

# International Horizon Scanning and Learning to Inform Wales' COVID-19 Public Health Response and Recovery

Report 3, 07/05/2020



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Investment for Health and Well-being**





## Overview

The International Horizon Scanning and Learning work stream was initiated following and informing the evolving COVID-19 public health response and recovery plans in Wales. It focuses on COVID-19 international evidence, experience, measures and transition / recovery approaches, to understand and explore solutions for addressing the on-going and emerging health, wellbeing, social and economic impacts (potential harms and benefits).

The learning and intelligence is summarised in weekly reports to inform decision-making. These vary in focus and scope, depending on the evolving COVID-19 situation and public health / policy needs and priorities.

This work is aligned with and feeding into the Welsh Government Office for Science and into Public Health Wales Gold Command. It is part of a wider Public Health Wales' systematic approach to intelligence gathering to inform comprehensive, coherent, inclusive and evidence-informed policy action, which supports the Wellbeing of Future Generations (Wales) Act and the Prosperity for All national strategy towards a healthier, more equal, resilient, prosperous and globally responsible Wales.

## In focus this week

-  **Care homes and other enclosed settings**
-  **Education (school re-opening)**
-  **Summary intelligence on testing, cases and deaths**
-  **R0 comparison across countries**
-  **Country insight – Spain**

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## At a glance – summary of international learning on COVID-19

***"We have a unique opportunity to design and implement more inclusive and accessible societies"***  
**António Guterres, Secretary-General of the United Nations<sup>1</sup>**

### Impact on care homes and other enclosed settings

- ✚ **Official data** on the numbers of deaths among care home residents linked to COVID-19 is not available in many countries but more countries are publishing data
- ✚ Due to differences in testing availabilities and policies, and to different approaches to recording deaths, **international comparisons are difficult**
- ✚ **Testing** should not supersede existing infection prevention and control measures and should be used when results will lead to specific actions
- ✚ **PPE should be worn by health care professionals at all times. Cloth face coverings** are not considered PPE – facemasks should be reserved for staff
- ✚ **Sick leave policies** should be reinforced  
*Specific measures are summarised on pp 5-7*

### Impact on the education system

- ✚ Education settings should continue to be **welcoming, respectful, inclusive, and supportive environments to all**
- ✚ There is **inconclusive evidence linking infection risk to school attendance**
- ✚ School re-opening approach should be **comprehensive** and include: policy reforms; financial provisions; compensatory and hybrid learning models, action to reach the most marginalised: wellness and protection measures; safe operations.
- ✚ Care to **avoid discrimination and stigmatisation** of students and staff who may have been exposed to the virus
- ✚ **Precaution measures** are necessary to prevent the potential spread of COVID-19, which **differ according to age group**.  
*Specific measures are implemented across countries and summarised on pp. 8-9.*

### Personal Protective Equipment (PPE)

- ✚ Unprecedented global demand for PPE, ventilators and other critical items for the COVID-19 response has resulted in acute supply shortages
- ✚ The WHO has launched a new [COVID-19 Supply Portal](#) - a purpose-built tool to facilitate and consolidate submission of supply requests from national authorities and all implementing partners supporting COVID-19 National Action Plans

### Other prevention and control measures

Second hand smoke has been found to be an increased risk factor in exposure to COVID-19 and other respiratory infections. WHO urges exposure to be minimised.

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<sup>1</sup> we-have-unique-opportunity-design-and-implement-more-inclusive-and-accessible-societies

## Socio-economic and multidimensional impacts

- ✚ COVID-19 can have **devastating socio-economic and inequity consequences**
- ✚ **Human rights, solidarity and equity approach** is crucial to mitigate harms, as well as to support community assets and system resilience.
- ✚ Recovery efforts should focus on the following **mutually reinforcing priorities**:
  - Reinforce social capital, social inclusion and cohesion, leaving no one behind
  - Protect economic well-being, ensuring financial protection for all who need it
  - Safeguarding peace and stability
- ✚ **Sustainable solutions** should be based on the following principles:
  - Keeping all people, households and businesses afloat with a focus on people
  - Economic policies should meet people's most immediate health, food and other basic needs, protect social cohesion and maintain political and economic stability.
  - Specific measures are needed at different levels, e.g. global, national and subnational
  - Shared and equalised resources between developed and developing countries
  - A whole-of-society approach, involving all sectors and the public
- ✚ **Vulnerable and marginalised groups**
  - Inequities in Wales will increase with the highest impact on the most vulnerable and marginalised segments of the population
  - Specific focus should be placed on women, the elderly, children and youth, persons with disabilities, refugees and migrants, minority groups and the homeless
  - The WHO has [published new guidance](#) on the risk of **increased violence to women**
  - High percentage of **health workers are female**, so WHO encourages managers to ensure plans are in place to address the needs of vulnerable members of staff

## Transition approaches and considerations

- ✚ During the transition phase, the basic measures, such as cleaning hands and physical distancing cannot be relaxed, nor should the commitment to find, isolate, test and care for every case, and trace every contact<sup>2</sup>.
- ✚ Transition should be informed by national, local and community-level risk assessments, as well as international evidence and experience
- ✚ Focus on balancing and mitigating wider public health, health service, social and economic impacts, including equity and vulnerability
- ✚ Transition should be gradual, step-wise, sustainable, flexible and continuously monitored
- ✚ Ensure responsive governance, coordination, collaboration, solidarity, wide engagement and participation, and appropriate communication across all sectors, levels and the public
- ✚ Ensure public health and health care capacities and resources going forward, including for surveillance, prevention and control (e.g. track and trace, quarantine, PPE, etc.)
- ✚ Utilise data, digital and communication technologies, and innovations to support transition
- ✚ The [Access to COVID-19 Tools Accelerator](#) (ACT) is a global collaboration to accelerate the development, production and equitable access to new COVID-19 diagnostics, therapeutics and vaccines. A pledging campaign has raised 7.4 billion euro towards the development of the initiative (4<sup>th</sup> May)<sup>3</sup>.

<sup>2</sup> <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---4-may-2020>

<sup>3</sup> [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200505covid-19-sitrep-106.pdf?sfvrsn=47090f63\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200505covid-19-sitrep-106.pdf?sfvrsn=47090f63_2)

## Impact on care homes and other enclosed settings

### Overview

- Vulnerable characteristics of care home residents (age and underlying health conditions)
- Living in a communal setting poses particular difficulties to physical distancing
- In many countries, there have been large numbers of deaths in these settings
- In countries where the total number of deaths has been very high, as many as half of all COVID-19 deaths appear to have been among care home residents<sup>4</sup>
- Isolating the elderly in their own homes brings its own set of challenges<sup>5</sup>
- The Centers for Disease Control and Prevention (CDC) has [published a set of resources](#) for those responsible for long-term care facilities.

