BACKGROUND

Vaccination is one of the most successful public health measures of modern times. Thanks to widespread vaccination, smallpox has been eradicated, Europe is polio-free, and the global death rates from vaccine-preventable diseases have fallen dramatically over several decades. Vaccination prevents an estimated 2.5 million deaths worldwide each year and reduces disease-specific treatment costs. However, unequal access to vaccines and waning public confidence in vaccination are putting hard-won public health gains at risk. Insufficient vaccination coverage rates have allowed outbreaks of infectious diseases to become increasingly common. The World Health Organization (WHO) declared vaccine hesitancy as one of the main global health threats for 2019.

To address these challenges, the European Commission, in cooperation with the WHO, organised the first Global Vaccination Summit on 12 September 2019, in Brussels. The Summit was held under the joint auspices of the European Commission President Jean-Claude Juncker and WHO Director General Tedros Adhanom Ghebreyesus. It was attended by 400 invited political leaders and stakeholders from scientific, medical, philanthropic and civil society organisations as well as from the pharmaceutical industry. A live stream was available on the European Commission website, followed by 15644 people, and the conference hashtag, #VaccinationSummit19, was trending in Belgium during the event. It mentioned more than 8 600 times across social media platforms and reached more than 20 000 000 people. The secondary hashtag, #VaccinesWork, reached more than 43 000 000 people and was mentioned more than 20 000 times.

INTRODUCTION

Jean-Claude Juncker, President of the European Commission, welcomed attendees and thanked the WHO for sharing the EU’s political commitment to combating communicable diseases and improving access to healthcare. Despite significant progress in the 20th century, the number of measles cases is rising globally and the European region is facing sharp increases in vaccine-preventable diseases. While some people are suffering due to lack of access to vaccines, many people are risking their lives – and the lives of others – by refusing vaccines based on myths and unfounded rumours about safety and effectiveness. President Juncker said this scepticism had its origins in disinformation campaigns designed to undermine vaccination, and he highlighted that the Commission is working with internet platforms to tackle this problem. He said: ‘We all have a role to play – healthcare professionals, technology companies, the media, civil society and politicians. We are in this fight together.’
Dr. Tedros Adhanom Ghebreyesus, Director-General of the WHO, said vaccines are one of the most powerful innovations in the history of medicine. Vaccination has reduced rates of once-feared diseases including diphtheria and tetanus. Researchers are pursuing new vaccines against HIV, better vaccines against tuberculosis, and have delivered a vital tool in the fight against Ebola. Vaccines are also on the front line in view of combating antimicrobial resistance. ‘In short, vaccination is a cornerstone of public health,’ Dr. Tedros said. ‘When we talk about the right to health, we talk about the right to vaccines.’ Dr. Tedros said vaccination misinformation can be as contagious as infectious diseases and should be addressed. The WHO has been working with Pinterest and Facebook to ensure social media users are directed to accurate and reliable information. However, he noted there were further reasons why around one in 10 children miss out on basic vaccines. These include poverty, conflict and migration. Advancing universal health coverage is essential to improve access for the 10 million children who have never received a vaccine. Investment in vaccines, immunisation programmes, disease surveillance systems and research are vital, he added, which is why continued support for Gavi, the Vaccine Alliance, is so important. ‘Political commitment, innovation, partnership and investment must be our priorities,’ Dr. Tedros said.

Henrietta Fore, Executive Director of the United Nations Children’s Fund, delivered a video message in which she highlighted the need for access to quality information about vaccines. Vaccination saves the lives of at least five children every minute of every day, and yet some still do not have access this powerful public health tool. She said rumours spreading on social media have caused vaccine confidence to plummet and this should be rebuilt. ‘We must give health professionals the knowledge and training they need to provide accurate information to parents,’ she said. ‘Together we have made remarkable progress. Let’s extend that legacy far into the future.’

What have you done today to make you feel proud?’

