Metadata - *Influenza*

Description	Several indicators were considered:

a) *Incidence of GP visits for influenza-like illness (ILI)*: it is the number of general practitioner visits for flu-like symptoms per 100,000 inhabitants during the season

b) *Influenza intensity*: influenza intensity reported during the season in Europe.

c) *Severity indicators in patients with confirmed influenza infection*: percentage of patients hospitalized with a confirmed influenza infection that have developed severe complications or who have died in the course of hospital stay.

Rationale	Influenza is a vaccine-preventable infectious disease, easily transmitted, with mostly respiratory symptoms caused by influenza virus. Influenza virus is a leading cause of human morbidity and mortality worldwide. On average, influenza viruses infect 5 to 15% of the global population, resulting in ~500,000 deaths annually [1].

If everyone is at risk to develop complications, hospitalizations more commonly occur in the elderly, in people with chronic conditions, and in younger children [2]. Severe complications such as pneumonia, myocarditis and encephalitis may result to death.

Primary Data source	a) Sciensano network of sentinel general practices (SGPs)
	b) European Centre for Disease Prevention and Control (ECDC)
	c) Belgian network of sentinel hospitals

Indicator source	a) Sciensano's Unit of Epidemiology of Infectious Diseases
	b) European Centre for Disease Prevention and Control (ECDC)
	c) Sciensano's Unit of Epidemiology of Infectious Diseases

Periodicity	a) Weekly during the ILI season; annual report at the end of the season
	b) Weekly during the ILI season; annual report at the end of the season
	c) Weekly during the ILI season; annual report at the end of the season

Calculation, technical definitions and limitations	a) The SGPs reported weekly, on a standardized paper form, every patient with an influenza-like illness (ILI). The general criteria for ILI were: sudden onset of symptoms, high fever, respiratory (i.e. cough, sore throat) and systemic symptoms (headache, muscular pain). The epidemic threshold, calculated by the ECDC, is the minimum number of GP consultations for flu-like symptoms per 100,000 inhabitants per week needed to officially speak of an epidemic.
	b) The intensity of influenza activity is based on the overall level of clinical influenza activity in the country (or region), measured as ILI or Acute Respiratory Infection (ARI) consultation rate. Each country assesses the intensity of clinical activity based on the historical data at its disposal.

Description of the following definitions to indicate the intensity of influenza activity in each country (or region):

- Low: no activity or activity at baseline*
- Medium: usual levels of activity

- High: levels of activity higher than usual
- Very high: exceptionally high levels of activity

*Baseline influenza activity is the level at which clinical influenza activity remains throughout the summer and most of the winter [3].

c) During the 2018-2019 influenza season, six hospitals located in the three regions of the country participated to the surveillance. The Severe Acute Respiratory Infection (SARI) case definition is: an acute respiratory illness with onset within the last ten days, fever of ≥ 38°C, cough or dyspnea, and that required hospitalisation (for 24h or more). As we are mostly interested in severe influenza cases, the surveillance is carried out only during the epidemic period of seasonal influenza.

Furthermore, hospitals and laboratories across the country are encouraged to collect samples from patients presenting with severe acute respiratory diseases in particular specific conditions: ARDS (acute respiratory distress syndrome), ECMO (extracorporeal membrane oxygenation), death, suspicion of antiviral resistance, returning from abroad. Monitoring of clusters of Influenza cases is also an important task. This surveillance is carried out throughout the year [4].

Limitations:
a) One weakness is the denominator problem caused by the absence of patient lists per GP. Only a crude estimation of the denominator population can be made. Moreover, ILI reporting is underestimated since it does not include ILI patients visiting other health care providers or not consulting at all [5].
b) Methods of collecting and reporting data may vary in function of the countries.
c) The percentage of death and complications in people with influenza is underestimated since only hospitalized patients with confirmed influenza infection are reported.

International comparability	*Availability*: An indicator of trend in ILI/SARI sentinel consultations in the country compared to the previous week, as well as an indicator of influenza severity are provided by the European countries members of the European Influenza Surveillance Network (EISN), coordinated by ECDC.
	Indicator of sentinel ILI and SARI surveillance, and of Influenza severity are also provided at the international level by the World Health Organization Global Influenza Surveillance and Response System (GISRS) that collect data from the National Influenza Centres of each country member.
	Comparability: since methods of collecting and reporting data may vary in function of the countries, comparability may be hampered.

References

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