

ENVIRONMENTAL SCAN

(ARCHIVED) Public Health Measures, Vaccination Programs and Epidemiological Context: An Updated Scan of European Jurisdictions

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Key Points

- In the context of managing the Coronavirus Disease 2019 (COVID-19) pandemic and emerging Variants of Concern (VOC), findings from this scan demonstrate that public health measures and progress of vaccination varies across jurisdictions in Europe.
 - Some jurisdictions with higher rates of COVID-19 vaccination than Ontario (e.g., England), have begun to slowly ease stringent measures, after a rise in the prevalence of VOC.
 - In jurisdictions that have similar or only slightly higher COVID-19 vaccination rates compared with Ontario, some jurisdictions (e.g., Italy and France) have recently introduced stricter public health measures, including lockdowns, to address surges of COVID-19 cases and increases in the prevalence of VOC. The remaining jurisdictions have continued to maintain stringent public health measures (e.g., Ireland, Germany and Denmark).
- In response to increasing COVID-19 incidence and prevalence of VOC, public health measures implemented in Europe have been very stringent. In the context of worsening epidemiologic trends in Ontario, public health measures should be intensified and applied swiftly, in response to increasing COVID-19 incidence and dominance of VOC strains, specifically B.1.1.7.

- It is important to consider that Ontario, and Canada more broadly, has administered fewer vaccines compared to the European jurisdictions reviewed. Community-based public health measures are a critical public health intervention for Ontario in the weeks and months ahead.
- The results from this scan demonstrate that public health measures continue to be important in the context of VOC, even as vaccination programs accelerate.

Background and Ontario Context

Many jurisdictions around the world experienced a resurgence of COVID-19, beginning in late 2020. Around this time, jurisdictions also began to identify Variants of Concern (VOC), which have led to increased COVID-19 incidence and the subsequent introduction of increasingly restrictive public health measures to control transmission. England, Denmark, Ireland, Germany, France and Italy are examples of European jurisdictions that have experienced a significant resurgence of COVID-19 in fall 2020 and winter 2021, similar to Ontario. However, these jurisdictions have experienced the impacts of VOC emergence (in particular the B.1.1.7 variant) earlier than Ontario.¹ Thus, there is an opportunity to learn from these jurisdictions with respect to the epidemiological impact of the public health measures implemented in response to VOC, which are more transmissible and may lead to increased disease severity.^{1,2} During the first quarter of 2021, many countries have started to administer COVID-19 vaccines to priority groups within their population.

On March 26, 2021, Ontario reported a total number of COVID-19 cases of 340,692, an increase in 2,453 new cases from the previous day, and a weekly death rate due to COVID-19 of 0.4 per 100,000 population.³ For the week ending on March 20, 2021 (most recent full week of reporting), over half of Ontario's public health units (18/34) reported COVID-19 incidence of greater than 40 cases per 100,000 population.⁴ The total number of cases reported in Ontario continues to increase with over 10,000 cases reported in the week ending on March 20, 2021, a number last reported for the week of January 24 to 30, 2021.⁴ For the week ending March 20,⁴ as of March 20, 2021, in Ontario the cumulative case count of B.1.1.7 lineage was 1,389 confirmed cases, B.1.351 lineage was 50 confirmed cases, and P.1 lineage was 47 confirmed cases.⁴

Ontario's COVID-19 response framework is a colour-coded framework to assign all health units across the province a zone of public health measures based on epidemiology, health system capacity and public health system capacity.⁵ As of March 29, 2021, fifteen regions across Ontario are in the Red-Control zone defined by weekly incidence rate of 40 per 100,000 or more, and six regions are in the Grey-Lockdown zone defined by adverse trends in weekly incidence after entering Red-Control.⁵

Ontario has a three-phase plan for administering COVID-19 vaccines over the course of 2021.⁶ While the plan includes the timing for each phase, the timing of the phases will depend on availability of vaccines. As of March 24, 2021, a total of 1,676,150 vaccines had been administered in Ontario, with 2% of the provincial population fully vaccinated and 9.3% of the population having received at least one dose.^{7,8} The three phases of Ontario's COVID-19 vaccination program are as follows:

- Phase 1: High-risk populations will be eligible for vaccination, including individuals ages 80 and above, staff and residents in long-term care homes and high-risk retirement homes, health care workers, Indigenous adults, and adult recipients of chronic home care.^{6,9}

- Phase 2: Individuals 60 to 79 years of age (in 5-year increments), those who live and work in high-risk congregate settings, individuals with high-risk chronic conditions and their caregivers, those who cannot work from home, essential frontline workers (e.g., elementary and secondary school staff, agriculture and farm workers), Black and other racialized populations, and hotspots with historic and ongoing high rates of death, hospitalization and transmission.^{6,9}
 - This phase defines three groups within which people with health conditions can be categorized (i.e., highest risk, high risk and at risk) with those in the highest risk category prioritized for vaccination.^{6,9}
 - Set to begin in April 2021; however, officials have noted that there may be an overlap of phases as it is likely that phase two will begin before all individuals eligible in phase one have been vaccinated.⁹
- Phase 3: Individuals 59 years and younger, set to begin in July 2021.⁶

The purpose of this document is to provide updates to the *Current Status of Public Health Measures and Epidemiology Context in European Jurisdictions* scan,¹⁰ by documenting the current public health measures, changes in COVID-19 epidemiology, and the vaccination programs in select European jurisdictions. England, Denmark, Ireland, Germany, France, and Italy will be the focus of this scan, due to their relevance to Ontario at the time of this review with respect to progress of COVID-19 population vaccination rates, and concerns about the prevalence of variants of concern and increasing incidence of COVID-19.

