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Variation in the response to COVID-19 across the four nations of the United Kingdom

BSG-WP-2020/035

Version 2.0

April 2021

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This working paper is updated frequently. Check for most recent version here:

www.bsg.ox.ac.uk/covidtracker

The most up-to-date version of technical documentation will always be found on the project's GitHub repo:

www.github.com/OxCGRT/covid-policy-tracker

Summary

Key findings

- All four nations of the UK (England, Scotland, Wales, and Northern Ireland) **have diverged in the timing, duration, and stringency of their responses** measured by Oxford COVID-19 Government Response Tracker (OxCGRT) indicators, highlighting their autonomy and legislative powers as devolved nations.
- While the broad pattern over the past year has been that the **UK nations increased and decreased the stringency of closure and containment policies at similar times**, within a similar range of stringency, there is some variation within this.
- **Scotland had the highest average Stringency Index value** during all days in 2020 (with an average value of 58.09). England had the lowest average stringency during all days in 2020, (with an average value of 54.94).
- All four nations reached their **highest Stringency Index levels (87.96) for the first time in early January 2021**, as the international travel controls value increased due to bans on inbound travel from countries linked to the emergence of variants.
- **Stay-at-home orders in 2020** were in place in England for 92 days, Wales for 99 days, Scotland for 68 days, and Northern Ireland for 50 days.
- **The Stringency Index values for all four nations are slowly decreasing** as restrictions ease in tandem with the extensive vaccine rollout.

Key differences in policy over the past year

- **Stay-at-home orders:** The first stay-at-home order from March 2020 ended in England and Northern Ireland on 3 May 2020, ending two weeks later in Scotland on 29 May, and Wales on 1 June. England and Wales required people to stay at home for several weeks in October and November of 2020 while Northern Ireland and Scotland did not. While Wales ordered a second national stay-at-home order on 20 December 2020, England, Scotland, and Northern Ireland didn't introduce another legally enforceable national stay-at-home order until January 2021.¹
- **School closures:** After the first round of restrictions in March 2020, England reopened some levels of schooling on 1 June 2020, followed by all levels in Wales on 29 June, while education remained closed in Scotland until 22 July, and in Northern Ireland on 24 August. Schools were closed in Scotland again on 26 December 2020, and in Wales on 14 December, followed by Northern Ireland on 4 January 2021, and England on 5 January 2021.
- **'Circuit breakers':** Scotland was the only UK nation not to implement a national 'circuit breaker' style lockdown in October and November 2020.
- **Internal movement:** All nations of the UK except for England have introduced distance restrictions on internal movement

¹ While restrictions were introduced in Northern Ireland in December 2020, they didn't become legally enforceable until 8 January 2021- see <https://web.archive.org/web/20210109124400/https://www.bbc.com/news/uk-northern-ireland-55538236>

Abstract: Since the outbreak of the COVID-19 pandemic in the United Kingdom (UK) in early 2020, the four nations of England, Scotland, Wales and Northern Ireland have responded with a wide range of measures. Due to the devolved powers afforded to the governments of Scotland, Wales and Northern Ireland, all four nations of the UK have used their autonomy to implement and ease COVID-19 restrictions. While economic support and public health measures have been similar across the four UK nations, and all four nations have been at a Stringency Index value of over 50 since March 2020, the different governments have diverged in their implementation of closure and containment policies since May 2020. The Oxford COVID-19 Government Response Tracker (OxCGRT) provides a systematic way to measure and compare government responses to COVID-19 across the four nations from 1 January 2020 to the present, and will be updated continuously going forward. The tracker combines individual indicators into a series of novel indices that aggregate various measures of government responses. These can be used to describe variation in government responses, explore whether the government response affects the rate of infection, and identify correlates of more or less intense responses.

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Data presented in this paper is available via GitHub: <https://github.com/OxCGRT/covid-policy-tracker/tree/master/data>

1. Introduction

The Coronavirus Act 2020 (25 March 2020) granted emergency powers to the government of the United Kingdom to implement policies to contain the spread of COVID-19. In the absence of a vaccine, these non-pharmaceutical interventions (NPIs) were designed to slow the rate of transmission of the virus, the incidence and prevalence of cases, and resultant hospitalisations and deaths. This aimed to ease the burden on the National Health Service (NHS), to prevent resources becoming overwhelmed: a process otherwise referred to as 'flattening the curve' (Ferguson et al, 2020²).

As COVID-19 spread widely in the UK in March 2020, Scotland, Wales, England, and Northern Ireland's governments all implemented similar policies, at the same time, with similar stringency. Since May 2020 the four nations have diverged in their approaches, exercising their autonomy as devolved nations to make different policies and legislation³. As of March 2021, restrictions are gradually being eased across all four nations. The clear message underpinning this 'roadmap to freedom' is that vaccinations are hoped to make this rollback the last one the UK will experience during this pandemic.

The measures recorded by the Oxford COVID-19 Government Response Tracker (OxCGRT) fall into three broad categories: closure and containment, economic support, and public health policy measures (detailed in Table 1)⁴. Across the four UK nations, the closure and containment policies have varied since May 2020, while the economic support and public health measures have remained largely consistent, with similar policies being adopted by all four nations. Most economic measures have been agreed through Westminster with central UK funding. Likewise, while the four UK nations have autonomy in how they use test and trace measures, there has been little variance in these policies. This working paper describes the data that the OxCGRT has collected during the past year of the pandemic to date (recording policies from 1 January 2020 to the present day). It presents some basic measures of policy variation across England, Scotland, Wales and Northern Ireland, and compares key areas of diversion in policy in terms of duration, timing, and stringency. It also offers an insight into the proposed policy changes up to June 2021 as restrictions are eased. This paper will be updated

² 1 Ferguson NM. Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. Report 9. Imperial College London, 2020.

³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770709/Devolution_Factsheet.pdf

⁴ Thomas Hale, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, Emily Cameron-Blake, Laura Hallas, Saptarshi Majumdar, and Helen Tatlow. (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*. <https://doi.org/10.1038/s41562-021-01079-8>

regularly as the pandemic and government responses evolve, and as the technical specifications of the database evolve. For the most current and up-to-date technical documentation, please refer to our GitHub repository⁵.

2. Data and measurement

The OxCGRT methodology and coding framework changes from time to time. For the latest version, always refer to the documentation on GitHub.

For the UK as a whole, and its four nations (England, Scotland, Wales and Northern Ireland), the OxCGRT reports 18 indicators of government response as is found to be reported in publicly available information (see Table 1). The indicators are of three types:

- **Ordinal:** These indicators measure policies on a simple scale of severity or intensity. These indicators are reported for each day a policy is in place; coding for the most stringent policy implemented in the country.
 - Many have a further flag to note if they are “targeted”, applying only to a sub-region of a country, or a specific sector; or “general”, applying throughout that country or across the economy. (Note, the flag for indicator E1 – income support – varies from the usual general/targeted to an indicator of whether the policies apply to all workers, or just formal sector workers).
 - The more stringent policy that a nation has in place is coded, if this is in a specific geographic region, this is recorded with a ‘Targeted’ binary flag variable.
- **Numeric:** These indicators measure a specific monetary value in USD. These indicators are only reported on the day they are announced.
- **Text:** This is a ‘free response’ indicator that records details of the policy recorded, other information of interest related to COVID-19 policies, and also includes web archived links to the sources used.

OxCGRT data is collected from publicly available sources including government press releases and briefings, and high-quality national media. OxCGRT records web archived links to the original source material so that coding can be checked and substantiated, available in the “with notes” version of the data files. Data is collected and updated in real time by a team of over 500 Oxford students, alumni, staff, external collaborators and partner institutions. The UK data on sub-national entities (that is: England and the devolved nations of Scotland, Wales and Northern Ireland) has been collected by a

⁵ <https://github.com/OxCGRT/covid-policy-tracker/tree/master/documentation>

sub-group of 19 specially-trained volunteers. These volunteers participate in weekly meetings to ensure standardization of the interpretation of the codebook, and to discuss edge cases. Data-collection occurs in once-a-week cycles and is subject to a thorough review process.

We hand code the policies enforced by the four UK nations, and aggregate this with the policies imposed by Westminster. Policies in Westminster that apply to all nations take precedence if they are more stringent. To date, no policies from Westminster have been more stringent and overridden policies in any of the devolved nations.

The data used to produce the graphs is as follows: sub-national population data for 24 June 2020 from The Office for National Statistics⁶, case (by date reported) and death (within 28 days of a positive test) data nationally and for each constituent nation (England, Northern Ireland, Scotland, and Wales) from the UK Government Coronavirus Data Hub⁷. The data is published in real time and made available immediately on GitHub, via an API and licensed under the Creative Commons Attribution CC BY 4.0 standard.

Table 1: OxCGRT Indicators⁸

ID	Name	Type	Targeted/ General?	UK Devolved Nations
Containment and Closure				
C1	School Closing	Ordinal	Geographic	✓
C2	Workplace Closing	Ordinal	Geographic	✓
C3	Cancel Public Events	Ordinal	Geographic	✓
C4	Restrictions on gathering size	Ordinal	Geographic	✓
C5	Close Public Transit	Ordinal	Geographic	✓
C6	Stay-at-home Requirements	Ordinal	Geographic	✓
C7	Restrictions on Internal Movement	Ordinal	Geographic	✓
C8	Restrictions on International Travel	Ordinal	No	✓

⁶ www.ons.gov.uk

⁷ <https://coronavirus.data.gov.uk/>

⁸ See Github repository for detailed coding information: <https://github.com/OxCGRT/covid-policytracker/blob/master/documentation/codebook.md>

Economic Response				
E1	Income Support	Ordinal	Sectoral	✓
E2	Debt/contract relief for households	Ordinal	No	✓
E3	Fiscal Measures	Numeric	No	✓
E4	Giving International Support	Numeric	No	✓
Health Systems				
H1	Public Health Campaigns	Ordinal	Geographic	✓
H2	Testing Policy	Ordinal	No	✓
H3	Contact Tracing	Ordinal	No	✓
H4	Emergency Investment in Healthcare	Numeric	No	✓
H5	Investment in Covid-19 vaccines	Numeric	No	✓
H6	Facial Coverings	Ordinal	No	✓
H7	Vaccination Policy	Ordinal	Payment Source	✓
H8	Protection of elderly people	Ordinal	Geographic	✓
Miscellaneous				
M1	Other Responses	Text	No	✓

3. Policy indices of COVID-19 government responses

Governmental responses to COVID-19 exhibit significant nuance and heterogeneity. Consider, for example, C1, school closing: in some places, all schools have been closed; in other places, universities closed on a different timescale than primary schools; in other places still, schools remain open only for the children of essential workers. Moreover, like any policy intervention, their effect is likely to be highly contingent on local socio-political contexts. These issues can create substantial measurement difficulties when seeking to compare government responses in a systematic way.

Composite measures – which combine different indicators into a general index – inevitably abstract away from these nuances. This approach brings both strengths and limitations. Cross-national measures allow for systematic comparisons across the four devolved nations of the United Kingdom. By measuring a range of indicators, cross-national measures mitigate the possibility that any one indicator may be over- or misinterpreted by policy makers. However, composite measures may also leave out important contextual information, making strong assumptions about what kinds of information count. If the information left out is systematically correlated with the outcomes of interest, or systematically under- or overvalued compared to other indicators, such composite indices may introduce measurement bias.

Broadly, there are three common ways to create a composite index: a simple additive or multiplicative index that aggregates the indicators, potentially weighting some; Principal Component Analysis (PCA), which weights individual indicators by how much additional variation they explain compared to the others; Principal Factor Analysis (PFA), which seeks to measure an underlying unobservable factor by how much it influences the observable indicators.

Each approach has advantages and disadvantages for different research questions. In this paper we rely on simple, additive, unweighted indices as the baseline measure because this approach is most transparent and easiest to interpret. PCA, PFA, or other approaches can be used as robustness checks.

