## Integration of SDGs in

☐ Institutional governance/strategic level
☒ SDGs in research
☐ SDGs in campus operations
☐ SDGs in curriculum development
☐ SDGs in student engagement activities
☐ SDGs into community activities
☐ SDGs at a whole-institution level

## Focus on

☐ Goal 1 - No poverty
☐ Goal 2 - Zero hunger
☒ Goal 3 - Good health and wellbeing
☐ Goal 4 - Quality education
☐ Goal 5 - Gender equality
☐ Goal 6 - Clean water and sanitation
☐ Goal 7 - Affordable and clean energy
☐ Goal 8 - Decent work and economic growth
☐ Goal 9 - Industry, innovation and infrastructure
☐ Goal 10 - Reduced inequalities
☐ Goal 11 - Sustainable cities and communities
☐ Goal 12 - Responsible consumption and production
☐ Goal 13 - Climate action
☐ Goal 14 - Life below water
☐ Goal 15 - Life on land
☐ Goal 16 - Peace, justice and strong institutions
☒ Goal 17 - Partnerships for the goals

**Summary**

PANDEM-2 is a H2020 EU-funded project that is developing new solutions for efficient, EU-wide pandemic management. Led by NUI Galway, the PANDEM-2 consortium consists of 19 partner organisations with expertise in information technology, public health, microbiology, communications and pandemic management from across the EU. The PANDEM-2 Advisory Board membership includes leading international health agencies the World Health Organisation (WHO) and European Centre for Disease Prevention and Control (ECDC).The goal of PANDEM-2 is to prepare Europe for future pandemics through innovations in training and to build capacity between EU member states responding to pandemics on a cross-border basis. While focus of the project is on strengthening EU capacity for pandemic preparedness, the outputs of the project will have global applicability. Implementation of PANDEM-2 includes

- Identification, mapping and integration of pandemic-related data from multiple sources into a coherent pandemic-management database
- Development of an extensible dashboard for pandemic preparedness training and response
- Development of modelling tools for disease prediction and resource planning
- Development of resources, innovations and training for pandemic communication
- Development of Operational Strategy for cross border pandemic response in Europe

Outline the benefits of integrating this theme:

**1.** The pandemic has demonstrated the importance of demographic and epidemiological data collection to monitor the impact of the disease and guide response measures. This project provides pandemic related data from a wide range of data sources including disease surveillance, laboratory, contact tracing social media and population surveys.

**2.** Build capacity between EU member states responding to pandemics on a cross-border basis

**3.** Allow the integration, collection and standardisation of real-time pandemic data. Real-time updates will strengthen capacity among European public health agencies for rapid response to future health emergencies

**3.** The knowledge base, resources and tools produced by PANDEM-2 will enable European nations to respond to pandemics, epidemics, and health emergencies with the assurance that they are following best practice, as set by our experts.

Outline the barriers or challenges encountered in integrating this theme and how you overcame these:

1. The PANDEM-2 project was designed to address the requirements of public health stakeholders when responding to health emergencies. Consequently, the consortium includes several European public health agencies, first responder organisations and representation from the hospital sector. Due to COVID-19, many of our partners were therefore, involved with response efforts. The ongoing response efforts significantly impacted our end-user's availability. We overcame this by accommodating the user requirement process via online meetings and follow up consultations. Workforce capacity is also a focus of PANDEM-2 and we are currently working on capturing the lessons learned during the COVID-19 response to inform a workforce capacity benchmark study. In addition, we are developing predictive modelling tools for resource and hospital capacity planning to provide better insight to the human and material resources required to manage future pandemics.

2. The COVID-19 pandemic demonstrated the importance of having timely and accurate health surveillance data available for decision-makers. The issues around data completeness and availability are core to the PANDEM-2 IT solution. During the COVID-19 response data availability and heterogeneity was a significant obstacle. This also had an impact in data collection and integration in PANDEM-2. We have overcome this challenge through the creation of pandem source – a coherent pandemic management database which allows users to systematically capture, standardize and analyse data from international and national surveillance databases, participatory surveillance projects, social networks, and mass media. This tool is focused on flexibility so adding new sources or variables can be easily done as is required during a pandemic.

**Conclusions and recommendations**

The COVID-19 pandemic highlighted the need for multisectoral coordination for health emergency preparedness. Based on our research to date, three main recommendations are outlined below:

- The availability of secure, complete, and standardised data is key for effective response to emerging health threats. A coherent pandemic dashboard for visualisation of this data will facilitate cross-border collaboration and will help ensure that pandemic managers have the relevant pandemic related data available to inform decision making.
- Communication is key for pandemic preparedness and response. Delivering accurate information using realtime data by effective leadership is key to establish and maintain trust with the public. Specific focus needs to be given to target vulnerable groups at higher risk of adverse health outcomes.
- Preparedness training is key to identify gaps in workforce and resources required for pandemic response. National and international preparedness exercises will allow countries evaluate their levels of preparedness using scenarios and simulations developed by disease transmission and resource modelling. Establishing regular training programmes for public health agencies and front-line staff will help build capacity and foster resilience for future pandemic response.



PANDEM-2 project logo (https://pandem-2.eu/)