Methods

A rapid environmental scan of the current epidemiological context, status of public health measures and any plans for adjusting public health measures in select European jurisdictions was conducted. Specifically, the countries examined were England, Denmark, Ireland, Germany, France, and Italy.

Records were obtained through online searches conducted between March 22 and 26, 2021 of recent policies, media articles, government websites, official press and reports. The epidemiological indicators summarized in this report represent the most recent week of complete reporting from the jurisdictions included, which varies across the indicators and jurisdictions. The public health measures, epidemiological context, and vaccination programs are evolving daily in the jurisdictions included in this report, however, the findings summarized in the subsequent section reflect information collected on or before March 26, 2021.

Findings

The findings below describe recent context of the COVID-19 pandemic in England, Denmark, Ireland, Germany, France, and Italy. The findings update the epidemiologic and contextual information described in the previous Public Health Ontario (PHO) scan *Current Status of Public Health Measures and Epidemiology Context in European Jurisdictions*.¹⁰

England

EPIDEMIOLOGICAL CONTEXT

- On March 20, 2021, the incidence rate (averaged over seven days) in England was 55.5 cases per 100,000 population (a slight decrease from 58.4 per 100,000 population on March 13, 2021).¹¹ This is a marked decrease from the weekly incidence of 654.5 cases per 100,000 population on January 5, 2021 when England's national lockdown measures were initially implemented.¹¹
- The weekly number of deaths due to COVID-19 as of March 12, 2021 (the most recent full week of complete data) was 1,428 deaths.¹² This is down from 1,994 COVID-19 deaths the week ending on March 5, 2021.¹²
- As of reporting on March 24, 2021, there has been a cumulative total of 155,529 confirmed and probable cases of VOC 202012/01 (B.1.1.7 lineage) in England (an increase in 13,244 cases since the last update).¹³ Additionally, there have been 412 confirmed and probable cases of the 501Y.V2 B.1.351 variant first identified in South Africa and 27 confirmed and probable cases of the P1 variant first identified in Brazil.¹³

VACCINATION CONTEXT

- Currently there are three vaccines approved for use in England (Moderna, Pfizer/BioNTech, and Oxford/AstraZeneca).¹⁴
- By March 25, 2021, a total of 24,681,955 individuals received their first dose of the COVID-19 vaccine (44% of the national population) and 2,028,543 individuals in England had received both doses (3.6% of the national population).¹⁵
- For more details on the vaccination context in England see Appendix A.

PUBLIC HEALTH MEASURES

Starting on March 8, 2021, England is proceeding as planned with lifting restrictions under the government's four-step "roadmap out of lockdown".^{16,17} All remaining lockdown measures and the roadmap out of lockdown are summarized in *Current Status of Public Health Measures and Epidemiology Context in European Jurisdictions*.¹⁰ England's roadmap to reopening is also summarized in Appendix A.

The plan to end England's restrictions is comprised of four steps that began on March 8, 2021, with the fourth step beginning no sooner than June 21, 2021.^{16,17} The government will assess whether it is safe to move from one step to the next using the following four conditions:^{16,17}

- Vaccine program goes as planned
- Evidence shows that vaccines are reducing the number of deaths and hospitalizations
- Infection rates do not risk a surge in hospital admissions
- New variants do not change the risk of lifting restrictions

On March 8, 2021, the following changes were made to England's national lockdown measures:^{16,17}

- Students in all schools and further education settings can return to face-to-face education. Students in practical higher education courses who have already returned and would be unable to complete their courses if they did not return to take part in practical teaching, access specialist facilities or complete assessments will be able to return to higher education.
- Residents are now permitted to spend time in outdoor public spaces for recreation on their own, with their household or support bubble, or with one other person.
- Care home residents will also be allowed one regular visitor.

Despite the easing of select lockdown restrictions, other national lockdown measures still in place include: residents should not leave home except for essential purposes or spending time outdoors (permitted as of March 8, 2021), residents should still work from home where possible, and residents are still required to wear a face covering in indoor settings, such as shops or places of worship where these remain open, and on public transport.^{16,17}

Denmark

EPIDEMIOLOGICAL CONTEXT

- The 7-day average of daily new COVID-19 cases in Denmark hit a peak of 60.9 per 100,000 on December 20, 2021 and had been steadily declining until mid-February when cases started to rise again. On March 21, 2021, the 7-day average of newly identified COVID-19 cases in Denmark was 12.4 per 100,000 population.¹⁸
- On March 24, 2021, the number of deaths due to COVID-19 (averaged over a seven-day period) was 0.02 deaths per 100,000 population. This is a decrease from the 7-day average on January 21, 2021, which was 0.6 deaths per 100,000 population.¹⁹
- The B.1.1.7 variant is the most prevalent VOC in Denmark; it was first detected in Denmark on November 13, 2020 and was identified in 28.5% of COVID-19 positive samples during the first week of February 2021.²⁰ As of March 8, 2021 31 cases of VOC have been detected in Denmark including the B.1.351 and P.1 variants.²¹

VACCINATION CONTEXT

- Currently there are four vaccines approved for use in Denmark (Moderna, Pfizer/BioNTech, Janssen/Johnson & Johnson and Oxford/AstraZeneca).²² However, Denmark paused the use of the AstraZeneca vaccine on March 11, 2021 after reports of safety concerns; the pause is expected to last until April 18, 2021.²³
- As of March 26, 2021, 11% of Denmark's population had been partially vaccinated, and 6.0% had been fully vaccinated.²⁴
- For more details on the vaccination context in Denmark see Appendix A.