For England, Scotland, Wales and Northern Ireland, the indicators described above are aggregated into four policy indices, each of which measures a different set of government responses (the indicators make up each index are listed in Table 2):

1. A **containment and health index**, showing how many and how forceful the measures to contain the virus and protect citizen health are (this combines 'lockdown' restrictions and closures with health measures such as testing policy and contact tracing).⁹
2. An **economic support index**, showing how much economic support has been made available (such as income support and debt relief).
3. A **Stringency Index**, which records the strictness of 'lockdown style' closure and containment policies that primarily restrict people's behaviour.

⁹ The term "lockdown" is used in many different ways, and we do not seek to define this term here but instead refer to the number and restrictiveness of closure and containment policies.

- An overall **government response index** which records how the response of states has varied over all indicators, capturing the full range of government responses.

Table 2: OxCGRT indices

Index name	C1	C2	C3	C4	C5	C6	C7	C8	E1	E2	E3	E4	H1	H2	H3	H4	H5	H6	H7	H8	M1
Government response index	x	x	x	x	x	x	x	x	x	x			x	x	x				x	x	x
Containment and health index	x	x	x	x	x	x	x	x					x	x	x				x	x	x
Stringency Index	x	x	x	x	x	x	x	x					x								
Economic support index									x	x											

Each index is composed of a series of individual policy response indicators. For each indicator, we create a score by deducting half a point from the ordinal value for a targeted flag, where such a geographic flag exists. We then rescale each of these by their maximum value to create a score between 0 and 100, with a missing value contributing 0.¹⁰ These scores are then averaged to get the composite indices.¹¹

Importantly, the indices should not be interpreted as a measure of the appropriateness or effectiveness of a government's response. They do not provide information on how well policies are enforced, nor does it capture demographic or cultural characteristics that may affect the spread of COVID-19. Furthermore, they are not comprehensive measures of policy. They only reflect the indicators measured by the OxCGRT (see Tables 1 and 2), and thus may miss important aspects of a government response.

The value and purpose of the indices is instead to allow for efficient and simple cross-provincial comparisons of government interventions. Any analysis of a specific nation should be done on the basis of the underlying policy, not on an index alone.

¹⁰ We use a conservative assumption to calculate the indices. Where data for one of the component indicators are missing, they contribute "0" to the Index. An alternative assumption would be to not count missing indicators in the score, essentially assuming they are equal to the mean of the indicators for which we have data for. Our conservative approach therefore "punishes" states for which less information is available, but also avoids the risk of over-generalising from limited information.

¹¹ Full details on the construction of the indices are available on Github: https://github.com/OxCGRT/covid-policytracker/blob/master/documentation/index_methodology.md

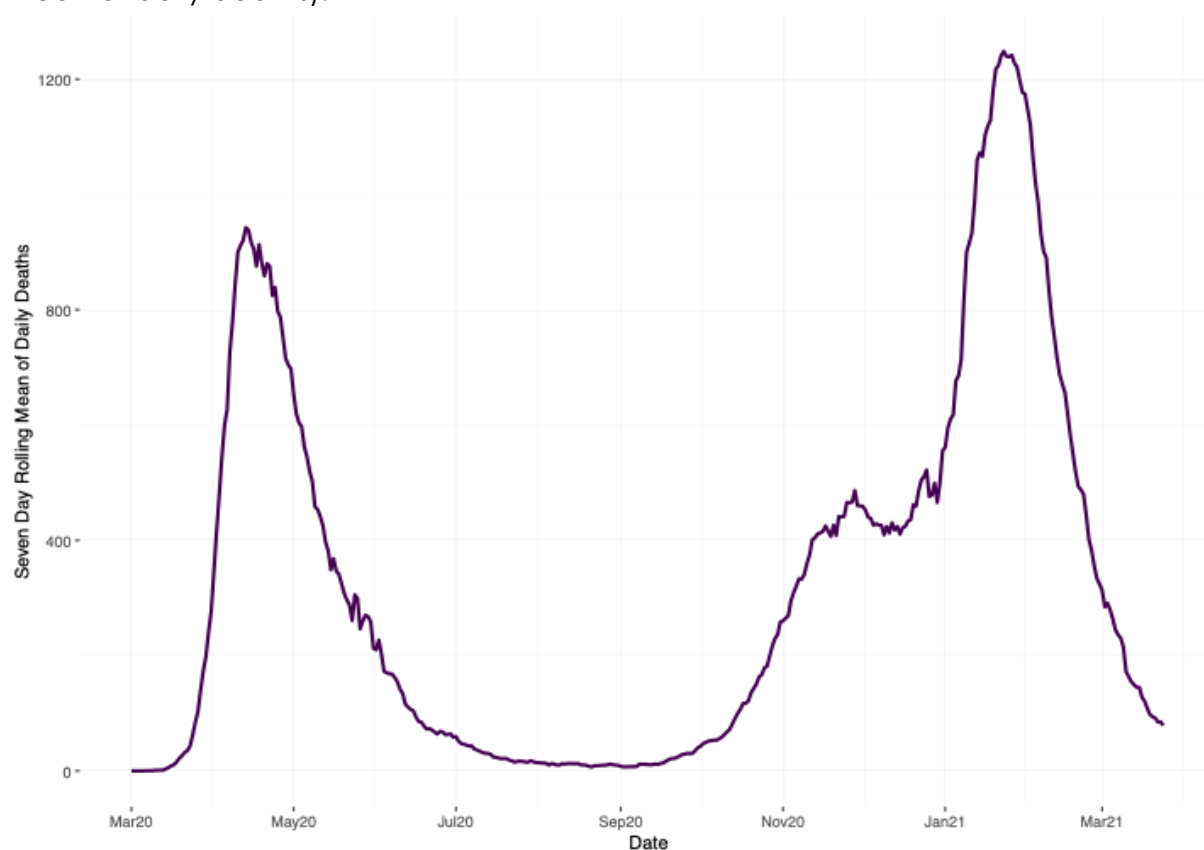
In the sections that follow, we display principally the Stringency Index, as the most relevant for measuring efforts to break the chain of COVID-19 infection, and reflect the greatest variation across the four nations. When we refer to 'stringency' in the following discussion, this refers to the level of stringency reported by the Stringency Index (refer to Table 2).

4. Variation in government responses to COVID-19 in England, Northern Ireland, Scotland, and Wales

Overall trends

The UK has sadly seen distinct peaks of high numbers of cases and deaths from March 2020- March 2021 (Figure 1). The majority of deaths have been in England, where around 84% of the total UK population reside¹², as shown in Figure 2. England has also had the highest death rate per capita see Figure 3.

Figure 1: Deaths from COVID-19 in the UK from January 2020 – March 2021 (7-day rolling mean of daily deaths).



¹² https://www.indexmundi.com/united_kingdom/demographics_profile.html

Figure 2: Total confirmed deaths from COVID-19 in the United Kingdom, England, Northern Ireland, Scotland, and Wales from January 2020 – March 2021.

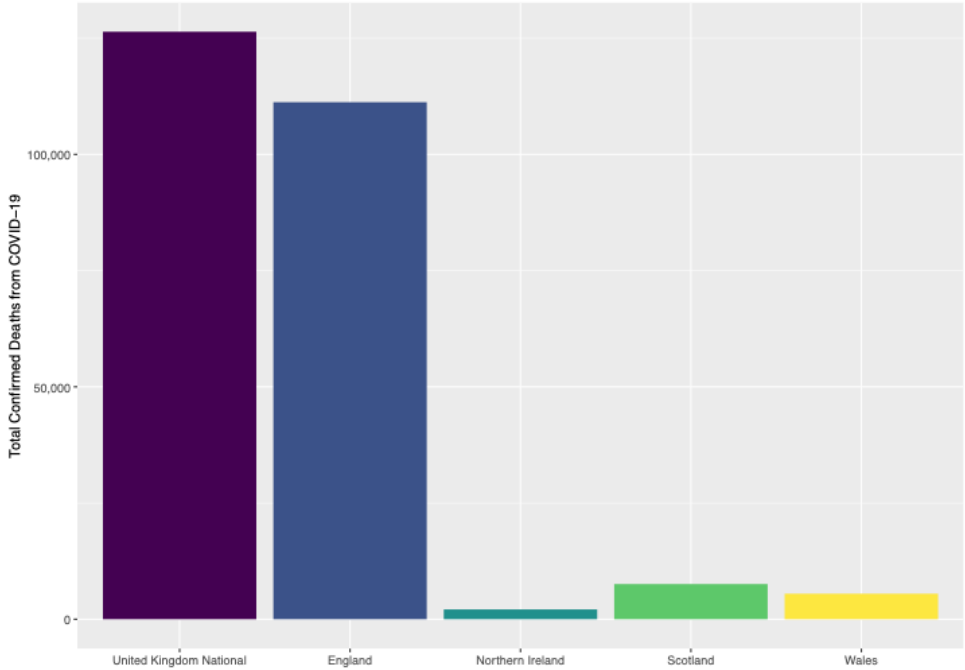


Figure 3: Deaths per 100,000 population from COVID-19 in the UK, England, Northern Ireland, Scotland, and Wales from January 2020-March 2021

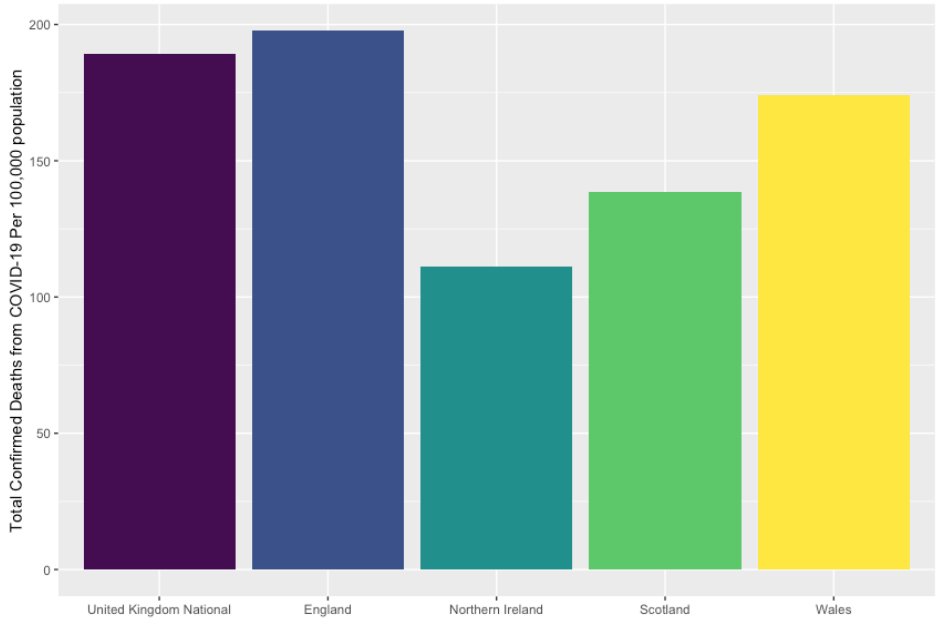


Figure 4 shows that the broad pattern over the past year has been that the UK nations increased and decreased the stringency of closure and containment policies at broadly similar times, within a similar range of stringency. The OxCGRT policy indicators capture these variations in order to compare each nation, which this paper will discuss.

In response to increasing cases, and following the World Health Organization (WHO) declaring the COVID-19 outbreak a global pandemic on 11 March 2020¹³, the UK government implemented restrictive measures in an effort to contain the virus and 'flatten the curve' of the outbreak. All four nations initially underwent a coordinated response in March 2020 (along with the majority of countries, regions, and territories worldwide¹⁴), and adopted a wide range of closure and containment, economic, and public health measures during the same week of March 2020. Figures 4, 5, 6, 7 and 8 reflect how all four nations implemented stringent measures including stay-at-home orders and internal travel restrictions from March 24 2020 (reflected in a change from a Stringency Index value moving from 22 on 17 March 2020 to 79 on 24 March – see Figure 4).

