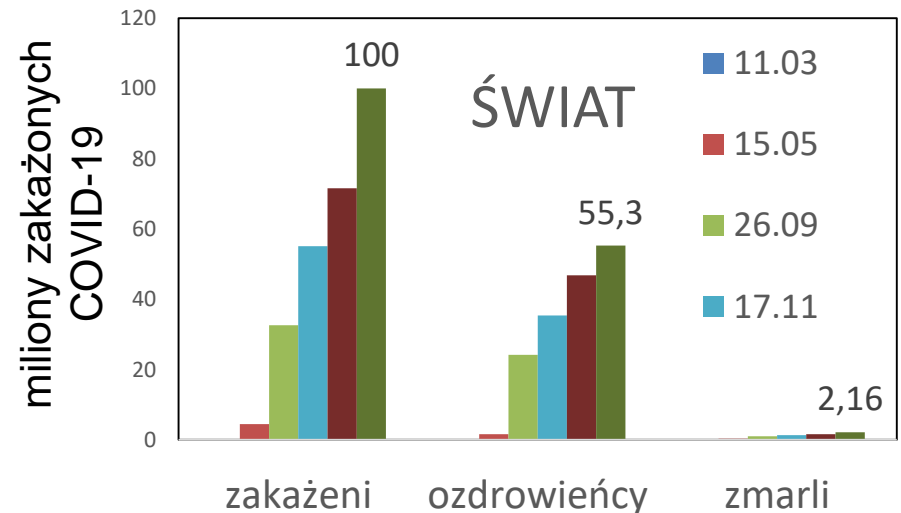
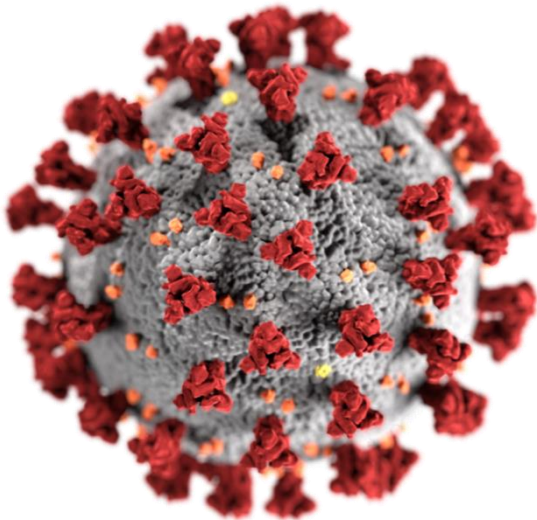


# PAU dla SZKÓŁ

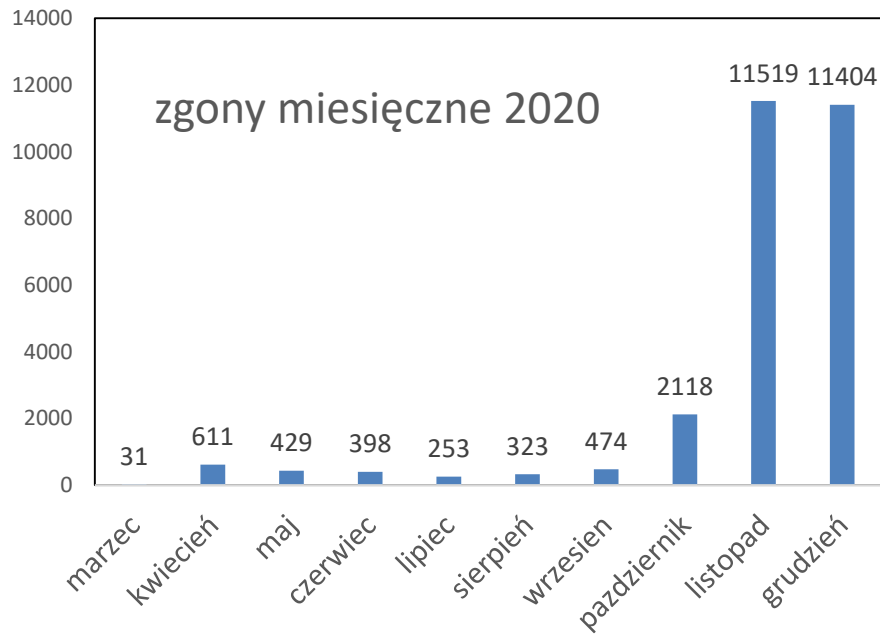
## AKTUALNOŚCI COVID-19

(27 styczeń 2021)

