Vaccines protect from serious illness and complications of vaccine-preventable diseases. Vaccination is one of the most successful and cost-effective health investments in history. Vaccination programmes led to the eradication of smallpox, the near eradication of polio, and an estimated 74% reduction in measles deaths over the last 10 years. Nonetheless, Europe is still facing avoidable large measles outbreaks in a number of countries due to suboptimal vaccination coverage, seasonal influenza vaccination coverage in many Member States is low and in some countries even decreasing, and the current EU polio-free status is at risk due to immunisation gaps and challenges related to polio surveillance. Also, growing vaccine hesitancy contributes to low vaccine acceptance and uptake, involving also health care professionals. Moreover, there are increasing capacity constraints and shortages of medicines, including vaccines, in the European Union and globally.

Vaccination – a cornerstone of sustainable health systems and strengthened crisis preparedness to ensure health security

Vaccination programmes in many countries are facing new challenges, such as a decline in vaccination coverage, global vaccine supply shortages and growing vaccine hesitancy. While the success of routine immunisation depends on a comprehensive national vaccination programme and its implementation, routine immunisation often lacks resources, transparency and clarity. There is a need for evidence-based
Determinants of vaccine hesitancy in Europe

**VACCINE AND VACCINATION SPECIFIC ISSUES**
- Inconsistent advice: 2
- Vaccine novelty: 2
- Lack of recommendation: 4
- Financial cost: 6
- Access: 7
- No medical need: 9

**INDIVIDUAL AND GROUP INFLUENCES**
- Responsibility: 2
- Humans too weak to fight vaccines: 3
- Previous negative experiences: 4
- Fear of injection: 4
- Diseases are beneficial: 4
- Alternative prevention methods: 5
- Against vaccination in general: 6
- Vaccination not a priority: 6
- Social norms: 6
- Healthy bodies: 9
- Mistrust in health institutions: 9
- Vaccines not effective: 10
- Low risk/severity of disease: 10
- Lack of information: 12
- Vaccine safety: 31

**CONTEXTUAL INFLUENCES**
- Violation of human rights: 3
- Negative exposure to media: 3
- Religious fatalism: 5
- Conspiracy theories: 7

In 2009 the EU adopted a recommendation on seasonal flu vaccination to get more people in at-risk groups vaccinated – **75% by 2015**

**Prioritising efforts to stop communicable diseases in their tracks**

One of the four specific objectives and priorities of the EU’s Third Health Programme for 2014-2020 is to ‘Protect Union citizens from serious cross-border health threats’. This involves implementing EU legislation on communicable diseases, reinforcing risk assessment and strengthening health system capabilities in EU countries to address health threats.

Immunisation falls right in the heart of this priority, especially as many EU-funded projects are examining how best to contain and even eradicate certain communicable diseases. The projects are also providing know-how and resources to improve vaccination, particularly among vulnerable groups, in a bid to minimise any prospect of a viral outbreak. The efforts involve cooperation with neighbouring countries, enhanced information on the topic and a knowledge system that contributes to evidence-based decision making. All of these objectives are explicit priorities in the Third Health Programme.
New methodologies for assessing existing strategies to combat pandemic influenza

FLURESP
Cost-effectiveness assessment of European influenza human pandemic alert and response strategies

- **Duration**: 36 months, launched 01/04/2011
- **EU funding**: €699,220
- **Countries**: ES, FR, HU, IT, PL, RO, UK

Getting the flu may not sound like a very serious matter, but some influenza viruses could possess pandemic potential akin to the H1N1 virus/Swine flu breakout of 2009. The latter had taken the world by surprise, and resulted in the deaths of thousands. It also obliged authorities to revise the public health response to severe flu subtypes.

The EU-funded FLURESP project developed innovative methodologies to evaluate the effectiveness and cost-effectiveness of different response strategies to combat pandemic influenza using a multi-criteria model. It modelled possible pandemic scenarios and control strategies across a range of EU countries, using the results to develop guidelines for prioritising response strategies to influenza pandemics. The project team developed 18 public health measures and interventions to counter the threat, addressing immunisation programmes, antiviral distribution, and reduction of secondary infections.

The project contributed to optimising plans for human pandemic influenza preparedness and offering some proposed solutions in the event of an outbreak. It contributed towards better cross-border coordination in the EU during a pandemic, helping EU countries to select the most appropriate and efficient response for specific cases.

