

Omicron and the Actions that are Taken to Prevent its Spread

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The microbiome of the gut communicates with other organs in the body. It plays a role in digestion, the division of the gut and digestive waste from other organs, our inflammatory and immune responses to disease, and the communication between our various organs.

Therefore, it is easy to understand that if SARS-CoV-2 mainly affects the respiratory system, a growing number of studies show that the virus can also interact with our gut microbiome, making the disease more severe.

By reviewing more than 70 scientific papers, this JRC study summarizes the putative interactions between the gut microbiome and COVID-19. Many studies suggest a link between SARS-CoV-2 infection and an intestinal microbial imbalance, also known as intestinal dysbiosis. However, the understanding of whether the severity of COVID-19 is a primary cause, a secondary reason, a concurrent cause, or the result of an intestinal imbalance is still debatable. Several studies also show that SARS-CoV-2 may endanger our intestinal barrier.

This permeability allows bacterial endotoxins to escape from the gut and reach the bloodstream-intestinal bacteria, found in the lungs of patients suffering from COVID-19. In other words, this permeability can lead to multi-organ complications, affecting patients' lungs, heart, liver, kidneys.

How to treat our intestines?

Each person's gut microbiome is unique. Its composition varies according to its age, genes, diet, and environmental factors.

In any case, scientists recommend adopting a healthy diet, rich in grains, fruits and vegetables, to help the gut microbiome fulfill its functions.

In addition to a diet, the application of pre-pro biotics to rehabilitate the gut microbiome, before during, and after SARS-CoV-2 infection is highlighted in the scientific literature. By stimulating the growth of specific bacteria in the gut, both can limit gastrointestinal symptoms due to COVID-19 and ultimately limit secondary infections.

However, a healthy diet and consuming probiotics will never replace the official vaccine and medical treatments, which remain the best way to protect ourselves from severe forms of COVID-19.

Professor Ash: "Disturbed by reports that the strain infects more children, at the moment, we will have to extend the restrictions".

In an interview with the Ynet studio, the director-general of the Ministry of Health said that although there are 11 verified for Omicron in Israel, "in my opinion, we will have to extend the restrictions until we have more data". There is a fear of increasing morbidity with the onset of winter. "Meanwhile: the coefficient of infection has risen, Ramat Hasharon is a red city.

In Israel, only 11 verified species were so far identified for the omicron strain - but the director-general of the Ministry of Health clarifies that so far, at least, he sees no reason to ease the restrictions. "In my opinion, if this is the case, even when the decision is made, we will have to extend the restrictions until we have more data. Because at the moment we still cannot say with certainty that the vaccine protects against the variant and therefore cannot make the entry into the country of vaccinated". Watch the interview.

There are four red localities in Israel, including Ramat Hasharon - there are already 77 active patients. Yesterday, 521 verified were Corona, and the positive rate was 0.6%. The number of severe patients stands at 112, 62 are respirators [1].

The less deadly Omicron? A possible optimistic scenario that does not yet have a significant basis.

Omicron's symptoms look slightly different from previous variants, but we are still not sure what these differences mean.

How do epidemics end? Sometimes, if a less deadly but highly contagious strain of the disease becomes dominant, it will infect quickly and at a morbidly low-cost many percentages of the population. Provided that the infection also protects against the following variants, the weak variant will become a type of vaccine of the "attenuated live virus" type over which we have no control.

Could the Omicron be the strain to do that for us? Of course, there is such a scenario, but at the moment, the chances of it seem low, and it is undoubtedly impossible to build on it.

So far, the hope for such a scenario in the corona plague has not materialized. The variants that became more contagious and took over the world were no less deadly, though fortunately no more deadly either. First, the European variant replaced the Wuhan variant in the summer of 2020; Then the British variant Alpha, which returned the European variant in early 2021; And then a Delta variant that replaced the Alpha. Each caused more suffering and damage than the previous one because it was more contagious but no more deadly and infected-no less.

More or less deadly?

The idea that Omicron may be less deadly comes from South Africa, where the new variant has been around for about two months. The question arises - if the variant is so contagious, how can we have seen an increase in morbidity but not in hospitalizations and mortality? Maybe it's because the variant is less deadly, and if so - it is possible that it infected even higher percentages of the country's population, and in an asymptomatic way?