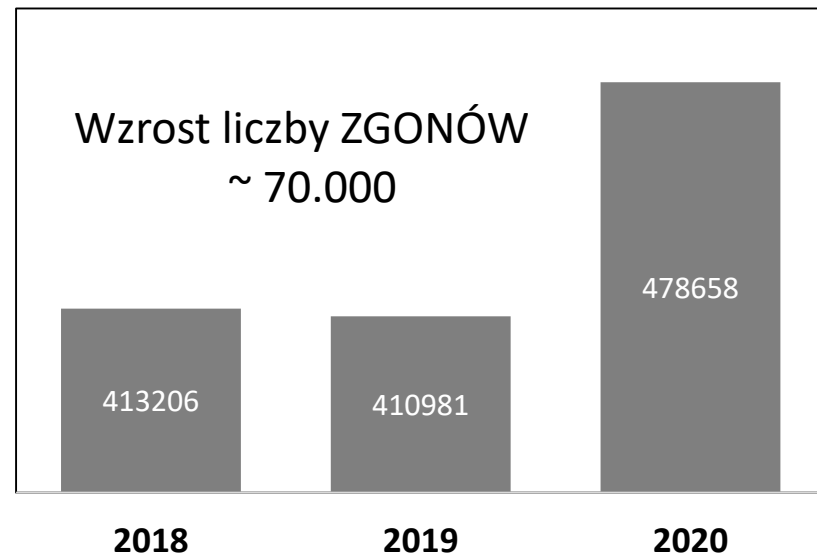
# Szczepionki mRNA



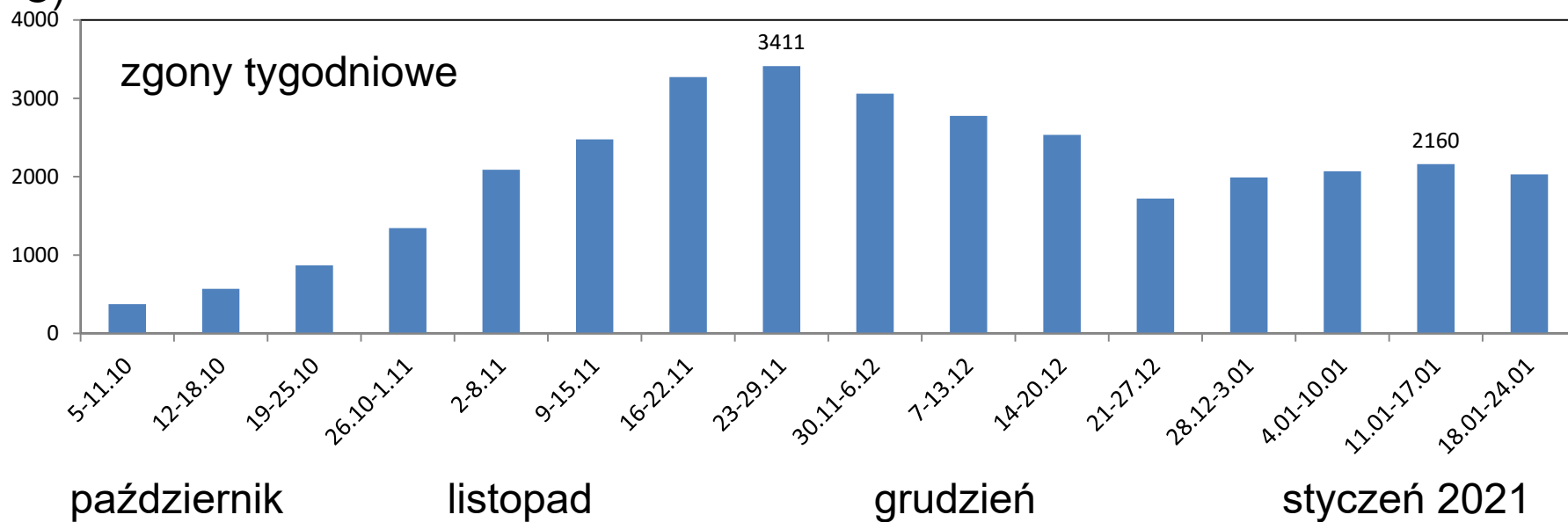
A)

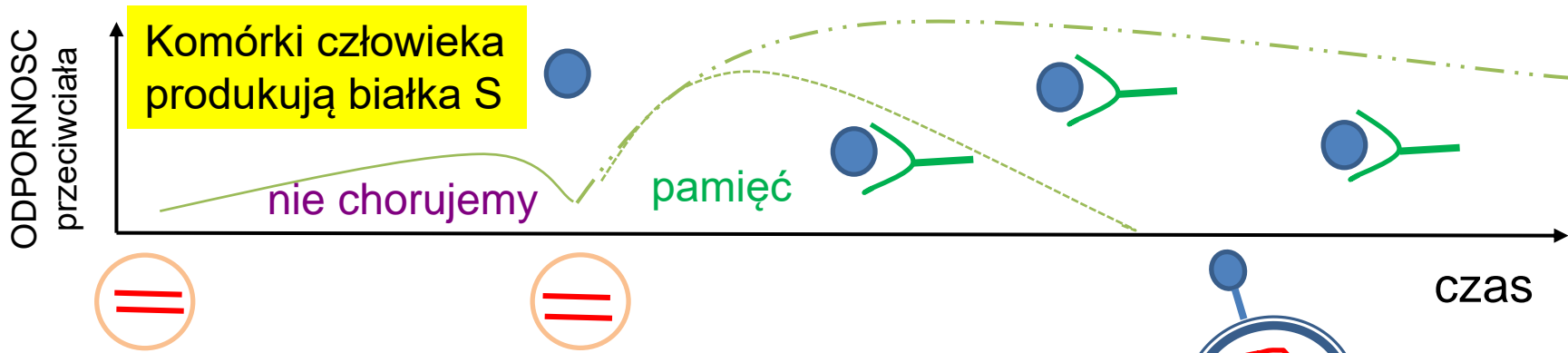


B)

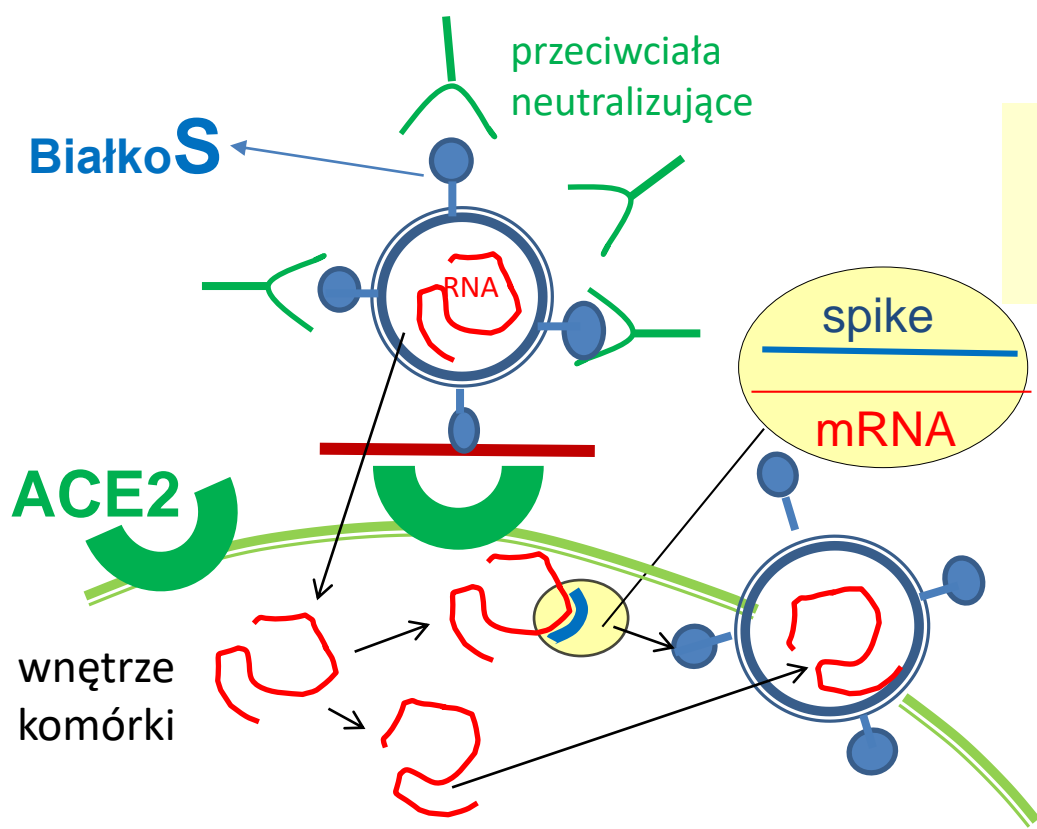
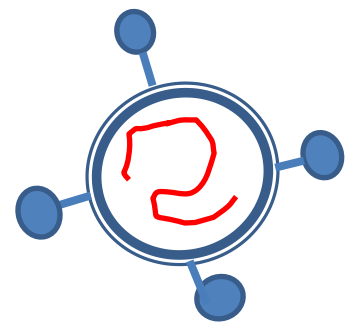


C)





