SCOPE-IS

D3.1 Report on setting system parameters to determine the final diagnosis for reporting purposes

Authors:	Main authors: MUDr. Kateřina Fabiánová, PhD., MUDr. Monika Liptáková Co-authors: Ing. Milan Blaha, Ph.D., Mgr. Jakub Kubát, DiS. and the project team
Version: Date:	1.1 21. 3. 2025
Project name:	Strengthening the Capacity and Capability of National Public Health Information Systems
Acronym:	SCOPE IS
Project ID:	101181612
Programme:	EU4Health 2021–2027

MINISTERSTVO ZDRAVOTNICTVÍ
ČESKÉ REPUBLIKY

ÚZIS ČR

SZÚ

SCOPE-IS | Strengthening the Capacity and Capability of National Public Health Information Systems

Deliverable Information

Deliverable No.:	D3.1
Deliverable Name:	Report on setting system parameters to determine the final diagnosis for reporting purposes
Type:	Document, Report
Work Package No.:	WP3
Work Package Name:	Methodology and Education
Dissemination Level:	Public

Authors' Consent Statement

All authors listed on the title page of this document agree to the publication of their names as authors of this document.

Co-funded by the European Union

Change Log

Version	Date	Author	Description of Changes	Reference Section
1.0	17. 1. 2025	Project Team	First final version of the document	-
1.1	21. 3. 2025	Ing. Mgr. Věra Tkáčová	Added reference to the EU4Health programme	Title page
1.1	21. 3. 2025	Ing. Mgr. Věra Tkáčová	Added deliverable information	Second page
1.1	21. 3. 2025	Ing. Mgr. Věra Tkáčová	Added Authors' Consent Statement	Second page
1.1	21. 3. 2025	Ing. Mgr. Věra Tkáčová	Updated disclaimer	Second page
1.1	21. 3. 2025	Ing. Mgr. Věra Tkáčová	Added reference to the Project's Data Protection Policy	Executive Summary (page 3)

Table of Contents

Overview of Abbreviations Used

API – Application Programming Interface

Dx – Diagnosis

EEA – European Economic Area

EU – European Union

GP – General Practitioner (in Czech: PL)

ICD – International Classification of Diseases

IČO – Business/Organization Identification Number

IČP – Healthcare Facility/Physician Workplace Number

ID – Identifier

IS – Information System

ISIN – Infectious Diseases Information System

NIPH – National Institute of Public Health (in Czech: SZÚ)

PČZ – Healthcare Facility Registration Number

PLDD – Primary Care Paediatricians

PZS – Provider of Healthcare Services

RPHA – Regional Public Health Authority (in Czech: KHS)

Executive Summary

This document establishes the basic parameters for the pilot phase of the early warning system for selected infectious diagnoses. It is based on a previous analysis of diagnostic parameters and epidemiological characteristics of the monitored diseases.

Processing of personal data within the planned activities of the SCOPE-IS project is subject to the Project's Data Protection Policy, which is available in full on the project website (https://scopeis.uzis.cz/en/outputs/).

1 Introduction

This document builds on the previous analysis of diagnostic parameters of infectious diseases and their epidemiological characteristics. Its main purpose is to formally confirm the established parameters for the pilot testing of the early warning system.

The document defines:

- ➢ A list of selected diagnoses for pilot data collection
- ➢ Criteria for including cases in the early warning system
- ➢ Specifications of the required parameters for case reporting
- ➢ Basic methodology for working with cases

The goal is to create a unified framework for collecting epidemiologically significant data on selected infectious diseases. The established parameters will serve as a starting point for further development of the system, with the expectation that they will be gradually refined based on experiences gained from the pilot operation.

2 Parameters of Selected Infectious Diseases

For the pilot phase of data collection, seven diagnoses representing significant infectious diseases from a public health perspective were selected. The selection was based on the following criteria:

➢ Epidemiological significance (incidence, severity)
➢ Potential for epidemic spread
➢ Availability of data for evaluation
➢ Possibilities for prevention and control
➢ International commitments in the field of surveillance

The list of diagnoses may be individually supplemented and modified in the future based on the epidemiological situation and experiences gained from the pilot operation.

The following diagnoses were established for pilot data collection:

➢ Acute hepatitis A
➢ Whooping cough [pertussis]
➢ Enteritis, causative agent: Campylobacter
➢ Chickenpox [varicella]
➢ Mumps [parotitis epidemica]
➢ Salmonella enteritis
➢ Measles

2.1 Acute hepatitis A

Dx according to ICD-10: B15

2.1.1 Disease Characteristics

Viral hepatitis A is an infectious disease with a global occurrence. In the Czech Republic, the incidence of this disease is currently increasing, and there is a risk of local epidemics. A higher incidence is particularly noted in socially excluded areas, where hygiene conditions are often poor.

2.1.2 Epidemiological Significance

2.1.2.1 Reasons for Inclusion as a Priority Diagnosis

 ➢ Easy spread within the population
 ➢ Long incubation period (up to 50 days)
 ➢ Infectiousness during the incubation period
 ➢ Possibility of asymptomatic cases
 ➢ Availability of specific prevention through vaccination

2.1.2.2 Criteria for Inclusion in the Early Warning System

 ➢ Risk of epidemic spread
 ➢ Need for rapid identification of sources
 ➢ Necessity for timely anti-epidemic measures

2.1.3 Incidence in the Czech Republic

The Czech Republic is among countries with a relatively low incidence of viral hepatitis A. However, the declining morbidity in the Czech population has resulted in an increasing percentage of individuals without protective antibodies, making them susceptible to infection. Consequently, localized epidemics occur repeatedly, with a significant proportion of cases involving individuals from socially excluded areas, leading to family clusters and local epidemics that can further spread through migrating individuals.

The virus spreads very easily, especially among children (in kindergartens and schools), where hygiene standards are not yet sufficiently established, leading to the introduction of infection into families. Imported cases are also reported, brought back by travellers from abroad, particularly from exotic countries. Given the long incubation period, infectiousness during this period and potential asymptomatic course, it is essential to rigorously trace all infected individuals and their contacts. Timely implementation of anti-epidemic measures is crucial to minimize the spread of infection into the general population.

In recent years, outbreaks of viral hepatitis A have been recorded in several regions of the Czech Republic: Ústí nad Labem Region (2018), Liberec Region (2019), and South Bohemia Region (2020-2021). According to current data, outbreaks of viral hepatitis A were reported in 2024 in Moravian-Silesian, Karlovy Vary, Liberec, and Zlín Regions.