Faced with these data, other researchers note that the sharp rise in morbidity in South Africa was observed only last week. It is possible that the variant has been circulating in the country for two months but reached a significant outbreak only this week, so there was still no time to accumulate hospitalized and certainly not dead. It should be noted that a relatively young population characterizes South Africa and that the country's vaccination campaign has recently begun to gain momentum - two additional parameters that may affect the number of critically ill and dead.

Researchers who examined the two variant Omicron patients who arrived in Hong Kong noted that they both underwent one negative PCR test. However, a positive examination revealed very high viral load values a few days later. This fact led the researchers to fear that the variant might be more deadly than its predecessors.

South African doctor Dr. Angelique Coetzee, one of the first to identify the variant, actually recognized it after seeing patients come with Corona and symptoms slightly different from usual. Most of them were young and healthy men before Corona. They suffered from severe fatigue, but none of them. They lost the sense of taste and smell.

It makes sense that different variants would have slightly different symptoms, and the Delta, for example, was more characterized by gastrointestinal symptoms than its previous variants. Coetzee noted that these symptoms were milder than those of Corona patients she had encountered in the past but warned that as the variant spread to the elderly or at greater risk, the mix of disease severity in her clinic would also change adversely. It was when previous variants spread from the young population to the older one.

Fatigue is one of the symptoms that most characterizes the “long Cove” phenomenon, so it is possible that a variant that triggers this symptom to a greater extent, even if it comes from a more straightforward course of illness, may also leave signs for a longer time.

And what about the Delta variant?

Meanwhile, in Israel, where there is one verified case of Omicron and seven other suspected cases, morbidity from the Delta variant seems to be under control again. After a slight increase in morbidity last week, which has already led to fears of further wave outbreaks, now the daily number of verified stands again stands at about 500, but a slight increase in the number of new severe patients continues, nevertheless a sign of concern.

The vaccination campaign for children, which started last Tuesday, was expected to help control the disease for another month, but the new variant could devour the cards. Moreover, it is still unclear how the variant will affect the response to the vaccine when on the one hand, it seems that the epidemic is not in decline, and on the other hand, it is still not clear how much the vaccine will protect from the new variant.

It is assumed that even if the vaccine’s protection decreases, it will not be binary, meaning that the vaccine will not stop protecting ultimately. Therefore, first answers about the effectiveness of the Omicron vaccine are expected in about two weeks. Then we will probably have more of an idea as to whether it is indeed superior to the Delta variant in all countries of the world.

Meanwhile, the Delta variant continues to make names in Europe. For example, in the Netherlands and Germany, morbidity is at an all-time high; And in the UK, Italy, and France, morbidity is at a record high, the highest since vaccination campaigns began in those countries.

At the world level, the plague has been rising since October, although not back to its peak last April [2].

Pfizer company: Three protective vaccines from the Omicron

The company announced that an experiment conducted by those vaccinated with the booster dose is protected from the new corona strain.

The pharmaceutical giant Pfizer and Biotech, which developed the vaccine against the corona virus, announced at noon (Wednesday) that they are working to produce a new vaccine adapted to deal with the Omicron strain.

A statement issued by the companies said that an initial experiment they conducted revealed that three doses of vaccine from the product managed to prevent infection with the omicron strain.

However, according to the experiment, two vaccine doses showed significantly less efficacy in dealing with the new strain.

Recall that earlier the results of preliminary laboratory tests performed in South Africa were published and suggested that the antibodies generated due to the Pfizer vaccine may be up to 40 times less effective against the Omicron strain.

More on the same topic

Somebody rejected the decision to vaccinate recovering children in South Africa regretted telling about the Omicron.

To date, scientists identified 21 verified omicron microbes.

The number of verified people exposed to Omicron has risen to 11.

This is a microscopic study but the first evidence that the new strain of Coronavirus may bypass existing vaccines on the market.

However, reducing the effectiveness does not mean that the vaccine is not entirely effective, and it provides some protection against the omicron strain. According to the study in the blood of those who were vaccinated with the third vaccine, there were more effective antibodies against the new strain.

Prof. Alex Siegel, a virologist at the Institute of Health Research of Africa, said that the results of the study can be assumed that Omicron has a higher resistance than other strains to the vaccine.

He said much larger studies would be needed to confirm the claim finally [3].

