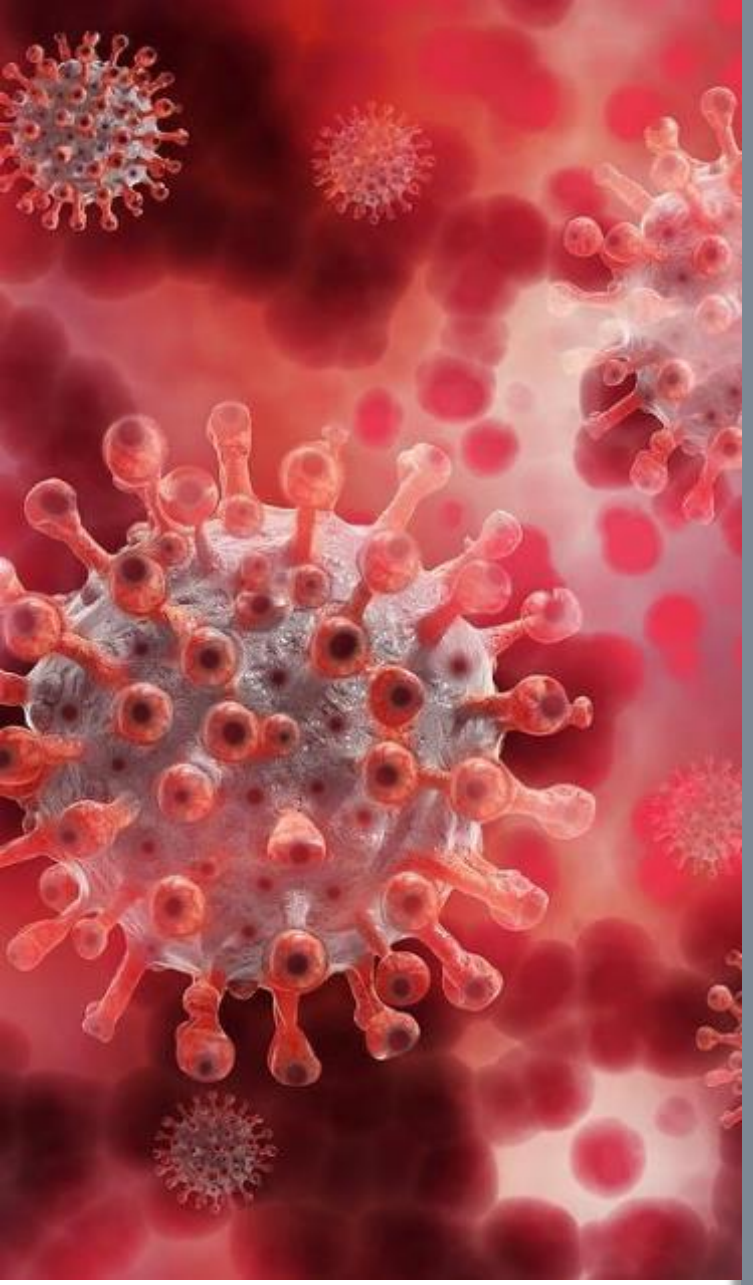


Vaccination COVID-19

Prof. Jean-Michel Dogné

-Epidémiologie

-Dose de rappel (vs Delta et Omicron)

-Vaccination des 5-11 ans

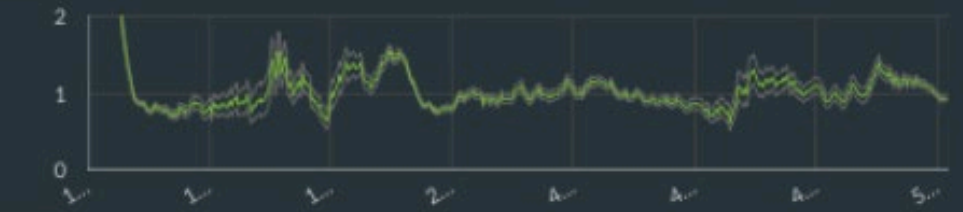
16 décembre 2021

Belgium COVID-19 Epidemiological Situation

Summary

Belgium COVID-19 Epidemiological Situation

Summary

	Last Value	
Vaccination Coverage (At least 1 dose, 18+)	89 %	
Rt	0,94	
Patients in Hospital	3382	
Patients in ICU	838	

Variants	Last 14 days	Delta	Other vari...	Alpha	Beta	Gamma	Omicror
		9,8 %	0,2 %	0,0 %	0,0 %	0,0 %	0,0 %

Belgium COVID-19 Epidemiological Situation

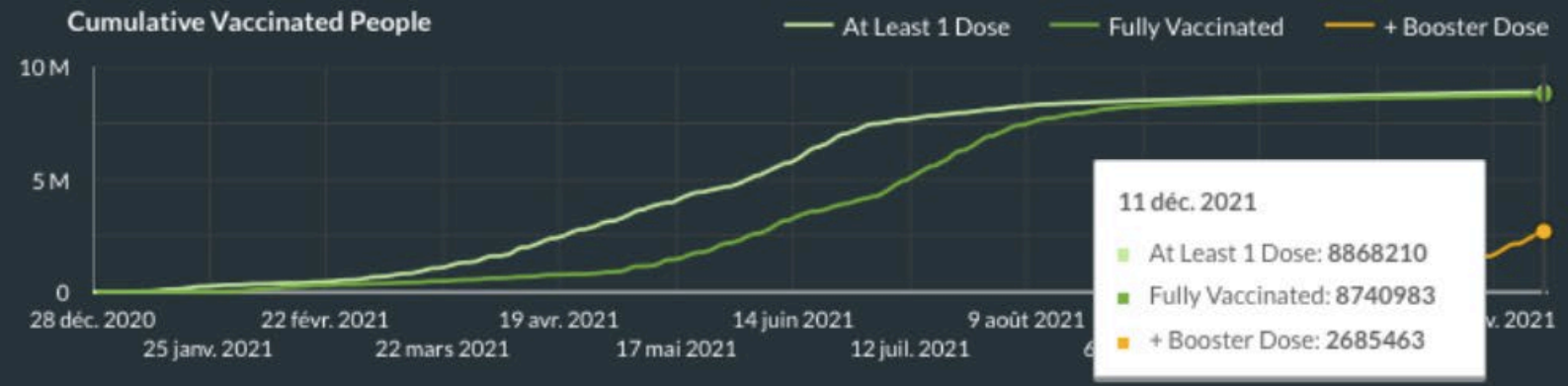
Vaccination - Page 1

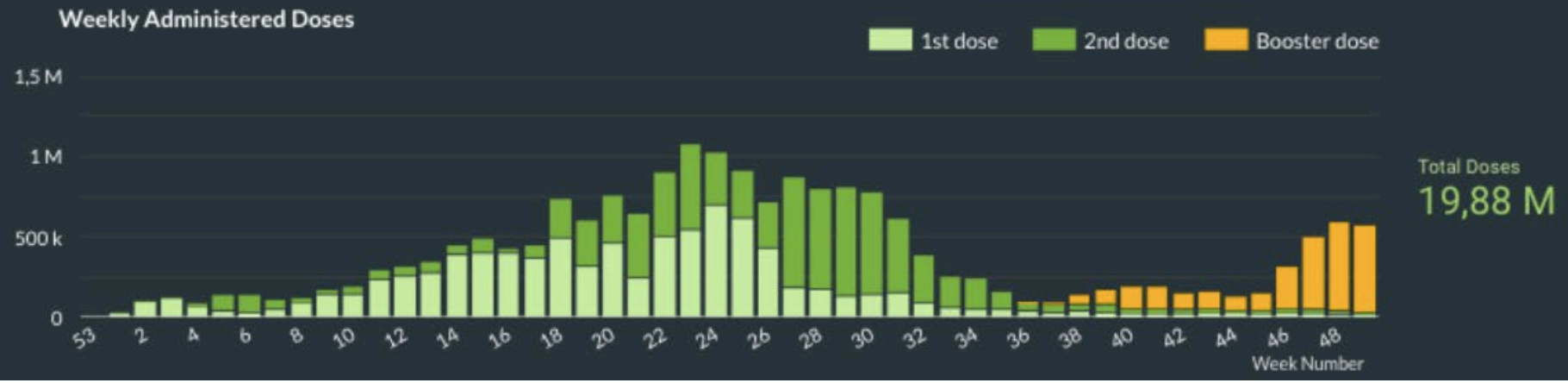
Numbers of 12 December

BELGIUM

	Fully Vaccinated		+ Booster Dose		
People Vaccinated	Total Coverage	18+ Coverage*	Total People	Total Coverage	18+ Coverage*
8741197	76 %	88 %	2689901	23 %	29 %

Since December 7 first doses were removed to show fully vaccinated and booster doses coverage.





