European Commission

Health Security in the EU

COVID-19 lessons learned and looking ahead to ensure a stronger EU Health Security Framework

Conference report

Health and Food Safety

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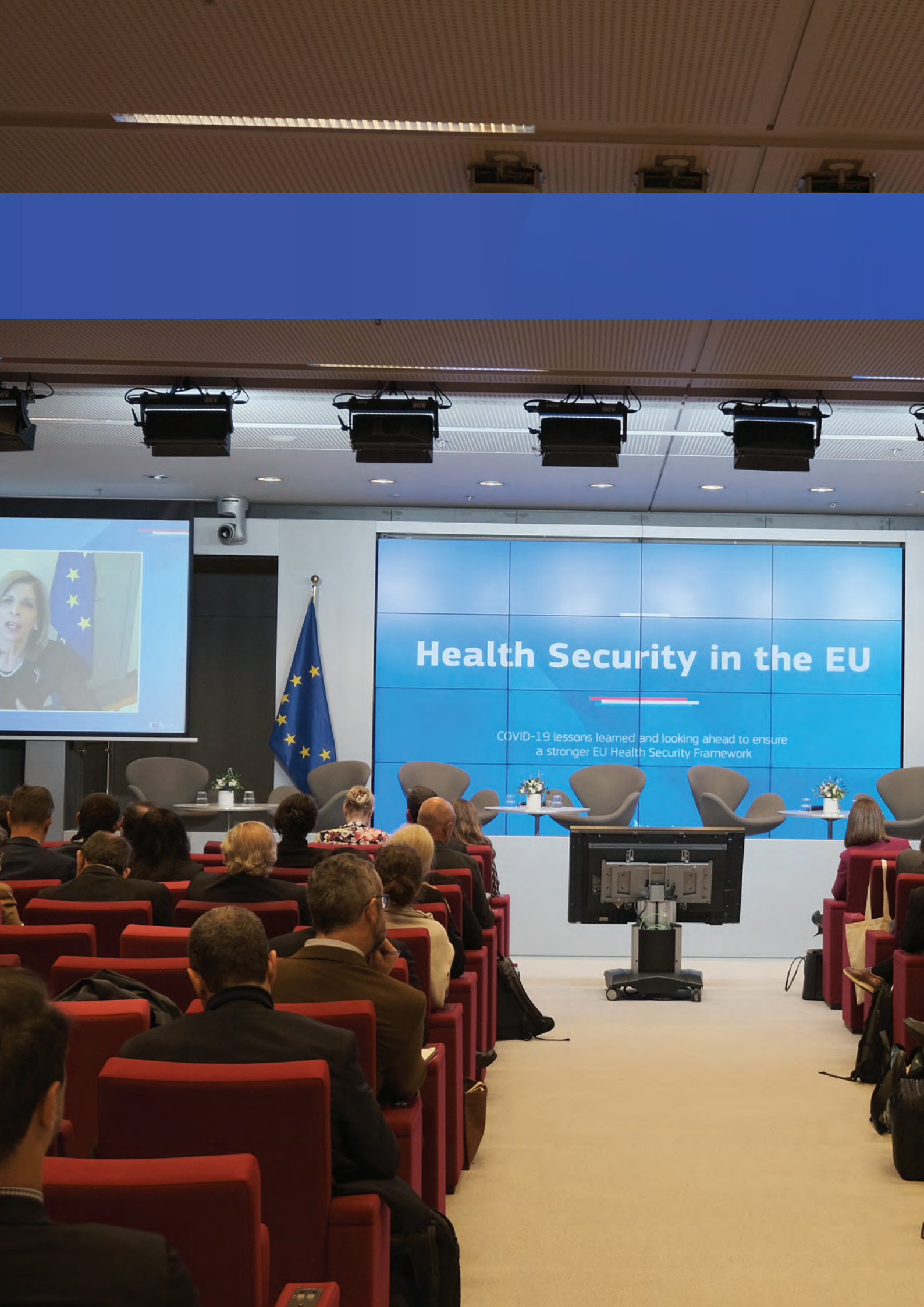
Luxembourg, 22-23 November 2022


Health Security in the EU
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COVID: WHAT CAN WE LEARN?

Images of the COVID pandemic are still raw. They remind people of the scale of suffering that can arrive unexpectedly in the world – and of the determination and personal sacrifices people sometimes make in order to help others.

In the early months, hospitals were overwhelmed, generating fear among the population. Lockdowns condemned old people to months of loneliness, and many died without being able to say goodbye to their loved ones. Restrictions on gatherings led businesses to collapse, and the longer-term economic impacts include the inflation that is contributing to hardship in Europe and elsewhere.
The pandemic also triggered inspirational responses. Healthcare workers pushed themselves beyond exhaustion in their efforts to treat the sick. Scientists in the pharmaceuticals industry developed and tested vaccines faster than anyone had dared hope – and the results proved spectacularly effective. Public health systems organised programmes to get these vaccines into billions of arms in one of the biggest mass health interventions in history.

