Using the WHO online COVID-19 Public health and social measures calibration tool:

a step-by-step guide
Abstract
The WHO Regional Office for Europe developed an online public health and social measures (PHSM) calibration tool to assist Member States in decision-making relating to PHSM implementation during the COVID-19 pandemic. The tool, designed to be used primarily by policy-makers in national and local government authorities, provides guidance based on a situational-level assessment framework that is determined by the level of community transmission and the overall capacity of health systems and public health services within a country or region to respond. By using a combination of country-reported and user-input data, the tool automatically generates a situational assessment and corresponding PHSM guidance for users, summarized in a downloadable report. This document provides a step-by-step guide on how to use the tool and gain maximum benefits from the information it provides.

Keywords
- COVID-19
- PUBLIC HEALTH EMERGENCIES
- COMMUNICABLE DISEASES, EMERGING
- DISEASE TRANSMISSION, INFECTIOUS
- PANDEMICS
- PUBLIC HEALTH
- EPIDEMICS

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Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECDC</td>
<td>European Centre for Disease Prevention and Control</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
</tr>
<tr>
<td>PHSM</td>
<td>Public health and social measures</td>
</tr>
<tr>
<td>RCCE</td>
<td>Risk communication and community engagement</td>
</tr>
<tr>
<td>SARS-CoV-2</td>
<td>Severe acute respiratory syndrome coronavirus 2</td>
</tr>
<tr>
<td>SPAR</td>
<td>State Party Self-Assessment Annual Reporting</td>
</tr>
<tr>
<td>TESSy</td>
<td>The European Surveillance System</td>
</tr>
</tbody>
</table>
Public health and social measures (PHSM) are preventative measures taken by individuals, communities and government institutions at national and local levels to prevent and reduce transmission of an infectious disease – in this instance SARS-CoV-2. The decision to introduce, adapt or lift PHSM should be based primarily on a situational assessment of the intensity of transmission of SARS-CoV-2 and the capacity of the health system to respond to subsequent increases in hospital admissions, but must also consider the effects these measures may have on the general welfare of society and individuals.

PHSM should be implemented and adjusted according to local settings and conditions. Delays in appropriate adoption of preventative measures can lead to an increase in morbidity and mortality and the need for more stringent measures later to regain control.

Communities should be fully and regularly informed, engaged and enabled before changes are made to PHSM. This allows them to take ownership. It is critical to build and foster trust, especially in contexts where there is little or no involvement of the local population in decision-making. Clear, concise and transparent risk communication, including an evidence-based rationale for adjusting measures, should be developed with communities targeted for PHSM.

**Purpose**

The WHO Regional Office for Europe developed an online PHSM calibration tool to assist Member States in decision-making relating to PHSM implementation during the COVID-19 pandemic (1). The calibration tool is based on the WHO guidance *Considerations for implementing and adjusting public health and social measures in the context of COVID-19* (2), published on 14 June 2021. It can be used to define and evaluate the COVID-19 situation at national or subnational level at a specific point in time. The tailored PHSM guidance provided is based on a situational-level assessment framework that is determined by the level of community transmission and the overall capacity of health systems and public health services within a country or region to respond. By using a combination of country-reported and user-input data, the tool automatically generates a situational assessment and corresponding PHSM guidance for users, summarized in a downloadable report.

**When should a calibration exercise be conducted?**

The PHSM calibration tool is recommended to be used at least every two weeks to provide an up-to-date assessment of the situation and to allow for the adoption of the most appropriate measures for that particular time.

**Target audience**

The PHSM calibration tool is designed to be used primarily by policy-makers involved in PHSM decision-making in national and local government authorities within departments such as health, education and transport. The usefulness of the tool ultimately depends on the country data available and included in the tool.

**Users may wish to read this guidance while the calibration tool is running on their screens – the tool can be accessed here:**

https://phsm.euro.who.int/calibrationTool
STEP 1.

Country selection

The country being assessed should be selected from the drop-down menu at the top of the tool. This selection will automatically fill data fields to which the Regional Office has access, either through publicly available data or through reporting mechanisms such as The European Surveillance System (TESSy) (3) or International Health Regulations (4) (Fig. 1).

