D1.2 – Dissemination and Communication Strategy

Project Title:	**Genomic surveillance of selected infectious diseases in the Czech Republic**
Project Acronym:	**HERA2CZ**
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Beneficiary:	**National Institute of Public Health, the Czech Republic**
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Disclaimer

Dissemination Level

PU	Public	☒
SEN	Sensitive	☐
EU-C	EU Classified	☐

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List of Abbreviations

ARI/ILI surveillance	Acute Respiratory Infection and Influenza-Like Illness surveillance national system
FWD	Food- and Water-borne Diseases
MDR	Multidrug Resistant Bacteria
MPXV	Monkeypox Viruses
NIPH	National Institute of Public Health
NRLs	National Reference Laboratories
RSV	Respiratory Syncytial Viruses
RT-PCR	Reverse Transcription Polymerase Chain Reaction
WGS	Whole Genome Sequencing

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Executive Summary

Developing a Dissemination and communication strategy for the HERA2CZ project (Acronym for “Genomic surveillance of selected infectious diseases in the Czech Republic”) is essential for the effectiveness of research findings' dissemination, engaging stakeholders, and achieving the project's objectives. With this objective in mind, the comprehensive communication strategy was prepared with coordination between the project's realization team and the Communication department of the National Institute of Public Health in the Czech Republic (NIPH).

The Dissemination and communication strategy builds on the foundation laid by the project's proposal, which identified critical features such as key stakeholder groups and effective communication channels based on experience from the previous HERA project. The framework is designed to cater to the needs of diverse audiences, segmented into Surveillance, Health Sector, Academia, and Policy Makers and ensuring tailored engagement activities.

Central to the strategy are the clearly defined communication goals, guided by key messages that encompass the essence of the project's objectives. These messages are communicated through a spectrum of tool and channels ensuring a comprehensive approach that resonates with each target audience.

To address the efficacy of the deliverable a set of key performance indicators has been established, allowing continuous evaluation and refinement. The timeline is structured along to the project deliverables to maximize impact.

Recognizing the importance of preparedness, the strategy also addresses potential risks through a robust Risk Assessment and Mitigation plan. Moreover, a Crisis Communication Plan is in place to address unforeseen challenges swiftly and effectively, safeguarding the project's reputation and credibility.

In essence, the Dissemination and communication strategy ensures the project's commitment to effective knowledge transfer, stakeholder engagement, and the attainment of its ambitious objectives. The D1.2 together with D1.3 ensures the goal of the HERA2CZ project to contribute to the communicate the problematic of infectious disease surveillance and public health protection.

1 Project's Overview

The National Institute of Public Health (NIPH) is a public health authority located in Prague, the Czech Republic. Its mission is defined by paragraph 86 of Act No. 258/2000 of Czech law. NIPH covers a wide spectrum of activities in the area of protecting public health, including creating the basis for national public health policy, promoting and protecting health-related issues, providing methodical reference activities, monitoring public health-related issues, researching the environmental impact on human health, collaborating internationally, and providing post-graduate education in medical fields and health-related education for the general public. Furthermore, NIPH collates personal health-related data associated with disease prevention, monitors long-term trends of infectious disease incidence, occupational health hazards, and the epidemiology of drug dependence, and transmits that data to public health facilities on the national and international levels.

NIPH has the required competence and responsibility to implement the European Union's policies at the national level and was nominated by the Czech Republic as the sole authority eligible for the EU's Direct grants. Previously, NIPH was granted an ECDC grant titled "**Enhancing Whole Genome Sequencing (WGS) and/or Reverse Transcription Polymerase Chain Reaction (RT-PCR) national infrastructures and capacities to respond to the Covid-19 pandemic in the Czech Republic**" (ECDC/HERA/2021/004 ECD.12218) (HERA). Although NIPH was the main beneficiary of the 13-month grant, the project was realized in cooperation with seven other affiliated entities spread all over the Czech Republic. The project HERA significantly enhanced the laboratory capacity of these institutions.

The subsequent project, "**Genomic surveillance of selected infectious diseases in the Czech Republic**" (HERA2CZ), responded to the EU4Health Programme call EU4H-2022-DGA-MS-IBA-01-02. The project aimed to consolidate WGS and RT-PCR activities in countries that received support in 2021, with the goal of ensuring the sustainable use and integration of enhanced infrastructure into routine surveillance of communicable diseases and outbreak investigation activities, in synergy with relevant ongoing work at the international level.

HERA2CZ, as a mono-beneficiary project, strives to improve the capacity of National Reference Laboratories (NRLs) in the National Institute of Public Health (NIPH) in Prague for genotypic characterization of a range of human pathogens, especially SARS-CoV-2 and other respiratory

viruses, as well as bacterial pathogens with cross-border threat potential, including antibiotic-resistant bacteria**. Whole Genome Sequencing (WGS) is modern method for detailed characterization of microorganisms, providing a complete description of the genetic information of a given microorganism, and enabling immediate interlaboratory comparisons at the national and international levels.**

The aim of the project is to improve the availability of genomic surveillance of communicable diseases to identify and characterize specific determinants for the description and identification of clonal lineages with significant potential for spread. This project is crucial to ensuring genomic surveillance within European structures, specifically the ECDC. **Without the implementation of routine genomic surveillance, monitoring and addressing national and cross-border threats of infectious diseases and antibiotic resistance would not be possible.**

1.1 Project's Structure and Objectives

The HERA2CZ project is divided into five work packages (WP1-WP5), each of which has its own purpose, focus, and goals.