Now, as the pandemic recedes, it is time to ask detailed questions about the response. What did we do right? What did we do wrong? And how should we prepare for next time? “They say that those who do not learn from history are condemned to repeat it,” said **Stella Kyriakides**, EU Commissioner for Health and Food Safety. “The COVID-19 pandemic has taught us some crucial lessons – about the foundational importance of our health, about how fragile our societies are, about existing vulnerabilities in our health systems – and, perhaps most powerfully of all, about the value of collaboration.”

To start the learning process, the European Commission organised a conference in Luxembourg on 22 and 23 November: “Health Security in the EU – COVID-19 lessons learned and looking ahead to ensure a stronger EU Health Security Framework”. The conference gathered a range of people from the world of public health: government officials, frontline workers and scientists. They worked in organisations at local, national, EU and international level. Their contributions ranged from personal experiences to suggestions for reinforcing international cooperation mechanisms.
An essential aspect of the post-COVID work will be to strengthen EU and international bodies charged with health and to facilitate coordination between them, and the conference kicked off with an outline of the new European Health Security Framework.

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The EU response to the pandemic

Over the years, the EU has set up structures and organisations to combat health threats. These were activated during the pandemic. How did they function, and how can they be strengthened?

European Commissioner Kyriakides drew four conclusions. Foremost was the need for EU solidarity and coordination, as no country on its own was prepared for a pandemic of this magnitude. To meet the challenge, a range of unprecedented initiatives were designed and delivered. In particular, the EU Health Security Committee, set up in 2001, proved to be a vital tool to coordinate measures based on a fast-evolving situation. "This is a forum that showed clear added value – which is why the mandate of the Committee has been strengthened significantly under the new health security regulation."

A second conclusion was the need for a stronger EU health security framework. "In the early stages of the pandemic, the right structures were not in place," she said. "We recognised these gaps and took steps to overcome them." When the European Health Union comes into force, civil society organisations and health professionals will have a reinforced role in information sharing and consultations. European public health reference laboratories will be designated to promote alignment between countries. And the European Centre for Disease Prevention and Control will play a reinforced role in providing inter-regional support.

> **"The COVID-19 pandemic has taught us some crucial lessons – perhaps most powerfully about the value of collaboration –**
> **Stella Kyriakides**

Thirdly, the development and distribution of medical countermeasures in the EU should be strengthened, as climate change, biodiversity loss and deforestation increase the likelihood of new viruses emerging. The European Health Emergency Preparedness and Response Authority (HERA) was created to be the EU's watchtower for preparedness and response. "It is only one year old, but it has already become a vital part of our health security," she said. "We are entering the age of pandemics – and we must be prepared for it."

A fourth conclusion was the importance of global cooperation in health, which is essential to safeguard EU societies and economies. The EU's new Global Health Strategy will improve global health security, and negotiations are ongoing towards a legally binding international pandemic agreement. "Our greatest challenges are common ones," Kyriakides said. "EU action therefore must go hand-in-hand with reinforced global cooperation."

Officials presented regulations adopted by the Council to complete the European Health Union, in the areas of prevention, preparedness, surveillance, risk assessment, early warning and response: the Regulation on Serious cross-border health threats, the Regulation on the extended mandate of the European Centre for Disease Prevention and Control (ECDC), the Emergency Framework Regulation to provide extra powers to HERA, and an extended mandate for the European Medicines Agency (EMA).

SCBHT - Serious cross-border threats to health

The new regulation on cross-border threats to health provides for measures to strengthen the crisis-preparedness framework, including the establishment of an EU health crisis and pandemic plan and national plans drawn up by the Member States. The EU plan will include provisions on information exchange between the EU and the Member States, early warning and risk management. “The regulation reinforces preparedness, surveillance, risk assessment, early warning and responses at EU and Member-State level in the event of cross-border threats to health,” said **John F. Ryan**, Acting Deputy Director General Health and Director Public health at the Directorate General for Health and Food Safety (DG SANTE).

In particular, the regulation provides for a network of EU reference laboratories, a network for substances of human origin and an EU-level advisory committee for recognition of public health emergencies. It also provides for a framework for reporting on and assessments of preparedness and response planning, regular public-health and cross-sector stress tests carried out with Member States, targeted training and knowledge exchange activities for healthcare and public-health staff and reinforced joint procurement. And the regulation provides for a new, high-performing epidemiological surveillance system at the EU level and strengthened access for the ECDC to health data.

Framework of measures for ensuring the supply of crisis-relevant medical countermeasures in the event of a public health emergency at Union level

HERA was created in September 2021 to strengthening Europe’s ability to prevent, detect and rapidly respond to cross-border health emergencies. It does this through intelligence gathering and by ensuring the availability of medical countermeasures (MCM). For example, when an emergency hits, HERA will ensure the development, production and distribution of medicines, vaccines and other medical countermeasures – such as gloves and masks – that were often lacking during the first phase of the COVID-19 pandemic. “Now we have the power and the tools, it’s time to act,” said **Wolfgang Philipp** of DG HERA. “HERA’s job is to make sure countermeasures are ready to be taken when needed. A lot of work needs to be done in the preparedness phase.”