PUBLIC HEALTH MEASURES

National lockdown measures in Denmark apply until the end of April 5, 2021. For the full account of national public health measures in Denmark see *Current Status of Public Health Measures and Epidemiology Context in European Jurisdictions*.¹⁰

Since the publication of the *Current Status of Public Health Measures and Epidemiology Context in European Jurisdictions*,¹⁰ the following changes have been made to the national lockdown measures in Denmark:

- The maximum number of people who can gather continues to be five people, with the exception of outdoors and certain organised sports activities where 25 people can now gather.²⁵
- In addition to the students in grades 0-4 who have already returned to school in-person, as of March 15, 2021, all classes in primary schools, secondary schools and adult education programs in Eastern and Southern Jutland, Funen, Western and Southern Zealand can return with a 50 percent in-person attendance. On the islands without a bridge-connection, all classes in primary schools can return with 100 percent in-person attendance. In all regions, students in grade 5-8 and non-graduate students in general upper secondary education institutions can attend outdoor classes once a week. The same applies to graduating students in the regions where 50 percent in-person attendance is not yet allowed. When attending school in-person, students and employees in primary and lower secondary schools are strongly encouraged to be documenting a negative COVID-19-test no older than 72 hours.²⁵
- As of March 15, 2021, stores with a size of 5,000 to 9,999 square metres are allowed to open for maximum 250 customers at the same time (increased from the previous maximum of 5,000 square metres). Stores with a size of more than 10,000 square metres are allowed to open for maximum 250 customers at a time but must ensure that crowds are prevented by establishing a model for reducing the risk of spreading the virus, for instance through pre-booking.²⁵
- Outdoor cultural institutions (e.g., zoological gardens) can reopen with the pre-condition that visitors can document a negative COVID-19-test no older than 72 hours.²⁵

Ireland

EPIDEMIOLOGICAL CONTEXT

- On March 21, 2021 the 7-day average of daily new COVID-19 cases in Ireland was 11.1 cases per 100,000 people (down from a peak of 132.3 per 100,000 population on January 10, 2021).¹⁸
- On March 24, 2021, the the number of deaths due to COVID-19 (averaged over a seven-day period) was 0.2 deaths per 100,000 population. This is a decrease from the 7-day average on February, 4 2021, which was 1.2 deaths per 100,000 population.¹⁹
- Currently, the B.1.1.7 variant is the most prevalent variant in Ireland accounting for 90% of all COVID-19 cases in the country. Additionally, as of March 20, 2021, there have also been 24 confirmed cases of the B1351 variant, 7 cases of the P1 variant, and 11 cases of the B1525 variant, and 5 cases of the newest B1526 variant, (detected in New York).²⁶

VACCINATION CONTEXT

- Currently there are four vaccines approved for use in Ireland (Moderna, Pfizer/BioNTech, Janssen/Johnson & Johnson and Oxford/AstraZeneca).²⁷ Ireland temporarily suspended the use of AstraZeneca vaccines over safety concerns, but resumed use as of March 20, 2021 following safety guidance from the European Medicines Agency.²⁸

- As of March 26, 2021, 10% of Ireland's population had been partially vaccinated, and 3.8% had been fully vaccinated.²⁴
- For more details on the vaccination context in Ireland see Appendix A.

PUBLIC HEALTH MEASURES

The public health measures in Ireland remain in place since the previous review and reopening has not proceeded further despite improving epidemiology.^{10,29} The only updates identified were related to border restrictions and international travel which were out of scope for this scan. For the current account of public health measures in Ireland, see *Current Status of Public Health Measures and Epidemiology Context in European Jurisdictions*.¹⁰

Germany

EPIDEMIOLOGICAL CONTEXT

- As of February 15, 2021, the 7-day average of newly identified COVID-19 cases was 8.5 per 100,000 population (down from a peak of 30.7 per 100,000 population on December 23, 2020).¹⁸ However, the 7-day average of newly identified COVID-19 cases has been increasing since mid-February and as of March 21, 2021, the 7-day average of daily confirmed COVID-19 cases was 15.5 per 100,000 population.¹⁸
- As of March 22, 2021, the number of deaths due to COVID-19 (averaged over a seven-day period) was 0.22 deaths per 100,000 population (down from a peak of 1.1 deaths per 100,000 population on January 13, 2020).¹⁹
- The B.1.1.7 variant is the most prevalent VOC in Germany. As of March 18, 2021 nearly three quarters (72%) of all cases in Germany were of the B.1.1.7 variant (up from 55% in the previous week).³⁰

VACCINATION CONTEXT

- Currently there are four vaccines approved for use in Germany (Moderna, Pfizer/BioNTech, Janssen/Johnson & Johnson and Oxford/AstraZeneca).³¹ Germany temporarily suspended the use of AstraZeneca vaccines over safety concerns, but resumed use on March 19, 2021 following safety guidance from the European Medicines Agency.³²
- As of March 23, 2021, 9.1% of Germany's population had been partially vaccinated, and 4.0% had been fully vaccinated.²⁴
- For more details on the vaccination context in Germany see Appendix A.