Graph 1: Hepatitis A, Number of Cases in the Czech Republic from 2018 to 2024*

Hepatitis A
Number of cases in the Czech Republic from 2018 to 2024*
(n = 1 523)
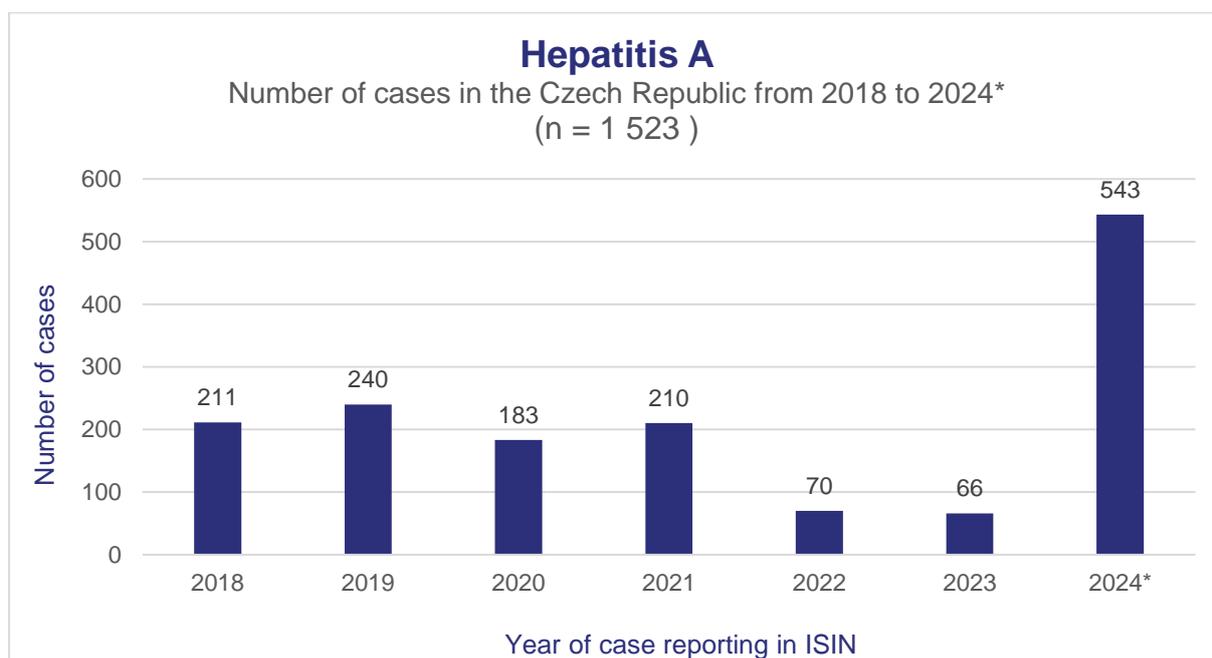
*preliminary data as of November 30, 2024
Source: National Institute of Public Health (NIPH), 2024 (https://szu.gov.cz/publikace-szu/data/infekce-v-cr/)

2.2 Whooping cough, causative agent: *Bordetella pertussis*

Dx according to ICD-10: A37.0

2.2.1 Disease Characteristics

Whooping cough is an infectious disease exhibiting cyclical occurrence with intervals of 2-5 years. It occurs year-round and can affect all age groups in the population. The highest risk of severe disease is in newborns and infants due to the potential for life-threatening complications, particularly in unvaccinated or incompletely vaccinated children, as well as in seniors and individuals with chronic illnesses, especially respiratory diseases.

2.2.2 Epidemiological Significance

2.2.2.1 Reasons for Inclusion as a Priority Diagnosis

➢ Severe course in at-risk groups
➢ Mortality among unvaccinated infants
➢ Significant increase in cases in 2024
➢ Underreporting due to mild courses
➢ Specific prevention through vaccination is part of the vaccination program
➢ Recommendations exist for vaccination during pregnancy and adulthood

2.2.2.2 Criteria for Inclusion in the Early Warning System

➢ Risk of severe complications in infants
➢ Need for rapid identification of cases
➢ Necessity for timely antibiotic treatment

2.2.3 Incidence in the Czech Republic

Historically, the highest incidence of whooping cough in the Czech Republic was recorded in 1956, with 49,144 reported cases (incidence rate of 520.5/100,000 population). Following the introduction of universal vaccination in 1958, there was a significant decline in mortality and morbidity in the child population. From the second half of the 1970s until 1992, annual incidence ranged only between 5-48 cases, with a minimum of 5 cases in 1989. Since 1993, an upward trend in morbidity has been observed with characteristic 2–5-year cycles of increase and decrease, mirroring the situation in other countries. The disease occurs year-round.

Since the beginning of 2024, an increasing number of cases has been reported in the Czech Republic (**Graph 2**), surpassing historical values from the period before universal vaccination was implemented in 1958.

From January 1 to November 3, 2024, a total of 34,423 cases of whooping cough were recorded in the ISIN. The number of reported cases based on initial symptoms shows a significantly decreasing trend in recent weeks. In the previous four weeks, an average of 448 new cases per week was recorded based on reporting dates, ranging from 335 to 540 cases.

Whooping cough currently occurs across all age groups, from newborns to individuals aged 101 years, with a median age of 23 years. The highest number of cases and incidence rate are recorded in the age group of 15-19 years. In children under one year old, who represent the highest risk group, a total of 615 cases were reported in 2024, with an average weekly increase of 9 new cases over the last four weeks.

Graph 2: Whooping cough, Czech Republic, Number of Cases Reported by Calendar Weeks in 2024*, Compared to Maximum, Average, and Minimum Numbers from 2019 to 2023
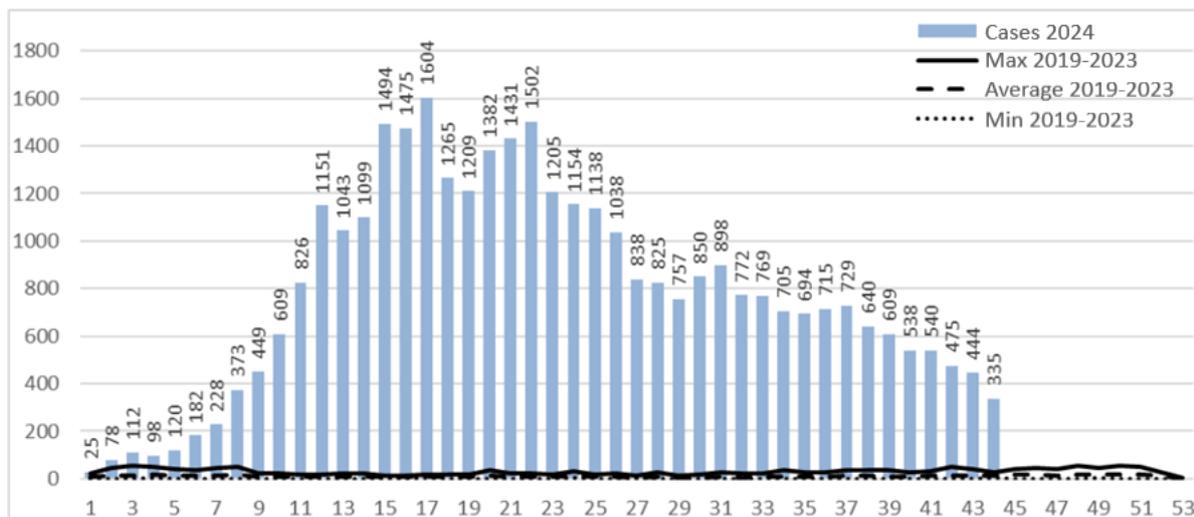
*reported to ISIN from January 1, 2024 to November 3, 2024
Source: NIPH, 2024 (https://szu.gov.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/d/davivy-kasel-pertuse/)