WORK PACKAGE 1 (WP1) – "PROJECT MANAGEMENT, EVALUATION, COMMUNICATION, AND SUSTAINABILITY" (MNGECS)

focuses on the management and successful and timely fulfilment of obligatory deliverables predefined by the EU call. The core of the project lies in four technical work packages that address the general objectives of the EU call, as depicted in Figure 1 below:

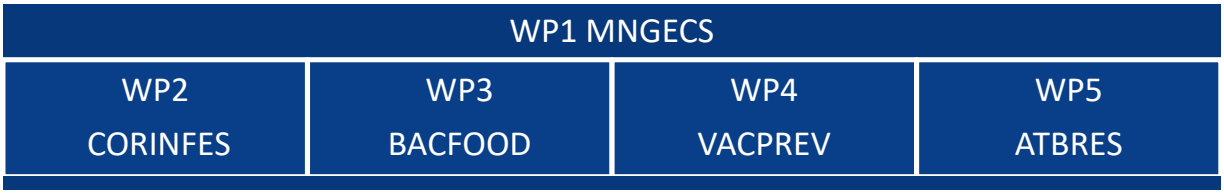

Figure 1 HERA2CZ project's structure

WP2 – "COVID, RSV, INFLUENZA SURVEILLANCE" (CORINFES)

as the direct successor of the HERA project, focuses on integrating virological and genomic surveillance of SARS-CoV-2 within the Acute Respiratory Infection and Influenza-Like Illness surveillance national system (ARI/ILI surveillance) and connecting this system with the WGS data of

respiratory or emerging viruses. The goal is to gather evidence-based precautions to mitigate epidemic peaks or other threats caused by the spread of respiratory viruses and thus minimize cross-border threats.

WP3 – "GENOMIC SURVEILLANCE AND OUTBREAK INVESTIGATION OF BACTERIAL FOOD-BORNE DISEASES" (BACFOOD)

focuses on real-time whole-genome sequencing of important bacterial food-borne pathogens, enabling real-time surveillance of Food- and Water-borne Diseases (FWD) and early outbreak investigations of FWD in the Czech Republic.

WP4 – "VACCINE PREVENTABLE DISEASES (INVASIVE MENINGOCOCCAL DISEASE, INVASIVE PNEUMOCOCCAL DISEASE, DISEASE CAUSED BY HAEMOPHILUS, B. PERTUSSIS)" (VACPREV)

aims to implement Whole Genome Sequencing for routine use in National Reference Laboratories that provide national surveillance for diseases caused by meningococci, pneumococci, haemophilus, and B. pertussis. Special attention will be given to providing the necessary instruments, personnel, and material capacities for the routine implementation of WGS in the NRLs located in NIPH in Prague (CZ), with a focus on the quality of WGS data management.

WP5 – "ANTIMICROBIAL RESISTANCE GENES SURVEILLANCE" (ATBRES)

aims to implement genomic surveillance of priority pathogens associated with antibiotic resistance to support outbreak investigations of MultiDrug-Resistant (MDR) bacteria and continuous surveillance or sentinel surveys of carbapenem and/or colistin-resistant Enterobacteriaceae.

1.2 Research Concept

The core concept of the project revolves around the incorporation of Whole Genome Sequencing (WGS) into the daily operations of the Czech National Institute of Public Health's National Reference Laboratories (NRLs). Until now, WGS, with the exception of SARS-CoV-2, has been conducted at other Czech institutions, and the resulting data were subsequently analysed at the NIPH. However, this approach proved to be insufficient during the Covid-19 outbreak. Therefore, the project aims to integrate WGS into the routine work of NIPH's NRLs, enhancing the capacity for WGS analyses of a broader range of infectious agents with the potential to spread across borders. Furthermore, the

project seeks to enhance the quality of WGS data analysis, facilitating its reporting to both national and international databases.

The comprehensive scope of the project encompasses the activities of nine NRLs. Eight of these NRLs have initiated genomic surveillance during the project. Alongside the genomic surveillance of SARS-CoV-2, which began in March 2020, the project will establish protocols for genomic surveillance of influenza, Respiratory Syncytial Viruses (RSV) and monkeypox viruses (MPXV). These protocols will serve as the foundation for the integrated Acute Respiratory Infection and Influenza-Like Illness (ARI/ILI) surveillance. Additionally, the project will implement genomic surveillance for bacterial food-borne pathogens, diseases caused by meningococci, pneumococci, haemophilus, B. pertussis, and priority pathogens associated with antibiotic resistance.

