



WORLD BANK GROUP
Health, Nutrition & Population

CORONAVIRUS: A global overview

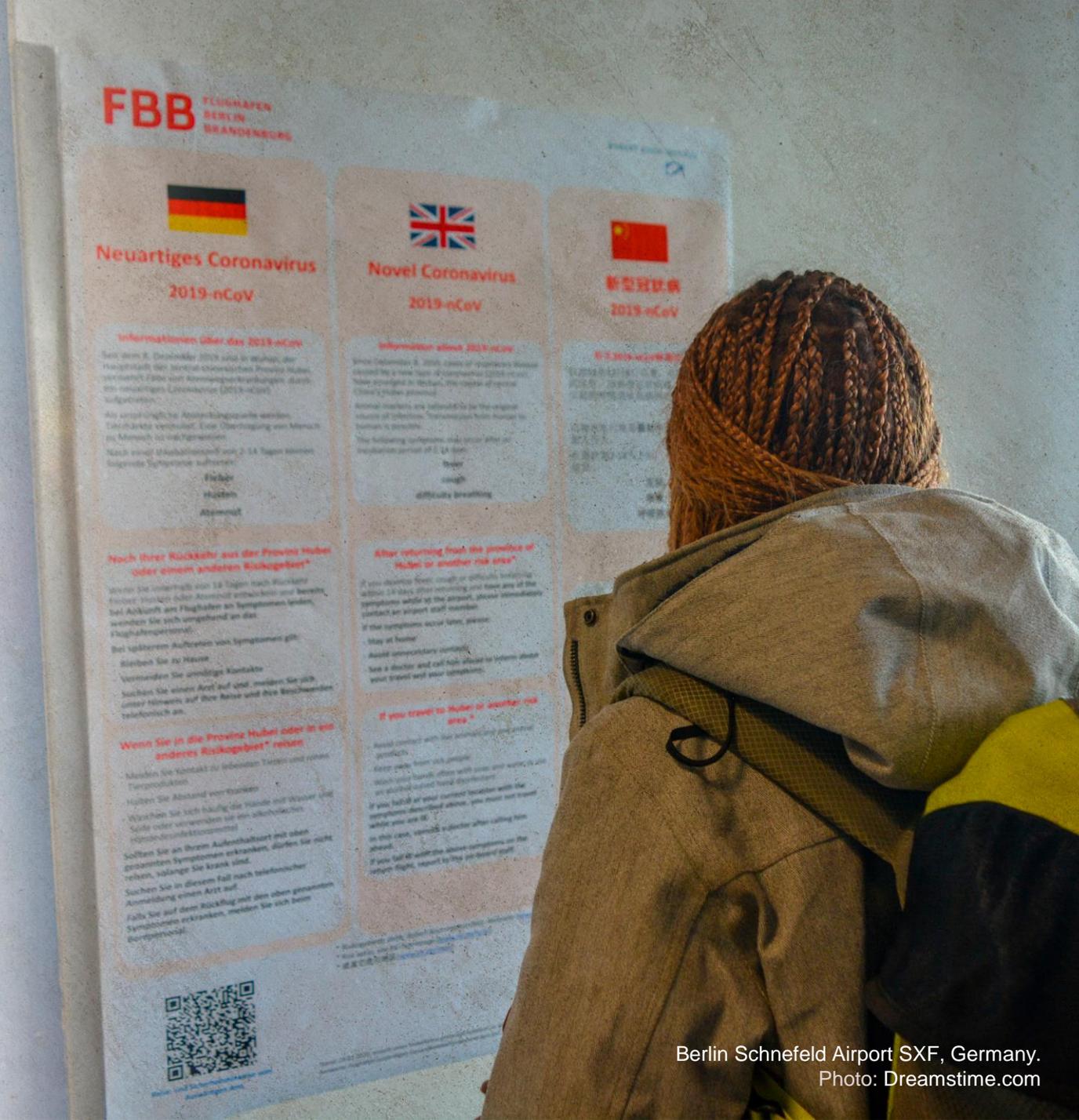
Zara Shubber, Nejma Cheikh, David Wilson



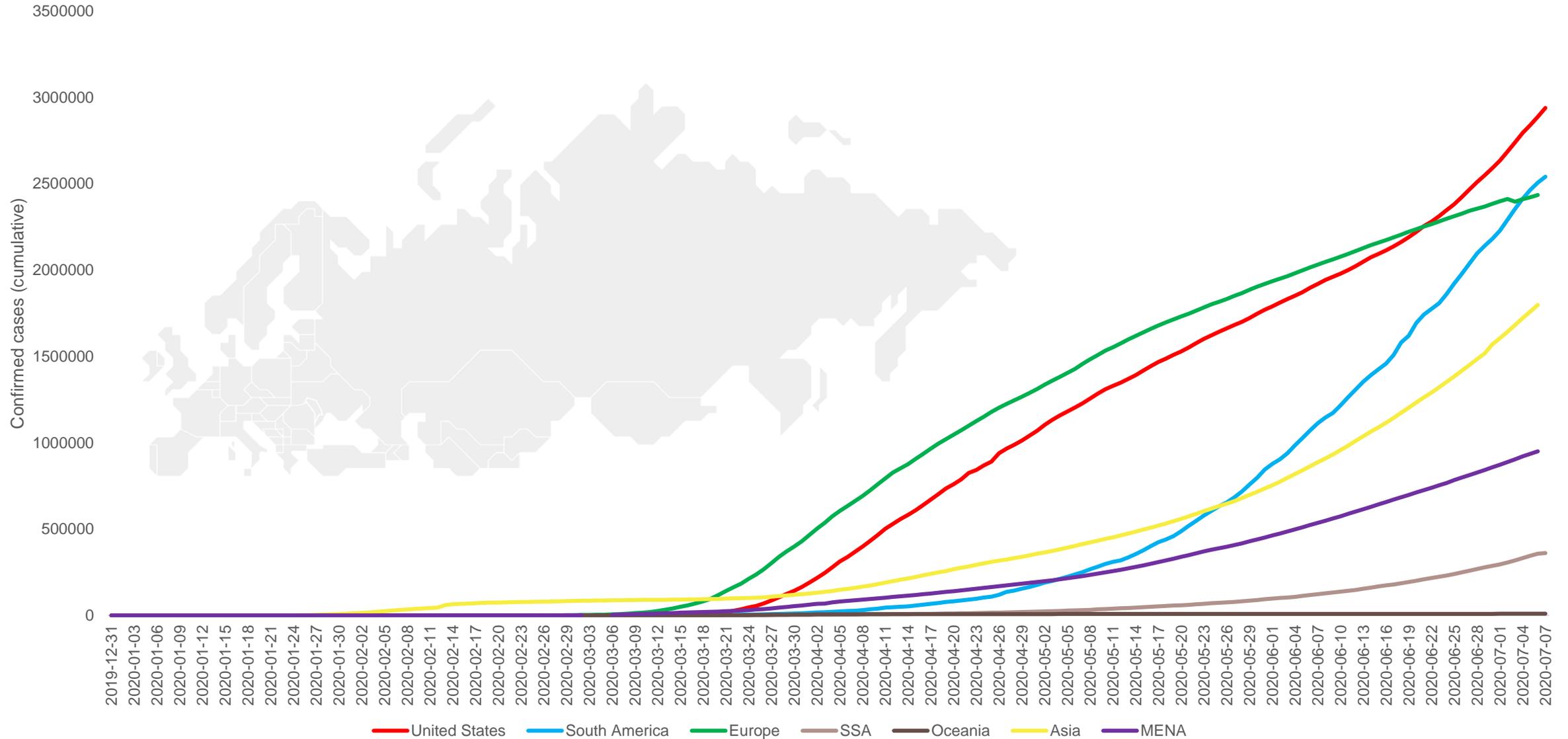
OVERVIEW

- Much of Western and Central Europe's epidemic appears to have peaked and there may be important lessons for other countries globally
- Much of Europe moved from hard lockdowns to very careful, cautious reopening and the initial evidence is encouraging
- The lockdown vs reopening debate has moved to analysis of how countries can use their epidemic growth number (R_t) and a close monitoring of outbreaks and clusters to dial smart, targeted measures up or down
- With sufficient care, we can prevent an epidemic resurgence and revive our economies

