



How do we navigate the complexities of PHSM implementation?

Developing guidance for proportional, equitable and balanced PHSM decision-making

Ryoko Takahashi, Team Lead  
PHSM Secretariat  
High Impact Events Preparedness (IEP)  
Epidemic and Pandemic Preparedness and Prevention (EPP)



- ✓ Background on PHSM and complexities of PHSM decision-making
- ✓ IOA's critical contribution to PHSM decision-making
- ✓ Utilities and integration of PHSM tools and resources for the IOA Network
  - ✓ PHSM Decision-Navigator
  - ✓ PHSM Knowledge Hub
  - ✓ Global guidance on monitoring PHSM policies
  - ✓ PHSM study protocols

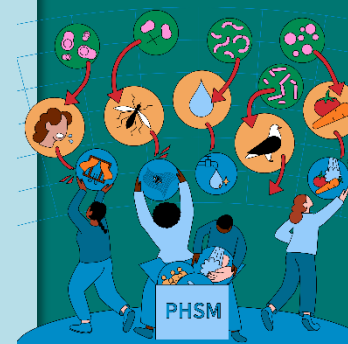




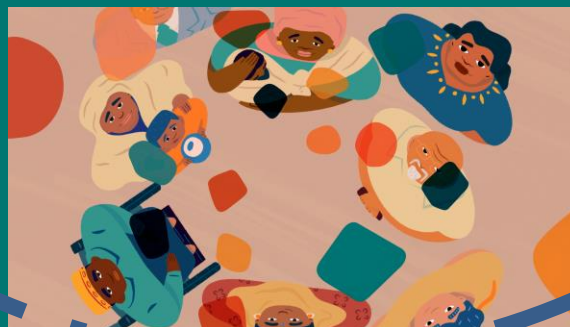
*PHSM are life-saving interventions which are often the first and sometimes the only intervention available at the onset of an outbreak*

### PHSM:

- nonpharmaceutical interventions
- reduce the risk and scale of infectious disease transmission
- operate by reducing transmission-relevant exposure or making exposure safer
- implemented by individuals, communities, institutions and all levels of government



Vaccines,  
therapeutics  
--- Medical  
countermeasure



RCCE, infodemic  
management, etc.  
--- Enabling functions

During the COVID-19 pandemic,



## Active case-finding and contact identification measures

### Active case-finding

- Screening for symptoms
- Test-based screening
- Contact tracing

### Case-specific measures

- Isolation

### Contact-specific measures

- Quarantine



## Personal protection measures

### Personal protective equipment

- Masks
- Gloves
- Face shields
- Bed nets
- Long or other protective clothing
- Barriers for safer sex
- Repellents

### Personal hygiene measures

- Hand hygiene
- Respiratory hygiene and cough etiquette
- Food safety measures
- Safe handling of personal equipment and supplies
- Safe breastfeeding practices



## Environmental measures

### Physical infrastructure

- Physical barriers (e.g. Plexiglass or Perspex screens, room dividers)

### Vector control

- Building and housing modifications (e.g. using window screens, closing eaves)
- Spraying (e.g. indoor residual or outdoor)
- Reservoir control (e.g. draining stagnant and standing water, covering water containers)

### Water and sanitation safety

- Disinfecting drinking water
- Modification of access to safe drinking water
- Wastewater management
- Solid waste management

### Surface cleaning

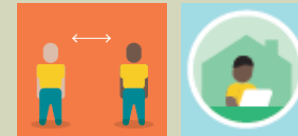
- Safe handling of equipment and supplies
- Surface cleaning and disinfection
- Surface decontamination

### Indoor air quality

- Ventilation
- Air filtering
- Humidity control

### Animal–human interface

- Culling
- Safe handling of carrion and infected livestock/animals
- Regulation of animal movement and products
- Livestock quarantine
- Livestock isolation
- Restriction of farming, fishing, hunting and/or selling of animals



## Social measures

### Social interactions and gatherings

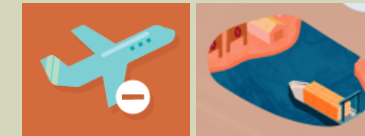
- Physical distancing
- Restrictions or modifications of private gatherings/mass gatherings
- Restrictions or modifications of public gatherings/mass gatherings