### Key messages

- Official data on the numbers of deaths among care home residents linked to COVID-19 is not available in many countries but an increasing number of countries are publishing data
- Due to differences in testing availabilities and policies, and to different approaches to recording deaths, international comparisons are difficult
- Cloth face coverings are not considered PPE because their capability to protect healthcare personnel (HCP) is unknown. Facemasks, if available, should be reserved for HCP
- For visitors and residents, a cloth face covering may be appropriate. If a visitor or resident arrives to the facility without a cloth face covering, a facemask may be used for source control if supplies are available
- Sick leave policies should be reinforced, with health care professionals not working when they are unwell

### Testing

- Testing should not supersede existing infection prevention and control (IPC) measures
- Testing should be used when results will lead to specific IPC actions
- If testing capacity allows, facility-wide [Point of Prevalence Survey](#) of all residents should be considered in facilities with suspected or confirmed cases of COVID-19.

### PPE

- As part of source control efforts, HCP should wear a facemask covering at all times while they are in the facility [Guidance on extended use and reuse of facemasks](#) is available.
- PPE should be worn by health care professionals at all times, with staff being prioritised over resident with suspected symptoms.
- [Prioritizing gowns](#) for activities where splashes and sprays are anticipated (including aerosol generating procedures) and high-contact resident care activities that provide opportunities for transfer of pathogens to hands and clothing of HCP.
- Develop a process for decontamination and reuse of PPE such as [face shields and goggles](#)

### Infection Prevention and control

<sup>4</sup> <https://itccovid.org/2020/04/12/mortality-associated-with-covid-19-outbreaks-in-care-homes-early-international-evidence/>

<sup>5</sup> [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(20\)30061-X/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30061-X/fulltext)

- **Training of staff** to ensure they fully understand and adhere to the local country/setting guidelines is imperative
- Training for residents should also be given where appropriate
- Family and friends should be asked **not to visit the facility**
- **Screen all HCP at the beginning of their shift for fever and symptoms of COVID-19**
- Facilities should develop (or review existing) plans to [mitigate staffing shortages](#) from illness or absenteeism.

### Approaches taken internationally

Measure <sup>6</sup>	Countries ( <i>State/Regions/Provinces</i> )
<b>Staff remain in care homes for 2 weeks</b>	South Korea
<b>Non-admission of new residents</b>	Germany ( <i>Lower Saxony, Saarland</i> ), Italy
<b>Short-term transfer of residents to alternative accommodation</b>	Slovenia, Spain ( <i>Basque Country, Catalonia</i> )
<b>In-facility isolation</b>	Hong Kong, South Korea
<b>Contact tracing and isolation based on contact</b>	Germany, South Korea
<b>Removing residents without symptoms to other accommodation</b>	Austria, Slovenia, USA
<b>Travel restrictions for care staff</b>	Hong Kong, Slovenia, South Korea
<b>Ensuring care staff only work in one care home</b>	Canada, Ireland, USA
<b>Loosening of staff regulations</b>	Austria, Germany, Spain, USA
<b>Telehealth visits from healthcare providers</b>	Austria, Hong Kong, Italy, USA
<b>Quarantine for individuals discharged from hospital</b>	China, Germany ( <i>Lower-Saxony, Baden-Wuerttemberg, Rhineland-Palatinate, Bavaria, Saxony, North-Rhine Westphalia, Hamburg, Saarland</i> ) Italy, South Korea, Spain
<b>Isolation of residents with possible, probable and confirmed cases</b>	Austria, Germany, Italy, Spain, USA
<b>Systematic Symptom Monitoring</b>	China, Germany, Ireland, Italy, Slovenia, South Korea
<b>Isolation of residents with symptoms in single room/separate part of the facility</b>	Australia, China, Germany, Hong Kong, Ireland, Italy, Slovenia
<b>Testing of care home staff and residents</b>	Austria, Germany ( <i>North-Rhine Westphalia, Baden-Wuerttemberg, Bavaria, Saxony, Hamburg</i> ) Italy, Netherlands, Slovenia, South Korea, USA
<b>Restrictions of visitation</b>	Australia, Austria, China, Germany ( <i>Berlin, Rhineland-Palatinate</i> ), Hong Kong, Ireland, Israel, Italy, Netherlands, Slovenia, South Korea, USA

<sup>6</sup> Comas-Herrera et al (2020) "International examples of measures to prevent and manage COVID-19 outbreaks in residential care and nursing home settings" - <https://ltccovid.org/wp-content/uploads/2020/05/International-measures-to-prevent-and-manage-COVID19-infections-in-care-homes-2-May-1.pdf>

## Example measures taken in nursing/care homes during the SARS epidemic

### Singapore<sup>7</sup>

- Symptomatic patient separation at point of first contact (e.g A&E, outpatient clinics).
- Thrice daily temperature checks for HCP (staff) and active surveillance for clusters of febrile patients.
- Diversion of non-SARS patients to non-SARS hospitals, with ring fencing and transfer of exposed groups to SARS hospitals.
- Restricted operating of HCW's to one institution.
- PPE: test-fitted N95 mask, gowns, gloves, goggles/protective eye gear with powered air purified respirator for high-risk procedures (e.g. intubation).

### Hong Kong<sup>8</sup>

- A qualitative study found a limited understanding of SARS and prevention strategies in nursing home residents (n=40), despite widespread news coverage. More in-service training, support, and counselling suggested to promote prevention and improve quality of care.

### Canada<sup>9</sup>

- Vigilant screening of hospital staff, patients and visitors to prevent the future introduction of SARS into hospitals.
- Contact tracing of close contacts of new patients to limit the spread of SARS from the hospital setting to the community.
- Rigorous application of respiratory isolation and barrier precautions to control the spread in the hospital setting.

