LEARNING FROM HISTORY?

The 100th anniversary in 2018 of the worst flu pandemic in recorded history provides a timely reminder of the deadly international consequences of infection outbreaks¹ as well as the great progress made since then in tackling diseases through the development of vaccines in the European region. However, since 2000, previously controlled infectious diseases have been on the increase (whooping cough, mumps, diphtheria), due to a lower uptake of vaccinations caused in part by false information about their side effects. Critical outbreaks have occurred of measles, meningococcal meningitis, polio and hepatitis. Cases of cervical cancer have also seen an increase with deadly consequences² despite the existence of a vaccine. It should also be noted that vaccines are essential in the fight against antimicrobial resistance (AMR) as they help prevent diseases that would otherwise need to be fought with antibiotics.³

VACCINE HESITANCY: A THREAT TO PUBLIC HEALTH

EPHA regards public hesitancy in vaccination uptake and the rejection of accepted scientific evidence and facts as a grave threat to public health. Indeed, the World Health Organization (WHO) has defined vaccine-hesitancy as one of the ten biggest threats to global public health in 2019.⁴ The success of vaccination strategies depends in part on population perceptions of benefits and risks of vaccines and related confidence in vaccination. Better knowledge of public concerns about vaccines and what is driving them is needed to inform vaccination strategies and communications.

Vaccine hesitancy can be country, disease and vaccine specific. There are numerous reasons for vaccine hesitancy including disinformation on social media, distrust of health professionals, concerns about side effects, conspiracy narratives, availability and accessibility issues.⁵ It is thought that social media plays a particularly influential role in spreading vaccine myths and untruths. EPHA believes that regulators and commercial operators of technology and social media platforms (such as Google and Facebook) must strengthen efforts to combat misinformation and support public health. Accordingly, we welcome the recent announcement by Facebook that they will direct users looking for vaccination information across Facebook Search, groups, pages, forums and Instagram to World Health
A LIFE COURSE APPROACH

Vaccination is especially important at certain stages, such as in infancy, however the ability of vaccines to contribute to overall improved health continues throughout a person's life. Whether it is the MMR vaccine for a baby, the HPV vaccine for a child, pertussis vaccine during pregnancy or influenza vaccine for an older person, getting vaccinated remains important at all stages. EPHA therefore supports vaccination efforts throughout the life course.

VACCINE SHORTAGES AND STOCKOUTS

A vaccine shortage occurs on the supply side “when the supply of a vaccination identified as essential by the health system is considered to be insufficient to meet public health and patient needs”. A shortage occurs “when demand exceeds supply at any point in the supply chain.” According to a WHO EURO survey in 2015, 77% of its member state members had experienced a shortage of at least one vaccine since the beginning of that year. Since 2015 there have been serious supply shortages of key vaccines in the EURO region, including for Hepatitis A and B in 2018 in several countries in Europe. Countries have also experienced stockouts which can sometimes lead to shortages.

The role of vaccine shortages and stockouts should not be overlooked in the vaccines debate. After all, there is little point in running campaigns to persuade parents to vaccinate their children if the needed vaccines are not available. In a survey carried out at the end of 2018 the European hospital pharmacists (EAPH) found that

"Although preventative Medicines (e.g. vaccines) were the second highest reported area of medicines shortages with 43% of participants reporting them to be an issue, it was not the area of medicine which received the most reports in any country.”

A number of proposed solutions were put forward by the EU Commission in its 2018 recommendations to deal with this issue and EPHA would support further investigation of these options.

STRONG AND ROBUST HEALTH SYSTEMS ARE ALSO NEEDED

The capacity of governments and health systems to run successful vaccine programmes must also be addressed. For example, the current measles outbreak in Ukraine was predicted in 2013 after a collapse in vaccination programmes and coverage that has been blamed on anti-vaccination sentiment, lack of budget to buy vaccines, power cuts that prevented vaccinations being kept at the relevant
temperatures, prescriber hesitancy and corruption in the health system.\textsuperscript{14}

Vaccine hesitancy amongst healthcare providers (HCPs) must also be addressed as research shows that HCPs who are themselves vaccinated are more likely to recommend it to patients.\textsuperscript{15} The uptake of the influenza vaccination by HCPs is generally low in Europe (less than 30%).\textsuperscript{16} The reasons for this vaccine hesitancy are complex but include the fact that HCPs see influenza as low risk, have a negative view of the role of the pharmaceutical industry in promoting flu vaccines, perceive the vaccine to be ineffective and or likely to give rise to side effects and a lack of a previous vaccination history. Nurses are also less likely to vaccinate themselves against the flu.\textsuperscript{17}