Promoting immunisation amongst migrants

PROMOVAX
Promote Vaccinations among Migrant Populations in Europe

- **Duration**: 36 months, launched 01/05/2010
- **EU funding**: €548,680
- **Countries**: CY, DE, EL, HR, IT, NO, PL, HU

The recent influx of refugees and migrants to Europe, combined with their detention in crowded conditions offers a breeding ground for contagious diseases, many of which can be prevented through vaccination. The EU-funded PROMOVAX project worked on promoting immunisation among migrant populations.

The project team first identified and outlined the immunisation needs of migrants based on factors such as age, gender, country of origin and living conditions. Education toolkits on vaccination for both migrants and health care workers were produced in order to address misconceptions and dispel common vaccination myths. The scope of the project also involved identification of best practices, documenting relevant legislation and policy that would facilitate vaccinating migrants easier.

The ‘Report on the status of migrant immunizations in the EU’ produced by the project can be useful as a handbook for all medical staff working with migrants. It can be used as training material as well.

Cultural sensitivities were also considered to ensure maximum outreach, while the topic was always addressed in an apolitical environment. Extensive mapping of national organisations, NGOs and hospitals which provide immunisations to documented migrants contributed significantly to addressing this challenge on the ground.
Efforts to increase vaccination coverage amongst health care workers

HProImmune
Promotion of Immunisation for Health Professionals in Europe

**Duration** 36 months, started 01/09/2011  
**EU funding** €603,900  
**Countries** CY, DE, EL, IT, LT, PL, RO

One of the keys in decreasing a transmit of infections in health care facilities is to vaccinate health care workers. Many hospitals and clinics recommend vaccination to protect their staff and to minimise the spread of transmissible diseases within health facilities.

Nonetheless, vaccination coverage of health care workers in the EU remains low. To address this challenge, the EU-funded HProImmune project highlighted key vaccine-preventable diseases which pose a risk to EU health workers, and increased awareness among them. This involved building a database of vaccination-specific information from across the EU, as well as information about vaccination behaviours and barriers among health care workers.

Assessments of good practices in addressing selected health threats in the EU

**Polio and Measles**

**Duration** 12 months, launched 18/12/2015  
**EU funding** €366,588  
(for both Polio/Measles and MERS)  
**Countries** SE, UK

Polio and measles have been virtually eliminated in the EU, but the danger of reappearance remains. While Europe has been free of polio since 2002, the disease has re-emerged in Asia and Africa, with a high risk of importation and transmission. On another front, the threat of measles re-emergence is seen as more of a European problem. Measles requires two vaccination doses, and while more than 95% of Europeans are vaccinated for the first dose, the number falls significantly in most EU nations for the second dose. The disease requires at least a 95% vaccination rate in all countries to prevent the threat of transmission.

A launched assessment focused on identifying strengths and opportunities that will improve preparedness and response to polio and measles. With respect to polio, the study investigated preparedness and response plans, routine vaccination and booster doses, shortage and procurement of the vaccine, and containment issues. Regarding measles, the study looked at national action plans, institutional responses, surveillance and contact tracing, vaccination policies, immunisation coverage and the prospect of elimination. Cross-cutting issues such as risk communication, cross-border threats and vaccine hesitancy were also studied.

The insight gleaned from this study will also be instrumental in fighting or eliminating other vaccine-preventable diseases, such as rubella.
Assessments of good practices in addressing selected health threats in the EU

MERS

Duration 12 months, launched 18/12/2015
EU funding € 366 588
(Countries SE, UK)

New potentially fatal contagious diseases can crop up anywhere in the world – a fact prompting health authorities to ready themselves for any such eventuality. One recent case was Middle East Respiratory Syndrome (MERS), first identified in Saudi Arabia in 2012. Transmitted to humans mainly from camels, and with a fatality rate of 36%, the disease has killed almost 2,000 people worldwide.

An EU-funded assessment focused on MERS aspects worked on strengthening preparedness against the disease and other serious respiratory infectious diseases in Europe. It assessed 34 good practices used to achieve this aim, including successful approaches in combatting the outbreak and weak points that must be addressed. Key good practices assessed cover training, collaboration and communication with a focus on response coordination among countries, institutions, researchers, health authorities and the public.

Important issues investigated include diagnosis, contact tracing, countermeasures, patient transport, risk communication, training in hospitals and airports, and cross-border transmission. The assessment has identified strengths and opportunities for EU Member States, international institutions, and EU agencies to improve preparedness against MERS, and indirectly against other serious respiratory infectious diseases.

Find out more

Directorate-General for Health and Food Safety of the European Commission (DG SANTE)

Consumers, Health, Agriculture and Food Executive Agency (Chafea)
http://ec.europa.eu/chafea/index.html

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