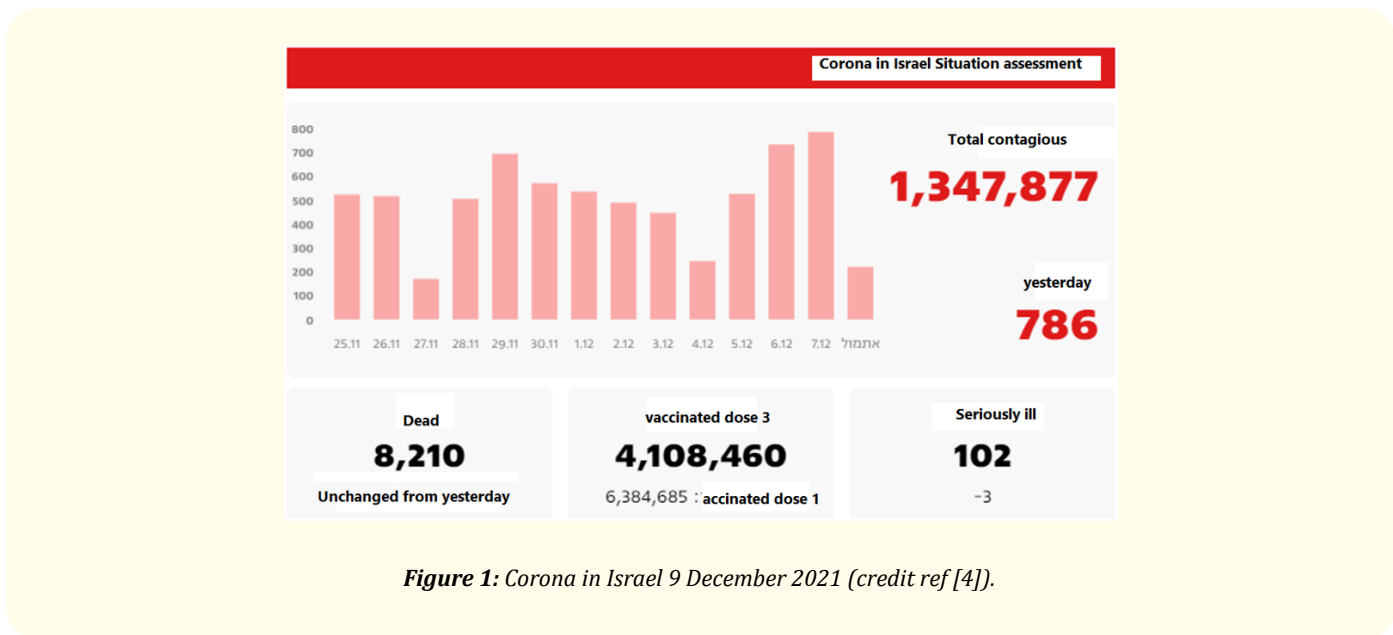


Figure 1: Corona in Israel 9 December 2021 (credit ref [4]).

Pfizer-BioNTech Covid-19 study shows

The impulse shot appears to provide strong protection against the omicron variant, while the initial two-dose vaccine may not be enough to prevent infection, the companies announced on Wednesday.

Their findings, along with data from separate lab studies, confirm that the new version is more skilled at preventing immune protection given by existing vaccines than previous strains, but its ability to evade body protection remains unclear as more studies are still needed, health experts say.

Pfizer and BioNTech said laboratory test results show that the third dose of their vaccine provides neutralizing antibodies against Omicron, similar to those seen against the original corona virus and other two-dose versions [5].

Do I need to get the corona vaccine booster? Yes, it increases COVID protection, including Omicron?

If six months have passed since you received your second dose of Corona Virus, it's time to order your booster shot. This will provide additional protection against COVID, including the new version of Omicron.

While the evidence is still emerging, preliminary data suggest that a Pfizer amplifier may give the same protection against Omicron as a dual-dose vaccine for the original strain.

Why take a booster?

When you receive your first dose of COVID vaccine, your body produces an immune response against a part of the virus called the spike protein. If you are exposed to the SARS-CoV-2 virus, your immune system can quickly detect and fight the virus.

The immune response to a single dose of the COVID vaccine is usually short-lived. So, a second dose is needed to get a more robust and longer-lasting response.

Over time, the amount of antibodies in your body decreases - this is called immunity.

