PHIRI
Population Health Information Research Infrastructure

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

Resilient health systems: harnessing health information to improve population health

European Public Health Conference 2022

sciensano

EUPHA EUROPEAN PUBLIC HEALTH ASSOCIATION PUBLIC HEALTH ECONOMICS

EUPHA EUROPEAN PUBLIC HEALTH ASSOCIATION PUBLIC HEALTH MONITORING AND REPORTING

EUPHA EUROPEAN PUBLIC HEALTH ASSOCIATION HEALTH SERVICES RESEARCH

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

PHIRI

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

The Population Health Information Research Infrastructure for COVID-19:

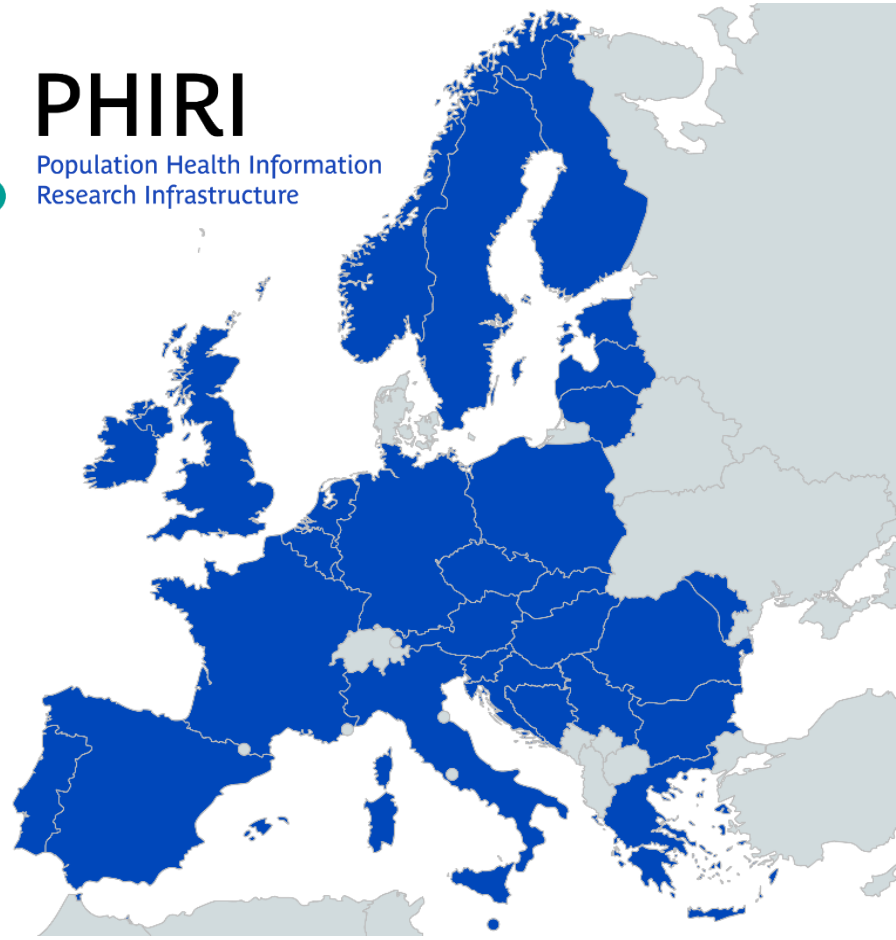
- a **European mechanism**, that aims to
- facilitate and support **data-driven population health research**
- and **exchange of best practices**
- to support **decision making**

41 partners

30 countries

3 years

PHIRI
Population Health Information Research Infrastructure



Map of PHIRI Partners

PHIRI
Population Health Information Research Infrastructure

www.phiri.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Background

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

- COVID-19 pandemic challenged the sustained performance of health systems in Europe.
- *Resilience* was found to be different in European countries.
- *Health information systems* were not always equipped to accommodate data flows needed to underpin evidence-based health policy decisions.

- Sharing data across borders and ensuring comparability of data and indicators proved difficult in a timely manner during the crisis.
  → Created a European landscape with different national and federal health policies, not always based on sound scientific findings.

- As the crisis progressed:
  - National and international initiatives set up aiming to harmonise health information
  - Many of these initiatives are forming a solid foundation for health systems, improving resilience and future sustainable performance.
  - Important lessons learned and best practices to be showcased to strengthen health systems.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Aim of the workshop

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

- Discuss the resilience of health information systems in European countries, including lessons learned and best practices from the COVID-19 crisis.

- Explore barriers to sharing health information within and across borders.

- Look at future perspectives, including how health system resilience can be strengthened through improved use, re-use and sharing of health information.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Speakers

EUROPEAN PUBLIC HEALTH CONFERENCE

BERLIN | 9-12 NOVEMBER 2022

Impact of COVID-19 pandemic on cancer registration and care

Luciana Neamtiu – JRC

Recent experiences on barriers to data sharing and data comparability

Ebba Barany – Eurostat

PHIRI for resilient health information systems

Miriam Saso – Population Health Information Research Infrastructure (PHIRI)

HSPA as a tool to harness health information on resilience

Kenneth Grech – Expert Group on Health System Performance Assessment

The use of health information during the pandemic

Ruth Waitzberg – European Observatory on Health Systems and Policies

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Key messages

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

1. Population health information plays a key role in times of crisis, with trustworthy information flows facilitating evidence-informed policies and decision-making.

2. Sharing and harmonising health information is key to building resilient healthcare systems that are prepared for the future.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Impact of COVID-19 pandemic on cancer registration and care

Luciana Neamtiu

EUPHA resilience workshop – 'Resilient health systems: harnessing health information to improve population health, 12 November 2022

Aim & Methods

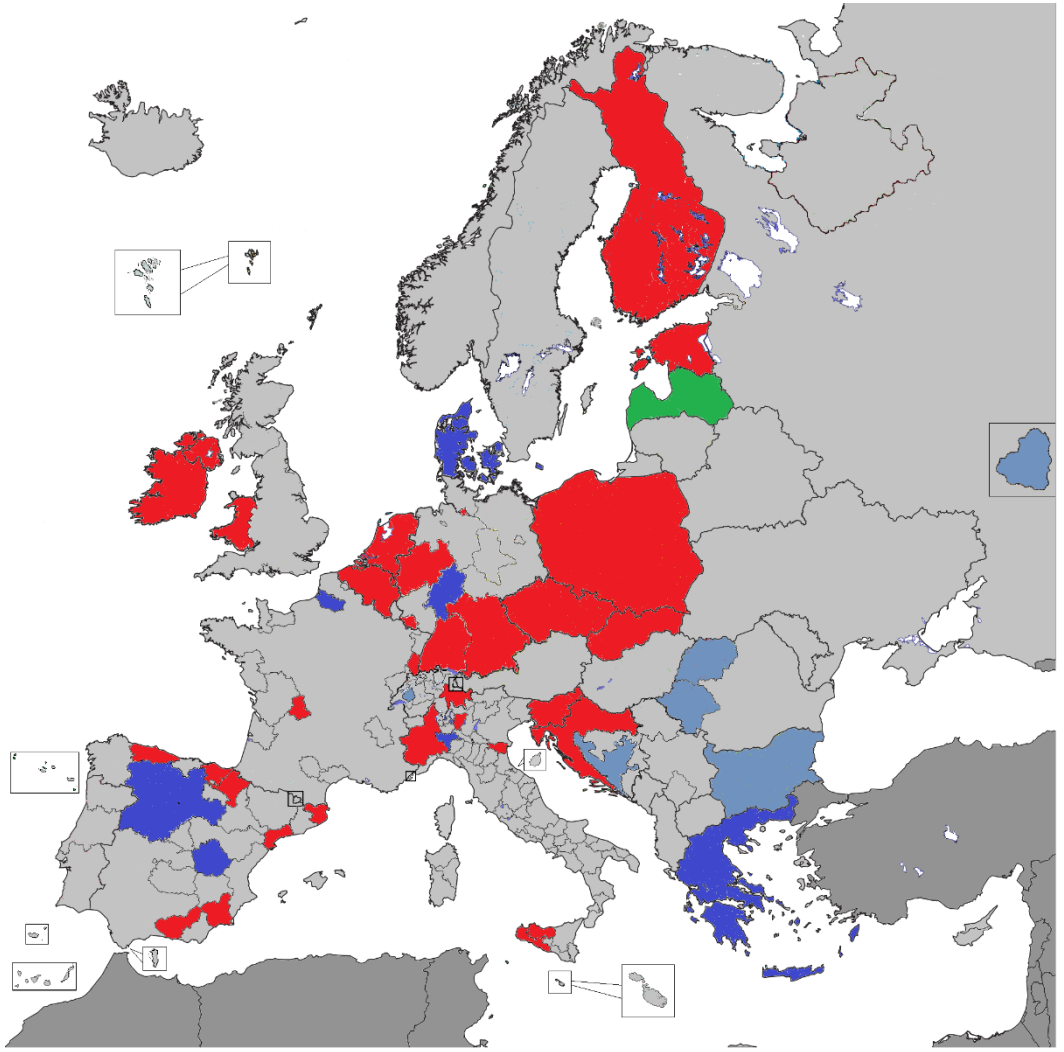
- Describe the effects of the COVID-19 pandemic on cancer care and registration in Europe
- Provide an overview of the specific studies performed by the cancer registries to identify the impact of COVID-19 on cancer patients and outcomes.
- Two surveys among members of the European Network of Cancer Registries
  - **First survey: 40** registries from **16** EU countries
  - **Second survey: 48** registries from **15** EU countries

Impact of the COVID-19 pandemic in cancer registration

- Disruptions
  - Receiving notifications: 58% of the registries no or not significant disruption
    - When disrupted – pathology laboratories and the hospital discharge notifications
  - Accessing sources: 56% of the registries no or not significant disruption
- 56% of the cancer registries reported impact on data processing
- The majority of the registries are able to recuperate fully or partially the missing data later.