Since this initial coordination, the UK nations have diverged somewhat in the timing and duration of their closure and containment restrictions. The pandemic responses have highlighted where the nations have acted independently of one another, reinforcing their identities as separate countries with decentralised legislative powers. The four UK nations eased restrictions at different times and at different levels of stringency from April to July 2020, reflected in Figure 4. **In September and October 2020 Northern Ireland** spent two months at a lower Stringency Index value (50-60- see Figure 4) than the other UK nations. This value was lower than that of the other nations because schools were recorded as being fully open, without evidence found that significant sanitation and social distancing restrictions were in place compared to pre-COVID-19 operations¹⁵, combined with no recommendations to stay at home, or restrict internal movement. Figures 5 and 6 also show that **in October and November 2020**, England, Northern Ireland, and Wales acted similarly and all introduced more stringent measures very briefly (with a Stringency Index value of 70-80), then reduced them. Scotland's data does not reflect this brief uptick in October and November 2020 because unlike England, Wales, and Northern Ireland, **Scotland** did not introduce a national 'circuit breaker' style lockdown.

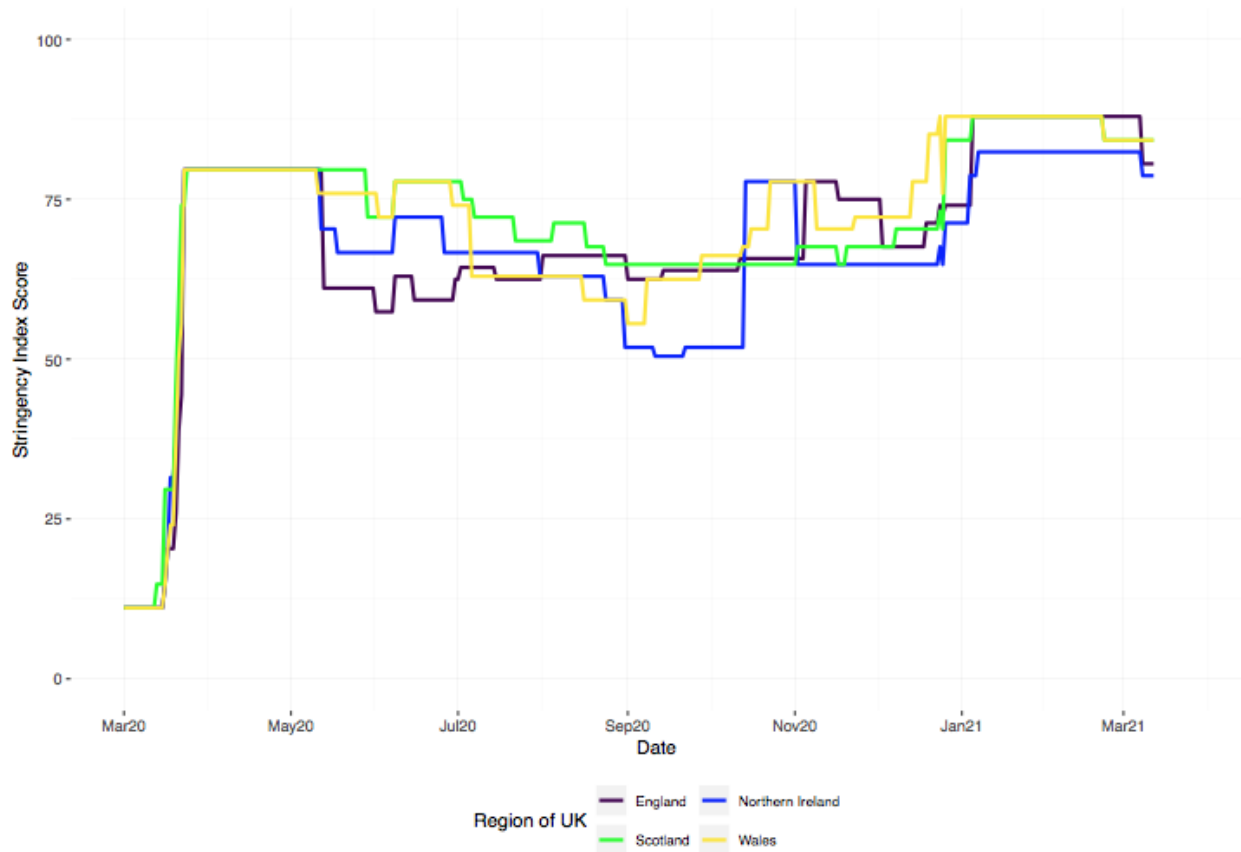
In January 2021 all of the UK nations introduced very stringent measures, at similar levels of stringency, at a similar time, as they did in March 2020.

¹³<https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>

¹⁴Thomas Hale, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, Emily Cameron-Blake, Laura Hallas, Saptarshi Majumdar, and Helen Tatlow. (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*. <https://doi.org/10.1038/s41562-021-01079-8>

¹⁵<http://web.archive.org/web/20201006011306/https://www.belfasttelegraph.co.uk/news/education/coronavirus-rushing-to-reopen-northern-ireland-schools-will-lead-to-next-care-home-crisis-teaching-union-warns-39467572.html>

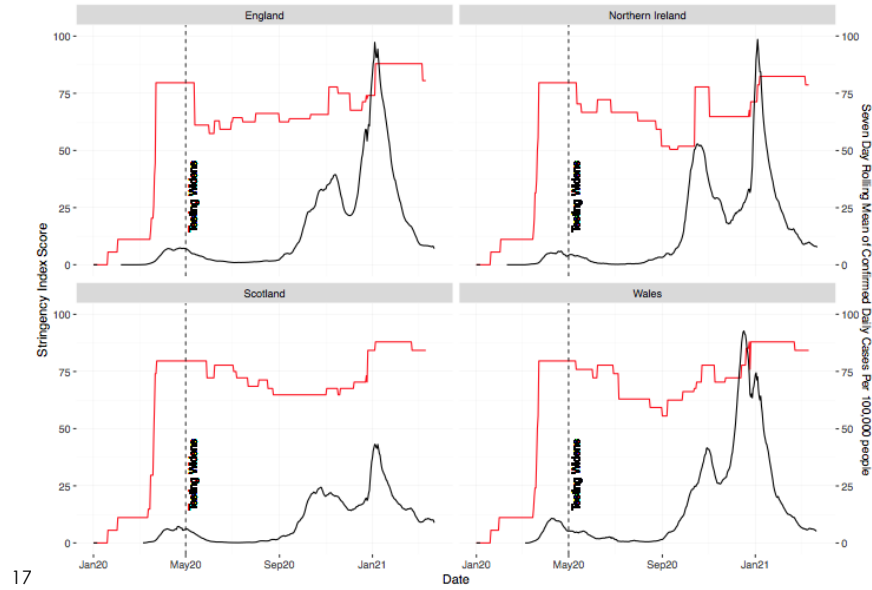
Figure 4: OxCGRT average Stringency Index values over time in England, Scotland, Wales, and Northern Ireland.



Figures 5 and 6 show the relationship of the Stringency Index to cases and deaths (respectively) in the UK devolved nations.¹⁶

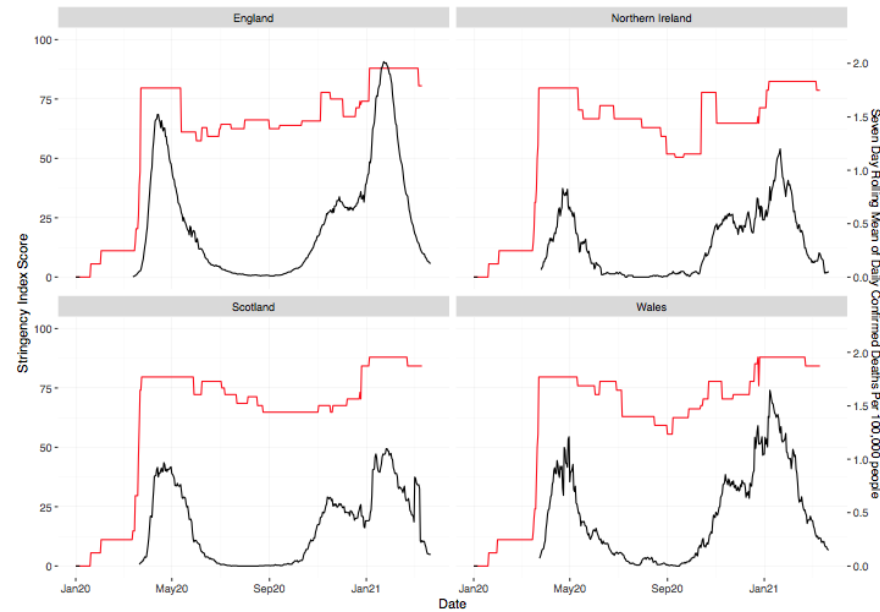
¹⁶ Recorded deaths in the UK have been adjusted to the new definition of a COVID-19 related death (within 28 days of a positive COVID-19 test) which was adopted by all four nations when England adopted it on 12 August. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/916035/RA_Technical_Summary_-_PHE_Data_Series_COVID_19_Deaths_20200812.pdf

Figure 5: Cases per 100,000 population (7-day rolling mean) vs. OxCGRT Stringency Index Score for each of the UK nations January 2020 – March 2021. (Note that testing capacity was targeted only, and not widespread until April 2020 so actual number of cases likely to be much higher.)



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Figure 6: Deaths per 100,000 population (7-day rolling mean) vs. OxCGRT Stringency Index Score for each of the UK nations January 2020 – March 2021.



17 Case counts in the most recent period may not necessarily reflect actual totals due to typical variation in reporting delays

Overall, Scotland had the highest average Stringency Index value for the most days in 2020. Wales spent the most days with a Stringency Index value over 80 at the end of 2020 (see Table 3). All of the devolved nations have had a Stringency Index value of over 50 since March 2020, then values of 50–79 for the majority of 2020. All four nations only reached a Stringency Index value of over 80 for the first time in early January 2021 (see Figures 7 and 8), as a result of the combination of stay-at-home orders, school closures, business closures, and crucially, an explicit ban on international arrivals from specific countries. The international travel controls value was lower in the first round of restrictions in 2020, making the restrictions in January 2021 the most stringent thus far, with a Stringency Index value of 87.96 across all four nations.

Table 3: Comparing the Stringency Index values across the devolved nations in 2020.