EUROPE AMONG HARDEST HIT BUT TAPERING EPIDEMIC

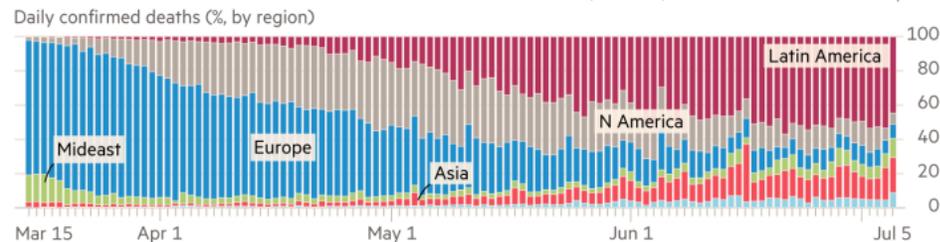
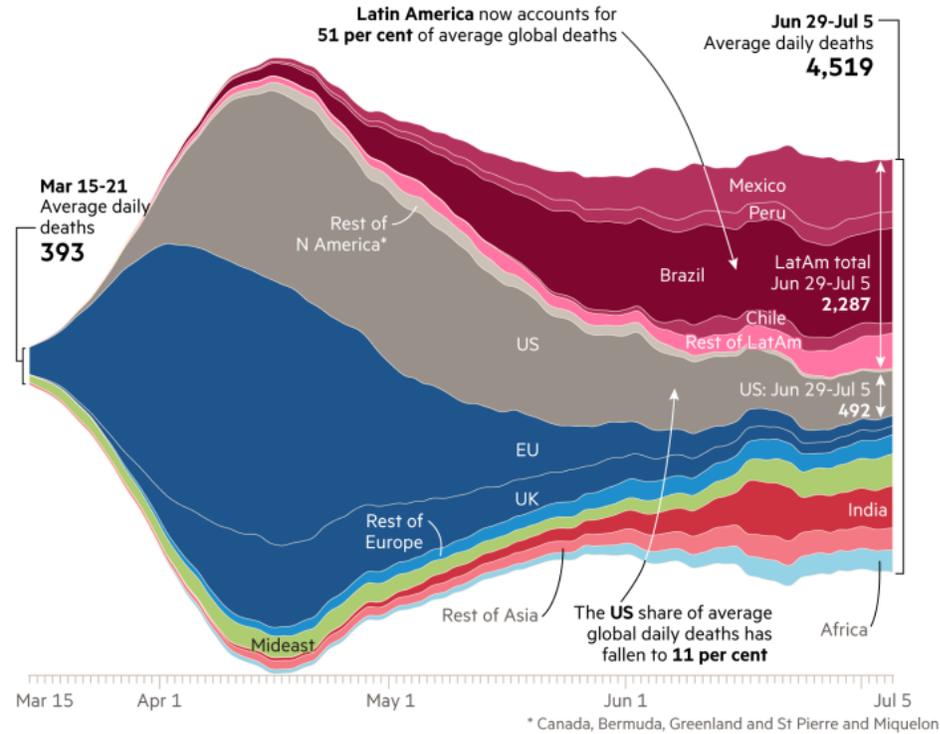


EUROPE'S EPIDEMIC ROSE EARLY AND FAST. WHILE EUROPE'S EPIDEMIC HAS TAPERED SURGING EPIDEMICS IN OTHER PARTS OF THE WORLD



MOST DEATHS IN EUROPE WITH VERY HIGH RATES IN BELGIUM, UK, SPAIN, ITALY AND SWEDEN. BUT SURGES IN LATIN AMERICA AND PARTS OF ASIA HAVE INCREASED CURRENT DAILY GLOBAL DEATH TOLLS

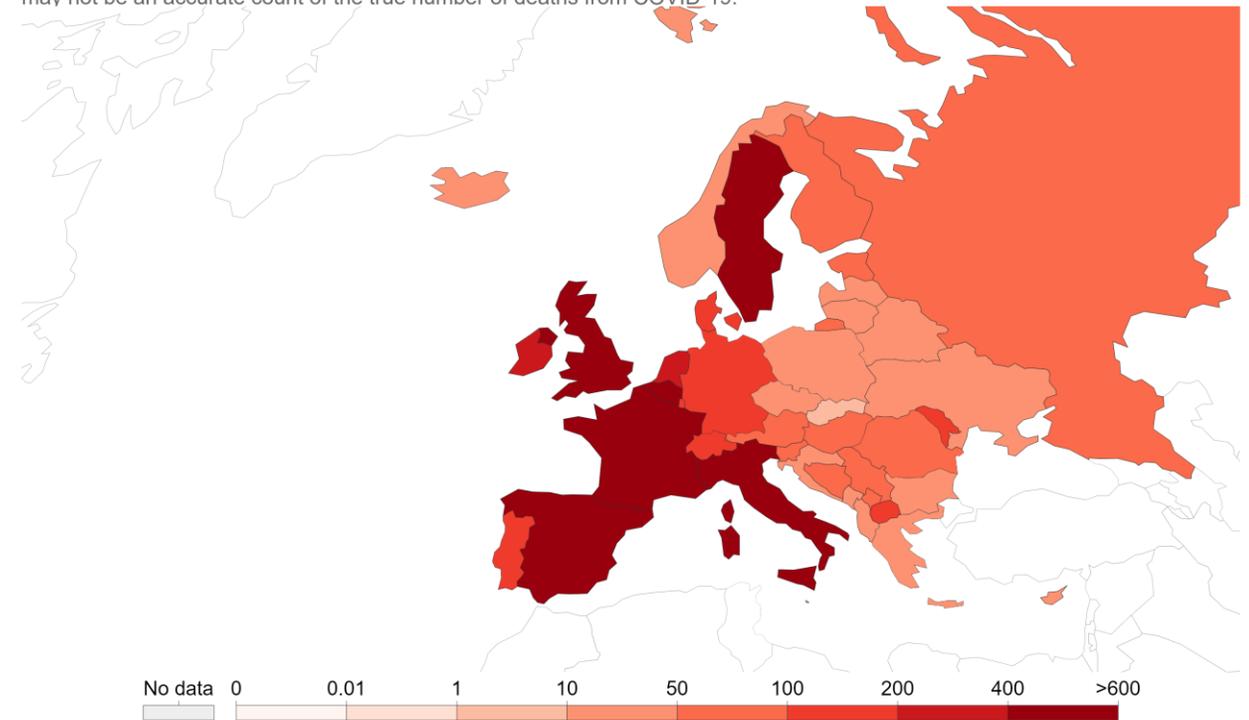
Daily deaths of patients diagnosed with coronavirus (7-day rolling average)



Cumulative confirmed COVID-19 deaths per million people, Jul 14, 2020

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.

Our World in Data



Source: European CDC – Situation Update Worldwide – Last updated 14 July, 10:08 (London time), Our World In Data