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<sup>7</sup> Kee-Tai Goh et al (2006) - <https://www.ncbi.nlm.nih.gov/pubmed/16829997>

<sup>8</sup> Tse et al (2003) - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7124276/>

<sup>9</sup> Dwosh et al (2003) - <https://www.cmaj.ca/content/168/11/1415.short>



## Impact on education

### Overview

- Staggering impact of COVID-19 on education globally, with an estimated **1.38 billion<sup>10</sup> learners impacted by school closures**
- Serious ramifications, as many **children rely on schools for food** and it inhibits their **right to education, increasing marginalization and social inequity.**
- There is **inconclusive evidence linking infection risk to school attendance:**
  - ✓ Precaution measures are necessary to prevent the potential spread of COVID-19
  - ✓ Care to **avoid disruption and stigmatisation of students and staff** who may have been exposed to the virus and **protect them from discrimination**
- **UNICEF, WHO and the International Federation of the Red Cross have [published new guidelines.](#)**

### Key messages

- Education settings should continue to be **welcoming, respectful, inclusive, and supportive environments to all.**
- **Policy reform:** clear policies for school closure/opening; expand equitable access for marginalized and out of school children; strengthen and standardize remote learning.
- **Financing:** invest in strengthening education systems for recovery and resilience.
- **Compensate learning:** introduce practices that compensate for lost instructional time, strengthen pedagogy and build on hybrid learning models, including:
  - ✓ integrated approaches in remote and distance learning
  - ✓ include knowledge on disease transmission and prevention
- **Reaching the most marginalised:**
  - ✓ adapt school opening policies and practices to expand access to marginalised groups, such as previously out-of-school children, displaced, migrants & minorities
  - ✓ diversify critical communications and outreach by making them available in relevant languages and in accessible formats
- **Wellness and protection:** expand focus on students' well-being and reinforce the protection of children through:
  - ✓ enhanced referral mechanisms
  - ✓ provision of essential services, such as healthcare and school feeding
- **Safe operations:** ensure conditions that reduce disease transmission, safeguard essential services and supplies and promote healthy behaviour, including:
  - ✓ access to soap and clean water for safe handwashing
  - ✓ procedures on when staff or students feel unwell
  - ✓ protocols on social distancing and good hygiene practices

### Summary of specific IP&C measures across countries:

- Mock training for the schools reopening and disinfection of schools in preparation for re-opening
- Small groups and no movement /mix between classes/cohorts
- Desks rearranged to ensure physical distancing among students
- Schools have stockpiled thermometers, hand sanitizer and face masks

<sup>10</sup> <https://www.statista.com/chart/21224/learners-impacted-by-national-school-closures/>

### Masks in the educational sector:

- Strongly **not recommended for children in kindergarten**
- **Not recommended** for children in elementary schools, but paediatric masks to be made available in schools
- **Compulsory for secondary school pupils**, including on school buses; to be made available in middle schools, in particular for the supply of pupils who have been unable to obtain them; **for supervisors and teachers**

### Provisions for Primary, Middle and Secondary schools:

- 15 pupils maximum per class;
- provision of hydro alcoholic gel;
- school life organised around barrier gestures and physical distance

### Provisions for nurseries:

- 10 children maximum,
- possibly several groups of 10 children are possible if conditions and space allow;
- no mask for children under 3 years old;
- wearing of the general public mask compulsory for early childhood professionals

### Summary of educational easing approaches

Common themes and approaches across the nations highlighted in the table below. For more information, please see *Annex I*.

Country	Online classes	Date schools reopening	Secondary exams permitted	Higher education exams permitted	Note
Italy	✓	September	X	✓	Universities can hold exams and sessions for the presentation of degree thesis
Spain	✓	10th May	X (except college entrance exams)	X	Nation-wide college entrance exams will take place June 22 to July 10. Regional governments to grant a passing grade to all students in early education, primary, secondary and the first year of pre-university studies
France	✓	11th May	X	X	Childcare and primary initially High-schools may open at the end of May Students to receive average exam grades Universities will reopen in September
Germany	✓	20 <sup>th</sup> April (select high schools)  4 <sup>th</sup> May	✓	✓	A small number of high schools opened on the 20 <sup>th</sup> April to allow seniors to take their exams Regional variation of institutions open or closed
Singapore	✓	19th May	✓	✓	Small groups Priority given to those requiring additional support In-person exams have migrated to online assessments.
Republic of Korea	✓	17th April (private) 20 <sup>th</sup> May (state)	✓	✓	Academic year normally starts in March

## Socio-economic and multidimensional impacts

There is strong recognition across the literature that the impact of COVID-19 will have **devastating socio-economic and inequity consequences** as countries move away from the initial pandemic response. The way in which countries respond to the COVID-19 outbreak is a test of societies, government, communities and individuals<sup>11</sup>.

**Human rights<sup>12</sup>, solidarity and equity approach** is crucial to strengthen the effectiveness of global and national efforts to address the current and expected wellbeing, social and economic harms, as well as to promote and build community assets and system resilience.

### Six key human rights messages<sup>4</sup>:

- 1) Protecting people's lives is the priority; protecting livelihoods helps us do it - long-term importance of guaranteeing economic and social rights in creating resilience to crisis
- 2) The virus does not discriminate; but its impacts do - inclusive responses to a global threat to ensure no one is left behind
- 3) Involve everyone in your response - open, transparent and accountable responses
- 4) The threat is the virus, not the people - emergency and security measures, if needed, must be temporary, proportional and aimed at protecting people
- 5) No country can beat this alone - global threats require global responses
- 6) When we recover, we must be better than we were before - the crisis has revealed weaknesses that human rights can help to fix

To mitigate excess morbidity and mortality and **prevent increasing health inequities**, recovery efforts should focus on the following **mutually reinforcing priorities**:

1. Reinforcing **social capital**, promoting social inclusion and cohesion leaving no one behind
2. Protecting economic well-being, ensuring **financial protection** for all who need it, while promoting medium- and long-term livelihood resilience and sustainability
3. **Safeguarding peace and stability**, preventing the establishment of predatory, exploitative, and discriminatory dependencies, with strong implications for vulnerable populations

**Sustainable solutions** to cope with the impacts should be based on the following principles:

- Keeping all people, households and businesses afloat with a focus on people & inclusion-families, women, children, youth, persons with disabilities and the elderly, low-wage workers, small and medium enterprises (SMEs) and the informal sector.
- Economic policy should meet people's most immediate health, food and other basic needs, protect social cohesion and maintain political and economic stability (e.g. fiscal stimulus, support decent work and the most vulnerable).
- Specific measures are needed at different levels and sectors - national and subnational.
- A whole-of-society approach, involving all sectors and the public is critical, e.g. support education and prioritize social cohesion measures