### Domestic mobility

- Stay-at-home order or curfew
- Restrictions on public transport
- Restrictions on movements (e.g. maximum distance people can be away from their home)
- Entry restrictions (e.g. for districts, zones, settlements)
- Exit restrictions (e.g. for districts, zones, settlements)

### Modifications to activities and services

- Modifications to access (e.g. closures of schools or businesses, restricting access to individuals with a vaccination certificate or individuals who test negative, extending holidays for schools)
- Modifications to types of activities (e.g. implementing distance or online learning or teleworking; providing services online or remotely; cancelling school meals)
- Safe burial practices



## International travel and trade measures

### Trade measures for imported goods

- Restriction
- Ban
- Inspection

### Trade measures for exported goods

- Restriction
- Ban
- Inspection

### Travel related screening or testing

- Exit or entry screening for symptoms, or both
- Exit or entry screening for vaccination or immunity, or both
- Exit or entry screening for travel or contact history, or both
- Exit or entry testing for infection, or both

### International border measures

- Ban on entry
- Ban on exit
- Entry restriction
- Exit restriction

### Quarantine upon arrival

- Home quarantine
- Hotel/non-health care-facility/institutional quarantine
- Health care facility quarantine

### Travel advice or warning

- Travel advice
- Travel warning

*What can we do when vaccines and therapeutics are not yet available?*



#### PHSM HAVE MULTIPLE BENEFITS:

- Reduce the number of infections
- Reduce pressure on the healthcare system
- Keep businesses and essential services open
- Buy time to develop pharmaceuticals



#### PHSM CAN HAVE UNINTENDED CONSEQUENCES:

- Economic hardship
- Decreased mental health and well-being
- Exacerbated social, gender and health inequity
- Slow progress of other public health programs
- Disrupted education

*What can governments, partners and communities do to mitigate the unintended negative consequences of PHSM?*

*How do we balance the public health benefits and negative consequences of PHSM (e.g. interrupted learning, loss of income and food insecurity)?*

*What do we know about the effectiveness of PHSM?*

*Is there guidance on risk-based, evidence-informed decision-making for PHSM?*





-



Community-sourced data

Community engagement in decision-making

Community-based mitigation measures

Buy-in, uptake and adherence

Behavioral and cultural insights

Determinants of uptake and adherence

## PHSM Decision Navigator



Risk-based, evidence-informed

Feasibility, unintended negative consequences

Targeted combination of PHSM

Mitigation measures

+ enabling functions

Adjustment (scale up/down, phase out)



Maximize public health benefits

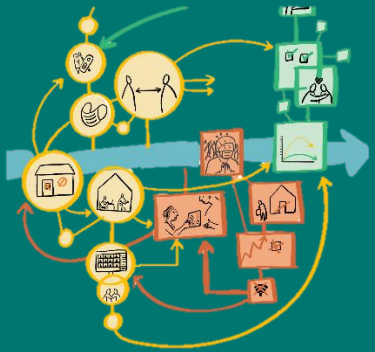
Mitigate unintended negative consequences