If the immune response falls below the level required for protection against COVID - "protection threshold" - your immune system may not be able to prevent infection when exposed to the virus.

The vaccine gives some time after the initial course help to increase the level of antibodies above the protection threshold.

How much does immunity decrease after 2 doses?

The antibodies drop over six months after the second dose of the COVID vaccine.

The effectiveness of the COVID infection vaccine decreases by an average of 18.5 percentage points six months after the vaccine is completed.

Read more: Will Australia follow Europe to the fourth Covid wave? Boosters, childhood vaccines, ventilation and masks may help us avoid this.

On a positive note, protection against severe COVID disease, including hospitalization or death, does not appear to be reduced as much, by only about 8 percentage points.

This is probably because other immune response components (T cells and immune memory cells) stay in the body longer for antibodies and prevent serious diseases.

Decreased protection is of greater concern among elderly and immunocompromised people because they tend to have weaker immune responses to vaccines than young and healthy people.

How effective are impulse doses?

Antibody levels after a booster dose are higher than those after the initial vaccination course.

Although the two-dose COVID infection protection was slightly lower against Delta than the original strain, an impulse dose returns the security to the same level.

In Israel, people who received an impulse dose (five months or more after the end of the vaccine) had ten times lower infection rates than people who received only the initial two-dose course.

The types and frequency of side effects after the booster dose were similar to the first and second doses from a safety standpoint.

What vaccine should I get as a booster dose? [6]

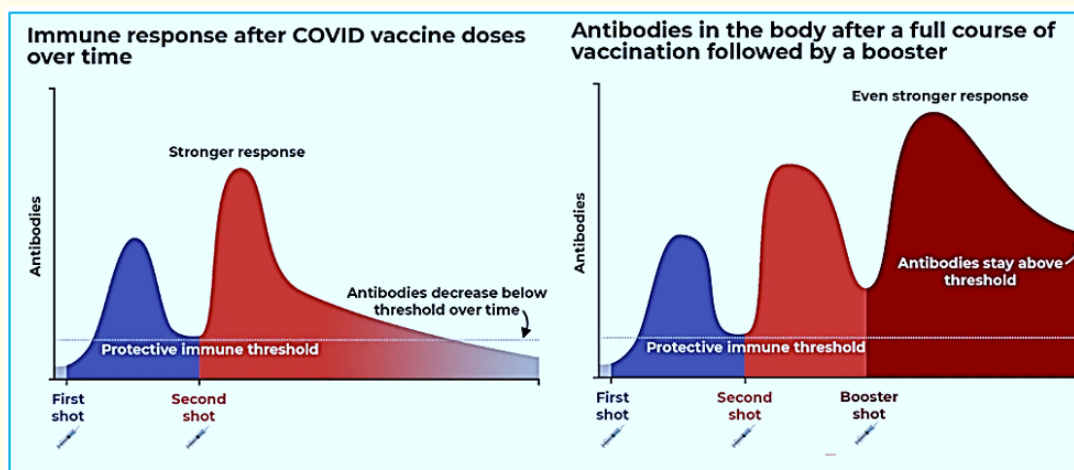


Figure 2: Immune response 2 and 3 shots (Credit ref [6]).

Two covid mRNA vaccines available in Australia - Pfizer, and Moderna - have so far been approved for use as a booster dose.

A recent clinical trial has shown several COVID vaccines, including all three currently available in Australia (Pfizer, Modern, and AstraZenka), and Novavax and Viensen vaccines, produce solid immune responses after a course of Pfizer or AstraZenka vaccines.

Based on what we know so far about immune responses to coronavirus vaccines, each of these vaccines given as a booster should effectively reduce the risk of infection, regardless of which vaccine you initially received.

The highest immune responses, seen with mRNA vaccines, but it is too early to know whether these provide better protection against coronavirus infections when used as a booster or how quickly the immune responses will weaken compared to other vaccines.

When is the best time to get my boost?

Amplification doses are designed to boost antibody levels before they fall below the protective threshold. The difficulty with COVID is that we still do not know the defensive immune point.

So, the timing also includes other factors. For instance: the Spread of the disease in the community and vaccines available. Some countries, such as the UK, have recommended getting a booster dose as early as three months after the initial course.