<sup>11</sup> <https://www.ohchr.org/EN/NewsEvents/Pages/COVID19Guidance.aspx>

<sup>12</sup> [UN report: COVID-19 and Human Rights: We are all in this together; WHO briefing: Addressing Human Rights as Key to the COVID-19 Response](#)

## Country transition and outbreak epidemiology overview <sup>13,14</sup>

### Overview for the European Region

- 75% of cumulative deaths were reported from Italy, Spain, France and the United Kingdom
- 17% of all reported infections with information available were in health care workers
- 81% of all ICU admissions were in persons aged 50-79 years of age, with 73% of all ICU admissions in men
- 94% of all deaths were in persons aged  $\geq 60$  years and 61% of all deaths are in men, 95% of all deaths with information available had at least one underlying condition, with cardiovascular disease the leading comorbidity (68%)
- Seven countries and territories in the Region each reported a cumulative incidence of  $\geq 400$  cases per 100,000 population
- Between week 1/2020 and week 17/2020, there were over 159,487 excess deaths reported from 24 countries/regions, primarily in the age group  $\geq 65$  years (144,960), but also in the 15-64 years age group (13,757). This time period includes the influenza season as well as the start of the COVID-19 pandemic.
- In week 17/2020, two countries reported a total of 71 tests and no COVID-19 detections in persons with influenza-like illness in primary care sentinel surveillance. The updated positivity rate in week 16/2020 was 9.1% (6 countries) compared to 8.0% (6 countries) in week 15/2020

### Characteristics of COVID-19 cases and deaths

Characteristics	n	%	Total records with data available
<b>Cases</b>			
Age in years, median (range) <sup>a</sup>	54(1-105)		395915
Sex, male <sup>a</sup>	191138	49	393107
Travelled <sup>a</sup>	16745	14	119874
Recovered <sup>a</sup>	162290	86	188695
Health care workers <sup>a</sup>	57633	17	336117
Hospitalization <sup>a</sup>	105035	32	323660
Intensive care unit admissions <sup>a</sup>	9652	4	246188
<b>Deaths</b>			
Age in years, median (range) <sup>a</sup>	81 (0-106)		66956
Sex, male <sup>a</sup>	40909	61	66861
At least one underlying condition <sup>a</sup>	33571	95	35318
• cardiovascular disease	10951	68	16158
• diabetes	5343	34	15705
• lung disease	3476	24	14378
• neurological disease / dementia	1092	23	4657
• renal disease	859	21	4149
• malignancy	567	25	2264
• obesity	353	10	3480
• liver disease	191	5	4155
• immune disease	144	3	4358
• other	7186	50	14312

Source:

<sup>a</sup>Case report forms (n=397,633);

<sup>b</sup>Case report forms and aggregated data from Italy (23/24 April 2020) and Spain (23 April 2020) (n=627,048); Health care workers refer to occupation and not to the place of exposure

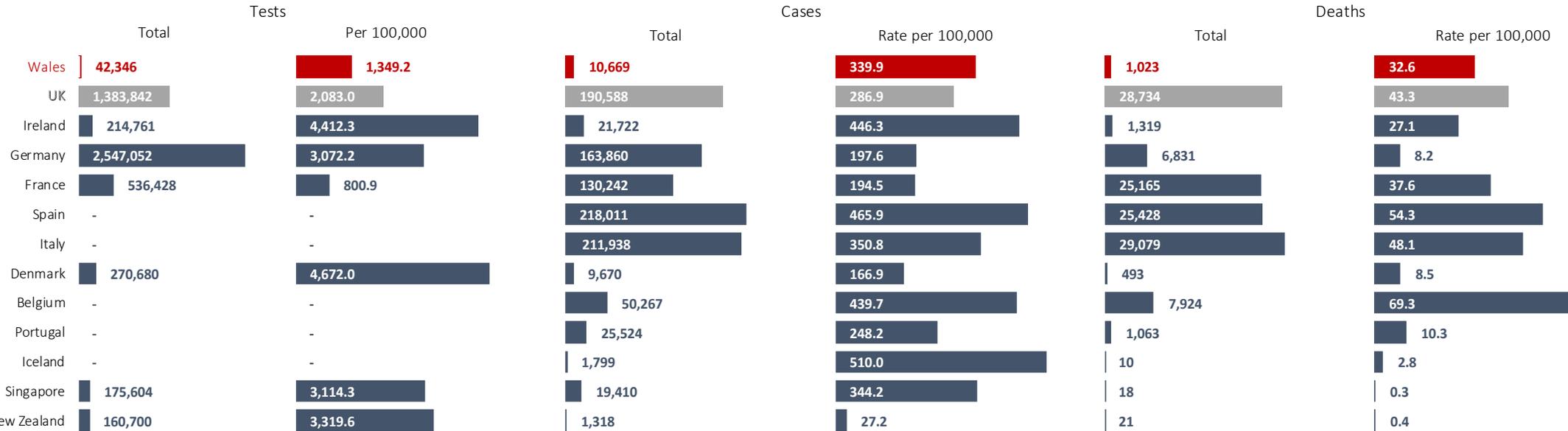
<sup>c</sup>Case report forms, mortality survey, aggregated data from Italy (23 April 2020) and Spain (23 April 2020) (n=67,016);

<sup>13</sup> <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/country-information>

<sup>14</sup> <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/weekly-surveillance-report>

## Summary intelligence on testing, cases and deaths

### Number of COVID-19 tests, cases and deaths, count and rate per 100,000 population, Wales, UK and selected countries, 2020



- = Data on testing is not available

\* Data extracted on 06 May 2020. Totals are cumulative and are counting all instances since the start of the COVID-

#### Data sources:

##### 1. Case/Death data:

a. World Health Organization Health Emergency Dashboard. Available at: <https://covid19.who.int/>

b. Public Health Wales Rapid COVID-19 Surveillance. Available at:

<https://public.tableau.com/profile/public.health.wales.health.protection#!/vizhome/RapidCOVID-19virology-Public/Headlinesummary>

##### 2. Population estimates:

a. The World Bank. Available at: <https://data.worldbank.org/indicator/SP.POP.TOTL>

b. Office for National Statistics. Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/previousReleases>

3. Where available, data on testing has been extracted from the countries Ministry of Health website.

## R0 by country and impact of non-pharmaceutical interventions

**R0 calculations for hospitals or care homes is unavailable (could not be found), so an R0 rate overview is provided**

### Overview

- The reproduction number  $R_0$  (sometimes called  $R_t$  or simply  $R$ ) describes the spread of an infectious agent in a population, as the mean number of individuals an infected person passes the infection on to.  $R_0$  can be estimated using statistical methods and epidemiological data.
- Certain countries provide updates on  $R_0$  through their public health agencies, although this is inconsistent.
- **The Robert Koch Institute<sup>15</sup> in Germany has been providing daily estimates** since the beginning of April, which have aided authorities in Germany in easing their lockdown and monitoring for any re-emergence of COVID-19. It may also be used to provide support for the effectiveness of public health interventions in controlling the spread.