PUBLIC HEALTH MEASURES

Due to rising cases count and to break the exponential growth of the third wave and prevent overwhelming the health care system, a lockdown was announced on March 23, 2021.³³ This lockdown was planned to take place from April 1 to 5, 2021 (over the Easter weekend) and would apply to areas exceeding 100 new cases per 100,000 inhabitants over a seven-day period.³³ However, on March 24, 2021, the lockdown was cancelled due to the public's response.³⁴ It was criticised for not having a public discussion before implementing and because of unresolved logistical details.³⁴ The existing restrictions previously set to run until March 28, 2021 will now remain in place until April 18, 2021.³⁵ (See *Current Status of Public Health Measures and Epidemiology Context in European Jurisdictions* for previously existed restrictions).¹⁰ Additionally, students, teachers and daycare staff will be offered two free rapid antigen tests per week.³⁶

France

EPIDEMIOLOGICAL CONTEXT

- The 7-day average of daily new COVID-19 cases in France had been increasing steadily since early January 2021, hitting a peak of 40.1 per 100,000 on March 18, 2021, and has since declined. On March 21, 2021, the 7-day average of newly identified COVID-19 cases in France was 30.6 per 100,000 population (down from a peak of 82.5 per 100,000 population on November 3, 2020).¹⁸
- On March 21, 2021, the the number of deaths due to COVID-19 (averaged over a seven-day period) was 0.32 deaths per 100,000 population. This is a decrease from the 7-day average on February 11, 2021, which was 0.67 deaths per 100,000 population.¹⁹
- As of March 18, 2021, the B.1.1.7 variant (first identified in the UK) increased in prevalence to constitute 75% of the total COVID-19 cases in France.³⁷ This is an increase, as B.1.1.7 constituted 60% of all cases on March 4, 2021.³⁸

VACCINATION CONTEXT

- Currently there are four vaccines approved for use in Germany (Moderna, Pfizer/BioNTech, Janssen/Johnson & Johnson and Oxford/AstraZeneca).³⁹ France temporarily suspended the use of AstraZeneca vaccines; however, they resumed use of this vaccine on March 19, 2021 after the European Medicines Agency issued an opinion confirming that the vaccine is very effective in combating the onset of severe forms of the disease.⁴⁰
- As of March 22, 2021, 9.2% of France's population had been partially vaccinated, and 3.6% had been fully vaccinated.²⁴
- For more details on the vaccination context in France see Appendix A.

PUBLIC HEALTH MEASURES

Due to increasing incidence of COVID-19 in France, a curfew, the closure of restaurants, bars, cinemas, theatres, museums and gyms and additional mobility restrictions were introduced in France's metropolitan areas beginning in January 2021.^{41,42}

On March 19, 2021, France imposed a four week lockdown in Paris and 15 other regions (Aisne, Alpes-Maritimes, Essonne, Eure, Hauts-de-Seine, Nord, Oise, Pas-de-Calais, Seine-et-Marne, Seine-Saint-Denis, Seine-Maritime, Somme, Val-de-Marne, Val-d'Oise and Yvelines) due to a faltering vaccine rollout and the spread of highly contagious coronavirus variants.^{37,41,43} Comparatively, this is a less restrictive lockdown than the two previous ones, with the main difference being that during the day there is no limit on the length of time residents can go outside for exercise.⁴⁴

Current nationwide public health measures in France are as follows:⁴³

- Curfew from 6:00 pm to 6:00 am, implemented in all metropolitan areas by January 16, 2021.
- Face coverings mandatory for all residents over the age of six in enclosed or indoor spaces.
- In other areas there are no restrictions on travel within France.
- Closure of non-food retail stores that are more than 20,000 square metres in size.

Effective March 19, 2021, the following public health measures and restrictions in the regions and metropolitan areas under lockdown (Paris and the 15 other regions listed above):

- Curfew from 6:00 pm – 6:00 am.⁴¹
- In areas under lockdown measures, you may not travel between regions without a pressing reason or professional reason to do so. Individuals only permitted to leave home for work or school, medical appointments, essential family or support purposes, administrative or judicial purposes, walking a pet within 1 km of one's residence. For any travel further than 10 kilometres from a resident's home, an official attestation form will be required.^{41,45}
- Work from home wherever possible and stagger work patterns for settings in which work from home cannot be implemented.⁴¹
- Kindergartens and primary schools remain open. In areas under lockdown, high schools are open, but apply a mix of on-site and distance learning so that no more than 50% of pupils are on site at the same time. All university-level education is virtual, with no in-person learning. Face masks are compulsory for all children above the age of six.⁴¹
- Only essential retail remains open. Places of worship remain open. Cinemas, theatres, museums and gyms are closed.⁴¹
- Restaurants and bars are closed.⁴¹

