no pandemic plan executed	**Low mortality, pandemic plan executed**
Fiji (2.23/million): ‘In February we stopped all visitors from coming to our island. We developed highly restrictive protocols for our captain and crew on our once per week boat between our supply-island and our island. The crew now remains on the boat when docked at the supply-island.’ [outer island respondent] ‘The mobile screening teams are using military officers… to go house to house and take temperature of people with the help of nurses and health inspectors. This teams are also checking… on self-quarantine.’ **Trinidad & Tobago** (2.23/million): ‘Our Chief Medical Officer from the Ministry of Health gave great advice from early in the outbreak and his advice was followed by the government and aided in flattening the curve in my country’ **Australia** (2.99/million): ‘Early on there was some tension between the political thinking and the medical thinking federally… the states responded more aggressively than the federal government.’	**Korea** (6.83/million): ‘I think the government takes the correct stance on this issue from the early stage’ ‘I think the strategy and measures against the COVID-19 epidemic in Korea were appropriate. Active early testing for COVID to suspected patients, tracking to find out contacted persons, proper quarantine, and treatment with cooperation between public and private care sectors were well performed.’ **New Zealand** (4.98/million): ‘Learning from the rest of the world NZ government (thankfully) put us into lockdown early.’

Decision making medical (left) vs Mortality (right)