Impact on cancer screening, diagnosis and treatment

- Screening: >80% interrupted or slowed down
- Non-urgent diagnostic visits for cancer were disrupted from mid-March to beginning of May
- Treatment disrupted:
  - Surgery - 51%
  - Chemotherapy – 43%
  - Radiotherapy – 40%



European Commission

Examples of impact from cancer registries

sciendo Radiology and Oncology | Ljubljana | Slovenia | www.radioloncol.com RADIOLOGY AND ONCOLOGY

research article

Impact of COVID-19 on cancer diagnosis and management in Slovenia - preliminary results

Vesna Zadnik[1,3], Ana Mihor[1], Sonja Tomsic[1], Tina Zagar[1], Nika Bric[1], Katarina Lokar[1], Irena Oblak[2,3]

[1] Epidemiology and Cancer Registry, Institute of Oncology Ljubljana, Ljubljana, Slovenia
[2] Department of Radiation Oncology, Institute of Oncology Ljubljana, Ljubljana, Slovenia
[3] Faculty of Medicine, University of Ljubljana, Ljubljana, Slovenia

Radiol Oncol 2020; 54(3): 329-334.

Comment

Fewer cancer diagnoses during the COVID-19 epidemic in the Netherlands

The dreadful consequences of coronavirus disease 2019 (COVID-19) put an unprecedented pressure on health-care services across the globe.[1] The Netherlands, a country with 17·4 million inhabitants that provides its citizens with universal access to essential health-care services—with the general practitioner as the gatekeeper to secondary care—is no exception in this regard.

The first patient with COVID-19 in the Netherlands was confirmed on Feb 27, 2020, in the southern part of the country.[2] Thereafter, the disease spread rapidly turnaround times for diagnostic evaluation because many hospital-based resources are being allocated to tackle COVID-19. Lastly, national screening programmes for breast, colorectal, and cervical cancer are temporarily halted as of March 16, 2020, to alleviate the demand on the health-care system due to COVID-19. The effect of this pause in cancer diagnosis might be more pronounced after extended periods of follow-up. However, this effect might be less notable for cervical cancer because screening aims to identify precancerous lesions. Collectively, fewer cancer diagnoses in the

Lancet Oncol 2020

Published Online
April 30, 2020
https://doi.org/10.1016/S1470-2045(20)30265-5

This online publication has been corrected. The corrected version first appeared at thelancet.com/oncology on May 4, 2020

For more on the **challenges of cancer care during the COVID-19 pandemic** see **Editorial** *Lancet Oncol* 2020; **21**: 603

European Commission

Conclusions

- Cancer registries are valuable instruments to assess the impact of the pandemic in cancer screening, diagnosis and care.
- The cancer registration process was disturbed due to changes in work modalities for the personnel (remote work) or allocation of staff to other activities related to the pandemic control, as well as the difficulties in accessing sources and/or receiving the notifications.
- A number of registries are participating in or conducting studies to measure the impact of the COVID-19 in cancer care.
- The information obtained for each registry can help analyse and interpret cancer statistics for 2020.

Keep in touch

EU Science Hub: ec.europa.eu/jrc

@EU_ScienceHub

EU Science Hub – Joint Research Centre

EU Science, Research and Innovation

Eu Science Hub

European Commission

Thank you

European Commission

Recent experiences on barriers to data sharing and data comparability

Resilient health systems: harnessing health information to improve population health

Ebba BARANY, Eurostat

12 November 2022

Overview

- A few words about Eurostat
- ICU indicators for reference years 2019 & 2020
- COVID-19 as cause of death

EUROPEAN STATISTICS DAY
20.10.2022

#EurStatsDay

Get to know eurostat

WEB

11 800 000
Website visits
(Jan-Sept 2022)

Inflation & GDP
Most searched topics

Population & demography, COVID-19, migration & asylum.
Most visited sections

390 000
Social media followers

DATA

8 000 000
Statistics Explained visits
(Jan-Sept 2022)

4 000 000 000
Database values

5 750
Primary tables

PEOPLE

Eurostat officials, contract and temporary agents are:

56% Female **44%** Male

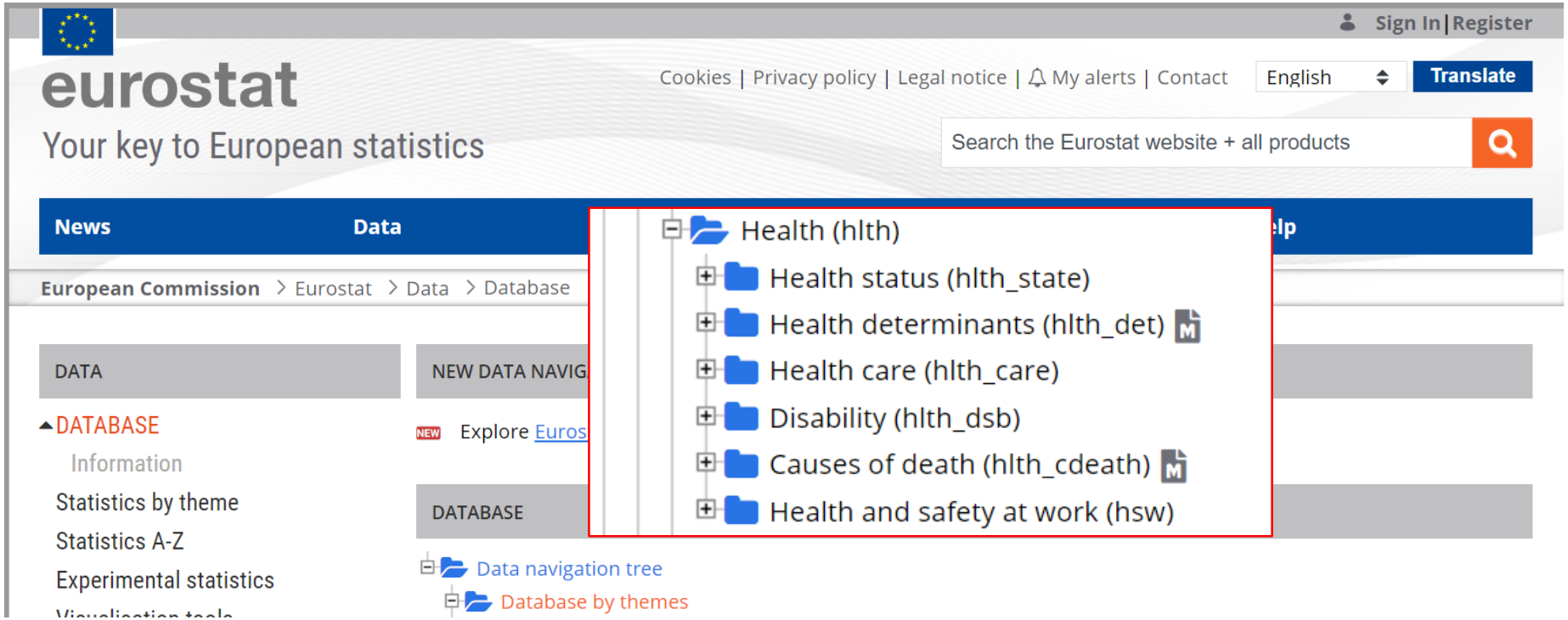
11% 10% 9% 8% 7%

In total:
25 EU nationalities

ec.europa.eu/eurostat

European Commission

Eurostat Health Statistics



https://ec.europa.eu/eurostat/data/database

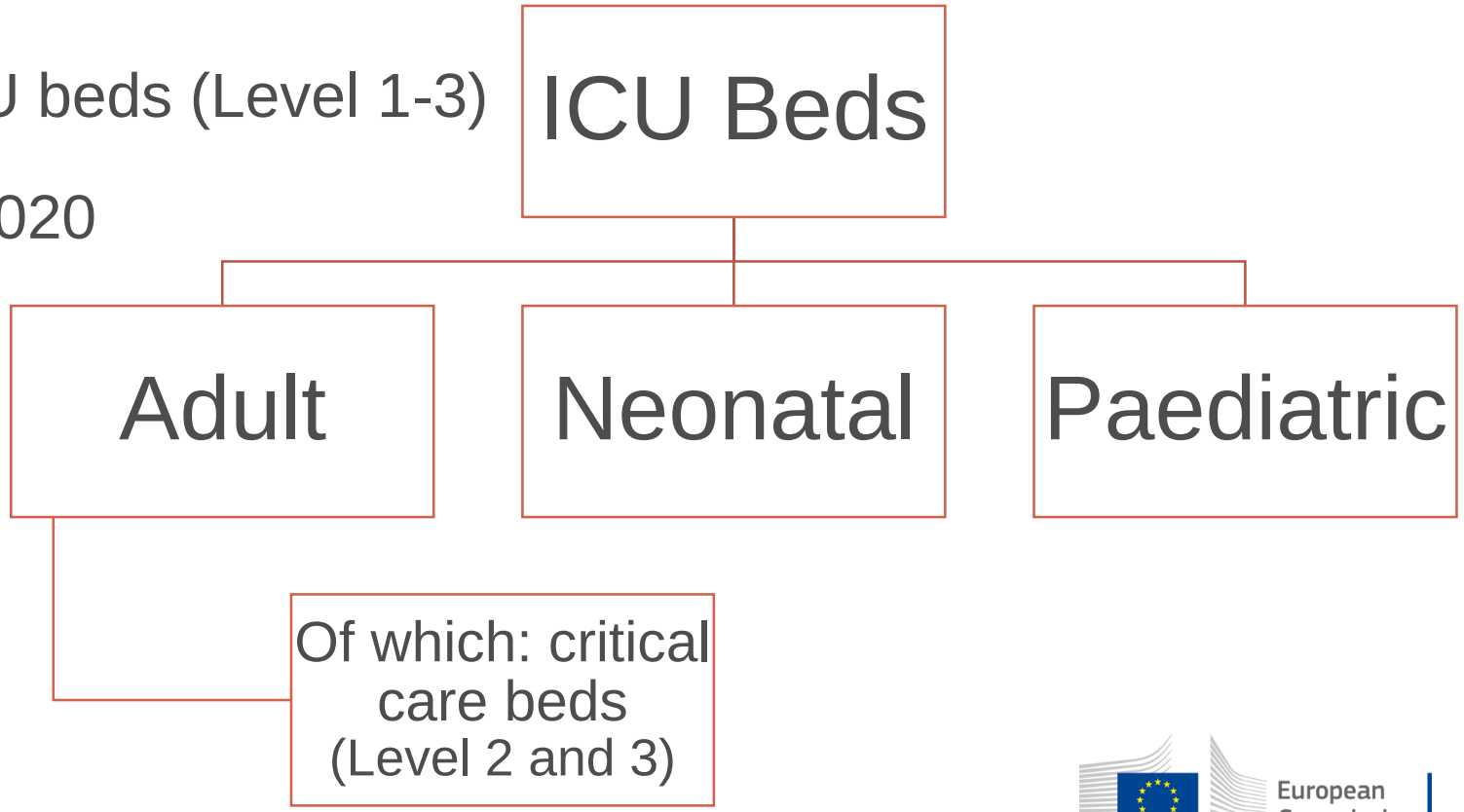
ICU indicators - highly relevant due to COVID-19