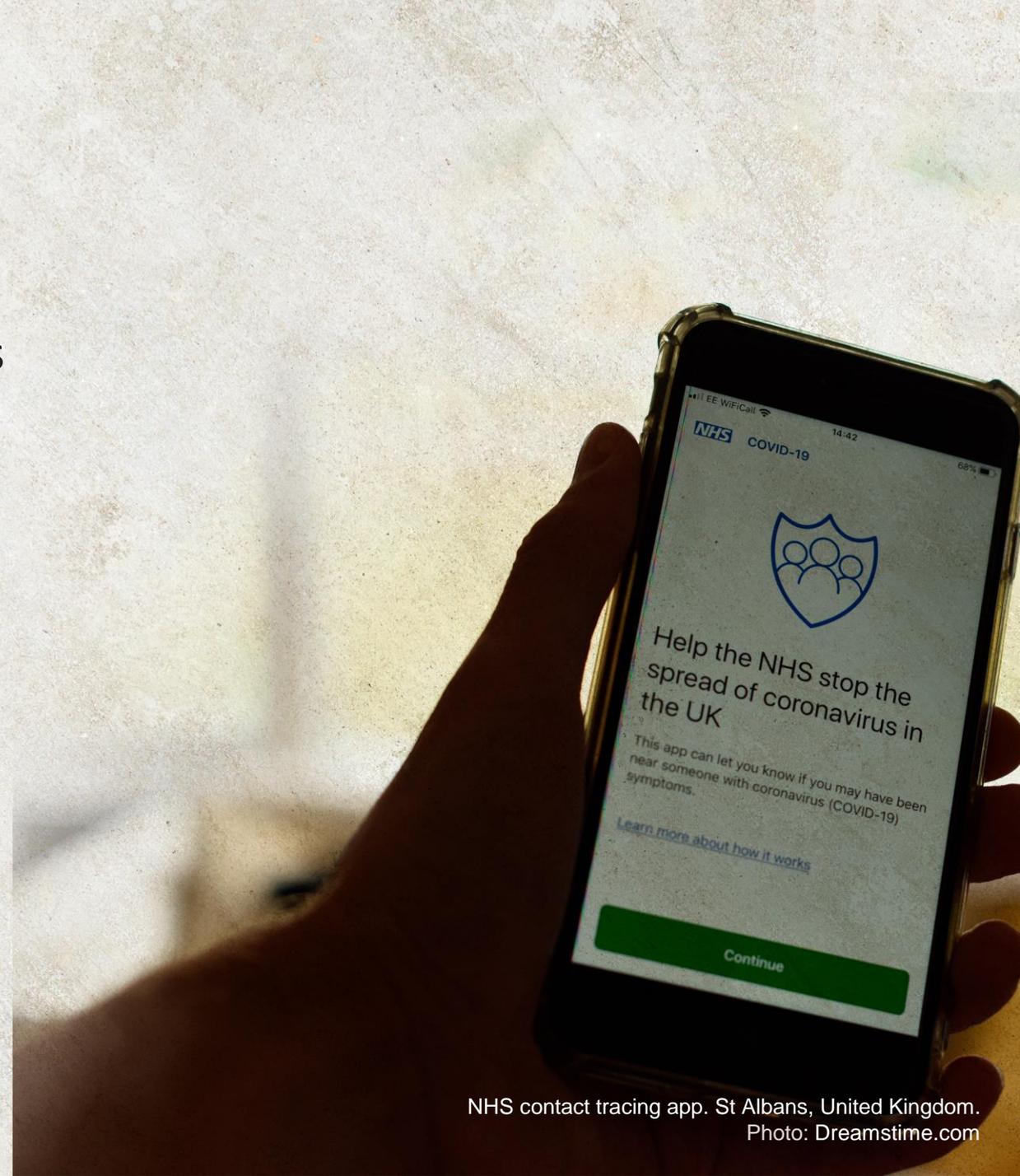
CC BY

VULNERABILITY FACTORS

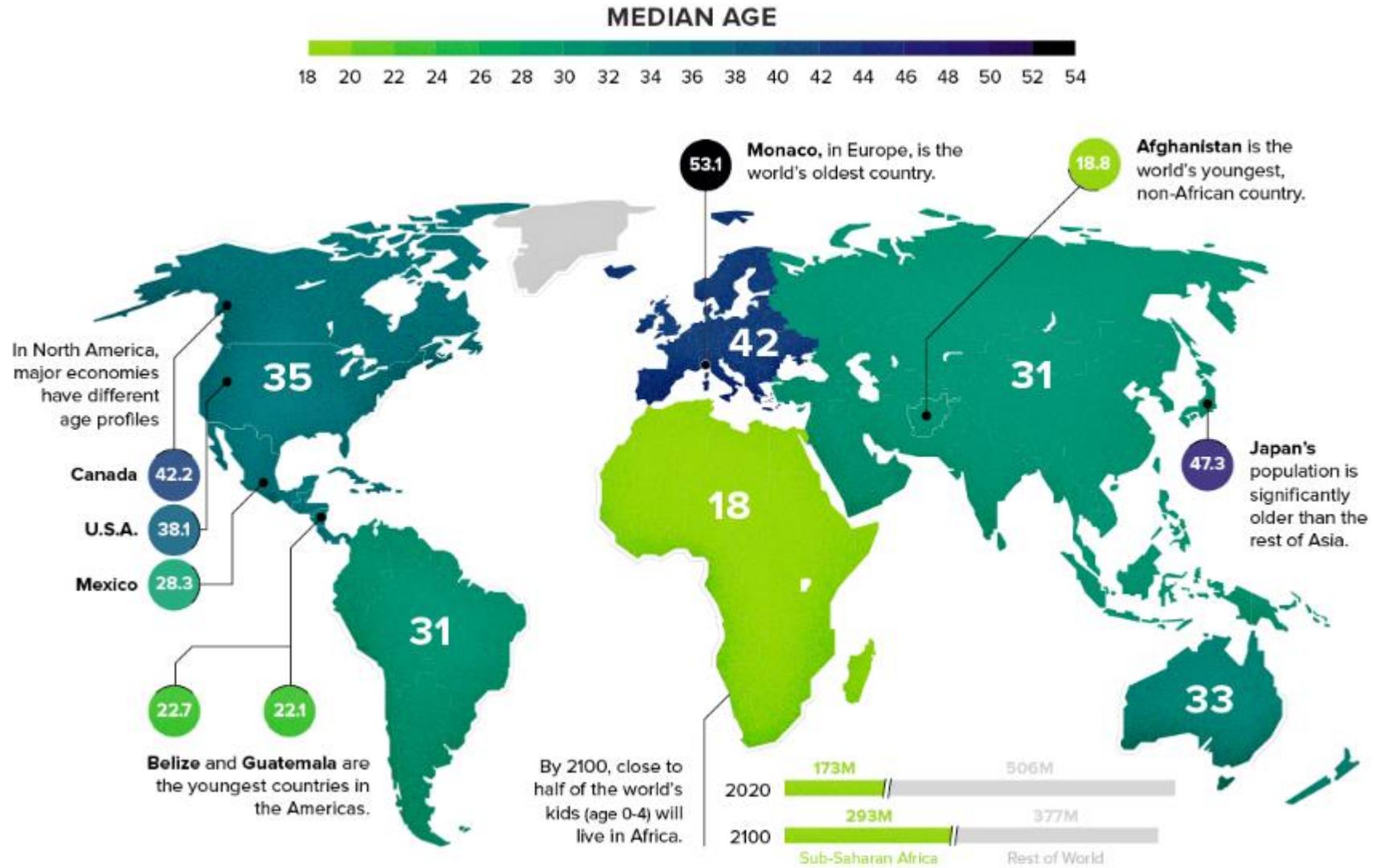


VULNERABILITY FACTORS

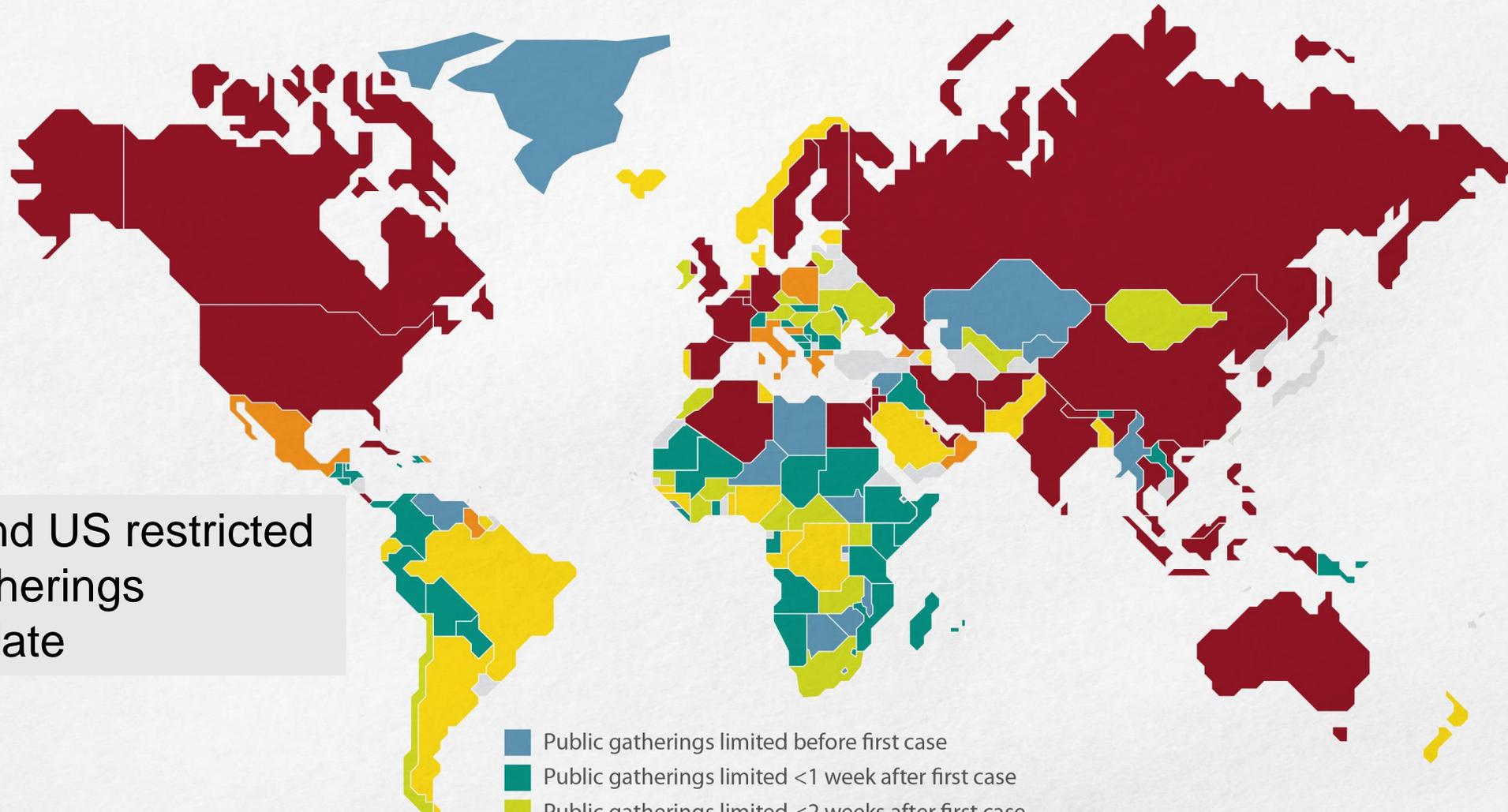
- Global integration and high population density: world cities, with major airport and train hubs, large subways and high density housing
- Late implementation of public health measures
- Elderly populations especially in residential homes
- Relatively high prevalence of NCDs and other identified risk factors (obesity, smoking, air pollution in some major cities)
- Lack of recent epidemic and crisis experience (for health systems and population behavior)
- Limited ability to mobilize surge capacities across countries or even regions in certain contexts



EUROPE IS WORLD'S OLDEST CONTINENT



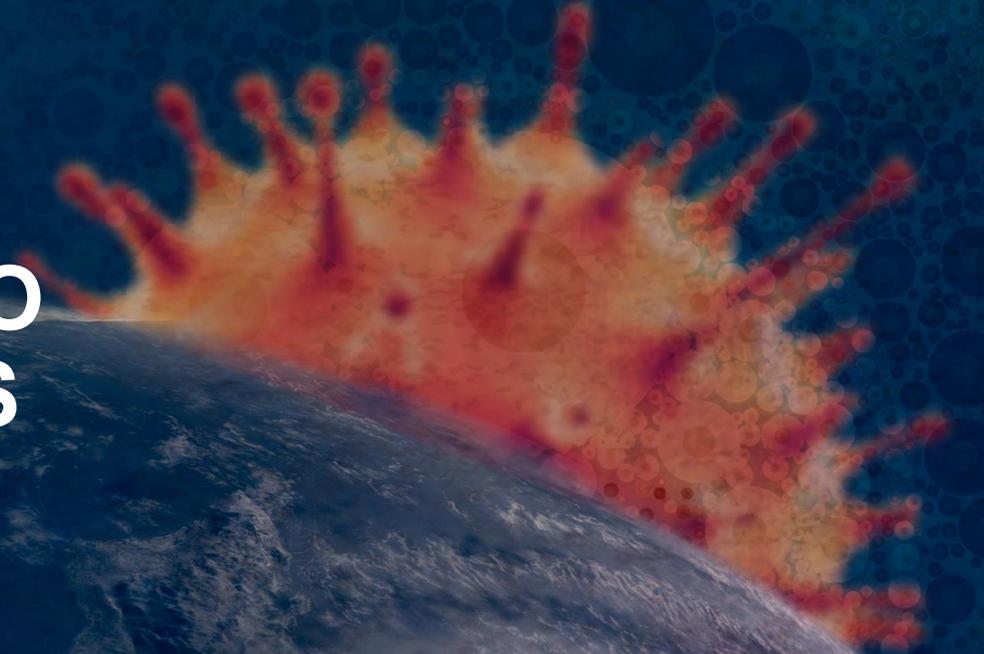
TIMING OF RESTRICTIONS ON PUBLIC GATHERINGS