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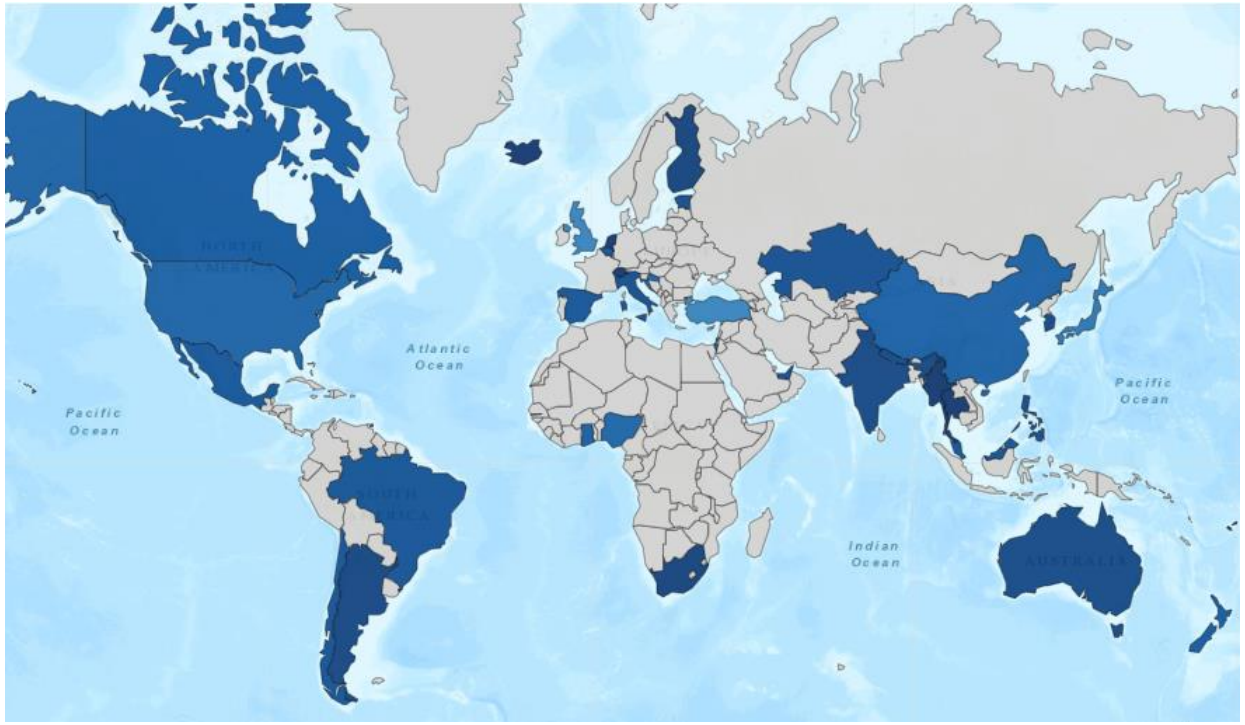
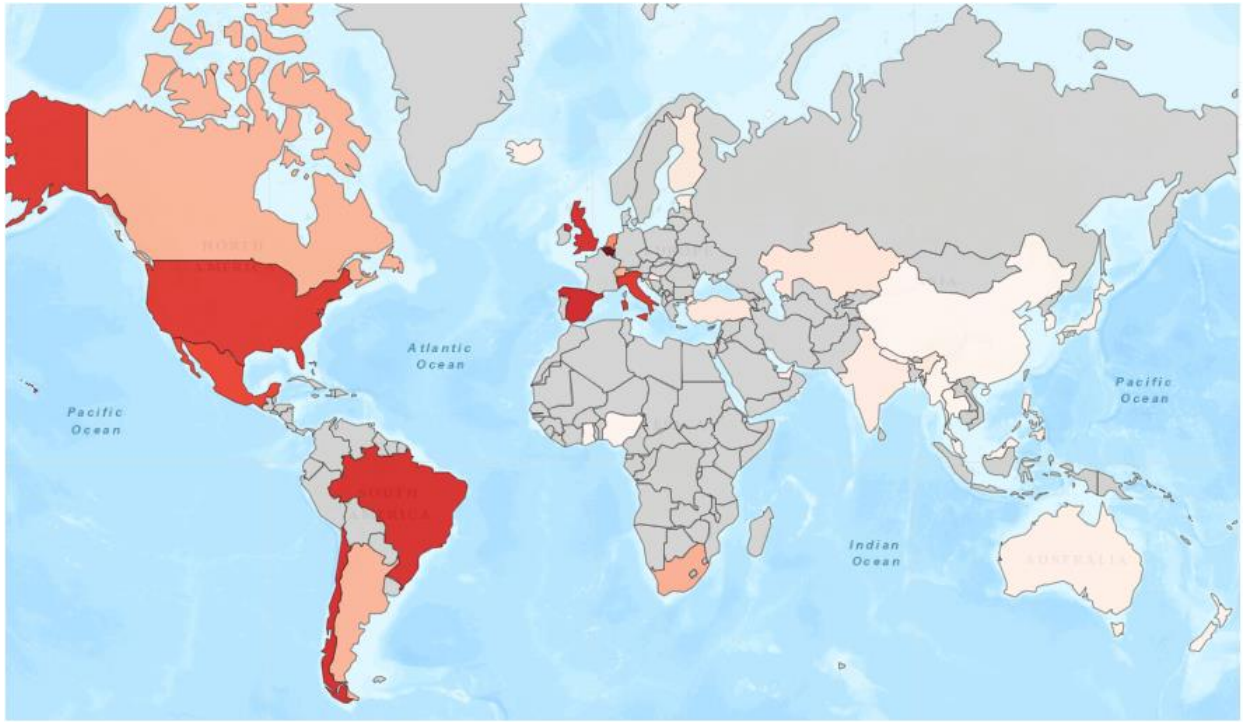
Flatten the curve (left) vs Mortality (right)