	Average Stringency Index value for 2020	Days SI over 60	Days SI over 70	Days SI over 80
England	54.94	262	124	0
Scotland	58.09	285	158	6
Wales	57.71	261	182	11
Northern Ireland	56.68	233	99	0

Figure 7: Comparing the Stringency Index values across the UK nations from January 2020- March 2021

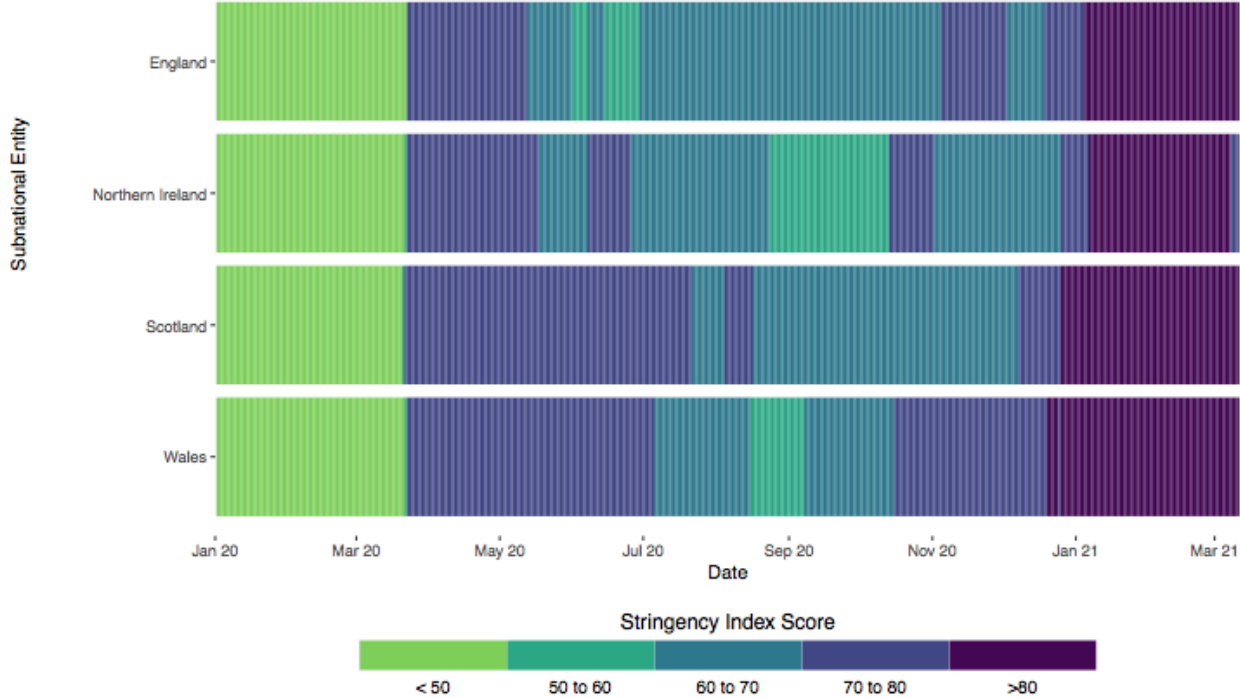


Figure 8: Heat maps of the UK depicting the Stringency Index value in England, Scotland, Wales, and Northern Ireland (taken from the 16th of each month) , January 2020- March 2021

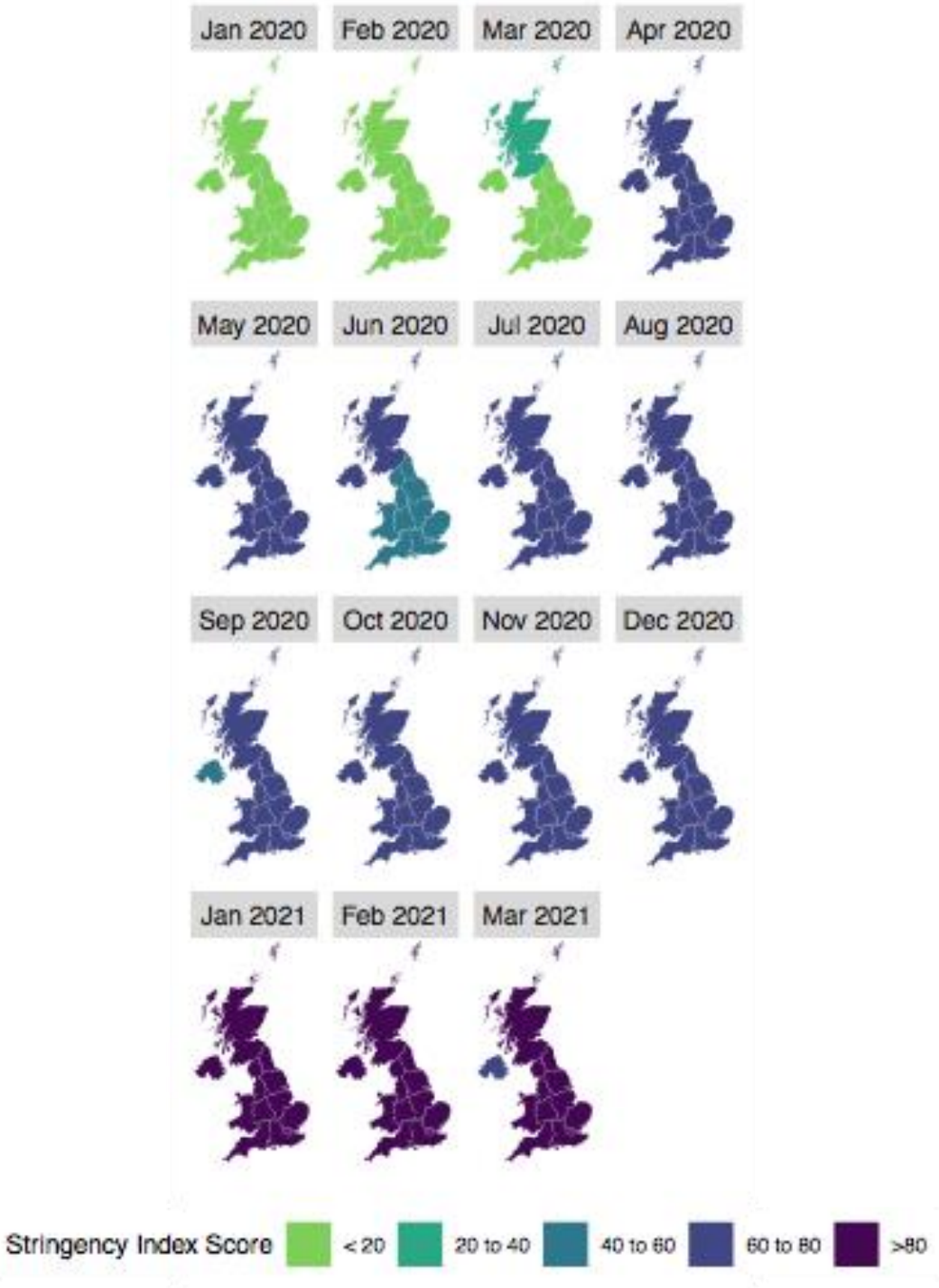


Table 4 summarises the variations in policies introduced in the devolved nations over the past year.

Table 4: Comparing key policies in the devolved nations from January 2020 – January 2021 (by OxCGRT indicators included in the Stringency Index).

	England	Scotland	Wales	Northern Ireland
C1 – School closing	All levels of schooling closed 23 March. 01 June teaching resumed for Reception, Year 1, and Year 6. At the start of the new academic year in September all levels of education resumed. All levels of education were closed on 5 January 2021, then reopened 8 March.	All levels of schooling closed Monday 23 March. Universities and colleges returned to in person teaching 22 July. All schools reopened on 17 August at the start of the academic year. All levels of schooling were closed on 26 December, meaning that the return after the holidays was delayed. Some levels of schooling reopened on 22 February.	All levels of schooling closed Monday 23 March, and all primary and secondary schools reopened 29 June. Universities opened for in person teaching in September. All levels of schooling were closed on 14 December, and some levels returned on 22 February 2021.	All levels of schooling closed on 18 March. Some levels returned on 24 August, and all schools began in person teaching for the new academic year on 31 August. Universities opened for in person teaching in September. All levels of education closed for 2 weeks in mid-October, and universities to teach online only. All levels of schooling were closed on 4 January.
C2 – Workplace closing	The majority of non-essential businesses closed in England from 21 March. Garden centres reopen 13 May. Non-essential shops reopen 13 June. Hotels and holiday accommodation reopen 4 July. Workers largely recommended to work from home if possible. Pubs to close at 10pm on 23 September. Three tier restriction system introduced in October requires areas in 'Very High' to close pubs. All non-essential businesses closed nationwide 5 November to 2 December, then in Tier 4 areas from 19 December, then again nationwide on 5 January.	The majority of non-essential businesses closed in Scotland from 21 March. Outdoor work and garden centres resumed 29 May. Non-essential shops reopen 13 July. Hotels and holiday accommodation reopened 15 July. Pubs to close at 10pm on 23 September. Some additional sectors required to close at the start of October. A national order required all non-essential businesses to close on 26 December.	The majority of non-essential businesses closed in Wales from 21 March. Garden centres reopen 11 May. Non-essential shops reopen 22 June. Self-contained holiday accommodation opens 11 July. Pubs to stop serving alcohol at 10pm from 23 September but can stay open. 'Firebreak' measures closed all non-essential businesses from 23 October- 8 November, and again from 20 December through into 2021.	The majority of non-essential businesses closed in Northern Ireland from 21 March. Outdoor businesses resumed 18 May. Hotels and holiday accommodation reopened 3 July. Pubs to close at 11pm from 29 September. Hospitality sector closed for two weeks in mid-October. All non-essential businesses closed on 26 December and this extends into 2021.
C3 – Cancel public events	Large public events cancelled from 21 March.			Large public events cancelled from 21 March. Up to 400 spectators can attend some GAA matches from 24 July.
C4 – Restrictions on gatherings	Ban on meeting people outside a household from 23 March. 18 June can meet outside in groups of 6. 4 July two households can meet indoors. 23 July up to 30 can meet outdoors except in targeted areas. From 24 September no more	Ban on meeting people outside a household from 24 March. From 10 July up to 15 people can meet outdoors. maximum of 8 indoors. 14 September only 6 can meet. No households can mix indoors from 23 September. Groups of 6 can meet outdoors.	Ban on meeting people outside a household from 23 March. 23 July up to 30 outdoors. From 14 September only 6 can meet indoors. All gatherings banned 23 October to 8 November, after this, the maximum is 4 outdoors.	Ban on meeting people outside a household from 23 March. As of 23 June, groups of 30 can meet outdoors and 6 indoors. Households cannot mix indoors from 22 September. National stay-at-home order on 26 December bans indoor gatherings, and

	<p>than 6 can meet. National stay-at-home order 5 November ends 'rule of 6' and bans all social meetings between households. Eased 11 December, to allow 6 to gather, then prohibited again on 5 January.</p>	<p>Meetings of over 2 people to meet for exercise only as of 5 January. Eased on 12 March 2021 to allow 4 people to meet socially outdoors.</p>	<p>Eased on 20 February 2021 to allow four people to meet outdoors for exercise.</p>	<p>outdoor gatherings are limited to 6 people.</p>
C5 – Close public transport	<p>Reduced service from 20 March. Cleaning, facial coverings, distancing and reduced capacity measures introduced during summer months. Public transport remains subject to reduced capacity and sanitation regulation in March 2021.</p>			
C6 – Stay-at-home requirements	<p>Stay-at-home order issued 23 March, and ended May 13. Three tier restriction system introduced in October recommends people in 'Very High' areas to stay at home. National stay-at-home order 5-16 November. Residents in tiers remained under stay-at-home orders on 17 November, and new national stay-at-home order on 5 January 2021.</p>	<p>Stay-at-home order issued 23 March and ended 29 May. Stay-at-home order remained longer in Dumfries and Galloway. Recommendation to stay at home for those in the central belt in October. National stay-at-home order on 5 January 2021.</p>	<p>Stay-at-home order issued 23 March and ended on 1 June. 'Firebreak' stay-at-home order from 23 October-8 November 2020, and a new national stay-at-home order issued on 20 December.</p>	<p>Stay-at-home order issued 23 March, and ended May 13. People recommended to stay at home from mid-October. Stay-at-home order introduced late December and became legally enforceable requirement to stay at home on 7 January 2021.</p>
C7 – Restrictions on internal movement	<p>Stay-at-home order issued 23 March, and ended May 13, when people can travel anywhere 'irrespective of distance'.</p> <p>Regional restrictions limit movement in some areas including Leicester, Birmingham, and Manchester from July onwards. Three tier restriction system introduced in October restricts travel in and out of 'Very High' areas.</p> <p>National measures on 5 November ban all internal movement. then relating to Tiers on 17 November. National measures again on 5 January.</p>	<p>Stay-at-home order issued 23 March by Westminster. Residents cannot travel more than five miles from home without reason until 3 July. 5-mile travel restriction in Aberdeen in August.</p> <p>Recommendation not to travel in and out of central belt regions in October.</p> <p>Travel to and from Level 3 areas banned 2 November.</p> <p>National restrictions 5 January prevent travel on the Scottish mainland out of one's local council area.</p>	<p>Stay-at-home order issued 23 March by Westminster. Residents cannot travel more than five miles from home without reason until 6 July.</p> <p>Regional restrictions limited travel in September, and on 16 October people from high-risk areas of Scotland, England, and Northern Ireland banned from entering Wales unless for essential purposes.</p> <p>National measures introduced 9 November ban travel to Wales, but not internally for residents. Travel restricted to essential journeys 26 December.</p>	<p>Stay-at-home order issued 23 March by Westminster, people asked not to travel far unless exceptional circumstances, which was eased 12 May. 26 June saw reopening of self-catering accommodation and end of internal movement limits. People to avoid unnecessary travel as of 16 September.</p> <p>Regional restrictions limited travel for non-essential journeys in Belfast in September. Citizens to avoid all non-essential travel in mid-October, eased to a recommendation only in November. Even under stay-at-home order on 7 January travel restrictions only recommended, and advisory 10-mile limit on travel for exercise.</p>
C8 – International travel controls	<p>All of the UK requires quarantine from specified countries as of 8 June 2020. The list varies across nations. From 24 December 2020 Flights from South Africa, then subsequently additional locations banned. Mandatory hotel quarantine introduced in February 2021 - in England this is from a list, and in Scotland it is for any traveller arriving from outside the Common Travel Area.</p>			