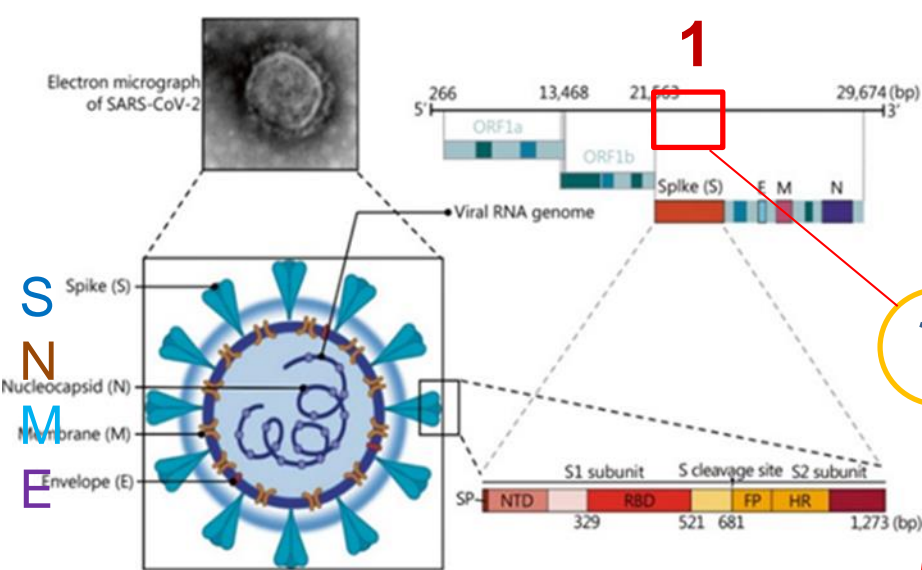
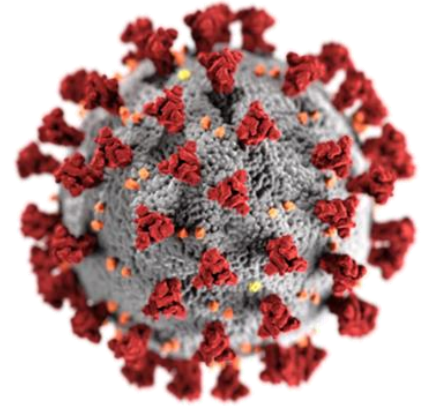
mRNA dla białek S (spike)



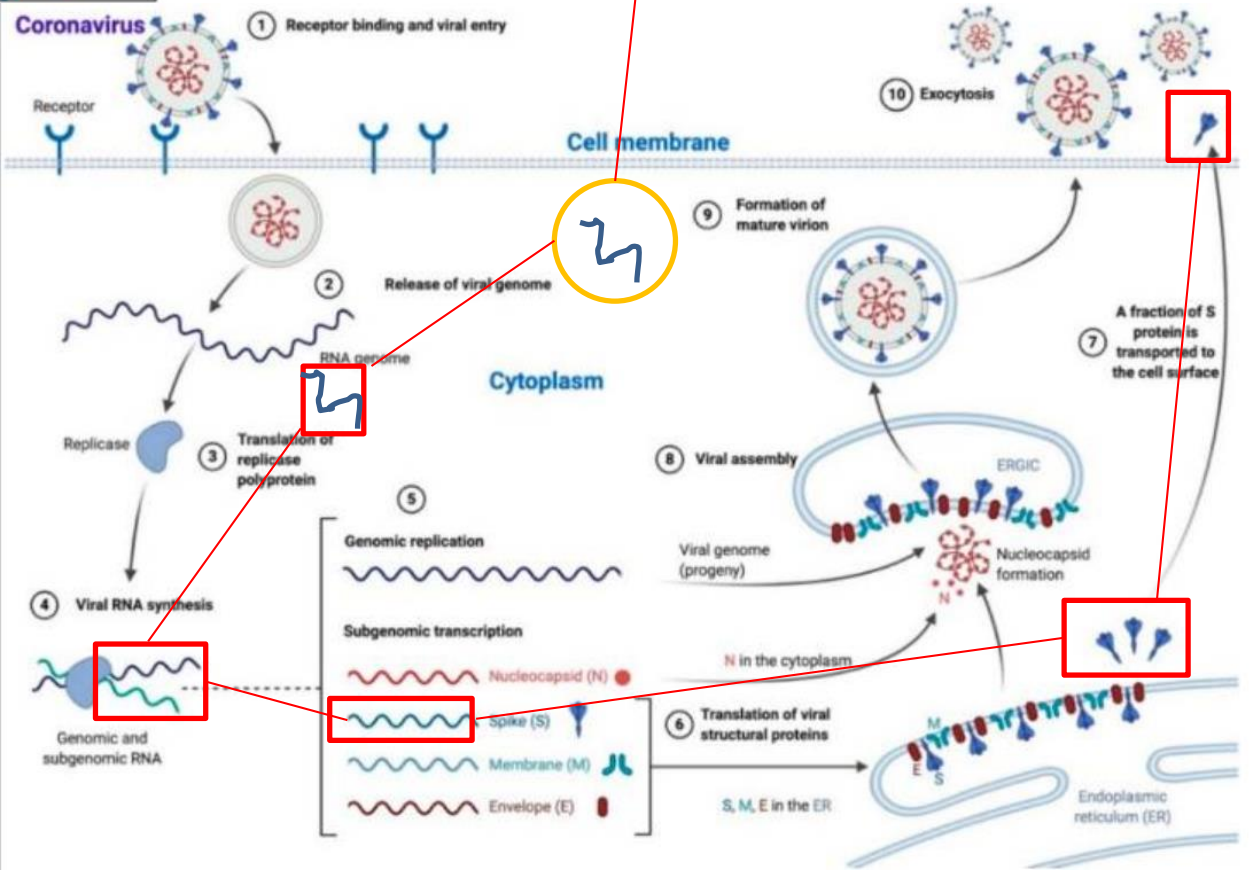
LABORATORYJNA SYNTEZA  
**mRNA** DLA BIAŁEK S

**SZCZEPIONKA  
 mRNA**

# Szczepionka mRNA



S  
N  
M  
E



3

4

5

7

6

# SZCZEPIONKI mRNA

THE NEW ENGLAND JOURNAL of MEDICINE

RESEARCH SUMMARY

## Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine

F.P. Polack, et al. DOI: 10.1056/NEJMoa2035477

**CLINICAL PROBLEM**

Safe and effective vaccines to prevent severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and Covid-19 are urgently needed. No vaccines that protect against betacoronaviruses are currently available, and mRNA-based vaccines have not been widely tested.

**CLINICAL TRIAL**

A randomized, double-blind study of an mRNA vaccine encoding the SARS-CoV-2 spike protein.

43,548 participants ≥16 years old were assigned to receive the vaccine or placebo by intramuscular injection on day 0 and day 21. Participants were followed for safety and for the development of symptomatic Covid-19 for a median of 2 months.

**RESULTS**

**Safety:**

Vaccine recipients had local reactions (pain, erythema, swelling) and systemic reactions (e.g., fever, headache, myalgias) at higher rates than placebo recipients, with more reactions following the second dose. Most were mild to moderate and resolved rapidly.

**Efficacy:**

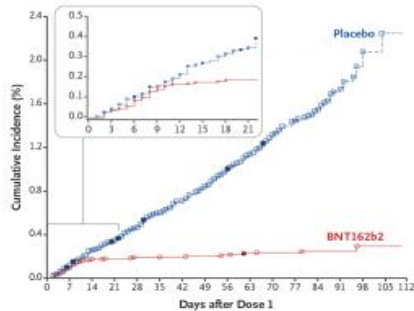
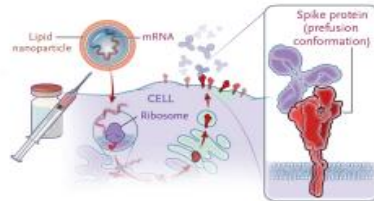
The vaccine showed some early protection 12 days after the first dose; 7 days after the second dose, 95% efficacy was observed.