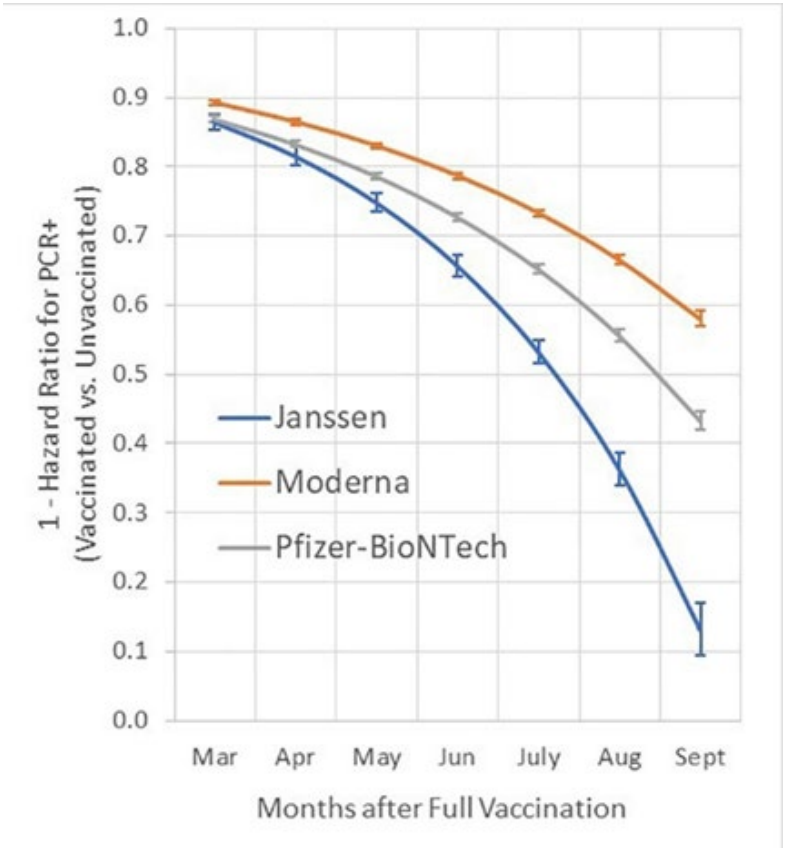
Total Doses
19,88 M

Vaccination Covid-19 : Dose de rappel pour la population générale <65 ans

Déclin de l'efficacité vaccinale au cours du temps

- Etude de Cohn et al., Science, 2021
- Outcomes : **risque d'infection** et de décès (780.225 sujets vaccinés en 2020)
- Période : février à octobre 2021
- Déclin de l'efficacité vaccinale chez tous contre **le risque de décès** :

	≥65 ans	<65 ans
• Pfizer	70,1%	84,3%
• Moderna	75,5%	81,5%
• J&J	52,2%	73,0%

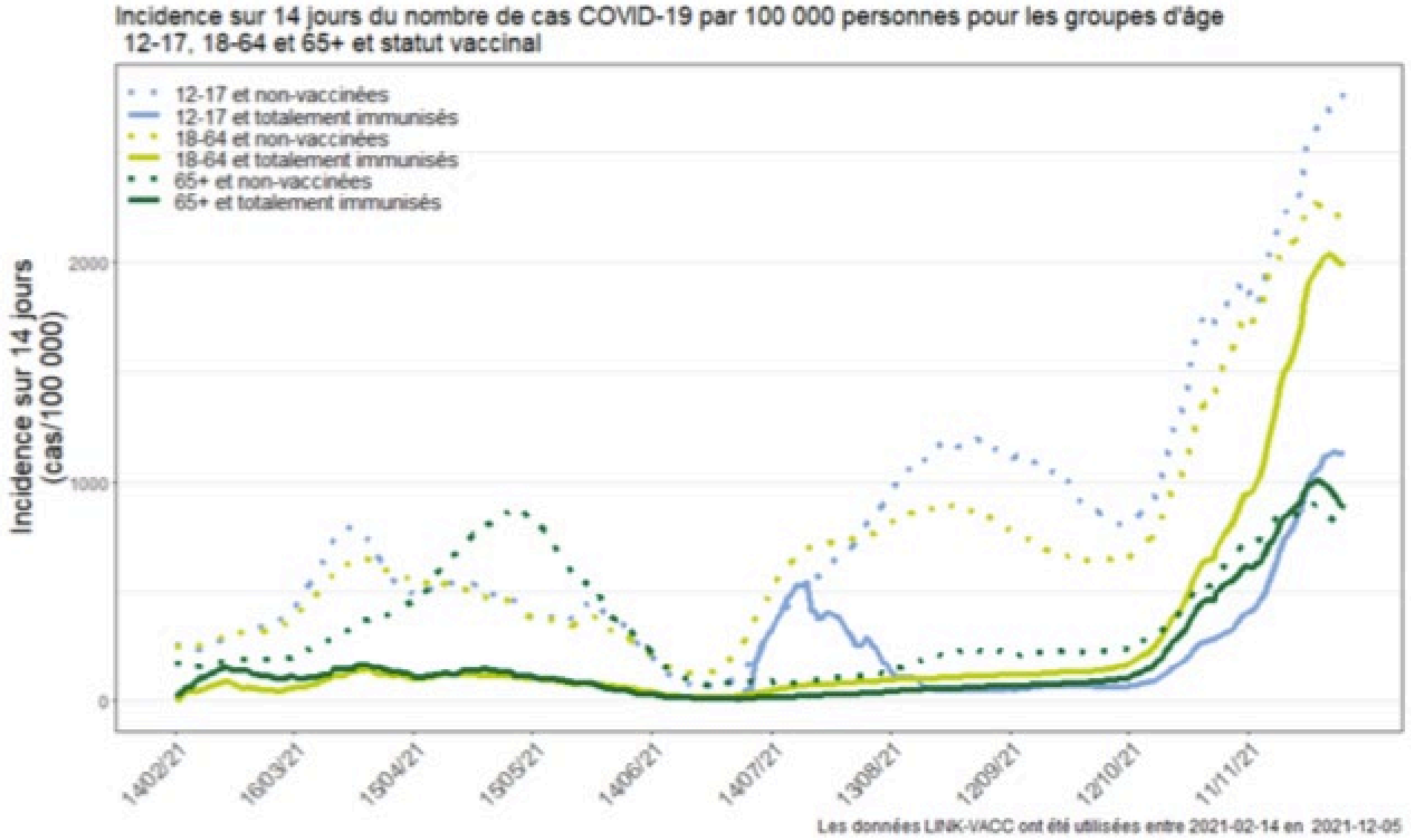


Infections de percée

Les personnes complètement vaccinées depuis au moins 14 jours sont considérées comme entièrement immunisées. Sciensano suit de près l'apparition des infections chez ces personnes, appelées « infections de percée », grâce au croisement entre les bases de données Vaccinnet+ et des tests de laboratoire COVID-19.

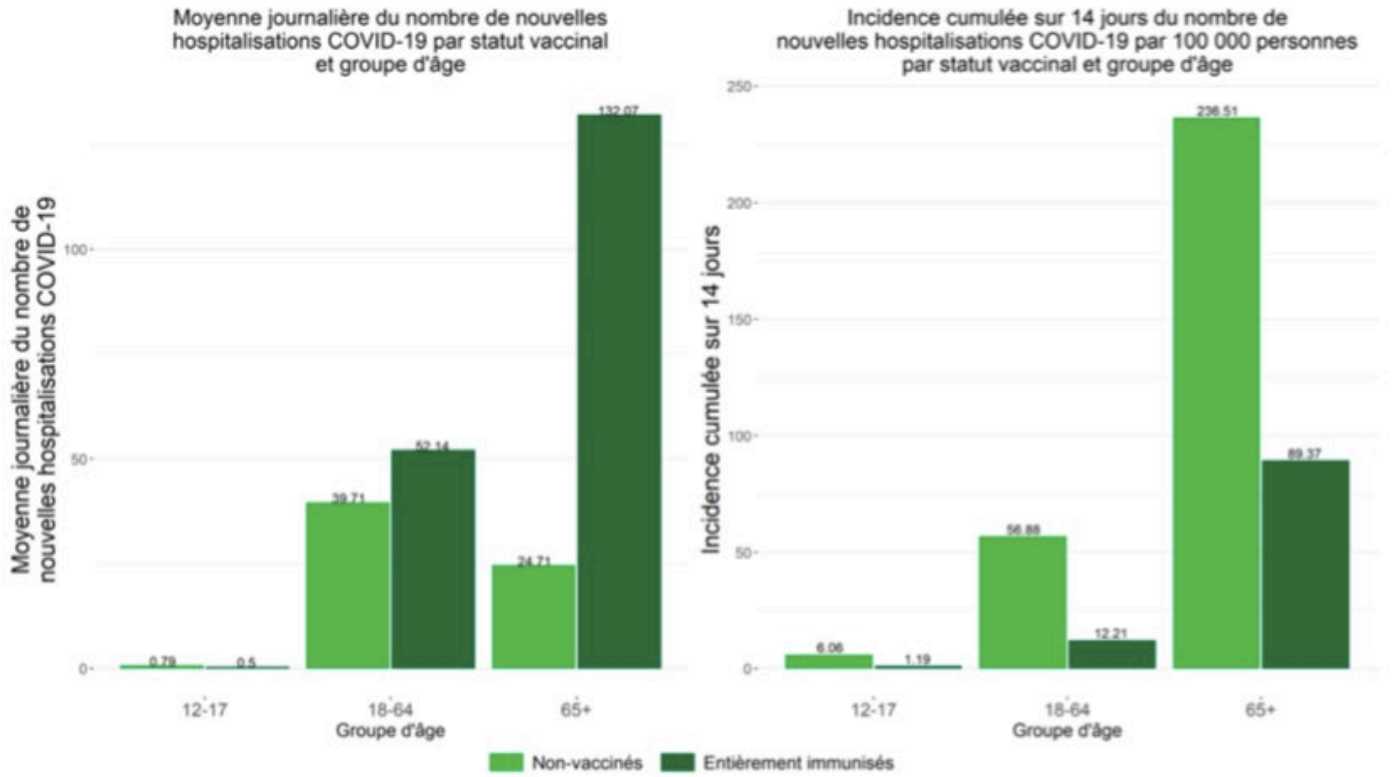
Jusqu'au 5 décembre 2021 inclus, sur un total de 8 642 711 personnes totalement immunisées:

4,48% (387 553) ont été testées positives au COVID-19.