H1 – Public information campaigns	England's Public Health messaging transitioned from 'Stay Home, Protect the NHS, Save Lives' to 'Stay Alert, Control the Virus, Save Lives' on 12 May when the stay-at-home order ended. 'Hands, Face, Space' hygiene message launched September and remains in March 2021.	Nicola Sturgeon refuses to endorse the 'Stay Alert' messaging in Scotland, which was introduced on 12 May in England. 'FACTS' information campaign launched in June. In July Scots are urged to 'Stick with it', and this messaging continues in March 2021 to encourage buy-in from citizens.	'How are you doing' wellbeing campaign launched in April to improve mental health. 'Home shouldn't be a place of fear' campaign in May for domestic abuse with rates rising during the period of stay-at-home restrictions. 'We're in Your Corner' Campaign launched to promote business support due to pressures of COVID-19 in March 2021.	'We must all do it to get through it' launched March 2020 to encourage good behaviour. This remains the slogan on website in March 2021. 'Test, trace, protect' campaign launched July.
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March – August 2020

On 16 March, 2020, the UK government, from Westminster, recommended that businesses start allowing those who are able to, to work from home.¹⁸ The following day, the UK Prime Minister announced that the government would no longer be supporting mass gatherings. This indicated a shift in the priority of the government from prevention of COVID-19 cases to containment of COVID-19 cases.

On 21 March, the UK government officially recommended that businesses and other venues across the United Kingdom close as soon as they reasonably could, and not to open for trade from this day.¹⁹ This included cinemas, theatres, nightclubs, bingo halls, concert halls, museums and galleries, casinos, betting shops, spas, massage parlours, indoor skating rinks and fitness studios, gyms, swimming pools and other leisure centres. Restaurants, bars, and cafes were asked to convert to take-away or delivery only. Offices and factories without interaction with the public could operate with strict social distancing guidelines, or allow workers to work remotely, if possible.

On 23 March, the UK government announced strict restrictions were being introduced, requiring all residents to stay at home with the exception of purchasing food or medicine, exercising (once per day), or assisting the elderly and vulnerable.²⁰ Included in Westminster's wide-ranging restrictions was a requirement to close all schools (public, private and post-secondary) to all but the children of essential workers, and vulnerable children. All schools moved to a remote learning method.²¹ All four nations reached a level of around 80 on the OxCGRT Stringency Index on this date.

¹⁸ <https://web.archive.org/web/20200319235039/https://www.gov.uk/government/speeches/pm-statement-on-coronavirus-16-march-2020>

¹⁹ <https://web.archive.org/web/20200323173521/https://www.gov.uk/government/publications/business-and-other-venues-subject-to-further-social-distancing-measures/businesses-and-other-venues-subject-to-further-social-distancing-measures>

²⁰ <https://archive.vn/VnrBU>

²¹ <https://web.archive.org/web/20200713095253/https://www.gov.uk/government/news/schools-colleges-and-early-years-settings-to-close>

While the initial restrictions were made by Westminster for all of the UK, the easing of restrictions was delegated to the devolved nations to apply as they deemed appropriate, with Westminster deciding for England, based on their respective number of cases and regional NHS capacity.

Figure 7 illustrates the difference in stringency between the four UK nations as they began to ease restrictions in May.²² This is also summarised in Table 4. England, governed by Westminster, decreased its maximum restrictions and stringency on 13 May when some businesses such as garden centres were allowed to reopen.²³ In contrast, **Scotland** maintained their maximum restrictions and a higher stringency until 29 May when garden centres and outdoor work were allowed to resume.²⁴ While **England** eliminated their domestic travel limits on 13 May,²⁵ Scotland maintained a restriction of 5 miles for leisure or recreational travel until 7 July.²⁶

Wales maintained its maximum stringency value until 11 May when, alongside **England**, garden centres were allowed to reopen to the public.²⁷ By 1 June, the stay-at-home order was removed²⁸ and on 6 July the 'stay local' order ended, removing the 5-mile travel limit within **Wales**.²⁹ This also indicated the freedom to travel into and out of **England** again. When their policy for shielding vulnerable people was lifted on 16 August,³⁰ **Wales** briefly became the nation with the lowest Stringency Index levels around 50.

Northern Ireland generally occupied middle ground between the higher restrictions of **Scotland**, and the lower restrictions adopted by **England**. Having maintained the maximum stringency imposed by the UK Government until 13 May, **Northern Ireland** removed the requirement to stay-at-home when they entered Phase 1 (of a five-stage recovery plan to ease restrictions in Northern Ireland).³¹ This first phase enabled garden centres and outdoor businesses to reopen on 18 May, and 26 June saw the re-opening of self-catered tourism in **Northern Ireland**, indicating that a limit to domestic travel was no longer in force.³²

On 8 June, mandatory 14-day quarantine restrictions were imposed for those entering the UK by international borders (air, land, water) from countries not on the approved

²² <https://web.archive.org/web/20200514201522/https://www.gov.uk/government/publications/staying-alert-and-safe-social-distancing/staying-alert-and-safe-social-distancing>

²³ <https://web.archive.org/web/20200824162253/https://www.gov.uk/government/news/garden-centres-reopen-in-england>

²⁴ <http://archive.vn/iZr7V>

²⁵ <https://web.archive.org/web/20200513143206/https://www.gov.uk/government/publications/coronavirus-outbreak-faqs-what-you-can-and-cant-do/coronavirus-outbreak-faqs-what-you-can-and-cant-do>

²⁶ <http://archive.vn/ErMEU>

²⁷ <https://web.archive.org/web/20200824162944/https://news.sky.com/story/coronavirus-wales-to-open-garden-centres-and-relax-exercise-rules-from-monday-11985229>

²⁸ <https://web.archive.org/web/20200531051022/https://gov.wales/coronavirus>

²⁹ <https://web.archive.org/web/20200720110240/https://media.service.gov.wales/news/stay-local-to-be-lifted-in-wales>

³⁰ <https://web.archive.org/web/20200818163906/https://www.bbc.com/news/uk-wales-53765972>

³¹ <https://web.archive.org/web/20201022102152/https://www.nidirect.gov.uk/articles/coronavirus-covid-19-regulations>

³² <https://web.archive.org/web/20200813111042/https://www.nidirect.gov.uk/articles/coronavirus-covid-19-regulations-guidance-and-what-they-mean-you>

'travel corridor' list.³³ Initially applying to all four nations, the 'travel corridor' exemption allowed travellers from some countries to enter **England** without having to self-isolate. However, the devolved nations have the autonomy to add or remove countries to the list of those subject to quarantine requirements. **Scotland** notably took advantage of this ability when on 10 July they would not allow travellers from Spain and Serbia to arrive without completing a mandatory two-week quarantine³⁴ while **England** did not require this. These slight changes in permitted travel lists, however, do not affect the overall indices we measure and report. Furthermore, on 31 July, **Scotland** strongly advised against travel between Scotland and England due to increased case numbers in the midlands and northern counties of England.³⁵

During the summer months, strong reopening messages were pushed by the central UK Government, to encourage people to leave the house and spend money to stimulate the economy. In July 'staycations' were promoted to encourage domestic tourism and boost the hospitality and tourism sectors³⁶ in all four UK nations. An **England** publicity campaign in August strongly encouraged workers to 'Get Britain back to the office'³⁷, yet ministers in **Scotland**, **Northern Ireland** and **Wales** continued to advise working from home where possible. During August the 'Eat Out to Help Out' scheme, costing half a billion pounds, was introduced by the UK Government, offering 50% off meals up to the value of £10, on Monday to Wednesday in pubs and restaurants.³⁸ All four UK nations participated in this scheme.

September – December 2020

The end of August and beginning of autumn saw case numbers rise once more across the UK, resulting in a convergence of stringency levels across the four nations in an attempt to control the virus using closure and containment policies. **Scotland** banned household mixing on 22 September and implemented stricter targeted regional restrictions in the central belt using a four-tiered system, though none of these required citizens to stay at home. These remained in place until 26 December 2020. During September and October, **Northern Ireland** held a lower level of stringency than the other UK nations. This was driven largely by a lack of recommendations to stay at home and restrict internal movement, and as schools were fully open. We did not find sufficient evidence of sanitation and social distancing requirements in schools compared to pre-COVID-19 operations to coder a non-zero value for the School closures indicator during this time.³⁹

³³ <https://web.archive.org/web/202006111155101/https://homeofficemedia.blog.gov.uk/2020/05/22/factsheet-new-public-health-measures-at-the-uk-border-to-help-fight-coronavirus/>

³⁴ <http://archive.vn/H3oHA>

³⁵ <http://archive.vn/sQ1EI>

³⁶ <https://web.archive.org/web/20201022103751/https://www.gov.uk/government/news/new-government-guidance-supports-reopening-of-tourism-and-visitor-attractions-on-july-4>

³⁷ <https://web.archive.org/web/20201022103601/https://www.bbc.com/news/uk-53942542>

³⁸ <https://web.archive.org/web/20201022103926/https://www.gov.uk/guidance/get-a-discount-with-the-eatout-to-help-out-scheme>

³⁹ <http://web.archive.org/web/20201006011306/https://www.belfasttelegraph.co.uk/news/education/coronavirus-rushing-to-reopen-northern-ireland-schools-will-lead-to-next-care-home-crisis-teaching-union-warns-39467572.html>

On 6 October, Westminster introduced a three tier 'COVID alert levels' system to clarify regional restrictions for **England**: 'medium', 'high', and 'very high' tiers. These levels come with restrictions on the number of people who can gather, requirements for pubs and bars to close totally or close early, and restrictions on movement between high-risk areas (we record these policies with our indicators C4, C2, and C7 respectively).

Scotland did not introduce any 'circuit breaker' style measures in October and November 2020 while the other three devolved UK nations did. On 14 October, **Northern Ireland** implemented a 'circuit breaker' style lockdown, closed the hospitality sector and schools, and asked citizens to avoid unnecessary travel, which ended on 2 November, though did not require people to stay at home. **Wales** implemented targeted regional restrictions in mid-October, implemented a 'circuit breaker', which required people to stay at home, and close non-essential businesses from 23 October to 9 November.

Following various tiered restrictions recommending that people in different regions stay at home, **England** introduced a national stay-at-home order on 5 November until 3 December, and closing non-essential businesses. In contrast, following the end of their 'circuit breaker' lockdown, on 9 November, **Wales** ended their stay-at-home order, and enabled non-essential businesses to open.

