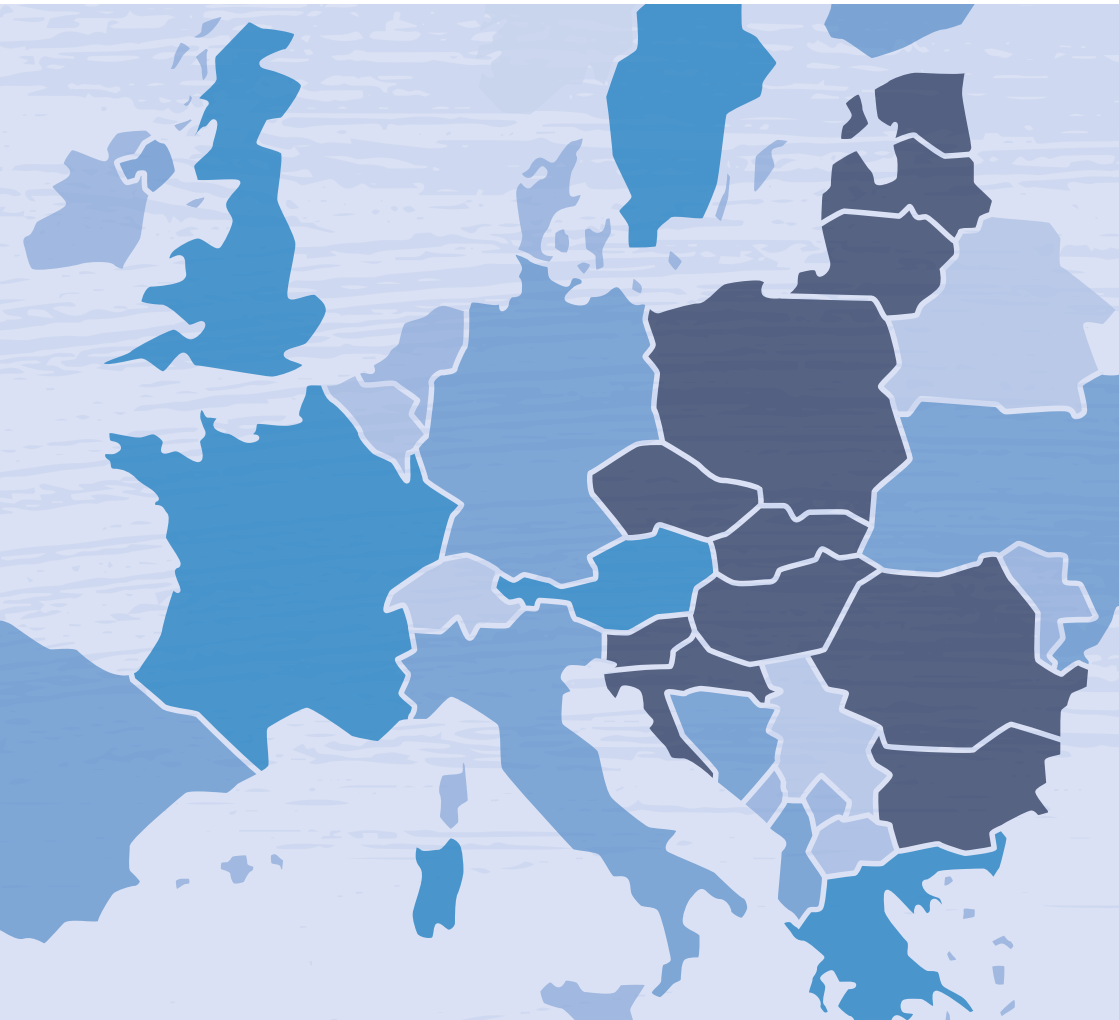


ilc...

Shifting the narrative

Inspiring increased vaccine
confidence across Central
and Eastern Europe



Acknowledgements

This project was kindly supported by an unrestricted grant from Pfizer.



Executive summary

Since the 1990s, there has been ever-growing social, economic, and political integration between Eastern and Western Europe. The relationship between EU countries is now one of interconnectedness, cooperation, and shared values. Yet when it comes to health, there are still disparities between countries in Central and Eastern Europe and those in the rest of Europe.

- The EU's average healthcare expenditure relative to GDP is 10.9%, while the 11 countries surveyed in this report (see Introduction) have figures ranging from 6.3% to 9.4%¹
- Trust in healthcare is lower in Central and Eastern Europe: while only 21% of all Europeans report low levels of trust in their healthcare system, the figure is 49% in this region²
- Vaccination is inconsistent across the life course: while childhood vaccination uptake and recommendations are strong, recommendations and immunisation rates are much lower among adult populations

Our research found that vaccine confidence and uptake is lower in this region due to a combination of:

- **Low trust:** lack of engagement from politicians, and a disjointed response to COVID-19 in several countries, has led to a breakdown in trust and reduced public confidence in vaccination
- **Historical determinants:** distrust in authorities often stems from previous forms of government and politics that restricted individual freedoms
- **Poor communication:** vaccination communication in Central and Eastern Europe is often too little too late and has been subject to anti-vaccination rhetoric which often goes unchecked
- **Inaccessible health services:** inadequate access and poor funding for vaccination is indicative to some that vaccination is not a priority for the government, and therefore individuals need not prioritise it
- **A lack of health education:** low awareness and lack of engagement on vaccination means many citizens in this region don't prioritise it

To overcome these barriers and instil more confidence in vaccination across the region, local authorities, health leaders, and national and

EU policy makers should adopt the following recommendations, which speak to three overarching objectives: democratising access, inspiring and engaging actors, and investing in systems design.

1. Investing in systems designed for prevention

A clear challenge for immunisation in the Central and Eastern Europe region is the lack of clarity among health staff as to the importance of immunisation for adults, and the role of preventative health interventions more broadly. Without this consensus across the health system, limited progress is likely to be made towards comprehensive life course immunisation programmes.

At a national level:

- The public should be able to access vaccination information through digital services. Websites for national health systems and individual practices should contain information about risks of vaccine-preventable diseases and highlight opportunities for vaccination
- Healthcare professionals should be trained to provide advice and counselling on vaccination, with a view to helping patients be proactive and engaged in their healthcare.
- Health systems might also consider broadening the range of healthcare professionals permitted to administer vaccines; health leaders should evaluate whether nurses and pharmacists should receive training and accreditation to give vaccinations.

At an EU level:

- Under the 'Strengthen health systems' pillar of the EU4Health programme, the EU should introduce immunisation education and training for the public and healthcare professionals in its member states.
- Support national efforts to separate politics from healthcare in education and public messaging.

With long-term immunisation strategies, improved communication, and more training, we can increase vaccine confidence in Central and Eastern Europe. We must offer an alternative, more positive narrative to help the public in this region see vaccination as a force for good. Vaccination can help foster better health, resulting in an economically active society that's ready to reap the benefits of ageing and the additional longevity dividends. The benefits of vaccination are only available to countries with high levels of uptake.

2. Actions to inspire and engage

To support comprehensive immunisation programmes across the life course, we need a collective understanding of why vaccination is necessary and why it is beneficial. With all groups, communication around immunisation should be clear and consistent so it resonates with people, rather than making them feel hesitant.

At a national level:

- Communication materials should be co-produced and communicated by local leaders and disseminated in partnership with national authorities.
- Governments must work with the medical and scientific communities to ensure that government communications are science and evidence-based and in line with those from health authorities. Conflicting messages from official sources undermines trust and may cause people to disengage.
- Governments must engage with the full range of political, personal and practical barriers to immunisation to support targeted communications for different patient groups.

At an EU level:

- The ECDC should engage with stakeholders in these member states to coordinate signposting towards existing information, including resources such as the EU's European Vaccination Information Portal.
- The ECDC must work more closely with Central and Eastern European states to ensure that comprehensive data is collected and used effectively to target low-uptake areas and groups.

3. Actions to democratise access to prevention

Comprehensive infrastructure at all levels of the healthcare system is needed to make life course vaccination possible. This means long-term investment, ensuring that services have the staff and resources they need. It is more important than ever that all actors make a concerted effort to identify and rectify inequalities of access.

At a national level:

- Countries should embed life course immunisation schedules in line with the World Health Organization's (WHO) *Immunization Agenda 2030* strategy³

- Widening vaccination programmes and making vaccination free of charge will help encourage and promote vaccination across different groups.
- Governments must engage with a range of religious and civil society groups and seek their support in advocating for immunisation in their communities.
- In public discourse, governments must take care to separate people's autonomy to make healthcare decisions from their autonomy over political expression and dissent.

At an EU level:

- The European Centre for Disease Prevention and Control (ECDC) should encourage member states to make life course recommendations and to commence better reporting on uptake.
- The EU should provide financial support to member states with lower uptake levels – through existing mechanisms such as the European Regional Development Fund (ERDF) – to help improve vaccination across the life course.

4. Actions to support the effective use of technology

Technological innovations can improve uptake and confidence by supporting all of the above objectives.

At a national level:

- Governments and health leaders should use health technologies to simplify treatment pathways and access to vaccination. These would include online booking systems and online sources of information about vaccines that are easily accessible.
- Proactive interventions on social media can disrupt the influence of vocal anti-vax groups and individuals. Leveraging these platforms with original content or targeted advertising could promote more positive narratives about vaccination.

At an EU level:

- The EU should provide guidance for member states to improve the accessibility of health technology, and enable best practice to be shared across countries,

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Introduction

Over the past 30 years, significant social, economic, and political change has occurred throughout Europe. Since the early 1990s, Central and Eastern European countries have gradually integrated with the rest of Europe; many are now EU members or have candidate status.

Yet in many of these countries, disparities remain, and many still fall behind Western Europe when it comes to healthcare. In particular, vaccination uptake and coverage rates remain far lower than in the rest of Europe. This became apparent during the COVID-19 pandemic, when countries such as Bulgaria and Romania recorded significantly lower vaccination uptake compared to the rest of the EU/EEA.⁴

And it's not just COVID-19 vaccination uptake that has been relatively low. Immunisation against measles and uptake of other childhood vaccinations have been falling since the late 2000s in some countries in this region, while adult immunisation programmes are scarce. When looking at uptake of other life course immunisation programmes – such as influenza (flu) and HPV – countries in this region also record figures that are lower than the EU average.

Our research suggests that culture and history strongly influence vaccine confidence in this region. Mass social and political changes, and a lack of trust in authority figures, has meant a decline in confidence in vaccines and vaccination programmes. This has been coupled with a rise in false information in an era of online communication and social media.