Italy

EPIDEMIOLOGICAL CONTEXT

- As of March 15, 2021 (when Italy's lockdown was implemented), the 7-day average of newly identified COVID-19 cases was 37.1 per 100,000 population (down from a peak of 58.0 per 100,000 population on November 16, 2020). The weekly average has since decreased to 36.2 per 100,000 population by March 21, 2021.¹⁸

- As of March 20, 2021, the number of deaths due to COVID-19 (averaged over a seven-day period) was 0.65 deaths per 100,000 population (down from a peak of 1.2 deaths per 100,000 population on December 4, 2020).¹⁹
- The B.1.1.7 variant is the most prevalent VOC in Italy. As of February 18, 2021 more than half (54%) of all cases in Italy were of the B.1.1.7 variant and the P.1 variant was involved in 4.3% of cases in Italy.⁴⁶

VACCINATION CONTEXT

- Currently there are four vaccines approved for use in Italy (Moderna, Pfizer/BioNTech, Janssen/Johnson & Johnson and Oxford/AstraZeneca).⁴⁷ Italy temporarily suspended the use of AstraZeneca vaccines over safety concerns, but resumed use on March 19, 2021 following a report by the European Medicines Agency which judged that its benefits outweighed the risks.⁴⁸
- Italy plans to vaccinate 80% of its population by the end of September 2021.⁴⁹ As of March 22, 2021, 8.9% of Italy's population had been partially vaccinated, and 4.1% had been fully vaccinated.²⁴
- For more details on the vaccination context in France see Appendix A.

PUBLIC HEALTH MEASURES

To tackle rising cases in a third wave and increased hospitalizations, Italy imposed more restrictive public health measures across the country.⁵⁰ Starting on March 15, 2021, nearly the entire country was placed in either a 'red zone (highest risk)' or 'orange zone' (with only one region, Sardinia, in the low-risk 'white zone').⁵¹ Every region with more than 250 cases per 100,000 inhabitants were automatically placed in the red zone. The restrictions are set to be in place until Easter weekend (April 3-5, 2021) when the entire country will be placed in a 'red zone'.⁵¹ The aim of these measures is to get the reproduction number (R) down to 1.⁵²

Public health measures nationwide include:⁵¹

- A curfew between 10 pm and 5 am.
- All non-essential travel between regions is prohibited.
- Public transport is still running, including long-distance trains, with some routes suspended or operating on reduced schedules.

Public health measures in the 'red zone' include:⁵¹

- Individuals are not allowed to move around within their own area unless for essential reasons, by either public or private transport. Any movements (including within an individual's own municipality) must be justified using a self-declaration form.
 - Individuals can only enter or leave an orange or red zone for urgent reasons, such as for work or health.
 - Individuals cannot travel to any private home other than their own.
 - New short-term rentals are not allowed, and individuals cannot stay with relatives.

- Visits to relatives and friends are not allowed, even within your own municipality.
- All schools are closed.
- Shops are closed except for those deemed essential (e.g. supermarkets and other food shops, tabacchi (tobacconists/newsagents), and pharmacies. Children's clothes shops are also open.
- Hairdressers and beauticians are closed.
- All team sports activities are suspended (solo exercise such as running/walking is permitted).
- Exceptions for Easter Weekend (April 3 to 5, 2021) include the following: individuals (including maximum of two people, plus children under 14) can move within the region between 5 am and 10 pm to visit friends and relatives, once a day. Individual regions or provinces may set additional restrictions on top of these national rules.

Public health measures in the 'orange zone' include:⁵¹

- Individuals can only travel within their municipality; it is forbidden to move between municipalities unless for essential reasons.
 - An individual can visit a second home within their region.
- Individuals who leave their municipality, or travel within it during the 10 pm – 5 am curfew must complete a self-declaration form justifying their movements.
 - Visits to the homes of family and friends outside an individual's municipality are not allowed.
- Bars, cafes, restaurants, pastry shops and other food businesses are closed.
- Home delivery is still allowed, and takeaway is permitted until curfew at 10 pm.
- Museums and art galleries are closed.
- All shops can remain open.
- Hairdressers and beauticians can remain open.
- Schools remain open, but local authorities can order schools to close and to move to online learning.

Comparison of Vaccines Administered: European Countries and Canada

Related to vaccination program and implementation across countries, Figure 1 below provides an overview of Canada's current status based on publicly reported vaccine doses administered as reported on the Our World in Data website, compared with the European countries reviewed. The majority of European countries included in this review (England, Denmark, Ireland, Germany, France, and Italy) have followed the same trend in COVID-19 vaccine administration, reaching between 14 and 18 doses per 100 people by March 25, 2021.⁵³ England consistently had the highest vaccine doses administered per 100 people, reaching about 48 doses per 100 people as of March 25, 2021.⁵³ Canada has consistently reported lower daily vaccine doses administered, when compared to the European countries included in this review.⁵³

Figure 1. Comparing Canada with Select European Countries for COVID-19 Vaccine Doses Administered per 100 People