Equitable, context-specific and balanced decision-making

Multisectoral coordination

Precautionary principle





# PHSM Decision Navigator

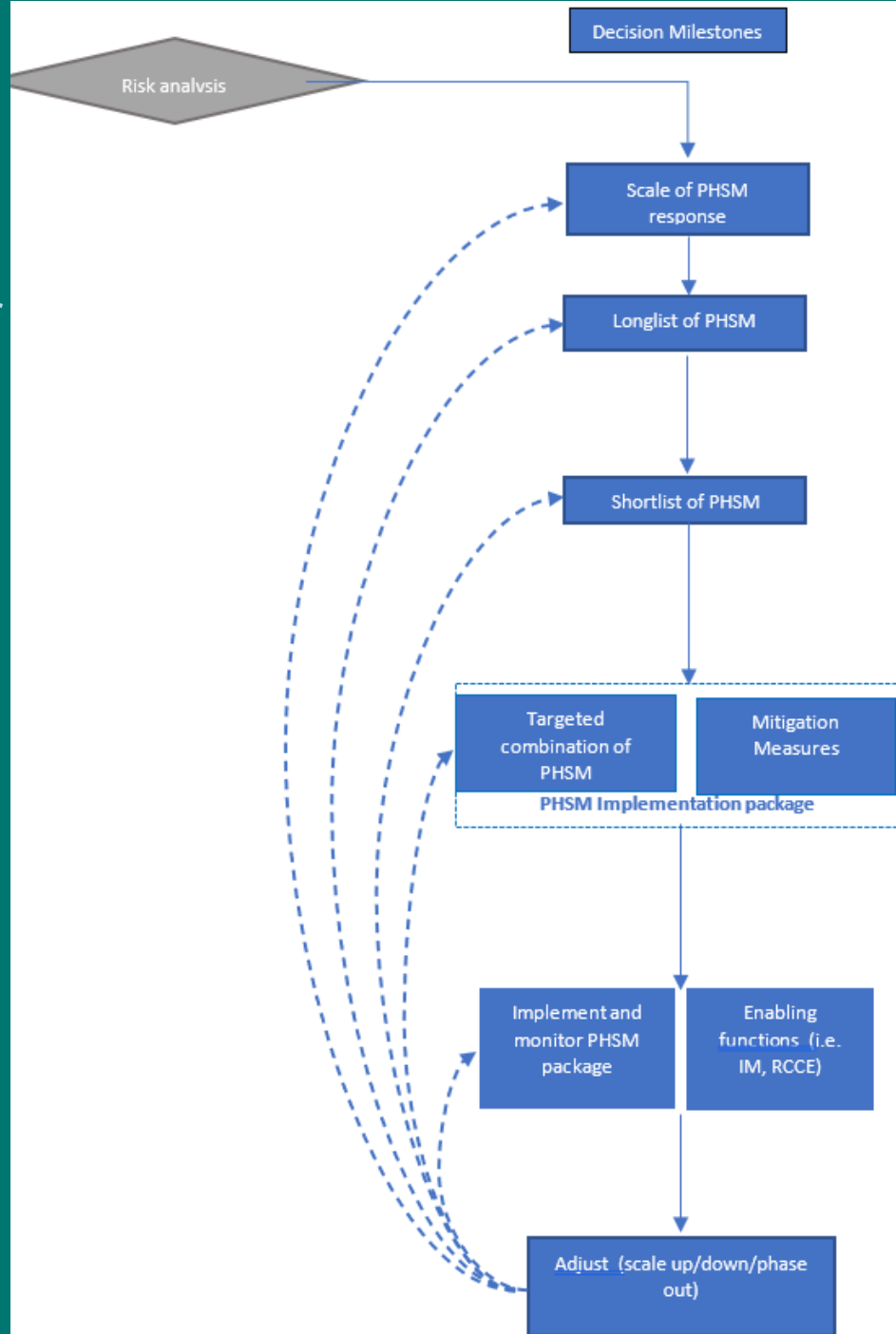
*Policy guidance for navigating complex and evolving health emergencies with proportional, equitable and effective PHSM implementation under dynamic contexts and uncertainties*

- A multihazard, pathogen-agnostic decision framework for PHSM
- Grounded in the best available evidence
  - WHO guidelines and guidance
  - Systematic reviews and other evidence syntheses
  - Risk assessments and situational assessments
- To be followed by disease-, setting- and/or population specific modules.