Joint data collection OECD/WHO-Europe/Eurostat non-monetary healthcare

Assessed data needs and possibilities

Added Pilot indicators on ICU beds (Level 1-3)

Reference years 2019 and 2020



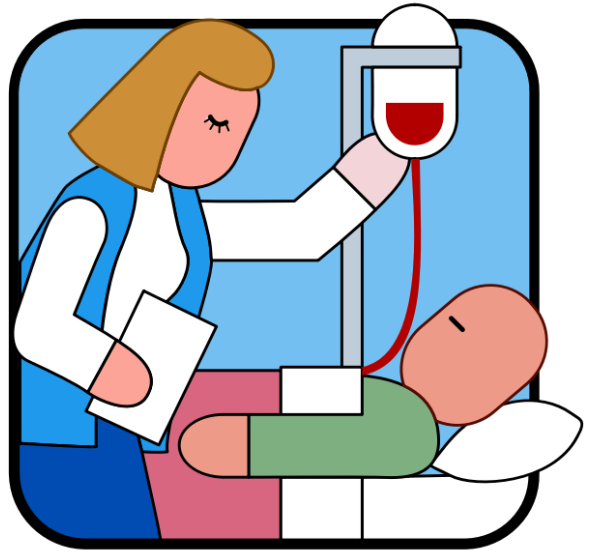
ICU Beds: Participation

- 21/35 countries provided data (EU, EFTA, Candidate countries)
- The variable *Total adult ICU beds* had the highest response rate (17)
- 15 countries (2019) and 17 countries (2020) provided date on *neonatal* **and/or** *paediatric beds*
- 20 countries provided data for both reference years (2019 & 2020)

- Average adult ICU occupancy rate (13 countries)

ICU Beds: Comparability issues

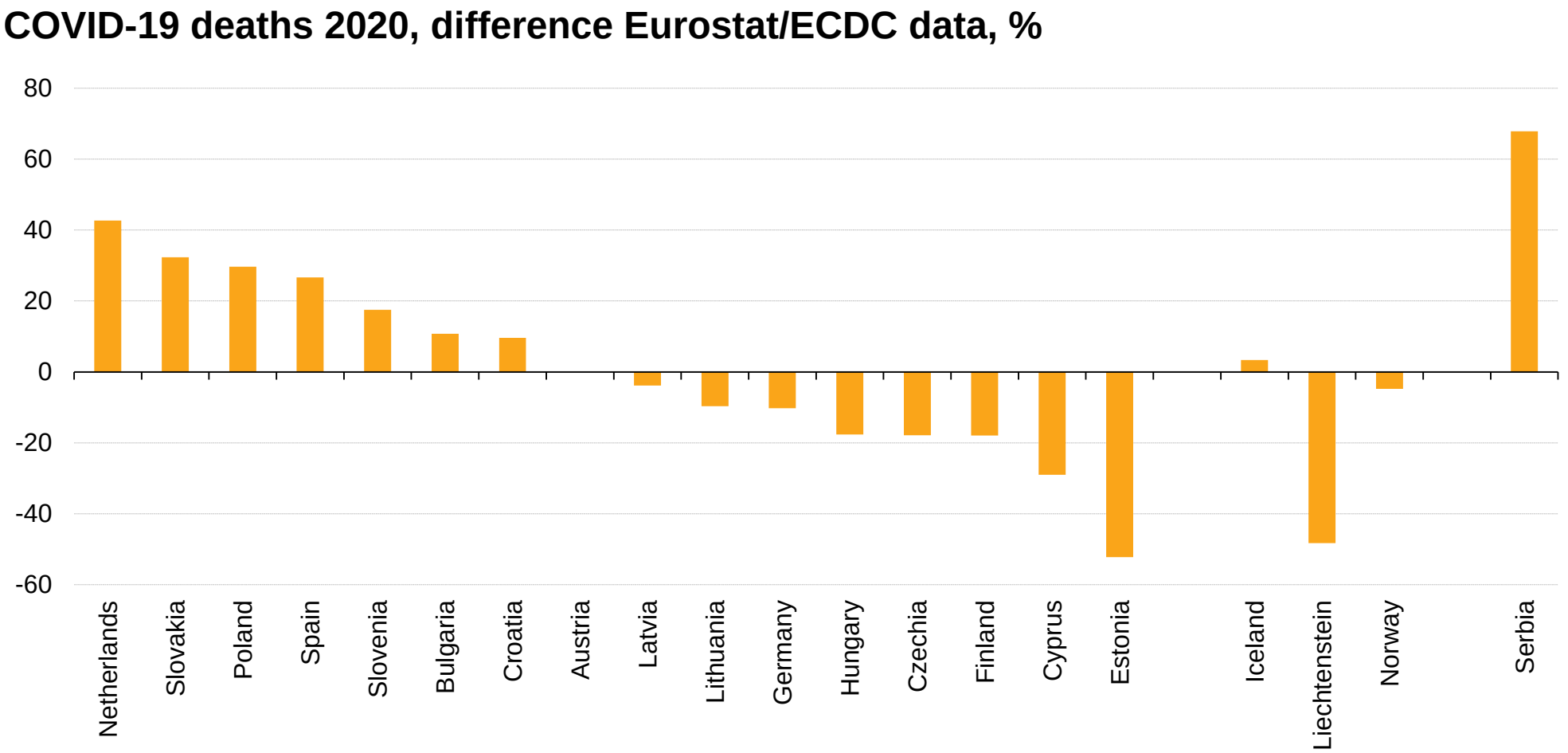
- Differences in reference period
  - Annual average vs. end of reference period
- Coverage
  - Public, private non-profit, private for-profit hospitals
  - Intensive care unit / intensive care in other unit (eg cardiology)
- Classification of ICU beds
  - Level of care, designation to adult/paediatric/neonatal, or no classification of beds
- Disaggregation of neonatal and paediatric ICU beds



Mortality data – COVID-19

- Eurostat official statistics ‘Causes of Death’ is based on official death certificates
- The European Centre for Disease Prevention and Control (ECDC) disseminates rapid monitoring data on COVID-19 deaths since 2020
- Significant differences due to
  - Different data sources and revision practises
  - Dying *with* COVID or dying *from* COVID-19

Official and rapid data 2020, a comparison



Thank you for your attention!

https://ec.europa.eu/eurostat/

European Commission

PHIRI
Population Health Information Research Infrastructure

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

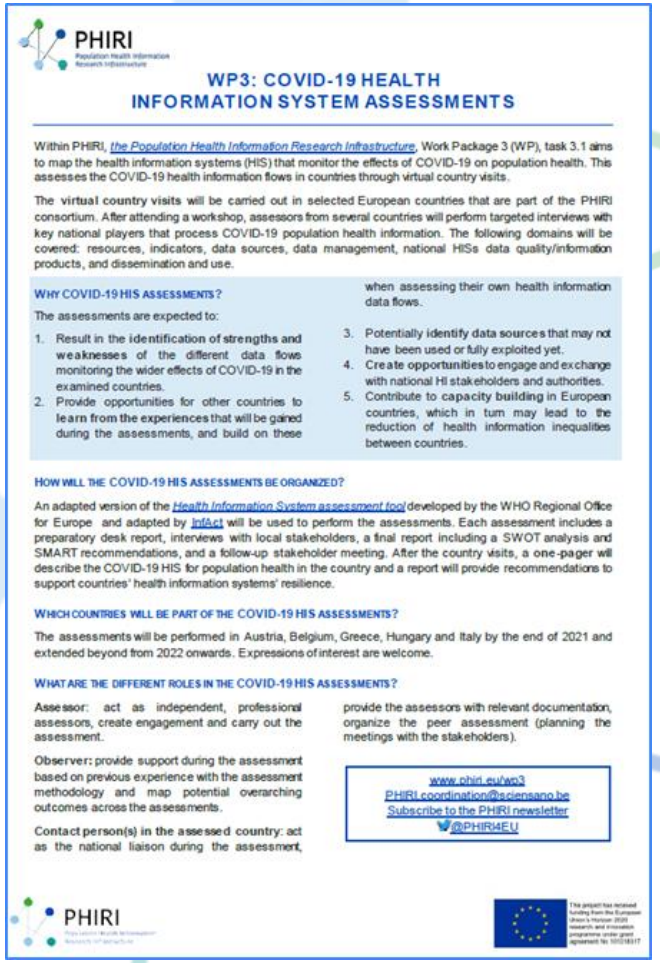
PHIRI for resilient health information systems

sciensano

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

COVID-19 Health Information System assessments

- Aim
  - ✓ **Map the COVID-19 health information system (HIS)** that monitors the effects of COVID-19 on population health: identifying strengths and weaknesses
- Objectives
  - ✓ Learn from best practices
  - ✓ Capacity building: reducing health information inequalities
  - ✓ Recommendations for resilient HIS
- Assessors trained to use adapted WHO tool
- Covering: data collection, analysis, reporting, knowledge translation, governance & resources



PHIRI

WP3: COVID-19 HEALTH INFORMATION SYSTEM ASSESSMENTS

Within PHIRI, the Population Health Information Research Infrastructure, Work Package 3 (WP), task 3.1 aims to map the health information systems (HIS) that monitor the effects of COVID-19 on population health. This assesses the COVID-19 health information flows in countries through virtual country visits.