COVID-19 is just the tip of the iceberg when it comes to vaccine hesitancy in Central and Eastern Europe. Understanding the barriers to vaccination and finding opportunities to instil confidence in all life course immunisation programmes is crucial. With Europe better connected today than ever, ensuring that all populations across the continent have the access and the ability to get vaccinated will guarantee the safety and stability of public health across the continent.

About ILC UK

We are the UK's leading authority on the impact of longevity on society, and what happens next. We combine evidence, solutions and networks to make change happen. We are a founding member of the ILC Europe Network, launched in December 2021, to help societies address longevity and population ageing in positive and productive ways. We have over 20 years of experience working at the forefront of health policy and systems research and our networks and influencing ability on changing global health agendas is unparalleled.

ILC has decades of expertise in adult immunisation and has produced dozens of reports on this topic. We convene a wide range of experts and produce evidence that can move the needle on some of the most pressing issues faced by a society undergoing demographic change.

Our ideas and evidence can help societies prepare for more people to live longer, healthier, and more productive lives than ever before.

About this report

This report looks at the following EU countries to assess the levels of vaccine confidence in Central and Eastern Europe.



The Baltic states (Estonia, Latvia, and Lithuania) are classified as being Northern European by some organisations, such as EuroVoc. This report includes these countries due to similar political histories and geographical proximity with other Central and Eastern European countries.

These nations tend to have lower GDPs than the EU average and have lower levels of average health spend per inhabitant. In 2020, the average expenditure per inhabitant across the EU was €2,110; the lowest levels of spending were in Bulgaria (€754) and Romania (€713).

Health outcomes in Eastern Europe broadly reflect this - life expectancy in Central and Eastern Europe has historically been five years shorter than the EU5 countries^a, and patients suffering from cancer or cardiovascular disease still have lower chances of survival.⁵ Poor health outcomes in this region affect economic activity and absence from employment – in 2018 alone there was a cumulated economic loss of €264 billion across Central and Eastern Europe as a result of poor health.⁶

^aThe term 'EU5' was used in this context to refer to France, Germany, Italy, Spain, and the UK. It is now understood to refer to France, Germany, Italy, Spain, and Poland, which is included in this report.

Immunisation can and must play a significant role in preventing ill health and hospitalisation across the globe. Vaccines are safe and effective, and they are the most cost-effective public health intervention that we have. Where immunisation is inconsistent or missing altogether, significant economic and personal losses are suffered to due ill health.

Attitudes towards immunisation can drastically alter uptake, and the decision to present oneself and family members to be vaccinated is multi-factorial. This report aims to account for the social and cultural contexts of Central and Eastern Europe and make recommendations for how immunisation uptake can be increased to support overall population health in the region.

This report assesses five immunisation programmes across four different life course groups:

Vaccination	Groups covered
DTP-containing ^b	Children
Mumps, measles, and rubella (MMR) ^c	Children
Human papillomavirus (HPV)	Adolescents
Pneumococcal	Children, at-risk groups, older people
Influenza (flu)	Children, at-risk groups, older people

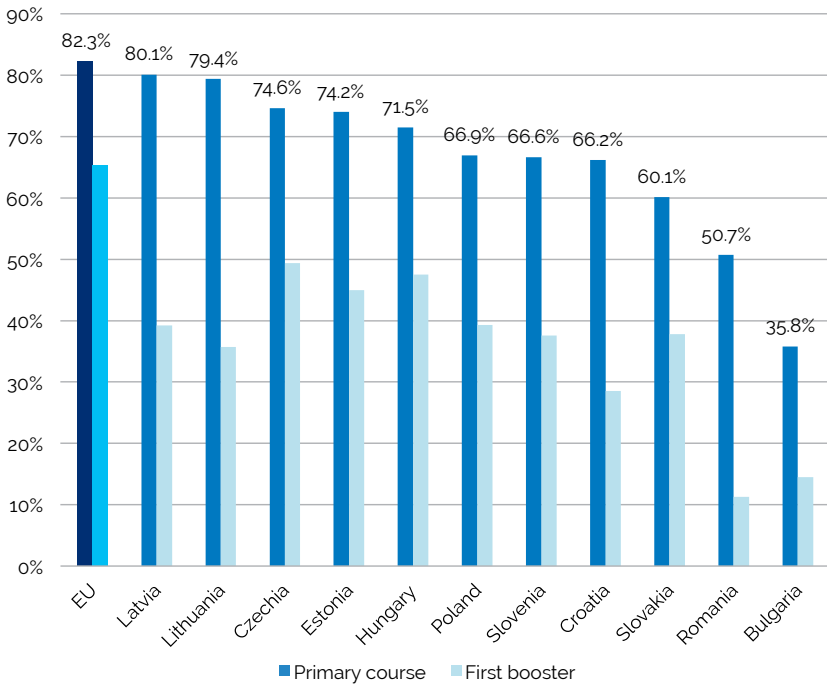
^bA "DTP-containing" vaccination refers to vaccines that cover diphtheria, tetanus, and pertussis (DTP). Some countries use combination vaccines which cover these conditions but also include coverage for additional diseases.

^cMMR vaccination is also be referred to as "measles-containing vaccine" in this report.

Current levels of vaccination in Central and Eastern Europe

Many Central and Eastern European (CEE) countries fall behind the EU average when it comes to vaccination uptake and coverage. This was seen in a number of countries during the COVID-19 vaccination programme:

Figure 1: COVID-19 vaccination in adults (18+) across the EU, versus CEE EU states (as of 22/08/2023)

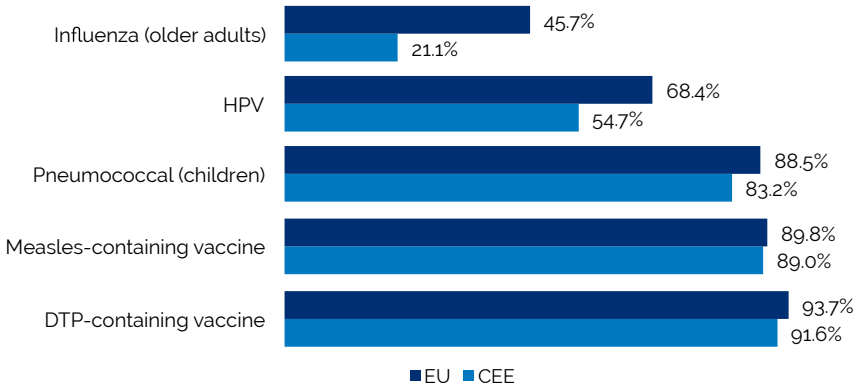


Source: ECDC⁷

The COVID-19 pandemic has highlighted the poor level of public engagement with vaccination across the region. Vaccination uptake is considerably lower in this region than the EU average, although it has been strong in the Baltics and some Central European states. COVID-19 booster uptake rates are all below 50%, while on average around two-thirds of EU adults have had a booster jab.

These countries also fall below the EU average in terms of uptake across five other immunisation programmes:

Figure 2: Average CEE coverage versus EU



Sources: Eurostat,⁸ WHO⁹

While coverage is strong among childhood immunisations such as pneumococcal (PCV), measles and DTP, vaccination across other life course groups remains low. Influenza (flu) vaccination rates among older people are half the EU average. HPV vaccination remains nearly 15% lower due to a lack of gender-neutral recommendations and poor confidence. There are some exceptions here – for example, Latvia’s vaccine schedule was changed in 2022 to make HPV vaccine recommendations gender-neutral.

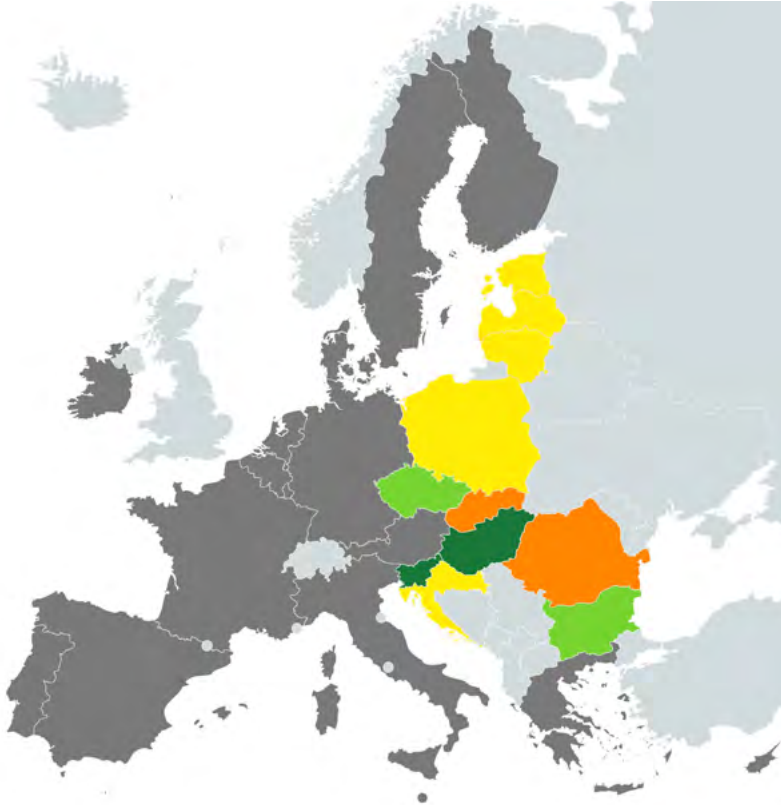
A similar trend can be seen with recommendations. While Central and Eastern European countries make strong recommendations for children to receive certain vaccinations, adult immunisation programmes are rarer.

Table 1: CEE vaccination recommendations across the life course

Vaccination	Recommendation made (% of CEE countries)
HPV (all adolescents)	45%
Pneumococcal (older adults)	64%
Pneumococcal (at-risk groups)	73%
HPV (female)	82%
Influenza (children)	82%
Pneumococcal (children)	91%
DTP-containing	100%
MMR	100%
Influenza (at-risk groups)	100%
Influenza (older people)	100%

Only two out of the 11 countries profiled in this report make recommendations for all groups to receive each immunisation outlined in Table 1. Overall, however, at least 70% of the vaccinations are recommended:

Figure 3: % of vaccinations recommended in CEE countries



Key: 70% | 80% | 90% | 100% | rest of EU

Across each immunisation programme, variations can be seen in coverage and uptake, as well as recommendations made.