The UK has much higher daily coronavirus cases, and it has the potential for increased omicron cases in winter when hospitals are often dysfunctional due to other common respiratory viruses, including influenza. In this regard, early boosters are like an insurance policy to prevent a crushing winter peak.

Do not agree to close on the unvaccinated. The proposal on the table - extending the existing restrictions

Senior officials added in a conversation with Ynet tonight that although Bennett may decide to exaggerate his positions due to the Spread of the omicron strain in the world and around the uncertainty, they believe there is no place for “complete closure of the country,” as they put it. “We know it is highly contagious, but not that it causes more severe illness. We wanted and proposed to continue with the current isolation restrictions for another ten days. We do not agree to close on the unvaccinated and do not support the abolition of the green class. To that, “they said.

Bennett himself said at an earlier hearing that he wants to tighten the boundaries to delay an eruption of the next wave: “The price is known, but with strong moves now, we can prevent a closure”. The Prime Minister’s Office said that the Ministry of Internal Security would intensify enforcement in the green mark.

The information from the world that bothers the Prime Minister.

Proponents of her case have been working to make the actual transcript of this statement available online.

According to information held by relatives, there are about 50,000 positives a day in the UK. A fraction of 6% of which are highly likely to have been infected with Omicron. The Omicron, they say, is spreading at an unprecedented rate of doubling every two to three days relative to the Delta. “Continued expansion at this rate will make Omicron dominant in the country within three weeks at most,” said Bennett bureau associates.

Insiders said there is a Delta eruption in Scotland, with thousands verified every day. At least 4% of them, according to the suspicion, were infected with Omicron. Bennett’s associates said the Ministry of Health there estimates that the doubling rate of Omicron is two to three days, and the actual coefficient of infection there is higher than 2. Bennett’s associates said the restrictions in Scotland include a recommendation to work from home, PCR tests, and isolation in hotels for those coming from red states, including fully vaccinated.

In Denmark, according to Bennett’s associates, there are more than 6,000 verified a day, of which at least 3%. Most likely infected with Omicron. As a result, Denmark has imposed restrictions in closing bars and restaurants after midnight and clubs altogether, alongside a recommendation to cancel Christmas parties and extend the holiday - a move that will move children to study from home from next week until early January 2022.

The Ministry of Health also said there was a rapid spread of Corona in Europe and estimated that the number of omicron cases in the community was about 2%. In Israel, they said, there is minimal distribution of Omicron, with no evidence of community infection - that is, all cases identified in Israel are related abroad. They said there is an ideological justification for continuing an effort to reduce morbidity entering Israel from abroad [7].

Restrictions on unvaccinated? “The question - how much are you willing to step on democracy to advance an agenda?”[8]

PM Bennett seeks to consider imposing restrictions on those not vaccinated. However, in a heated debate that has led to shouts between him and Health Minister Horowitz. Experts and international organizations oppose this idea - which is also beginning to take shape in European countries.

Closure on the unvaccinated and vaccination obligation? Prime Minister Naftali Bennett today instructed to prepare for restrictions on those who remain not vaccinated in a heated debate that reached the point of shouting between him and Health Minister Nitzan Horowitz. While Bennett proposes regulations and that some countries in the world have already tried and are taking similar steps, experts and international organizations oppose this idea: "The question - how much are you willing to step on democracy to advance an agenda?".



Figure 3: Covid green passes are now required to access various public services and venues in Italy (Credit ref [9]).

Covid-19: Italy tightens restrictions on unvaccinated people

Italy has introduced stricter restrictions for unvaccinated people amid concerns over the Omicron version and a potential rise in infections.

Many public activities will be out of bounds for anyone from Monday without the so-called Covid Super Green Pass.

The card shows proof of vaccination or recovery from the virus during the last six months.

It will be necessary to enter theaters, cinemas, music halls, sporting events, restaurants and bars until mid-January.

The new measures strengthen the existing Covid green passes obtained after a negative test. The basic green cards will now be required for public transport use and access to workplaces.

Italy is facing an increase in coronavirus infections, rising steadily since mid-October.

There is also concern across Europe about the Spread of the Omicron version, which experts fear may be more transmitted and evade some immunity to Covid.

Italy was devastated by infections in the early stages of the plague and has one of the highest death tolls of more than 134,000.

But the rate of vaccinations in the country is higher than most of its neighbors. According to the latest data, about 73% of the population was completely vaccinated and 11% received booster shots.