ECDC - European centre for disease prevention and control

The extended mandate of the ECDC will give it a greater focus on the determinants of infectious diseases. This involves surveillance and modelling, as well as looking at gaps in preparedness. It also implies an expanded international role, stretching to Turkey and the western Balkans. “The pandemic forced us to acknowledge that we were not as prepared as we thought we were,” said **Andrea Ammon**, Director of the ECDC. “Our new mandate will need us to adapt our interactions with Member States. Success will really depend on how the Member States implement it.”

EMA - European Medicines Agency

The EMA played a crucial role during the pandemic, but much of its work was done without a mandate, said **Emer Cooke** of the EMA. “COVID was a disease we knew nothing about,” she said. “There were no vaccines, no medicines and shortages of everything – and we hadn’t anticipated the shortages issue.” So the agency put in place a system to look at shortages of critical and crucial medicines.

The EMA’s mandate is now being extended, through a reinforcement of arrangements, systems and processes – such as strengthened scientific coordination, cooperation with the ECDC on vaccine studies and collaboration for handling shortages. Partnerships will also be strengthened with DG SANTE and HERA. “These partnerships will make sure that we’re better prepared in the future,” said Cooke.

Views from the Member States

Member States had a variety of perspectives on the handling of the crisis. Luxembourg fought the pandemic efficiently, according to a review by the Organisation for Economic Co-operation and Development (OECD), cited by Luxembourg's Minister of Health, **Paulette Lenert**. The country had relatively low mortality and few days of lockdown.

But there were also recommendations to improve the health system. One was to make information more widely available: Luxembourg is now planning a digital transformation its healthcare system. Another was to make healthcare more attractive as profession, as Luxembourg currently depends on workers who commute from neighbouring states. A national contingent of healthcare workers – people who are either retired or willing to step back from their current activities – has also been set up. The country is aiming to improve primary and elderly care. And it is establishing a provisioning centre for medical material, as this was lacking when the pandemic struck. "We cannot foresee every type of crisis and exactly what will happen," she said. "But we can be sure we will have to face other challenges in future."

> "We can be sure we will have to face other challenges in future – Paulette Lenert

Rui Portugal of the Ministry of Health, Portugal, said that information and guidance from the EU agencies is essential – and that the Member States need to be aligned and cooperate amongst themselves, especially in human resources. He also proposed two commitments: for information sharing and for training to improved coordination. "The sharing of information between countries needs to improve," he said. "We need to know EU information and what measures countries are adopting, as well as when and why they are adopting them. And cross-border simulation exercises would be beneficial to test our new capacities."

The World Health Organization (WHO) needs to be integrated into the EU's health security work, said **Vesna Kerstin Petrič** of the Ministry of Health, Slovenia. She added that the strengthening of health systems needs to be at the centre of work from now, with human resources a key factor. "Infectious diseases are a whole-of-society issue," she said. "Trust is a critical requirement for an effective response, especially for vaccination."

Health crises are becoming more challenging, and collaboration is needed to demonstrate Member States' ownership of their approaches, said **Jérôme Salomon** of the Ministry of Social Affairs and Health, France. Consensus in Europe is growing around a One-Health approach, for example towards the fight against anti-microbial resistance at EU level. "France is also taking lessons learned into consideration," he said. "We are restructuring our crisis preparedness and response framework and creating a health crisis directorate in an all-hazards approach."

Dialogue and understanding are essential for implementation of health policies, and this context differs from country to country, said **Sara Byfors** of the Public Health Agency of Sweden. "In Sweden, the proportionality of measures taken is very important," she said, specifying aspects such as social isolation and the rights of children. Clear communication is needed to translate science into policy, and this requires training, she added.

The European Parliament analysis

Kathleen Van Brempt, Chair of the European Parliament's Special Committee on the COVID-19 pandemic (COVI), contrasted some of the actions taken in Europe with those in the United States. "This crisis was not only a health crisis," she said, "but also a crisis of inequality, of democracy, of fundamental rights and of international governance."

She said there were five lessons from the handling of the crisis. The first was the need for strong institutions. Thanks to the Biomedical Advanced Research and Development Authority (BARDA), the U.S. spent more than $1 billion in from February to April 2020 on vaccine development. But the European Commission launched its first call for companies to work on medical countermeasures in March 2020 and allocated only €5.7 million to develop vaccines. "Millions of lives were saved because the U.S. had robust and independent government institutions," she said. "I really applaud the Commission for launching HERA. However, HERA is underfunded, understaffed and does not have the autonomy that saved the U.S. in 2020."

Secondly, cash is needed fast in a pandemic. Through the Emergency Support Instrument (ESI), the EU had funds to develop, produce and procure vaccines. However, the amount available was much less than in the U.S., she said: €350 million through Horizon 2020, €2.1 billion through ESI on vaccines in 2020 and €750 million from Member States. BARDA, on the other hand, spent more than $19 billion on vaccine development and production. "One day in lockdown cost us 10 times what we spent on vaccine development," she said. "This is clearly something we need to reflect on."