DTP-containing vaccination

DTP vaccines are combination vaccines against three infectious diseases: diphtheria, tetanus, and pertussis (hence DTP). Vaccines that cover only these three diseases are known as the 3-in-1 vaccine. Other DTP-containing vaccines, such as the pentavalent (5-in-1) and hexavalent (6-in-1) cover DTP plus two or three additional diseases. All 11 Central and Eastern European countries recommend DTP or DTP-containing vaccines for children.

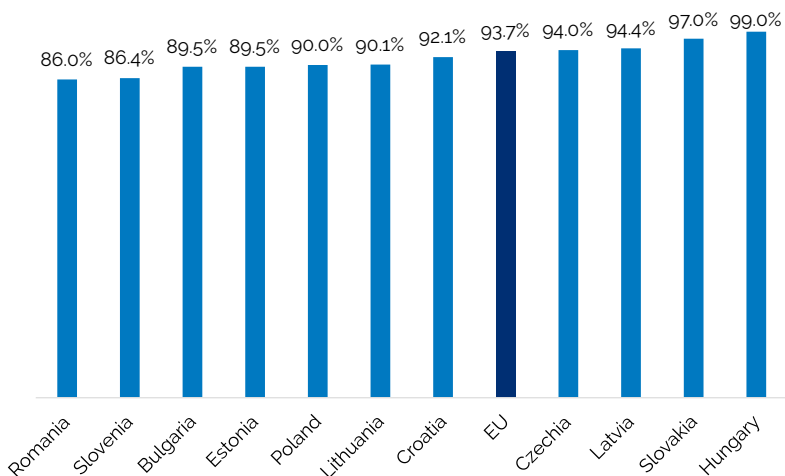
Table 2: DTP-containing vaccine recommendations

Country	Vaccine	Diseases covered
Poland	3-in-1	DTP
Lithuania, Hungary	5-in-1	DTP, polio and <i>Haemophilus influenzae</i> type B
Bulgaria, Croatia, Czechia, Estonia, Latvia, Romania, Slovakia, Slovenia	6-in-1	DTP, polio, <i>Haemophilus influenzae</i> type B and hepatitis B

Source: WHO¹⁰

DTP-containing vaccination coverage is relatively high across the region, with strong coverage figures reported in most countries:

Figure 4: DTP-containing vaccine 3rd dose coverage, 2021



Source: WHO¹¹

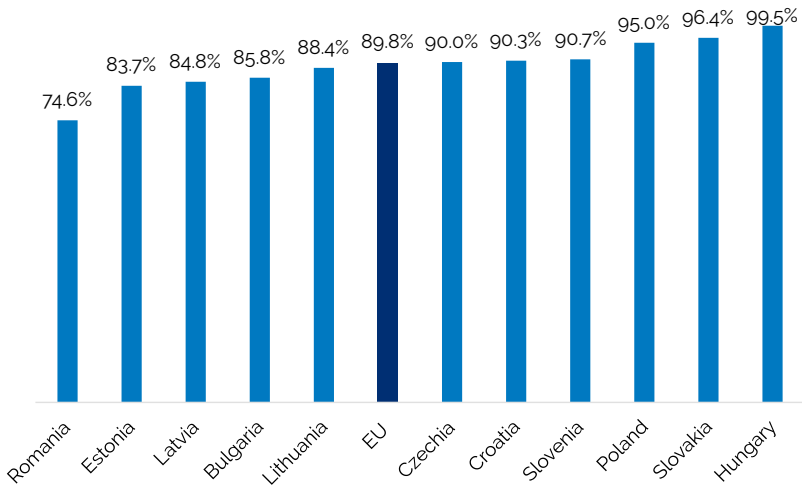
Three doses of a DTP vaccine are required within the first year of a baby's life to provide immunity from diphtheria, tetanus, and polio. Further doses are given pre-school at age three and at age 14.

While only four countries in this region sit above the EU average for DTP-containing vaccination (93.7%), most of the countries we studied consistently record over 90% coverage. However, a few, such as Romania, have recorded consistently lower than average figures over the past decade; as low as 82% in 2017.¹²

Measles-containing vaccination

Vaccination against measles, including the mumps, measles, and rubella (MMR) vaccine, is recommended in all 11 countries. Some have a higher coverage rate than the EU, although figures have been declining due to rising hesitancy and scepticism¹³ towards the MMR vaccine. COVID-19 lockdowns and social distancing measures may have also reduced coverage rates since 2020.

Figure 5: Measles-containing vaccine 2nd dose coverage, 2021



Source: WHO¹⁴

For example, Romania has seen a significant drop in measles-containing vaccine coverage since 2016. In 2017, Romania's second dose coverage rate was just 74.7%.¹⁵ In 2018, the country recorded the highest number of measles cases in the EU/EEA (4,778 reported cases that were confirmed by ECDC).¹⁶ This rise has been linked with growing hesitancy, fuelled by false claims of a correlation between the MMR vaccine and autism.¹⁷ It is important that both doses are taken up, otherwise protection against these conditions will be limited – full protection against them can only be achieved with two doses.

HPV

HPV vaccination recommendations vary across the region, with only four countries adopting a gender-neutral programme:

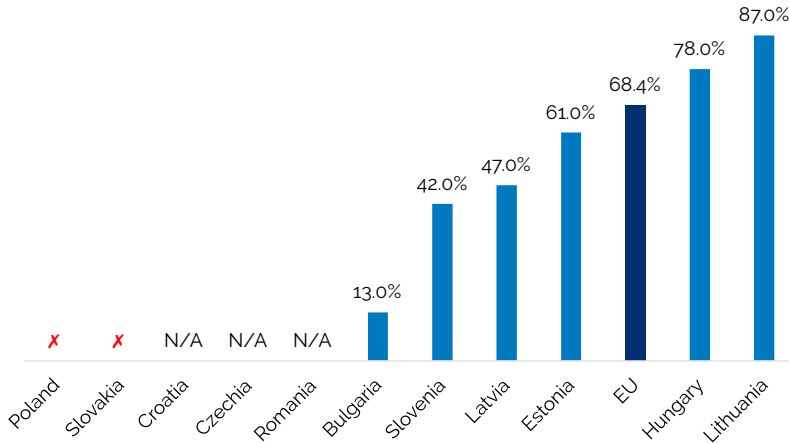
Table 3: HPV vaccination recommendations

Country	Recommended groups
Croatia, Czechia, Hungary, Latvia, Slovenia	Women and men
Bulgaria, Estonia, Lithuania, Romania	Women only
Poland, Slovakia	No recommendations

Source: WHO¹⁸

Given the differences in recommendations for adolescent populations, coverage varies. Reporting on HPV vaccination coverage is also not as common as for other immunisation programmes:

Figure 6: HPV vaccination 1st dose coverage in women by age 15, 2021



Source: WHO¹⁹

In comparison to the EU, some Central European countries and the Baltics do well when it comes to HPV vaccination. However, in countries such as Bulgaria, coverage remains considerably lower due to insufficient motivation for vaccination, anti-vaccine sentiment, and low trust in vaccines amongst some sections of the population; low uptake has resulted in more cases of cervical cancer compared to other EU countries.²⁰

Pneumococcal

Vaccination against pneumococcal disease is recommended for children in most countries, but there are differences in recommendations for at-risk groups and older people.

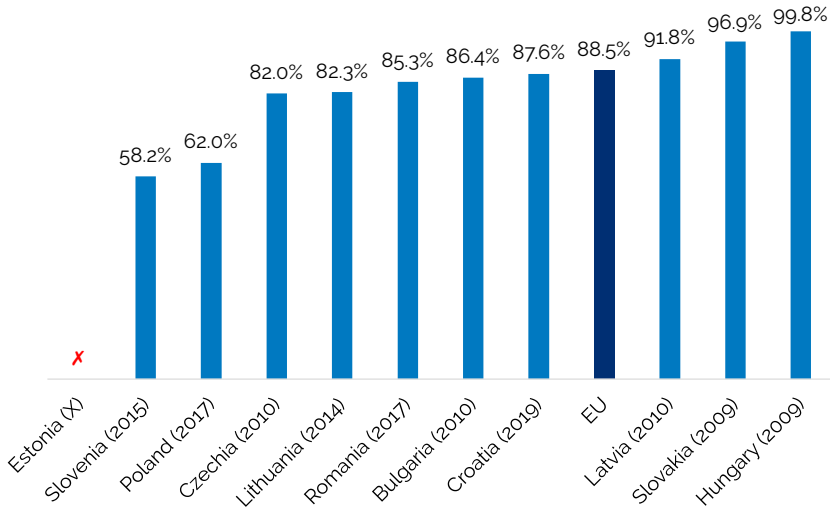
Table 4: Pneumococcal vaccination recommendations

Country	Children	At-risk groups	Older adults
Bulgaria	✓	✓	✓
Croatia	✓	✓	✗
Czechia	✓	✓	✓
Estonia	✗	✓	✓
Hungary	✓	✓	✓
Latvia	✓	✗	✗
Lithuania	✓	✓	✗
Poland	✓	✓	✓
Romania	✓	✗	✗
Slovakia	✓	✗	✓
Slovenia	✓	✓	✓

Sources: Pneumococcal Vaccination Atlas²¹

The lack of recommendations and provisions for pneumococcal vaccination for older people in this region contrasts strongly with the rest of Europe, where adult immunisation programmes for pneumococcal disease have been well-established. Coverage data is also therefore more limited for at-risk groups and older people. There's more data on childhood coverage, which suggests it's high in these countries.

Figure 7: PCV final dose coverage, 2021



Source: WHO.²² International Vaccine Access Centre VIEW-hub (figures for Austria and Czechia)²³
Year PCV was introduced in brackets.

While coverage figures are below the EU averages in most Central and Eastern European countries, many only introduced the pneumococcal conjugate vaccine (PCV) during the past five to ten years; PCV vaccines protect against a range of bacteria that can cause pneumococcal disease. Countries with higher-than-average uptake introduced PCV well over a decade ago.