# PHSM Decision Navigator



## Decision Steps

**1. Determine the scale of PHSM response needed based on risk analysis /situational assessment and aim of PHSM based on epidemiological data (transmissibility, severity), health system capacity and MCM availability/ population immunity).**

**2. Develop a list of PHSM that reflect the characteristics and level of risk and scale of PHSM response by using the catalogue of recommendations and advice on PHSM based on WHO guidelines and guidance documents (PHSM menu)**

**3. Fine-tune the list by i) iteratively balancing feasibility, unintended negative consequences of PHSM and corresponding mitigation measures to address those consequences, and ii) considering alternative PHSM options to achieve high feasibility and low unintended negative consequences. The best available evidence, matrices, indicators, probing questions and data sources will guide assessment.**

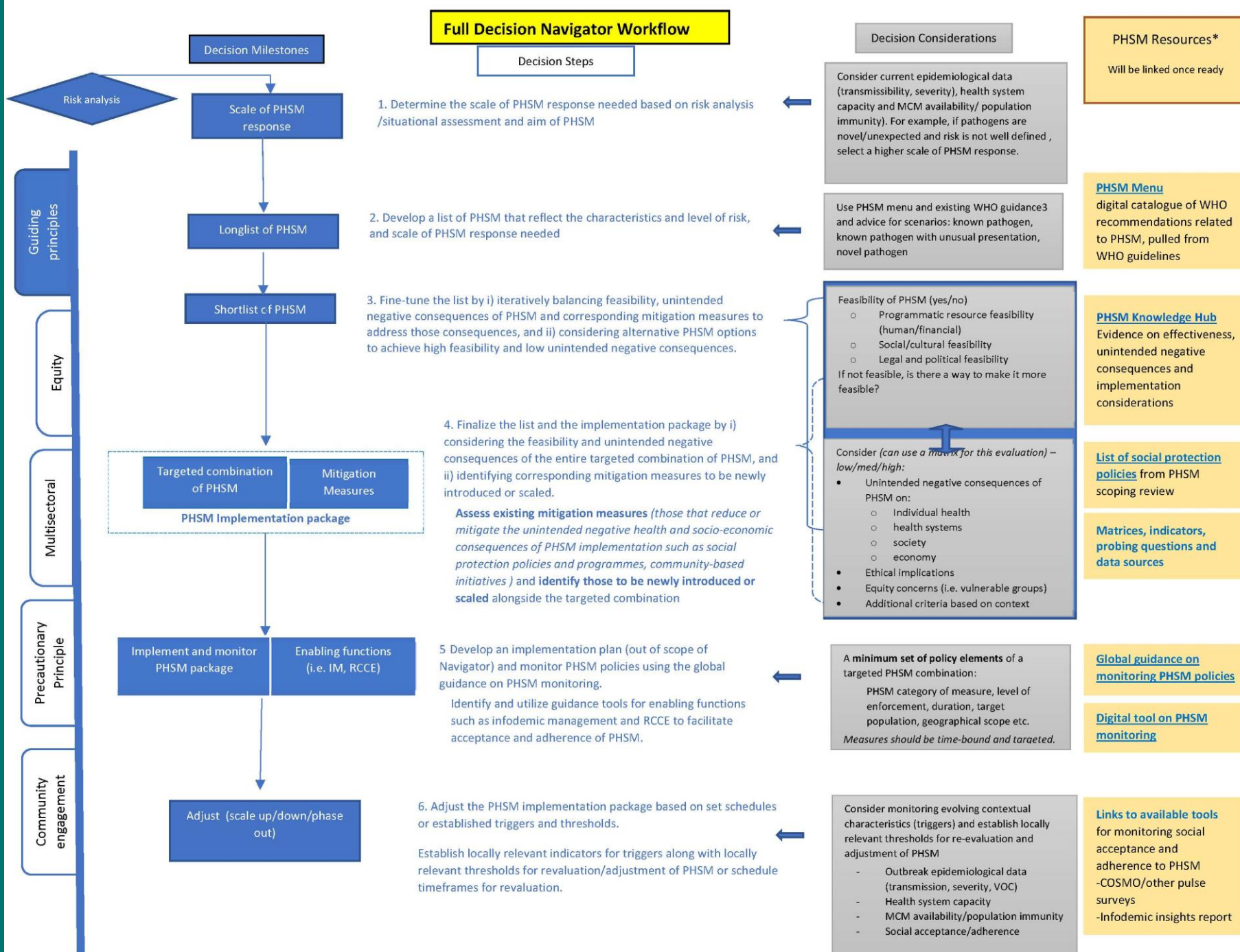
**4. Finalize the list and the implementation package by i) considering the feasibility and unintended negative consequences of the entire targeted combination of PHSM, and ii) identifying corresponding mitigation measures to be newly introduced or scaled. A list of social protection policies and community-based initiatives. In addition to matrices, indicators, probing questions and data sources will be provided to guide assessment.**