A third lesson was the need for strong legal powers to intervene in the market during emergencies. In the U.S., the government had such an accurate picture of the production facilities and supply linkages, because they had activated the Defense Production Act, which allowed the government to map out where medical companies were located, their potential and their capacity.

But in Europe, the Commission had no legal tools to enforce transparency or direct supplies. "I do not understand why the Single Market Emergency Instrument, which would grant the Commission extensive powers in this regard, does not cover pharmaceutical products and medical devices," she said. "It is a grave error. I see it as an absolute priority to extend the Instrument to medicines and medical devices."

Fourthly, transparency is crucial to establish trust, especially during crises. "I had to defend the contracts for EU joint procurement without ever having seen them," she said. "Involvement of the European Parliament in vaccine procurement, in the health crisis board and in advisory bodies is therefore not a frivolity. It is sheer necessity… It is not acceptable that bodies appointed by the treaties to scrutinise the budget do not get access to all the relevant information."

The fifth lesson was the importance of international cooperation: Vaccine supply chains are international and therefore vulnerable to export restrictions. But the EU-U.S. vaccines task force allowed both governments to get an overview of the interlinkages and interdependencies of their industries. "The lesson here is that diplomatic platforms are crucial during global emergencies. I therefore think that the EU should introduce emergencies chapters in its trade and association agreements."

The EU's rejection of a waiver of Trade-Related Aspects of Intellectual Property Rights (TRIPS) gave China and Russia further opportunities to get closer to low- and middle-income countries through vaccine diplomacy, said Van Brempt. "A TRIPS waiver would not have hurt us. I sincerely hope that we will not make the same mistake twice."

Grounded: the aviation industry

Air passenger traffic collapsed rapidly after the onset of the pandemic and only started to recover in July 2021. The result was hardship for people working in airports, as well as for people who rely on businesses that need aviation. "To say that the pandemic was a shock to airports, aviation and tourism is an understatement," said **Olivier Jankovec** of Airports Council International Europe (ACI EUROPE). Traffic started to recover after the introduction of the EU Digital COVID Certificate, but passenger volumes were still below pre-pandemic levels in late 2022.

Much was learned about the impact of travel restrictions and other measures. In general, said Jankovec, travel restrictions during the pandemic did not stop the spread of the virus but delayed it by a few days at best. They also resulted in unnecessary economic hardship. Even imposing restrictions on the very day that cases were identified would not have helped, because new variants circulate before they have been identified, he said. "Passenger locator forms did not work," he said.

In 2021, travel restrictions were maintained even as epidemiological situation was improving. "Clearly the coordination between Member States didn't work as it should have," he said. "We need to review how decisions are made at national and EU level. We need to move beyond coordination to effective rule making. We need more Europe: We see the EU as key to minimising the hardship we went through in this pandemic."

Europe and the wider international response

The EU's future work on health security will be aligned with the WHO and the International Health Regulations (IHR) in a way that ensures no duplication of member state activities, said ***Francisco Pérez-Cañado*** *of DG SANTE. The objectives should include building a permanent support for vaccines and medical countermeasures; ensuring a One-Health approach – one that is integrated and unifying to balance and optimize the health of people, animals and the environment; ensuring top political leadership and permanent financing for health security; and harnessing private initiatives.*

"A new global health security order is emerging, and the EU must take the lead and shape it," he said. "We need a performing international legal framework to get results. We have to harness the impetus of global health initiatives, and we must fight duplication and ensure coherence."

The WHO is working on a global pandemic treaty and IHR revisions featuring a new global target, "7-1-7," said ***Hans Kluge****, WHO Regional Director for Europe: A new crisis should be spotted within seven days of its emergence; a report on it should then be delivered in one day; and an effective response should be taken within another seven days. "We have a perma-crisis of pandemics, wars, emerging diseases and climate emergency," he said. "We need to create an EU region with the capacities and capabilities to detect, notify and respond to health threats from any hazard. That implies a shared vision of stronger EU health security, based on solidarity and accountability."*

COVID and national health systems

Health security needs to be discussed in the context of strengthening health systems, said **Francesca Colombo**, Head of the Health Division at the OECD. COVID highlighted variations within countries, she said: "Those disadvantaged or deprived had a higher chance of dying." The pandemic also prompted a fiscal response, attracting increased funding to health systems. And it resulted in more agility, as health systems tried to accelerate their responses – such as an increase in the use of telemedicine.

She drew at least four lessons from the crisis. Firstly, too many people with chronic conditions forwent care, so health systems have to be able to provide continuity of care even during a pandemic. Secondly, it is essential to have a sufficient workforce, which implies greater training. Thirdly, there was huge variation within the EU in the ability to sequence COVID, and some health systems suffered from data limitations. Fourthly, governance needs improving, because trust in health systems is declining in some countries. This is related to communication issues, which led to a lack of understanding.

A whole-of-government response is essential, Colombo said. That should include an examination of aspects that governments sometimes overlook in their own evaluations of their COVID responses. What, for example, was the impact of school closures? "Overall, governments should expand the scope of their evaluations," she said. To make medical supply chains more resilient, supplies should be diversified; market intelligence should be improved to monitor supply chains and understand vulnerabilities; and pre-agreed rules should be devised on how to manage strategic stockpiles while avoiding inequity.