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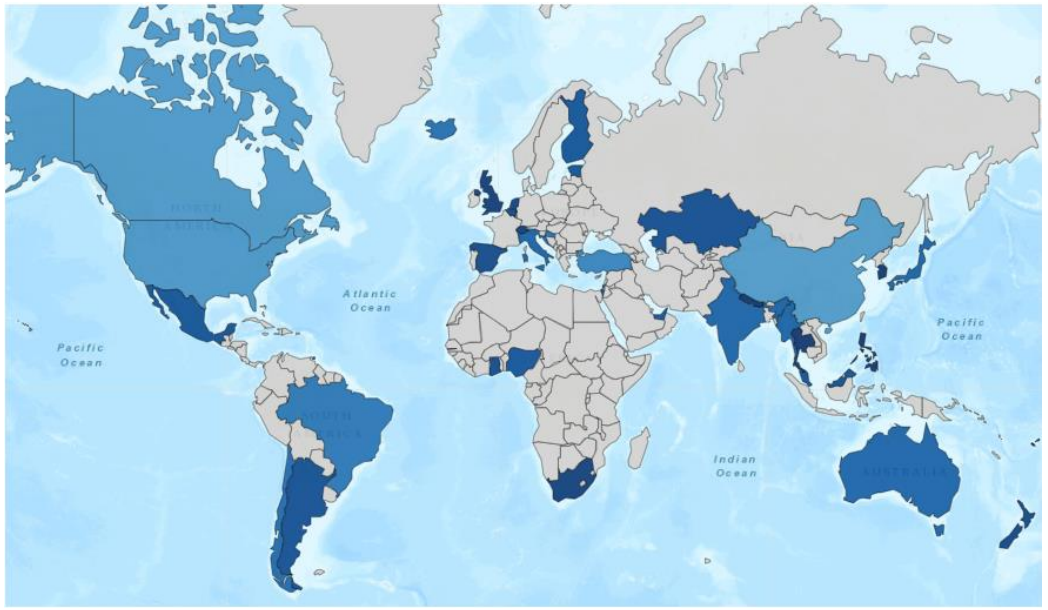
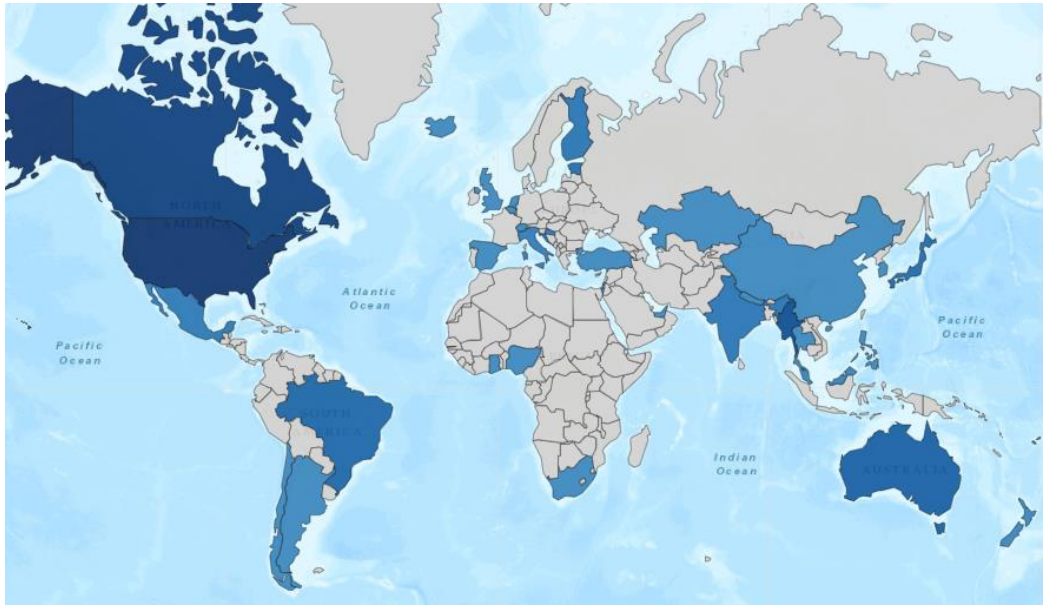
Level of authority