The **virtual country visits** will be carried out in selected European countries that are part of the PHIRI consortium. After attending a workshop, assessors from several countries will perform targeted interviews with key national players that process COVID-19 population health information. The following domains will be covered: resources, indicators, data sources, data management, national HISs data quality/information products, and dissemination and use.

WHY COVID-19 HIS ASSESSMENTS?

The assessments are expected to:

1. Result in the **identification of strengths and weaknesses** of the different data flows monitoring the wider effects of COVID-19 in the examined countries.
2. Provide opportunities for other countries to **learn from the experiences** that will be gained during the assessments, and build on these when assessing their own health information data flows.
3. Potentially **identify data sources** that may not have been used or fully exploited yet.
4. **Create opportunities** to engage and exchange with national HI stakeholders and authorities.
5. Contribute to **capacity building** in European countries, which in turn may lead to the reduction of health information inequalities between countries.

HOW WILL THE COVID-19 HIS ASSESSMENTS BE ORGANIZED?

An adapted version of the Health Information System assessment tool developed by the WHO Regional Office for Europe and adapted by InfAct will be used to perform the assessments. Each assessment includes a preparatory desk report, interviews with local stakeholders, a final report including a SWOT analysis and SMART recommendations, and a follow-up stakeholder meeting. After the country visits, a one-pager will describe the COVID-19 HIS for population health in the country and a report will provide recommendations to support countries' health information systems' resilience.

WHICH COUNTRIES WILL BE PART OF THE COVID-19 HIS ASSESSMENTS?

The assessments will be performed in Austria, Belgium, Greece, Hungary and Italy by the end of 2021 and extended beyond from 2022 onwards. Expressions of interest are welcome.

WHAT ARE THE DIFFERENT ROLES IN THE COVID-19 HIS ASSESSMENTS?

Assessor: act as independent, professional assessors, create engagement and carry out the assessment.

Observer: provide support during the assessment based on previous experience with the assessment methodology and map potential overarching outcomes across the assessments.

Contact person(s) in the assessed country: act as the national liaison during the assessment, provide the assessors with relevant documentation, organize the peer assessment (planning the meetings with the stakeholders).

www.phiri.eu/wp3
PHIRI.coordination@sciensano.be
Subscribe to the PHIRI newsletter
@PHIRI4EU

PHIRI

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

Findings

Assessments already performed

- Italy (Dec 2021-Jan 2022) – 6 interviews
- Portugal (Mar 2022) – 4 interviews
- Ireland (Apr 2022) – 7 interviews
- Malta (May 2022) – 7 interviews
- Norway (Jun 2022) – 8 interviews
- Hungary (Oct 2022) – 3 interview
- Netherlands (Oct-Nov 2022) – 8 interviews

Best practices

- Strong vaccination system implemented before the COVID-19 crisis hit
- Strong and rapid technological surveillance system set-up
- Pivotal role of telemedicine during COVID-19
- Data dashboards and regular reports (publicly) available
- Ad hoc health surveying during COVID-19
- Experts involved in an interdisciplinary manner to improve communication and dissemination activities
- Linkage of databases to ensure coverage of the vulnerable populations

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

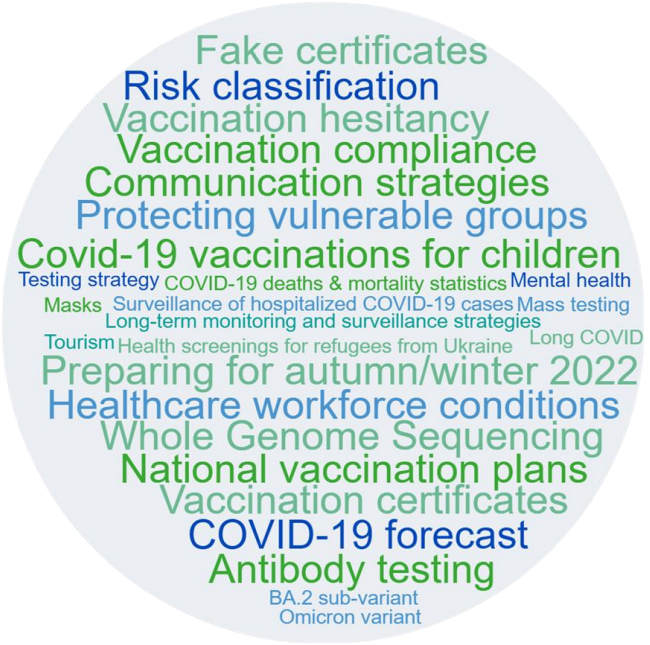
Rapid Exchange Forum

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

The **Rapid Exchange Forum** is a **structured platform for regular exchange of fellow countries, policy advisors, commission services and researchers** in the joint efforts to manage the COVID-19 pandemic, and increasingly addresses topics beyond COVID-19

Examples of topics addressed:

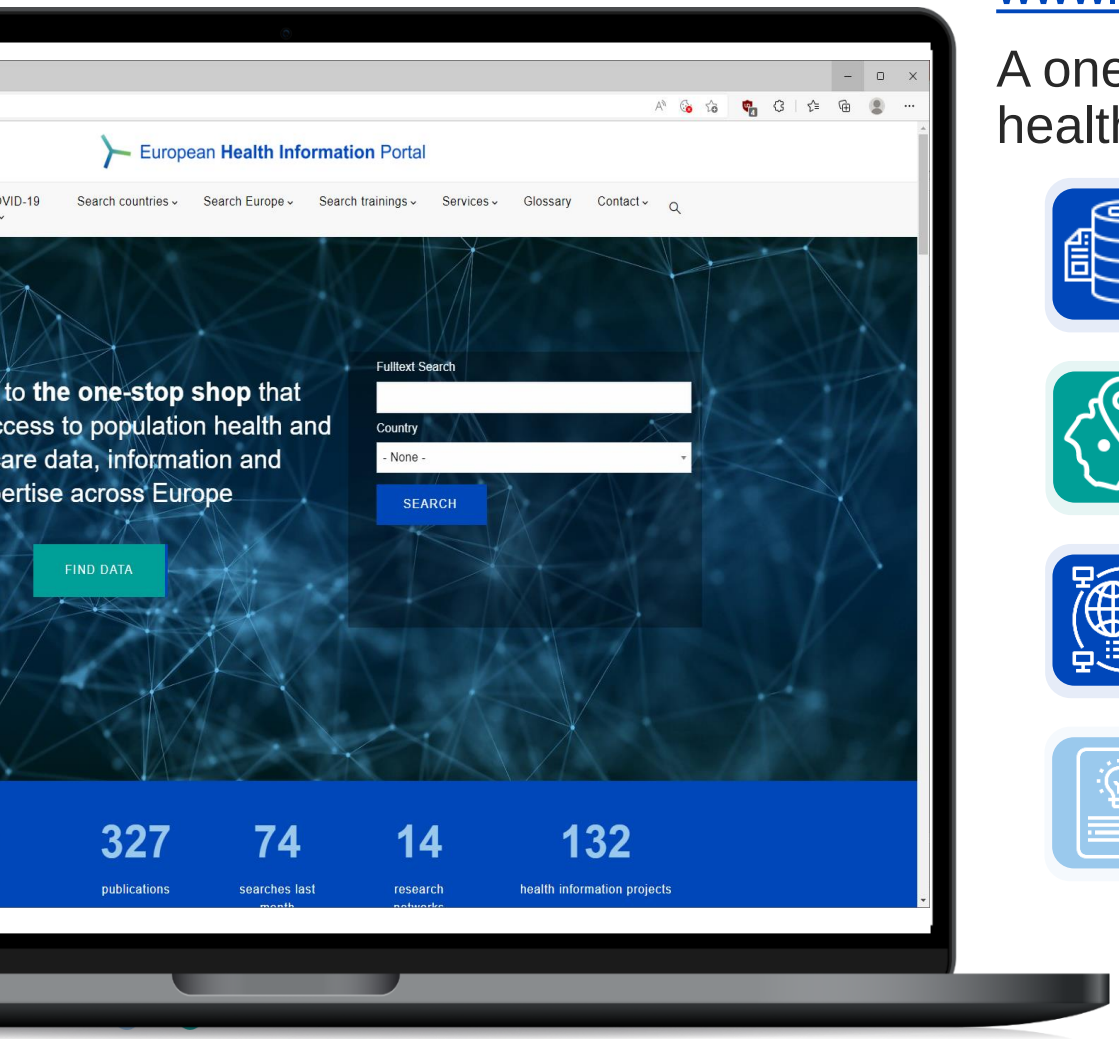
- Which **indicators and thresholds** are used in order to change the risk level for stricter restriction measures? Dec/Jan 2021
- What are the main measures that MS are putting in place to address **mental health COVID-19 cases**? March 2021
- How does your country organise the treatment/management of **long COVID patients**? April 2021, June 2021, Jan 2022



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

The European Health Information Portal

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022



www.healthinformationportal.eu

A one-stop shop that facilitates access to population health and health care data, information and expertise across Europe.