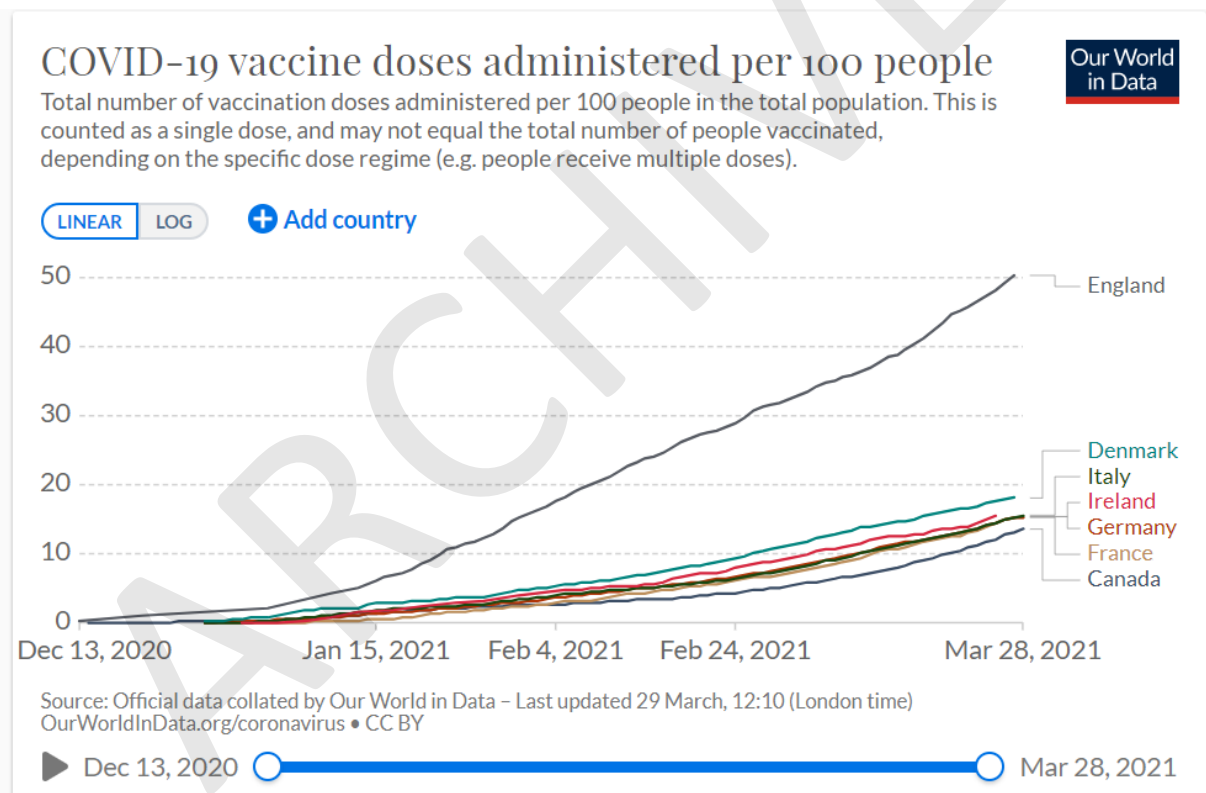


Image source: Our World in Data. COVID-19 vaccine doses administered per 100 people [Internet]. Oxford: Our World in Data; 2021 [cited 2021 Mar 29]. Available from: <https://ourworldindata.org/grapher/covid-vaccination-doses-per-capita?country=CAN~DNK~England~FRA~DEU~IRL~ITA>

Conclusions

The emergence of VOC as the predominant strain has heightened the importance of public health measures related to its increased transmissibility and severity. Experiences from European jurisdictions demonstrate that there are different approaches to the implementation of public health measures in the context of worsening epidemiologic trends. Overall, stringent measures have been required for control of rising cases and health care system impacts in European countries that face B.1.1.7 predominance, in some cases more stringent measures than currently in place in Ontario. Some jurisdictions like England where higher rates of vaccinations have occurred and where measures have resulted in sustained, improved epidemiology have begun easing restrictions, despite VOC strain dominance. Other jurisdictions (e.g., Italy and France) with lower rates of vaccination than England have introduced stricter public health measures, including lockdowns, to address the rise in COVID-19 cases and increased prevalence of VOC. Other European jurisdictions (e.g., Ireland, Germany and Denmark) have maintained stringent public health measures to maintain control of the pandemic while vaccination proceeds.

Similar to many jurisdictions reported in this scan, Ontario is reporting a steady rise in daily COVID-19 cases and now faces B.1.1.7 strain predominance. However, it is important to consider that Ontario, and Canada more broadly, has administered fewer vaccines compared to the European jurisdictions reviewed. Community-based public health measures are a critical public health intervention for Ontario in the weeks and months ahead to support longer-term population wellbeing and recovery. Public health measures used in Europe have been very stringent to control VOC and in the context of worsening epidemiologic trends in Ontario, measures should be intensified and applied swiftly, in response to leading indicators.

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Appendix A: Vaccine Context in Select European Jurisdictions

The following section summarizes additional COVID-19 vaccination context (e.g., eligibility, phases of the program) for each jurisdiction included in this review.