COVID and the international agenda

The impact of COVID means that global collaboration in health will remain an important international topic. "I am optimistic that this will stay high on the G7 agenda," said **Christophe Bayer**, Head of Division Health Security, International Crisis Management, Ministry of Health of Germany, which was chairing the G7 in 2022. However, he cautioned, there are other crises in the world now, and decision makers have other high-priority issues to think about. "It is up to us to advocate for continuation."

The G7 health track has four priorities: antimicrobial resistance, for which integrated surveillance is needed; climate-related health issues, such as preparing to deal with heat using an early warning system; COVID – for example, strengthening manufacturing capacities; and other pandemics, for which governments need to prepare with technical, political and financial support.

"The issue now is the shift from policy to practice," he said. "We will present a roadmap towards implementation focusing on financing, workforces, training, surveillance and One-Health intelligence. COVID-19 illustrated the balancing act between short-term national imperatives and long-term cooperation structures."

Different countries, different experiences

The tracking of pathogens will be more complex in future, said **Andrea Ammon** of the ECDC. The ECDC started to intensify its modelling in 2020, and it now has a forecasting hub to compare models. This hub has developed into a scenario hub to look at longer-term trends. "Three-quarters of pathogens in the last 30 years came from animals," she said. "Sometimes the transmission is not direct but via a vector, such as air, water or food. We have to adapt to this complexity and have a more holistic view in the future, taking in animals, humans and inanimate matter that can act as a vector."

It is essential to engage populations as allies in the effort to control a pandemic, she said. "Engagement of the population is one of the biggest lessons to be learned. This is an important part of crisis management: Not just politicians, but everybody had to contribute. Trust is something that you have to build every day, but it can be arduous: A lie might be running around the world, while the truth is still putting its boots on."

COVID's impact on cancer screening

The COVID pandemic reduced access to many healthcare services, especially those related to cancer. A total of 100 million screening tests were cancelled, according to **Mike Morrissey**, Chief Executive of the European Cancer Organisation.

One reason was that people were more scared of COVID than of cancer, he said. Another was public health messaging, which was very binary and consisted of orders to "stay at home whoever you are", rather than "stay at home unless…" However, most screening cancellations were not due to citizens but to healthcare systems, which were struggling to cope with the extra burden from COVID. "Four out of 10 of the cancer workforce said they had burnout," he said. "This had a huge impact on patients and the workforce."

Initiatives to arise from this problem included a special network on the impact of COVID on cancer to exchange best practices from different hospitals and countries. The European Cancer Organisation launched its Time To Act campaign to address the backlog in cancer diagnosis and treatment resulting from COVID. "To build resilient cancer systems, it will not be enough to get back to where we were before the pandemic," said Morrisey. "We suggest getting to 130% of the pre-pandemic capacity."

Communicating risk, countering disinformation

Governments were highly aware during the pandemic of the need for good communication, but it was not always clear how to do this. “Can we do it with more empathy? Can we do it with more compassion?” asked conference moderator **Shada Islam**. “What’s the place of facts? And what’s the place of science?”

The first problem for governments trying to communicate over the pandemic was their own lack of knowledge about what was happening. “In the beginning, it was something new,” said **Anne Calteux** of the European Commission Representation Office in Luxembourg. “There were a lot of uncertainties over the mode of transmission and who was at risk. We had scientific advice that was not always coherent, and in 27 health systems, there were a great variety of approaches.” In Luxembourg, people followed German, French and Belgian media, said **Laura Valli** of the Ministry of Health, Luxembourg, “so they immediately asked why we hadn’t done something that our neighbours had.”

The next problem was disinformation. In Estonia, for example, someone posted a picture on social media to indicate that hospitals were empty – even though they were overwhelmed and only treating people with COVID. Governments reacted by countering the disinformation. In Estonia, the government released its own photo – of a line of ambulances. “This helped risk communication, so that people would advise granny to get vaccinated,” said **Eva Lehtla** of the Ministry of Social Affairs, Estonia.

But government officials were also aware that their reactions could give credibility to false reports. “By reacting to every rumour, you give importance to the rumour that might be counterproductive,” said **Tom Rausch** of the Ministry of Health, Luxembourg. “It is hard to know how to balance this.” Governments also had to be extremely careful to ensure that all their communications were reliable. “One single false piece of information would damage people’s trust in the government,” said Valli.
One way to give credibility to government communications was to include more science. “In our communications efforts, we had a scientist next to a risk communicator,” said Rausch. “The message was perceived differently coming from an objective scientist rather than a politician. In Italy, “it was quite clear that we needed a scientific approach to managing information,” said **Sergio Iavicoli** of the Ministry of Health, Italy. “The way to address people is to use clear messages that are evidence-based.”

Some governments tailored their messages to different population groups, as risks are often perceived differently. “It depends on social, economic and religious background,” said Rausch. “We used social security data to adapt our communications and the languages to use. That guided us, but it was difficult to find who we needed to reach out to.” In future, he said, “we need to identify the cultural insiders in communities and get them on board as allies.”