Une personne est considérée comme *totalement immunisée* lorsqu'elle a été complètement vaccinée depuis 14 jours ou plus. Les personnes *partiellement vaccinées* et *totalement vaccinées depuis moins de 14 jours* ne sont pas incluses dans ce graphique. Source : croisement entre les données des tests de laboratoire COVID-19 et le registre national des vaccinations COVID-19 (Vaccinnet+)

Au cours de la période du 22 novembre au 5 décembre 2021, un total de 4 354 personnes ont été hospitalisées pour la COVID-19 en Belgique. Parmi elles, 1 170 n'étaient pas vaccinées, 54 l'étaient partiellement, 2 589 l'étaient entièrement et le statut vaccinal n'a pas été rapporté pour 541 d'entre elles. Les graphiques ci-dessous montrent la moyenne journalière et l'incidence cumulée sur 14 jours pour le nombre d'hospitalisations, par statut vaccinal et par groupe d'âge, pour la période du 22 novembre au 5 décembre 2021. Pour cette même période, le risque d'hospitalisation chez les personnes entièrement immunisées de 65 ans et plus, de 18 à 64 ans et de 12 à 17 ans était réduit de 62%, 79% et 80% respectivement, par rapport aux personnes non-vaccinées du même âge. Les personnes partiellement vaccinées ou au statut vaccinal inconnu ne sont pas incluses dans ces figures.



Source : surveillance de la capacité hospitalière adaptée le 6 octobre 2021. Le délai entre la vaccination et l'hospitalisation n'étant pas connu dans la surveillance de la capacité hospitalière, le groupe 'totalement immunisés' peut inclure des personnes totalement vaccinées depuis moins de 14 jours.

Conseil
Supérieur de la Santé

VACCINATION POUR LES PERSONNES ÂGÉES : UNE DOSE SUPPLÉMENTAIRE DE VACCIN ARNm CONTRE LA COVID-19

SEPTEMBRE 2021
CSS N° 9650

.be

II. RECOMMANDATIONS

Sur la base des données (inter)nationales et des preuves scientifiques croissantes, le CSS est actuellement d'avis que la population générale est suffisamment protégée après 1 ou 2 doses de vaccination (selon le vaccin COVID-19), mais qu'une **dose supplémentaire de vaccin ARNm contre la COVID-19** est recommandée pour

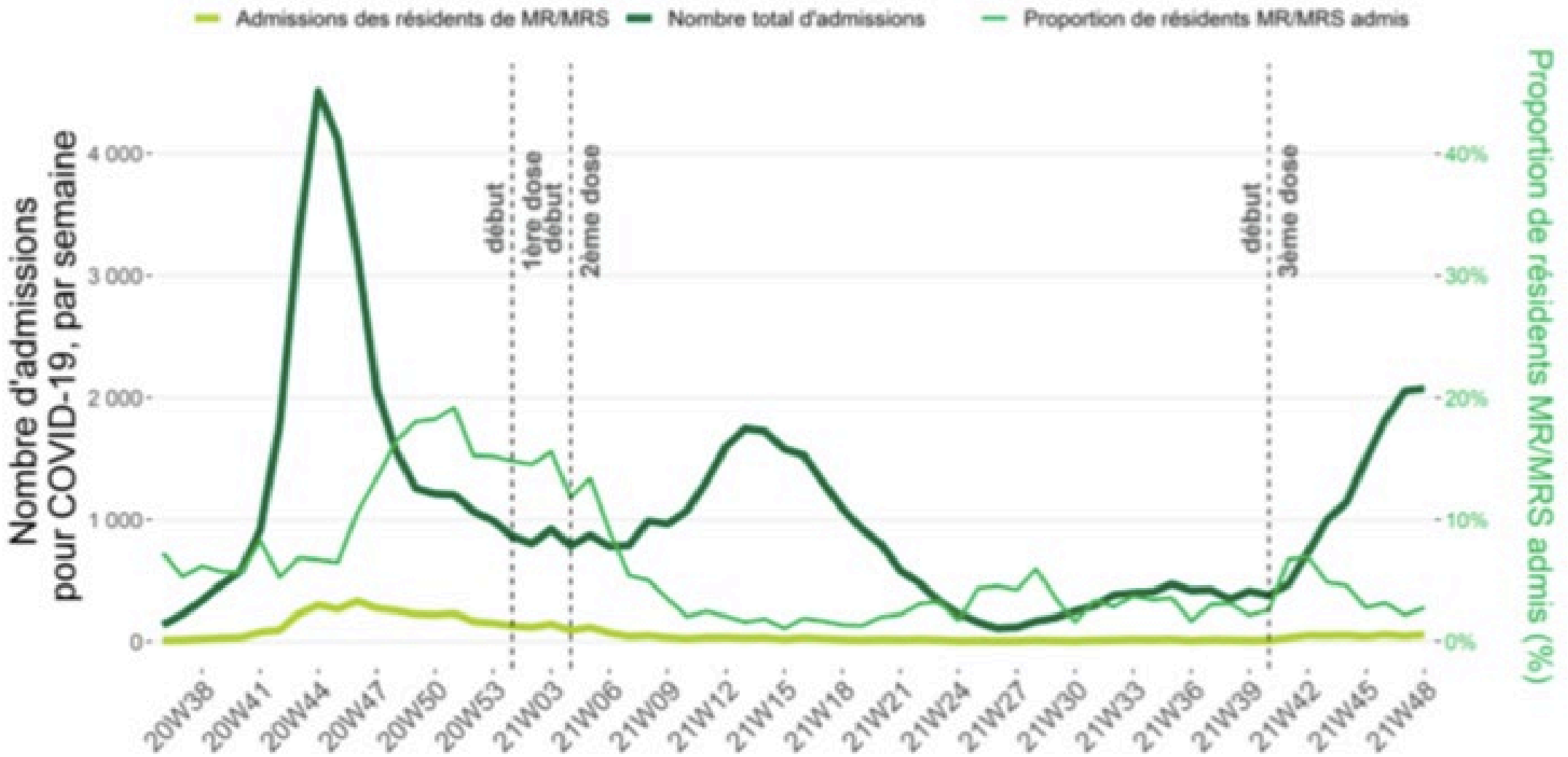
a. **Les résidents des maisons de repos et de soins (MRS) et des appartements de service, ainsi qu'aux personnes des établissements résidentiels pour personnes handicapées et des établissements gérontopsychiatriques.**

b. **Toujours sur la base d'arguments et d'éclairages scientifiques, le CSS conclut qu'il existe des indications claires pour recommander une dose supplémentaire de vaccin ARNm contre la COVID-19 chez les plus de 65 ans. Cela justifie la planification d'un programme de vaccination pour une dose supplémentaire pur ce groupe, les plus âgés en premier. Le CSS demande à la « Task Force vaccination » d'examiner et d'élaborer les aspects opérationnels.**

Finalement, d'autres catégories sont également en cours d'évaluation, telles que les personnes âgées de 18 à 64 ans à haut risque de la COVID-19 sévère; et les personnes âgées de 18 à 64 ans dont l'exposition institutionnelle ou professionnelle fréquente au SRAS-CoV-2 les expose à un risque élevé de complications graves de la COVID-19.

Le groupe de travail Vaccination du CSS surveille la littérature et les preuves scientifiques et fournira un avis supplémentaire si nécessaire.

Évolution des hospitalisations et de la proportion de résidents de MR/MRS admis, Belgique



CORRESPONDENCE

Nursing Home Staff Vaccination and Covid-19 Outcomes

TO THE EDITOR: Nursing home staff are considered to be a source of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in nursing homes.[1,2] The emergence of the B.1.617.2 (delta) variant has heightened concerns about coronavirus disease 2019 (Covid-19)–related illness and death in nursing homes, especially given the low vaccination rates among the staff at many facilities.[3] These concerns prompted the federal government to mandate that staff at nursing homes be vaccinated.[4] However, the potential effect of staff vaccination rates on Covid-19 in nursing homes has not been well studied.