Europe and US restricted public gatherings relatively late

- Public gatherings limited before first case
- Public gatherings limited <1 week after first case
- Public gatherings limited <2 weeks after first case
- Public gatherings limited <3 weeks after first case
- Public gatherings limited <4 weeks after first case
- Public gatherings limited >4 weeks after first case
- No data

**WHILE WE HAVE PASSED THE
PEAK IN EUROPE, THERE IS NO
ROOM FOR COMPLACENCY AS
ECONOMIES REOPEN**

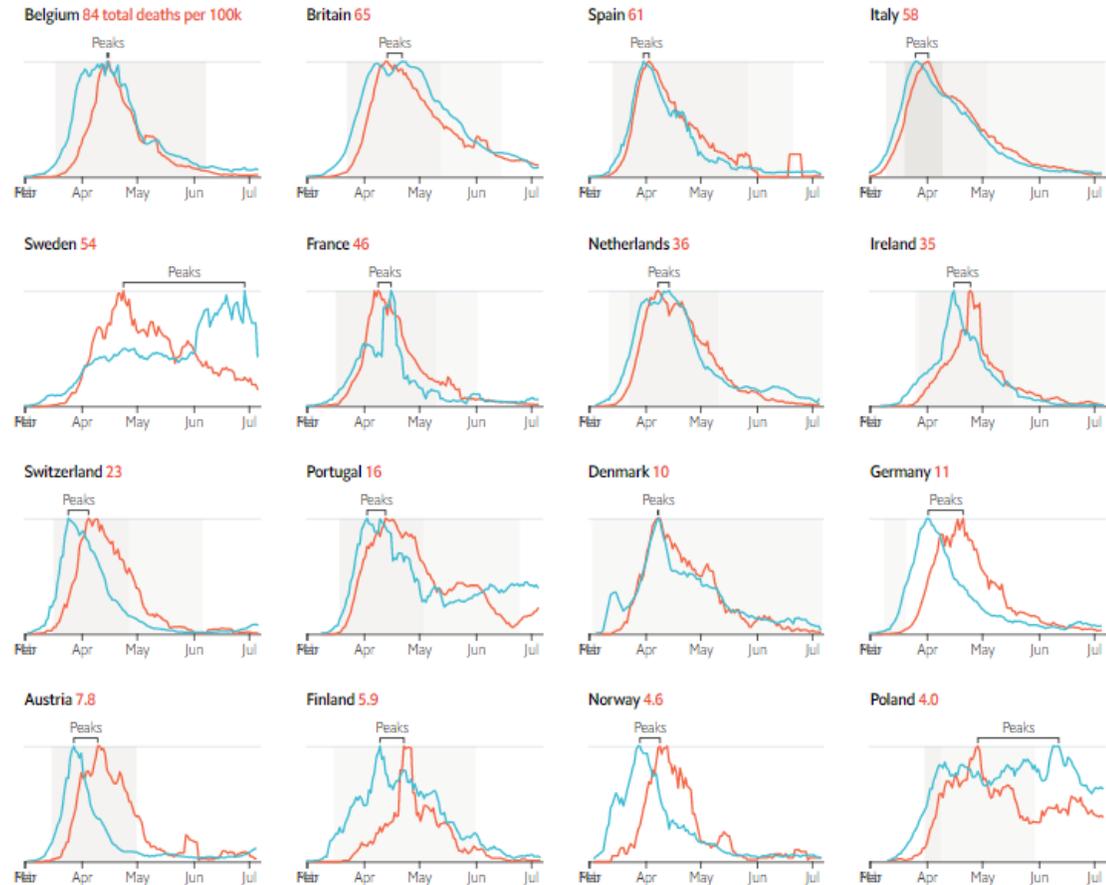


MOST OF EUROPE'S EPIDEMICS PEAKED IN APRIL-MAY WITH CURRENT $R_t < 1$ (YYG)

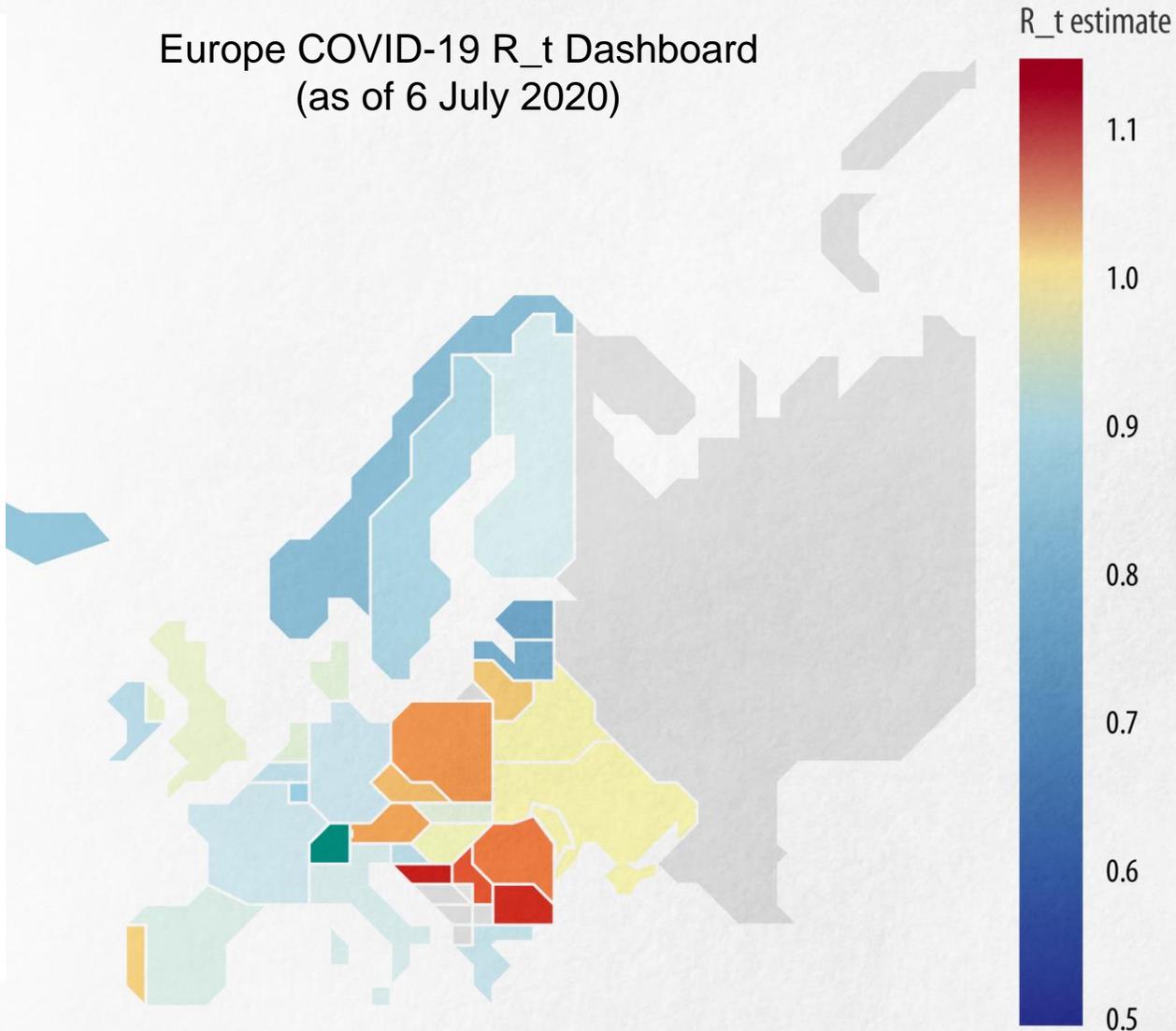
New covid-19 cases and deaths per 100,000 people

Scaled to peak, seven-day moving average, last updated on July 1st 17:50 UTC

— Confirmed cases — Confirmed deaths █ Nationwide stay-at-home order, darker=more stringent