**LIMITATIONS AND REMAINING QUESTIONS**

Further study is required to understand the following:

- Safety and efficacy beyond 2 months and in groups not included in this trial (e.g., children, pregnant women, and immunocompromised persons).
- Whether the vaccine protects against asymptomatic infection and transmission to unvaccinated persons.
- How to deal with those who miss the second vaccine dose.

Links: Full article | NEJM QuickTake | Editorial



	BNT162b2 Vaccine	Placebo
Symptomatic Covid-19	8	162
	N=18198	N=18325
Severe Covid-19	1	9
	N=21669	N=21686

Vaccine efficacy of 95% (95% credible interval, 90.3–97.6%)

**CONCLUSIONS**

Two doses of an mRNA-based vaccine were safe over a median of two months and provided 95% protection against symptomatic Covid-19 in persons 16 years of age or older.

THE NEW ENGLAND JOURNAL of MEDICINE

RESEARCH SUMMARY

## Efficacy and Safety of mRNA-1273 SARS-CoV-2 Vaccine

L.R. Baden, et al. DOI: 10.1056/NEJMoa2035389

**CLINICAL PROBLEM**

The Covid-19 pandemic continues and expands. Additional data regarding vaccines to prevent symptomatic severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection are needed. The mRNA-1273 vaccine is a lipid-encapsulated mRNA vaccine encoding the prefusion stabilized spike protein of SARS-CoV-2.

**CLINICAL TRIAL**

A randomized, double-blind trial to evaluate the efficacy and safety of mRNA-1273.

30,420 participants ≥18 years old were assigned to receive either the vaccine or placebo in two intramuscular injections 28 days apart. Participants were followed for safety and the development of laboratory-confirmed, symptomatic Covid-19 over a median of 2 months after the second dose.

**RESULTS**

**Safety:**

Vaccine recipients had higher rates of local reactions (e.g., pain, erythema, swelling) and systemic reactions (e.g., headache, fatigue, myalgia) than placebo recipients. Most reactions were mild to moderate and resolved over 1–3 days.

**Efficacy:**

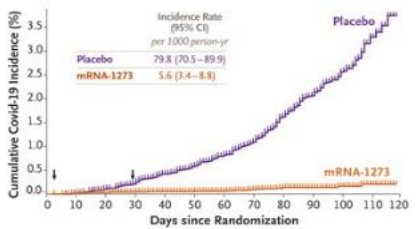
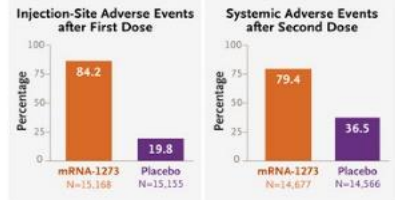
The incidence of Covid-19 was lower among vaccine recipients than among placebo recipients as early as 14 days after the first dose. Protection in the vaccine group persisted for the period of follow-up.

**LIMITATIONS AND REMAINING QUESTIONS**

Further study is required to understand the following:

- Safety and efficacy over a longer period of time, in a larger population, and in pregnant women and children.
- Whether the vaccine protects against asymptomatic infection and transmission to unvaccinated persons.
- How to care for those who miss the second vaccine dose.

Links: Full article | NEJM Quick Take | Editorial



	mRNA-1273 Vaccine	Placebo
Symptomatic Covid-19	11	185
	N=14,550	N=14,598
Severe Covid-19	0	30

Vaccine efficacy of 94.1% (95% CI, 89.3–96.8%; P<0.001)

**CONCLUSIONS**

Two doses of a SARS-CoV-2 mRNA-based vaccine were safe and provided 94% efficacy against symptomatic Covid-19 in persons 18 or older.



# Oxford University - AstraZeneca

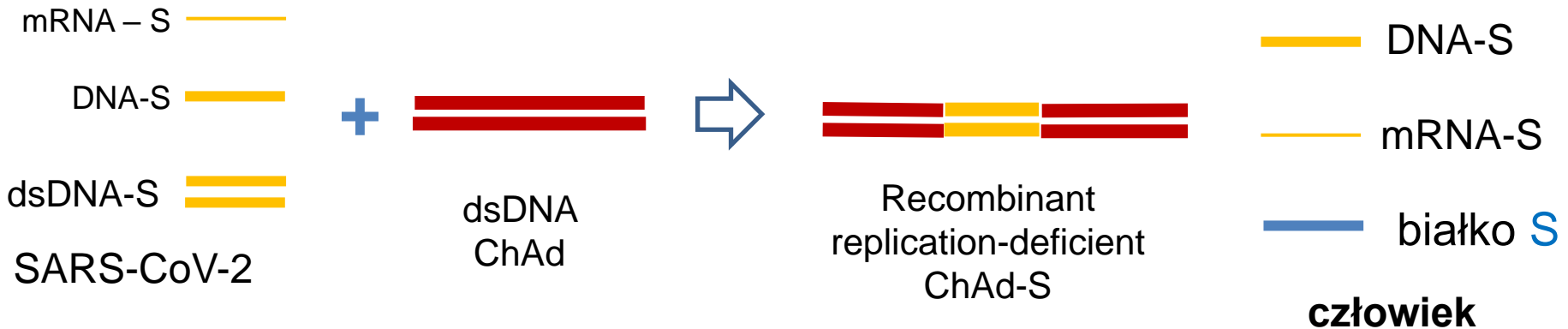
One dose (0.5 ml) contains: COVID-19 Vaccine (ChAdOx1-S\* recombinant)  $5 \times 10^{10}$  viral particles (vp)

\*Recombinant, replication-deficient chimpanzee adenovirus vector encoding the SARS-CoV-2 Spike (S) glycoprotein.

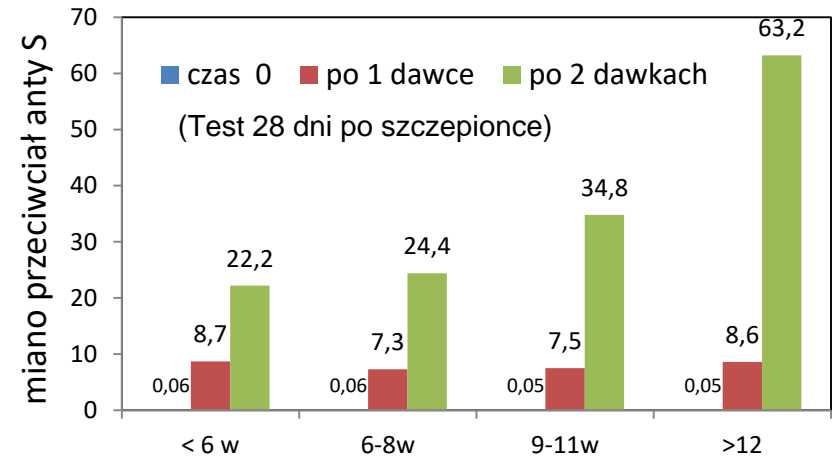
Produced in genetically modified human embryonic kidney (HEK) 293 cells.

This product contains genetically modified organisms (GMOs).

2-8°C; 2. dawka po 4-12 tyg.