Influenza

Influenza (flu) vaccination recommendations across the life course vary across the region. While all countries recommend that older people receive the flu vaccination, recommendations vary for children and at-risk groups:

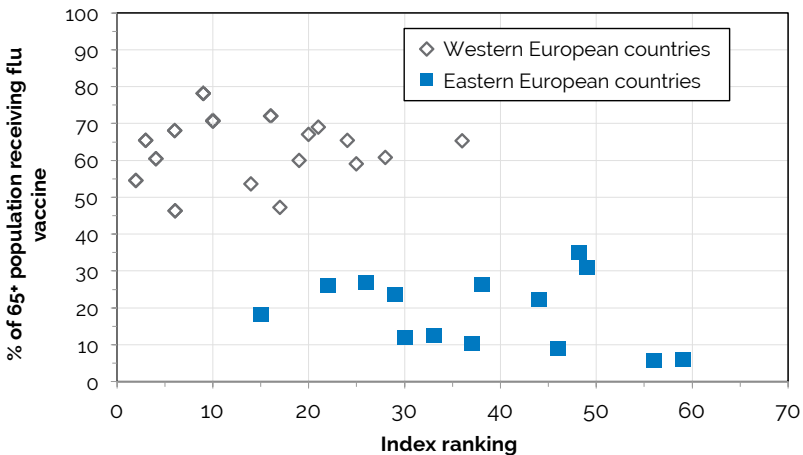
Table 5: Influenza vaccination recommendations

Country	Children	At-risk groups	Older people
Bulgaria	✗	✗	✓
Croatia	✓	✓	✓
Czechia	✓	✓	✓
Estonia	✗	✗	✓
Hungary	✗	✗	✓
Latvia	✓	✗	✓
Lithuania	✗	✗	✓
Poland	✓	✓	✓
Romania	✗	✗	✓
Slovakia	✓	✗	✓
Slovenia	✓	✓	✓

Source: ECDC²⁴

Uptake of seasonal flu vaccination is poor among older people, with all of these countries falling below the EU average.

Figure 8: Flu vaccination take-up in European Countries

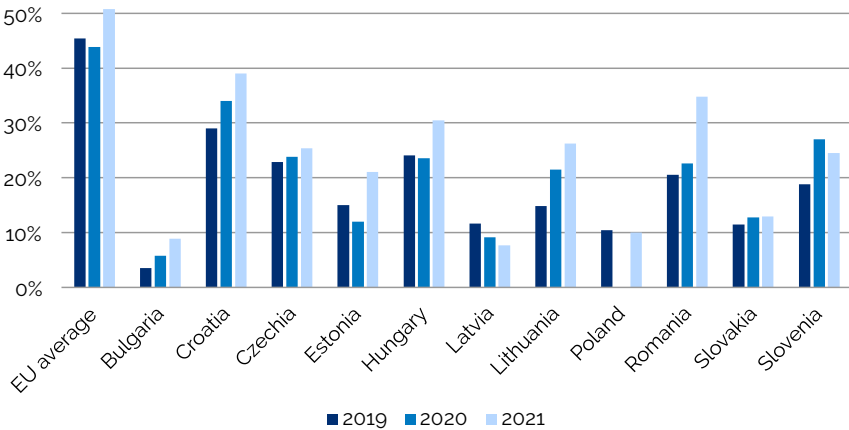


This chart compares European countries by their rank on ILC's Healthy Ageing and Prevention Index and the uptake of seasonal flu vaccinations amongst older adults. It shows that countries in Western and Eastern Europe form two distinct groups, since the levels of vaccination vary distinctly by region.

The country on this chart with the highest vaccine uptake is Denmark (ranked ninth on the Index) with 75% uptake, and the lowest uptake of only 5.8% is Bulgaria (ranked 56th). Other countries with high vaccination rates include Belgium, Finland, France, and the UK; others with low uptake rates include Hungary and Poland.

Vaccination rates could have a direct correlation with multiple indicators on the Index: specifically, life span, health span, and work span. The knock-on effects of preventable disease across an individual's life could also affect their income and happiness if they are unable to work or participate in everyday activities due to ill health.

Figure 9: Influenza vaccination among those aged 65 and over, 2019-2021



Source: Eurostat²⁵ No 2020 data for Poland.

While the EU average in 2020 was far below the WHO's 75% uptake target, the average figure for countries in the Central and Eastern region is only 21.1%, meaning that only one in five older people were immunised against flu.

The data included in Figure 8 is useful to building the full picture of how the pandemic affected older adult immunisation across Central and

Eastern Europe. The year of 2020 could be understood to be a 'stress test' of each country's vaccination infrastructure, and whether adult immunisation was prioritised by policymakers before, during, and after this health emergency.

Seasonal vaccinations for older adults may have been deprioritised by health leaders in a year where social distancing measures were mandatory or recommended in most countries around the globe. This was the case in some places in 2020, specifically Estonia and Poland.

The data in figure 8 also demonstrates that the majority of countries in the Central and Eastern region of Europe responded well to the need for flu vaccination in the wake of COVID. This is the case in Estonia, Hungary, and Romania, which recorded significantly higher uptake of flu vaccines in 2021.

What are the biggest barriers to vaccination, and why is confidence low?

While childhood vaccination is relatively strong in Central and Eastern Europe, vaccination coverage across the life course is low. This can be attributed low vaccine confidence, due to a number of factors:

- Distrust towards authorities
- Poor, inconsistent or no communication
- Inadequate access and poor funding
- Low health literacy and awareness

Feelings of distrust towards policy makers and healthcare authorities have significantly reduced vaccine confidence

“I think a big problem in Eastern Europe is the fact that a lot of people don’t have much confidence in the government. They lack confidence due to corruption and they don’t think that the people in charge have their best interests in mind.”

Dr Durdica Marosevic, Croatia

There’s a distinct lack of trust in politicians and the institutions that make decisions on public health across this region. This means that healthcare professionals are often regarded as a part of this system which is not understood to prioritise the wellbeing of the public. As such, many people are sceptical about vaccination when it’s recommended to them.

“Polls before the [COVID-19] vaccination campaign showed that medical doctors in Romania were not perceived as scientists. And this was a big problem, because these people who were not being perceived as scientists went to the media to explain about messenger RNA – a new technique – and this issue of innovation associated to the messenger RNA vaccines was a big issue. If you are not perceived as a trusted person, in terms of scientific background, and not perceived like a scientist, you are not listened to by the others or trusted.”

Dr Marius Geantă, Romania

Much of this distrust is borne out of the region’s political history. Personal freedoms and liberties were greatly constrained under communism, which was in place until the early 1990s. But now the countries profiled in this report are fully-fledged liberal democracies; they’re socially,

economically, and politically integrated with the rest of Europe. More political freedom, however, has meant more personal choice and the ability to criticise those in power. And given their past experiences of political situations, many individuals still lack trust in politicians and decision-makers.

“There seems to be this cultural determinism, that the history of a country, the relationship between the citizen and the government can impact how citizens relate to healthcare and thus how the citizens relate to vaccination...So, I think this is due to historical reasons how the government was organised in the past, especially post-communist countries.”

Dr Viktor Dombrádi, Hungary

The abundance of new social and political freedoms across the region has also permitted certain individuals to take up positions of power and fill the political void. As one stakeholder suggested, this has resulted in a lack of trust in the people who took power:

“The post-communist status is related to trust. What has happened in Romania and other countries in the region after the fall of the Iron Curtain was that some people, with little background in education or science, became billionaires overnight or went into politics, and this was a reason why the trust decreased...there was many aspects of corruption, and I think this is the main explanation why trust from a societal level decreased...we can see the results with vaccination.”

Dr Marius Geantă, Romania

Communication on vaccination in this region is often inconsequential and subject to anti-vaccination rhetoric. Lack of government action on health communication pre-pandemic left a vacuum that was filled by anti-vax voices when the COVID-19 health emergency was declared, often through digital channels.

“[COVID-19 vaccination] communication was a huge disaster because the health ministry never financed any educational campaigns for the patients.”

Dr Sandra Alexiu, Romania

The lack of trust which persists across much of the region means that authorities often find it challenging to communicate the benefits of vaccination to citizens and recommended groups. Instead, anti-vaccine rhetoric has emerged in some countries where prominent figures have

filled this communication vacuum by vocalising their opinions. This often takes place on national television or social media, where there's been a rise in the circulation of misinformation and disinformation.^d

“There is also little confidence in politicians which leads to general defiance of official recommendations. Misinformation and disinformation thrive in social networks and other forms of media.”

Dr Daniel Dražan, Czechia

In Romania for example, this trend predated the COVID-19 pandemic and began in the late 2000s with a poorly received HPV vaccination campaign:

“Vaccination uptake of COVID-19 and influenza is low, but it is especially low for HPV. In terms of policy making, the first HPV campaign about 12 years ago was a huge failure because of the very poor communication from the policy makers. Romanians felt like they had been lied to and betrayed...unlike previous vaccinations, parents were required to consent to their daughters getting vaccinated and doctors were made to ask them for a signature. And that was the moment when the trust in vaccination fell apart, and the anti-vaccine movement started.”

Dr Sandra Alexiu, Romania

This lack of clear, unequivocal information for one vaccination campaign led to other campaigns declining, allowing anti-vaccine communication to take hold. This was corroborated by stakeholders elsewhere in the region, who also suggested that confidence and belief in vaccination have been disrupted by lacklustre communication from authorities and politicians:

“If politicians say publicly something very stupid regarding vaccination, that can a very serious problem because others will reference that statement. People will then think that because it's from a point of authority, it has merit.”

Dr Viktor Dombrádi, Hungary

“[COVID-19 communication] was too late...in the beginning, there was a lot of talk about the different vaccine candidates...these queries were answered a month before the vaccines arrived, and that was so chaotic.”

Prof Dace Zavadska, Latvia

^dMisinformation is factually inaccurate; disinformation is likely to be inaccurate and also deliberately misleading or presented as official advice.

The lack of adequate communication about vaccination from governments, along with lack of trust in politicians, has allowed anti-vaccine actors to grow in strength and numbers, particularly since the start of the COVID-19 pandemic. The silence from some authorities on vaccination means that the void has too often been filled by false information. Many people don't use official sources for information when making decisions on vaccination but go to social media and other online sources, which promote misinformation and false claims about vaccination.

“For many years, all these anti-vax activities were somehow under the radar. Of course, there was some Facebook groups, but it wasn't mainstream; it wasn't in the media. The government wasn't interested in tackling this problem. And now with the COVID-19 vaccination, they [anti-vaxxers] were very well prepared to put forward fake news, disinformation, misinformation, and so on.”