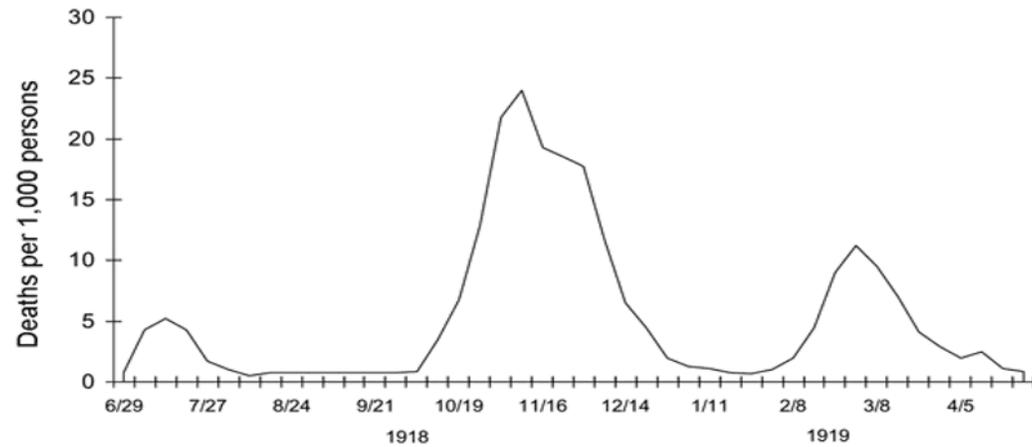


Europe COVID-19 R_t Dashboard (as of 6 July 2020)



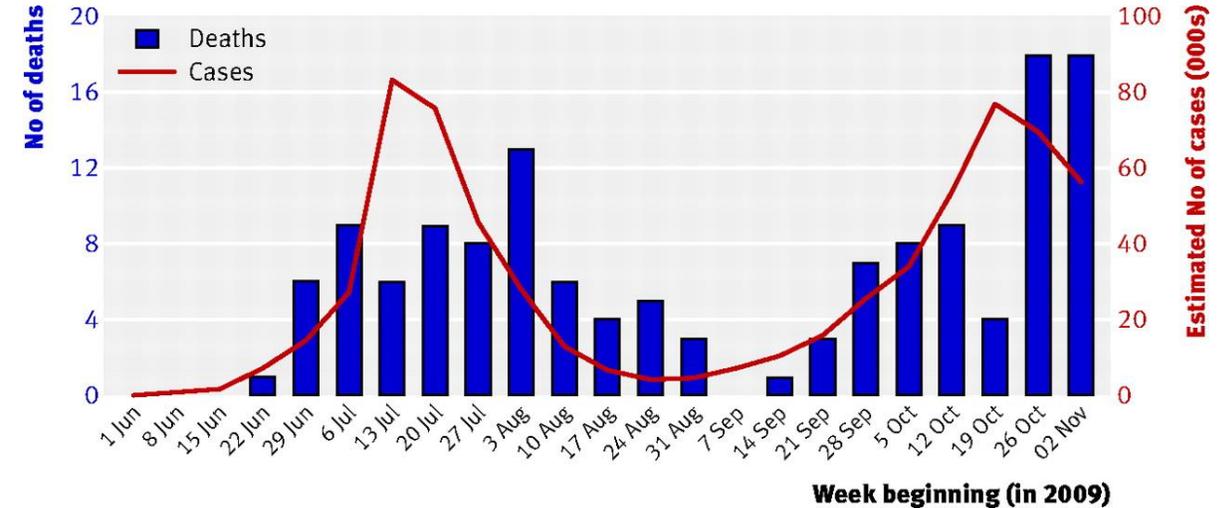
EXPERIENCE FROM INFLUENZA PANDEMICS POINT TO RISK OF SECOND WAVES

Figure 1. Three Pandemic Waves of the Spanish Flu in the United Kingdom, 1918-20



E. Jordan, *Epidemic Influenza a Survey*, Chicago, Ill. American Medical Association, 1927

Weekly estimated incidence of pandemic A/H1N1 cases (mid-range estimates) and confirmed deaths in England (source: Health Protection Agency).



Liam J Donaldson et al. *BMJ* 2009;339:bmj.b5213



ПРЕД'ЯВІТЬ
ПЕРЕПУСККУ

ЗАГІН ШВИДКОГО
РЕАГУВАННЯ

ЗАГІН ШВИДКОГО
РЕАГУВАННЯ

SMART MEASURES

Medical specialists and police in protective gear. Kyiv, Ukraine.
Photo: Dreamstime.com

A THREE STEP APPROACH TO MINIMIZE INFECTIONS AND IMPOVERISHMENT

- Immediately introduce relatively pain-free comprehensive new normal baseline measures to reduce infections (face masks and shields, hand sanitization, taking activities outdoors, decongesting and socially distancing public spheres)
- Track the infection growth number (R_0) closely
- Gradually dial measures down as the R_0 falls below 1 and dial measures up rapidly if outbreaks occur and/or if the R_0 climbs above 1



THE NEW NORMAL: BEHAVIOURS AND RULES

PHYSICAL DISTANCING



- Stay at least **6 FEET APART FROM PEOPLE (2 meters)** wherever possible
- **NO HANDSHAKING** policy
- Promote **SAFE DISTANCING** and proper queuing outdoors and indoors using marking lines in commercial settings, places of worship, schools or public transportation settings
- Spend as much time **OUTDOORS** with **SAFE DISTANCING** as possible – not if this leads to crowds outside. meet outdoors in open air if possible, including work and school settings
- Promote **BROADCAST OR ONLINE GATHERINGS** (radio, tv, internet) for religious, sport, concerts or educational events
- **TELEPHONE OR VIDEO CONFERENCING** as default for meetings
- Defer large **MEETINGS** and **EVENTS**
- **WORK FROM HOME** where possible; consider staggering staff where there is no loss of productivity from remote work
- **REDUCE CLASS SIZES** and **INCREASE PHYSICAL DISTANCING** of desks where possible. Defer activities that lead to mixing of classes and years
- **PROMOTE OR MANDATE FACE MASKS, HAND SANITIZERS** and leaving every second seat empty and windows open in public transport /taxi/ride share
- Encourage **MOBILE PAYMENT**
- **LIMIT CROWDS** at markets, commercial settings or public venues by extending opening hours/days and/or setting up alternative time for different groups (e.g., men/women or by age groups or surname where national IDs exist). Avoiding additional crowding through booking and scheduling, online pre-purchasing, limiting attendance numbers
- Limit crowds at markets, commercial settings or any public venues by **SETTING UP ENTRY CHECKS, HAND SANITIZING BAYS AND LIMITING NUMBER OF PEOPLE AT ANY ONE TIME** to maximum compatible with safe social distancing. e.g., limit number of worshippers and add multiple religious services if possible
- **DISCOURAGE ALL LARGE GATHERINGS** (>50 for example) through selective closure of entertainment venues, gyms, public spaces etc.
- **BAN ALL MASS GATHERINGS** (>200–500, for example) until the epidemic is over