- **Health information (data) sources**
- **Publications**
- **Countries and national nodes**
- **Trainings in all areas of population health**
- **Research infrastructures, Research networks**
- **COVID-19 Policy measures**
- **Health information projects**
- **COVID-19 Rapid Exchange Forum**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

PHIRI
Population Health Information Research Infrastructure

EUROPEAN PUBLIC HEALTH CONFERENCE
BERLIN | 9-12 NOVEMBER 2022

Thank you for your attention!

Miriam Saso Miriam.saso@Sciensano.be;
phiri.coordination@Sciensano.be
@PHIRI4EU
/company/phiri

sciensano

www.phiri.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317

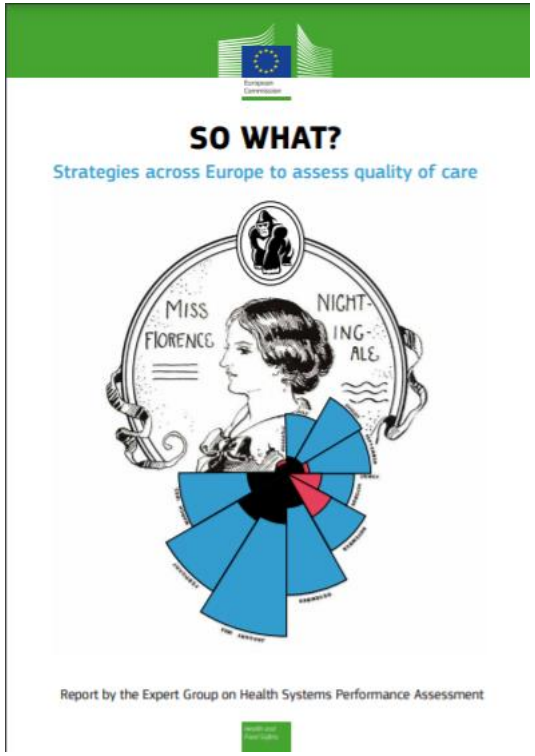
HSPA as a tool to harness health information on resilience

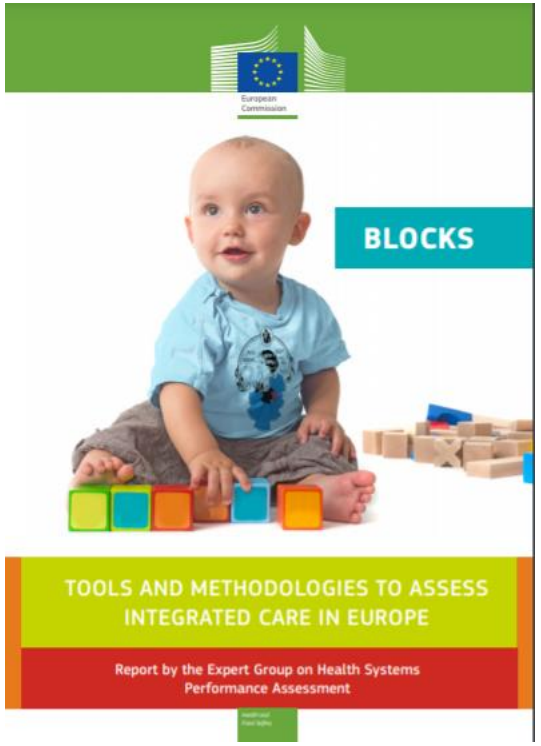
Dr Kenneth Grech
Co-Chair
Expert Group on Health Systems Assessment Performance

Expert Group on Health Systems Performance Assessment

- Formed in 2014 in response to the increasing need to measure performance of health systems and provide frameworks for evidence-based policy
- Composed of informal representatives of EU/EAA member states, with participation from European Observatory on Health Systems and Policies, OECD, WHO
- DG Sante' (Performance of National Health Systems Unit) provides Secretariat support
- Meets 4 times a year; 28 Expert Group meetings and numerous other events

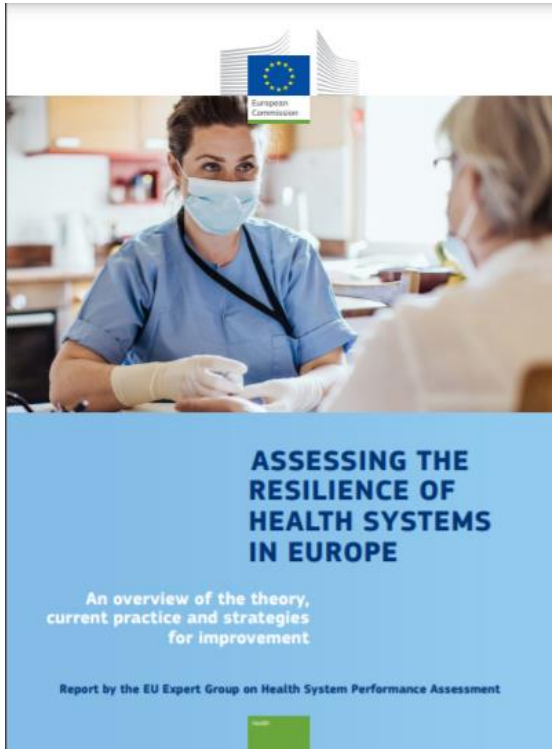
Reports by HSPA Expert Group (1)





European Commission

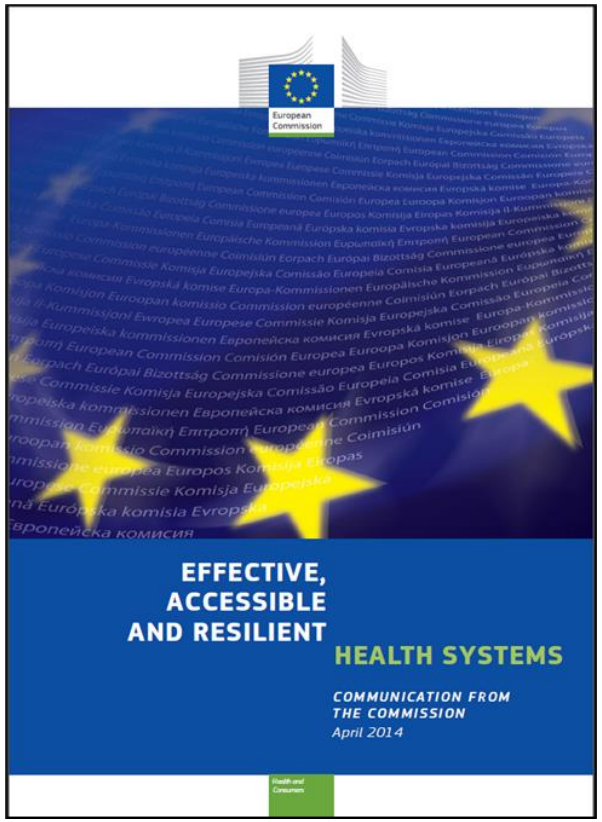
Reports by HSPA Expert Group (2)

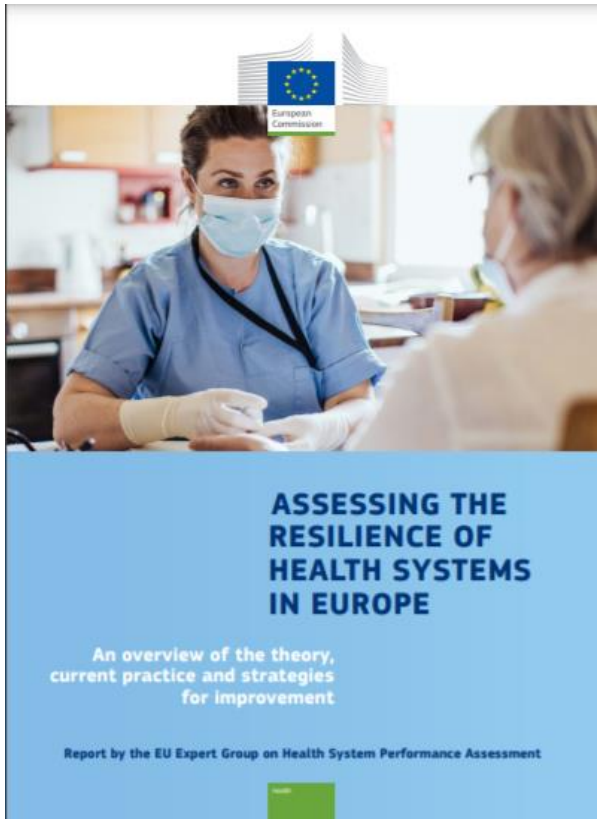


European Commission

Resilience Report 2019 (Pre-Covid)

- Resilience on EU agenda for many years
- Need for exact definition, measurement & assessment methods for policy makers to gauge resilience of their HCS.
- Only few European governments had operationalised resilience as a separate measure pre-COVID