On 2 December, **England**'s national stay-at-home order and business closure restrictions ended and the three-tiered system came into effect. Those in the top Tier 3 ('Very high alert') were recommended to stay at home. Tier 4 restrictions ('Stay at home') were introduced on 19 December, requiring people living there to stay at home – covering people in London, and the south and east of England, following the emergence of a new strain of COVID-19.⁴⁰ It was on this date, that after a previous promise of five days of multiple households mixing over the Christmas period, Boris Johnson decided to withdraw this. He agreed with the leaders of the other devolved nations to allow mixing only on Christmas day in a 'Christmas bubble' of up to three households, and allowing travel within the UK (for those not in Tier 4).

December 2020 – present (2021)

All schools closed in **Wales** on 14 December. On December 20, Wales entered their third stay-at-home order of 2020, closing non-essential businesses. These restrictions were only eased slightly on 22 February 2021, when some years of primary education were able to return to classrooms. All of **Scotland**'s mainland entered Tier 4 restrictions on 26 December – requiring all non-essential businesses to close, but not requiring people to stay at home.

Northern Ireland introduced their third national stay-at-home order on 26 December, requiring non-essential businesses to close, for 6 weeks. The stay-at-home order was

⁴⁰<https://www.theguardian.com/world/2020/dec/19/pm-announces-tier-4-covid-curbs-and-curtails-christmas-mixing-in-england>

strongly recommended on 26 December, and became legally enforceable on Friday 8 January. Unlike the other nations, Northern Ireland's documentation does not require people to refrain from travelling, but strongly recommends a 10-mile limit to travel for exercise.⁴¹ These measures remained in place through February.

England entered their third national stay-at-home order phase on 5 January 2021, requiring non-essential businesses to close, and people to Stay at home and refrain from travelling, besides for essential journeys.

Scotland's third national stay-at-home order came into effect on the same day as England's on 5 January. This required people to stay at home except for essential journeys, and not travel outside of their council area. This brought all four UK nations to the same high level of stringency on 7 January 2021.

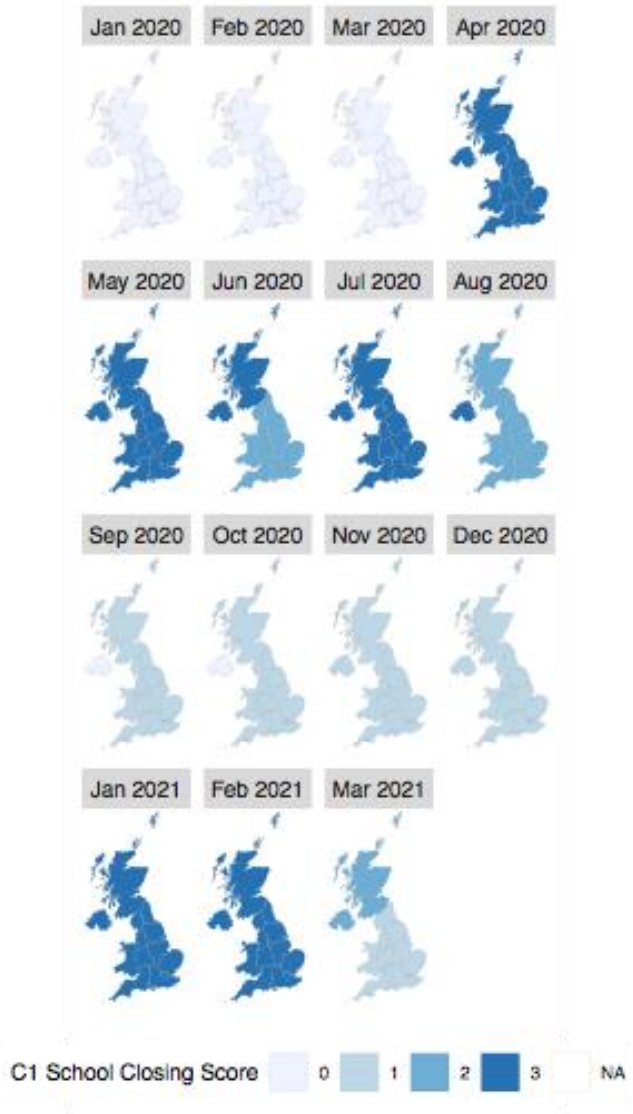
⁴¹ <https://web.archive.org/web/20210131205426/https://www.bbc.com/news/uk-northern-ireland-54117810>

5. Variation in individual policy areas

The OxCGRT collects data on 20 different indices. Some of these have varied significantly across the devolved nations, both in timing, duration, and their stringency. Here is presented an in-depth examination of six indicators collected by the OxCGRT which have varied across the nations: school closures, stay-at-home orders, internal movement, protections for elderly people, facial coverings, and international travel. This section includes variations across the nations in the forecast roadmap for reducing restrictions over the coming months.

C1 – School closing

Figure 9: School closures in England, Scotland, Wales, and Northern Ireland between January 2020 – March 2021 (0 – no requirements, 1 – recommended closure or significant alterations, 2 – require closing some levels, 3 – require closing all levels)



Schools and universities closed in **England, Scotland, Wales, and Northern Ireland** between 18–23 March 2020. The nations have since diverged in their approaches to closing and reopening schools (see Figure 9, Table 4).

England was the first nation to reopen some schools when they allowed Reception, Year 1, and Year 6 to return to classrooms on 1 June (universities remained on-line only).⁴² **Wales** followed suit when schools opened for limited periods on 29 June⁴³ (universities remained closed for in-person instruction). The new school term in Wales began on 1 September for those who were prepared to open.

Scottish school students remained at home during July, though universities and colleges began a phased return from 22 July. Some levels of schooling returned at the start of the new school year in **Scotland** on 11 August, and all schools were open full time from 17 August. Universities and colleges were allowed to begin a phased return to on-campus learning on 22 July.⁴⁴ **Northern Ireland** began the new school year on 24 August for Primary 7, Year 12 and Year 14⁴⁵, with all others returning the following week on 31 August.⁴⁶ On this date, there were very limited restrictions in place in schools regarding social distancing, and mask wearing was optional.⁴⁷ This gave **Northern Ireland** the lowest score for 'school closures' of all four nations since the start of the pandemic.

All levels of schooling in **England** and **Wales** returned at the start of September after the summer break. **Northern Ireland** introduced a 'firebreak lockdown' from 14 October to 2 November, requiring all schools to close. During the 'firebreak lockdown' in **Wales** on 23 October, schools remained open. Similarly, when the second national 'lockdown' was introduced in **England** on 5 November, differently to in March 2020, the government ensured that schools, colleges, and universities could remain open.⁴⁸ All levels of schooling closed in **Wales** on 14 December, as they introduced another wave of restrictions. **Scotland** returned to national Tier 4 restrictions on 26 December, and schools were closed until 18 January. **Northern Ireland** kept all levels of schooling closed after the Christmas break, on 4 January. On January 5, all schools and universities closed on Tuesday in **England**, despite having attended class for the first day after the Christmas break on Monday 4 January.

Reopening in 2021

⁴²<https://web.archive.org/web/20200713101829/https://www.gov.uk/government/publications/preparingfor-the-wider-opening-of-schools-from-1-june>

⁴³<https://web.archive.org/web/20200716055012/https://gov.wales/schools-increasing-operations-29-junecoronavirus>

⁴⁴<http://archive.vn/39Tcf>

⁴⁵https://web.archive.org/web/20200824092435/https://www.malverngazette.co.uk/news/national/18670703_northern-irelands-schools-reopen-first-time-since-march/

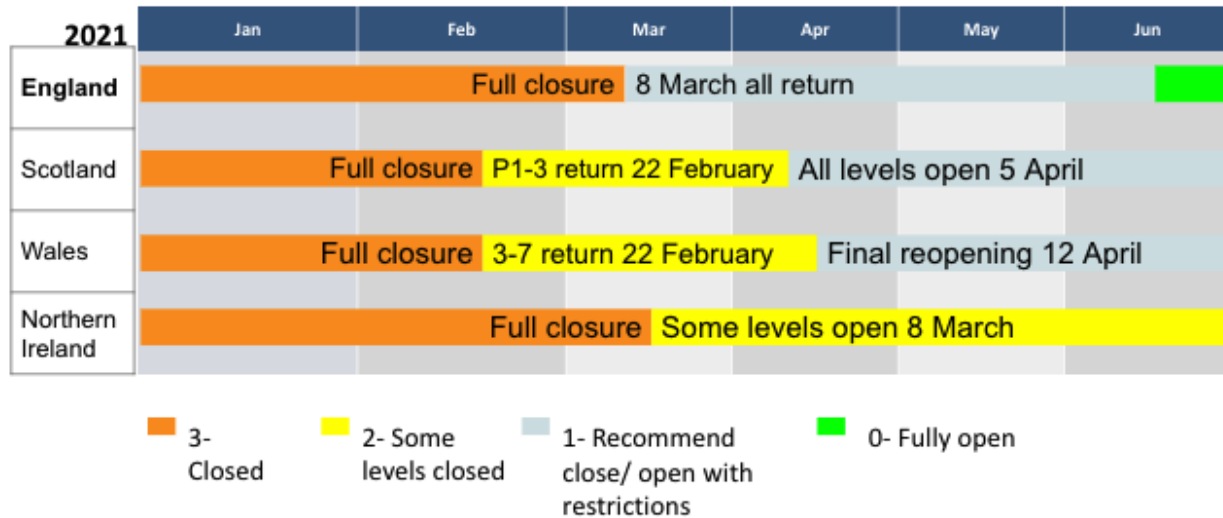
⁴⁶<http://web.archive.org/web/20201006011306/https://www.belfasttelegraph.co.uk/news/education/corona-virus-rushing-to-reopen-northern-ireland-schools-will-lead-to-next-care-home-crisis-teaching-union-warns39467572.html>

⁴⁷<http://web.archive.org/web/20201006011306/https://www.belfasttelegraph.co.uk/news/education/coronavirus-rushing-to-reopen-northern-ireland-schools-will-lead-to-next-care-home-crisis-teaching-union-warns-39467572.html>

⁴⁸<https://web.archive.org/web/20201104133027/https://www.gov.uk/guidance/new-national-restrictions-from-5-november>

Scotland and **Wales** were the first to reopen some levels of primary schooling on 22 February 2021 (see Figure 10). Some levels of schooling reopened in **Northern Ireland** on 8 March. All levels of schooling in **England** reopened at once on March 8, differently to the phased return of different years seen by the other devolved nations. This time, all education staff (including teachers), pupils, and families are being tested for COVID-19 with free lateral flow tests twice weekly, as part of the safe school reopening, and masks are required to be worn by all pupils at all times, for the first time.⁴⁹