WP2 – "COVID, RSV, INFLUENZA SURVEILLANCE" (CORINFES)

aligns with the priorities of the European Centre for Disease Prevention and Control (ECDC) concerning the integration of SARS-CoV-2 surveillance into the national ARI/ILI surveillance system. This integration, along with the connection of WGS data on respiratory or emerging viruses, will provide a solid foundation for evidence-based precautions aimed at mitigating epidemic peaks and other threats caused by the spread of respiratory viruses. Consequently, the project aims to minimize cross-border threats.

WP3 – "GENOMIC SURVEILLANCE AND OUTBREAK INVESTIGATION OF BACTERIAL FOOD-BORNE DISEASES" (BACFOOD)

focuses on real-time whole genome sequencing of crucial bacterial food-borne pathogens, including Shiga toxin-producing E. coli and Salmonella. This effort will lead to real-time surveillance of food- and water-borne diseases (FWD) and early outbreak investigations of such diseases in the Czech Republic. The project's strategic approach will significantly contribute to safeguarding the population against national and cross-border threats posed by food- and water-borne pathogens. This aligns with the specific objective of the EU Regulation 2021/522.

WP4 – "VACCINE PREVENTABLE DISEASES (INVASIVE MENINGOCOCCAL DISEASE, INVASIVE PNEUMOCOCCAL DISEASE, DISEASE CAUSED BY HAEMOPHILUS, B. PERTUSSIS)" (VACPREV)

aims to implement routine Whole Genome Sequencing (WGS) in National Reference Laboratories responsible for national surveillance of diseases caused by meningococci, pneumococci,

haemophilus, and B. pertussis. This objective corresponds with the document published by the World Health Organization (WHO) in 2021 titled "Defeating meningitis by 2030: a global road map." The WGS data generated will be reported to international databases, such as TESSy, EMERT II, IRIS, SpIdNet, Pertinent, and Pserenade. These databases will utilize the data for outbreak investigations, control-oriented surveillance, and strategy-oriented surveillance of invasive diseases caused by the specified pathogens mentioned above.

WP5 – "ANTIMICROBIAL RESISTANCE GENES SURVEILLANCE" (ATBRES)

The main objective of WP5 is to implement genomic surveillance of priority pathogens associated with antibiotic resistance. This surveillance will support outbreak investigations of MultiDrug-Resistant (MDR) bacteria and facilitate continuous surveillance or sentinel surveys of carbapenem and/or colistin-resistant Enterobacteriaceae. By monitoring these priority pathogens, the project aims to enhance the ability to respond effectively to outbreaks and minimize the spread of antibiotic resistance that is a critical global health concern.

1.3 Project's Contribution to Effective Prevention and Monitoring of Future Public Health Emergencies

The long-term priority of the ECDC is the enhancement of national capacities to identify and characterise viruses and bacteria's´ variants using Whole Genome Sequencing (WGS) and Reverse Transcription Polymerase Chain Reaction (RT-PCR). Such endeavours have the potential to revolutionise the public health landscape in the EU/EEA, by permitting a more rapid, comprehensive and effective surveillance of infectious diseases by their early detection and delineation that will prevent future public health emergencies. Both techniques are essential in understanding and responding to infectious diseases, but they serve different purposes and provide complementary information to public health efforts:

WGS SURVEILLANCE

is a comprehensive and modern method that analyses the entire genetic sequence of pathogens, providing insights into their genetic diversity and evolutionary patterns of pathogens. WGS provides a detailed and in-depth analysis of the genetic characteristics of the pathogen, enabling researchers to study its evolutionary history, track genetic variations, and identify mutations. It is particularly

useful for tracking the transmission and spread of pathogens during outbreaks, understanding the development of drug resistance, and identifying potential virulence factors.

RT-PCR

is a specific molecular diagnostic technique used to detect the presence of viral RNA in patient samples, allowing for rapid and accurate diagnosis of infectious diseases like Covid-19 or influenza. RT-PCR is widely used in clinical diagnostics and disease surveillance to detect and monitor infectious diseases, especially during outbreaks or pandemics.

National Institute of Public Health (NIPH) in Prague is already involved in some ECDC projects aimed at implementing genomic surveillance of infectious diseases. The core concept of the HERA2CZ project revolves around the incorporation of Whole Genome Sequencing (WGS) into the daily operations of nine National Reference Laboratories (NRLs) located in the NIPH and aims to integrate WGS into the routine work of NIPH's NRLs, enhancing the capacity for WGS analyses of a broader range of infectious agents with the potential to spread across borders.

2 Team Roles and Responsibilities

Communication, dissemination, and visibility of the project are secured under WP1, represented by the communication manager. Under this work package, a Dissemination and communication strategy for the whole project is defined in close cooperation with the project management team and other necessary NIPH departments.