One mistake in some countries was not to get the media onside. “We didn’t handle the press well in the beginning,” said Valli. “We didn’t want filming in hospitals. But we ended up antagonizing the press, which led to a bad ambiance, and they tried to investigate things that were not there. It would have been better to have the press as an ally.”

The challenges were pretty much the same everywhere, but different solutions were used, said Lehtla: “Pretty much everything was tested throughout this long crisis, and we have to share best practices. That includes engaging primary healthcare workers in communication: They are often the first person of contact for people in the healthcare system.”

For Luxembourg, one difficulty early on was the amount of French and German TV news watched by the population, containing different messages about the extent and danger of the pandemic, said **Thomas Dentzer** of the Ministry of Health, Luxembourg. Before vaccines became available, the government put great emphasis on surveillance. It tested wastewater, as this provides an early marker for the spread of the virus. Then it carried out an ambitious testing programme. "We opted to test 20% of the population at the beginning and then tested 10% every week in different groups, such as healthcare workers, police and firemen," he said. "There was a lot of negative press, as the tests revealed that so many people were infected, and this this affected cross-border workers. We had to explain that 'everyone in your country is infected, but they just don't know it'."

> "The bigger picture has one word: equity – Sandra Gallina

However, the testing prevented large numbers of infections. Moreover, Luxembourg only had one lockdown, and children continued to attend school. "If you can keep Luxembourg open for one week, that is worth about €250 million," he said. "So the testing was an investment."

Denmark at first had limited data for modelling and forecasting, but it increased its capacity and built up an expert group of mathematical modellers, said **Tyra Grove Krause** of Statens Serum Institute, Denmark. The modelling helped decisions on policies including vaccinations, restrictions, testing and contact tracing.

"You need modelling and surveillance data," she said. "You need activity data and behavioural data, because one of main challenges was to predict human behaviour, as this changed during the pandemic. You need epidemiologists to interpret the data. And you need international collaboration to provide the best basis for the data."

One Health is an integrated, unifying approach to balance and optimize the health of people, animals and the environment. It thus helps to prevent, predict, detect and respond to global health threats such as the COVID-19 pandemic. The approach mobilizes multiple sectors, disciplines and communities to address root causes and create long-term, sustainable solutions. One Health is essential now, because the increases in climate change, population and globalisation all make it easier for diseases to emerge, and most will be zoonotic, said **Flavia Riccardo** of Istituto Superiore di Sanità, Italy. One example is the spread of the West Nile virus. This is transmitted by mosquitoes and is thought to be increased by heat and rain. This year, however, it appeared to be increased by drought, which concentrated the habitats of wild birds, leading the disease to spread among them.

The One-Health approach has several stages. "We need to identify what is happening and assess what this means," she said. "We need experts from different disciplines. The more modelling and the more-informed modelling we have, the better we can respond. One Health will not prevent an emergency, but we will need it if we want to be prepared and be able to respond."

Summing up, **Sandra Gallina**, Director General of DG SANTE, said that, when an emergency strikes, we need to realize we are in a community. "The bigger picture has one word," she said: "Equity. I think Europe did fantastic work domestically. What we did not manage well was the rest of the world.

Responding on the ground

While governments and the EU worked on coordinated responses, organisations on the ground rushed to do what they could in the first days of the pandemic – with the means and equipment they had, based on their knowledge of COVID at the time. That led to multiple stresses for everyone working in care-related fields and everyone who needed care. "The unprecedented demands during COVID impacted the health of the workforce, which impacts the care provided to patients," said ***Elizabeth Adams****, President European Federation of Nurses Associations. The experience underlined aspects of care such as loneliness etc in care facilities. "We have to be careful that we are caring for people as individuals, particularly those in vulnerable groups."*

In Luxembourg, the Ministry of Health stopped non-emergency surgery, so that nurses could work on COVID, said ***Thérèse Staub*** *of the Centre Hospitalier de Luxembourg. Half the intensive care unit was devoted to COVID patients and the other half to non-COVID. Doctors working on procedures such as colonoscopies went to work with COVID patients. The only bright spot was fewer victims of car crashes, as people drove less. "It was a tsunami," she said. "Everyday, something else happened, and we had to find a solution. We didn't have any more respiratory machines, so we had to look for some. One day, you learn you are not going to get any more face masks – and then a company here produced protective equipment, and then we didn't have a problem anymore."*

Care in the community

At first, community nurses such as **Olivier Babel** from France, worked without protective equipment. He and his colleagues organised on social media and collected some equipment, which they then distributed throughout their region. This process let them establish a list of people who could help, with whom they worked throughout the crisis. They also set up a mobile team of nurses dedicated to patients who were at home. This enabled them to organise at-home consultations.

The mobile teams helped later, when the time came to administer vaccinations, and many patients were put off by the idea of going to a major vaccination centre in a city. "We focused on vaccination possibilities closer to our patients," he said. "Two words I heard were 'trust' and 'proximity'. The priority was to keep offering care to patients and maintain their trust. We knew that many excluded people would not go to maxi-vaccination centres. So we set up mobile teams of nurses to go to patients' homes to give them vaccines, based on lists we had of people staying at home. The system worked progressively better, and the idea spread throughout France."