The development of the number of whooping cough cases in the Czech Republic from 2018 to 2024 shows a dramatic increase in the last year. While in previous years, the number of cases ranged in the hundreds annually, in 2024 (preliminary data as of November 30, 2024), there was an unprecedented rise to over 36,000 cases (**Graph 3**). This situation represents the highest recorded incidence since the introduction of universal vaccination in 1958.

Graph 3: Whooping cough, Number of Cases in the Czech Republic from 2018 to 2024*

*preliminary data as of November 30, 2024
Source: NIPH, 2024 (https://szu.gov.cz/publikace-szu/data/infekce-v-cr/)
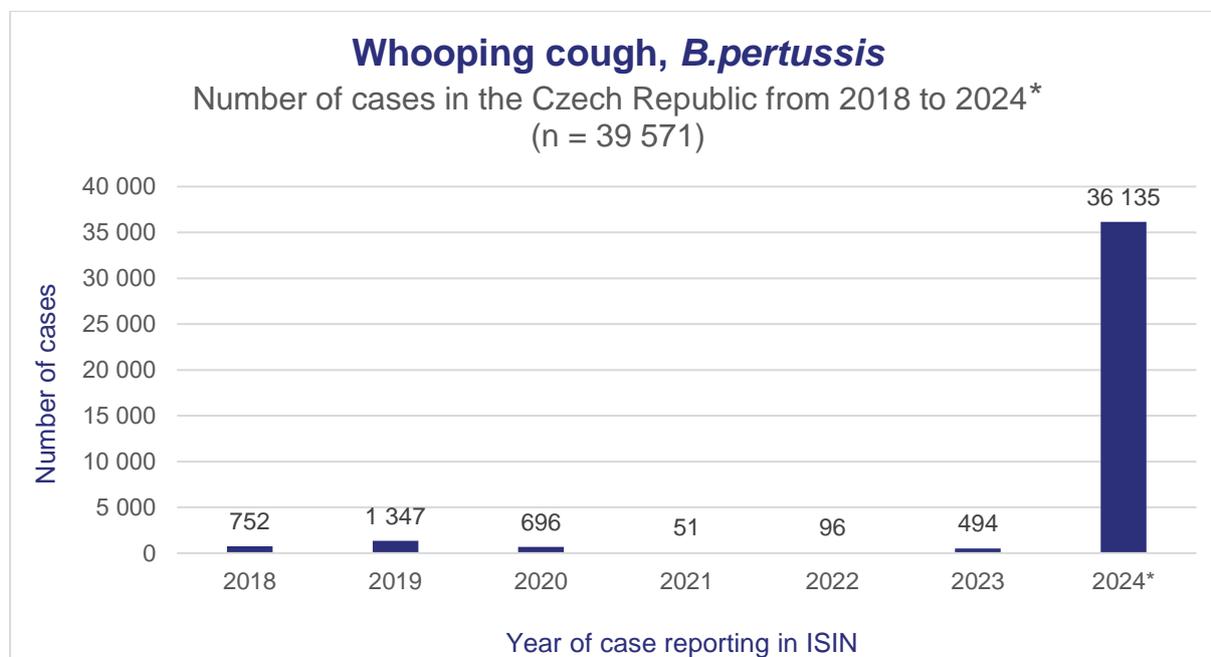
2.3 Enteritis, causative agent: *Campylobacter*

Dx according to ICD-10: A04.5

2.3.1 Disease Characteristics

Campylobacter enteritis has been the most reported foodborne infection in the Czech Republic since 2007. The average annual incidence reaches 200 cases per 100,000 inhabitants. The disease affects all age groups in the population, with the highest incidence recorded in children aged 1-4 years and infants.

2.3.2 Epidemiological Significance

2.3.2.1 Reasons for Inclusion as a Priority Diagnosis

➢ High disease burden in the Czech Republic
➢ One of the highest incidences within the EU/EEA
➢ Necessity for non-specific prevention across the entire population, especially among at-risk groups
➢ Need for trend monitoring

2.3.2.2 Criteria for Inclusion in the Early Warning System

➢ One of the highest incidences in the EU/EEA
➢ Possible severe complications
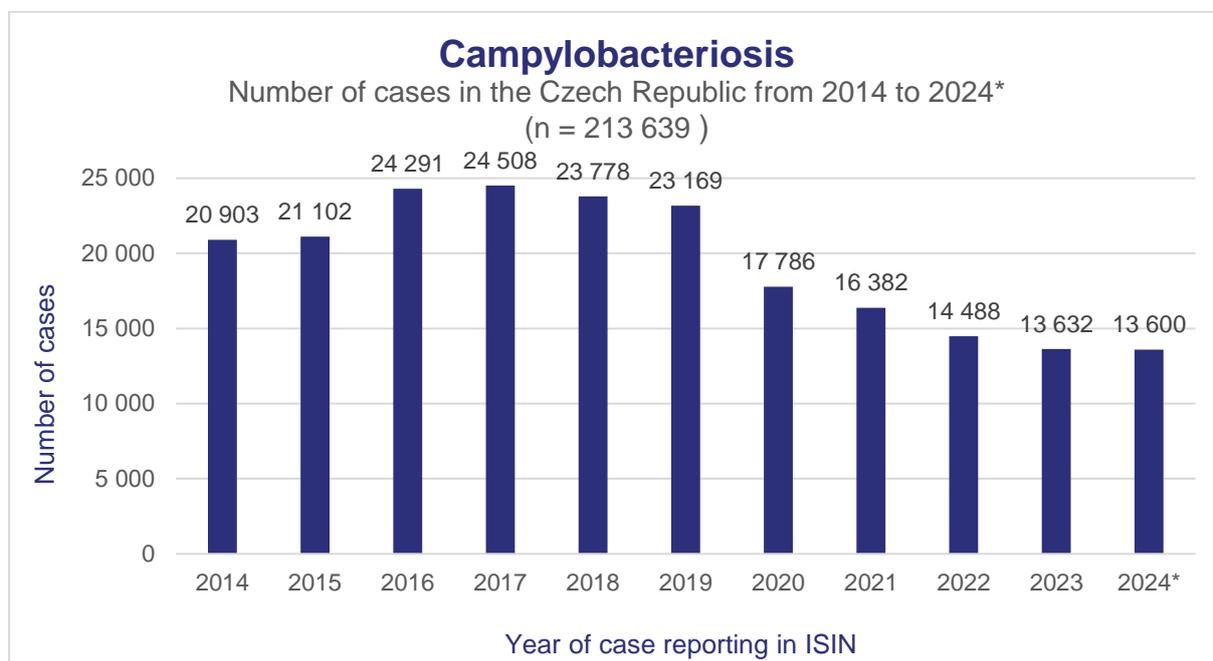➢ Need for trend and resistance monitoring