The team involved in project communication and dissemination is headed by the project Communication manager, who works closely with the Project coordinator and Project manager. Project - external parties involved in the process include the IT department of NIPH for technical background and NIPH's Public relations department to amplify communication through relevant media channels. The Communication manager and Project manager were selected in the external procurement procedure, which was completed in June 2023. The procedure was postponed due to the delay in the Grant Agreement finalisation. According to internal organization rules, no procurement procedure could be opened before the relevant Grant Agreement is officially signed.

Personal occupancy of the communication team:

PROJECT COMMUNICATION MANAGER:

Responsible for activities under WP1, task T1.3 - Communication and dissemination activities, and the fulfilment of deliverables such as Dissemination and communication strategy (D1.2), Dissemination tools (D1.3), and Dissemination report (D1.7). Also, the project Communication manager is responsible of co-organization of the workshop with policy makers in M30. The project Communication manager prepares documents for communication and project templates or other relevant materials. These materials are consulted and approved with the following individuals, with whom the communication manager works in close cooperation:

PROJECT'S COORDINATOR:

Responsible for the overall just and appropriate realization of the project. All communication materials will be approved by the coordinator before official release.

PROJECT MANAGER / WP LEADERS:

When the subject of communication is relevant to any specific work package relevant leaders will be contacted and consulted before the material is released. The project manager will assure

submission of deliverables to the EC and publication of project- relevant materials on the project subsite.

SPOKESPERSON OF NIPH:

This NIPH internal possess a contact database of relevant stakeholders and communication channels that, due to the topic, has the highest relevancy and credibility. The communication manager will cooperate with the press officer of NIPH because of its high added value.

Before the personal competition of the communication team, in the early phase of the project duration, a subpage devoted to the project was created under the NIPH official web page https://szu.cz/hera2/ This subpage informs about the grant provision, project objectives, and deliverables. Equally a project leaflet with basic information about the project and its goals was published (link). Within the duration of the project two press releases were planned to be published on the NIPH web page and distributed via media channels of NIPH. The first one was published here.

The project templates and materials were prepared in regard to the visibility rules and the grant acknowledgment rules specified under Article 17 of the Grant Agreement (Communication, dissemination, and visibility) to ensure the visibility of EU funding. These templates and general rules for visibility are stored in the project's internal Teams site (more details are in the Deliverable D1.3).

3 Target Audiences

Within the preparation phase of the project, the key stakeholders' groups relevant to the project were identified. There are following target groups interested in results of the project:

- Universities and research centres
- Medical doctors
- Citizens
- Local, national, and European policy makers
- National, international surveillance databases

In the realisation phase, above mentioned target groups were clustered in four main target groups of the project dissemination. These clusters are described below including a SWOT analysis for each of these groupings. Each cluster will be targeted by different tool and amplifying different message.

Primary, the project focus on **surveillance sector and health sector professionals.**

3.1 Surveillance

This target group encompasses the following entities:

- International/national public health protection bodies
- Database providers
- Public health protection authorities and national reference laboratories – contributors of data to national and international surveillance databases

Strengths:

- Well-established international institutions that possess specialised expertise with their established methodologies for data collection, analyse and storage.
- Organisations/structures that defines unified standards for collected data and requirements for a national network of surveillance.
- Definition of technological prerequisites for a national surveillance network.

- They advocate update of policies and regulations that strengthen infectious disease surveillance and response capacities. Their influence ensures that international and national guidelines prioritize effective surveillance strategies.

Weaknesses:

- National reference laboratories (NRLs) and public health protection authorities have limited human and financial resources.
- Public health decisions can sometimes be influenced by political considerations, affecting the objectivity and effectiveness of infectious disease surveillance strategies.
- Inconsistent methodologies or standards among different NRLs can lead to difficulties in comparing and integrating data at the European level.
- Centralized databases raise concerns about the security and privacy of sensitive health information.

Opportunities:

- Increased sharing of data in a unified format and within shorter timeframes can facilitate early identification and response to potential public health threats.
- Implementation of a unified methodology and laboratory procedures could optimize time and personnel capacity for public health protection authorities and laboratories.
- International bodies can foster international collaboration by facilitating information exchange, sharing best practices, and coordinating responses to global health threats and influence national health protection policies.

Threats:

- Outbreaks of global infectious diseases or pandemics could strain the NRL's resources and capacity to respond effectively and on time. There is a requirement to provide data at both national and European levels simultaneously so in case of not aligned methodologies or technological solution for automated retrieval, outbreaks will challenge European surveillance across Europe.

- Lack of coordination among international health organizations and countries can lead to duplication of efforts, gaps in coverage, and confusion during response efforts.

3.2 Health Sector

This target group encompasses the following entities:

- Healthcare professionals
- Patients (general public)
- Patient organisations
- Insurance companies, Health Insurance Bureau
- Statistic organisations and institutes in health sector

Strengths:

- Mass use of the WGS method by healthcare professionals will allow precise tracking and differentiation of strains. Accuracy of data helps early identification of an outbreak at local level and afterwards provides data for the analysis and understanding of the infectious disease spread.
- Data sharing on the European level is crucial for preventing disease spread, safeguarding public health, and minimizing the impact of outbreaks globally.