	AstraZeneca	placebo	
	5807	5829	
Covid-19	30	101	70,42%
szpital	0	5	
ciężki przebieg	0	1	
	10014	10000	
Covid-19	108	227	52,69%
szpital	2	16	
ciężki przebieg	0	2	



## Porównanie szczepionek przeciw COVID-19

	<b>Pfizer-BioNTech</b>	<b>Moderna</b>	<b>Oxford-Astra Zeneca</b>
Istota działania	mRNA-S	mRNA-S	mRNA-S
Otoczka	lipidy	lipidy	adenowirus
Skuteczność	95%	95%	62-90%
Druga dawka po	3 tyg	4 tyg	4-12 tyg
Temperatura	-70°C	-20°C	3-8°C
Cena BP	15	25	3
Cena USD	20	33	4
Skuteczność dla wariantów SARS-CoV-2	W trakcie badań	W trakcie badań	W trakcie badań

[Moderna vaccine appears to work against variants - BBC News](#)

# Warianty wirusa SARS-CoV-2

.....  
21.12.2020 VUI202012/01

22.12.2020 501.V2 RPA

Wariant kalifornijski

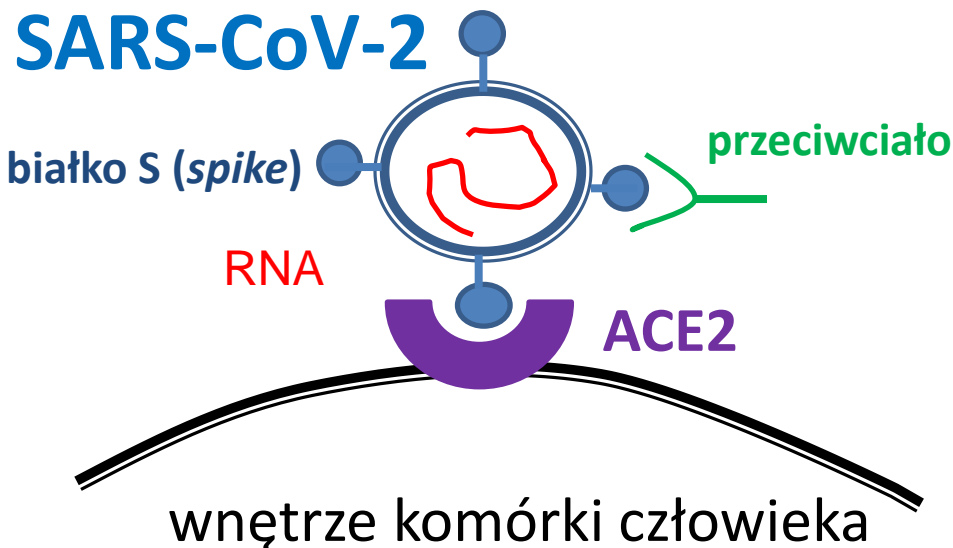
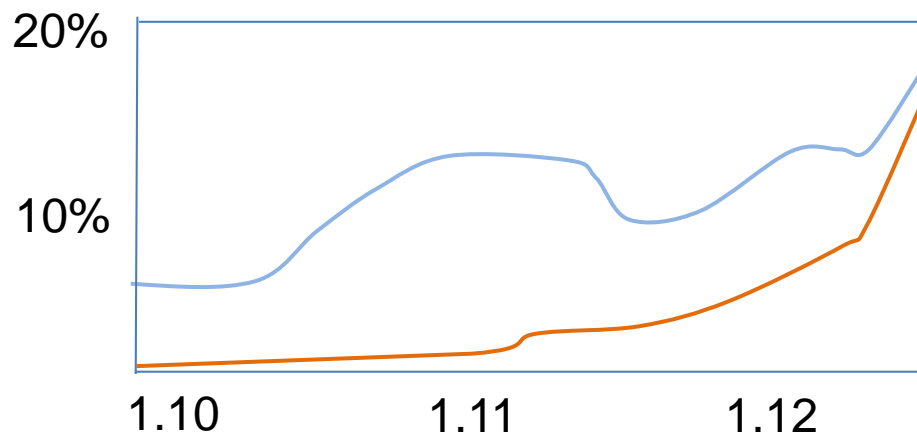
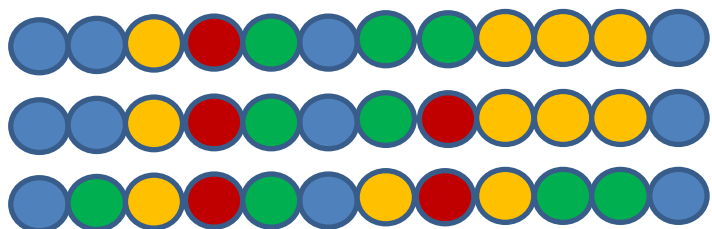
Wariant brazylijski

Wariant czeski .....

Wariant brytyjski B.1.1.7 (N501Y)

.....  
.....

**RNA ~30 000 nukleotydów**





Nowe przypadki ▾

 Wielka Brytania ▾

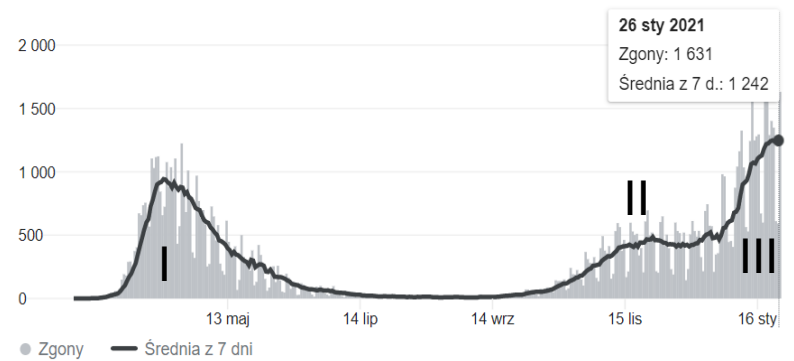
Cały okres ▾




Zgony ▾

 Wielka Brytania ▾

Cały okres ▾



Nowe przypadki ▾

 Polska ▾

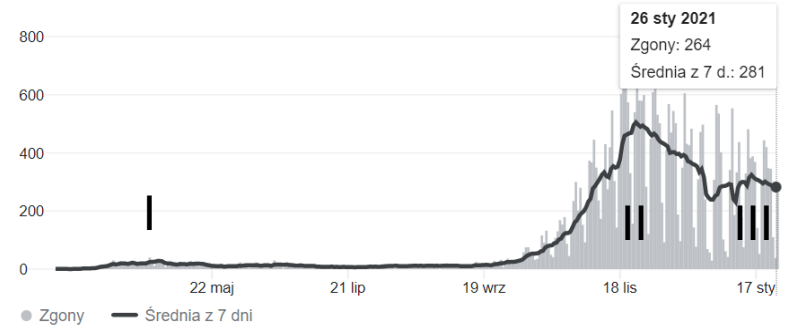
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Zgony ▾