One reason they could improvise so effectively was the nature of their work. "A big strength of our job was our responsiveness," he said. "We had to gain new skills – things like project management and getting funding."

COVID and health inequalities

One idea that took root rapidly among the public was the supposed universality of the corona virus: All individuals would have the same probably of catching it, so they should all isolate the same way. This idea generated empathy and encouraged people to conform to rules designed to prevent the virus from spreading.

However, it then became clear that various factors – in particular, social and economic class – created inequalities in exposure and outcome. People living in overcrowded conditions were more likely to be infected. COVID had a greater impact on people with chronic diseases, who are unequally distributed in social classes. And non-COVID care – especially non-essential surgery – was unequal. When vaccines became available, coverage was unequal.

"It was shown that poorer people had worse outcomes," said **Guiseppe Costa** of Turin University Medical School and the San Luigi Hospital Epidemiology Unit. "We focused on differential exposures and vulnerabilities and identified a set of possible mechanisms that could be used to recalibrate policies to create more equitable outcomes."

Too much isolation?

Slovenia reported its first case of COVID in March 2020, though **Alenka Oven** of the Institute for Long-term Care, Slovenia, thinks they might have had cases earlier but thought they were flu. Elderly people in nursing homes are not a strong population, and other medical centres were closed, so the homes were locked down and people were kept there longer than was legally possible. "We heard that the virus was coming, but we didn't know anything about it," she said. "We saw reports from Italy, our neighbour, and we were not thinking about things like human rights but about making our population secure. We were just asking how to save the lives of elderly people."

Isolating the elderly to protect them might have gone too far, she said. "We shall never forget pictures of people waving to relatives through windows. This was probably unjustified for elderly people. I believe people died due to lack of closeness with other people."

COVID showed up some of the existing flaws in long-term care, in particular the lack of workers in the field, which made work that much harder during the pandemic. "A positive side is that the workforce worked incredibly well," she said. "But schools and kindergartens were closed, so some women who wanted to work were concerned about who would take care of their children. We tried to attract students and retired health workers, but they presented a risk to themselves."

Now is the time to learn from the pandemic, Oven said. One lesson is to think about quality of life as well as of healthcare, as this was often overlooked. Another is the need to attract young people coming into the labour market – and people working in long-term care are responded to with gratitude that is not received in other professions. "This is something invaluable, and the pandemic should be taken as a positive opportunity." Also, long-term care should not be confined to institutions, but should be carried out in people's own homes, where they can see more of their friends and relatives. "Elderly want to live in their local communities where they feel good," she said.

Another group of people who felt vulnerable during the pandemic were patients with other conditions, said **Marco Greco** of the European Patients Forum. That applied particularly to people with chronic diseases. However, there was almost no patient involvement in treatment planning. "Patient involvement needs to be structurally embedded," he said. Timely and reliable communications are important to avoid contradictory messages, he said – an area where patient organisations can play a role. "Patients' organisations often provide psychological support," he said. "They are also essential because of how they connected are with patients. They are partners for ensuring information flows and ensuring good communication."

The challenge of mental health

Even before COVID, one in six people in the EU were experiencing mental health problems in 2018. However, that likely underestimates the true extent of problems, because it only counted people who were talking about mental health. "Not enough was done before, said **Claudia Marinetti** of Mental Health Europe. "So a lot needs to be done now."

She outlined four areas for improvement. First comes the need to improve understanding of mental health, by seeing it as a continuum. "This important for ending the stigma," she said. Many groups of people are reluctant to discuss mental health problems: "Healthcare professionals, for example, feel they need to be strong, so they don't talk about it. Also, it is important to teach children about mental health. If you do this, they will support others with problems, and they seek help when adults."

Secondly, social determinants of mental health problems need attention and investment, such as income, housing and working conditions. "When people have a safety net, they will have more tools to improve their mental health. And we need to take intersectionality into account – such as a single parent from an ethnic minority with visa issues. We need to be careful not to think there is one solution for everybody."

Thirdly, care systems need to invest in prevention and awareness and to strengthen early intervention. Barriers to access need to be lowered, and there should be a shift away from institutional care towards community-based care. Fourthly, she said, these areas need to be coordinated at an EU level. The European Commission has supported the transfer of best practices in mental health and plans to continue to do so via the EU4Health programme.

Remaining vigilant

COVID is not yet over. Seasonal flu is starting. And other pandemics will arrive in future. It is therefore imperative that health systems and professionals remain vigilant. "We really need to learn from the recent past to meet these challenges," said ***Richard Pebody****, WHO Euro Team Leader for Infection Hazard Management. "There is still much to learn in order to be prepared for the next health emergency, whatever that might be."*

Sentinel surveillance and continued testing

One approach is sentinel surveillance, which involves monitoring the rate of occurrence of diseases through a network of doctors, laboratories and public health departments. This will be a critical component for better future pandemic preparedness, but it needs to transform into a sustainable, population-based syndromic surveillance system, said **Bruno Ciancio** of the ECDC.