Using national data (mainly from the Centers

NEJM, December 8, 2021

DOI: 10.1056/NEJMc2115674

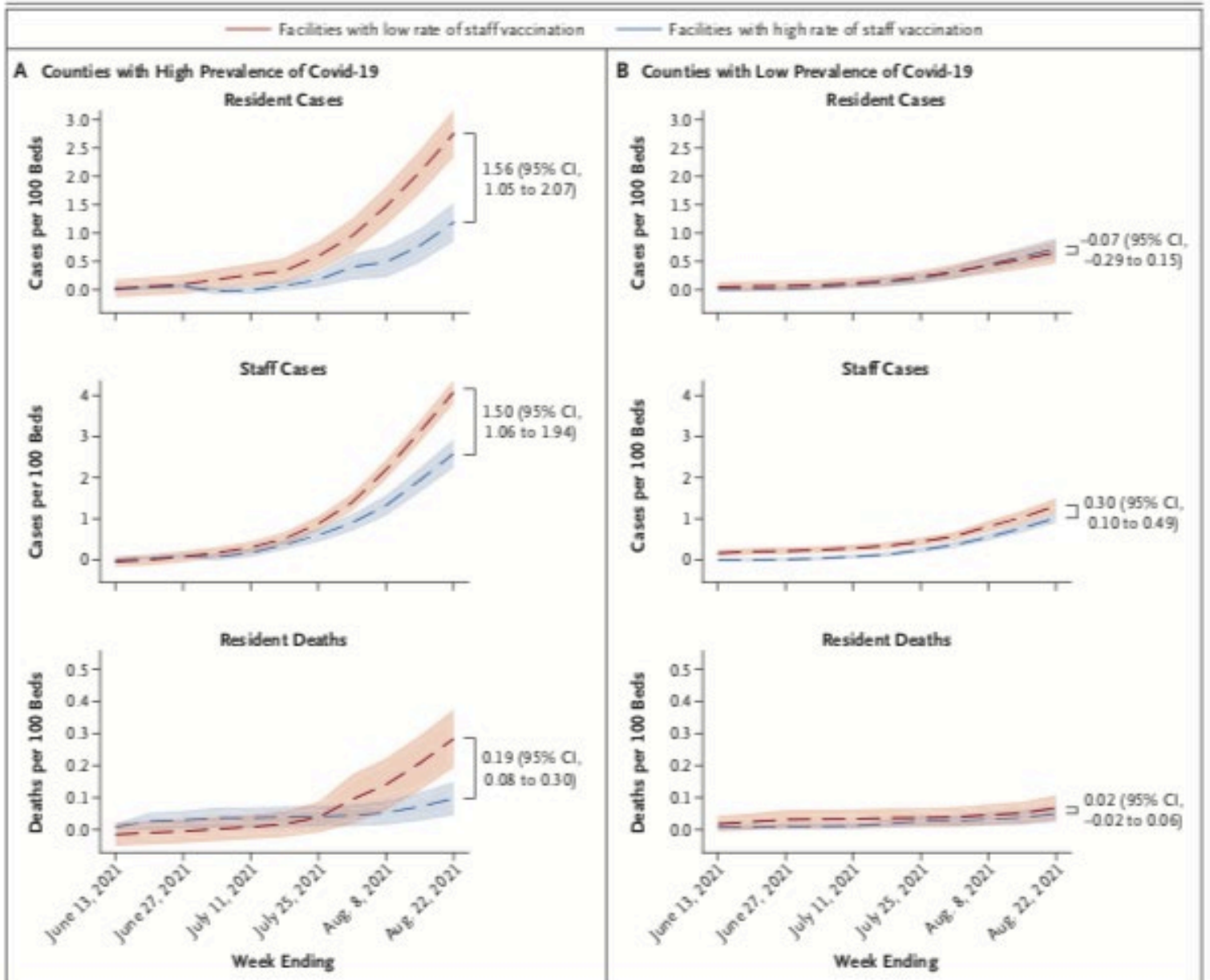


Figure 1. Cumulative Adjusted Covid-19 Outcomes, According to Nursing Home Staff Vaccination Coverage and County-Level Prevalence of Covid-19.

Shaded areas indicate 95% confidence intervals.

Conseil
Supérieur de la Santé

UNE DOSE DE RAPPEL DU VACCIN À ARNm CONTRE LA COVID-19 POUR LES PROFESSIONNELS DE LA SANTÉ

NOVEMBRE 2021
CSS N° 9679

.be

Dans ce contexte général, le CSS recommande qu'une dose de rappel du vaccin à ARNm contre la COVID-19 soit administrée à tous les professionnels de la santé âgés de plus de 18 ans au moins 4 à 6 mois après la primovaccination contre la COVID-19, essentiellement pour assurer la pérennité du système de santé et réduire le risque d'infections nosocomiales.

Belgium COVID-19 Epidemiological Situation

Vaccination - Page 3: Healthcare workers

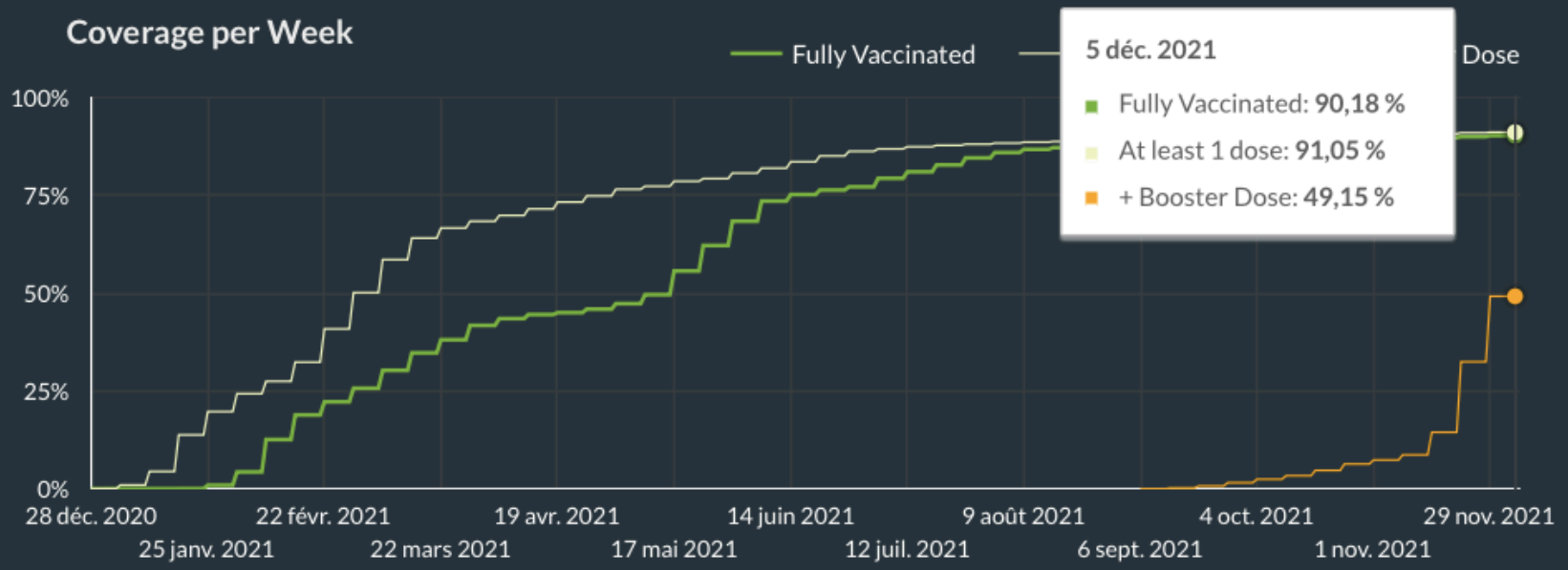
HCW (Numbers of 6 December)

Estimates based on the linkage between the national COVID-19 vaccine registry (Vaccinnet+) and the Common Base Registry for HealthCare Actor (CoBRHA)

These data only include healthcare workers residing in Belgium listed as alive at the start of the vaccination campaign and as active in the CoBRHA database.

Dose: Fully vaccinat...

Profession: ALL (1)



Superior Health Council

BOOSTER VACCINATION AGAINST COVID-19 FOR THE GENERAL POPULATION

NOVEMBER 2021
SHC № 9683

.be

3) **Based on these data, the SHC recommends a booster dose with an mRNA vaccine (full dose for Comirnaty® - ½ dose for Spikevax®[2]) for all persons over 18 years of age to prevent hospitalizations, infections and transmission.**

➔ In addition, this booster dose with an mRNA vaccine should be administered **in the same order of priority as the primary vaccination** and at least 2 to 6 months after the end of the primary vaccination (table below).