Dr Marius Geantă, Romania

Previous ILC research has shown that older people may engage more with COVID-19 misinformation on social media,²⁶ while CLCI has determined that anti-vaccine conspiracy theories, fuelled by anti-institutional sentiment, are more prevalent in Eastern Europe.²⁷

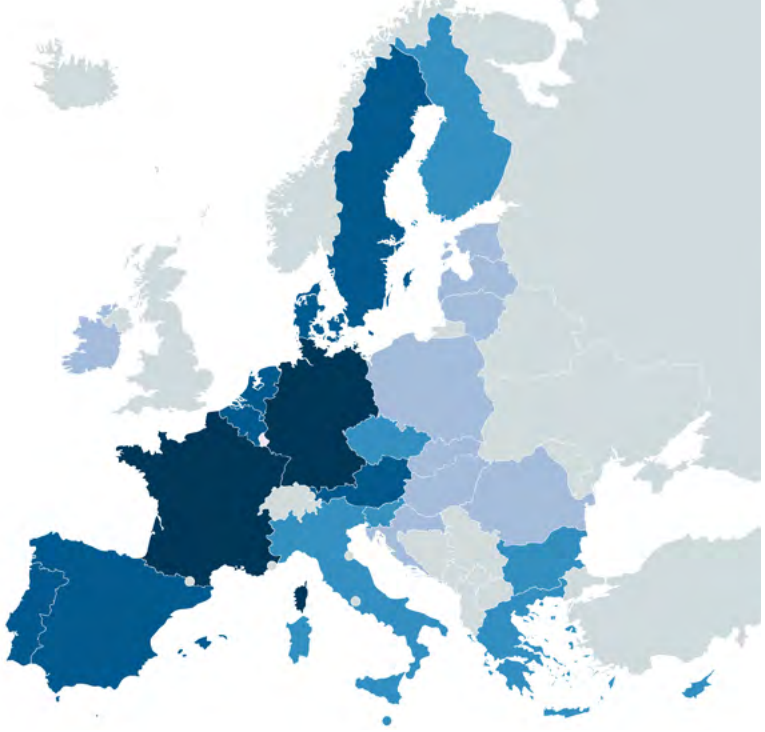
Inadequate access and poor funding has made people doubt vaccination quality

“Due to a lack of confidence in the government, people also think... they might get subpar quality products, which means maybe there is angst or fear that they will get expired vaccines or vaccines that are not the highest quality.”

Dr Durdica Marosevic, Croatia

Relatively low healthcare budgets, combined with a lack of access to health services, have also contributed to vaccine hesitancy across Central and Eastern Europe. These structural barriers reduce confidence in vaccination as they are a direct result of government inaction. Across the EU, there are marked differences between East and West when it comes to healthcare budgets:

Figure 10: Healthcare expenditure relative to GDP across EU27, 2020



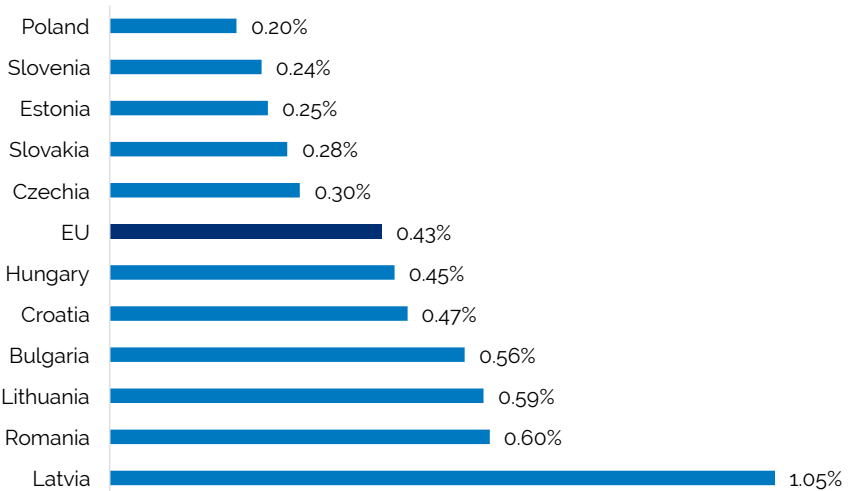
Key: <6% | 6-8% | 8-10% | 10-12% | >12%

Source: Eurostat²⁸
Malta - 2019
Luxembourg - <6%

Eight of the 11 countries profiled in this report (73%) spend less than 8% on healthcare as a proportion of their GDP, and all 11 are below the EU average (10.9%).²⁹ In contrast, most Western European countries spend between 10% and 13%, with France and Germany spending 12.2% and 12.8% respectively.³⁰

However, when it comes to spending on immunisation as a proportion of national healthcare budgets, most Central and Eastern European countries are above the EU average:

Figure 11: % of healthcare budget dedicated to immunisation, 2015-2019



Source: Faivre, P. et al³¹ EU figure includes the UK; excludes Belgium and Greece.

Higher-than-average spending on immunisation is to be commended, and many of these resources will be directed to routine childhood immunisations which have remained fairly stable in the region (with notable exceptions). In some countries, it's actually the delivery infrastructure for adult vaccination that limits uptake. Convoluted prescription and vaccination systems that do not prioritise patient convenience can make getting vaccinated too burdensome for many patients and clinicians to engage with^e.

As one stakeholder suggested, vaccination can be a time-consuming process for the individual, especially for seasonal influenza vaccination. This makes the procedure less appealing, and resources are more likely to be used inefficiently.

“There are so many things that I need to do [to get an influenza vaccine] that it becomes an inconvenience. I have to take time and effort to actually do it, there’s so many things that I need to first.”

Dr Viktor Dombrádi, Hungary

^eAnecdotal examples from expert stakeholders included cases where a patient needed to see a doctor to obtain the vaccine prescription, go to the pharmacy to have the prescription fulfilled, then return to the doctor with the vaccine to have it administered there. If a patient must go through so many steps to obtain a vaccine, it is much more difficult for them to prioritise it.

An individual's 'journey' from contemplating vaccination to actually receiving a jab requires flexible and comprehensive support. The physical distance they must travel, any costs they must incur, and the time they must wait to speak to a clinician can determine whether they make the attempt.

“The waiting time to see a doctor gives patients time to consult Dr Google, where they may encounter misinformation or disinformation about vaccines.”

Professor Vytautas Usonis, Lithuania

“Trust is built over time – individual clinicians have a significant role to play in being reachable to answer people’s questions and address their concerns.”

Dr Sandra Alexiu, Romania

An individual's perception of the vaccination programme and service can be crucial to their engagement with it. If an individual perceives that a vaccine has been developed very quickly, or has doubts about its safety and efficacy, these can be significant reasons to disengage. Governments and health systems do not just have a responsibility to develop clear and engaging messaging, they must also be responsive to patient concerns that arise through misinformation or disinformation.

For example, an important concern during the COVID-19 pandemic was that the vaccines being rolled out had been developed very quickly – perhaps too quickly for the regular safety and efficacy checks to have been completed as normal. This was not the case, and the speed of the rollout reflected the scale of the global health emergency. However, for many people hearing about the COVID-19 vaccines for the first time, the speed of vaccine development was a powerful piece of information which affected individual perception of the available vaccines. In the earlier stages of the vaccine rollout, this may have played an important role in the decision to present oneself for vaccination at all.

Low awareness and a lack of engagement on vaccination means many don't prioritise it

“Health literacy is low – there is little education about disease prevention at all educational levels, reaching as far as medical professionals.”

Dr Daniel Dražan, Czechia

Lack of awareness about vaccination, and weak health education, also feeds into lower levels of vaccine confidence. While strong recommendations and national immunisation programmes support good public awareness of childhood vaccination, less is known about the importance of adult vaccination. This is in part due to low awareness among older populations of the safety and efficacy of vaccinations, but also because governments in the region haven't implemented robust life course immunisation programmes:

“When we look wider, adult vaccination levels are rather low in Lithuania, yet for children, we have very good vaccination rates. This is because childhood vaccination is already well known and accepted. And even in the medical professional society, there is some sort of scepticism which is spreading among the patients.”

Ramune Kalėdienė, Lithuania

“Unfortunately, there's not a life course strategy in our country when it comes to recommendations for different groups. We know the problems, but are not necessarily involved in the vaccination process. GPs are supposed to be involved, but the issue is that they must check to see if this category of patients or age group is eligible for a vaccine, for which one, etc.”

Prof Vytautas Usonis, Lithuania

“In our country, it's normal that children are vaccinated. There is a national immunisation programme for children, but it's so detailed, and broad for adults. Czech people know instinctively that vaccination is a good for children, but there are only a few vaccines for adults. The importance of vaccination during adulthood is not seen as important as it is for children, so it's also a barrier in older populations sometimes. Many seniors believe that in old age it is no longer necessary to get vaccinated, that no vaccines are important for them. The opposite is true. They have little awareness of the importance of vaccinations against pneumococcal diseases, influenza, shingles.”

Prof Roman Chlíbek, Czechia

Another reason why vaccination awareness is lower is policy makers in this region show a lack of engagement on preventative healthcare. Some stakeholders have argued that governments haven't communicated the benefits of prevention to citizens, resulting in a public attitude that health is about treatment.

“Of course, we are all former communist countries, and that means the medical education of the population is very low, the policy makers are not very keen to put the patients first, and the healthcare system is not focused on primary healthcare. All of these are reasons why there is low vaccination uptake in the Eastern European countries.”

Dr Sandra Alexiu, Romania

“Compared to Western European countries, I think prevention is underestimated in Czechia. For Czech people, vaccination is not so important as the best preventive method because the Czech population is not used to paying for healthcare; everything is free, and the quality of our healthcare system is so high. In some countries though, people can see that vaccination is more cost-effective than medical care...but Czech people know that if they get sick, they receive free-of-charge care, so our population stresses diagnostic therapy over prevention. And I think this is a problem.”

Prof Roman Chlibek, Czechia

This means that vaccination isn't seen as something that beneficial to health, or at least not as much as other forms of medicine. Lacking education and health literacy, as well as a lack of effective leadership on the part of governments, has contributed to low confidence in vaccination amongst Eastern and Central European populations. The COVID-19 pandemic highlighted the full extent of this hesitancy, but it is evident with other adult immunisations too. Childhood immunisation, as we have seen, remains relatively stable across the region, but ongoing work is required to ensure this continues to be the case.

What are the opportunities to increase vaccine confidence?

While any attempt to improve vaccine confidence in this region will face challenges, our stakeholders highlighted a series of opportunities to achieve this, including:

- **Improving communication:** both in terms of the information being provided by authorities and how this is communicated to different groups across the region
- **Structural changes in health provision and science communication:** national governments need to take a life course approach and provide more training and education for healthcare workers and citizens on this
- **Using data and electronic booking systems:** digitalisation can help healthcare staff identify the gaps in vaccination uptake and make it easier for people to book appointments and access vaccines
- **Increasing access:** vaccination must be easier; reducing costs and widening the locations where vaccination is offered can help to achieve this

Improving messages on vaccination and delivering these through the right messengers will help incentivise people to get vaccinated

“It is very important to provide a society with official, evidence-based, scientifically based information...that answers the questions on vaccine safety and efficacy.”