**5. Develop an implementation plan (out of scope of Navigator) and monitor PHSM policies using the WHO global guidance on PHSM policy monitoring as well as guidance tools for infodemic management and RCCE.**

**6. Adjust the PHSM implementation package based on set schedules or established triggers and thresholds, considering epidemiological trends (transmissibility, severity, VOC, etc.), health system capacity, MCM availability/ population immunity and social acceptance/adherence to PHSM.**



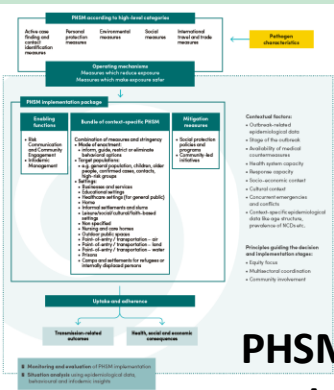
# PHSM Decision Navigator





# Strengthening PHSM research methodology

*...so that countries can conduct and contribute research using a harmonized conceptual understanding of PHSM and are supported in addressing the methodological, legal, ethical and political challenges of PHSM research*



## PHSM conceptual framework

- A framework for a harmonized conceptual understanding and standardized language (first-level categories of interventions, contextual factors, outcomes, unintended consequences, etc.)



## Global PHSM research priorities 2021-2030

- Outlining priority research themes and research questions
- Urgent COVID-19 research priorities for PHSM (published)
- Medium- to long-term research priorities for multihazard PHSM



## Study protocols to measure the effectiveness of PHSM

- A set of protocol adaptable templates for study protocols comparing two interventions across four hazard-based disease groups (respiratory, water-/food-borne, anthropod and direct contact)
- Protocol implementation guidance



# Global monitoring and reviews of PHSM data and research

*...so that countries can access and use multidisciplinary and context-specific knowledge about PHSM to strengthen understanding of PHSM effectiveness, unintended negative and positive consequences and implementation strategies*



## Global evidence reviews

- Umbrella Review (soon to be published) a review of systematic reviews on the effectiveness and impact of PHSM during COVID-19
- Scoping review on social protection policies (soon to be published)
- Determinants of uptake and adherence of PHSM