 Polska ▾

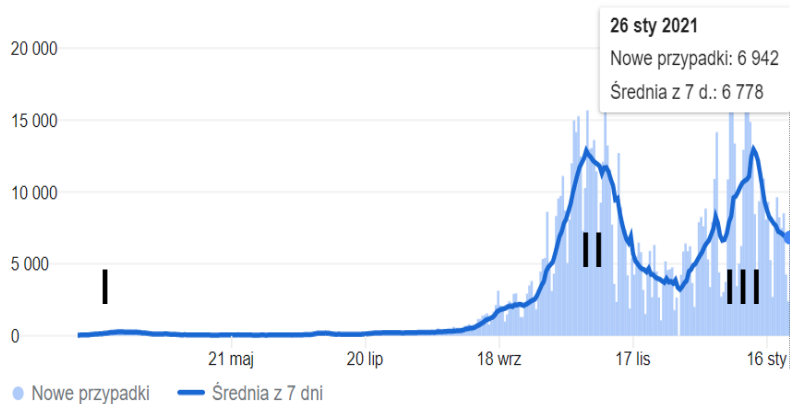
Cały okres ▾



Nowe przypadki ▾

 Czechy ▾

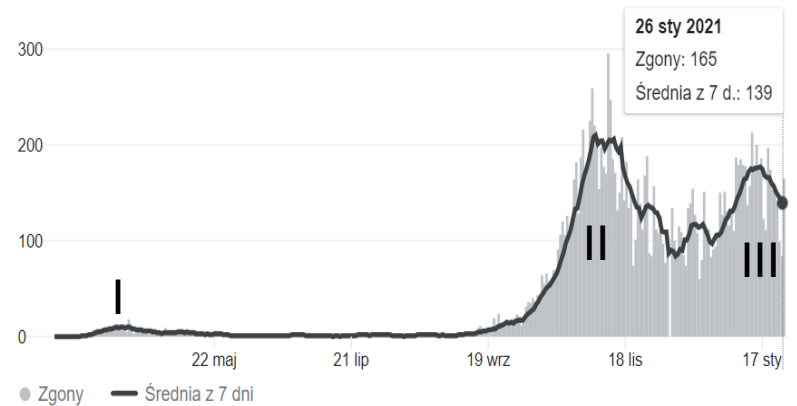
Cały okres ▾



Zgony ▾

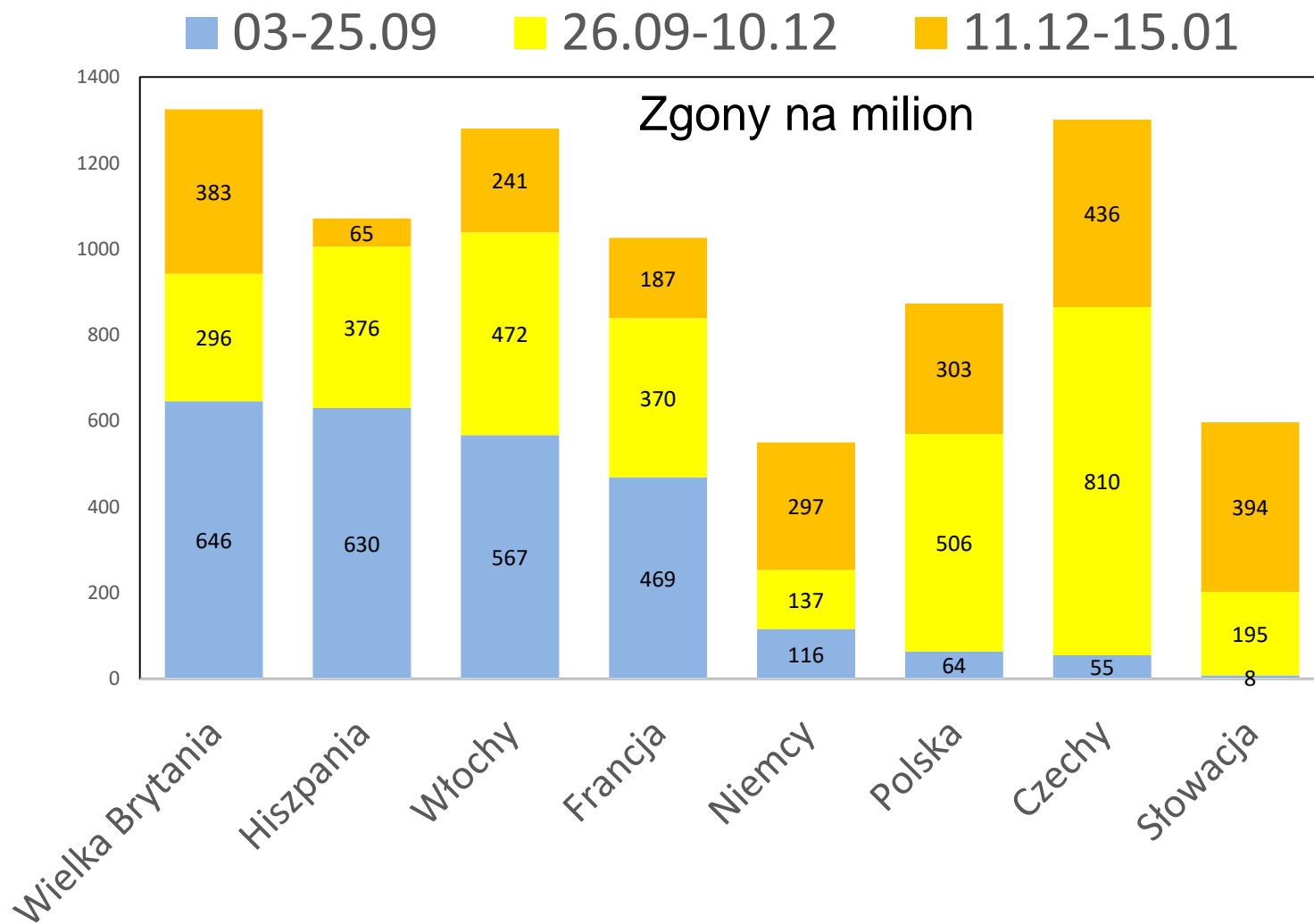
 Czechy ▾

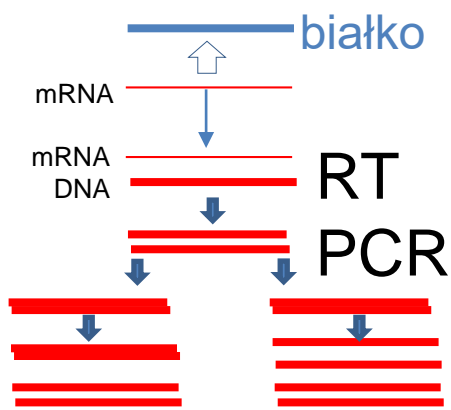
Cały okres ▾



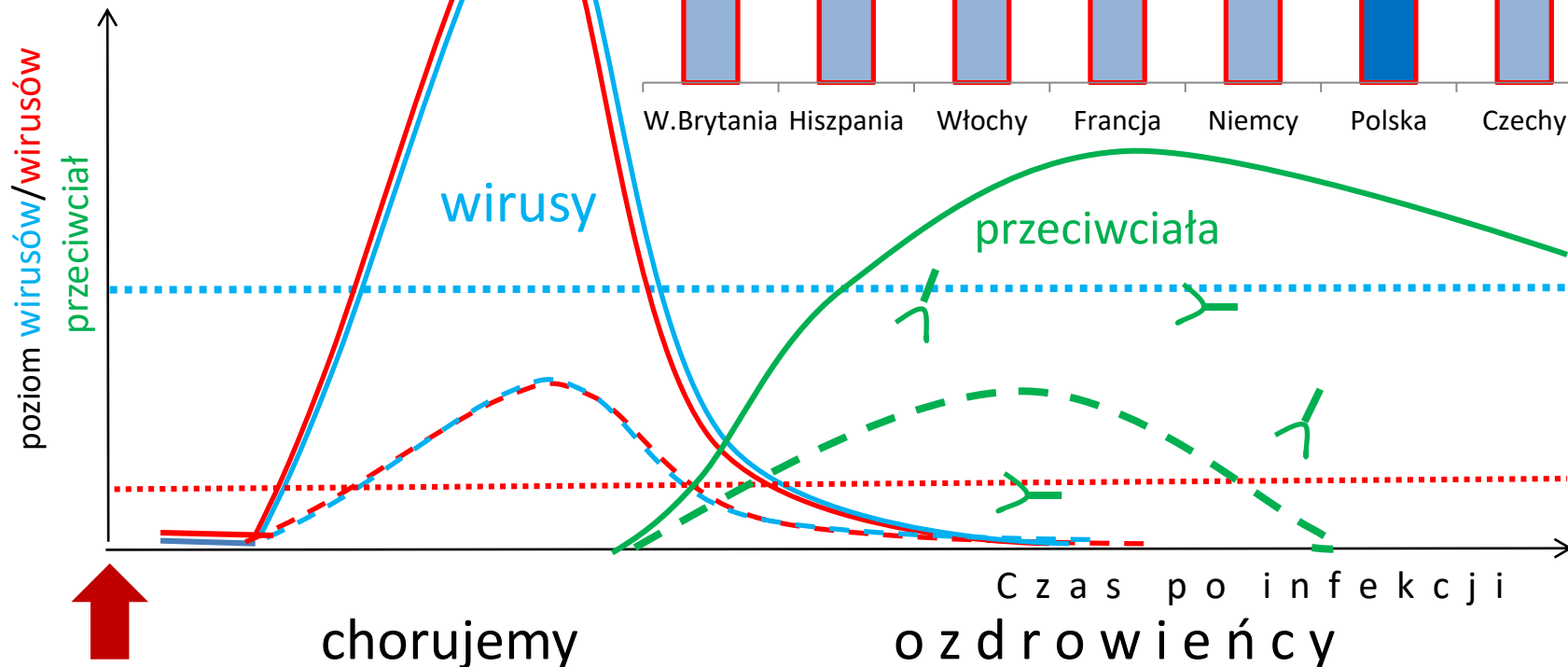
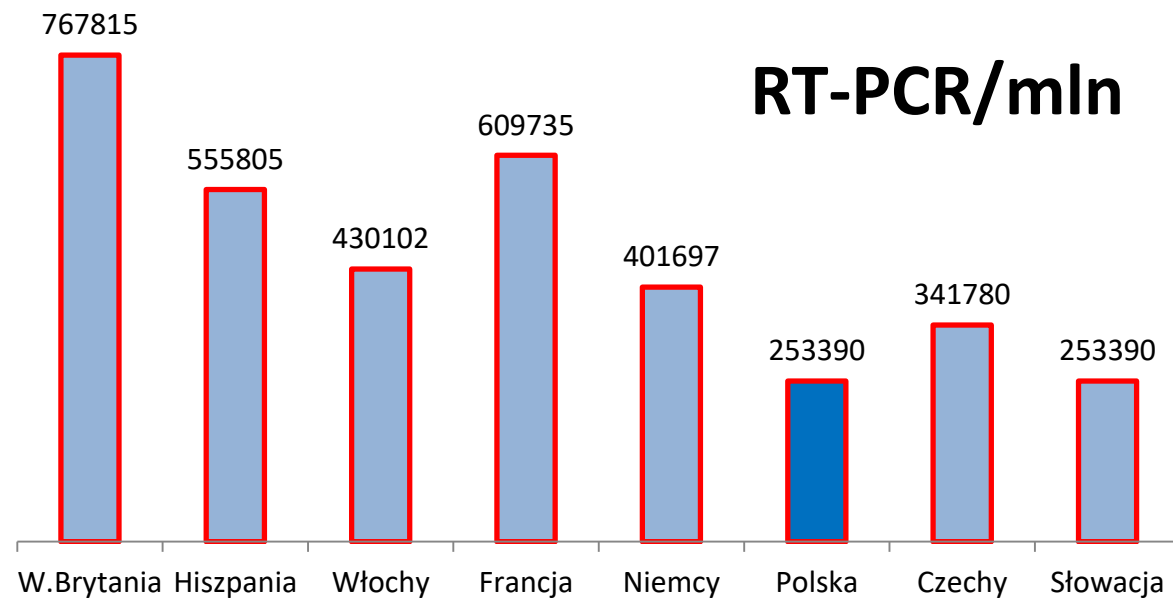
# EUROPA

# POLSKA





# RT-PCR/mln



RNA  
białka

Testy  
 Genetyczne RT-PCR RNA  
 Antygenowe białka wirusa  
 Serologiczne przeciwiacta

# WIELKA BRYTANIA: Grupy priorytetowe do szczepień przeciw COVID -19 (według zaleceń JCVI z 2 grudnia 2020)

## I. Kryterium wieku i stanu zdrowia (JCVI; tych grup dotyczy 99% zgonów, którym można zapobiec)

1. pensjonariusze domów opieki dla osób starszych oraz ich opiekunowie
2. osoby w wieku od 80 lat oraz pracownicy z pierwszej linii służby zdrowia i opieki społecznej (*face to face*)
3. osoby od 75 lat
4. osoby w wieku od 70 lat oraz osoby szczególnie zagrożone klinicznie (*shielded patients*)\*
5. osoby w wieku od 65 lat
6. wszystkie osoby w wieku od 16 do 64 lat z chorobami zwiększającymi ryzyko poważnego zachorowania\*\*
7. osoby w wieku od 60 lat
8. osoby w wieku od 55 lat
9. osoby w wieku od 50 lat

## II. Kryterium zawodu (politycy; zmniejszyć hospitalizację)

- ratownicy (*first responders*)
- wojsko
- pracownicy wymiaru sprawiedliwości
- nauczyciele
- pracownicy transportu
- funkcjonariusze publiczni niezbędni podczas pandemii



January, 2021

Dear Resident,

## Urgent Covid-19 Vaccination Information – please read

2020 was a very difficult year for everyone. So many of us have lost family members and close friends to coronavirus. All of us have had our lives turned upside down by the pandemic.

The situation in Wales is still very serious at the moment. Cases of the virus are very high and there is a new, very transmissible strain of coronavirus in the UK, circulating in all parts of Wales.

We are all being asked to stay at home again to stay safe, save lives and to protect the NHS to ensure we limit the spread of the new variant. Thank you for all that you are doing.

You may have heard that two new Covid-19 vaccines are now available, and that we have already begun to vaccinate the most vulnerable people in the Swansea Bay Area, along with many of the doctors, nurses and carers who staff our health and care services.

More than 1.5 million people in Wales will get the vaccine in the first stage of roll out – and this is already underway – but it will take time to protect everyone.

The people who are most at risk of catching coronavirus and developing serious illnesses will get the vaccine first. This includes people living in care homes; the over 80s and frontline health and care workers (Please see the annex for more details of priority groups in first phase).