In a special address, Yvonne Chaka Chaka, South African singer, champion for the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the United Nations MDG Envoy for Africa, said almost half of the world’s unvaccinated children live in Africa, where measles remains a major killer. ‘The tragedy is that while many children in Europe are unvaccinated because of vaccine hesitancy among parents; most in Africa are unvaccinated because of lack of access and services,’ she said.

Achieving the Sustainable Development Goals and delivering Universal Health Coverage can improve the lives of millions of people. She recognised the role of GAVI in expanding access to vaccination globally, helping to support healthy children, healthy families, healthy communities and healthy economies.

Ms Chaka Chaka closed her speech by urging attendees to champion access to vaccination in Africa, imploring them – in song – to consider how they can make a difference in the world: ‘What have you done today to make you feel proud?’ We are preaching to the converted, where are those we need to talk to, that need to get the information? Every parent wants the best for their children, and if not vaccinating, is ‘cause they think they are protecting them. They are uncertain on who to trust, where to find accurate truth, and distrust the private sector.

We need to provide scientific data in ways people can understand so they act responsibly.
Roundtable 1: In Vaccines we Trust – Stepping up action to increase vaccine confidence

This session explored strategies for increasing vaccine confidence and improving vaccination coverage rates. The role of the media, including search engines and social networks, was highlighted. Vytenis Andriukaitis, Commissioner for Health and Food Safety, European Commission, delivered a passionate call for stakeholders to create a coalition of vaccine champions – *The United Forces for Vaccination*. ‘Vaccines save lives but, more than that, they are an example of humanism,’ he said. ‘We must overcome distrust in science. Every minute we do not act costs the lives of children.’

Maggie De Block, Minister of Social Affairs and Public Health, and Asylum and Migration, Belgium, added her voice to call for a ‘social movement for vaccination’. Positive messages about immunisation could be incorporated into television shows to reinforce vaccination as a social norm, she suggested. Education for the public and for health professionals would help to ensure a deeper understanding of the science behind vaccination. Healthcare professionals should take every opportunity to talk to patients about vaccination, said Professor Laetitia Rispel, President, World Federation of Public Health Associations. To rebuild trust, health professionals need training in communication with greater focus on listening. ‘We have to unlearn certain assumptions that we have,’ Professor Rispel said. ‘We must be willing to listen to parents and to understand their thinking.’

Engaging online and through local community leaders can help to tackle outbreaks, said Dr. Jerome Adams, Surgeon General of the United States, citing the recent measles epidemics in New York’s orthodox Jewish community, Amish communities and the Somali communities in Minnesota. ‘The secret to ending the New York outbreak was engagement with local leaders – such as Rabbis – to reach people in areas with lower vaccination coverage rates.’ Katherine O’Brien, Director for Immunization, Vaccines and Biologicals, World Health Organization, agreed that there is no one-size-fits-all solution to the crisis in vaccine confidence. ‘There is a very important role for civil society, including paediatricians, religious leaders and social media channels, who can help to deliver tailored responses to the specific issues shaping people’s attitudes to vaccines,’ she said.

Technology companies are also working with the WHO, EU1,2, (Communication on Tackling online disinformation: a European approach and Action Plan to counter disinformation in Europe) and health authorities to address misinformation about vaccines. Maud Sacquet, Public Policy Manager at Mozilla, which created the Firefox web browser, said the internet is only one factor in how people make decisions about vaccination but online content can increase anxiety about complex issues. Mozilla has signed the European Commission’s Code of Practice on Disinformation and is investing in tools to fight this problem. Achieving greater transparency on

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online advertising platforms, deleting false accounts and bots that amplify controversy, and tackling online tracking are essential, she said. ‘Systematic enforcement of the EU General Data Protection Regulation could minimise microtargeting of people online and help to fight misinformation,’ Ms Sacquet added. Many of these sentiments were echoed by Jason Hirsch, Public Policy Manager at Facebook, who stressed the importance of technology companies partnering with health experts. Facebook is reducing the distribution of misinformation about vaccination and increasing users’ exposure to credible, authoritative information. Pages and groups repeatedly posting false information about vaccines would be removed from the Facebook recommendation engine and lose ranking in Facebook search results. He said it is important that people with questions feel legitimised but also that the first information they encounter is accurate and evidence-based.