Weaknesses:

- WGS method is more expensive compared to other sequencing methods.
- The comprehensive data generated by WGS requires experienced personnel for accurate analysis, management and data storage.

Opportunities:

- The use of a more accurate sequencing method can lead to more precise and reliable diagnostic results. The treatment of the patient will be targeted by right and accurate cure.
- Early detection of a disease outbreak will allow timely intervention that can prevent the progression and spread of infectious illnesses. This has the potential to save lives and reduce healthcare costs in the long run.

- Implementation of more accurate sample analysis in healthcare can lead to a decrease in medication consumption and drugs misuse, thus can diminish the problem of the microbial resistance.
- Insurance companies can gain valuable insights from the data collected allowing them the development of predictive models that anticipate future healthcare needs and trends.

Threats:

- More accurate sequencing can generate massive amounts of data that could be demanding on personnel lability to interpret and effectively manage. In peak situation this could lead to delays in diagnosis, tracking and taking preventive measures.
- Relying heavily on advanced technology makes healthcare systems vulnerable to technical failures, IT attacks or data breaches.
- Patient data and databases could raise ethical and privacy concerns. Protecting patients' sensitive genetic data by ensuring robust data security measures is crucial.

3.3 Academia

This target group encompasses the following entities:

- Universities
- Research centres

Strengths:

- Academic institutions play a key role in fundamental research. Through their publications, they contribute significantly to the acquisition of knowledge and deepening of the problem understanding.
- Academic institutions collaborate with NIPH to collect, analyse, and interpret data related to infectious disease patterns and outbreaks. They use their expertise to process and understand complex data.

- Universities conduct extensive research on infectious diseases, their spread, and contributing factors, modes of transmission of diseases, providing insights that forms disease surveillance strategies.
- Academic researchers develop mathematical and computational models to simulate infectious disease spread and predict potential outcomes. These models assist public health officials in making informed decisions about interventions and resource allocation.
- Universities educate and train future public health professionals, microbiologists, epidemiologists, and researchers.

Weaknesses:

- Academic research often involves rigorous data collection and peer review processes, which can lead to delays in providing real-time data needed for immediate public health responses during outbreaks or emergencies.
- Some academic researchers might have limited practical experience in fieldwork and real-world disease surveillance operations, affecting the applicability of their findings.
- The gap between academic researchers and public health practitioners can sometimes lead to challenges in effective communication and understanding each other's needs and priorities.

Opportunities:

- Academic institutions house experts in various fields, including epidemiology, data analysis, microbiology, bioinformatics, and more. Cutting-edge fundamental research conducted by these experts can result in innovative approaches for infectious disease surveillance and detection.
- Universities and academia often serve as drivers in technological change. They can develop new tools and software for data collection, analysis, and visualization, leading to more efficient and accurate surveillance. This innovation has the potential to reduce personnel costs associated with data analysis.
- The development of new modelling techniques and predictive models for infectious disease spread enables the simulation of outbreak scenarios, facilitating timely interventions.

- The collaboration between teams participating in the fundamental research at universities and surveillance professionals can enhance training programs and produce skilled workforce and contribute to rapid transfer of recent knowledge findings into practice.

Threats:

- Rigorous nature of data analysis and review processes might be weakness for dynamic nature of infectious disease surveillance and quick response required during outbreaks.
- The collection and sharing of health data raise ethical issues, and universities need to navigate these concerns carefully to maintain trust and compliance with privacy regulations.

3.4 Policy Makers

This target group encompasses the following entities:

- National and international policy making bodies in health sector
- Administrators

Strengths

- Policy-making bodies have the authority and reach to facilitate international cooperation and coordination among countries, ensuring a unified approach to infectious disease surveillance and response.
- Policy-making bodies can establish mechanisms for fast-tracking policy decisions and resource allocation during infectious disease outbreaks, enabling swift and effective responses. They initiate increased funding and resource allocation for infectious disease surveillance in case of need.

Weaknesses

- Political considerations can sometimes influence policy decisions, diverting attention and resources away from evidence-based infectious disease surveillance strategies.
- Different national policies and regulations can lead to inconsistencies in data collection, reporting, and response strategies across countries, hampering global coordination.

- Countries have varying health priorities and capacities, making it challenging for international bodies to develop universally applicable policies that cater to the unique needs of all regions.

Opportunities

- National bodies can tailor their policies to address specific infectious disease surveillance needs and challenges within their respective countries, ensuring effective and locally relevant strategies.
- National bodies better understand local expertise to collect accurate and timely data, contributing to a comprehensive global infectious disease surveillance network.

Threats

- Limited financial resources can hinder the development and implementation of robust infectious disease surveillance policies, leading to gaps in coverage and data quality.
- Lack of coordination among different government departments and agencies can result in fragmented policies and practices, undermining the efficiency of infectious disease surveillance efforts.