2.3.3 Incidence in the Czech Republic

Campylobacteriosis has been one of the most frequently occurring infectious diseases in the Czech Republic for 15 years. From January 1, 2014, to November 30, 2024, a total of 213,639 cases of the disease were reported in the EpiDat and ISIN systems (**Graph 4**). The incidence trend has been stable over the long term, with approximately 20,000-25,000 cases annually; however, there has been a gradual decrease in recent years.

A detailed analysis of the years 2018-2021 revealed a total of 81,115 reported cases with an average incidence of 189.5 per 100,000 inhabitants. The highest incidence was found in children aged 1-4 years and in infants. Of the total number of cases, nearly 10,000 individuals (12.2%) were hospitalized, and 34 deaths were reported in connection with this disease. In the pandemic years of 2020-2021, a 27% decrease in cases was observed compared to the years 2018-2019.

Given the significant occurrence of the disease, increased professional attention should be directed towards campylobacteriosis. Within analytical epidemiological studies that consider the One Health concept, it is necessary to investigate the causes of its high incidence. Preventive measures should primarily target children under five years of age due to the high frequency of cases and individuals over 80 years old due to a higher risk of severe disease and hospitalizations.

Graph 4: Campylobacteriosis, Number of Cases in the Czech Republic from 2014 to 2024*

Campylobacteriosis
Number of cases in the Czech Republic from 2014 to 2024*
(n = 213 639)

*preliminary data as of November 30, 2024
Source: NIPH, 2024 (https://szu.gov.cz/publikace-szu/data/infekce-v-cr/)

2.4 Chickenpox [varicella]

Dx according to ICD-10: B01

2.4.1 Disease Characteristics

Chickenpox is a highly contagious viral disease that occurs year-round. It primarily affects children in the age groups of 1-4 and 5-9 years. There is a possibility of specific prevention through vaccination against the disease.

2.4.2 Epidemiological Significance

2.4.2.1 Reasons for Inclusion as a Priority Diagnosis

➢ Severe course in at-risk groups, including pregnant women
➢ High morbidity in the Czech Republic
➢ Persistent unfavourable trend in disease occurrence
➢ Possibility of specific prevention through vaccination

2.4.2.2 Criteria for Inclusion in the Early Warning System

➢ Severe course in at-risk groups, including pregnant women
➢ High morbidity in the Czech Republic
➢ Persistent unfavourable trend in disease occurrence
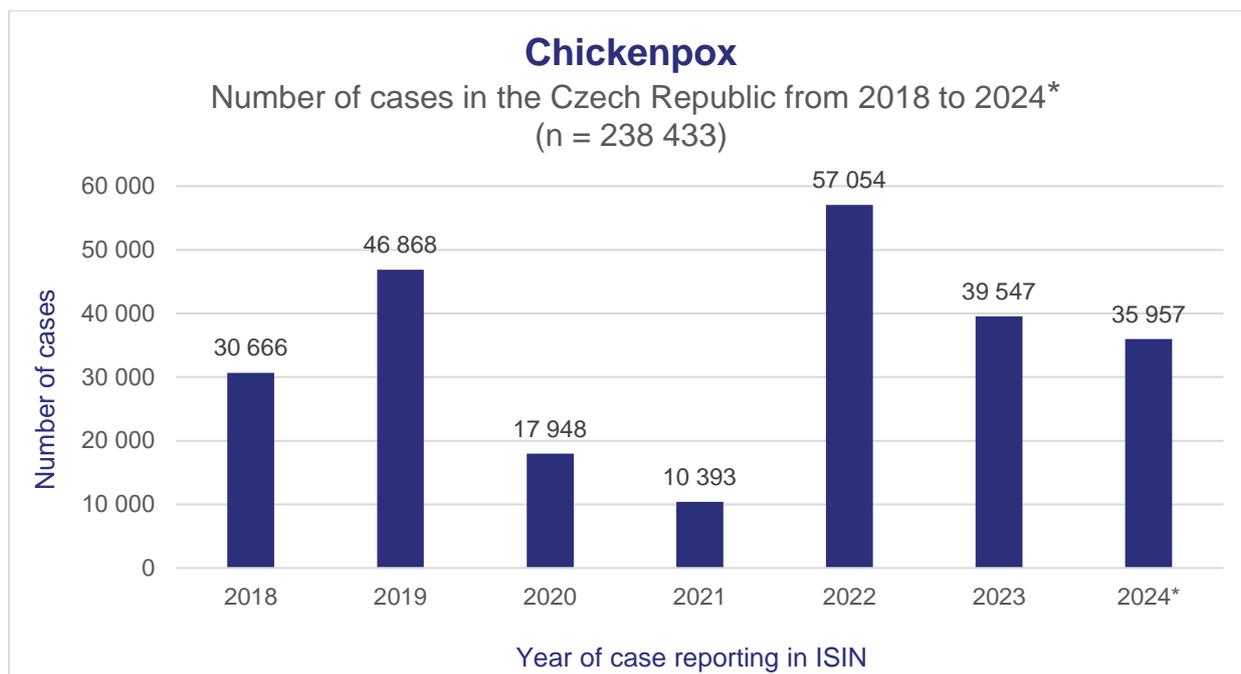
2.4.3 Incidence in the Czech Republic

Chickenpox is a common infectious disease in the Czech Republic, characterized by seasonal occurrence, particularly during the winter months and early spring. From January 1, 2018, to November 30, 2024, a total of 238,433 cases of the disease were reported in the ISIN (**Graph 5**). The incidence trend shows a fluctuating character with an annual number of cases between 30,000 and 50,000, with a significant decrease recorded during the pandemic period.

Long-term monitoring reveals characteristic 2–5 year cycles of increase and decrease in reported cases. The highest morbidity is traditionally recorded in children aged 3-10 years, which corresponds to the age typical for primary infection with the varicella-zoster virus.

A more severe course of the disease is observed in at-risk groups in the Czech Republic, which include children under one year of age, individuals over 20 years old, pregnant women, and individuals with weakened immune systems. These groups face a higher risk of complications such as cerebellitis, encephalitis, myelitis, pneumonia, or secondary bacterial infections.