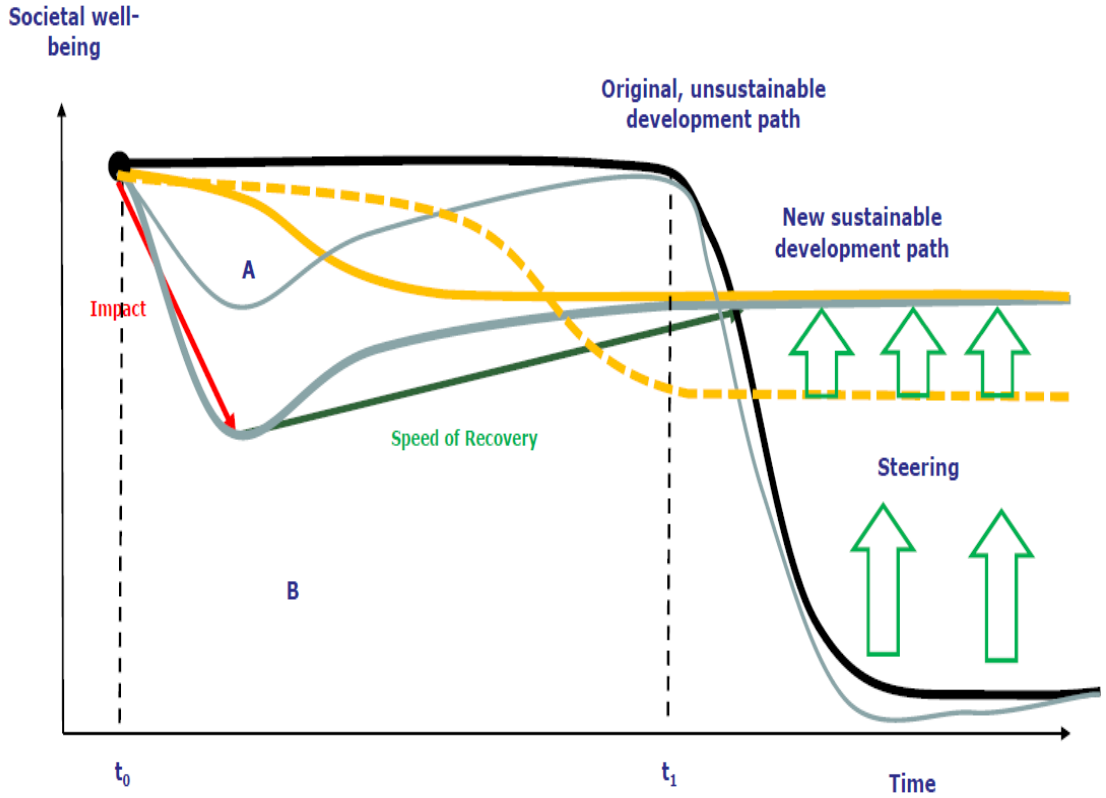




European Commission

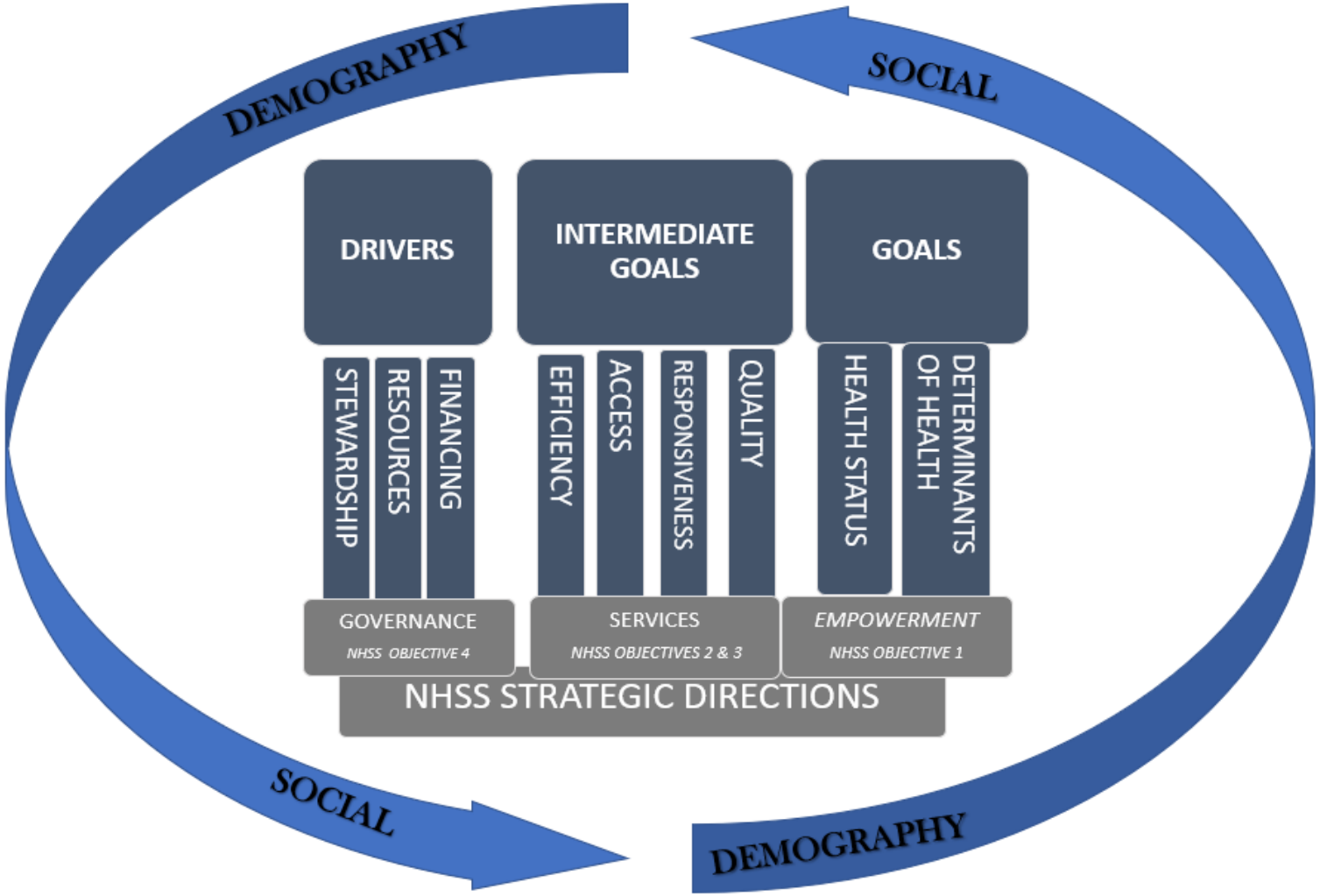
Resilience - Bouncing forward: moving to a new sustainable development path – post-COVID

- Imperative for policymakers to extrapolate lessons from this experience & expand their HSPA frameworks to include resilience as a key dimension of performance assessment.
- Significant gaps in scope of most countries' assessments
- Developing new measures to assess resilience & governance capacity