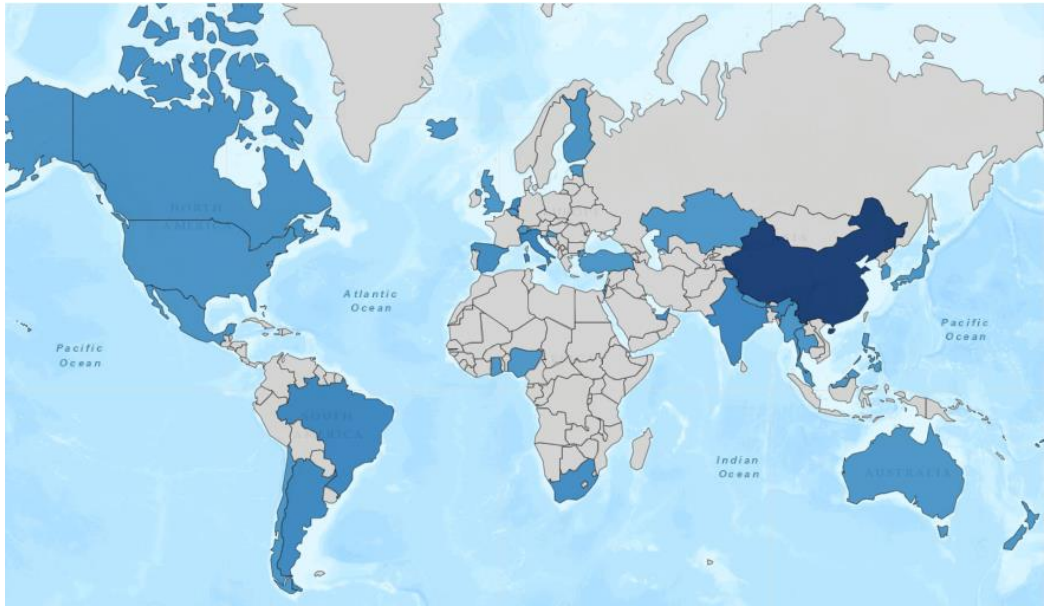
National



State



Local



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Leadership and communication

Prominent theme identified from free-form text survey responses

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Leadership and communication

Poor leadership, high mortality	Poor communication, high mortality
Italy (death-rate 588.59/million): 'A huge leadership lack disaster, crossing all sectors' **Israel** (124.43/million):'In our leaders, we had a problem with leading by example - where they afforded themselves exceptions that were punishable to the general public. It does not build trust - quite the opposite.' **United States** (582.05/million): 'Totally irresponsible, incompetent, destructive, dangerous response by the leadership of the US'	**Israel** (124.2/million): 'Doesn't seem to be logic which was communicated effectively… to the professional or non professional public' **United States** (582.05/million): 'Initial statements of denial re the pandemic were motivated to preserve political appearance and avoid economic disruption.' **UK** (614.22/million): 'Communication overload and constant changing of advice is confusing.'
Effective leadership, low mortality	**Good communication, low mortality**
Australia (31.22/million): 'Political leaders cooperating across state and federal government and opposing parties' **Ghana** (9.11/million): 'After initial uncertainties the President has exhibited strong and exemplary leadership' **Thailand** (0.83/million): 'Prime Minister and team gave priority to control the outbreak by using strong disease control policy' **Malaysia** (3.95/million): 'Our DG has taken the leading role to head the pandemic response management of the country' **New Zealand** (4.98/million): 'Strong leadership jointly by the Prime Minister and by the Director-General of Health (PH physician) on medical & public health matters'	**New Zealand** (4.98/million): 'Fantastic government leadership and open communication. Public support high for strategies put in place' **Iceland** (29.3/million): 'There was very good cooperation with the chief epidemiologist and the director of health and it probably helped to have a single payer system/national health system that could easily talk and coordinate actions and make quick decisions when needed. The homogenity of the nation and the common trust people have in the authorities, the police and the health system also helped and the nation usually followed well all recommendations about social isolation' **Australia** (31.3/million): 'I have been so impressed by my nation's coordinated cross-sector unified approach to this problem, the positive messaging, and the community responsiveness imply a trust in the medical and political decision-makers' **Finland** (60.82/million): 'Ministers hold press conferences regularly, answering questions with detail and share openly the models they are using to estimate progress on epidemic'

Discussion

- Disproved Hypothesis
- Influence of having a strong primary health care system on pandemic response
- Primary care perspectives of the role of PC in the response
- Complex interplay of many political factors which contribute to pandemic outcomes at a national level