### Key Messages

- Two research teams have provided estimates of  $R_0$  values over time for a range of European nations. Teams at Imperial College London<sup>16</sup> and the University of Auckland<sup>17</sup> have produced graphs of the change in  $R_0$  over time, as shown below in Table 1.
- Limited data is available at higher resolution than national level for calculating  $R_0$ . However, it would be expected that  $R_0$  would be higher in environments with a high density of vulnerable individuals, such as care homes and hospitals<sup>18</sup>.
- The UK implemented many non-pharmaceutical measures at a later date than comparable European nations and over a longer time frame. This may have contributed to the greater length of time needed to reduce  $R_0$  to close to 1 in the UK when compared to, for example, Italy and France

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<sup>15</sup>[https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Situationsberichte/Gesamt.html](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Situationsberichte/Gesamt.html)

<sup>16</sup> <https://www.imperial.ac.uk/media/imperial-college/medicine/mrc-gida/2020-03-30-COVID19-Report-13.pdf>

<sup>17</sup> <https://www.tepunahamatatini.ac.nz/2020/04/22/effect-of-alert-level-4-measures-on-covid-19-transmission/>

<sup>18</sup> <https://www.bbc.co.uk/news/live/uk-england-52302952>

## Analysis

Five non-pharmaceutical measures are considered for their impact on reducing  $R_0$  (*Imperial College London study<sup>11</sup>*):

1. mandating self-isolation for cases;
2. encouraging social distancing;
3. banning public events;
4. ordering school closures and;
5. ordering a lockdown.

Of the countries shown in Table 1 (France, Italy, Germany, Spain, Belgium, UK), the UK was either last or joint last in implementing 4 of these: social distancing, banning public events, closing schools and ordering a lockdown. In contrast, for these 4 measures Italy was either first or joint first. For social distancing, the lag between Italy and the UK implementing it was 7 days, for banning public events it was 15 days, for closing schools it was 16 days, and for ordering a lockdown it was 13 days. For mandated case-based self-isolation, the first nation to implement this was Germany on 6<sup>th</sup> March, with the UK following 6 days later.

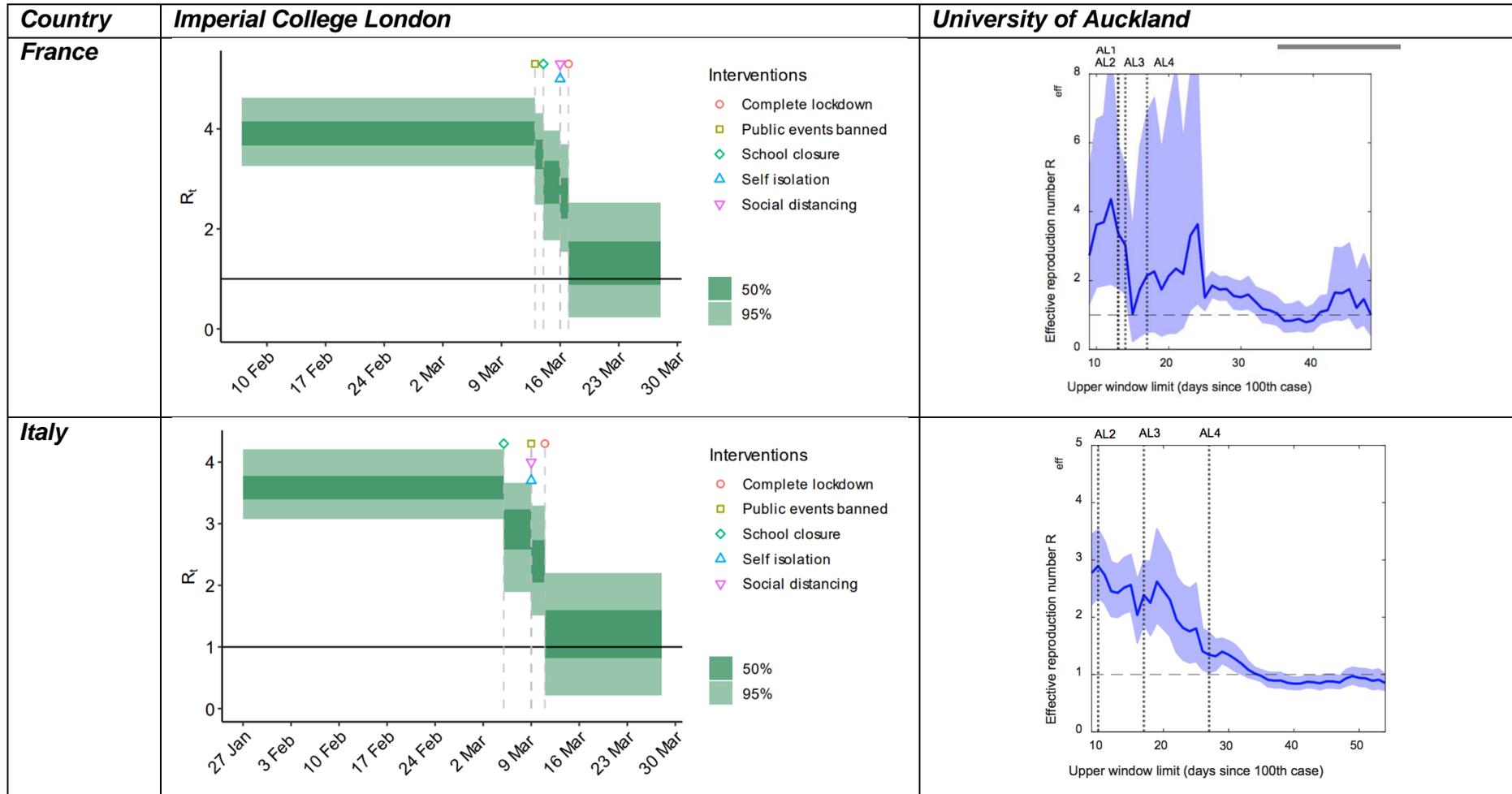
The range between implementing the first and last of these measures also varies considerably between countries. France and Italy both implemented their measures early and in rapid succession: In France all 5 of these measures were implemented within 5 days starting on 13<sup>th</sup> March and in Italy all 5 were implemented within 7 days starting on 5<sup>th</sup> March. In contrast, Germany and the UK both implemented these measures over a wider time frame: Germany implemented the 5 measures over 17 days starting from 6<sup>th</sup> March and the UK implemented them over 12 days starting from 12<sup>th</sup> March.