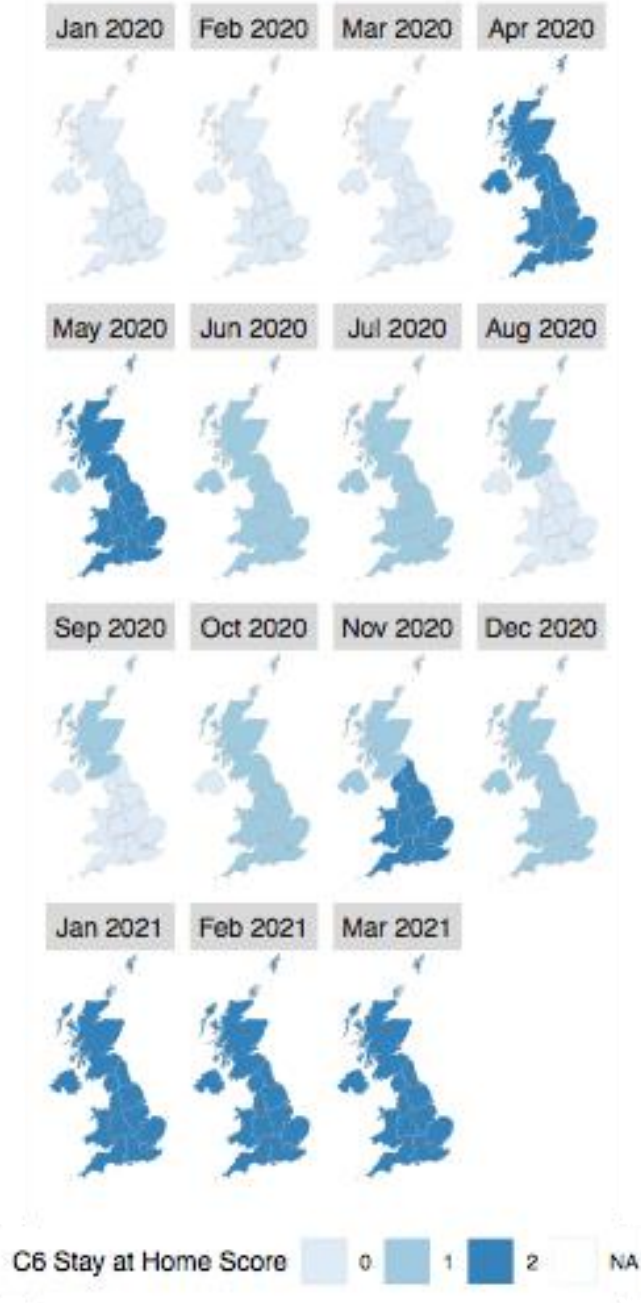
Figure 10: Forecast school reopening in 2021



⁴⁹ <https://www.theguardian.com/education/2021/feb/28/pupils-families-covid-tests-england-schools-reopen>

C6 – Stay-at-home requirements

Figure 11: Stay-at-home requirements in England, Scotland, Wales, and Northern Ireland (0 – no measures, 1 – recommend not leaving house, 2 – require not leaving house with exceptions for essential journeys)



Stay-at-home orders have varied in their timing and duration across all four UK nations (see Figure 11). To date, no UK nation has reached a 3 value on the OxCGRT stay-at-home Indicator ordinal scale – where people are required to not leave the house with

very minimal exceptions. Leaving the home for essential journeys has always been permitted across all four nations.

During 2020, people in **Wales** were under stay-at-home orders for 99 days, and **England** for 92 days – both implementing shorter periods requiring people to stay at home in October and November. **Northern Ireland** and **Scotland** only had 50 and 68 days under stay-at-home orders respectively, and introduced their second round of restrictions in January 2021, at the same time as **England** and **Wales'** third round of restrictions.

During 2020, the devolved nations differed in their stay-at-home orders (see Table 5). **England** spent 92 days under a stay-at-home order, and **Wales** 99 days. They both introduced a second wave of restrictions in October and November, and a third from early December onwards. In contrast, **Scotland** only had 68 days, and **Northern Ireland** only 50, as they did not introduce a second round of restrictions in October and November, waiting until January 2021 to introduce their second stay-at-home orders.

Table 6 highlights how the longest number of days between stay-at-home orders was in **Scotland** and **Northern Ireland**, whose citizens were not required to stay at home from the end of restrictions in May and June 2020, until January 2021: 221 and 240 days respectively. **Welsh** residents experienced 143 days where they didn't have to stay at home between April and October, and **English** residents 176.

Table 5: Total number of days with part or entire country under stay-at-home requirement in 2020(C6=2)

Nation	Days under stay-at-home order (C6= 2, both T and G)	Comments
England	92	51 days from the first restrictions in March 2020, 28 in November 2020, and 13 in December 2020.
Scotland	68	All of these days were from the first wave of restrictions in March 2020.
Wales	99	71 from the first wave of restrictions in March 2020, 17 from the firebreak in October 2020, and 11 from December onwards 2020.
Northern Ireland	50	All 50 from restrictions in March 2020. ⁵⁰

⁵⁰ While restrictions were introduced in Northern Ireland in December 2020, they didn't become legally enforceable until 8 January 2021 - see <https://web.archive.org/web/20210109124400/https://www.bbc.com/news/uk-northern-ireland-55538236>

Table 6: Number of days between stay-at-home requirements in part or entire country (C6=2)

	Days between 1st and 2nd national stay-at-home order	Days between national lockdown 2 and 3 (stay-at-home ordered)
England	176	16
Scotland	221	n/a
Wales	143	41
Northern Ireland	240	n/a

Reopening 2021

Wales was the first devolved nation to lift their stay-at-home order in 2021, on 13 March.⁵¹ **England's** stay-at-home order ended on March 29. **Scotland's** stay-at-home order ended on 2 April, and **Northern Ireland's** stay-at-home order relaxed on 12 April⁵².

C7 – Internal movement

Distance restrictions have been implemented in all nations except **England**. Following restrictions introduced in March 2020, **Scotland** maintained a restriction of 5 miles for leisure or recreational travel until 7 July.^{53,54} **Wales** had a 5 mile 'Stay Local' rule in 2020, asking people to stay within a 5-mile radius of home, though this was not legally enforceable.⁵⁵ In **Northern Ireland**, under the stay-at-home order introduced on 7 January 2021, there is an advisory 10-mile limit on travel for exercise.

H8 – Protection of elderly people

Elderly people, especially those living in long term care facilities (LTCFs) have been of particular interest to policymakers during the COVID-19 pandemic. In June 2020, the Office for National Statistics (ONS) reported in June 2020 that 47% of the total deaths since the first recorded case of COVID-19 in the UK had been from care home residents.⁵⁶ This has led to extensive protections being introduced, which have fallen into three main categories: limiting or prohibiting visitors, isolating symptomatic

⁵¹ <https://www.independent.co.uk/news/uk/politics/wales-lockdown-easing-latest-gardens-b1816051.html>

⁵² <https://archive.vn/ZSZqM>

⁵³ <http://archive.vn/ErnEU>

⁵⁴ <https://www.gov.scot/publications/coronavirus-covid-19-update-first-ministers-speech-29-2020>

⁵⁵ <https://www.itv.com/news/wales/2020-07-03/cruel-or-sensible-why-the-five-mile-rule-has-been-so-controversial>

⁵⁶ <https://www.bmj.com/content/369/bmj.m2334>

residents, and increased hygiene and infection controls.⁵⁷ These protections have significantly affected both visits, and everyday life in care homes for the majority of the past year.

In **all four nations**, all face-to-face visits in elderly care homes were banned in March 2020 as the first set of stay-at-home orders was issued. **Northern Ireland** was the first nation to ease restrictions, allowing visits to care homes on July 6 2020.⁵⁸ In October 2020, **Scotland** permitted indoor visits again, up to four hours long. In **England** in November 2020, visits were permitted under very strict regulations, such as in secure visiting pods, and in December visits were permitted following a negative test result from visitors. In **Wales**, some limited visits from a 'designated visitor' were also permitted in November. In **Scotland**, after the move to the tiered system on 26 December, close contact indoor visits were banned once more in Tier 4 areas. At the start of January 2021, under the new wave of restrictions in **England, Scotland, and Northern Ireland**, close indoor visits into care homes were banned once more nationwide.

Reopening 2021

The four nations eased visiting restrictions from mid-February to mid-March, all on different dates. **Scotland** was the first nation to allow visitors back inside care homes, allowing two visitors per week indoors from 22 February.⁵⁹ **Northern Ireland** allowed one face to face visitor on March 1. From 8 March, care home residents will be allowed one regular indoor visitor per week in **England**.⁶⁰ **Wales** permitted one visitor per week on 13 March.

H6 – Facial coverings

Global guidance from the World Health Organization (WHO) in April 2020 explicitly did *not* recommend face mask use by the public.⁶¹ On 5 June the WHO published new advice on the use of face coverings, encouraging their use by members of the public.⁶² The stringency of face mask wearing requirements has also evolved in the UK during the past year, transitioning from non-existent, to recommended, to mandated in the majority of public spaces, including schools as of March 2021.

Scotland recommended face masks in April 2020, made them mandatory on public transport in June, and in retail on 10 July. **England** recommended mask wearing in May 2020, and mandated their use on public transport in June. From 24 July they were made

⁵⁷ <https://journal.ilpnetwork.org/articles/10.31389/jltc.45/>

⁵⁸ https://web.archive.org/web/20210226120427/https://www.runwoodhomes.co.uk/article/13082606/covid_19_our_visiting_guidelines_are_changing_northern_ireland_homes

⁵⁹ <https://web.archive.org/web/20210224154816/https://www.gov.scot/publications/coronavirus-covid-19-adult-care-homes-visiting-guidance/>

⁶⁰ <https://web.archive.org/web/20210222154522/https://www.gov.uk/government/news/care-home-residents-to-be-allowed-one-visitor-as-part-of-cautious-easing-of-lockdown>

⁶¹ https://apps.who.int/iris/bitstream/handle/10665/331693/WHO-2019-nCov-IPC_Masks-2020.3-eng.pdf?sequence=1&isAllowed=y

⁶² <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19--5-june-2020>

mandatory in shops, supermarkets and cafes. By mid-August, face masks were mandatory in most public spaces in **England** and **Scotland**, with a few limited exceptions. **Northern Ireland** made face coverings mandatory on public transport on 10 July 2020. **Wales** acted later in their restrictions, not mandating the use of face coverings in indoor public places until mid-September 2020.⁶³ **Northern Ireland** only made face coverings mandatory in the majority of public places in mid-October. When all levels of schooling returned in **England** on 8 March 2021, this was the first time masks had been made mandatory for all students over the age of 11 to wear in class.⁶⁴

C8 – International travel

The UK issued its first official ban on entry (OxCGRT value 3 for C8)⁶⁵ from passengers from another country/territory/region on 24 December when flights from South Africa were prohibited⁶⁶ due to the emergence of the new, more infectious strains of COVID-19.^{67,68} This explains why the Stringency Index value was higher during the later periods of restrictions in the UK in January 2021 than in March 2020. More countries, regions, and territories have since been banned from travelling to the UK to prevent the transmission of new variants of the virus. Despite banning arrivals from high-risk regions, the UK only introduced mandatory hotel quarantine in state approved facilities in February 2021.⁶⁹ While in **England** this is required of arrivals from a specific list, in **Scotland**, this applies to any traveller arriving from outside the Common Travel Area.⁷⁰

5. Vaccination policy in the UK

On March 11th, 2020, the World Health Organization's Director-General, Dr Tedros Adhanom Ghebreyesus, declared SARS-CoV-2 (COVID-19) a pandemic.⁷¹ However, the work in developing vaccines for a novel coronavirus had begun long before then. Over the past several years, vaccine developers from around the world had begun developing comprehensive coronavirus vaccine platforms, which would serve as the building blocks of future essential vaccines – significantly reducing the time required to develop a vaccine.⁷² Concurrently, public and private funding agencies and organisations rapidly invested billions of dollars in the development and testing of

⁶³ <https://web.archive.org/web/20201008044448/https://gov.wales/face-coverings-guidance-measures-be-taken-employers-and-managers-premises>

⁶⁴ <https://web.archive.org/web/20210308095123/https://www.independent.co.uk/life-style/school-rules-masks-covid-mass-testing-england-b1811700.html>

⁶⁵ <https://github.com/OxCGRT/covid-policy-tracker/blob/master/documentation/codebook.md>

⁶⁶ <https://www.bbc.co.uk/news/uk-55434086>

⁶⁷ <https://www.who.int/csr/don/31-december-2020-sars-cov2-variants/en/>

⁶⁸ <https://www.youtube.com/watch?v=ZQfcsWJDDFQt%3D369>

⁶⁹ <https://www.gov.uk/government/news/government-confirms-mandatory-hotel-quarantine-to-be-introduced-from-15-february>

⁷⁰ <https://web.archive.org/web/20210308151357/https://www.bbc.com/news/uk-56064759>

⁷¹ <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>

⁷² <https://www.bbc.co.uk/news/health-55041371>

COVID-19 vaccine candidates.⁷³ These steps allowed for COVID-19 vaccines to be developed faster than any previous vaccines the world has seen, which have bolstered the ongoing global response to the pandemic.