THE NEW NORMAL: BEHAVIOURS AND RULES

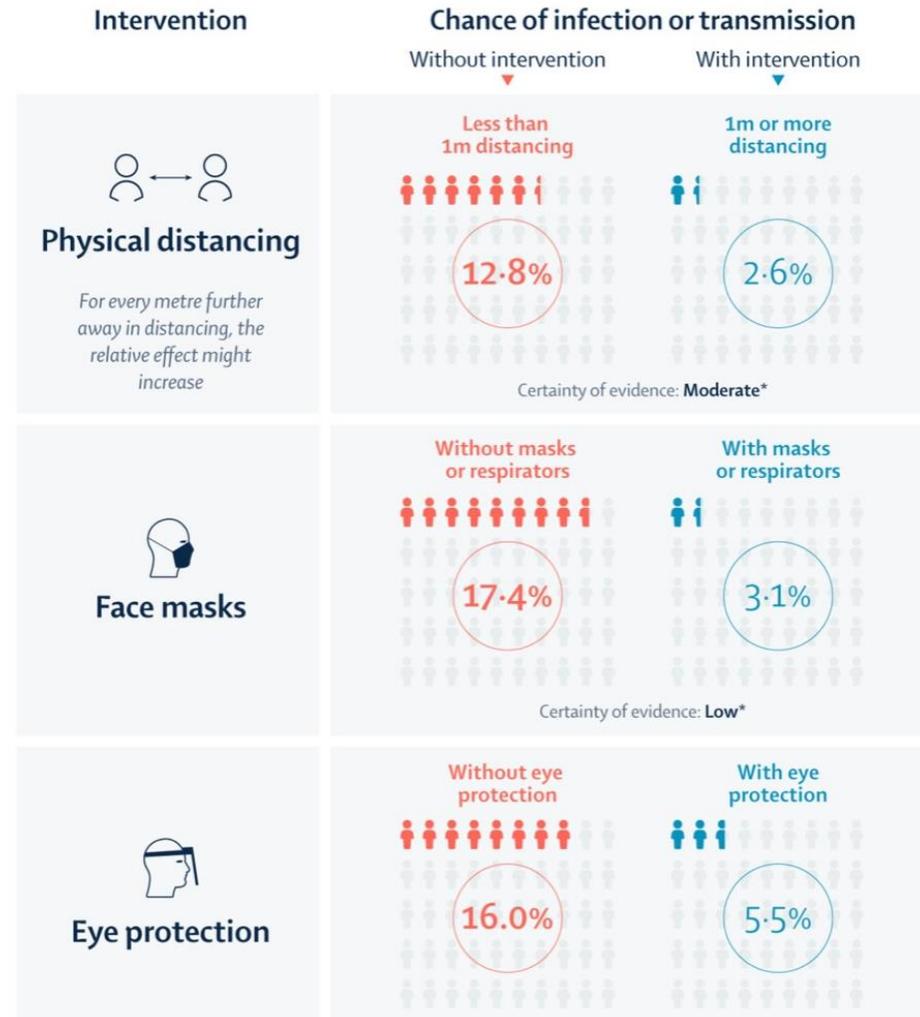
HYGIENE & VENTILATION



- Mandate **FACE MASK AND FACE SHIELD USE** in all public contexts especially public transport, as well as homes with symptomatic members
- Ask all **SYMPTOMATIC PEOPLE TO STAY AT HOME** and self-quarantine if possible
- Strict **STAY AT HOME POLICY IF ILL** for workers and students
- Staff with **ILL HOUSEHOLD CONTACTS SHOULD STAY AT HOME**
- **ILL HOUSEHOLD MEMBERS SHOULD BE GIVEN OWN ROOM** if possible and only one person cares for them
- The door to the **ILL PERSONS ROOM SHOULD BE KEPT CLOSED**
- Consider extra **PROTECTION OR ALTERNATIVE ACCOMMODATION** for household members **OVER 65 YEARS** or with underlying illness where feasible
- Promote **COUGH AND SNEEZE ETIQUETTE** (but focus on face mask and staying home message for ill workers and students)
- Promote **HAND WASHING AND SANITIZING**
- Require **WASHING/SANITIZING OF HANDS AT ENTRANCE** of workplaces, schools, markets and entrances to all public transport stations and vehicles, . Supervised sanitization of hands at entrance and at regular intervals in schools
- Set up **HAND SANITIZER STATIONS** at entrance of main markets
- Disinfect **HIGH TOUCH SURFACES** regularly and between users in workplaces, schools and transports
- Limit **FOOD HANDLING** and sharing of food in workplace and schools. Consider **CLOSING ALL SIT-DOWN CANTEENS** in workplaces and schools.
- Enhance hygiene and screening for illness among **FOOD PREPARATION** staff and their close contacts
- Do **NOT ALLOW SHOPPERS TO HANDLE PRODUCE**
- Consider **TEMPERATURE CHECKS** at entry to or inside markets, places of worship, workplaces
- **INCREASE VENTILATION** rates in the home, workplaces and schools by opening windows or adjusting air conditioning
- Public transport workers/taxi/ride share – vehicle windows opened where possible, **INCREASED AIR FLOW, HIGH-TOUCH SURFACES DISINFECTED, COMPULSORY HAND SANITATION AT ENTRY, FACE MASKS** at all times

ESSENTIAL HEALTH MEASURES

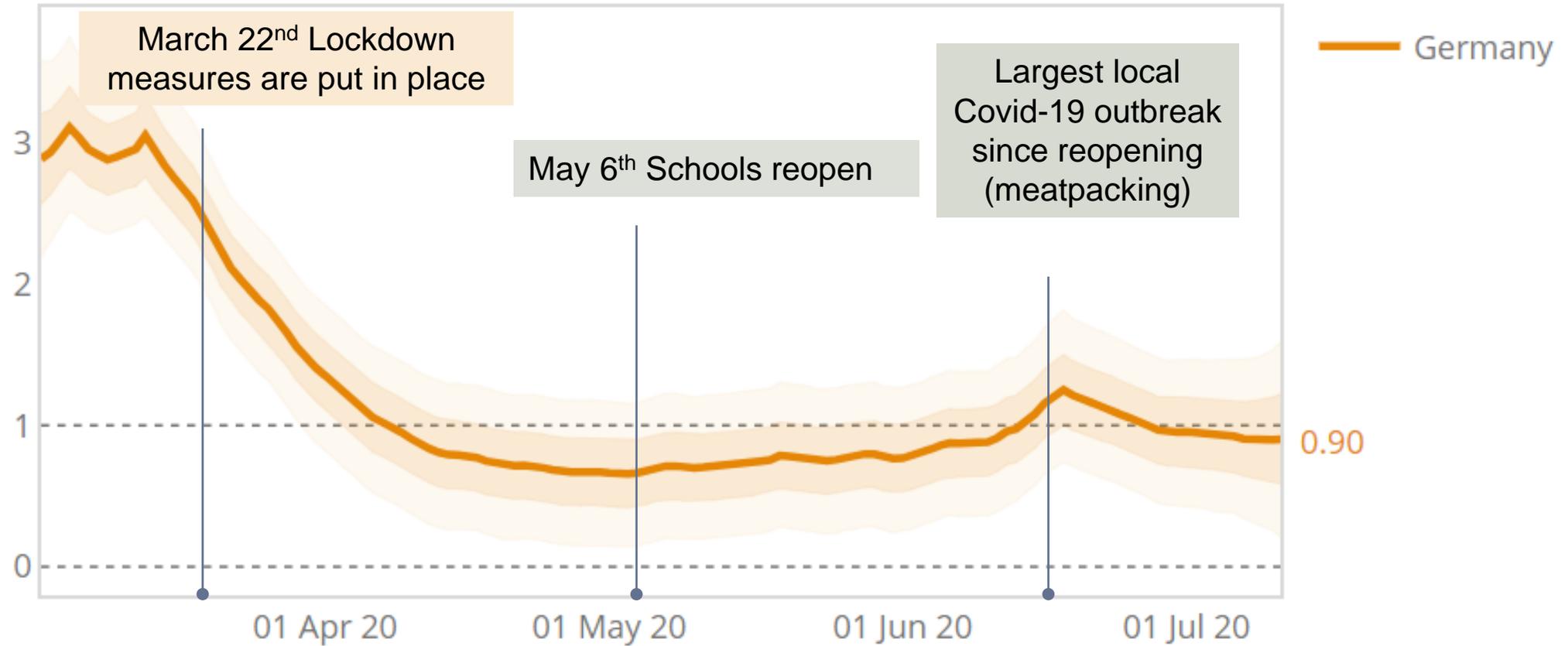
What protects against COVID-19 infection or transmission?



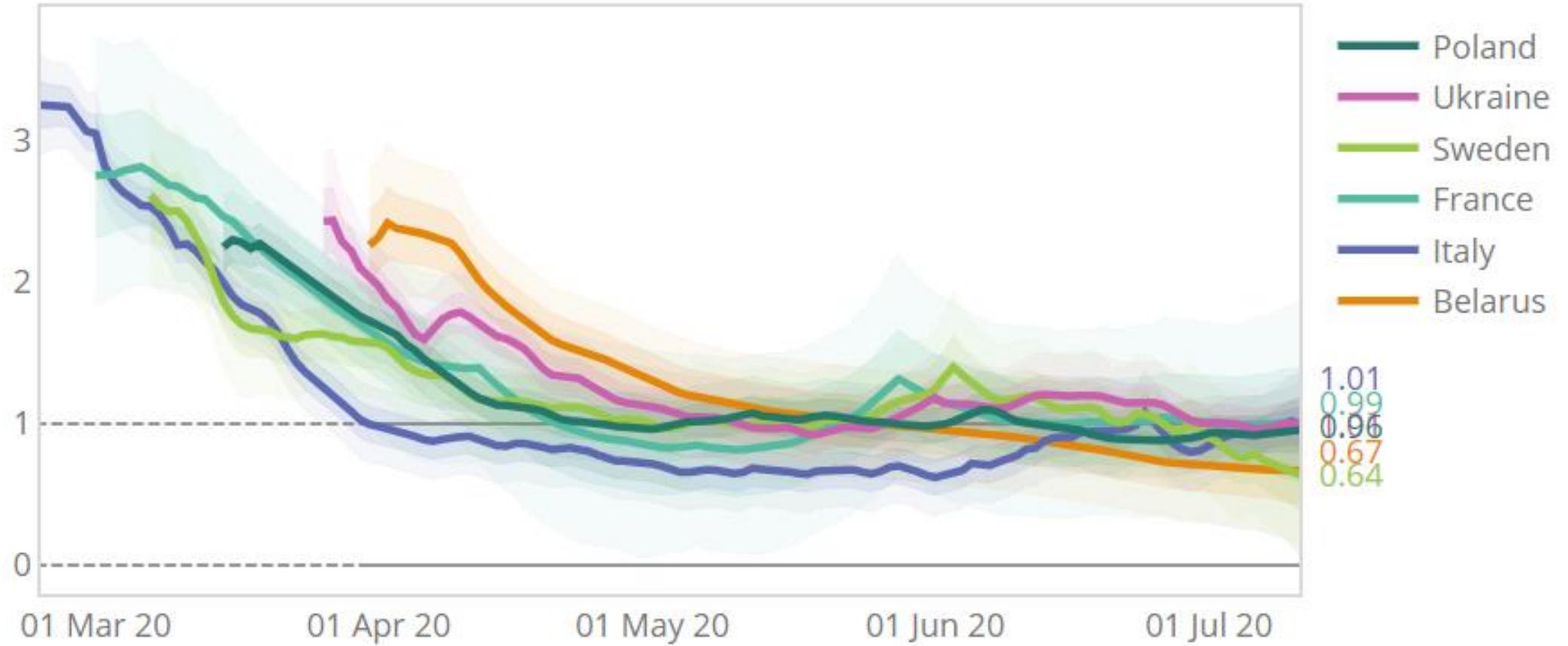
Even when properly used and combined, none of these interventions offers complete protection and other basic protective measures (such as hand hygiene) are essential to reduce transmission

Chu DK, Akl EA, Duda S, et al.
Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. *Lancet* 2020. Published online June 1.

EVOLUTION OF R_t IN GERMANY IN THE LOCKDOWN AND REOPENING STAGES



EVOLUTION OF R_t IN EUROPE



MINIMIZING INFECTIONS WHILE MINIMIZING SOCIAL AND ECONOMIC IMPACT - IMPLEMENTATION



LESSONS LEARNT FROM COUNTRY EXPERIENCE

DOs

SPAIN: **phased lockdown exit strategy** for the country to enter a “new normal”. Beginning with phase 0 on May 4, gradually lifted restrictions, except for a few islands that opened up ahead, by the end of June. Apart from phase 0 which is for a week, other **phases stretch to two weeks each**.