## Monitoring PHSM policy and implementation

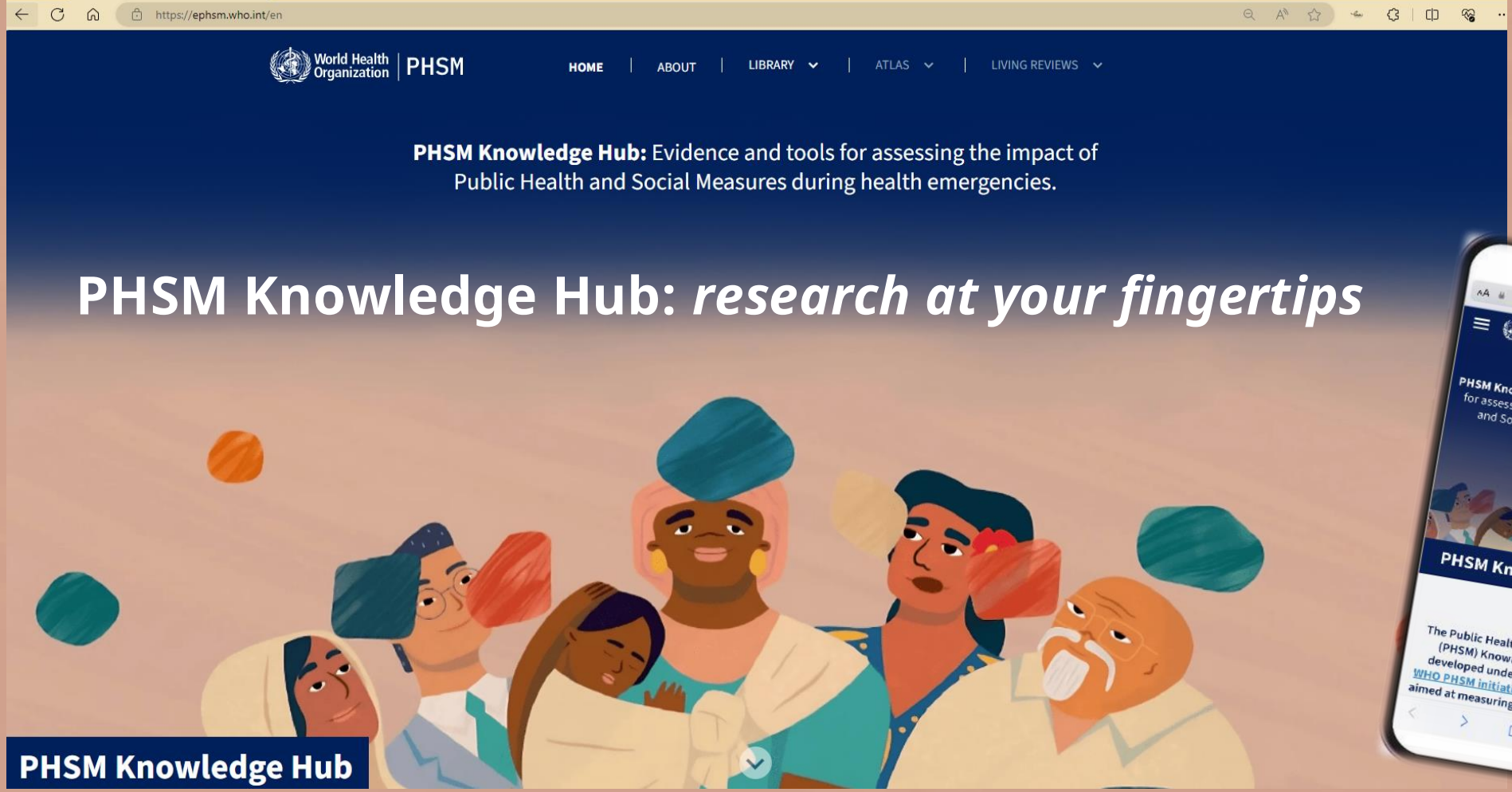
- Global guidance and digital tool for tracking PHSM policy (to be published in Q1)
- to harmonize monitoring procedures, categories and data architecture for robust and comparable PHSM data



## PHSM research and resources

- PHSM Knowledge Hub (launch in Q1) a free global gateway to research and resources on PHSM relevant to 23 priority infectious diseases consisting of:
  - 1) Bibliographic Library
  - 2) Living systematic review
  - 3) Research Atlas





WHO launched the ***PHSM Bibliographic Library***, a repository of multilingual, multidisciplinary, multisectoral research articles on PHSM, opening access to over 100,000 research articles for 23 diseases from the last 34 years.

Let us take you through the Hub





AA

ephsn.who.int

World Health  
Organization

PHSM

HOME

ABOUT

LIBRARY ▾

ATLAS ▾

LIVING  
REVIEWS ▾

**PHSM Knowledge Hub:** Evidence  
and tools for assessing the impact of  
Public Health and Social Measures  
during health emergencies.



**PHSM Knowledge Hub** ▾

# **Study protocols to assess the effectiveness of PHSM during health emergencies**

# Towards an initial set of PHSM study protocols

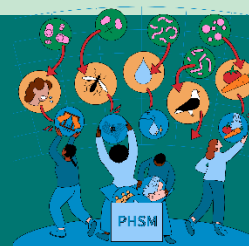


## The idea:

- Develop templates that can be adapted to specific disease outbreaks and contexts
- **Pre-approval/review by WHO's ERC** to accelerate national ethical review
- Ensure **comparable, timely and high-quality data collection on PHSM effectiveness** to inform decision-making during health emergencies
- Complemented by a **facilitation guide** considering ethical, logistical and resource challenges
- Variety of protocols will be expanded over time
- Initial focus on effectiveness, **focus on social and behavioral insights to follow**