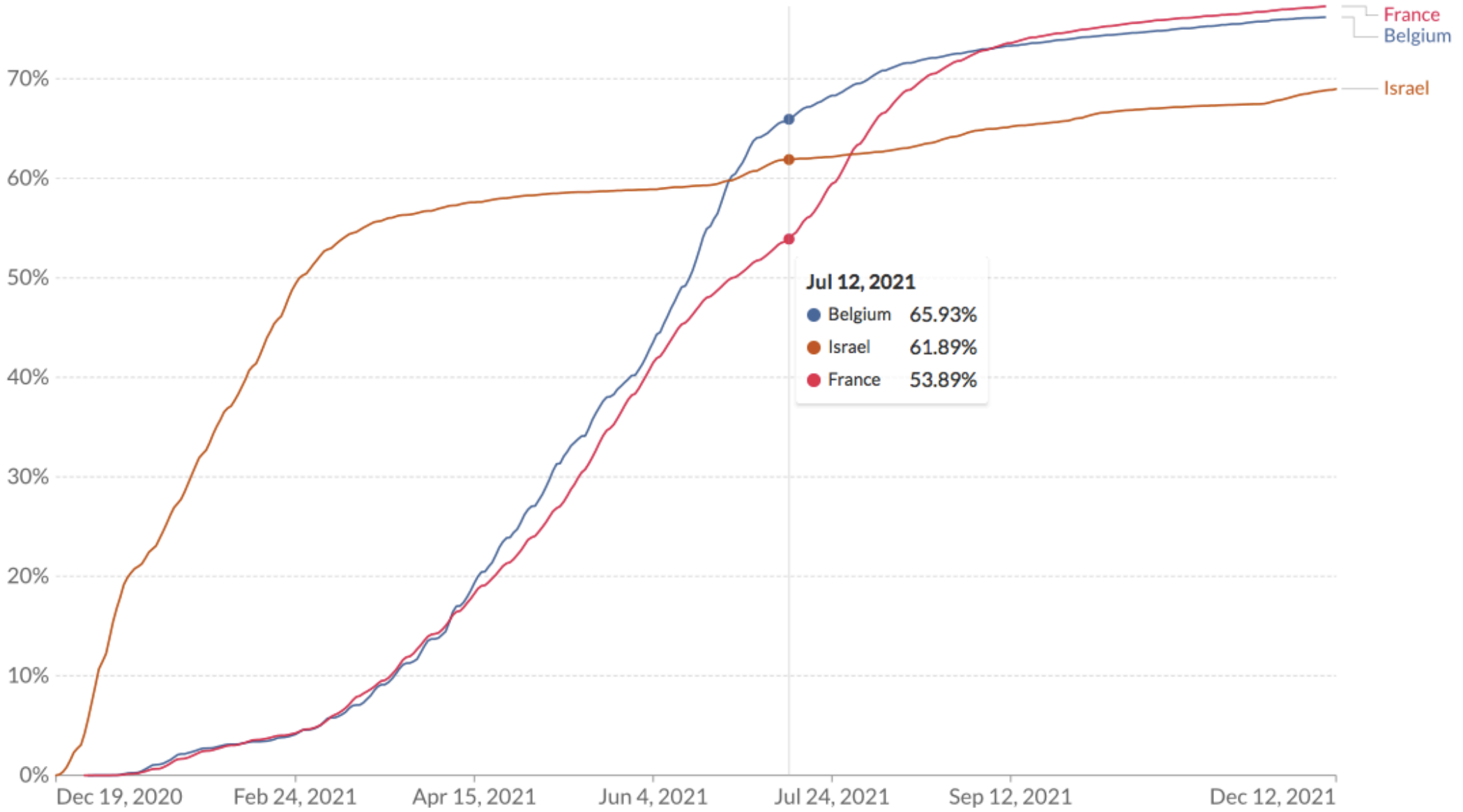
Primary vaccination	Type of primary vaccine	Primary vaccination schedule	Booster vaccination schedule
Spikevax® (Moderna)	mRNA	2 doses Spikevax®	>6 months booster of mRNA vaccine
Comirnaty® (BioNTech/Pfizer)	mRNA	2 doses Comirnaty®	>6 months booster of mRNA vaccine
Vaxzevria® (AstraZeneca)	Viral Vector	2 doses Vaxzevria®	>4 months booster of mRNA vaccine
COVID-19 Vaccine Janssen®	Viral Vector	1 dose COVID-19 Vaccine Janssen®	>2 months booster of mRNA vaccine

Share of people who received at least one dose of COVID-19 vaccine

Total number of people who received at least one vaccine dose, divided by the total population of the country.

Our World in Data

LINEAR LOG

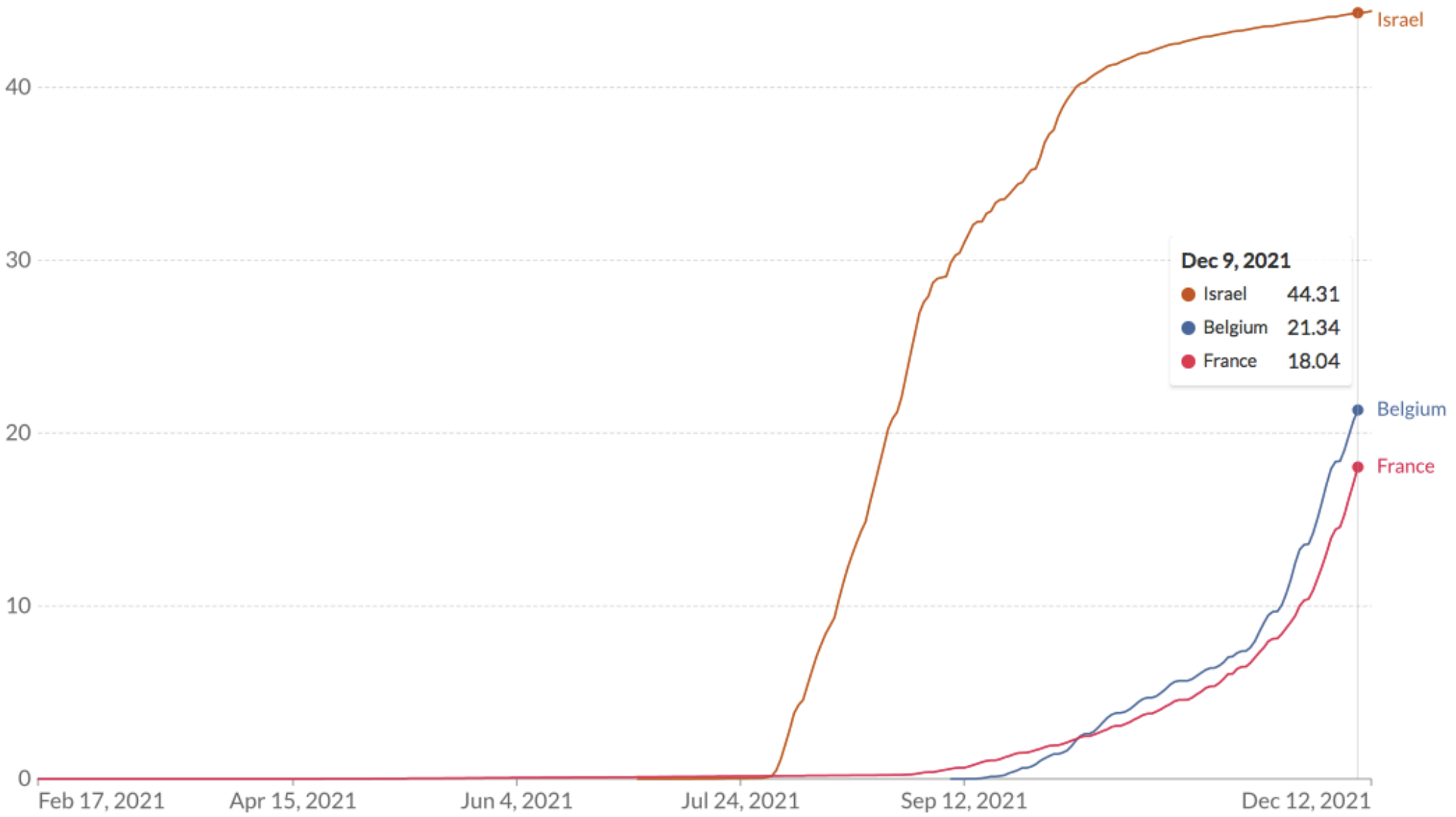


COVID-19 vaccine booster doses administered per 100 people

Total number of vaccine booster doses administered, divided by the total population of the country. Booster doses are doses administered beyond those prescribed by the original vaccination protocol.

Our World in Data

LINEAR LOG



Effectiveness of a third dose of the BNT162b2 mRNA COVID-19 vaccine for preventing severe outcomes in Israel: an observational study

Noam Barda*, Noa Dagan*, Cyrille Cohen, Miguel A Hernán, Marc Lipsitch, Isaac S Kohane, Ben Y Reis†, Ran D Balicer†

Summary

Background Many countries are experiencing a resurgence of COVID-19, driven predominantly by the delta (B.1.617.2) variant of SARS-CoV-2. In response, these countries are considering the administration of a third dose of mRNA COVID-19 vaccine as a booster dose to address potential waning immunity over time and reduced effectiveness against the delta variant. We aimed to use the data repositories of Israel's largest health-care organisation to evaluate the effectiveness of a third dose of the BNT162b2 mRNA vaccine for preventing severe COVID-19 outcomes.

Methods Using data from Clalit Health Services, which provides mandatory health-care coverage for over half of the Israeli population, individuals receiving a third vaccine dose between July 30, 2020, and Sept 23, 2021, were matched (1:1) to demographically and clinically similar controls who did not receive a third dose. Eligible participants had received the second vaccine dose at least 5 months before the recruitment date, had no previous documented SARS-CoV-2 infection, and had no contact with the health-care system in the 3 days before recruitment. Individuals who are health-care workers, live in long-term care facilities, or are medically confined to their homes were excluded. Primary outcomes were COVID-19-related admission to hospital, severe disease, and COVID-19-related death. The third dose effectiveness for each outcome was estimated as 1–risk ratio using the Kaplan-Meier estimator.