In the Czech Republic, vaccination against chickenpox is not part of the reimbursed vaccination schedule, unlike some other European countries where universal vaccination has led to a significant decrease in disease incidence and hospitalization rates.

Graph 5: Chickenpox, Number of Cases in the Czech Republic from 2018 to 2024*

Chickenpox
Number of cases in the Czech Republic from 2018 to 2024*
(n = 238 433)

*preliminary data as of November 30, 2024
Source: NIPH, 2024 (https://szu.gov.cz/publikace-szu/data/infekce-v-cr/)

2.5 Mumps [parotitis epidemica]

Dx according to ICD-10: B26

2.5.1 Disease Characteristics

Mumps is a viral disease that often presents non-specifically with respiratory symptoms (40-50% of cases) or can be completely asymptomatic (up to 20% of cases). There is a risk of severe disease and complications in selected population groups. The highest number of cases is recorded among adolescents aged 15-19 years and young adults aged 20-24 years.

2.5.2 Epidemiological Significance

2.5.2.1 Reasons for Inclusion as a Priority Diagnosis

➢ Highly contagious disease
➢ Occurrence in all age groups
➢ Occurrence of complications following the disease
➢ Monitoring surveillance in the context of managing epidemic outbreaks

2.5.2.2 Criteria for Inclusion in the Early Warning System

➢ Highly contagious disease
➢ Occurrence in all age groups, with possible severe complications
➢ Monitoring surveillance in the context of managing epidemic outbreaks

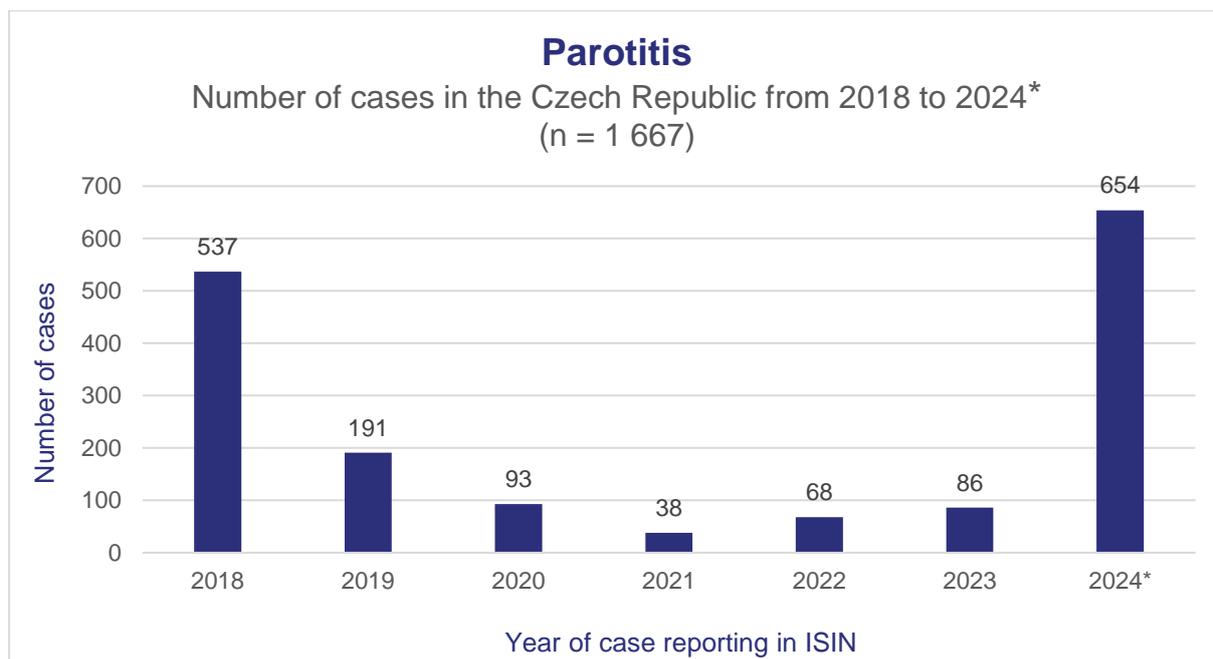### 2.5.3 Incidence in the Czech Republic

Mumps exhibits a long-term cyclical character in the Czech Republic, with approximately 5-year intervals between epidemic occurrences. From January 1, 2018, to November 30, 2024, a total of 1,667 cases of the disease were reported in the ISIN (**Graph 6**). The incidence trend during this period was predominantly decreasing; however, a significant exception was noted in 2024, when there was a marked increase in the number of cases.

The introduction of universal vaccination in 1987 led to a dramatic decrease in morbidity from 24,507 cases in 1986 to several hundred to a thousand cases annually in the following decades. Between 2008 and 2018, the number of reported cases ranged from 357 (in 2009) to 5,734 (in 2016).

In the Czech Republic, the disease primarily occurs during the winter months and in spring, with the highest incidence among children and adolescents. More severe courses and complications are more frequently observed in older age groups, particularly after puberty. A significant portion of cases (up to 20%) consists of asymptomatic and subclinical infections, which are more common among adults.

Due to high vaccination coverage achieved through mandatory vaccination (with an efficacy of about 90% for the mumps component of the vaccine), there has been a significant reduction in the occurrence of severe complications from the disease, such as inflammation of male reproductive glands, pancreas, or central nervous system.

Graph 6: Parotitis, Number of Cases in the Czech Republic from 2018 to 2024*

Parotitis

Number of cases in the Czech Republic from 2018 to 2024*

(n = 1 667)

*preliminary data as of November 30, 2024
Source: NIPH, 2024 (https://szu.gov.cz/publikace-szu/data/infekce-v-cr/)

2.6 Salmonella enteritis

Dx according to ICD-10: A02.0

2.6.1 Disease Characteristics

Salmonella enteritis is the second most common foodborne infection in the Czech Republic. Within the EU/EEA, the Czech Republic shows the highest incidence of this disease, which reached 71.9 cases per 100,000 inhabitants in 2022. The disease affects all age groups, with the highest incidence recorded in children aged 1-4 years and subsequently in the 5-9 year age group.

2.6.2 Epidemiological Significance

2.6.2.1 Reasons for Inclusion as a Priority Diagnosis

- ➢ High morbidity in the Czech Republic
- ➢ Risk of epidemic outbreaks
- ➢ Possible severe courses in at-risk groups
- ➢ Need for trend monitoring

2.6.2.2 Criteria for Inclusion in the Early Warning System

- ➢ Potential for epidemic spread
- ➢ Risk of severe courses
- ➢ Necessity for rapid identification of sources

2.6.3 Incidence in the Czech Republic

Salmonellosis represents the second most significant foodborne infection in the Czech Republic after campylobacteriosis. From January 1, 2018, to November 30, 2024, a total of 67,195 cases of the disease were reported in the ISIN (**Graph 7**). The incidence trend has been stable since 2016, with an average incidence of approximately 100 cases per 100,000 inhabitants per year. However, this value is still significantly higher than the EU average (13.7/100,000 inhabitants in 2020). A significant decrease in incidence was recorded after 2008 when comprehensive veterinary measures were implemented to control salmonellosis in poultry farming.