Dr. Heidi J. Larson, Director of The Vaccine Confidence Project, noted that defining misinformation can be challenging. Social media users may pose questions or instil doubt without saying something that is explicitly false. ‘If someone asks ‘Do you really know what’s in a vaccine?’, we cannot legally or ethically remove it,’ she said. Getting the balance right between freedom of expression, privacy and public health is a major challenge. The erosion of public trust is part of a wider distrust of authorities, experts and industries, Dr. Larson said, but vaccine advocates could lead the way in rebuilding resilience.

During the Q&A session, several representatives of EU Member States intervened. Levels of public trust are above 90% in Hungary and vaccine uptake is close to 100%. A trusted network of health workers tasked with protecting maternal and child health plays a key role in this success story. In Lithuania, health professionals are encouraged to engage with pregnant women about the importance of vaccination, and the government believes social media companies have a role to play in shaping attitudes to vaccination. Finland is also concerned about the spread of misinformation and applauded Facebook for changing its algorithm to favour verified public health pages. Norway emphasised the importance of monitoring and collecting accurate data, as well as the

Voices of vaccine advocates

Young vaccine champions can contribute to influencing public sentiment towards vaccination. Their interventions at the Summit were among the most popular on social media. Ethan Lindenberger told how he had defied his mother to have all his vaccines at the age of 18. The American teenager’s story made headlines around the world, leading him to testify before the US Congress. He was critical of anti-vaccine disinformation and media coverage falsely suggesting that scientists are divided about the safety of vaccines. However, he also stressed that his mother is a victim of false information and called for greater empathy and respect towards people who have been misinformed. ‘My mum is not a bad person. She’s a loving mother who is concerned for her children’s safety. We should help and encourage people instead of demonising them.’

Fergal Brennan paid tribute to his sister Laura Brennan, an Irish HPV vaccine advocate who died of cervical cancer in March 2019. Following her diagnosis, Laura dedicated her time to addressing misinformation campaigns that led HPV vaccine uptake rates in Ireland to fall to an all-time low of 50%. ‘She was awarded the first ever patient advocacy medal by the Royal College of Physicians in Ireland, received an honorary doctorate, and a Person of the Year award, but nothing mattered to her more than the uptake of the HPV vaccine.’ Ten days before she died, Laura announced that the uptake had increased by 20 percentage points. ‘Laura has passed the torch to all of us. It is up to all of us to create a future free from harmful strains of HPV.’

In a video message, Beatrice Vio, a 22 year-old wheelchair fencing champion from Italy, described how she had lost her arms and legs due to meningitis. Thanks to prostheses, she returned to Paralympic fencing and is working with a not-for-profit organisation. She is now a vocal advocate for the meningitis vaccine. ‘The problem was that I hadn’t had the vaccine when I was young. My message is to talk to doctors, get the information and have the vaccine.’
importance of responding when vaccine uptake rates dip. The Federal Government in Germany has drafted a law requiring vaccination against measles, as part of a package of measures. Parents should be confident that they are not putting their children at risk when sending them to schools and kindergartens. Dr. Andrea Ammon, Director of the European Centre for Disease Prevention and Control (ECDC), emphasised three key pillars of action: 1) to focus more on the seriousness of the diseases rather than the vaccine products and concerns around their safety; 2) the fundamental role of healthcare professionals and the need to empower them to become effective and confident providers of immunisation; and 3) the importance of developing relevant and trustworthy sources of information for the public. To support this third step, the ECDC and the European Medicines Agency (EMA) are building a European vaccination information portal that aims to provide information targeting the general public and healthcare workers.