Prof Vytautas Usonis, Lithuania

Despite low vaccine confidence due to feelings of mistrust and scepticism towards political authorities, our stakeholders acknowledged that vaccination rates can be improved if the communication messages and methods are used and disseminated by the right people.

Stakeholders suggested that vaccination communication needed:

- To have stronger messages
- To be tailored to different groups
- To be shared by specific figures who are already known and trusted

The messages used must be made clearer and simpler to make people more aware of the benefits of vaccination and the risks of vaccine-

preventable diseases. The approach taken during COVID-19, which focussed on the consequences of the disease, needs to be continued in the future for immunisation against all vaccine-preventable diseases:

“We saw in the case of COVID-19, that if our population has more information about the disease and the vaccine, it can increase their interest in vaccination. In the future, it’s necessary to give patients more information about the disease and more detailed information about vaccines.”

Prof Roman Chlibek, Czechia

The COVID-19 pandemic has provided a great opportunity for health stakeholders and policy makers to engage with the public on vaccination. Communications must be concise and easy to understand while remaining evidence and science based. For example, infographics which highlight how vaccines work and what they do helps with engagement:

“We tried to generate some infographics which were powerful, because people understand...something that is a very short, take-home message. And that eventually simplified the communication.”

Professor Mihai Craiu, Romania

Communication should also need to be tailored to specific groups to reflect people’s actual health needs. Vaccination communication needs to speak to people in a way that’s pertinent to their age, personal situation, and medical condition:

“Communication needs to be interactive and fun, not only accessible, because, again, if you write it on a flyer that lays down in the doctor’s office, you will not reach your target population, you will reach the people who are sick and go to the doctors. We should use the technology that we have nowadays. We all have our phones with us, so invest more in this type of communication...in their ads, on social media.”

Dr Durdica Marosevic, Croatia

“If you can explain to chronic disease patients, or older adults, that it can increase the number of health complications, the risk of death, and so on, then you can increase their interest in vaccination.”

Prof Roman Chlibek, Czechia

In Romania, for example, this has already been achieved to engage children with vaccination:

“We produced a lot of different materials for different target populations. Some very interesting ones included gamification for young people, cartoons no more than two minutes long, YouTube educational videos etc.”

Professor Mihai Craiu, Romania

Finally, communications must be disseminated by the right people to reach the intended audience. As many in Central and Eastern Europe mistrust in politicians and certain authority figures, communications should come from trusted, recognised voices. This includes leaders in local communities, such as those from the Roma community and religious figureheads.

“There is something very specific with the Roma community: they have a chief, and if you are in the position to influence the chief, you can have 100 people vaccinated straight away, or 200, or all of the population in an area.”

Dr Marius Geantă, Romania

“We should invest in local communication with local leaders, for instance, smaller villages, and smaller communities, they trust a lot of what their priest or their religious leaders would say. And if we could help educate the religious leaders and use them as our allies, that could talk to people and help them understand, some of these things that might also help.”

Dr Durđica Marosevic, Croatia

“Educating males about childhood vaccination is good, but mothers in Romania generally make the health and vaccination decisions. If children are denied vaccines, it’s often because the mother is mistrusting.”

Ana Măiță, Romania

Confidence is low in this region due to mistrust of what’s said and done about vaccination. Capitalising on opportunities to improve communication will ensure that citizens, community leaders and healthcare staff will all give more consideration to vaccination. Communications must be more concise and tailored and be delivered by trusted sources.

Systemic changes are needed to increase public confidence on vaccination and change mindsets

“We need to spread the scientific knowledge widely to general population and explain the benefits of vaccination much better.”

Dr Daniel Dražan, Czechia

Alongside the need for better communication, this region must make structural changes ensure vaccination becomes a force for good. There is a need to:

- Improve education among healthcare workers and citizens
- Adopt a life course approach to vaccination

It's just as crucial to ensure that both healthcare practitioners and citizens are educated about vaccination, with healthcare practitioners (HCPs) incentivised to recommend routine immunisations to their patients. Increasing awareness among HCPs is a vital opportunity: previous studies have shown that a health professionals' knowledge and attitude towards vaccination is an important determinant of their own vaccination uptake, their intention to recommend vaccination, and the vaccination uptake of their patients.³² This sentiment was echoed by our stakeholders.

“With the right funding, we need to improve our education in medical schools, because the topic of vaccination and prevention needs to be taught more to medics.”

Prof Roman Chlíbek, Czechia

“We need to improve how the professional can convince patients to get vaccinated, because communication and trust is very important...I don't really think that medical universities teach this kind of communication technique adequately, so maybe that can be another point of intervention.”

Dr Viktor Dombrádi, Hungary

With better education comes better communication between HCPs and patients. One stakeholder also highlighted the importance of educating people from a young age – they can spread this information to others as well as being more informed throughout their lives:

“I think education is very important. We should tell our children about medical education...Medical education is very low in Romania, and needs to be accepted at a young age, because when you're playing

with a child, you can show them things about health; they will go home, and in an indirect way, they can teach all the adults in the family... children can be vectors for education."

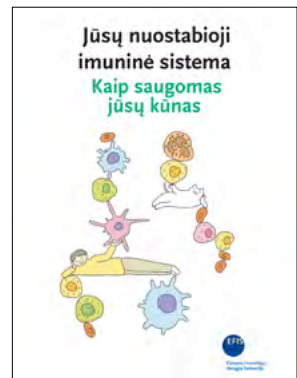
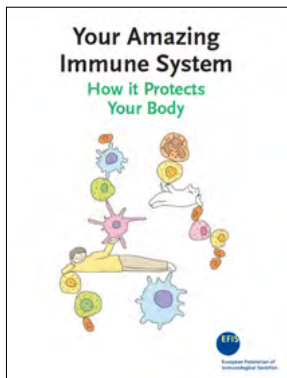
Dr Sandra Alexiu, Romania

A multigenerational approach to communication is necessary. Educating young children about the safety of vaccination can support uptake later.

"As part of an EU programme to rectify low vaccination rates, we developed a book that was essentially a 'Children's guide to immunology'. We took this to some schools in Romania some time before the pandemic – the children loved it. These children grew into adolescents who had confidence in vaccination, having had the education earlier on."

Dr Monica Neagu, Romania

This book was printed by the European Federation of Immunological Societies in over twenty languages, shown here in English, Polish, and Lithuanian.



Our stakeholders also argued that governments and health authorities must adopt a life course approach to immunisation to raise awareness that vaccination isn't solely for children. Particularly in the context of COVID-19, life course approaches were seen as important to help raise the profile of other diseases and their vaccination programmes:

"I think that now both national governments and the EU should be very much oriented towards regaining popularity of all vaccines and not just concentrating on COVID-19. We need the same focus on influenza, encephalitis etc."

Ramune Kalėdienė, Lithuania

“When the COVID-19 pandemic started, one of the good things was that people started to understand that the vaccination is a key solution. People started to realise that not only you need to vaccinate children, but you also need to vaccinate adults. This was never discussed in Romania before COVID-19, either in the media or at an authority level.”

Radu Ganescu, Romania

“During COVID-19...that experience we had when different age groups were vaccinated, we had universal recommendations, this experience could be used for further developing the idea of lifelong vaccination.”

Prof Vytautas Usonis, Lithuania

As one stakeholder pointed out, life course immunisation is a key opportunity to ensure that people remain healthier throughout their lives, and thus more proactive socially and economically. At the population level, substantial dividends could be unlocked in the medium- and long-term through improved vaccine uptake.

“It’s not enough to say that we need more young people; we need a healthy ageing population, because healthy ageing...means increasing the retirement age, and therefore you can make a very good economic argument.”

Dr Viktor Dombrádi, Hungary

Changing attitudes to vaccination requires more education and a proactive effort to alter existing narratives on who vaccines are for, what they can achieve, and why they’re important.

Better data and digitalisation is needed to understand gaps in coverage and improve services

“SMS or email reminders for vaccination can be very effective. I’m sure that in the future, we will use an automated system for other vaccinations.”

Prof Roman Chlíbek, Czechia

Our stakeholders also suggested that using more data and digital services could help improve vaccination. For instance, digitalisation could both help HCPs understand gaps in uptake and make it easier for people to book vaccination appointments. Despite the low uptake in the region, our stakeholders pointed out that COVID-19 vaccination has been successful in terms of citizens booking and managing

appointments online. They agreed that this should be continued beyond the pandemic.

“If the platform that was in place for COVID-19 was expanded to other types of vaccination, this would be great because you could use targeted vaccination campaigns, in areas where you know that vaccines are available, and the platform could show the individual that they could go to this vaccination centre, or to this hospital, or to this medical doctor and get vaccinated today.”

Dr Marius Geantă, Romania

“I think another lesson from COVID-19 is the need to have more digitalisation for vaccination. The electronic registration system used for COVID-19 vaccination could be applied for other vaccinations, as well as an electronic record of vaccination, such as a card or certificate.”

Prof Roman Chlíbek, Czechia

One stakeholder also highlighted that these digital platforms could help HCPs by reducing bureaucracy and making primary healthcare services more efficient:

“I think there’s a lot of good lessons we’ve learned [from COVID-19]... in Romania, we have a lot of opportunities for electronic registers that would be very easy to use...if we took a digital approach and stop the bureaucracy [of paper], we would gain a lot of time in our offices.”

Dr Sandra Alexiu, Romania

Managing all vaccinations using a digital platform, could help citizens increase their awareness and understanding of immunisation, make vaccination more accessible, and provide HCPs with more information about uptake at a local and national level. The systems are already used in many places for COVID-19 and could be replicated to deliver comprehensive life course immunisation programmes.

Access can be improved by removing cost barriers and reducing inconvenience

“One thing that has worked well during COVID-19 is the availability and accessibility of vaccination. When we developed a flexible and consumer-friendly vaccination service, uptake improved.”

Ramune Kalėdienė, Lithuania

Our stakeholders recognised that vaccine accessibility needs to be improved across the region. The mass vaccination centres and centralised effort to roll out COVID-19 vaccination across Europe could be replicated. Taking these lessons from the pandemic should be a key priority for other immunisation programmes, to make it easier for people throughout the life course to get vaccinated:

“For other vaccinations, we could probably use mobile vaccination, or discuss the possibility of vaccinating in the pharmacy, at the beginning of the season of respiratory diseases like influenza, COVID-19, and pneumococcal disease. This would work well for older people as it’s easier to get vaccinated there at their facility than travelling to hospital or to see a GP.”