## Estimated impact of interventions on $R_0$

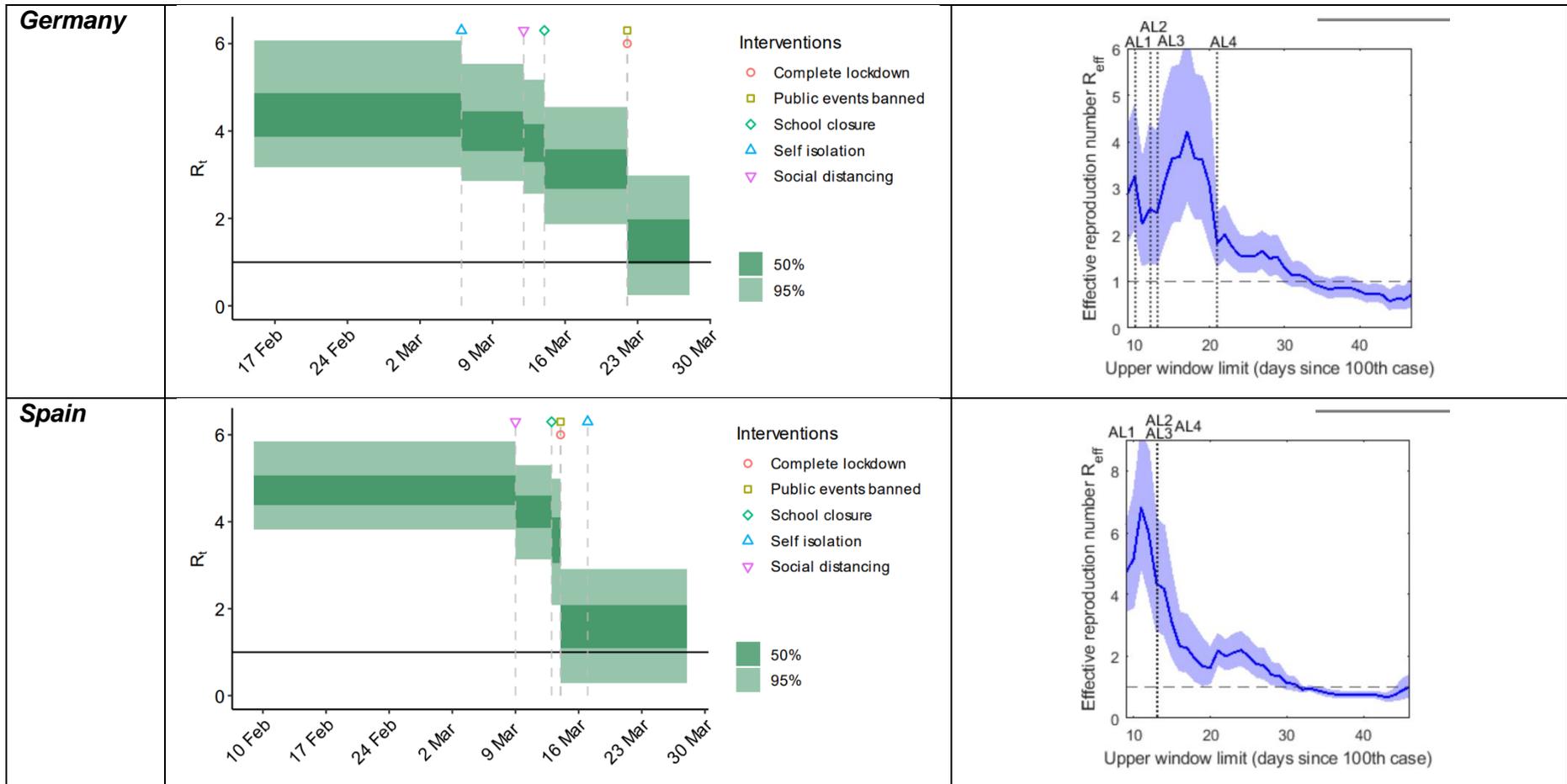
- The impact of interventions on  $R_0$  was estimated by aggregating data of COVID-19 related deaths and factoring in a range of possible times representing the incubation period.
- Determining the impact of a specific intervention on  $R_0$  is difficult because of the lag between an individual becoming infected and being identified as infected, and the variability in the incubation period between different individuals. This is especially true where interventions were implemented during a narrow window of time.
- The study does attempt to identify the relative magnitude of these interventions in reducing  $R_0$ , although there is a large uncertainty in the figures calculated with 95% confidence intervals overlapping for each, making comparison between them difficult.