The age distribution of cases shows the highest specific incidence in children aged 1-4 years (564.0/100,000 inhabitants) and infants (456.8/100,000 inhabitants). As age increases, so does the likelihood of hospitalization and death. There are statistically significant differences in disease incidence among individual regions (p<0.001).

The COVID-19 pandemic did not have a significant impact on the incidence of salmonellosis in the Czech Republic; the trend remained stable during this period. Data are continuously monitored at all levels of the system; however, there are factual errors in reporting to ISIN.

From January 1, 2018, to November 30, 2024, a total of 66,109 cases of salmonella enteritis were reported to ISIN within a range of 7,539 to 13,111 cases (**Table 1**). Data for the year 2024 are not included in this range; these are preliminary counts as of November 30, 2024. Most cases reported to ISIN from 2018 to 2024* as salmonellosis (diagnosis A02) were cases with diagnosis A02.0 Salmonella enteritis. Both diagnoses show a declining trend in disease occurrence in recent years.

Table 1: Salmonellosis and Salmonella Enteritis, Czech Republic, 2014-2024*

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024*
A02**	13 633	12 739	11 912	11 779	11 346	13 306	10 363	10 076	7 680	7 706	6 718
A02.0					11 139	13 111	10 237	9 946	7 539	7 571	6 566

*preliminary data as of November 30, 2024
**diagnosis A02 Salmonellosis (includes diagnosis A02.0 Salmonella enteritis, A02.1 Salmonella sepsis, and other Salmonella subdiagnoses)
Source: ISIN, previously EpiDat until 2018

The last row in Table 1 includes only diagnosis A02.0 Salmonella enteritis.

Graph 7: Salmonellosis, Number of Cases in the Czech Republic from 2018 to 2024*

*preliminary data as of November 30, 2024
Source: NIPH, 2024 (https://szu.gov.cz/publikace-szu/data/infekce-v-cr/)
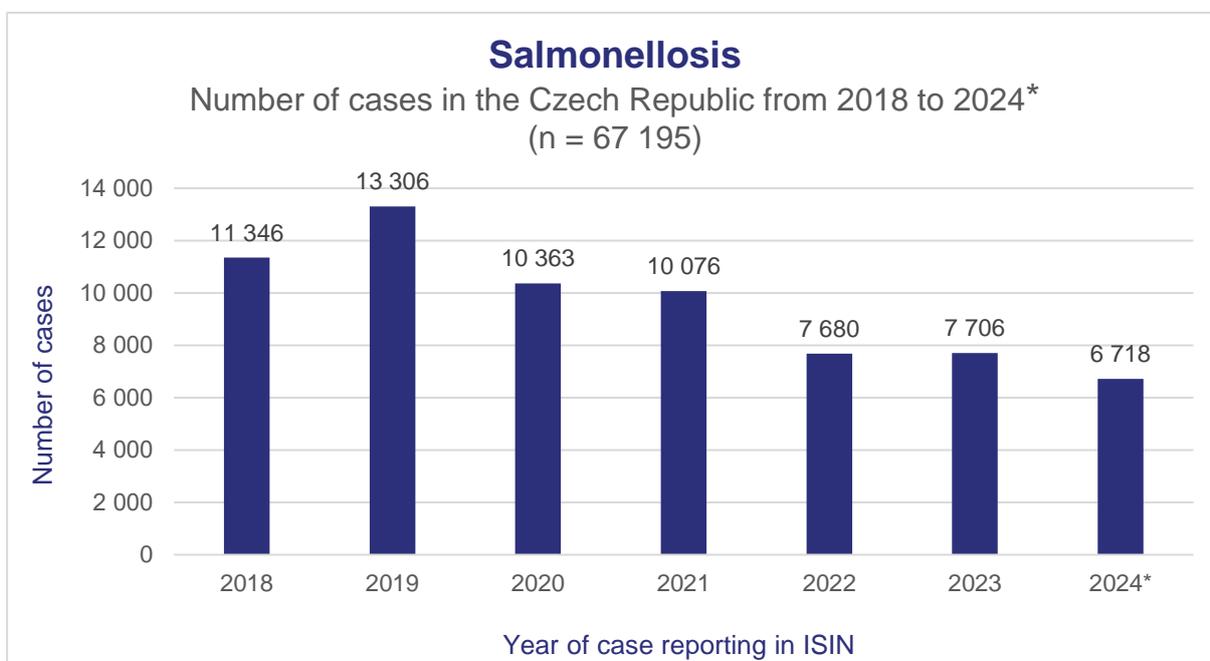
2.7 Measles

Dx according to ICD-10: B05

2.7.1 Disease Characteristics

Measles is a disease with a global occurrence that tends to spread epidemically. In EU/EEA countries, it occurs in all age groups, primarily among unvaccinated individuals. Due to the current trend of declining vaccination coverage, this disease is re-emerging. There is also a significant risk of importing the infection from abroad.

2.7.2 Epidemiological Significance

2.7.2.1 Reasons for Inclusion as a Priority Diagnosis

➢ One of the most contagious diseases
➢ The disease can occur with complications, including death
➢ Possibility of late fatal outcomes (subacute sclerosing panencephalitis)
➢ Part of the WHO program for measles elimination
➢ Indicator for monitoring vaccination activities
➢ Specific prevention through vaccination is part of the vaccination program

2.7.2.2 Criteria for Inclusion in the Early Warning System

➢ High contagiousness
➢ Risk of epidemics
➢ Need for a rapid response

2.7.3 Incidence in the Czech Republic

The incidence of measles in the Czech Republic has been declining over the long term due to established mandatory vaccination. Currently, the incidence is significantly lower than before the introduction of vaccination in 1969, when an average of 50,000 cases were reported annually. In recent years, there has been an increase in the number of cases, which, similar to other European countries, is primarily related to the importation of the disease from another territory, where incomplete vaccination or waning immunity after vaccination leads to outbreaks.

The disease can occur with complications (pneumonia, encephalitis, otitis media), and complications are more common in young children and adults. Currently, modified courses of measles are not uncommon among individuals who were vaccinated in childhood and have experienced a decline or waning of immunity. Symptoms of the disease may be only mildly expressed, and the rash may not have the typical appearance.

From 2014 to 2024, a total of 1,219 cases of measles were reported in the Czech Republic (**Table 2**). The highest numbers were recorded in 2018-2019 during a large outbreak. Age distribution shows the highest representation in the groups aged 35-44 years, 45-54 years, 25-34 years, and among children aged 1-4 years. High numbers of cases were reported in 2014 and from 2017 to 2019 when several large epidemic occurrences took place, with the first case of measles being imported from abroad into the Czech Republic.