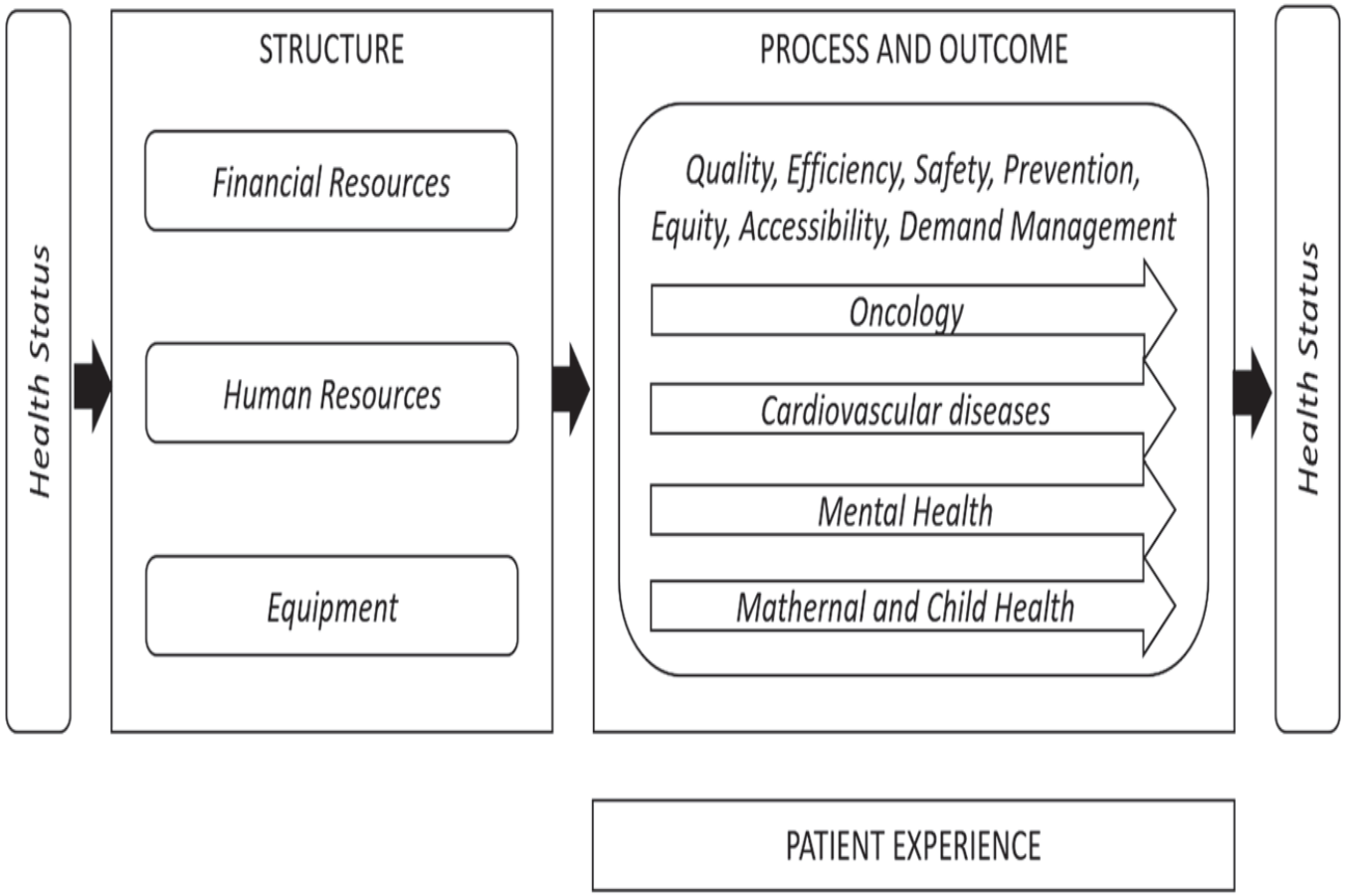


European Commission

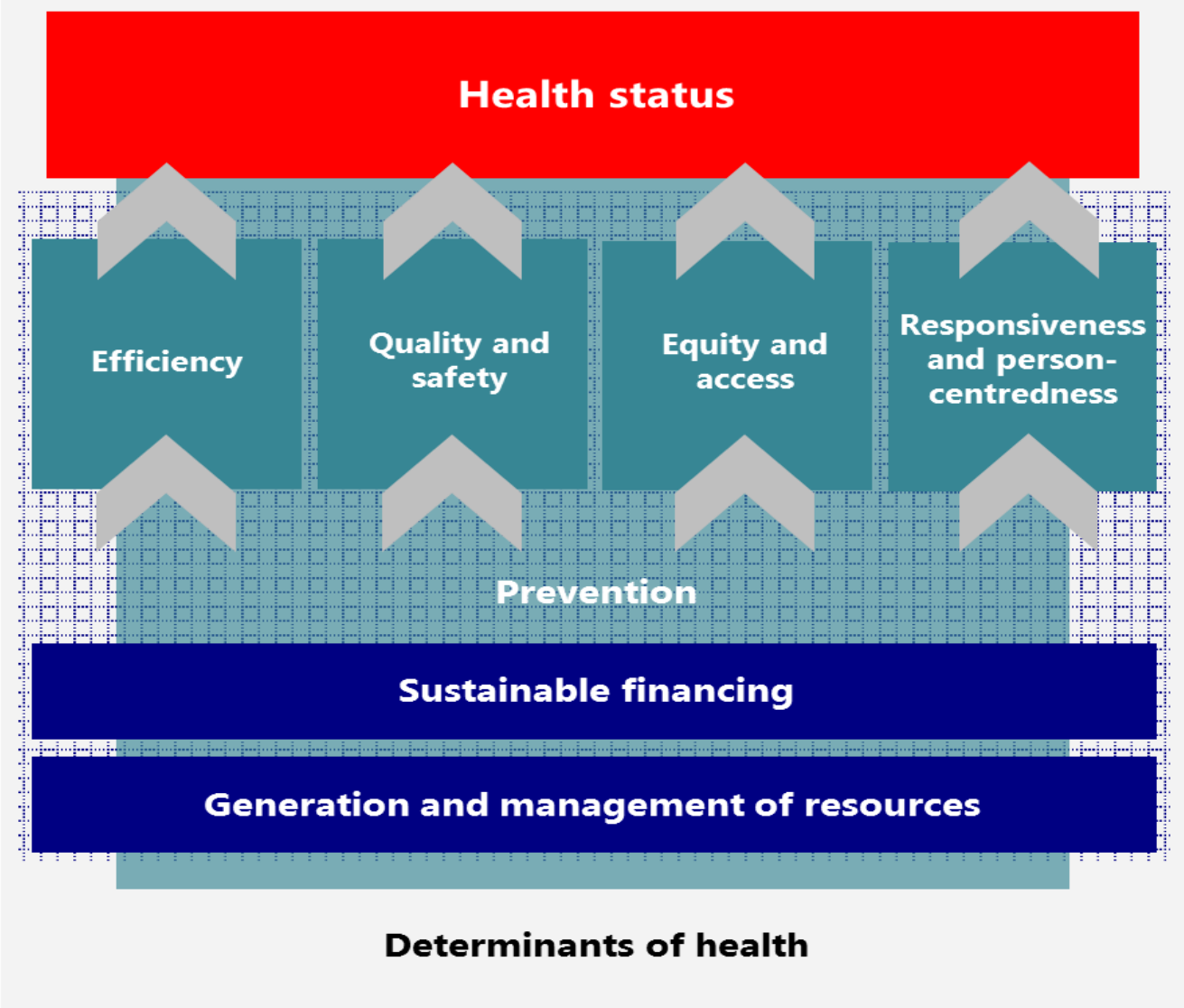
Malta HSPA



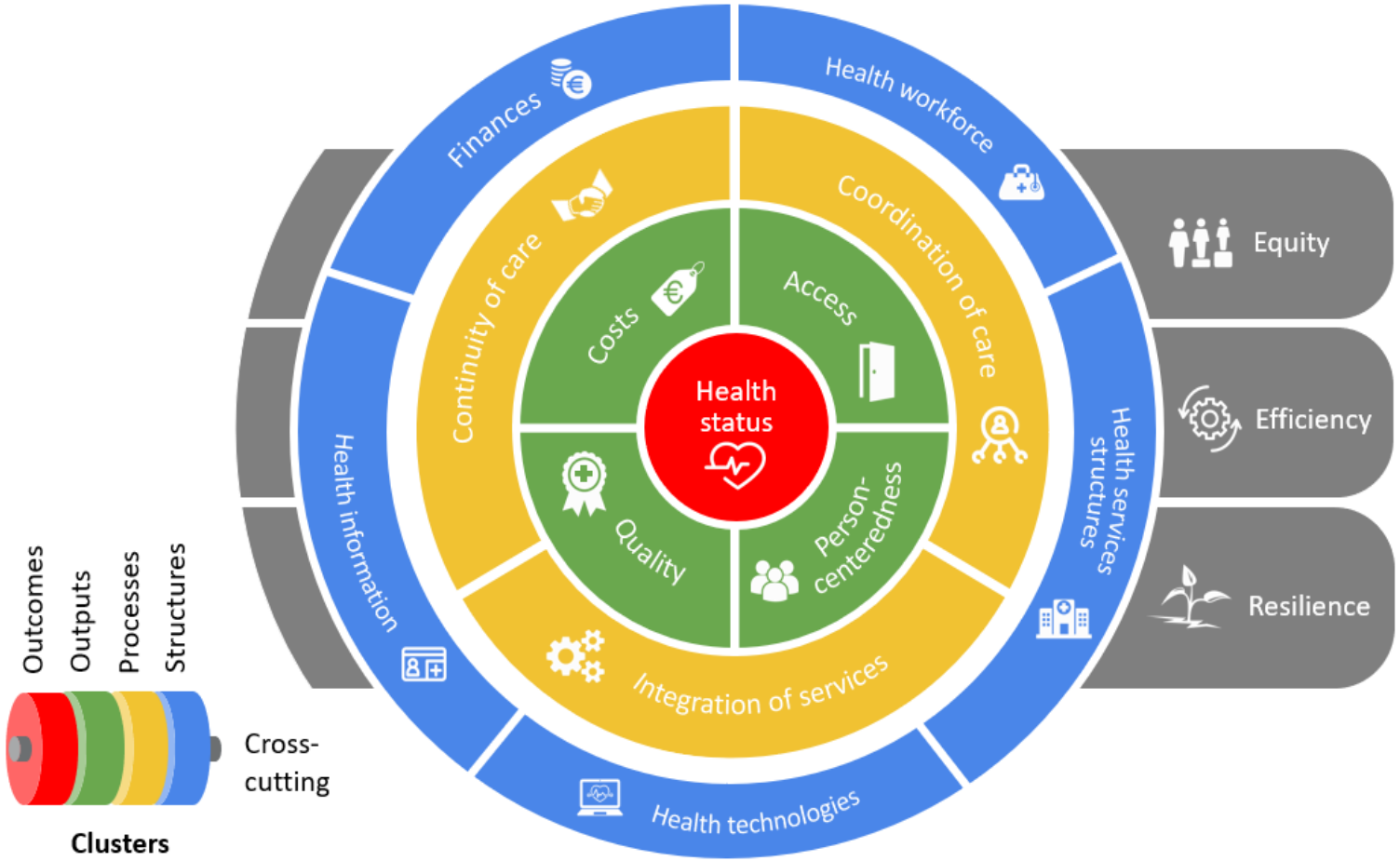
Latvia HSPA


Health Status
STRUCTURE
Financial Resources
Human Resources
Equipment
PROCESS AND OUTCOME
Quality, Efficiency, Safety, Prevention,
Equity, Accessibility, Demand Management
Oncology
Cardiovascular diseases
Mental Health
Mathernal and Child Health
Health Status
PATIENT EXPERIENCE

Slovenia HSPA



Irish HSPA


Finances
Health workforce
Continuity of care
Coordination of care
Costs
Access
Health status
Quality
Person-centeredness
Integration of services
Health information
Health services structures
Health technologies
Equity
Efficiency
Resilience
Outcomes
Outputs
Processes
Structures
Cross-cutting
Clusters

Challenges in measuring resilience within HSPA frameworks

- Incorporation of ‘Resilience’ domain into HSPA models, requiring re-development of national frameworks/models
- Inclusion of new domains/indicators
  - Integrated care, resilience, crisis intervention, patient centredness/experience/journey, ONE Health, climate equity, value based care….
- Gaps in data collection & lack of robust information systems
- Impact of HSPA on policy development

Use of HSPA to measure investment vs return

- Post COVID (NCD, surge capacity, workforce capacity) - importance of using intelligence generated by HSPA to support decisions in managing systems post-COVID
- We need measurables interventions – indicators that are useful for performance/policy making
- Increasing use of HSPA in investments i.e. need for monitoring and finding measures of value for money/cost-effectiveness e.g. EU Recovery and Resilience Plan

Thank you

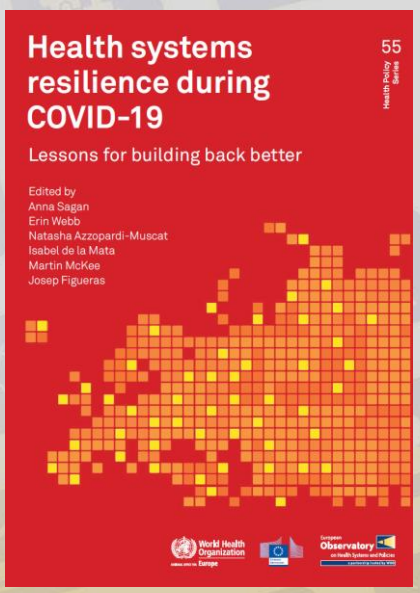
kenneth.grech@gov.mt

ec.europa.eu/

European Commission

The use of health information during the pandemic

Dr Ruth Waitzberg
European Observatory on Health Systems and Policies



11.G. - Round table: Resilient health systems: harnessing health information to improve population health; Berlin, Saturday 12th November 2022