England

At the time of this review (on March 26, 2021) the following populations are eligible for receiving the COVID-19 vaccination in England:¹⁴

- Individuals age 50 years and over
- Individuals at high risk from coronavirus and are clinically extremely vulnerable
- Individuals who live or work in care homes
- Health and social care workers
- Individuals with a condition that puts them at higher risk (clinically vulnerable)
- Individuals with a learning disability
- Individuals who are a main caregiver for someone at high risk from coronavirus

Denmark

Denmark began vaccinating citizens on December 27, 2021.⁵⁴ At this time, a vaccination plan with current supplies is available up to end of March, with proposed planning of vaccination for April to the end of July assuming the availability of vaccines. In January 2021, the Danish Health Authority established 12 target groups to vaccinate in order of priority. These include the following:⁵⁴

- Group 1: Residents in nursing homes
- Group 2: Individuals age 65 years and older who receive both practical assistance and personal care
- Group 3: Individuals age 85 years and older
- Group 4: Selected frontline staff in the healthcare sector, the elderly care sector and parts of the social services sector
- Group 5: Selected patients at particularly high risk (e.g. cancer patients, severely immune-suppressed patients and people with very severe cardiopulmonary disease or liver disease)
- Group 6: Selected relatives of people at particularly high-risk
- Group 7: Individuals aged 80 to 84 years
- Group 8: Individuals aged 75 to 79 years

- Group 9: Individuals aged 65 to 74 years
- Group 10: Individuals aged under 65 with conditions resulting in a higher-risk
- Group 11: Staff who perform critical functions in society
- Group 12: The remaining population aged 16 years and older
- New vaccination calendar data from March 19, 2021, available only in Danish, indicates that Groups 10 to 12 have been removed, which were 'under 65 years at higher risk', 'critical functions in society', and 'over 16 or 18 years'. Instead, a new group 10 category has been created which is subdivided as group 10a, 10b, 10c and 10d to d4. These correspond to ages 60 to 64, 55 to 59, 50 to 54, 16 to 19 and 45 to 49, 20 to 24 and 40 to 44, 25 to 29 and 35 to 39, and 30 to 34, respectively.
- Currently, group 1 (nursing homes) has been completed since mid-February, and groups 2 (over 65 years, assistance and care) and 3 (over 85 years old) mostly completed with planned completion by sometime in March. Groups 4 (frontline staff), 5 (particularly high risk) and 6 (selected relatives) have been partially completed. Group 4 is planned to be completed by end of March, and groups 5 and 6 in April. Groups 7 (80-85 years old) and 8 (75-79 years old) have planned vaccine allotments starting in March and, if supplies are available, would see the completion of these groups by the beginning of May. Group 9 and 10a-c are planned to begin in April and finish by the end of May. Groups 10d1 to d3 are planned to begin in May and finish between mid-June to mid-July, with the final group, 10d4, to begin receiving vaccines mid-June and completed by the end of July.⁵⁵

Ireland

Currently there are four groups being vaccinated. These include:⁵⁶

- Individuals aged 65 years and older who live in long-term care facilities (group 1). Residents will receive their vaccinations at their long-term care facility and staff at these facilities will also be vaccinated.
- Frontline healthcare workers (group 2). Frontline healthcare workers will receive their vaccine through their workplace.
- Individuals aged 70 years and older. Vaccinations will be offered in the following order: ages 85 and older, 80 to 84, 75 to 79, and then 70 to 74. Everyone in these groups are expected to receive both doses by the middle of May. These individuals will receive their vaccine through their general practitioners. Home vaccinations are available for people over 70 who cannot leave home for medical reasons.
- Individuals aged 16 to 69 who are at very high risk. This includes individuals with cancer, chronic kidney disease, chronic neurological disease, chronic respiratory disease, diabetes, intellectual disabilities, obesity, sickle cell disease, and those who are immunocompromised. These individuals will receive their vaccine from their hospital team.
- Later phases will focus on vaccinating the next groups and will include vaccinations at vaccination centres, general practitioner surgery and community pharmacies.⁵⁶ These include:⁵⁷

- Individuals aged 65 to 69 whose underlying condition puts them at a high risk of severe disease and death
- Individuals aged 65 to 69, other healthcare workers, and key vaccination programme workers
- Individuals aged 16 to 64 and at high risk of severe COVID-19 disease
- Residents of long-term care facilities aged 18 to 64
- Individuals aged 18-64 years living or working in crowded accommodation where self-isolation and social distancing is difficult to maintain
- Key workers in essential jobs who cannot avoid a high risk of exposure to COVID-19
- People essential to education and who face disease exposure
- Individuals aged 55 to 64 years
- Individuals in occupations important to the functioning of society
- Individuals aged 18 to 54 years who did not have access to the vaccine in prior phases
- Children, adolescents up to 18 years and pregnant women (to be refined)

Germany

Germany began its vaccination rollout in December 2020.⁵⁸ There are three priority groups and one non-priority group:

- Group 1: Those in the highest priority group (Group 1) include those aged over 80, those who are treated or cared for in inpatient nursing homes, and people who work in these settings, nursing staff in outpatient care services, healthcare workers with a high risk of exposure to COVID-19, especially those working in intensive care, emergency rooms, palliative care and COVID-19 vaccination centres, and healthcare workers who treat high-risk patients.⁵⁹
 - Vaccination period: December 2020 to March/April 2021. This group includes 6 million people (7% of the population).⁶⁰
 - As of March 13, 2021, the first round of vaccinations in this group is nearly completed. About 5.4 million people have now received their first dose and 2.5 million (less than half of this highest priority group) have had the required second dose.⁶⁰
- Group 2: Those aged over 70, those with underlying health conditions that put them in the risk category (e.g., dementia or a similar condition, those recovering from a transplant, and those with Down Syndrome), close contacts of people aged over 80 or residents of nursing/care homes, close contacts of pregnant women, doctors and other healthcare workers who have a high or increased risk of exposure, police and law enforcement officers who are exposed to a high risk of infection while on duty, key workers in the public health service and people who live or work in refugee or homeless facilities.⁵⁹