4 Communication Goals

The communication goals of a HERA2CZ project are designed to ensure effective and efficient communication among relevant stakeholders. These goals will foster understanding of the topic and its importance for prevention of future threads and pandemics, collaboration of laboratories and institutes that collect and analyse patient data and transfer them to national and international infectious disease surveillance databases.

Here are key communication goals for HERA2CZ project:

Raising Awareness

The project needs to communicate its purpose, significance, and potential benefits to all relevant parties, including healthcare professionals, laboratories, government agencies, and international partners. Raising awareness of the project itself and its benefits for public health protection and emergency preparedness will ensure that stakeholders understand the importance of precise data collection and data analysis for cross-border health threats surveillance.

Stakeholder Engagement:

The project will aim to engage various stakeholders actively throughout its implementation. This includes Project Evaluation and Advisory Board (EAB) where partners from previous HERA project were invited to participate. Regular meetings of EAB and consultations with corresponding laboratories and institutes will enable to gather input, address concerns, and foster dissemination of results towards its potential users from various fields.

Building Partnerships:

Effective communication should facilitate the establishment of partnerships with surrounding countries and international organizations. NRLs has already established collaborations with relevant international organisations and partners from institutes in surrounding countries. This cooperation can enhance data sharing and analysis capabilities, allowing for a more comprehensive cross-border surveillance network.

Clear Communication Channels:

HERA2CZ project poses clear and accessible communication channels is essential for sharing information, updates, and findings related to the project. This involves cooperation with the spokesperson of NIPH that has well established links to relevant policymakers, sector-relevant media and to general public through mass media channels. This section is more elaborated in separated deliverable D1.3.

PUBLIC AWARENESS AND EDUCATION

The HERA2CZ project will publish at least two press releases to communicate with the general public to raise awareness about the importance of cross-border threat surveillance and how it contributes to public health safety. The first one was published here.

4.1 Key Messages

The Dissemination and communication strategy had further developed a set of key messages that will be consistently communicated throughout the project. These messages should be tailored to resonate with each target audience while maintaining scientific accuracy and clarity.

Groups	Targeted audience	Key message
SURVEILLANCE	International/national bodies of public health protection, Database providers, Public health protection authorities and national reference laboratories	**WGS to enhance speed and quality of cross-border infectious disease surveillance -** Whole Genome Sequencing (WGS) will enhance the speed and quality of surveillance for infectious diseases with cross-border potential. **Increased data accuracy in a shorter timeframe for national and European surveillance networks -** it will provide higher accuracy data within a shorter timeframe for transmission to both national and European surveillance networks. **Uniform Data Structure and Quality -** the implementation of WGS will result in a unified data structure and improved data quality.

		Time and capacity savings for hygienic stations and national reference laboratories - it will streamline procedures, saving time and optimizing capacity for public health protection authorities and national reference laboratories.
HEALTH SECTOR	Healthcare professionals, Patients (general public), Patient organisations, Insurance companies, Health Insurance Bureau, Statistic organisations and institutes in health sector	**Precise and reliable diagnostic results and clinical situation monitoring** – project will enable achieving precise and reliable diagnostic results and effective monitoring of clinical situations. **Clear statistical data for deeper analysis and pandemic prevention –** project enables provision of clear statistical data for in-depth analysis of local issues and aids in preventing pandemic outbreaks. **Decrease in medication consumption and drug misuse through accurate sample analysis in healthcare -** the application of accurate sample analysis in healthcare can result in reduced medication consumption and decreased instances of drug misuse. **Data source for cost-effectiveness of health insurance services -** health insurance companies will possess a reliable data source for assessing the cost-effectiveness of their services.
ACADEMIA	Universities Research centres	**Innovative approaches and cross-disciplinary solutions** - the sharing of the most recent knowledge can lead to the development of innovative approaches and technologic solutions for disease surveillance and detection.

		Better understanding of practical needs - a deeper understanding of the practical challenges and needs of surveillance professionals. This insight informs the design of research projects that align with real-world requirements, ensuring research outcomes are applicable and relevant. **Informed policy recommendations** - by combining academic research and practical experience, the partnership can contribute to the formulation of informed policy recommendations.
POLICY MAKERS	National and international policy making bodies in health sector, Administrators	**Global collaboration for health security** - in case of local outbreaks of infectious disease, effective cross borders surveillance system enables more accurate reaction from health protection bodies. **Standardization for consistency** - unified guidelines and consistent data collection facilitates accurate comparison, data sharing, and coordinated responses. **Data sharing for informed decision-making** - evidence-based decision-making, which is vital for preventing and mitigating the spread of infectious diseases.

Figure 2 HERA2CZ key messages for the target audience

4.2 Communication Channels

Following the good practice of the communication of topics related to the public health protection at NIPH, the communication channels utilized by the HERA2CZ project will use these channels:

- Articles in topic- relevant journals and publications

- Workshops and events relevant to project stakeholders and the topics.
- Press releases and media outreach
- Project-dedicated subsite
- Project's final conference in M30

4.3 Communication tools

Communication and dissemination tools of the project are subject of separate deliverable D1.3.