Roundtable 2: The Magic of Science – Boosting vaccine Research, Development, and Innovation

Innovation in vaccine research has delivered game-changing public health breakthroughs over several decades. Scientists are currently working to develop new vaccines in response to global public health needs. Funding research, developing and financing vaccines, can be challenging, according to speakers participating in this session, but EU funds and public-private initiatives can play a role in translating scientific knowledge into new products. Jean-Eric Paquet, Director-General for Research and Innovation, European Commission, provided an overview of Europe’s contribution to support vaccine research. Over 900 million euros have been invested since 2007 in the search for vaccines against several pathogens including HIV, influenza, tuberculosis and Ebola. ‘Half of the tuberculosis vaccine candidates in the global pipeline come from EU-supported projects,’ he noted. Dr. Michael Makanga, Director of the European and Developing Countries Clinical Trials Partnership (EDCTP), said novel ways should be found to address the cost of clinical trials. These could include adaptive studies, he suggested, which would make trials more efficient without compromising quality or safety.

Several speakers emphasised that the vaccine development process is lengthy and has a high risk of failure. Professor Stewart Cole, President of the Pasteur Institute, referred to the ‘valley of death’ – the funding gap between early-stage research and translating this into a vaccine. He suggested that a long-term funding model, previously proposed to incentivise solutions to antimicrobial resistance (AMR), could be applied to vaccines. Dr. Soumya Swaminathan, Chief Scientist of the World Health Organization, outlined some of the technical challenges that vaccine researchers are facing. ‘The easy vaccines have been made,’ she said. ‘The ones we are looking at now are more complex.’ In addition, intellectual property is often spread across several parties, while vaccine developers face uncertainty regarding integration of their new products into national immunisation plans. Dr. Richard Hatchett, CEO of the Coalition for Epidemic Preparedness Innovations, pointed to the Ebola vaccine as an example of how the public health community can respond to a crisis. He said Horizon 2020 and other public funding sources help to bring academic and biotech partners on board to develop vaccines where the risk of failure is high.
Nanette Cocero, Vaccines Europe (Global President, Vaccines Pfizer Biopharmaceuticals Group), described the development of vaccines as a success story ‘second only to clean water’. Today’s research and innovation promises to deliver vaccines against diseases such as HIV and respiratory syncytial virus (RSV), as well as better vaccines for influenza and tuberculosis, and play a critical role in tackling AMR. A vaccine against RSV would have personal significance for her, Ms Cocero said, as her own eldest child contracted the virus when he was a baby. ‘The first days were difficult; watching him struggle for every breath and asking ourselves what we could do to protect him,’ she said. ‘Now he’s a thriving 23-year-old but you can understand why I’m very passionate about this.’ Exploring the challenges that lie ahead, she called for a stable policy environment to support vaccine development and continuous interaction between stakeholders to ensure the industry develops vaccines that can be approved and recommended.

Roundtable 3: Vaccines Protecting Everyone, Everywhere – Galvanizing a global response to assure health, security and prosperity through immunization

The final panel discussion looked ahead to the challenges facing vaccine uptake in the coming decade. Dr. Peter Salama, Executive Director for Universal Health Coverage / Life Course at the World Health Organization, said addressing trust in health services would be critical. Inequality within countries and between countries, conflict and poor governance pose critical challenges to immunisation programmes. New thinking may be required to reach the one in ten children currently not benefiting from vaccination.