- Vaccination period: Potential timeline is March 2021 to June 2021. This group includes 16 million people (20% of the population).⁶⁰
- Group 3: Those aged over 60, people with underlying health conditions (e.g., diabetes, cancer, chronic kidney or liver conditions, HIV or other immune-deficiency conditions, heart conditions, asthma and clinical obesity), employees in medical facilities with a low risk of exposure (e.g. laboratories), key workers in government, administration, constitutional bodies, the armed forces, the police, fire brigade and justice system, key workers in critical infrastructure companies, pharmacies and the pharmaceutical industry, power supply, water and waste disposal, the food industry, transport, information technology and telecommunications, teachers and other educators, and people with precarious working or living conditions.⁵⁹
 - Vaccination period: Potential timeline is May 2021 to August 2021. This group includes 12 million people (15% of the population).⁶⁰
- Group 4 (non-priority group): The rest of the population will receive their vaccination after the three priority groups. The potential timeline is July 2021 to December 2021.⁶⁰

France

To date, the following professionals are eligible for vaccination: health professionals, professionals within a health establishment, professionals from a medico-social establishment or service working with vulnerable people, employees of private employers working with vulnerable elderly and people living with disabilities, and firefighters.⁴⁰

To date, the following members of the general public are eligible for vaccination:⁴⁰

- Individuals aged 18 to 49 with a high-risk of severe illness as a result of COVID-19 infection
- Individuals aged 50 to 74 with a high-risk of severe illness as a result of COVID-19 infection or one or more co-morbidities
- Individuals aged 55 to 69 with comorbidities
- Adults with disabilities, accommodated in specialized reception centers or nursing homes
- Individuals over the age of 75, regardless of their place of residence

Italy

Italy's vaccination program began in late December 2020. The prioritization categories in descending order are as follows:⁶¹

- Individuals ages 80 and older
- Individuals at very high risk of becoming severely ill with COVID-19 (aged 16 up)
- Individuals aged 75 to 79, people aged 70 to 74
- Individuals aged 16 to 69 at a higher risk of illness from COVID-19
- Individuals aged 55 to 69

- Individuals aged 16 to 54. Within this group, the following individuals will be given priority: teachers, lecturers and other staff at schools and universities, members of the armed forces, police and fire fighters; prisoners, wardens and other prison staff; people living in religious or other shared communities and other unspecified 'key services'.

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Appendix B: England's "Roadmap out of Lockdown"

The table below summarizes the four proposed re-opening stages in England's COVID-19 response plan for spring 2021. The government has noted that dates could change depending on the scale of the coronavirus outbreak.^{16,17}

Table 1. Description of public health measures in the four steps of England's roadmap to reopening

Roadmap steps	Description of Measures ^{16,17}
Step 1	<p>Starting March 8, 2021</p> <ul style="list-style-type: none"> Schools open and outdoor after-school sports allowed <ul style="list-style-type: none"> All schools and college students back in class Mandatory face masks for secondary school students Some university students return Two people can sit together outdoors Care home residents are allowed one regular visitor <p>Starting on March 29, 2021</p> <ul style="list-style-type: none"> Six people or two households are allowed to meet outdoors Outdoor sports facilities open and organized sports are allowed Travel outside the local area is allowed The 'stay at home' order is replaced with a 'stay local' message Workers are still encouraged to work from home
Step 2	<p>Starting April 12, 2021 (at the earliest)</p> <ul style="list-style-type: none"> Non-essential retail and personal care opens Hospitality outdoors opens (e.g., pubs and restaurants with outdoor seated service) Indoor leisure opens (e.g., gyms, swimming pools) Self-contained holiday locations open (e.g., campsites) Funerals continue with up to 30 people; weddings with up to 15 guests Wider social distancing rules remain in place for public settings International holidays are still not permitted
Step 3	<p>Starting May 17, 2021 (at the earliest)</p> <ul style="list-style-type: none"> Outdoors, most social contact rules lifted (e.g., rule of six outdoors lifted) <ul style="list-style-type: none"> Up to 10,000 or 25% capacity (whichever is less) spectators can attend the very largest (i.e., 16,000 people or more) outdoor seated venues like football stadiums Smaller outdoor sport venues are allowed with 4,000 fans or 50% capacity (whichever is less) Six people or two households can meet indoors Indoor hospitality and hotels open Up to 30 people will be able to attend weddings, receptions, funerals and wakes Possible return of international travel

Roadmap steps	Description of Measures ^{16,17}
Step 4	<p>Before implementing Step 4, ministers will review social distancing and other long-term measures designed to reduce transmission, including the "one metre plus" rule and wearing of face coverings. They will also consider whether to lift the "work from home" guidance, which the government says people should continue to follow until the review has been completed.</p> <p>Starting June 21, 2021 (at the earliest)</p> <ul style="list-style-type: none"> • All legal limits on social contact removed • Hope to re-open final closed sectors of the economy (e.g., nightclubs, hospitality) • Large events and performances can restart with full audience

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