Findings 1158 269 individuals were eligible to be included in the third dose group. Following matching, the third dose and control groups each included 728 321 individuals. Participants had a median age of 52 years (IQR 37–68) and 51% were female. The median follow-up time was 13 days (IQR 6–21) in both groups. Vaccine effectiveness evaluated at least 7 days after receipt of the third dose, compared with receiving only two doses at least 5 months ago, was estimated to be 93% (231 events for two doses *vs* 29 events for three doses; 95% CI 88–97) for admission to hospital, 92% (157 *vs* 17 events; 82–97) for severe disease, and 81% (44 *vs* seven events; 59–97) for COVID-19-related death.

Interpretation Our findings suggest that a third dose of the BNT162b2 mRNA vaccine is effective in protecting individuals against severe COVID-19-related outcomes, compared with receiving only two doses at least 5 months ago.

Funding The Ivan and Francesca Berkowitz Family Living Laboratory Collaboration at Harvard Medical School and Clalit Research Institute.

Lancet 2021; 398: 2093–100

Published Online October 29, 2021 https://doi.org/10.1016/S0140-6736(21)02249-2

See **Comment** page 2055

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ORIGINAL ARTICLE

BNT162b2 Vaccine Booster and Mortality Due to Covid-19

Ronen Arbel, Ph.D., Ariel Hammerman, Ph.D., Ruslan Sergienko, M.A., Michael Friger, Ph.D., Alon Peretz, M.D., Doron Netzer, M.D., and Shlomit Yaron, M.D.

December 8, 2021
DOI: 10.1056/NEJMoa2115624

18 References 1 Citing Article

Abstract

BACKGROUND

The emergence of the B.1.617.2 (delta) variant of severe acute respiratory syndrome coronavirus 2 and the reduced effectiveness over time of the BNT162b2 vaccine (Pfizer–BioNTech) led to a resurgence of coronavirus disease 2019 (Covid-19) cases in populations that had been vaccinated early. On July 30, 2021, the Israeli Ministry of Health approved the use of a third dose of BNT162b2 (booster) to cope with this resurgence. Evidence regarding the effectiveness of the booster in lowering mortality due to Covid-19 is still needed.

METHODS

We obtained data for all members of Clalit Health Services who were 50 years of age or older at the start of the study and had received two doses of BNT162b2 at least 5 months earlier. The mortality due to Covid-19 among participants who received the booster during the study period (booster group) was compared with that among participants who did not receive the booster (nonbooster group). A Cox proportional-hazards regression model with time-dependent covariates was used to estimate the association of booster status with death due to Covid-19, with adjustment for sociodemographic factors and coexisting conditions.

RESULTS

A total of 843,208 participants met the eligibility criteria, of whom 758,118 (90%) received the booster during the 54-day study period. Death due to Covid-19 occurred in 65 participants in the booster group (0.16 per 100,000 persons per day) and in 137 participants in the nonbooster group (2.98 per 100,000 persons per day). The adjusted hazard ratio for death due to Covid-19 in the booster group, as compared with the nonbooster group, was 0.10 (95% confidence interval, 0.07 to 0.14; P<0.001).

CONCLUSIONS

Participants who received a booster at least 5 months after a second dose of BNT162b2 had 90% lower mortality due to Covid-19 than participants who did not receive a booster.

Related Articles

EDITORIAL DEC 8, 2021
Booster Doses and Prioritizing Lives Saved
M.K. Patel

ORIGINAL ARTICLE DEC 8, 2021
Protection against Covid-19 by BNT162b2 Booster across Age Groups
Y.M. Bar-On and Others

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EMA and ECDC recommendations on heterologous vaccination courses against COVID-19

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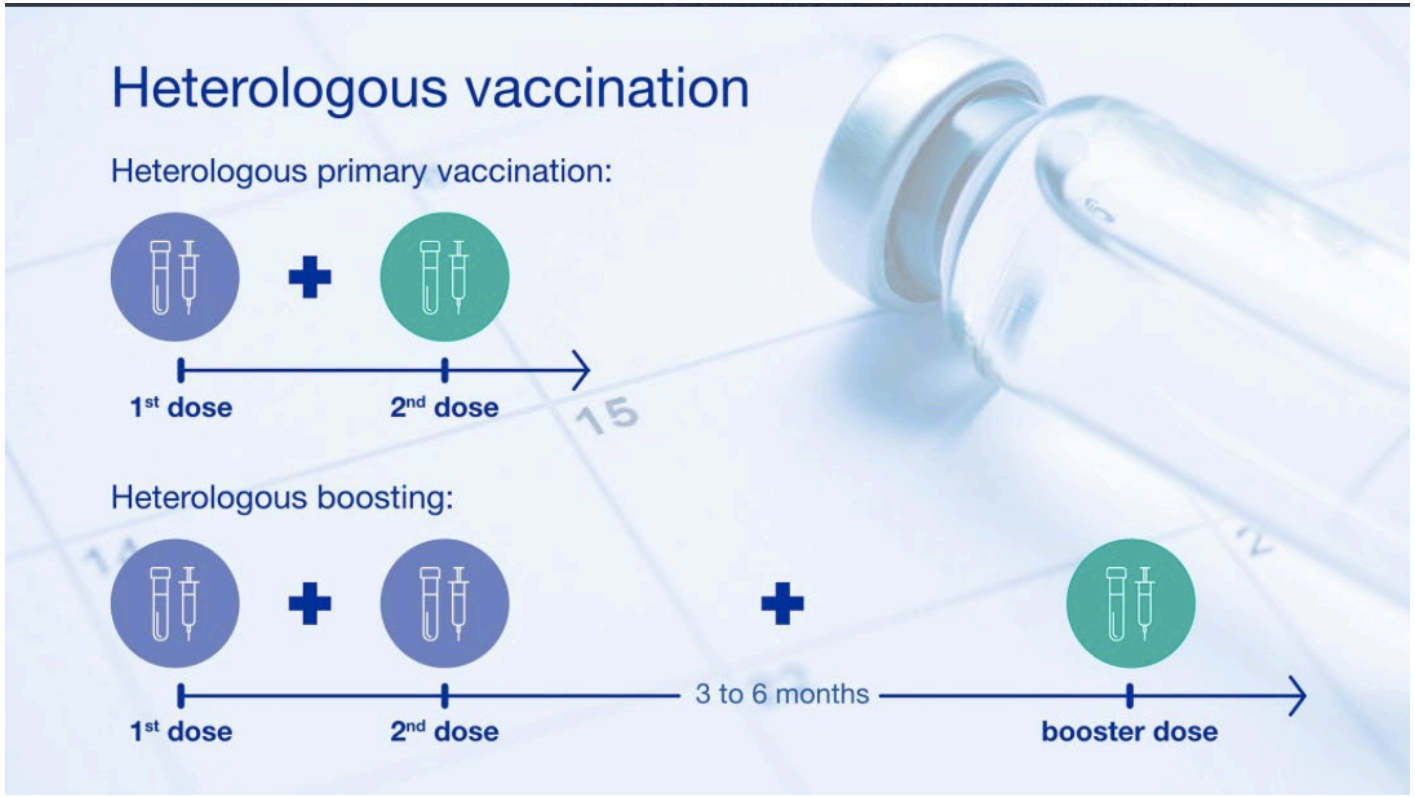
News 07/12/2021

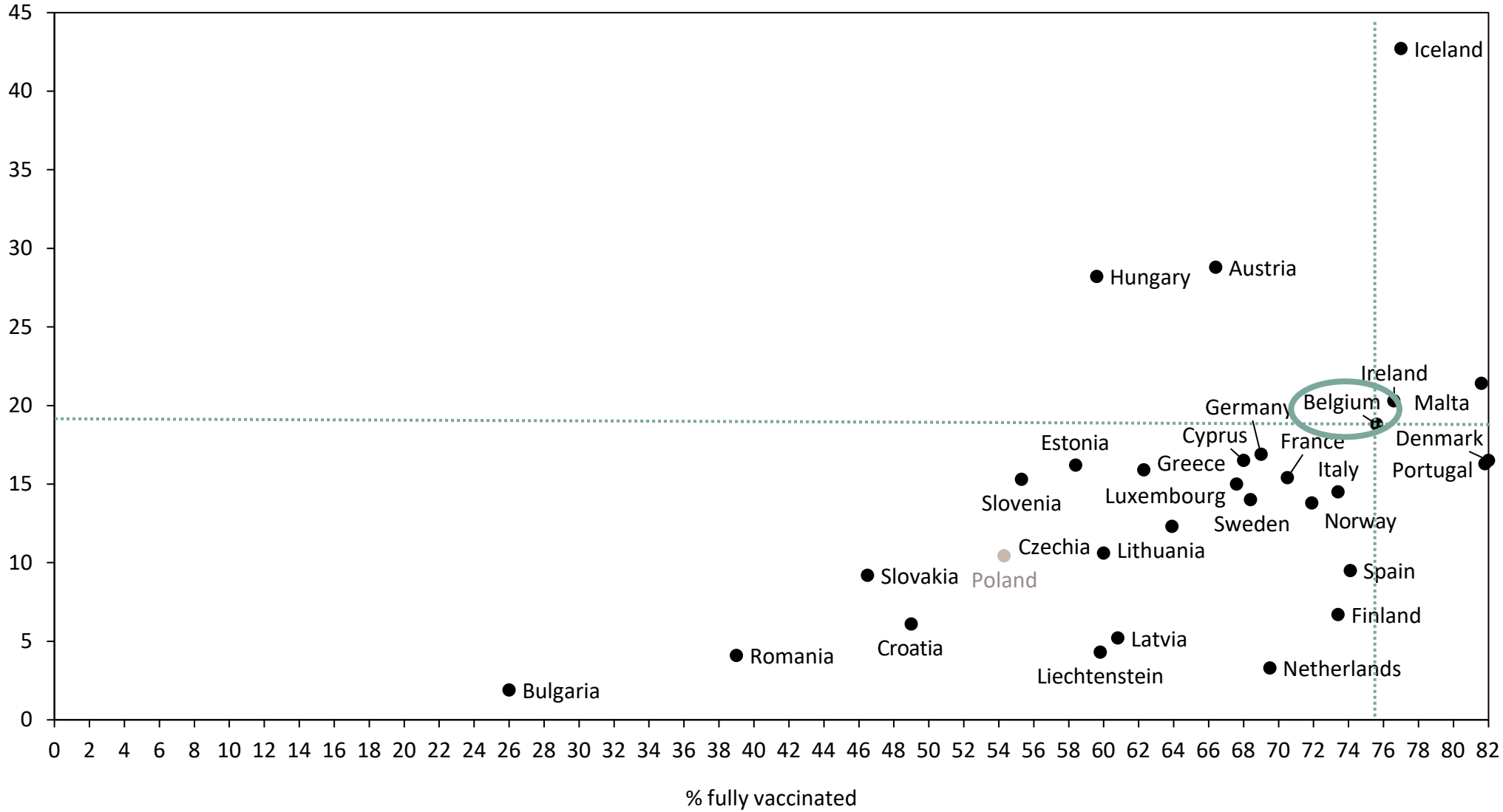
'Mix-and-match' approach can be used for both initial courses and boosters