**COMPLEMENTARY MEDICINE: RISKS AND OPPORTUNITIES**

EPHA is concerned that a distorted approach to complementary medicine has given rise to increased vaccine hesitancy in some communities.\textsuperscript{18} We welcome and support moves by the integrative and complementary medicine communities, as reflected within EPHA’s membership itself, to emphasise that they are not anti-vaccine and do not support anti-vaccine movements.\textsuperscript{19}

**VULNERABLE GROUPS: AT PARTICULAR RISK**

EPHA calls for urgent action to protect vulnerable population groups such as children too young to receive certain vaccinations but who may nevertheless be at risk of contracting diseases such as measles, older people, and persons with immune deficiencies\textsuperscript{20}, as well as migrants, the homeless Roma communities and other minorities who are at particular risk from lower vaccine uptake. Pregnant women are also particularly vulnerable.

Such vulnerable groups often rely on public “herd immunity” for personal protection against outbreaks of disease. Prevention of highly contagious diseases such as measles require vaccination rates of 90-95%. However, vaccination rates are dropping to levels which can endanger the most vulnerable in society. In 2017, the latest year for which data is available, only four EU countries reported 95% coverage rates for both doses of the measles vaccination.\textsuperscript{21} For less contagious diseases, such as polio, herd immunity can be achieved as long as 80-85% of the population is vaccinated.\textsuperscript{22}

**INEQUALITIES: ACTION ON CHILD ACCESS TO VACCINES**

EPHA believes that the design of vaccination programmes must pay particular attention to addressing inequalities in access to childhood immunisation, particularly among vulnerable groups such as Roma and migrants/refugees. Inequalities in child access continue to persist due to social determinants of health factors such as education, wealth and poverty.\textsuperscript{23}
EDUCATION AND AWARENESS RAISING: A KEY ROLE FOR CIVIL SOCIETY

We must also find ways to improve our messaging on the safety of vaccinations. A recent study found that whilst more pro-vaccination messages are published on the internet, anti-vaccination messages tend to "stick" with the public better than pro-vaccination messages and for longer.²⁴ Google searches on vaccination are more likely to throw up anti-vaccination sites and statements on the first page and they are more likely to be shared and commented upon.²⁵ The popularity of anti-vaccination messages may result from a distrust of public health agencies and governments²⁶ and their emotional content, often anger and sadness.²⁷

Accordingly, whilst EPHA welcomes the Council Conclusions on vaccination adopted in December 2018²⁸ and believes that healthcare organisations and healthcare workers (HCW) have a key role to play in promoting vaccination in a proper, effective and structured way through education, information and communication programmes, we also believe that we cannot rely on HCWs to get the message across on their own. Research has shown that presenting disagreements and limitations of vaccination, which is commonly the approach of HCWs, may actually result in some parents becoming more unsure of the safety of vaccines and less likely to vaccinate their children.²⁹ Other research has shown that certain groups will not be reached or be amenable to messages from public health providers only.³⁰ Vaccine hesitancy and supply challenges cannot be solved by one set of stakeholders alone and more work is needed to identify the messages and messengers that will persuade parents to vaccinate their children or adults to vaccinate themselves. Broader civil society groups are particularly well placed to play a key and trusted role in overcoming vaccine hesitancy due their long reach throughout society. Programmes must be fit for purpose and last for the long term, given that infection prevention programmes are ineffective on a temporary basis.

EPHA RECOMMENDATIONS

• EPHA supports a life course approach to vaccination, where the importance of vaccines and their inclusion in all phases of life is highlighted and promoted.

• Vaccine hesitancy is a serious threat to public health, and it is essential to combat all types of misinformation regarding vaccination. EPHA strongly recommends identifying stakeholders, such as civil society groups, to work together with public health providers to challenge all forms of vaccine hesitancy. The complementary medicine community should also be included and supported in this effort.
• The particular risk of vulnerable groups from low vaccination rates must be recognised. This includes for example babies and young children, pregnant women, older persons, persons with immune deficiencies, members of Roma communities and other minorities. Also, equitable access to childhood immunisation for vulnerable group needs to be a priority.

• All healthcare systems should be supported to ensure they are able to run a well-functioning and effective vaccination programme.

• Issues of vaccine shortages and stockouts must be addressed.
REFERENCES

2. https://www.bmj.com/content/364/bmj.l580.full
12. P.6 https://eur-lex.europa.eu/resource.html?uri=cellar:b86c452c-494e-11e8-be1d-01aa75ed71a1.0001.02/DOC_1&format=PDF
17. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5861785/
26. Ibid.
27. Ibid.
30. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5689193/