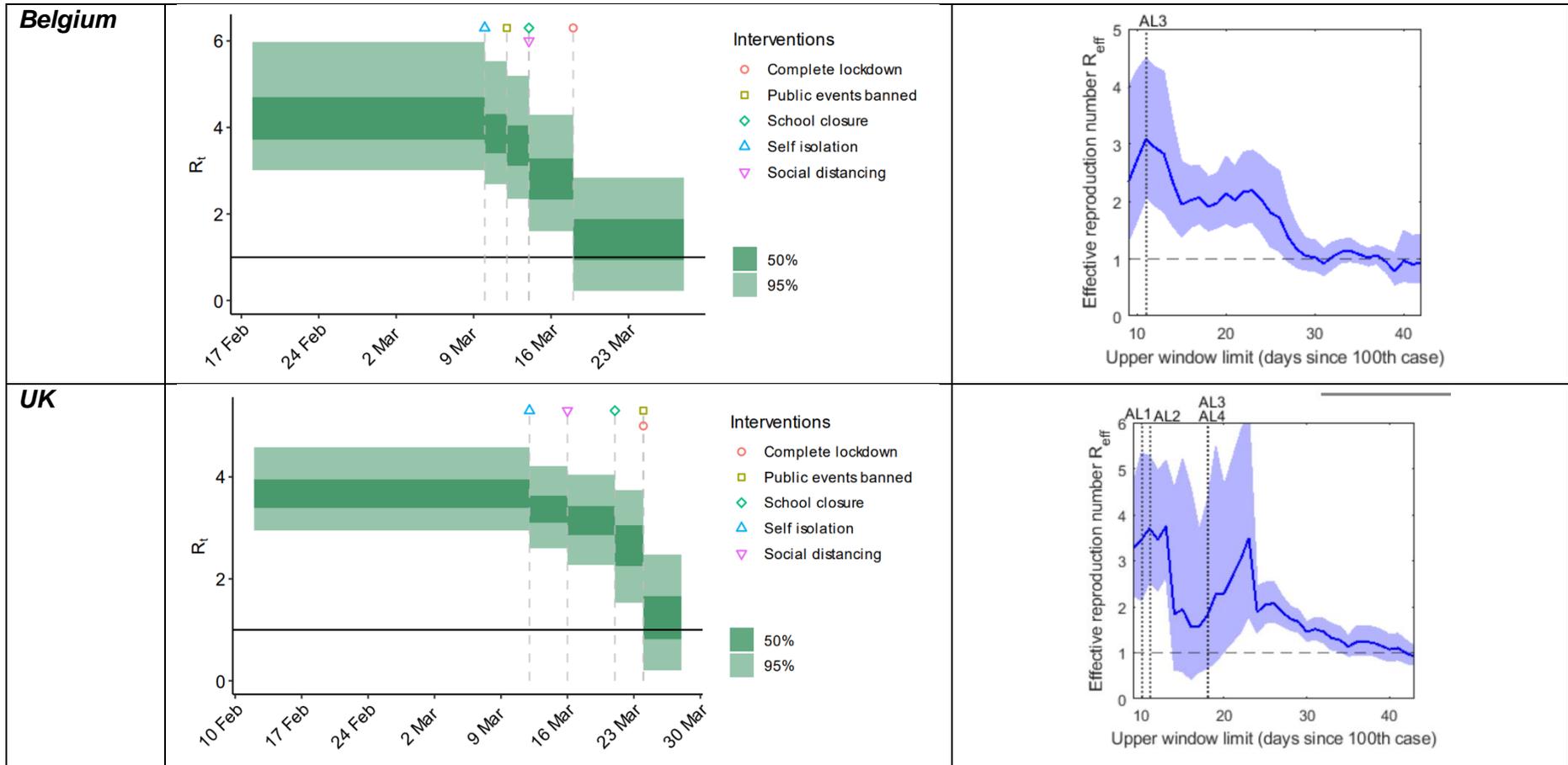
**While it is difficult to determine the impact of specific interventions, the study concludes that the combined effect has considerably reduced  $R_0$  in all countries in which they were implemented.**

Table 1: R<sub>0</sub> over time for 6 European nations<sup>19</sup>



<sup>19</sup> Based on data from Imperian College London and the University of Auckland





## Country insight: Spain

Spain has been heavily affected by the COVID-19 outbreak, with nearly 240,000 confirmed COVID-19 cases and 24,543 deaths as of April 30, 2020. A state of emergency took effect on March 14, extended until May 10, implying restrictions on movement to essential purposes only, suspension of commercial, cultural, recreational, hotel and restaurant activities except essential services, and reduced operation of public transport<sup>20</sup>.

### Transition approach and surveillance

Ministry of Health's 'Plan for The Transition Toward a New Normality', released on 28<sup>th</sup> April, outlines the phased lifting of lockdown restrictions in all sectors of their economy<sup>21</sup>.

Stage	Additional information
<b>0 Readiness</b>	<ul style="list-style-type: none"> <li>- Social workers return to work</li> <li>- Urban public transport to increase its frequency.</li> </ul>
<b>4<sup>th</sup> May</b>	<ul style="list-style-type: none"> <li>- Stores and businesses to operate with prior appointment</li> <li>- Restaurants with take-away services available to open.</li> </ul>
<b>National</b>	<ul style="list-style-type: none"> <li>- Federated athletes to start individual training.</li> </ul>
<b>1 Start</b>	<ul style="list-style-type: none"> <li>- Mobility allowed within each province or island.</li> <li>- Social services to resume their outreach activity prioritising the most vulnerable people.</li> <li>- Public transport to operate over 80% of its capacity.</li> <li>- Companies to develop safety protocols for their workers to go back to in-site work at Stage 3.</li> <li>- Small retail businesses and terraces in restaurants (only up to 30% of capacity) and hotels (excluding communal areas) will be allowed to open.</li> <li>- Food, agriculture and fishing sectors will resume.</li> <li>- Places of worship will open with a maximum turnout of a third of their actual capacity.</li> <li>- High-performance sport centres for athletes to open</li> </ul>
<b>2 Intermediate</b>	<ul style="list-style-type: none"> <li>- Face to face learning will resume in September,</li> <li>- Educational centres will open under three: circumstances:               <ol style="list-style-type: none"> <li>1. Students in grades awarding a certificate of learning</li> <li>2. Children under six whose parents cannot work from home</li> <li>3. Where attendance for access-to-college exam needs to take place.</li> </ol> </li> <li>- Establishment of measures for the specific protection of all vulnerable groups in the development of relief measures</li> <li>- Travel to second homes is allowed as long as they are in the same province.</li> <li>- Weddings for a limited number of attendees</li> <li>- Shopping centres will open up to 40% capacity and the inner spaces in restaurants up to one third of their capacity.</li> </ul>

<sup>20</sup> <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#S>

<sup>21</sup> [https://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov-China/documentos/Anexo\\_II\\_FASES.pdf](https://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov-China/documentos/Anexo_II_FASES.pdf)



	<ul style="list-style-type: none"> <li>- Cinemas, theatres and similar facilities will be allowed to open with assigned seats up to a third of their capacity; the same turnout will be allowed for museums and exhibitions centres.</li> <li>- Places of worship will be allowed to increase capacity up to 50%.</li> <li>- Professional sports competitions will be allowed behind closed doors.</li> </ul>
<b>3 Advanced</b>	<ul style="list-style-type: none"> <li>- Nursing and living-assisted homes will start de-escalation.</li> <li>- Establishment of measures for the specific protection of specific vulnerable groups in the development of relief measures.</li> <li>- Social contact for people not vulnerable or with previous pathologies.</li> <li>- Mobility within the territory will be relaxed although keeping recommendations on masks usage.</li> <li>- Public transport will be 100% operational.</li> <li>- Turnout capacity in shopping centres will increase up to 50%, if 2-meter physical distancing can be attained.</li> <li>- Restaurant capacity restrictions will be relaxed but not physical distancing measures.</li> <li>- Wakes for a larger number of people, with physical distance and security protocols.</li> <li>- Weddings for a larger number of attendees</li> </ul>

### Contact tracing

When it comes to contact tracing, standard mechanisms were implemented after the detection of the first imported cases on January 31. The contact tracing protocol classifies “close contacts” or as possible, probable or confirmed cases, as follows:

1. Any person who has provided care while the case presented active symptoms; this includes, health workers who had not used the appropriate protective measures, family members or other people having close contact with the case;
2. Spouses, or family members and persons who stayed at the same place, at a distance of less than 2 meters and for a period of at least 15 minutes, while the patient presented active symptoms.