International comparison: vaccination coverage fully-vaccinated population and extra doses

COVID-19 | European Centre for Disease Prevention and Control (europa.eu) updated on 8/12

Data for Poland are not included in the ECDC vaccine tracker. Data in grey are therefore based on https://ourworldindata.org




Group
Females
Males
85+
75–84
65–74
55–64
45–54
35–44
25–34
18–24
12–17
0–11
At Least 1 Dose
Fully Vaccinated
+ Booster Dose
Population
800 k
600 k
400 k
200 k
0
0
200 k
400 k
600 k
800 k


DELTA
ALPHA
DELTA
OMICRON
DELTA
imgflip.com

- Des études préliminaires en laboratoire démontrent que
  - **trois doses** du vaccin Pfizer-BioNTech COVID-19 neutraliser la variante Omicron (lignée B.1.1.529),
  - **deux doses** montrent une réduction significative titres de neutralisation

- Les données indiquent qu'une troisième dose de BNT162b2 augmente les titres d'anticorps neutralisants de 25 fois par rapport à deux doses contre la variante Omicron ; **les titres après la dose de rappel sont comparables aux titres observées après deux doses contre le virus sauvage, qui sont associées à des niveaux de protection élevés**

- En raison de la présence de réponses mémoire des cellules B et T chez les individus vaccinés, et comme 80% des épitopes dans la protéine de pointe reconnue par les lymphocytes T CD8+ n'est pas affectée par les mutations de l'Omicron variante, deux doses peuvent encore induire une protection contre une maladie grave.

UK Health Security Agency

SARS-CoV-2 variants of concern and variants under investigation in England

Technical briefing 31

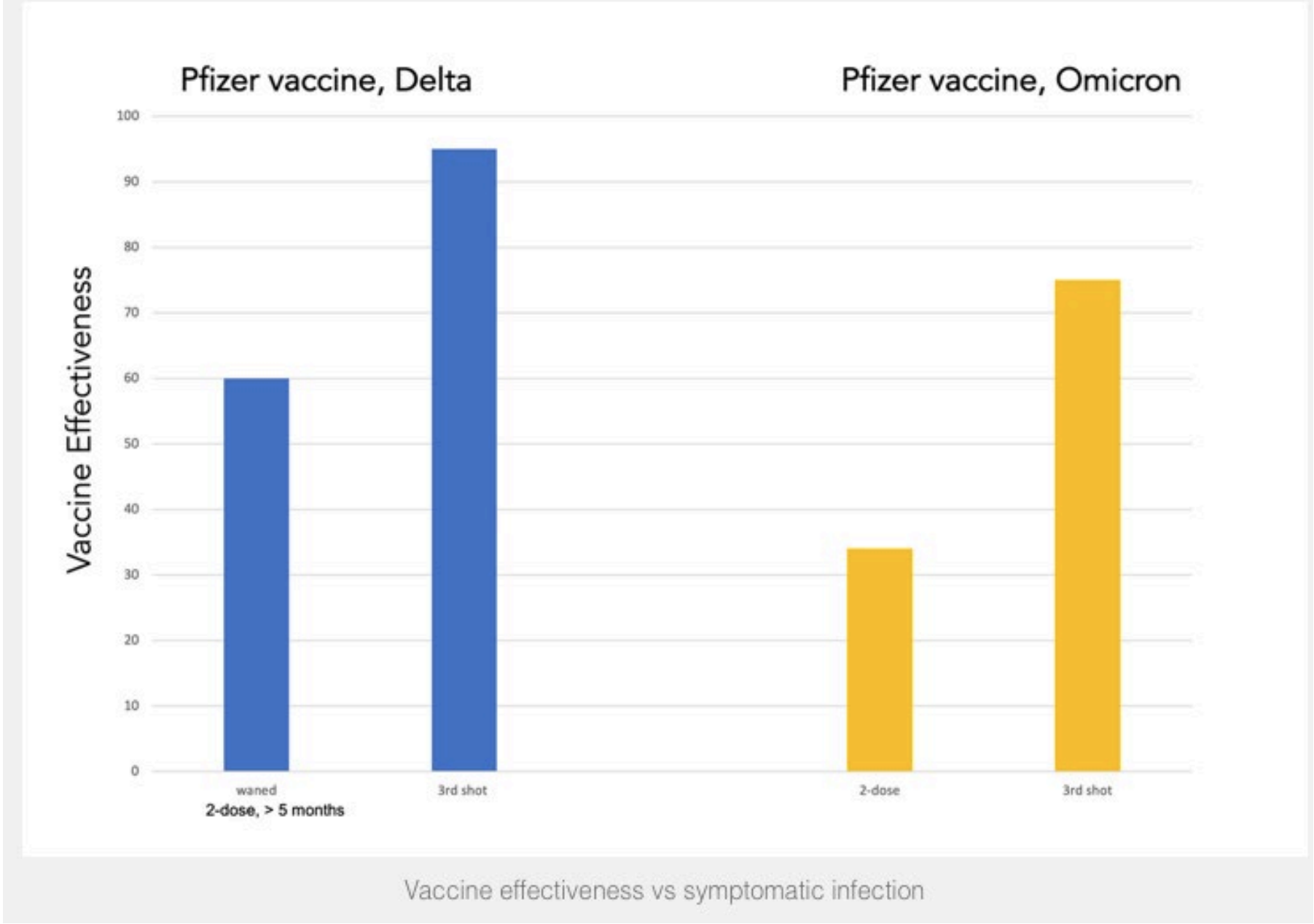
10 December 2021

These preliminary findings suggest that the Omicron variant has a transmission advantage compared to Delta. However, this analysis may be affected by increased ascertainment of Omicron cases, but most household transmission in the analysis predate the start of enhanced contact tracing for Omicron. The analysis will be iterated to improve precision.

Table 2. Odds of household transmission for Omicron VOC-21NOV-01 (B.1.1.529) index cases compared to Delta

	Unadjusted Odds Ratio (95% CI)	P value	Adjusted Odds Ratio* (95%CI)	P value
Omicron household transmission	**2.6 (1.6 - 4.1)**	**<0.001**	**3.2 (2.0 - 5.0)**	**<0.001**

*Adjusted for age, sex, ethnicity, index of multiple deprivation, type of residence, specimen date, number of household contacts, region and vaccination status of the index case



https://erictopol.substack.com/p/omicron-is-getting-more-defined?justPublished=true