4.4 Key performance indicators

The project has set a set of indicators which are the key for the assessment of the effectiveness of the communication strategy.

- Articles in topic- relevant journals and publications
- Participation at workshops and events relevant to project stakeholders and the topics
- Press releases and media outreach
- Project subsite
- Project leaflet and presentations
- Final conference in M30

Means and tools	Target group	Target value	Source of verification
Popularisation articles in newspapers or wide-access journals or publications in topic- relevant journals.	SURVEILLANCE HEALTH SECTOR ACADEMIA POLICY MAKERS	**8**	Copies of articles stored in the project archive.
Participation at conferences, workshops, seminars and events	SURVEILLANCE HEALTH SECTOR ACADEMIA	**20**	Number of events attended; relevant materials stored.

relevant to project stakeholders and the project topics.	POLICY MAKERS		
Press releases and media outreach	SURVEILLANCE HEALTH SECTOR ACADEMIA POLICY MAKERS	**2**	Number of project- relevant press released published on the project web and/or social media
Project subsite	HEALTH SECTOR	**400**	Number of visitors in website statistics of the project relevant subsite (per project)
Final conference in M30	SURVEILLANCE HEALTH SECTOR ACADEMIA POLICY MAKERS	**50**	Number of attendees, relevant materials stored.

Figure 3 Key indicators

4.5 Timeline

The communication timeline will be aligned with key project milestones and event planned at the end of the project realisation (M30).

			Year	22			23											24												25					
			Month	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
			Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1	MNGECS - Project management, evaluation, communication and sustainability coordination - MNGECS																																			
	T1.1	**Project management and coordination**		MS1			MS2																													D1.1
	T1.2	**Project internal control and reporting**																																		
	T1.3	**Communication and dissemination activities**												D1.2 D1.3																			MS3			D1.7
		Creation of the project subsite																																		
		Publication of the pressrelease (1st)																																		
		Publication of the project leaflet																																		
		Publication of D1.2, D1.3 and D1.4 on the project subsite (after the official approval)																																		
		Publication of D1.7, D1.10. D4.1, D4.2, D5.1 and D5.2 on the project subsite (after the official approval)																																		
		Publication of results in topic-relevant journals and pubilcations																																		
		Participation at workshops and events relevant to project stakeholders and the topics and uplod of presentations on the																																		
		Measurement of the website performance (statistics)																																		
		Conference organisation and publication of materials on the project subsite																																		
		Publication of the pressrelease (2nd)																																		
	T1.4	**Development of the Evaluation strategy, monitoring and continuous evaluation and measurement of outcomes**												D1.4																						D1.10
	T1.5	**Sustainability and complementarity of project activities**													D1.5 D1.6															D1.9						D1.8 MS4

Figure 4 Project's timeline (project management and communication)

			Year	22			23												24												25					
			Month	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
			Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
2	**CORINFES- COVID, RSV, influenza, surveillance**																																			
	T2.1	WGS capacity building and whole genome sequencing																MS5 MS6																		D2.1
	T2.2	Integration of SARS-CoV-2 surveillance in Ari/ILI surveillance. Virological and genomic surveillance, model of virological and																MS7									MS8									D2.2
	T2.3	Anti-virotic resistance determinants detection																										MS9								D2.3
3	**BACFOOD - Genomic surveillance and outbreak investigation of bacterial food-borne diseases**																																			
	T3.1	Strain collection																																		
	T3.2	Sequencing																																		
	T3.3	Data analysis and evaluation																																		
	T3.4	Results reporting																																		D3.1
	T3.5	Scientific data evaluation																														MS10				D3.2
4	**VACPREV - Vaccine Preventable Diseases (invasive meningococcal disease, invasive pneumococcal disease, disease caused by Haemophilus, B. pertussis**																																			
	T4.1	Implementation of WGS protocol for N.meningitidis, S. pneumoniae, H. influenzae, B. pertussis in NRLs																															MS11			D4.1
	T4.2	WGS data management																															MS12			D4.2
5	**ATBRES - Antimicrobial resistance genes surveillance**																																			
	T5.1	Implementation of WGS standard protocol																MS13																		D5.1
	T5.2	Enhancement of surveillance of CRE/CCRE and outbreak investigation																MS14																		D5.2

Figure 5 Project's timeline (technical WPs)

5 Risk Assessment, Mitigation and Crisis Communication Plan

5.1 Risk Assessment and Mitigation

Potential communication risks and challenges that the communication and dissemination of HERA2CZ project could face are listed below:

DATA PRIVACY BREACH:

The project deals with sensitive patient information, and there is a risk of data breaches during communication and data sharing. Adequate measures should be in place to ensure data encryption, secure communication channels, and access controls to minimize the risk of unauthorized access and assure anonymisation of the data according to the ECDC rules.

MISCOMMUNICATION OR MISINTERPRETATION:

Complex technical information may be communicated to various stakeholders, and there is a risk of miscommunication or misinterpretation. Clear and concise messaging, use of plain language, and regular feedback mechanisms can help reduce this risk as well as a clear procedure of sign off of communication materials.