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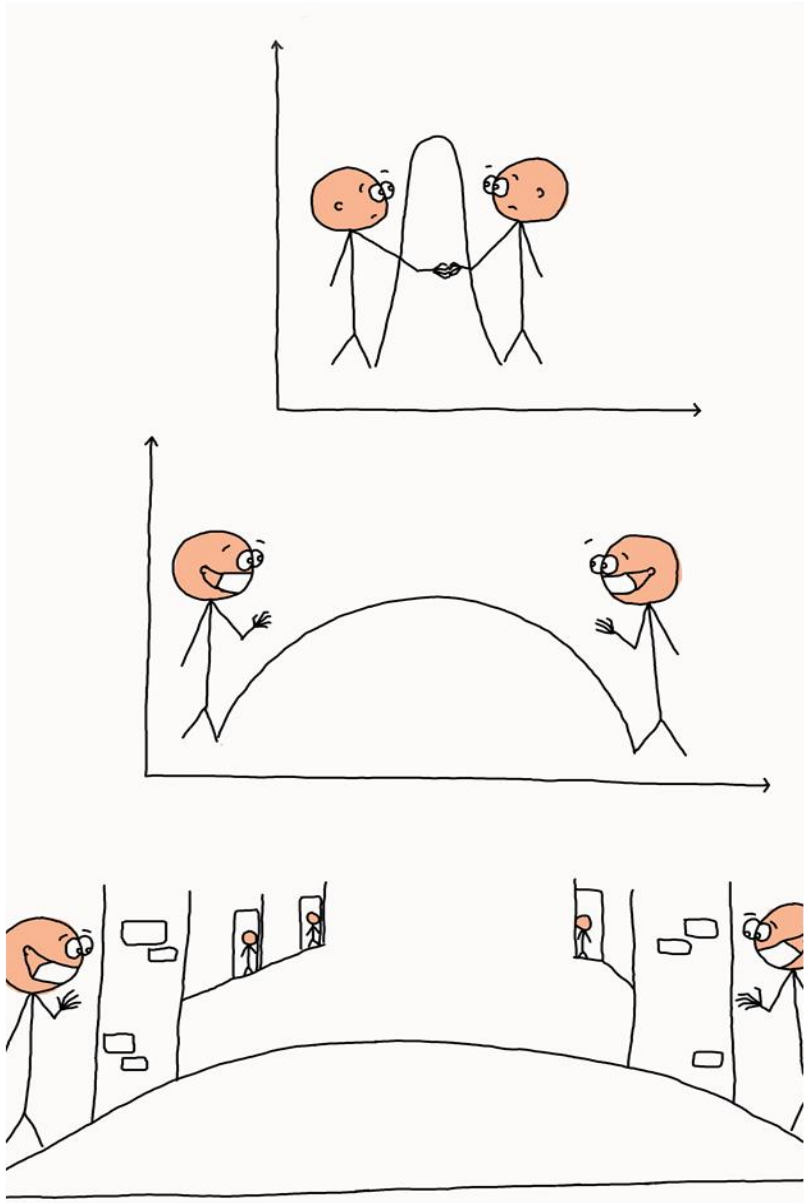

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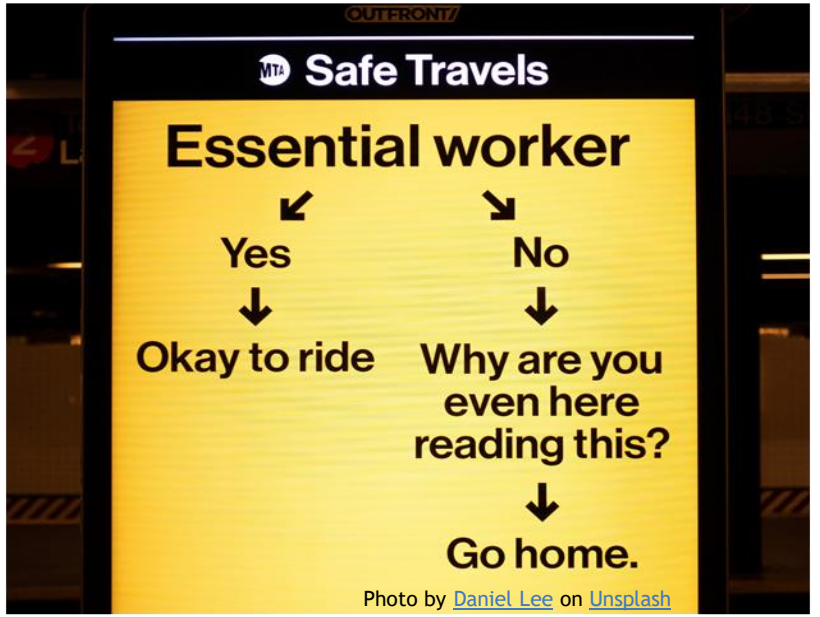

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