Vaccination Covid-19 : 5-11 ans et adolescents

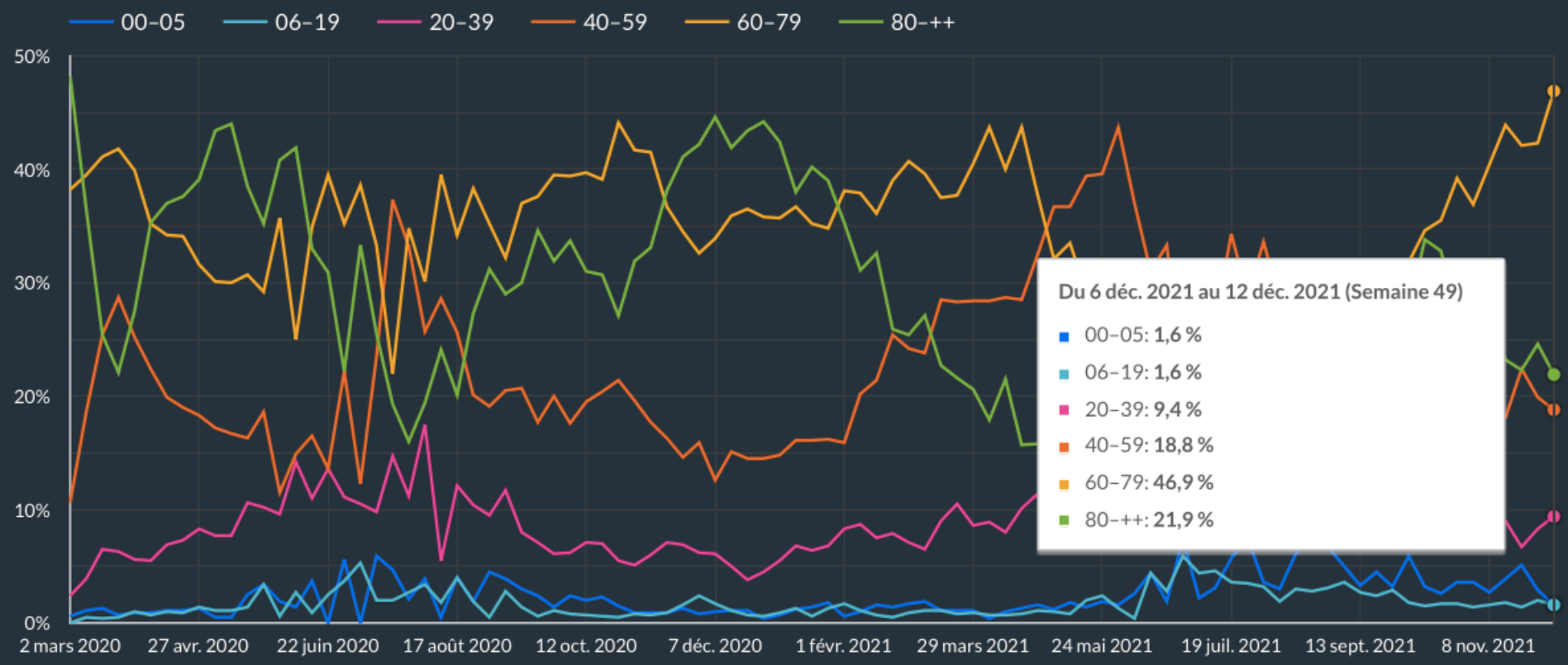
- Réduire l'impact médical direct du COVID-19 sur les enfants et les adolescents
- Réduire l'impact médical indirect du COVID-19 sur les enfants et les adolescents
- (santé mentale, activité physique si confinement, etc.)
- Prévenir les perturbations de l'école
- Réduire la transmission

Belgium COVID-19 Epidemiological Situation

Hospitalisations - Page 2: Clinical Surveillance

Page 1

Weekly Age Groups Proportions of New Hospital Admissions



The last 2 weeks may still vary, as all data has not been reported yet

Vaccination Covid-19 : 5-11 ans

Coverage by Region and Age Group

Age Group	Brussels	Flanders	Ostbelgien	Wallonia
85+	83 %	93 %	83 %	85 %
75-84	84 %	96 %	89 %	90 %
65-74	83 %	96 %	88 %	90 %
55-64	80 %	95 %	78 %	88 %
45-54	76 %	93 %	78 %	85 %
35-44	68 %	90 %	73 %	79 %
25-34	63 %	87 %	66 %	73 %
18-24	56 %	88 %	70 %	77 %
12-17	44 %	86 %	61 %	68 %

* Population of age >= 18 years old

Vaccination Covid-19 : 5-11 ans

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Comirnaty COVID-19 vaccine: EMA recommends approval for children aged 5 to 11

Share

News 25/11/2021

EMA's human medicines committee (CHMP) has recommended granting an extension of indication for the COVID-19 vaccine Comirnaty to include use in children aged 5 to 11. The vaccine, developed by BioNTech and Pfizer, is already approved for use in adults and children aged 12 and above.

In children from 5 to 11 years of age, the dose of Comirnaty will be lower than that used in people aged 12 and above (10 µg compared with 30 µg). As in the older age group, it is given as two injections in the muscles of the upper arm, three weeks apart.

A main study in children aged 5 to 11 showed that the immune response to Comirnaty given at a lower dose (10 µg) in this age group was comparable to that seen with the higher dose (30 µg) in 16- to 25-year-olds (as measured by the level of antibodies against SARS-CoV-2). The efficacy of Comirnaty was calculated in almost 2,000 children from 5 to 11 years of age who had no sign of previous infection. These children received either the vaccine or a placebo (a dummy injection). Of the 1,305 children receiving the vaccine, three developed COVID-19 compared with 16 out of the 663 children who received placebo. This means that, in this study, the vaccine was 90.7% effective at preventing symptomatic COVID-19 (although the true rate could be between 67.7% and 98.3%).

The most common side effects in children aged 5 to 11 are similar to those in people aged 12 and above. They include pain at the injection site, tiredness, headache, redness and swelling at the site of injection, muscle pain and chills. These effects are usually mild or moderate and improve within a few days of vaccination.

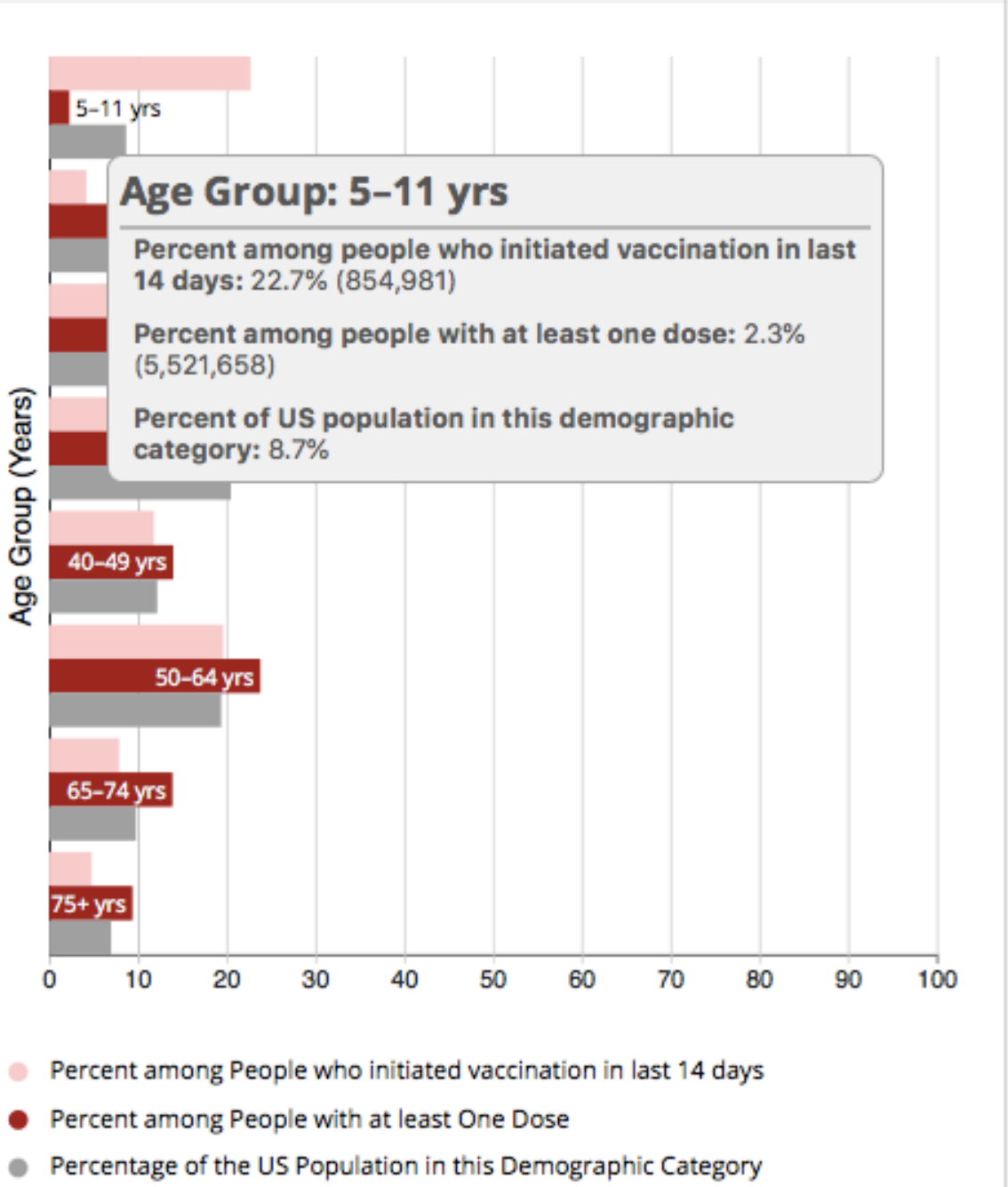
The CHMP therefore concluded that the benefits of Comirnaty in children aged 5 to 11 outweigh the risks, particularly in those with conditions that increase the risk of severe COVID-19.

The safety and efficacy of the vaccine in both children and adults will continue to be monitored closely as it is used in vaccination campaigns in EU Member States through the EU pharmacovigilance system and ongoing and additional studies conducted by the company and by European authorities.

The CHMP will now send its recommendation to the European Commission, which will issue a final decision.

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

COVID Data Tracker



Merci pour votre attention

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