GERMANY: left the definition of re-opening stages to its 16 federal states of the country and emphasised that if cases surge in an area, emergency measures will be applicable.

Lockdown of 2 counties were imposed in June after a rise in cases. Planned to **hire 5 contact tracers per 20,000 residents**, enlisting medical students and mobilizing officials from other sectors to meet this goal. Large events — including concerts, spectator sports and festivals — remain banned until at least the end of October

FRANCE: **built up its testing capacity** to 700,000 per week and trained a staff of 6,500 people to do contact tracing.

BELGIUM: hired 2,000 investigators to identify individuals having been in contact with confirmed or suspected cases (200 in Brussels, 600 in Wallonia and 1,200 in Flanders).

LUXEMBOURG: **mass testing covering its 600,000 inhabitants** following the easing of lockdown measures. Diagnostic tests are voluntary, building up from around 1,500 daily tests to 20,000 a day in June.

CZECH REPUBLIC: became the **first European country to make wearing masks mandatory** in supermarkets, pharmacies, and public transport.

DENMARK: Travelers from all but six EU countries (including Sweden) are allowed but must quarantine if coming from a city of more than 750,000 people. **Large gatherings are still banned until August.**

EU: EU opened borders within the Schengen area and expanded to more than a dozen non-EU countries, including Australia, Canada, Japan, and New Zealand but **kept restrictions on countries that didn't have proper epidemic control** including the US

1. **Define a gradual and segmented exit strategy**
2. **Increase testing and contact tracing capacity** to limit community transmission and provide visibility for easing measures
3. **Ensure ability to tighten measures early in response to local hotspots**
4. **Maintain emphasis on baseline measures:** Keep masks/face shield mandator; Maintain social distancing and enhanced hygiene measures
5. **Ensure disenfranchised population are also covered by baseline measures**
6. **Maintain restrictions on size of gatherings in particular religious events, wedding and funerals**
7. **Target sector reopening based on transmission risk/economic reward**
8. **Ease restrictions last on indoor gatherings**
9. **Keep a border control process in place**

LESSONS LEARNT FROM COUNTRY EXPERIENCE

SWEDEN: Failed to protect elderly in care homes – almost half of deaths from care homes.

UNITED KINGDOM: Least border health security globally. Large number of deaths in care homes.

SWITZERLAND: Public and private events of up to 300 people as well as "spontaneous gatherings" of up to 30 people are allowed.

BELGIUM: Up to 200 people are allowed to attend indoor events and up to 400 people for outdoor gatherings.

GREECE: Allowing visitors from 44 countries, rules expanded to all airports in the country. Only selective COVID-19 tests will be conducted on arrival.

Dont's ☒

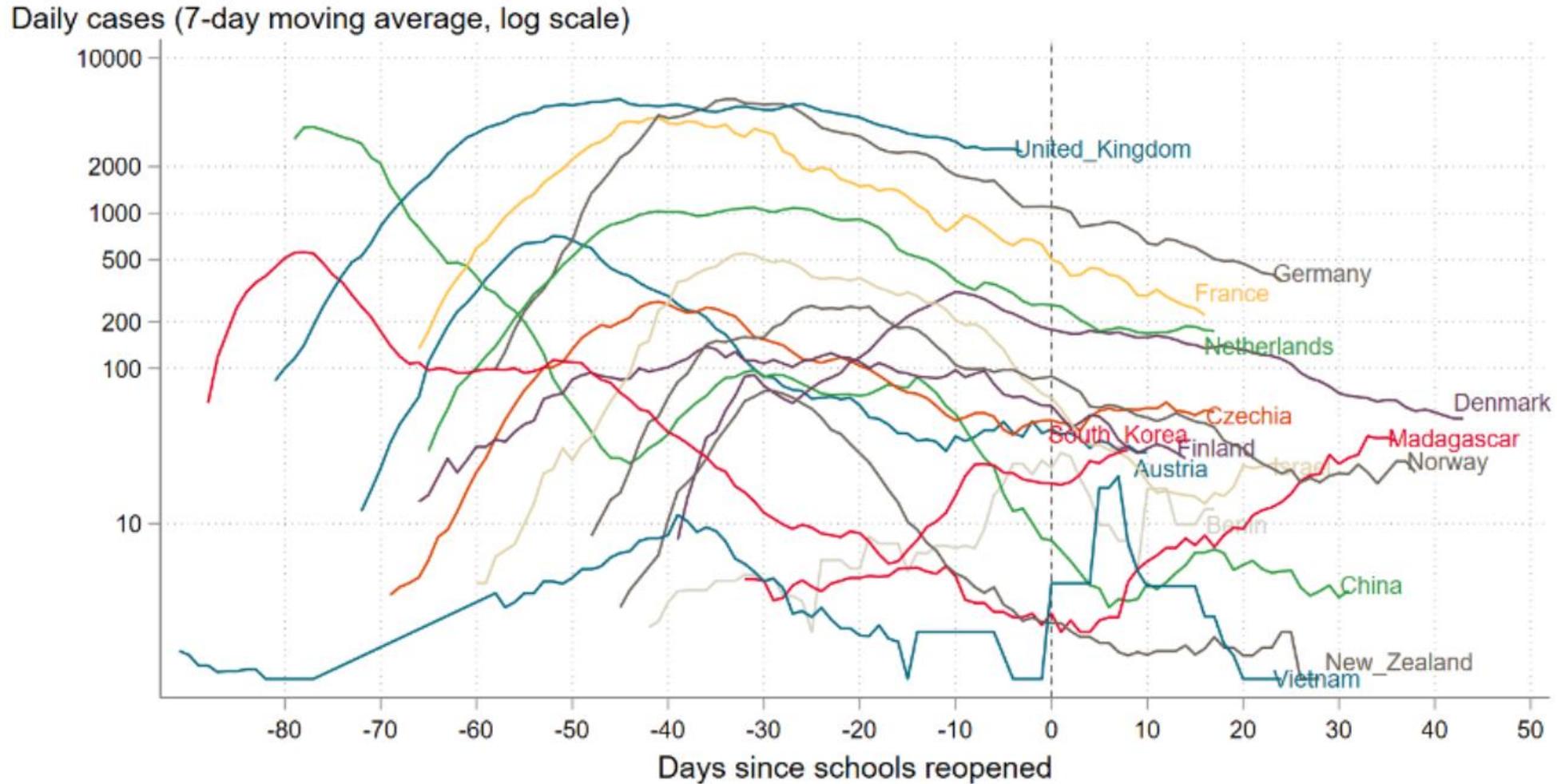
1. **No clear and progressive exit strategy**
 - No definition of levels. Blanket national
 - No strategy to tighten measures back
2. **No proper testing and contact tracing capacity, "blind reopening"**
3. **No ability to detect and respond to local hotspots early**
4. **Failing to protect elderly in care homes**
5. **Lack of emphasis on baseline measures**
 - No clear recommendations on face covering
 - No social distancing and enhanced hygiene measures while reopening settings
6. **No protective measures for disenfranchised populations (migrants, refugees, slum dwellers)**
7. **Target sector reopening based on public pressure instead of analysis of transmission risk/economic pain**
8. **Lift restrictions first on indoor gatherings: indoor services for mosques/ churches, indoor cafes and restaurants**
9. **Lift restrictions on mass gatherings in particular religious events and ceremonies**
10. **Lifting border control mechanisms**

SECTOR REOPENING : LESSONS LEARNT 7 WEEKS AFTER THE FIRST WAVE OF SCHOOL REOPENINGS



Source: Deamstime Stockphoto.com

No immediate rebound observed after school reopening



Source: European CDC and CGD Covid-19 education policy tracker
<https://www.cgdev.org/blog/back-school-tracking-covid-cases-schools-reopen>

THE ESSENTIAL HEALTH MEASURES IN SCHOOLS

- ✓ Reduce CLASS SIZES and INCREASE PHYSICAL DISTANCING of desks where possible
- ✓ Outdoor CLASSES where possible, windows open and improved ventilation wherever not
- ✓ Use of FACE MASKS and FACE SHIELDS, in priority of teachers and administrative staffs, older grades and for certain activities (movements in hallway, transportation to and from school)
- ✓ Supervised sanitization of HANDS at entrance and at regular intervals
- ✓ Review options for TRANSPORTATION to and from schools and application of BASELINE MEASURES IN PUBLIC TRANSPORTS
- ✓ Strict stay at home policy IF ILL
- ✓ Promote COUGH AND SNEEZE ETIQUETTE (but focus on excluding ill persons)
- ✓ Disinfect HIGH TOUCH SURFACES regularly and between users
- ✓ Enhance hygiene and screening for illness among FOOD PREPARATION (canteen) staff and their close contacts
- ✓ Defer ACTIVITIES that lead to mixing between classes and years and review after-school care arrangements that lead to MIXING OF CHILDREN from multiple classes and ages
- ✓ REASSIGN MOST AT RISK TEACHERS (age, co-morbidities) to distance learning or administrative tasks



FLEXIBILITY, CREATIVITY AND ENFORCEMENT OF BASELINE SCHOOL MEASURES

GERMANY: High degree of responsibilities left to local level. Self-administered test in certain high schools. Common baseline recommendations: hallways as one-way avenues, masks worn in classrooms, seats assigned and spaced, windows kept open to improve air circulation. 6-foot distance between students when standing in line.