Despite this, some cities in Italy have imposed rules requiring people to wear face masks, even in outdoor settings like crowded shopping streets.

In August, Italy introduced green cards for access to cultural and social places before expanding them to jobs in October:

- Italy requires all workers to present a green card
- Germany places great restrictions on the unvaccinated
- Omicron variant in the Netherlands earlier than expected.

The cards were initially intended to streamline travel within the EU, but several countries have expanded their use to limit infections and encourage vaccination.

France requires a health card for access to restaurants, bars, planes, and trains, while Austria and Cyprus are other EU countries that have used similar programs.

In recent weeks, European countries have imposed stricter restrictions on unvaccinated people in response to an increase in infections as winter approaches.

In mid-November, Austria imposed a closure for the unvaccinated.

German leaders have agreed to ban unvaccinated people from many public places. In addition, Greece has announced monthly fines of € 100 (£ 85; \$ 113) for anyone over 60 who remains unvaccinated.



Figure 4: So-called 2G policies will be enforced across the country (credit ref [10]).

Covid-19: Germany puts significant restrictions on the unvaccinated

The so-called “2G policy” will be implemented throughout the country.

Germany’s national and regional leaders have agreed to prevent unvaccinated people from spending most of their public lives trying to ward off the fourth wave of Covid-19.

Outgoing Chancellor Angela Merkel described the far-reaching steps as “national solidarity”.

Only those who have been vaccinated or recently recovered from Covid will be allowed to enter restaurants, cinemas, leisure facilities and many shops.

Vaccinations may be mandatory until February, the chancellor added.

Covid’s fourth wave in Germany is his worst so far, with another 388 deaths recorded in the last 24 hours.

There is also growing concerned about the Spread of the Omicron version, which EU health officials warn is likely to cause more than half of all Covid cases in the coming months.

Ms Merkel said the hospitals stretched to the point of transferring patients to different areas for treatment. “The fourth wave must be broken, and it has not yet achieved”.

“Given the situation, I think it is right to adopt a mandatory vaccine,” she said, making it clear that this would need parliamentary approval.

His successor Olaf Schultz, who is expected to take over as chancellor next Wednesday, has already said he supports the move, which will come a few weeks later from a similar Austrian law. Berlin Mayor Michael Mueller said most Covid cases stem from unvaccinated people:

1. The state locks the unvaccinated
2. Omicron leads to a significant increase in Covid cases in South Africa
3. Merkel chooses a punk singer for a big farewell event.

The new measures are not described as a closure on the unvaccinated, although outgoing health minister Jens Safan spoke earlier about a “quasi-closure”.

Some German states are already implementing so-called 2G policies, and these will now become nationwide - 2G short (which has been in effect for the past six months) or “geimpft” (vaccinated).

According to the steps agreed upon by the 16 federal states and German leaders:

1. Unvaccinated people will be restricted to meetings with their household and two other people
2. The 2G law will be enforced in restaurants and cultural venues and non-essential stores
3. Clubs will be closed in areas where 350 cases per 100,000 people have been registered in the last seven days - the national rate is over 400.

Up to 30 million vaccinations will be carried out by Christmas - Sunday, Monday or Accelerators.

Outdoor events, including Bundesliga football, will have limited audiences of 15,000 and 2G rules.

Fireworks on new year's Eve will be banned

While vaccines have boosted in Germany - with almost a million carried out on Wednesday alone - only 68.7% of the population has been vaccinated, a relatively low rate compared to Western Europe.

79 cases of the new version of Omicron of Covid-19 have so far been reported in 15 European countries, according to the European Center for Disease Prevention and Control.

Most cases were linked to travel to African countries, while others connected flights between Africa and Europe. The ECDC does not cover the UK.

France Is about to increase restrictions for the unvaccinated.

Faced with rapidly climbing Covid case numbers, the French government has ruled out a return to lockdown but other measures [11].

Lockdown and fines: Europe faces the unvaccinated

After the shock appearance of the Omicron variant, the Battle of the Corona in Europe was on shaky ground.

Increasing rates, hospitalizations and deaths are on the rise - it's going to be a nightmare for the continent again. The omicron mutation added another layer of uncertainty, but the continent's immediate problem is dealing with the wave of infections that has already brought countries back to lockdown.