Prof Roman Chlibek, Czechia

“What we need to take forward is how you can put your vaccine at the disposal of the patients or the disposal of the citizen, and how to create a circuit that it’s much easier for everyone. For example, when I went to my work and stopped on the driveway to get the [COVID-19] vaccine, it was very easy. So, we need to create this kind of circuit, that makes it easier to get a vaccine. I think it’s one of the biggest lessons that we need to learn.”

Radu Ganescu, Romania

Others also pointed to examples of best practice in Western European countries with other vaccinations that could be adopted elsewhere:

“In Germany, you can get vaccinated at work...you take 15 minutes out of your day, it is organised by your company, you go there, and you get your flu shot: everything is fine. While on the other hand, if I have to go home, if I have to go to my primary care physician, I have to make an appointment, wait there with 10 other people who might be sick and I’m at risk of getting ill...I think this is one really good opportunity how to reach people who want the flu vaccination, who are still working, and who go to their office daily.”

Dr Durdica Marosevic, Croatia

There’s an opportunity to increase access to vaccination by providing it in locations that are relevant and appropriate for different population groups. For example, children getting vaccinated at school; parents getting vaccinated in the workplace; patients getting vaccinated in a hospital; and older people getting vaccinated in care facilities.

“Provide people with access to vaccinations where they are. So, this means childhood vaccinations, for instance, in schools; flu vaccinations or COVID-19 shots at work for the working population.”

Dr Durdica Marosevic, Croatia

In addition to better geographical access, our stakeholders emphasised the importance of removing vaccination costs and improving financial access.

“I think there needs to be an extension of reimbursement for vaccination. Vaccination against rotavirus gastroenteritis in children, for example, is free of charge in places like the UK and is a part of the national immunisation programme, but not in our country. Vaccination against tick-borne encephalitis also needs to be reimbursed for all age groups, because we are the most endemic country in Europe.”

Prof Roman Chlíbek, Czechia

“Complete reimbursement would be a quick and very effective solution [to increase uptake], but certainly is not the only measure.”

Dr Daniel Dražan, Czechia

We can see that vaccination uptake in Central and Eastern Europe could be improved by giving people from these countries the ability to easily access vaccination services. Confidence that vaccination is safe, effective, and “worth it”, when combined with equitable and straightforward access to the vaccine, can together improve uptake statistics.

Taking what has been learnt from COVID-19 and applying these to future programmes, as well as making vaccination free, are positive and achievable opportunities.

Romania as a case study: barriers and opportunities

In April 2023, ILC-UK held a roundtable discussion at the University of Bucharest. This event was to outline the findings of the project so far, and to benefit from the expertise of Romanian experts working in the EU country with some of the lowest levels of vaccine uptake. Attendees included the State Secretary for the Romanian Ministry of Health, academics in the fields of paediatrics, sociology, and immunology, and representatives from special interest groups.

This conversation gave us insight into the cultural backdrop specific to Romania; immunisation programmes would need to take these into account to successfully raise vaccination rates in this nation.

Romania's socio-political history and context is extremely relevant to its people's current relationship with healthcare and government vaccination initiatives. Roundtable participants were in agreement that in the past, communist governments had made it clear that the state was responsible for every individual's health. As a result, there is a general lack of health literacy across the population.

“For thirty years under communism there was a distinct lack of education about healthcare, prevention, and vaccination. Then, during COVID-19 doctors were not asked to signpost people to trusted and accurate resources. The only option now is to approach people before they go to Dr Google.”

Radu Ganescu, Coalition of Patients' Organisations with Chronic Diseases of Romania

Shifting from governmental to individual responsibility for health decisions has been politically and practically complex. Roundtable attendees posited that it would take at least thirty years to find a more appropriate balance of responsibility. In the long term, they understood that preparing the next generation to be more engaged and knowledgeable was essential to increasing vaccination uptake in Romania.

“Education of the next generation is key to making decisive changes to vaccine confidence. Children can absorb information about health, hygiene, and vaccination without political friction.”

Dr Tiberius-Marius Brădăţan, Secretary of State for the Ministry of Health

As most Romanian adults have low levels of scientific and health literacy, it's difficult for them to be discerning when consulting different sources for vaccination information. The COVID-19 pandemic brought this into stark focus, but as we have seen, content that shows doubt and mistrust of vaccination was already fairly widespread before 2020.

“Romanian people’s attitude to vaccination can be summarised in one word: suspicious. A quarter of Romanians never visit their doctor and prefer to consult online resources. In 2020 there was one doctor for every 293 inhabitants of Romania, so access is one reason for this.”

Professor Mihai Craiu, Carol Davila University of Medicine

The ease of access to misinformation, and difficulty accessing HCPs who can provide information, advice, and signposting to trusted resources, are clearly issues here.

A separate but related problem is that the act of declining a vaccine has sometimes been used as a form of political expression.

“Anti-vaccine sentiments are not always a comment on health, immunology, medical interventions; it is dissenting and rejecting government, and other problems in society. For some this is the only way they feel they can dissent.”

Ana Măiță, Mothers for Mothers Association

The most common barrier for vaccination programmes in Romania is separating trust in doctors and vaccines from trust in government - these have been conflated here for many years. Trust in religious institutions and community leaders remains extremely high; leveraging these influences is essential to an effective strategy to increase uptake in the short-term.

It is also clear that every individual with reservations about vaccination will have their own unique reasons: likely a combination of political dissent, access to misinformation, fear of the unknown, or something else. Public information campaigns that focus on one of these, to the exclusion of the others, are unlikely to be successful. The roundtable agreed that positively inviting people to take responsibility for their health are more effective than using fear of vaccine-preventable disease.

Key points for consideration from the roundtable:

- Each country's socio-political context is key to its people's perceptions of government and health system interventions
- More needs to be done to fully understand individual concerns and respond accordingly; where national and public information campaigns exist, they are often less successful for this reason
- Leveraging existing authorities, such as community and religious leaders, is important in the short term to increase rates of vaccination
- In the long term, education and health systems could coordinate a joint response to vaccine hesitancy at the population level. Schools and medical centres can repeat and affirm positive messages about vaccination, and highlight the ways in which individuals can take responsibility for their own health

Recommendations

Through our conversations with stakeholders in academia, health, and social policy, we found that significant changes are needed at a national and European level to improve vaccine confidence across Central and Eastern Europe. We conclude that:

1. As part of investing in systems design, public awareness and training for HCPs should be increased; the latter will incentivise HCPs to recommend and administer vaccinations.
2. If we are to inspire and engage all actors, vaccination communication must be improved so that it resonates with different audiences, rather than making them feel hesitant. Stakeholders at all levels have a role to play in this objective.
3. National governments must democratise access to immunisation by adopting life course strategies, and the EU should increase support for vaccination in these member states.
4. National and local actors can improve vaccine uptake and confidence through effective use of technology. This includes online booking systems, live updates of walk-in vaccine availability, and online information packs to answer common questions and give patients confidence in vaccination.

Investing in systems designed for prevention

At the national level:

HCPs across Central and Eastern Europe should receive more training on vaccination, and citizens should be able to access vaccination materials through digital services.

HCPs should receive training on vaccination as part of their medical education. This should cover information on all life course immunisations, national vaccination programmes and schedules, and why it's important for specific groups to receive specific vaccinations. As a HCP's knowledge and attitude towards vaccination is an important determinant of their patients' vaccine uptake,³³ increasing their awareness and understanding on this topic is vital to ensure they are motivated to recommend and administer vaccinations.

COVID-19 vaccination training for healthcare professionals

During the COVID-19 vaccination rollout, the British Society for Immunology (BSI) ran training sessions for community leaders, including local healthcare practitioners, in the London Borough of Bexley. From April to July 2021, BSI ran a course focused on developing people's understanding of how vaccines work, and the skills needed to actively listen to, and answer, questions, and concerns. 91% of HCPs reported that they felt better informed and more knowledgeable about COVID-19 vaccines, while 85% said that they felt more confident about having effective conversations. 70% of HCPs reported having increased the number of people they talked to about COVID-19 vaccines.³⁴

Additionally, digital platforms should be used to help inform citizens about vaccination. Alongside communication materials being co-produced and disseminated by local organisations and individuals, there is an opportunity for governments to launch digital services, including apps with information and booking systems for vaccination. Given their wide use during COVID-19, vaccination apps could make vaccination more accessible while helping to educate people on the variety of vaccines available to them.

At the European level:

The EU should incorporate better health education and training into its EU4Health programme.

Under the 'Strengthen health systems' pillar of the EU4Health programme, the EU should introduce immunisation education and training for HCPs and the public. There should be a particular focus on providing vaccination training to HCPs across the EU, with funding distributed proportionally across the bloc to help those member states with lower vaccination uptake and healthcare budgets (i.e., Central and Eastern member states).

Actions to inspire and engage

At the national level:

Health system stakeholders and the general public must be cognisant of the benefits of adult immunisation. Communication

must be co-produced and communicated by local leaders and disseminated in partnership with national authorities so it is relevant to, and resonates with, the wider population.

Where possible, vaccination communication should be disseminated by trusted sources, such as local medical professionals, civil society groups, patient charities, and religious and community leaders. These stakeholders should work with governments at a national level to coordinate communication strategies and roll them out. However, the content – such as posters, videos, and social media posts – should be fronted by trusted voices, like family doctors and local figureheads such as church leaders, to ensure that the messages being conveyed are understood and reciprocated.

Communications should also be accessible and the messages easily digestible; people are more likely to engage and take action if this is the case. Science communication is complex, and often there are important nuances that require time and attention. Public health bodies are responsible for ensuring that their messaging strikes the balance between providing people the information they need while remaining accessible to all sections of society.

At the European level:

The EU should work closely with HCPs and local leaders in Central and Eastern European member states to signpost information on vaccination. Data also needs to highlight the vaccination gaps in Central and Eastern Europe.

The EU has an opportunity here to collaborate with stakeholders in member states to better communicate the advantages of vaccination to the public. For example, the EC and ECDC should engage with these stakeholders to coordinate signposting towards existing information. Resources such as the European Vaccination Information Portal are useful informational tools, but they can only be effective if they're communicated and shared by the right people. Given that this information is independent of national government – which has low levels of trust – sending the public to this platform is a good opportunity to help raise awareness and increase confidence among citizens in Central and Eastern European countries.