As of 22 March 2021, the WHO has issued Emergency Use Listings for the Pfizer/BioNTech, Oxford/AstraZeneca, and Johnson & Johnson COVID-19 vaccines.^{74,75} On 2 December 2020, the independent Medicines and Healthcare products Regulatory Agency approved the Pfizer/BioNTech vaccine – making the UK the first nation to provide regulatory approval of a large-scale tested COVID-19 vaccine.⁷⁶ Shortly after, regulatory approvals were granted to the Oxford/AstraZeneca and Moderna vaccines, on 20 December 2020 and 8 January 2021, respectively.⁷⁷ On 8 December 2020, the UK's first COVID-19 vaccine was administered to Margaret Keenan, a 90-year-old patient at University Hospital in Coventry.⁷⁸ This marked the beginning of the UK's mass vaccination campaign, which to date, has provided first doses to over 27 million residents; with a majority of UK adults having received a vaccination as of 19 March 2020 (see Table 7).⁷⁹ The UK is currently providing second doses 4 to 12 weeks following the initial vaccination.⁸⁰ According to Our World in Data, on 20 March 2021, the UK had the fourth highest number of COVID-19 vaccine doses administered per 100 people, after Israel, United Arab Emirates, and Chile.⁸¹ On 7 April 2021, due to ongoing international concern about rare blood clots as a potential side effect of the Oxford/AstraZeneca vaccine, the UK determined that residents under the age of 30 would be offered an alternative vaccine.⁸²

Table 7: Percentage of adults in England, Scotland, Wales, and Northern Ireland who have received a first and second COVID-19 vaccine dose as of 22 March 2021.

	First dose total (% of adult population)	Second dose total (% of adult population)
England	23,854,862 (53.9%)	1,621,547 (3.7%)
Northern Ireland	687,528 (47.3%)	88,683 (6.1%)
Scotland	2,182,400 (49.2%)	225,096 (5.1%)
Wales	1,273,186 (50.5%)	346,058 (13.7%)
United Kingdom total	27,997,976 (53.2%)	2,281,384 (4.3%)

⁷³ Wouters, O. J., Shadlen, K. C., Salcher-Konrad, M., Pollard, A. J., Larson, H. J., Teerawattananon, Y., & Jit, M. (2021). Challenges in ensuring global access to COVID-19 vaccines: production, affordability, allocation, and deployment. *The Lancet*, 397(10278), 1023–1034. [http://doi.org/10.1016/S0140-6736\(21\)00306-8](http://doi.org/10.1016/S0140-6736(21)00306-8)

⁷⁴ <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines>

⁷⁵ <https://www.who.int/news/item/12-03-2021-who-adds-janssen-vaccine-to-list-of-safe-and-effective-emergency-tools-against-covid-19> https

⁷⁶ <https://www.gov.uk/government/collections/mhra-guidance-on-coronavirus-covid-19#vaccines-and-vaccine-safety>

⁷⁷ <https://www.gov.uk/government/collections/mhra-guidance-on-coronavirus-covid-19#vaccines-and-vaccine-safety>

⁷⁸ <https://coronavirus.data.gov.uk/details/vaccinations?areaType=overview&areaName=United%20Kingdom>

⁷⁹ <https://coronavirus.data.gov.uk/details/vaccinations?areaType=overview&areaName=United%20Kingdom>

⁸⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/965177/COVID-19_vaccination_programme_guidance_for_healthcare_workers_26_February_2021_v3.4.pdf

⁸¹ <https://ourworldindata.org/covid-vaccinations>

⁸² <https://www.bbc.co.uk/news/health-5666517>

Data reported on March 22nd, 2021, and retrieved from:
<https://coronavirus.data.gov.uk/details/vaccinations?areaType=overview&areaName=United%20Kingdom>

While the OxCGRT H7 Vaccination Policy Indicator doesn't monitor the number of vaccines administered, it does track which populations are being prioritised and are eligible for vaccinations in campaigns across nations and regions. A number of conditions have been identified which may place individuals at an elevated risk for COVID-19. Those at higher risk include individuals with diabetes, chronic kidney disease, long-term liver, heart and lung conditions, learning disabilities, severe neurological and mental conditions, severe obesity, and those who are immunocompromised or clinically extremely vulnerable.⁸³ The identification of at-risk populations has shaped vaccination priority groups (see Table 8). The devolved nations of the UK have had similar vaccine prioritisation responses to date, with little variation. All four nations are currently booking and vaccinating those aged 50 and above.

Table 8: UK prioritisation list for COVID-19 vaccination (Gov.uk)⁸⁴ and proposed timeline

Priority	Group	Timeline for first dose
1	Residents in a care home for older adults and staff working in care homes for older adults	Began December 08, to be completed by 15 February 2021 ⁸⁵
2	All those 80 years of age and over and frontline health and social care workers	Began December 08, to be completed by 15 February 2021 ⁸⁶
3	All those 75 years of age and over	Began December 08, to be completed by 15 February 2021 ⁸⁷
4	All those 70 years of age and over and clinically extremely vulnerable individuals (not including pregnant women and those under 16 years of age)	Began December 08, to be completed by 15 February 2021 ⁸⁸
5	All those 65 years of age and over	Eligible on 15 February 2021 ⁸⁹
6	Adults aged 16 to 65 years in an at-risk group	Eligible on 15 February 2021 ⁹⁰
7	All those 60 years of age and over	Eligible on 28 February 2021 ⁹¹

⁸³ <https://www.nhs.uk/conditions/coronavirus-covid-19/coronavirus-vaccination/who-can-get-the-vaccine/>

⁸⁴ <https://www.gov.uk/government/publications/covid-19-vaccination-care-home-and-healthcare-settings-posters/covid-19-vaccination-first-phase-priority-groups>

⁸⁵ <https://web.archive.org/web/20201208073322/https://www.bbc.com/news/health-55045639>

⁸⁶ <https://web.archive.org/web/20201208073322/https://www.bbc.com/news/health-55045639>

⁸⁷ <https://web.archive.org/web/20201208073322/https://www.bbc.com/news/health-55045639>

⁸⁸ <https://web.archive.org/web/20201208073322/https://www.bbc.com/news/health-55045639>

⁸⁹ <https://archive.vn/dDiAn>

⁹⁰ <https://archive.vn/dDiAn>

⁹¹ <https://www.england.nhs.uk/2021/02/nhs-invites-people-aged-60-plus-to-get-life-saving-covid-vaccination>

8	All those 55 years of age and over	Eligible 8 March 2021 ⁹²
9	All those 50 years of age and over	Eligible 17 March 2021 ⁹³
10	Rest of the population (to be determined)	Yet to be confirmed- under 50's groups may have to wait until May 2021 (BBC) ⁹⁴

Immunisation not only helps the individual being immunised, but also those around them. However, for the full benefits of immunisation to be realised, there must be widespread and distributed vaccine uptake.⁹⁵ With sufficient population level immunisation, herd immunity can be strengthened, helping prevent future outbreaks of the virus. Preliminary results suggest that the COVID-19 vaccinations may reduce transmission rates, which will help limit the spread of COVID-19.^{96,97} Additionally, preliminary results suggest that vaccines will still protect recipients from the severe outcomes of various COVID-19 strains, despite lower efficacy rates.⁹⁸ Some producers have begun testing booster shots to maintain high levels of efficacy and protection.^{99,100}

The rise of variants has demonstrated the importance of combatting the pandemic on a global scale. However, vaccine supplies are limited and in high demand. Thus far, the vast majority of vaccines administered to date have been in high-income settings. To support the equitable distribution of vaccines, Gavi, the WHO and CEPI have partnered in developing COVAX, a global initiative to provide 92 lower-middle and low-income nations with affordable vaccine supplies, with a goal of distributing 2 billion doses by the end of 2021¹⁰¹. However, tensions continue to rise as vaccine supplies become scarce due to growing demands. With many countries prioritising domestic distributions, it could be some time before the goal of providing vaccinations to every nation is realised. At the population level, diverse communities continue to report concerns and vaccine hesitancy. While the Black, Asian and Minority Ethnic (BAME) community in the UK experienced higher COVID 19 infection and mortality rates, preliminary data suggest a lower vaccine uptake.^{102,103} Anti-vaccine sentiments present a challenge for

⁹² <https://www.pulsetoday.co.uk/news/clinical-areas/immunology-and-vaccines/patients-aged-56-59-invited-for-covid-job/>

⁹³ <http://web.archive.org/web/20210318173148/https://www.itv.com/news/2021-03-17/covid-vaccine-all-over-50s-in-england-now-eligible-for-job>

⁹⁴ <https://www.bbc.co.uk/news/health-55045639>

⁹⁵ <https://vk.ovg.ox.ac.uk/vk/herd-immunity>

⁹⁶ Voysey, Merryn et al, Oxford COVID Vaccine Trial, Single Dose Administration, And The Influence Of The Timing Of The Booster Dose On Immunogenicity and Efficacy Of ChAdOx1 nCoV-19 (AZD1222) Vaccine. <http://dx.doi.org/10.2139/ssrn.3777268>

⁹⁷ Shah, A. et al. (2021). Effect of vaccination on transmission of COVID-19: an observational study in healthcare workers and their households. medRxiv, 2021.03.11.21253275. <http://doi.org/10.1101/2021.03.11.21253275>

⁹⁸ <https://www.forbes.com/sites/joewalsh/2021/02/01/fauci-covid-vaccines-are-less-effective-against-new-strains---but-still-worth-taking/?sh=aef30ba4933e>

⁹⁹ <https://investors.modernatx.com/news-releases/news-release-details/moderna-announces-it-has-shipped-variant-specific-vaccine>

¹⁰⁰ <https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-initiate-study-part-broad-development>

¹⁰¹ <https://www.gavi.org/covax-facility#what>

¹⁰² <https://opensafely.org/research/2020/ethnic-differences-in-covid19-infection-hospitalisation-and-mortality/>

¹⁰³ <https://opensafely.org/research/2021/covid-vaccine-coverage/>

populations to realise the full benefits of mass immunisation programs. Governments in the UK, and around the world will have to ensure vaccine doses are not only procured but administered in full to a vast majority and distribution of the population. Otherwise, low vaccination rates or unimmunised pockets within the population could lead to prolonged future outbreaks.

6. Conclusion

Government policies introduced across the four UK nations to control virus transmission and protect public health have significantly impacted the everyday life of every citizen. The OxCGRT data offers a means of directly comparing how the four nations have responded, and varied in their closure and containment policy responses to COVID-19, highlighting their lack of coordination. Economic support and public health measures have remained largely similar across all four nations. The key policy areas that have varied across the UK have been school closures, workplace closures, restricting private gatherings, stay-at-home requirements, restricting internal movement, protection of elderly people, and facial coverings policies.

It is imperative to study which measures are effective (and which are not) to guide best practice, and develop a more robust understanding in order to respond effectively in the future. While the data presented here do not measure effectiveness directly, they can be useful to inform studies that analyse factors affecting disease progression. The OxCGRT seeks to contribute to this knowledge gap by providing efficient and simple cross-national comparisons of government interventions and individual policy actions, as well as several comparable aggregate indices. Going forward, governments at all levels will benefit from adopting an evidence-based approach to the non-pharmaceutical interventions that they choose to implement.

It is our hope that scholars, medical professionals, policy makers, and concerned citizens will make use of the OxCGRT data to enhance responses to the COVID-19 pandemic. The data will continue to be updated and reviewed on a regular basis, to provide accurate real-time information on the UK subnational government response. The most up-to-date technical documentation can always be found on our GitHub repository.¹⁰⁴ We welcome constructive feedback and collaboration on this project as it evolves.

¹⁰⁴ <https://github.com/OxCGRT/covid-policy-tracker>