## Table of Contents

<b>INTRODUCTION .....</b>	<b>5</b>
BACKGROUND AND RATIONALE .....	5
OBJECTIVES .....	7
<b>METHODS .....</b>	<b>8</b>
TRIAL DESIGN .....	8
PARTICIPANTS, INTERVENTIONS, AND OUTCOMES .....	8
INTERVENTIONS .....	9
OUTCOMES .....	11
PARTICIPANT TIMELINE .....	13
SAMPLE SIZE .....	14
RECRUITMENT .....	14
ASSIGNMENT OF INTERVENTIONS: ALLOCATION .....	14
ASSIGNMENT OF INTERVENTIONS: BLINDING .....	14
<b>DATA COLLECTION AND MANAGEMENT .....</b>	<b>15</b>
PLANS FOR ASSESSMENT AND COLLECTION OF OUTCOMES .....	15
PLANS TO PROMOTE PARTICIPANT RETENTION AND COMPLETE FOLLOW-UP .....	19
DATA MANAGEMENT .....	19
CONFIDENTIALITY .....	20
PLANS FOR COLLECTION, LABORATORY EVALUATION AND STORAGE OF BIOLOGICAL SPECIMENS FOR GENETIC OR MOLECULAR ANALYSIS IN THIS TRIAL/FUTURE USE .....	20
<b>STATISTICAL METHODS .....</b>	<b>21</b>
STATISTICAL METHODS FOR PRIMARY AND SECONDARY OUTCOMES .....	21
INTERIM ANALYSES .....	21
METHODS FOR ADDITIONAL ANALYSES (E.G. SUBGROUP ANALYSES) .....	21
METHODS IN ANALYSIS TO HANDLE PROTOCOL NON-ADHERENCE AND ANY STATISTICAL METHODS TO HANDLE MISSING DATA .....	21
PLANS TO GIVE ACCESS TO THE FULL PROTOCOL, PARTICIPANT LEVEL-DATA AND STATISTICAL CODE .....	21
<b>OVERSIGHT AND MONITORING .....</b>	<b>21</b>
COMPOSITION OF THE COORDINATING CENTER AND TRIAL STEERING COMMITTEE .....	21
COMPOSITION OF THE DATA MONITORING COMMITTEE, ITS ROLE AND REPORTING STRUCTURE .....	21
ADVERSE EVENT REPORTING AND HARMS .....	22
FREQUENCY AND PLANS FOR AUDITING TRIAL CONDUCT .....	22
PLANS FOR COMMUNICATING IMPORTANT PROTOCOL AMENDMENTS TO RELEVANT PARTIES (E.G. TRIAL PARTICIPANTS, ETHICAL COMMITTEES) .....	22
<b>DISSEMINATION PLANS .....</b>	<b>22</b>
<b>DISCUSSION .....</b>	<b>23</b>
<b>TRIAL STATUS .....</b>	<b>26</b>
<b>ABBREVIATIONS .....</b>	<b>26</b>
<b>DECLARATIONS .....</b>	<b>26</b>
AVAILABILITY OF DATA AND MATERIALS .....	26
ETHICS APPROVAL AND CONSENT TO PARTICIPATE .....	26
<b>REFERENCES .....</b>	<b>29</b>

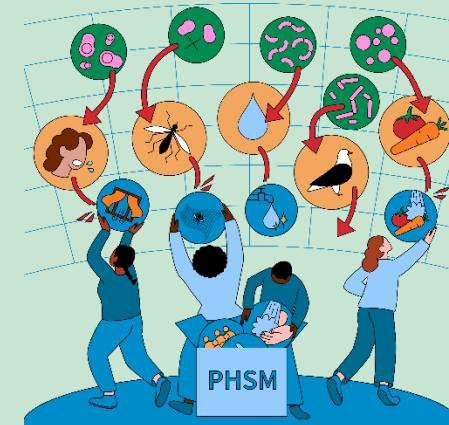


- High applicability, direct relevance for decision-making
- No time to establish complex data and research infrastructures
- Situation changes in unpredictable and often unknown ways
- Study design that does not need complex data and assumptions
- Pragmatic and novel trial design features
  - All protocols follow same structure
  - Aligned with SPIRIT
  - Are intended to be modular – users can adapt specific parts and also combine different protocols
  - Illustrate design options maintaining flexibility