Dr. Seth Berkley, CEO of Gavi, the Vaccine Alliance, said strong political leadership can have a profound impact on vaccine uptake. He said children missing out on the first dose of diphtheria/pertussis/tetanus (DPT) vaccine are ‘not plugged into the system’. ‘About 10 million children have had zero vaccines,’ he said. ‘We need to find them and bring them in.’ Digital tools will help to improve disease surveillance and to identify citizens who are missing out on healthcare, while drones and cell phones could overcome the challenge of delivering vaccines to people in remote regions. He paid tribute to Jakaya Mrisho Kikwete, Former President of Tanzania and now a Gavi Ambassador, for improving immunisation rates to 97% during his tenure. President Kikwete said education, strong health systems and political will were essential to bring vaccines to everybody – ‘rich or poor, urban or rural.’
Dr. Elhadj As Sy, Secretary General of the International Federation of Red Cross and Red Crescent Societies, said at least half of the world’s unvaccinated children live in countries affected by crisis or conflict. ‘This is where the needs are greatest but there is often no doctor, no school, no government,’ he said. Building trust at a time of crisis is almost impossible and this can be exacerbated if communities have a sense that they are the ‘guinea pigs’ for an experimental vaccine. He called on international agencies to build trust before, during and after a crisis if they want to earn the cooperation of at-risk communities.

Several speakers noted that the traditional gulf between the rural poor and relatively wealthier cities has become more complex. Dr. Stefan Swartling Peterson, Chief of Health Section, UNICEF, said that the rural remote poor have been joined by the urban poor and displaced people in the at-risk category. Climate change could make this situation significantly worse. Marjeta Jager, Deputy Director General, Directorate-General for International Cooperation and Development, European Commission, said there is a clear need to integrate vaccines within a wider healthcare package and also the need for the close cooperation among all donors to achieve the best synergies of the combined vaccination efforts. Soraya Narfeldt, CEO of RA International, agreed and said it is unreasonable to expect a mother to walk 20 km for ‘two drops of water that we say prevents polio’. However, they may be more motivated to travel for care if the whole family is offered health checks, some antiseptic cream and family planning support. ‘It has to be a package; we have to think how we can add more value,’ she said.

Joe Cerrell, Managing Director for Global Policy and Advocacy, Bill & Melinda Gates Foundation, discussed how the legacy of the Global Polio Eradication Initiative could be carried forward to advance global health. This international effort has brought cutting-edge surveillance tools and advanced technologies to health workers in remote parts of the world. Polio experts provided valuable support during the Ebola outbreak in West Africa, he noted. ‘Now we are trying to understand how, in addition to polio vaccines, this system can also deliver other vital health interventions.’

During a Q&A session, a representative of Lebanon said political instability in Syria and Iraq had led to a dramatic increase in Lebanon’s population. She asked why Lebanon is not eligible for Gavi support despite its commitment to vaccinate every child arriving in the country. Seth Berkley said the Gavi board was rethinking its assessment criteria for middle-income countries facing challenges arising from support for large migrant communities. Dr. Berkley also responded to a question from Médecins Sans Frontières (MSF) on the cost of vaccines by highlighting how prices for Gavi-eligible countries have fallen over the past decade. He congratulated Ashwini Kumar Choubey, Indian Minister for Health, who described how the government is strengthening primary healthcare and rolling out one of the largest vaccination programmes in history consisting of seven vaccines.

CONCLUSIONS

To conclude the Summit, the European Commission and WHO jointly published 10 Actions Towards Vaccination for All, setting out priority areas for future collaboration. Commissioner Vytenis Andriukaitis thanked participants for their commitment to building an active community that can solve the problems identified during the Summit. ‘If we are serious about overcoming these challenges, we need to act as one. This is only the first step. Today must be a watershed moment against vaccine-preventable diseases,’ he said. ‘If we fail to act, we are condemning the most vulnerable in our communities to preventable death and injury. In 2019, that is simply unacceptable to me.’ Dr Tedros added that global immunisation efforts should focus on countries with the most unvaccinated children. Gavi replenishment would play a crucial role in this, he said, noting that the EU and its Member States had been key supporters of the vaccine alliance. The WHO’s Immunization Agenda 2030 would help to accelerate progress over the coming decade and vaccination must form part of a broader commitment to universal healthcare. Addressing myths and misinformation will also remain a priority. ‘Earlier this year the WHO recognised vaccine hesitancy as a global health threat. Governments and social media companies have heeded this call. We must counter those who wilfully spread misinformation, and work with patients to provide reliable information that can be easily understood.’