LACK OF STAKEHOLDER ENGAGEMENT:

If stakeholders are not adequately engaged in the communication process, they may not fully understand the project's objectives or may feel disconnected from the initiative. The amplification of the Covid-19 experience will help to underline the importance of the capacity building for the WGS surveillance.

RESISTANCE TO CHANGE:

Implementing new data analysis and collection methods may face resistance from healthcare professionals and laboratory staff who are accustomed to existing practices. Proper communication about the benefits of the changes and providing necessary training and support can help address this risk.

NEGATIVE PUBLIC PERCEPTION:

If the project's objectives and benefits are not effectively communicated to the public, there may be a risk of negative perception or misinformation. Transparent communication can help manage this risk.

5.2 Crisis Communication Plan

Effective crisis communication is crucial for managing challenging situations and maintaining trust and credibility. Key elements for successful crisis communication include:

CLEAR LEADERSHIP:

A spokesperson of NIPH will be a key person for external communication with clear authority to speak on behalf of the organization during the crisis. Consistent and authoritative messaging helps avoid confusion and misinformation. She will closely cooperate with the project coordinator and the rest of the team in case of any emerging crisis.

TRANSPARENCY:

To be open, just and transparent about the situation to the extent possible, considering legal and privacy constraints. In case of crisis the spokesperson will share accurate and reliable information, acknowledging uncertainties when necessary.

CONSISTENCY AND ACCURACY:

The project team will ensure consistency and accuracy in messaging of the spokesperson across all communication channels. Inconsistent messages can create confusion and erode trust.

CORRECTING MISINFORMATION:

If misinformation or rumours spread during the crisis, they will be addressed promptly and accurate information will be provided.

By incorporating these key elements into communication strategy, we plan to effectively manage potential crises, mitigate reputational damage, and demonstrate NIPH’s commitment to transparency and accountability.

Project's Context

Genomic Surveillance Project of Selected Infectious Diseases in the Czech Republic (HERA2CZ)

Enhancing Public Health Protection through the HERA2CZ Project

The HERA2CZ project aims to enhance the quality of public health protection and improve the preparedness of the Czech Republic for emergency health situations and pandemics such as Covid-19, or any future health crisis with potential international impact. The HERA2CZ project assists the National Institute of Public Health (NIPH/SZÚ) in increasing the capacities of the National Reference Laboratories (NRL) for Whole Genome Sequencing (WGS) of infectious agents and expanding the spectrum of WGS characterization to various human pathogens, especially SARS-CoV-2 and other respiratory viruses, bacterial pathogens with cross-border impact, including antibiotic-resistant bacteria. WGS is a modern, precise, and time-efficient analytical method that enables rapid and accurate identification of infectious disease outbreaks, control of these outbreaks, monitoring the spread of infectious agents, and their mutations. Early detection of potential threats and a proper understanding of the spread of infectious diseases are crucial for timely responses from public health authorities.

Key Points of the HERA2CZ Project

- Public health protection requires a comprehensive approach crossing national borders, strengthening healthcare systems, analytical capacities, implementing modern methods, and improving cross-border data sharing.
- The HERA2CZ project addresses shortcomings in the healthcare system, particularly considering the experiences from the Covid-19 crisis.
- The main objective is to enhance the Czech Republic's preparedness for future health emergencies related to the spread of infectious diseases at national and global levels.

What is Whole Genome Sequencing (WGS)?

- WGS is a modern method used to analyse the complete DNA sequence of an organism's genome.
- WGS allows precise tracking and differentiation of individual strains, aiding in identifying sources of infection and understanding the spread of infectious diseases.
- The accuracy of the method makes WGS an indispensable tool for effective surveillance of the occurrence and spread of infectious diseases.
- WGS enables timely and accurate identification, monitoring, and prevention of the spread of infectious diseases in a global context.
- Cross-border data sharing through WGS supports collaboration between countries is necessary for efficient monitoring and prevention of global health threats.

Challenges Associated with WGS

- While WGS is highly effective, it is more resources intensive compared to other sequencing methods and requires robust technical and personnel resources.
- WGS generates complex data, the precise analysis of which demands specialized expertise, management, and storage, necessitating additional skilled personnel.
- Some of these challenges were partially addressed in the previous HERA project.

Focus of the HERA2CZ Project

- The follow-up HERA2CZ project focuses on increasing the genotypic characterization capacity within the National Reference Laboratories (NRLs) of the National Institute of Public Health (NIPH/SZÚ) in the Czech Republic and expanding the spectrum of WGS characterization to various human pathogens, especially SARS-CoV-2 and other respiratory viruses, bacterial pathogens with cross-border implications, including antibiotic-resistant bacteria.
- The HERA2CZ project further refines methods based on whole genome sequencing and incorporates these modern methods into routine genomic surveillance of selected infectious diseases.

The Project's Basic Data

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Coordinator:	Jana Kozáková, MD
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Find out more: www.szu.cz/hera2/

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The project leaflet was published in the Czech language under this link.