European Observatory on Health Systems and Policies
a partnership hosted by WHO

A resilient response to COVID-19 involved…

LEADING AND GOVERNING THE COVID-19 RESPONSE	
Strategy 1	Steering the response through effective political leadership
Strategy 2	Delivering a clear and timely COVID-19 response strategy
Strategy 3	Strengthening monitoring, surveillance and early warning systems
Strategy 4	Transferring the best available evidence from research to policy
Strategy 5	Coordinating effectively within (horizontally) and across (vertically) levels of government
Strategy 6	Ensuring transparency, legitimacy and accountability
Strategy 7	Communicating clearly and transparently with the population and stakeholders
Strategy 8	Involving nongovernmental stakeholders including the health workforce, civil society and communities
Strategy 9	Coordinating the COVID-19 response beyond national borders
FINANCING COVID-19 SERVICES	
Strategy 10	Ensuring sufficient and stable funds to meet needs
Strategy 11	Adapting purchasing, procurement and payment systems to meet changing needs and balance economic incentives
Strategy 12	Supporting universal health coverage and reducing barriers to services
MOBILIZING AND SUPPORTING THE HEALTH WORKFORCE	
Strategy 13	Ensuring an adequate health workforce by scaling-up existing capacity and recruiting additional health workers
Strategy 14	Implementing flexible and effective approaches to using the workforce
Strategy 15	Ensuring physical, mental health and financial support for health workers
STRENGTHENING PUBLIC HEALTH INTERVENTIONS	
Strategy 16	Implementing appropriate nonpharmaceutical interventions and Find, Test, Trace, Isolate and Support (FTTIS) services to control or mitigate transmission
Strategy 17	Implementing effective COVID-19 vaccination programmes
Strategy 18	Maintaining routine public health services
TRANSFORMING DELIVERY OF HEALTH SERVICES TO ADDRESS COVID-19 AND OTHER NEEDS	
Strategy 19	Scaling-up, repurposing and (re)distributing existing capacity to cope with sudden surges in COVID-19 demand
Strategy 20	Adapting or transforming service delivery by implementing alternative and flexible patient care pathways and interventions and recognizing the key role of primary health care

Strengthening monitoring, surveillance and early warning systems (Strategy 3)

The pandemic is unique in recent times in generating broadly comparable (but NOT perfect!) health data across countries within a very short time frame, including tracking of:

- Cases, hospitalizations, deaths, etc.
- Virus transmission, variants
- Resources and their distribution
- Vaccination progress
- National response policies

E.g., COVID-19 Clearing House for medical equipment

E.g., **Greece** (Digital Registry in Greece), **Netherlands**, **Germany** (DIVI-Intensivregister), **Malta** (COVID-19 Emergency Operation Centre in the Mater Dei (main hospital in Malta)

Strengthening monitoring, Strategy 3)

The pandemic is unique in recent erfect!) health data across countries within a very short time

- Cases, hospitalizations, deaths, etc.
- Virus transmission, variants
- Resources and their distribution
- Vaccination progress
- National response policies

Source	Details of the open-access information
COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford	• Collects information on policy responses that governments have taken since January 2020, covering more than 180 countries. • Policies are coded into 23 indicators and recorded on a scale to reflect the extent of government action.
European Centre for Disease Prevention and Control (ECDC)	• Publishes situation reports with an overview of data available. • Provides a range of COVID-19 datasets available for download, covering a variety of topics, from COVID-19 cases to testing, hospital and intensive care unit admission rates, and more.
European Commission Response to COVID-19 website	• Reflects on the EU action to tackle the COVID-19 crisis in the EU, with specific information regarding the areas of the Commission's response, including on: public health, travel, research and innovation, fighting disinformation, transportation, jobs and economy, crisis management and solidarity, digital solutions, emergency support, among others. • Links to surveillance data as provided by ECDC (see above). • For more information on the role of the EU as a knowledge broker during COVID-19 see Box 2.8.
European Council	• Collects information on the EU's response to the COVID-19 pandemic. • Aims to provide information to the general public on how the EU is supporting health care systems, responding to the economic fallout caused by the COVID-19 pandemic, coordinating travel and transport measures, helping partners around the world and developing safe COVID-19 vaccines.
European Observatory on Health Systems and Policies' COVID-19 Health System Response Monitor (HSRM)	• Collects and organizes up-to-date information on how countries are responding to the crisis as a joint initiative of the WHO Regional Office for Europe, the European Commission and the European Observatory on Health Systems and Policies. • Focuses primarily on the responses of health systems but also captures wider public health initiatives. • For more information on the role of the European Observatory on Health Systems and Policies as a knowledge broker during COVID-19 see Box 2.10.
International Labour Organization (ILO)	• Publishes information on country responses organized around four pillars defined by the ILO to lessen the impact of COVID-19 on businesses, jobs and the most vulnerable members of society; collected information includes information about support for the health sector and ensuring access to health services.
Johns Hopkins Coronavirus Resource Center	• Continuously updates COVID-19 data on cases, deaths, tests, vaccines and hospitalizations. • Provides expert guidance.
Lancet COVID-19 Resource Centre	• Contains all COVID-19 material published across the different Lancet journals, including research, reviews, commentary, news and analysis.
Nextstrain SARS-CoV-2 resources	• Presents publicly available data on the pathogen evolution and pandemic spread through analytics and visualizations. • Aims to increase the epidemiological understanding of the pandemic as well as to aid the response to the COVID-19 pandemic.
OECD Policy Responses – Key policy responses of the OECD	• Compiles data, analysis and recommendations on different topics to tackle the COVID-19 crisis, including the health, economic and societal angle. • Aims to provide guidance on the short-term measures needed in affected sectors and a specific focus on the vulnerable sectors of society and the economy.
Our World in Data	• Compiles data on deaths, cases, tests, hospitalizations, mortality risks, policy responses and more from governments and health ministries worldwide.
Policy Tracker of the International Monetary Fund (IMF)	• Collects policy responses to COVID-19 from 197 countries. • Summarizes the key economic responses governments are taking to limit the human and economic impact of the COVID-19 pandemic.
Population Health Information Research Infrastructure project (PHIRI project)	• Aims to establish a research infrastructure to facilitate and generate the best available evidence for research on health and well-being of populations impacted by COVID-19. • Seeks to improve coordinated efforts at European level to create a high-quality COVID-19 population health knowledge. • Tackles potential inequalities in health information by facilitating the exchange across national and European stakeholders.
Short-Term Mortality Fluctuations (DTMF) data series, Max Planck Institute for Demographic Research	• Compiles weekly death counts and rates for 38 countries. • Also publishes original input data in standardized formats.
World Health Organization (WHO)	• Provides advice for the public, health workers and administrators, questions and answers as well as material (e.g. situation reports) and WHO's response in countries. • Contains technical guidance on COVID-19, including vaccines and a global research database. • For more information on the role of WHO as a knowledge broker during COVID-19 see Box 2.10.
WHO Regional Office for Europe	• Publishes newsletters, webinars, media briefings, publications, tools, country stories and other information collected at a daily and weekly basis on the COVID-19 pandemic in the WHO European Region and beyond; this includes the information collected in the COVID-19 Health Systems Response Monitor (HSRM) (see above).

Strengthening monitoring, surveillance and early warning systems (Strategy 3)

The pandemic is unique in recent times in generating broadly comparable (but NOT perfect!) health data across countries within a very short time frame, including tracking of:

- Cases, hospitalizations, deaths, etc.
- Virus transmission, variants
- Resources and their distribution
- Vaccination progress
- National response policies

Throughout the pandemic, countries in Europe and beyond have adapted and enhanced existing surveillance and monitoring systems to inform the pandemic response

- Critical knowledge gaps have been exposed
- Digital tools supported surveillance and monitoring efforts

Transferring the best available evidence from research to policy (Strategy 4)

- Evolving and sometimes inaccurate evidence contributed to some divergence o policy responses and occasional policy U-turns
- Unprecedented scale of international collaboration and open access to research
- Independent knowledge brokers such as the EU, WHO and Observatory, and the civil society play an important role in connecting research and policy

EU institutions as knowledge brokers and facilitators for information exchange:

- **Advisory Panel on COVID-19** supporting the Commission in formulating response mechanisms and making recommendations for policy measures
- Funding for COVID-19 related research from **Horizon 2020**
- The **ECDC** has been collecting and harmonizing epidemiological data
- **Expert Pane on Effective Ways of Investing in Health** has published reports on topics related to the pandemic, including health systems resilience, procurement and mental health of health workers
- Several new online portals have been established to facilitate the information exchange and coordination of actions across Member States, e.g., **Re-open EU**, the Health Systems and Response Monitor (**HSPM**), the **European COVID-19 Data Portal**, **the Coronavirus Global R&I Collaboration Portal**

Communicating clearly and transparently with the population and stakeholders (Strategy 7)

Effective communication with the public and relevant stakeholders has been key to delivering public health messages to prevent infection and to share expectations and requirements, this required:

- Coordinating messaging across multiple channels
- Reaching different population groups
- Managing the “infodemic” and tackling false information
- Addressing data flaws and weaknesses in its presentation

Thank you

Visit our website: www.healthobservatory.eu
Subscribe to e-alerts: www.tinyurl.com/OBSupdates
Follow us on Twitter: @OBShealth

PHIRI

Population Health Information Research Infrastructure

Thank you!

sciensano

EUPHA EUROPEAN PUBLIC HEALTH ASSOCIATION PUBLIC HEALTH ECONOMICS

EUPHA EUROPEAN PUBLIC HEALTH ASSOCIATION PUBLIC HEALTH MONITORING AND REPORTING

EUPHA EUROPEAN PUBLIC HEALTH ASSOCIATION HEALTH SERVICES RESEARCH

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101018317