Table 2: Measles, Czech Republic, 2014-2024*

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024*
Number of cases in the Czech Republic	221	9	7	146	207	590	4	0	0	1	34

*preliminary data as of November 30, 2024
Source: ISIN, previously EpiDat until 2018

A total of 836 cases of measles were reported to ISIN from January 1, 2018, to November 30, 2024 (**Graph 8**). The highest number of measles cases was reported in 2019, when several epidemic outbreaks occurred. Measles occurred in all age groups from January 1, 2018, to November 30, 2024. The most cases were reported among adults aged 35-44 years, followed by those aged 45-54 years and then those aged 25-34 years.

Graph 8: Measles, Number of Cases in the Czech Republic from 2018 to 2024*

Measles
Number of cases in the Czech Republic from 2018 to 2024*
(n = 836)

* preliminary data as of November 30, 2024
Source: NIPH, 2024 (https://szu.gov.cz/publikace-szu/data/infekce-v-cr/)
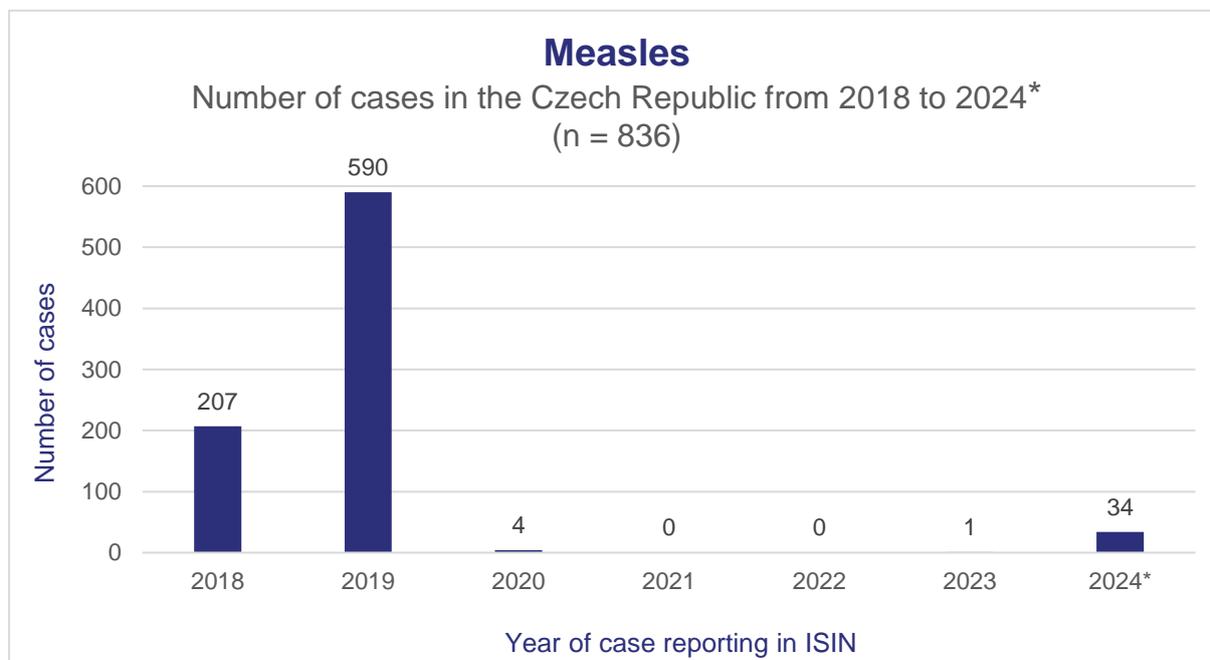
3 Specification of Reporting Parameters for the Pilot Phase

To effectively monitor and evaluate selected infectious diseases in the pilot phase, it is essential to clearly define the structure and scope of the monitored parameters. These parameters have been established for the pilot-monitored diagnoses with regard to their epidemiological significance, mode of transmission, and the need for timely intervention.

The basic structure of the outputs is designed to provide standardized information for all pilot-monitored diagnoses, taking into account their specific characteristics and monitoring requirements.

Some data are not collected automatically but are supplemented based on manual follow-up by staff from the Regional Public Health Authority (RPHA, in Czech: KHS) through additional epidemiological investigation.

For pilot diagnoses, the same reporting parameters apply as defined in the original document "Setting system parameters to determine the final diagnosis for reporting purposes" (available at: https://scopeis.uzis.cz/en/outputs/). Their structure and content remain unchanged.

3.1 Scope of Monitored Parameters for Pilot Diagnoses

To simplify data entry from healthcare providers (PZS), new APIs (Application Programming Interface) will be created (similar to those used for vaccinations – with the patient's number as the primary identifier).

3.1.1 Healthcare Provider - General Practitioners (GPs, in Czech: PL) and Primary Care Paediatricians (PLDD)

➢ Personal/Organization Identification Number (IČO)
➢ Healthcare Facility Registration Number (PČZ)
➢ Healthcare Facility/Physician Workplace Number (IČP)
➢ Physician's contact phone number
➢ Physician's identification and contact details (imported from the physician's information system based on logged-in user, contact for RPHA staff for case follow-up)

3.1.2 Epidemiological Report

Patient

➢ Patient's resort ID
➢ Date of birth (validation check for resort ID)
➢ Current residence and contact details
➢ Employer information
➢ Occupation
  • Working in healthcare
  • Working in security (police officer, firefighter, paramedic, soldier)
  • Working in social services
  • Working in education
  • Working with food
  • Working with meat
  • Children and adolescents

- Unemployed
- Retired
- Other
- …may be supplemented with regard to the reflection of at-risk occupations

➢ Information on isolation

Infectious Disease

➢ Date of examination
➢ Diagnosis, method of determination (the diagnosis code list for infectious diseases is attached)
➢ Suspected / confirmed case (the default is suspected, which will always be reported automatically)
➢ Date of first symptoms
➢ Note / comment

3.1.3 Method of Reporting and Updates

The exclusive method of reporting will occur via API, where it will also be possible for the reporting provider to enter, delete, or correct data until the case is taken over by the RPHA.

3.1.4 Establishing and Closing Cases

➢ After receiving reports from GPs (PL) and Primary Care Paediatricians (PLDD), the RPHA creates a new case in the Infectious Disease Information System (ISIN) and transfers the data into notification forms. The reporting itself **does not** automatically lead to creation of a new case in ISIN. The RPHA decides whether to create a new case based on their evaluation of the situation.
➢ If the RPHA is following up on an ISIN case as part of a specific epidemiological investigation, it will supplement basic data into its own report according to its findings.

3.2 Specific Parameters for Epidemiological Investigation

The following parameters **are not** part of the automated data collection within the early warning system but are essential for comprehensive epidemiological investigation of cases. These data are followed up by RPHA staff.