The European Vaccination Information Portal

The European Vaccination Information Portal (EVIP) is an EU website that provides accurate, objective, up-to-date evidence on vaccines and vaccination in general. EVIP allows people to view information on different vaccine-preventable diseases and the vaccination schedules in their countries. EVIP is an ECDC initiative, produced in partnership with the EC and the European Medicines Agency.³⁵

Vaccination uptake data needs to be stronger too. The ECDC must work more closely with Central and Eastern European states to ensure annual average reporting across different immunisation programmes to highlight gaps in vaccination and help address these through localised responses. This will help keep citizens informed about vaccination in their area, showcase more information about vaccination, and encourage the public to seek vaccination.

Actions to democratise access to prevention

At the national level:

Central and Eastern European governments should adopt life course immunisation schedules, widen vaccination programmes, and make vaccination free of charge.

While trust in government is low in this region, decision makers still have a responsibility to strengthen the case for vaccination by ensuring there are robust and accessible programmes in place. There's a clear opportunity to increase vaccine confidence and enhance the credibility of vaccination by taking a life course approach, ensuring all citizens are entitled to vaccinations and given help to get them. Vaccines for all preventable diseases, especially influenza, pneumococcal and HPV vaccines, should be recommended for the appropriate groups, from all life stages, with fully funded programmes established. Governments should reaffirm their commitment to the WHO's *Immunization Agenda 2030* strategy, specifically the "Life-course & integration" goal that aims to ensure that "all people benefit from recommended immunizations throughout the life-course, effectively integrated with other essential health services."³⁶

Both existing and future vaccination programmes should start to reimburse vaccinations costs or provide them free at the point of use, to minimise cost barriers for those unable to pay out of pocket. Reimbursing

out-of-pocket payments might be the initial approach, but uptake is likely to be higher if patients don't have to spend anything.

Engaging with a range of religious and civil society groups can build credibility for newer immunisation programmes in the short term. Supporting influential figures to advocate for vaccines within their own communities is key to this.

In public discourse, individual autonomy to make healthcare decisions must be separated from political expression as far as possible. In countries where individuals have historically been unable to express dissent towards their government and political system, vaccination has been a scapegoat topic. We saw this clearly during the COVID-19 pandemic, when misinformation was allowed to fill an information vacuum left by governments and health systems. (See the section Romania as a case study)

At the European level:

The ECDC should encourage Central and Eastern European countries to expand vaccination recommendations across the life course and require them to report on uptake. The EU should provide financial support to member states with lower uptake levels.

To increase transparency and better understand where gaps in vaccination coverage lie, the ECDC should collect more data on uptake from this region. Given the cultural and political ties between countries in the Central and Eastern region, the ECDC should also encourage a regional strategy for vaccination policies, with more cohesion on recommendations, schedules, and policies to create symmetry beyond countries where appropriate. Normalising vaccination as part of healthcare pathways as we age must be a key objective of life course programmes – adult immunisation will hopefully be normal and accepted in the same way that childhood vaccination currently is.

The EU should provide more funding to these member states to level up spending on vaccination and help strengthen new and existing immunisation programmes. This could be achieved through the European Regional Development Fund (ERDF), which already focuses on achieving equal access to healthcare.³⁷ The ERDF could go further by making specific commitments to ensuring equitable access to vaccination across the whole of Europe. Following on from the Czech Presidency of the Council of the European Union (July 2022–December 2022), the EU should make firmer commitments to its Council conclusions.

Conclusions on vaccination as one of the most effective tools for preventing disease and improving public health

As part of their Council conclusions, the Czech Presidency called for more action on adopting vaccination as an effective public health tool, saying:

“Vaccination is considered to be one of the most effective public health tools in the prevention of infectious diseases and the mitigation of their most damaging effects. Vaccination is not only important for children, but also in a life-course perspective. The development of vaccines represents a shift in medical history and has had a significant impact on public health.”³⁸

Following the transition of the European Council Presidency to Spain, the Spanish Health Minister Dr. Jose Manuel Miñones said at a high-level meeting on life course immunisation:

“States must continue to prioritise the improvement of vaccination schedules in order to achieve quality access to one of the most effective measures available to health systems’, stressed Miñones, while highlighting the importance of these tools in the face of the health challenges arising from factors such as mobility and climate change.”³⁹

The high-level meeting emphasised the importance of achieving symmetry between vaccine schedules across different EU states. This will help to ensure that life course immunisation is normalised and embedded in adult healthcare pathways across the EU. These conclusions provide a clear impetus and framework for the EU to adopt a life course strategy for immunisation. Using this strategy, members states can also use policy levers and other mechanisms to embed life course immunisation as a long-term preventative health strategy for the benefit of their individual citizens, health system, and the wider economy.

Actions to support the effective use of technology

At the national level:

Governments and health leaders should embed health technologies in care pathways, to make them simpler and more accessible.

Health technology aims to make access and provision of healthcare services easier and more efficient. Digital infrastructure such as

telehealth appointments with healthcare professionals, online appointment booking systems, and walk-in vaccination clinic status updates can streamline the vaccination process. Each of these changes can enable individuals to take up their vaccines with as little friction as possible.

Access to comprehensive medical records is also vital when healthcare professionals are making recommendations to patients. Ensuring digital records are up-to-date and accessible to the appropriate clinicians, and to the patient themselves, can enable all actors to support decision-making in the patient's care.

Health and science leaders should leverage digital channels to support public understanding of the benefits of vaccination

One of the key takeaways from COVID-19 in this region is the vacuum of information on vaccination safety and efficacy. Groups already espousing anti-vaccine sentiments on social media were well-placed to dominate the narrative on vaccination in the early stages of the pandemic. If health leaders are able to produce concise and consistent messaging that is culturally appropriate for communities in their region, they can begin to rebuild trust in adult vaccination. Familiar, trustworthy figures who can speak directly to the experiences of their patients can foster improved confidence in vaccination.

At the EU level:

EU-level stakeholders should create opportunities for member states to share best practice to optimise use of health technology

Providing practical guidance for healthcare professionals and sharing examples of best practice can support improved use of health technologies. Developing knowledge-sharing networks can improve understanding and ensure best practice is shared across different countries and health systems.

Why is it important for Central and Eastern European countries to seize these opportunities?

Investing more in healthcare, communication and training would mean a real opportunity for these countries to maximise the long-term social and economic benefits that can be gained from immunisation. If delivered across the life course, immunisation can prevent life-changing diseases that have an adverse impact on people's health and wellbeing.

This means it can be economically beneficial through its effects on growth, productivity and workforce participation, as well as on tax and pension systems.⁴⁰ For more on this, see ILC UK's programme of work on the [cost effectiveness of life course immunisation](#).

Studies from Western European countries have demonstrated that vaccination delivers a significant return on investment. In the Netherlands, every €1 invested in adult vaccination for those aged 50 and over would yield €4 of future economic revenue for government over the lifetime of the cohort.⁴¹ As such, the long-term gains from short-term investment in vaccination should be a key consideration for governments.

Additionally, in the UK, it has been identified that communication at the individual level can help to improve vaccination coverage. A strong recommendation from a healthcare provider, combined with techniques to address vaccine hesitancy, is one of the most effective ways to increase vaccination uptake.⁴² Supporting HCPs and equipping them with the right communication tools is one area that can improve the delivery of vaccination in these countries.

Finally, previous research has suggested higher knowledge and positive attitudes toward influenza vaccination were positively associated with vaccination coverage among nurses, as well as an association between nurses' vaccination status and their reported promotion of vaccination to their patients. Previous ILC publications from 2011 onwards have recommended that a broader range of HCPs be involved in vaccine provision.⁴³ Given the proactive role nurses and community HCPs can play in these countries in Central and Eastern Europe⁴⁴, increasing HCPs' knowledge through appropriate vaccination training could incentivise better uptake. This is something that should be considered by health authorities and policy makers in the region.

Increasing spending, strengthening communication, and broadening vaccination training for HCPs should be a priority for Central and Eastern European governments to help them benefit from the dividends of vaccination. Our recommendations outline these opportunities; the appropriate stakeholders should consider them to help maximise the social and economic benefits of vaccination.

Conclusion

While vaccination confidence is low in much of Central and Eastern Europe, there are clear opportunities to improve immunisation across the life course throughout the region. COVID-19 has highlighted just how wide the gaps are between Eastern and Western Europe – in terms of both attitude and uptake. Beyond the pandemic, looking at the future of health across the region, improving people’s confidence and trust in vaccination is critical.

Communication is an area that clearly needs improvement. Most information on vaccination has come through politicians and health authorities who are mistrusted by the public. Health leaders and governments are tasked with rebuilding this trust, and communicating nuanced and often complex information to the public in a manner that is clear and engaging. Building vaccine confidence requires both the right messages and the right messengers – including family doctors, religious leaders, and local community stakeholders, to ensure all cross-sections of society are receiving the same messaging that is tailored to them. By presenting vaccination as a societal good, there’s an opportunity to increase public confidence in vaccination and support people to actively participate in decisions about their health.

Governments should take a life course approach to immunisation – ensuring that health services are equipped to provide the required vaccinations, and they have sufficient investment to do so. Governments also need to create a consumer-friendly framework to make it easier for people to access vaccination: it should be free, with costs reimbursed, with simpler access to, and management of, appointments.

Finally, healthcare staff must be given the right tools and information to confidently advocate for vaccination. If doctors and nurses are provided with more training and educational materials, they can suggest vaccination to their patients and build on the perception that immunisation is an ordinary part of medical practice for adults, as well as children. Those on the frontline of health need to feel empowered to vaccinate and recommend vaccinations. Knowledge is a crucial tool to help ensure more people are immunised and better protected against vaccine-preventable diseases. Proactive healthcare staff can also fill the vacuum of information that leads people to seek answers through unreliable digital channels, leading them to rely on misinformation and disinformation.

To increase vaccination confidence across the region, politicians, HPCs and local actors all need to reimagine how they plan, communicate, and deliver vaccination. Despite being one of the greatest tools in our medical arsenal to protect people throughout their lives, the true value of vaccination has not yet been realised. With the right social, political, and economic policies, we can continue to make the case for vaccination in Central and Eastern Europe and make vaccines a force for good.

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About ILC

ILC is the UK's leading authority on the impact of longevity on society. We combine evidence, solutions and networks to make change happen.

We help governments, policymakers, businesses and employers develop and implement solutions to ensure we all live happier, healthier and more fulfilling longer lives.

We want a society where we all live happier, healthier and more fulfilling longer lives, where tomorrow is better than today and where future generations are better off. ILC wants to help forge a new vision for the 100-year life where we all have the opportunity to learn across our lives and where new technology helps us contribute more to society.



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