COVID-19
How well are measures working?
Magic Box - March 30th
The total number of movements in Germany has **decreased significantly** in March.

From around **175 million** movements a day to **96 million** movements.

Overall, these is **~45% less movement** than normal (as of March 24th)

*analysis by Frank Schlosser from German CDC (Robert Koch Institute) & UNICEF*
Changes in movements (Germany)*

- Greater decrease in cities
- Trips over long distances have decreased particularly sharply
- Weaker decrease in rural areas and eastern Germany
- Rail and air traffic have decreased very sharply

*analysis by Frank Schlosser from German CDC (Robert Koch Institute) & UNICEF
Changes in movements in the US*

- Across the continental US people are spending ~5% more time at home.

- There are large geographical variations, New York City and San Francisco have seen drastic increases in how much time people spend at home, while counties in upstate New York have not yet to change their behavior (Mar 19th)

*analysis by Laura Alessandretti from Technical University of Denmark & UNICEF
Changes in movements in the US*

- In New York City people are spending ~70% more time at home
- Outside NYC Putnam County has seen a ~25% increase in staying at home times
- Counties in upstate New York close to the Canadian border have yet to change their movement patterns (as of March 19th)

*analysis by Laura Alessandretti from Technical University of Denmark & UNICEF
Differences between boroughs in New York City

Visits to pharmacies have decreased by ~70% in Manhattan and ~50% in the other boroughs compared to the last week of February

We have access to visitation patterns across the US through a data partnership with Cuebiq (waiting for data from other countries)
Behavourial changes in NYC

- Visits to hospitals have decreased by ~70-80% across the boroughs compared to the last week of February.

- Strange spikes in hospital visits in Bronx on Wednesdays and Thursdays with visitation patterns increased by ~40-80% of pre-lockdown levels.

- Visitation patterns indicate that access to normal health services is severely impacted.
Epidemic forecasting (Spain)*

- Forecasts are **based on human mobility patterns** and disease characteristics.
- **Cases will peak at different times** across various regions ranging from March 29th to April 25th.
- Forecasts **assume no interventions** or social distancing.
- We’re **updating the models** with the assumption that social distancing began sometime in March and is ongoing.

*analysis by Rachel Oidtman from Notre Dame University & UNICEF*
Epidemic forecasting (Brazil)*

- Forecasts are **based on old mobility data**

- We **can build forecasts for every country**, but need updated mobility data for Brazil, the rest of the region, for Africa, south east asia, etc.

- In Brazil **cases will peak at different times** across regions ranging from May 12th to July 3rd

- Forecasts **assume no interventions** or social distancing as **Brazil has yet to enact any**

*analysis by Rachel Oidtman from Notre Dame University & UNICEF*
Exploring using Satellite Imagery

Wuhan Jun 2019

Wuhan Dec 2019

Wuhan Feb 2020
2 days after lockdown

Wuhan Mar 2020
Exploring using Satellite Imagery

Tehran Jul 2019

Tehran Dec 2019

Tehran Jan 2020

Tehran Mar 2020