The German government last Thursday stepped up its response, with stricter restrictions on the unvaccinated and may even make injections mandatory. Austria has already offered mandatory vaccines, while other countries plan to fine those who refuse.

The drastic measures are a response to a drastic situation. In Austria, seven-day cases reached 1,100 per 100,000 people at some point. This is eight times the average for the previous three months. Since the lockout, the number has dropped, though hospitalizations, in arrears, are still close to peak. The figures were less dramatic elsewhere, although the trend has risen in many countries, including Germany, Italy, the Netherlands and Greece.

The new targeted measures reflect the view that although there are several factors behind the latest wave of covid infections - from cold weather to people who disappoint their preservation - one key component is vaccines. EU countries may have managed to put about 640 million shots into arms, but even with this enormous effort, about 150 million people are still not fully vaccinated.

Here's what governments are doing to try to change that.

German clampdown

Europe's largest economy joined on Thursday in countries making life more difficult for the unvaccinated, announcing that only people who have been vaccinated or recovering will be allowed to enter restaurants, theaters and non-essential shops. A vaccine mandate, backed by Chancellor Angela Merkel and incoming successor Olaf Schultz, will go to a vote in parliament in the coming weeks.

Greek fines

The government requires vaccinations for all Greeks over the age of 60. From next month, those who refuse will pay a fine of 100 euros (\$ 113) each month they do not receive a shot, with the funds transferred to hospital services. In Greece, only 60,000 of the 580,000 unvaccinated people over the age of 60 received the vaccine in November.

Switzerland's recommendations

Authorities in Switzerland on Friday called on people to work from home whenever possible, after failing to win backing for a mandatory order in the home office, even for the unvaccinated. The government opposed imposing new and stricter rules, but said businesses like bars and nightclubs have the choice to restrict access only to those who have been completely vaccinated or have recovered from a cough. The state also imposes restrictions on the entry of unvaccinated people from certain states.

The schools of Belgium

Belgium also announced new restrictions on Friday, although there were no specific measures for the unvaccinated. Elementary schools will close early for the Christmas break, and high schools must limit classroom instruction. In addition, indoor events with more than 200 people are prohibited, and an extended mask mandate for anyone over the age of six.

The lock of Austria

The country with one of the lowest vaccination rates in Western Europe will remain closed until mid-December. The government then plans to remove restrictions on vaccinated or people who have recently recovered from the virus. However, the closure for the unvaccinated will probably continue, although they can still go to work with a negative test. Officials are also working on plans to impose mandatory vaccines from February, with fines reaching up to 7,200 euros (\$ 8,151).

“Let's not deceive ourselves: Democracy fails”

This content was published on December 9, 2021, December 9, 2021 Our Democracy Reporter imagined the speech that he thinks Swiss President Guy Permalin should deliver at the summit for democracy.

Spain's travel ban

Spain has in fact banned passengers from the UK who are not fully vaccinated. As of December 1, she will only receive vaccine proof of admission for adults. The advice of the British government also says:

A certificate of recovery from Covid is also not accepted by the authorities in Spain.

- What we know about Omicron, the new virus version: QuickTake.
- The doctor who saw Omicron early says the symptoms are milder than Delta.

The blast against the unvaccinated is not limited to Europe, and it may become more common as governments, pushing for the plague, face the threat of the Omicron. According to a South African study, the risk of re-infection from the news version is three times higher than in any previous strain.

South Africa talks

According to a senior official in the country, the state is preparing a mandatory vaccination policy and is expected to implement it early next year. agreement was reached in the National Council for Development and Labor Economy, a negotiating forum, and the South African Trade Union Congress, which initially opposed forcing people to get vaccinated, has joined business groups supporting the move. Some local companies have already made this a must for their employees and have seen the amount of injections go up as a result.

US mandate

The administration of US President Joe Biden has issued an emergency rule that has forced large private employers to require vaccinations or regular inspections. Up to \$ 136,000.

According to an October survey by the Kaiser Family Foundation, about 5% of unvaccinated workers left their jobs when their employer imposed a vaccination mandate.

Medical bills of Singapore

Those who choose not to stab in Singapore will now have to pay for their medical bills if they are abducted in Covid. According to a median estimate released by the Ministry of Health, patients receiving treatment and staying in intensive care units may have to pay about S \$ 25,000 (\$ 18,460) [12].

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