In the specific case of health workers, the occupational risk prevention services are in charge of establishing the mechanisms for the investigation and follow-up of close contacts within the field of its competences, in coordination with public health authorities. The monitoring and management of health professionals is established in a specific procedure. Contacts are not actively followed up or tested, but they are instructed to quarantine at home for 14 days.

### Testing

Laboratory testing for the diagnosis of the SARS-CoV-2 is mandatory in two situations:

1. A patient presenting clinical signs of acute respiratory infection who is hospitalized or who meets criteria for hospital admission; and
2. A patient presenting clinical signs of acute respiratory infections of any severity who belongs to the health and social care workforce or to any other essential service (e.g. police, military forces).

Routine diagnostic testing is not being performed in patients with mild acute respiratory infections not included in the above assumptions or in people who have had contact with patients.

## Prevention

National Seroprevalence study (ENE-COVID)

The study aims to estimate the population's level of exposure to the virus, and whether the population has developed protective antibody markers. A sample of 36,000 households has been randomly selected to assure geographic representativeness at province level, which implies testing between 60,000 and 90,000 individuals. The study will consist of three waves, delegated to have regional responsibility, with a time lag of 21 days, to assess the evolution of the epidemic during the last days of the lockdown and first weeks of the de-escalation measures. The epidemiological survey and sample extractions will be carried out either at home or in the primary care centres<sup>22</sup>.

## Mitigation of wider impacts

### Education impact and measures

On 15<sup>th</sup> April, the Ministry of Education along with regional education authorities (Conferencia Sectorial de Educación) agreed some guidelines for the third term of the current school year and the start of the next one (regions adherence is not compulsory):

- Returning to face-to-face learning is not assured and seems unlikely
- The syllabus is assumed not to be covered in this course
- Promotion to a higher grade will be the general rule for primary, secondary and vocational education, although teachers have to maintain the continuous assessment of the learning process
- There will be an effort to identify vulnerable students that require further teaching support; and the next course, education centres will arrange specific plans to adjust the syllabus covering potential learning gaps.

On 22<sup>nd</sup> April, it was announced that the nation-wide examination process to accessing college will take place along the period from 22<sup>nd</sup> June to 10<sup>th</sup> July, far later from usual dates. The exams have been specifically adapted to mitigate the effects of the lockdown on high-school students' learning process during the third term.

In the Ministry of Health's Plan for the transition towards a new normality, they detail four phases of guidance for lifting restrictions in different sectors. The guidance was published on 28<sup>th</sup> April, with the intention for the plan to come into effect over the coming weeks.

Educational sector will follow **three phase plan**, which are due to be implemented on 10<sup>th</sup> May:

- 1) **Phase 1:** Online education will be promoted or at a distance.
- 2) **Phase 2:** Educational centres will open for disinfection, conditioning and work administrative and preparatory of teachers and auxiliary staff. Opening of Universities for disinfection, conditioning and for administrative services and research. University Laboratories can reopen.
- 3) **Phase 3:** Opening of schools for infants under 6 years for families that prove that parents have to carry out face-to-face work without the possibility of flexibility - with limited capacity in classes. On a voluntary basis for students, the terminal courses will begin with division of the groups of more than 15 students to 50% for alternate or semi-group assistance parallel. The opening of the Special Education centres, and student attendance will be voluntary. Educational centres will prepare educational reinforcement programs to develop in the center for students not mentioned previously

<sup>22</sup><https://www.isciii.es/Noticias/Noticias/Paginas/Noticias/ComienzoENECOVIDEstudioSeroprevalencia.aspx>  
<https://www.msccbs.gob.es/en/gabinete/notasPrensa.do?metodo=detalle&id=4882>

## Fiscal measures

### Summary of fiscal measures with a focus on vulnerable groups / sectors:

Population group	Condition	Measure(s)
Temporary contract workers	<ul style="list-style-type: none"> <li>The temporary contract (at least two months' duration) must expire during the state of emergency</li> <li>Workers are not entitled to collect unemployment benefits</li> </ul>	Monthly allowance of ~ EUR 430/ £375
Carers/ parents		<ul style="list-style-type: none"> <li>Additional €300 million allocated to budget</li> <li>Budget flexibility for the provision of assistance to dependents</li> <li>Transfer of €25 million to autonomous communities funding meals for children affected by the school closure</li> </ul>
Vulnerable renters	<ul style="list-style-type: none"> <li>Tenant is classed as 'vulnerable'</li> <li>The landlord is not a large property holder</li> </ul>	<ul style="list-style-type: none"> <li>Rental assistance programs</li> <li>Extension of the social benefit for energy provision</li> <li>Suspension of interest and repayment of loans without prior agreement</li> </ul>
Those working in the tourism sector	<ul style="list-style-type: none"> <li>Those with permanent discontinuous contracts in the tourism sector and related activities</li> </ul>	<ul style="list-style-type: none"> <li>50 percent exemption from employer's social security contributions, from February to June 2020</li> <li>Deferral of payments on certain loans with prior agreement</li> <li>More flexibility for workers to access savings from their pension plans</li> </ul>

### Lessons learnt

There is significant regional variation of infection rates in Spain, with mainly those regions with denser populations having a higher infection and death rates<sup>23</sup>. The death toll count has become politicised and unreliable, with recounting of deaths causing numbers to double in some regions due to issues with a lack of national standardisation. The estimated number of deaths in nursing homes is 3500, although it is officially 781 due to lack of testing.

<sup>23</sup> <https://www.rtve.es/noticias/2020050/mapa-del-coronavirus-espana/2004681.shtml>

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