The ECDC has published a concept for future sentinel surveillance and continued testing in European Member States, and a Joint Action on Integrated Surveillance is starting work at the beginning of 2023. This Joint Action will coordinate the efforts of Member States in updating surveillance systems to the new requirements with the help of the ECDC. The Annual Work Programme 2023 of EU4Health contains €100 million in support for Member States to improve infrastructure and build capacity for national surveillance systems and to coordinate those improvements with the ECDC. That will mean that surveillance data can be used at European level in a comparable way.

"We need to change the classical model of surveillance in the pandemic," said Ciancio. "We should move to a continuous assessment of a clear target population. We had blind spots in our countries, so we have to establish surveillance systems that are stable over time."

The uses of behavioural sciences

Behavioural sciences can be used in the response to a pandemic thanks to their insights on risk perception, trust and adherence to public pandemic control measures. The ECDC has also started with a dedicated group of behavioural scientists, who are working on a prevention framework including social components.

Behavioural sciences can help answer questions such as whether to allow students to sit an exam at home and how to enforce certain rules. "It was important during first two or three days to show that the curfew was being enforced, even though there were protests at first," said **Mariken Leurs** of the National Institute for Public Health and the Environment, Netherlands. "A lot of organisations were able to develop rules that enabled them to stay open. Don't underestimate civil society."

Behavioural sciences can also help address questions such as the level of control that can be imposed in a crisis. From the point of view of mental health, she said, the cure may be worse than the outcome it aimed to avoid. "We accept a lot of deaths due to car crashes and smoking. In a pandemic, what do we accept?"

Vaccination

One tool to come out of the pandemic response is a new platform for mRNA vaccines, which hold promise for use in case of a future pandemic. Collaboration between National Immunisation Technical Advisory Groups (NITAG) – multidisciplinary groups of national experts who advise policymakers and programme managers on immunization and vaccines – will be key for research, innovation and development. "We have high hopes that the mRNA vaccine platform will be used for vaccines, therapeutics and genetic disorders," said **Hanna Nohynek** of the National Institute for Health and Welfare, NITAG, Finland.

However, she called for mechanisms to avoid vaccination nationalism – which emphasizes national interests over worldwide equity – and called for a mechanism to ensure broader provision in the next pandemic. "A lot of the production facilities were here in Europe, and even small countries could get vaccines," she said. "However, we failed the world. The

number of doses to low- and middle-income countries was quite dismal in comparison."

Research and innovation

The response to the pandemic, in particular the speed of the vaccine programme, underlined the importance of investing in research that has potential. "We must be ready and prepared to work together when crisis strikes," said **Irene Norstedt**, Director of the People Directorate, DG Research and Innovation. "We learned the need to have placeholders in funding programmes that we could activate in an emergency." The research needs to be coordinated among different actors and Member States, she said. DG Research and Innovation will provide funding for COVID treatments, cohort studies, vaccination development and research into long-COVID and post-COVID conditions. "We do not know what will happen next or when it will happen," she said.

Long COVID: What is it, and what can be done about it?

Even after recovering from the worst effects of COVID, many people continued to suffer from a variety of symptoms, a phenomenon known as "long COVID". The WHO defines it as the continuation or development of new symptoms three months after the initial infection, with these symptoms lasting for at least two months with no other explanation.

The most common symptom is fatigue, which is present in 60% of cases. Long COVID can be debilitating and affect a person's ability to work and to function in daily life, and it can lead to mental health problems. There is also an increased risk of conditions including diabetes. In all, about 60 symptoms that persist after 12 months have been noted.

However, said Paul Wilmes of the University of Luxembourg, "there is still a lack of understanding of what, fundamentally, is going on. We are still learning a lot." For people to get the right treatment, healthcare providers need to understand long COVID better. Therefore the European Commission has provided research funding opportunities via the Horizon programme and will continue to do so in the future. And the ECDC is reviewing emerging literature on the topic.

Commitments for the future

The European Commission organises conferences after major crises in order to learn from them and be better prepared in the future. This time, instead of just a report on the pandemic, the Commission is planning to put a process in action, said Ryan of DG SANTE. This will include a series of webinars through the Health Policy Platform (HPP), which brings together stakeholders from academia, politics, professional organisations and civil society. Regional workshops will look more closely at the gaps in defences against cross-border threats to health.

"A central point of follow-up from this conference is to prepare and to coordinate our response actions for future pandemics between the Member States," he said. "The Health Security Committee is our central tool, and our immediate work is to implement the new mandates of our agencies – the ECDC and the EMA – and to set up cooperation with DG HERA." Cooperation with the Health and Digital Executive Agency (HaDEA), which works on the implementation of project grants in the field, will also be further streamlined.

In addition, the Commission will provide substantial EU4Health programme funding to Member States in areas such as preparedness, surveillance, reference laboratories and cancer. This should help Member States close their gaps in pandemic preparedness. Funding from the Horizon research programmes will be provided to research the long-term consequences of the COVID pandemic and its lessons. "It is easy to move on to the next problem, but we have to account for what we have done," said Ryan.