The scope of monitored specific parameters varies according to the type of diagnosis. Not all parameters are monitored for all diseases. The specific scope of monitored parameters is defined individually for each diagnosis in accordance with epidemiological needs and surveillance requirements.

Specific parameters for epidemiological investigation include, in particular:

Epidemiological Characteristics

➢ Mode of transmission
➢ Risk factors
➢ Outbreaks/epidemics
➢ Details about community settings and occupation
➢ Imported cases

Clinical Parameters

➢ Severity of the course
➢ Complications
➢ Circumstances of death

Laboratory Data

➢ Types/subtypes of the pathogen
➢ Resistance
➢ Details of diagnostic methods

4 Conclusion

This document defines the monitoring and reporting parameters for the pilot phase of a system that includes selected infectious diagnoses. The pilot operation will utilize standardized reporting parameters defined in the document "Setting system parameters to determine the final diagnosis for reporting purposes" (available at https://scopeis.uzis.cz/en/outputs/).

The pilot phase represents a key step in the implementation of the new infectious disease reporting system. The selected diagnoses represent various types of infectious diseases, with reporting parameters set to provide a comprehensive epidemiological overview. Throughout the process, emphasis is placed primarily on practical usability and efficiency in data collection.

During the pilot phase, the functionality of the new reporting system will be monitored while simultaneously experience with its use will be collected. Attention will focus particularly on identifying potential issues in data collection, as well as their quality and completeness.

Based on the insights gained, proposals for necessary adjustments and a plan for expanding the system to include additional diagnoses will be developed. All findings will contribute to improving the system prior to its full launch.

Sources:

ECDC. *Campylobacteriosis. In: Annual Epidemiological Report for 2019*. [online]. Stockholm: ECDC, 2024. Available at: https://www.ecdc.europa.eu/en/publications-data/campylobacteriosis-annual-epidemiological-report-2019. [accessed 16 December 2024].

ECDC. *Factsheet about hepatitis A.* [online]. 26 June 2017. Available at: https://www.ecdc.europa.eu/en/hepatitis-A/facts. [accessed 16 December 2024].

ECDC. *Increase of pertussis cases in the EU/EEA.* [online]. 2024. Available at: https://www.ecdc.europa.eu/en/publications-data/increase-pertussis-cases-eueea. [accessed 16 December 2024].

ECDC. *Measles. In: Annual Epidemiological Report for 2023*. [online]. Stockholm: ECDC, 2024. Available at: https://www.ecdc.europa.eu/en/publications-data/measles-annual-epidemiological-report-2023. [accessed 16 December 2024].

FABIÁNOVÁ, Kateřina; FIALOVÁ, Alena; KYNČL, Jan; VLČKOVÁ, Iva and MALÝ, Marek. Varicella (Chickenpox), Situation in the Czech Republic 2012-2022 [*Varicela (plané neštovice), situace v ČR 2012–2022*]. [Oonline]. In: CEM Reports (NIPH, Prague). 2022. Available at: https://szu.gov.cz/wp-content/uploads/2023/03/302_307_Varicela_CEM_8_2022.pdf. [accessed 16 December 2024]. [In Czech].

NIPH. Campylobacteriosis - Summary of Basic Information [*Kampylobakterióza – souhrn základních informací*]. [online]. 21 June 2024. Available at: https://szu.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/k/kampylobakterioza/kampylobakterioza-souhrn-zakladnich-informaci/. [accessed 16 December 2024]. [In Czech].

NIPH. Current Epidemiological Situation of Pertussis in the Czech Republic [*Aktuální epidemiologická situace ve výskytu černého kašle v ČR*]. [online]. Available at: https://szu.gov.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/d/davivy-kasel-pertuse/aktualni-epidemiologicka-situace-ve-vyskytu-cerneho-kasle-v-cr/. [accessed 16 December 2024]. [In Czech].

NIPH. Chickenpox (Varicella): Basic Disease Information [*Plané neštovice (varicella): Základní informace o onemocnění*]. [online]. Available at: https://szu.gov.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/p/plane-nestovice-varicella/zakladni-informace/. [accessed 16 December 2024]. [In Czech].

NIPH. Mumps: Basic Disease Information [*Příušnice: Základní informace o onemocnění*]. [online]. *Available at:* https://szu.gov.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/p/priusnice/zakladni-informace/. [accessed 16 December 2024]. [In Czech].

NIPH. Mumps: Current Issue [*Příušnice: aktuální problém*]. [online]. *Available at:* https://szu.gov.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/p/priusnice/priusnice-aktualni-problem/. [accessed 16 December 2024]. [In Czech].

NIPH. Salmonellosis - Summary of Basic Information [*Salmonelóza – souhrn základních informací*]. [online]. 20 June 2024. [online]. Available at: https://szu.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/s/salmonelozy/salmoneloza-souhrn-zakladnich-informaci/. [accessed 16 December 2024]. [In Czech].

NIPH. Surveillance of Whooping Cough, Pertussis and Parapertussis in the Czech Republic [*Surveillance dávivého kašle, pertuse a parapertuse, v České republice*]. [online]. *Available at:* https://szu.gov.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/d/davivy-kasel-pertuse/surveillance-daviveho-kasle-pertuse-a-parapertuse-v-ceske-republice/. [accessed 16 December 2024]. [In Czech].

NIPH. Whooping Cough Surveillance in the Czech Republic [*Spalničky. Základní informace o onemocnění*]. [online]. Available at: https://szu.gov.cz/temata-zdravi-a-bezpecnosti/a-z-infekce/s/spalnicky-szu/. [accessed 16 December 2024]. [In Czech].

ŠPAČKOVÁ, Michaela and DANIEL, Ondřej. Most Common Foodborne Diseases in the Czech Republic - Descriptive Analysis of Campylobacteriosis 2018-2021 [*Nejčastější alimentární onemocnění v ČR – deskriptivní analýza kampylobakterióz za období 2018-2021*]. [online]. In: CEM Reports (NIPH, Prague). 2022. Available at: https://szu.gov.cz/wp-content/uploads/2023/02/ZC_10_2022_Kampylobakteriozy.pdf. [accessed 16 December 2024]. [In Czech].

ŠPAČKOVÁ, Michaela and DANIEL, Ondřej. Salmonellosis in the Czech Republic 2018-2021, Descriptive Analysis [*Salmonelózy v ČR v letech 2018-2021, deskriptivní analýza.*]. [online]. In: CEM Reports (NIPH, Prague). 2022. Available at: https://szu.gov.cz/wp-content/uploads/2023/06/23_33_Z_CEM_1_2022_Salmonely.pdf. [accessed 16 December 2024]. [In Czech].

WHO. *Hepatitis A.* [online]. 2023. Available at: https://www.who.int/news-room/fact-sheets/detail/hepatitis-a. [accessed 16 December 2024].