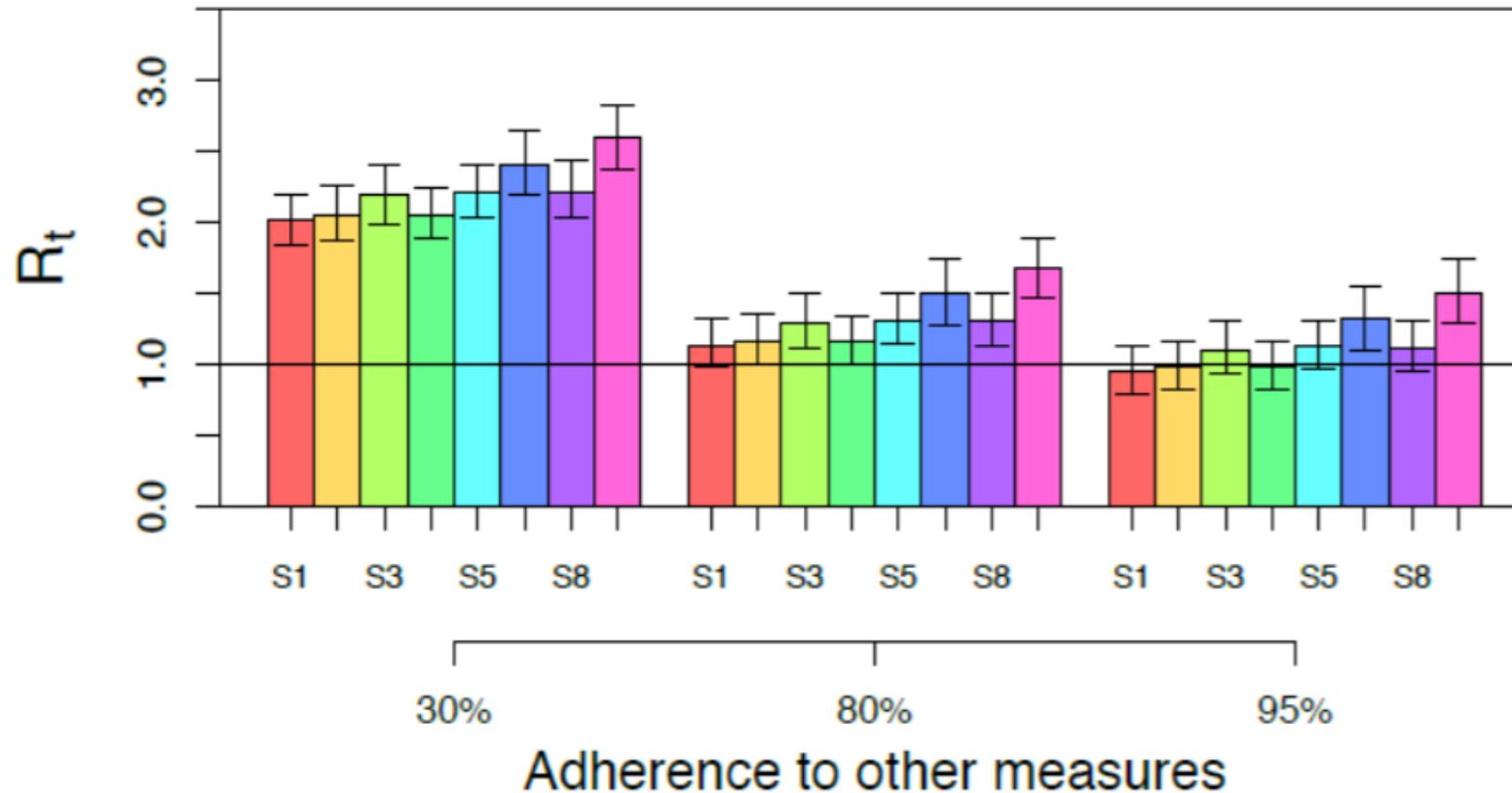
DENMARK: Classes held outside, such as in parks, as much as possible. April 15th, Denmark first country in Europe to reopen primary schools, nurseries and kindergartens. May 18th, pupils aged 12-16 return to secondary school. Compulsory attendance. Children should wash their hands at least every two hours. Surfaces need to be cleaned twice a day. Tents as temporary classrooms in parks and playgrounds

AUSTRIA : Staggered schedules. Classes split in two groups that each attend lessons half the week to ensure their desks are far enough apart. Monday to Wednesday and the other Thursday to Friday, then swapping the following week. Pupils 15 and older who are not in their final year returned to school on 2 weeks later.

FRANCE: Progressive reopening starting with lower grades. Classes capped at 10 students for preschools and 15 students for other age groups. 30 percent of children went back to school in that first wave. 70 new cases the first week prompted **immediate closure of affected schools**

ISRAEL: Local governments **push for full school reopening. Limitations on class size are lifted early.** Two weeks later, more than 200 cases in schools (including 130 in a single school). **By June 21st: 635 people within the education system had tested positive for the coronavirus (Statistics from Education Ministry). 22,738 school staff and students were in isolation,** out of over 2 million students and 200 thousand educators. 177 schools have been closed out of 5,200 schools and 200 thousand kindergartens.

HOW DIFFERENT APPROACHES TO INCREASING SCHOOL ATTENDANCE MAY PROPORTIONALLY INCREASE R_t



The key driver of the relative contribution of school openings remains the extent to which social distancing is or is not sustained in the wider population.

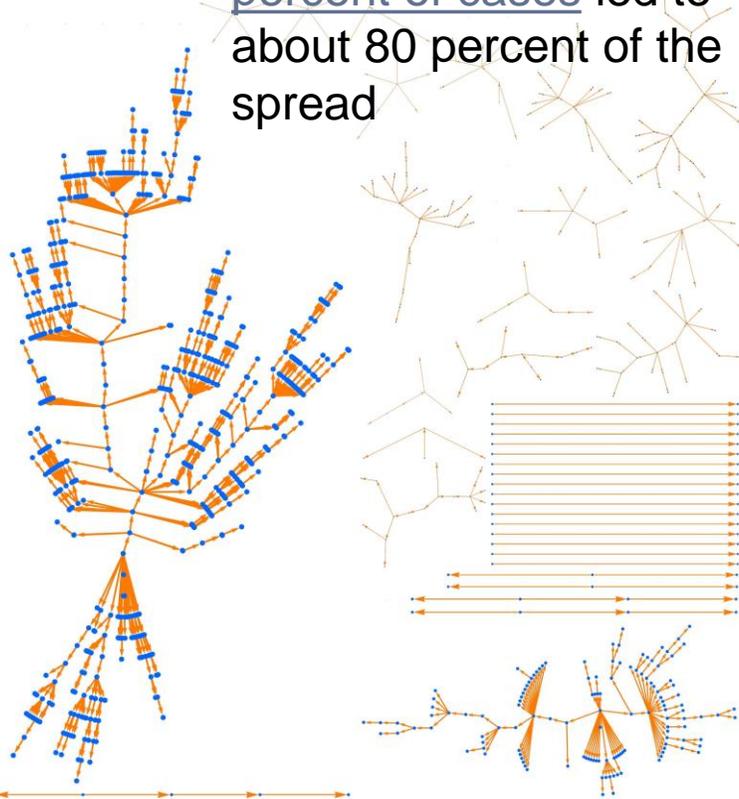
CONCLUSIONS



border guards check the body temperatures of arriving passengers at Danylo Halytskyi International Airport in Lviv, Ukraine. Photo: Dreamstime.com

BEYOND LARGE SCALE TESTING AND TRACING, SMART REOPENING TYPICALLY LIMIT THE POTENTIAL FOR SUPER-SPREADING EVENTS

- R0 is an average
- Study suggest that 10 percent of cases led to about 80 percent of the spread



- Outbreak in a **meat processing plant in northwestern Germany**. The total number of people infected with the coronavirus at the slaughterhouse has reached **more than 1000, 70% of staff have tested positive**
- Multiple outbreaks in the Northwest of France totaling, **87 cases**, following family reunifications, including 100 people gathering for a funeral.
- **52 out of 61 attendees of a choir** in the US became ill, 32 of whom were confirmed to have COVID-19 and 20 had symptoms consistent with the virus.
- **100 cases** linked to a Biogen corporate meeting in a **hotel and conference venue** in Boston. The virus had also spread to Indiana, Tennessee, and North Carolina.
- More than **100 cases** tracing back to multiple South Korean **nightclubs** that were visited by a man who later tested positive for the virus.
- A private **hospital** patient in Durban, **South Africa, infects 39 patients and 80 staff**. Virus was mostly carried around the hospital by staff and on the surfaces of medical equipment.
- A single worker at a **fish factory** infects **533 co-workers in Ghana**. The even accounts for 11 per cent of the country's total recorded infections.

CONCLUSION: COMBINATION PREVENTION

We now know that effective prevention requires a combination of obligatory measures, specifically:

- Early, decisive border closures/supervised quarantine, both between and within countries.
- Ubiquitous face masks and where possible face shields, especially in public interactions.
- Ubiquitous hand sanitizing/washing, especially at high traffic points.
- Increased surface cleaning, also especially at high traffic points.
- Social distancing, reinforced by decongestion of public spheres.
- Absolute avoidance of superspreading events – large crowds, prolonged proximity, poor ventilation, forced exhalation. 10% of events may drive 80% of transmission. If we do one thing right, do this.
- Strengthened core public health functions – the classic test, isolate and treat, track, trace and quarantine.

If we do these things together, in combination, we can reopen safely and contain this virus.