# Towards an initial set of PHSM study protocols

PHSM Intervention	Disease (group)
Entry-exit screening	Disease agnostic
Air filters in schools	COVID-19
Home / school screening for symptoms	Respiratory diseases
Contact tracing	Direct contact (e.g. Ebola disease)
Mass gathering modifications (outdoors)	Respiratory diseases
Mass gathering modifications (indoors)	Respiratory diseases
Upon arrival quarantine	Respiratory diseases
Home modifications	Arthropod-borne





# **Global guidance on monitoring PHSM policies**

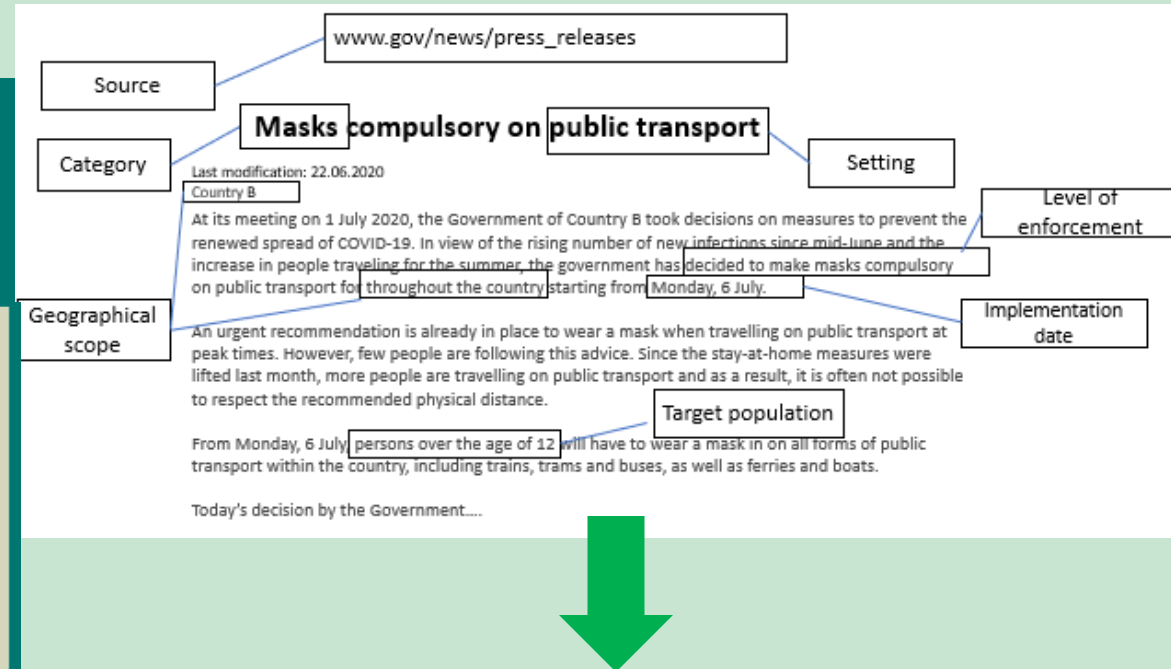
## Global guidance on monitoring public health and social measures policies during health emergencies



To be published very soon...



A centralized digital monitoring system in development...



### Example database entry using Fig. 1

**Description of measure** Face masks are now compulsory on public transportation in Country B

**Category** (see Annexes 2 and 3)

First-level category – Personal protection measures

Second-level category – 4: Personal protective equipment

High-level indicator – 4.1: Masks

**Level of enforcement** 4: Eliminate options

**Setting** Points of entry for transportation by land

**Geographical scope** 1: national

**Target population** 1: general

**Country, territory or area** Country B

**Date of Implementation** 6 July 2020



World Health Organization



Public Health and Social  
Measures (PHSM)  
during Health  
Emergencies