The priority of the first phase of vaccination is to reduce the numbers of people dying from COVID and to protect the NHS and the social care system.

Age is by far and away the single biggest risk of death from Covid-19, which is why the national Joint Committee on Vaccination and Immunisation proposed that the national vaccination programme would first of all be aimed at protecting older individuals. However, priority is also being given to people who are at high risk of serious illness or death for other reasons, for example, because they are immunocompromised or have underlying health issues.

Frontline health and social care workers are also prioritised to protect the NHS and the social care system. Additionally, such staff not only face an increased risk of catching Covid, but could also pass it on to vulnerable older patients.

No other occupations other than health and social care are currently prioritised. However, in phase two, when the vaccination of healthy younger adults will take place, occupation might then be taken into account as part of the national prioritisation approach, but more likely in terms of prioritising those who are critical workers.

As the vaccine is rolled out, we all need to follow the safety rules and keep ourselves and our families safe. To do this, we all need to meet as few people as possible, wash our hands regularly, wear a face covering and keep two metres distance from people we don't live with.

## Current position

We now have two types of Covid-19 vaccine available – one made by Pfizer-BioNTech and one developed by Oxford-AstraZeneca.

In the first 3 weeks since the first vaccine became available, more than 35,000 people across Wales received the jab and in Swansea Bay 11,000 people were vaccinated by the first week of January alone. We hope this number will increase significantly in the coming weeks.

A huge amount of work has gone into planning the massive effort needed to provide everyone eligible with a Covid-19 vaccine.

During January 2021, as more supplies of the vaccines are delivered, the pace of vaccinations will continue to increase and more clinics will begin to offer the vaccine.

All GP practices across Swansea and Neath Port Talbot are running special vaccination clinics. All eight clusters of GP surgeries, who work together in partnership, are also vaccinating vulnerable residents in care homes.

We will then move to the next group in the national programme. If we receive more vaccine more quickly the vaccination programme will be accelerated. Vaccine supplies are controlled and distributed at a U.K. national level, but we aim to have vaccinated people in the top four priority groups by mid-February.

## Next steps

You will be invited to have the vaccine when it's your turn so please do not contact your GP surgery – wait for your invitation. You can choose whether to have the vaccine or not. You will receive information about the jab to help you make up your mind if you have any concerns.

More information is available at: <https://phw.nhs.wales/topics/immunisation-and-vaccines/covid-19-vaccination-information/about-the-vaccine>

## Getting your vaccination appointment

You will receive an invitation when you are due for your vaccination. It will include details of where to go to receive it.

You don't need to apply for an appointment – please don't contact your GP, health board, hospital or local authority about an appointment. Please let them focus on their important work.

Everyone will get two doses of the vaccine but you will have a high level of protection after the first dose. You will be called back for your second dose within 12 weeks of the first.

When you have your Covid-19 vaccine, you will get a credit card-sized NHS Wales immunisation card. This will act as a reminder about your second dose and will also have information about how to report any side effects.

As the vaccination programme continues to be rolled out we will keep the public informed of progress through local press and media updates. You will also be able to find regular updates at the Swansea Bay University Health Board website here: [www.swansea.nhs.wales](http://www.swansea.nhs.wales) and on social media here: Facebook: @SwanseaBay.NHS Twitter: @SwanseaBayNHS

Welsh Government information about Covid-19 can be found here: <https://gov.wales/coronavirus>

Yours faithfully,

Rob Stewart  
Leader Swansea City  
Council

Rob Jones  
Leader Neath Port Talbot  
Council

Dr Keith Reid  
Swansea Bay University  
Health Board Executive  
Director of Public Health



## Annex 1

The priority list to receive the vaccine has been agreed by the UK's independent Joint Committee on Vaccination and Immunisation (JCVI) and is being followed by all four nations in the UK.

There are two phases:

In the first phase, we will vaccinate according to age and risk of serious illness if someone catches coronavirus.

This priority list is as follows:

1. People living in a care home for older adults and their staff carers
2. All those 80 years of age and older and frontline health and social care workers
3. All those 75 years of age and over
4. All those 70 years of age and over and people who are extremely clinically vulnerable (also known as the "shielding" group) – people in this group will previously have received a letter from the Chief Medical Officer advising them to shield
5. All those 65 years of age and over
6. All individuals aged 16 years to 64 years with underlying health conditions\*, which put them at higher risk of serious disease and mortality
7. All those 60 years of age and over
8. All those 55 years of age and over
9. All those 50 years of age and over

**These groups represent around 99% of preventable deaths from Covid.**

\*Underlying health conditions:

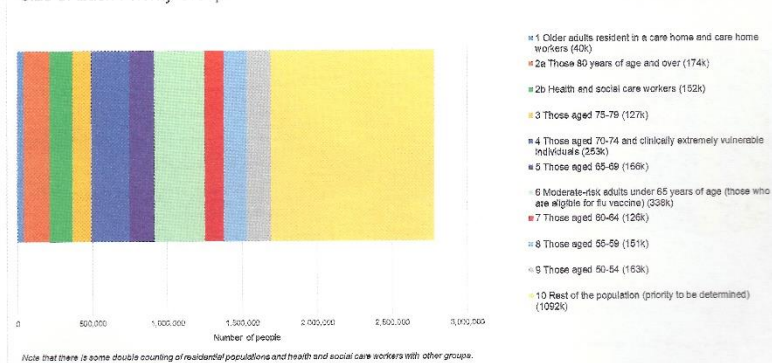
- Chronic respiratory disease, including chronic obstructive pulmonary disease (COPD), cystic fibrosis and severe asthma
- Chronic heart disease (and vascular disease)
- Chronic kidney disease
- Chronic liver disease
- Chronic neurological disease including epilepsy
- Down's syndrome
- Severe and profound learning disability
- Diabetes
- Solid organ, bone marrow and stem cell transplant recipients
- People with specific cancers
- Immunosuppression due to disease or treatment
- Asplenia and splenic dysfunction
- Morbid obesity
- Severe mental illness

The advice from the JCVI is that the focus for this first phase should be on preventing further hospital admissions and vaccinating those people who are at increased risk first.

Once the people in these first nine priority categories have been safeguarded, then the final adult population group, those aged 16-49 (with no underlying health conditions) can be considered for vaccination. This will be the second phase.

Further recommendations about this second phase are awaited from JCVI and we hope the rest of the population in Wales will be vaccinated. As soon as we have more details about the second phase, we will let you know.

Size of Each Priority Group



Walia ~ 3,1 mln  
Polska ~38 mln

## Województwa - ludność

dane GUS za 2015 r.

1) województwo mazowieckie	5 349 114
2) województwo śląskie	4 570 849
3) województwo wielkopolskie	3 475 323
4) województwo małopolskie	3 372 618
5) województwo dolnośląskie	2 904 207
6) województwo łódzkie	2 493 603
7) województwo pomorskie	2 307 710
8) województwo lubelskie	2 139 726
9) województwo podkarpackie	2 127 657
10) województwo kujawsko-pomorskie	2 086 210
11) województwo zachodniopomorskie	1 710 482
12) województwo warmińsko-mazurskie	1 439 675
13) województwo świętokrzyskie	1 257 179
14) województwo podlaskie	1 188 800
15) województwo lubuskie	1 018 075
16) województwo opolskie	996 011