Fig. 1. Select a country using the drop-down menu and scroll down for the country-specific data
Knowing the level of community transmission is key to assessing the overall COVID-19 situation in a given area and is crucial for guiding decisions on response activities to tailor epidemic control measures. The calibration tool assesses the level of community transmission through the following indicators:

- **hospitalization rate**: new COVID-19 hospitalizations per 100 000 population per week averaged over a two-week period;
- **mortality rate**: number of COVID-19-attributed deaths per 100 000 population per week averaged over a two-week period;
- **case incidence**: new confirmed cases per 100 000 population per week averaged over a two-week period; and
- **test positivity**: test positivity rate per week averaged over a two-week period.

Nationally reported data are extracted from sources such as the Regional Office (5), global dashboards like the WHO COVID-19 Explorer (6), the European Centre for Disease Prevention and Control (ECDC) (7) and TESSy (8). While data can be generated from external sources, users have the option to input or adjust indicator values in instances where more accurate/updated data are available or have not been reported. User inputs are reflected in the assessment, with community transmission classification adjusting to the indicator changes. Once this section has been completed, users have to check the box, as indicated in Fig. 2.

**Fig. 2. Level of community transmission information boxes**

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The determination of the community transmission classification is based on the four primary indicators. Assessment of indicators is based on a system of hierarchy in which hospitalization rate will drive the community transmission classification. In the absence of hospitalization data, the indicator “Mortality rate” will determine classification and the same logic should be applied to subsequent indicators (Table 1).

**Table 1. Community transmission assessment framework**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator</th>
<th>Description</th>
<th>Level of community transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hospitalization Rate</td>
<td></td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>New COVID-19 hospitalizations per 100,000 population per week averaged over a two-week period</td>
<td>A subset of all incident cases require hospitalizations; thus, this is an indirect indicator of incidence. Unlikely to be subject to surveillance policy changes/differences.</td>
<td>C2</td>
</tr>
<tr>
<td></td>
<td>Mortality Rate</td>
<td>Number of COVID-19 attributed deaths per 100,000 population per week averaged over a two-week period.</td>
<td>C3</td>
</tr>
<tr>
<td></td>
<td>Case Incidence</td>
<td>New confirmed cases per 100,000 per week averaged over a two-week period.</td>
<td>C4</td>
</tr>
</tbody>
</table>
|                 | Testing                                                                   | Test positiv rate per week averaged over a two-week period. This may be useful if there are limited sentinel sites. It may capture atypical cases better than sentinel surveillance. | C1: Low incidence of locally acquired widely dispersed cases detected in the past 14 days  
C2: Moderate incidence of locally acquired widely dispersed cases detected in the past 14 days  
C3: High incidence of locally acquired widely dispersed cases in the past 14 days  
C4: Very high incidence of locally acquired widely dispersed cases in the past 14 days |
In addition to assessing the level of community transmission, it is also necessary to develop an understanding of the health system response and capacity to respond. This section will grade a country as having adequate, moderate or limited capacity to respond. As is the case for community transmission, the response capacity grading is based on a hierarchy of the following indicators:

- **clinical care capacity**: overall proportion of occupied intensive care beds averaged over a two-week period;
- **vaccination uptake**: uptake among the total population (percentage uptake with at least one dose);
- **public health response capacity**: number of persons tested per 1000 population per week, averaged over a two-week period; and
- **public health response performance**: proportion of cases for which an investigation has been conducted within 24 hours of identification.

The calibration tool will conduct a health response capacity assessment based on generated or manually inserted data. Generated data are collected from WHO dashboards, the WHO COVID-19 vaccination tracker (9), ECDC and TESSy. Users are encouraged to input data if they have not been reported or if there are more up-to-date data available than are automatically generated by the tool (Table 2). Once this section has been completed, users have to check the box, as indicated in Fig. 3.

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**Fig. 3. Health system response capacity information boxes**
<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator</th>
<th>Description</th>
<th>Capacity to respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical care capacity</td>
<td>Overall proportion of occupied ICU beds averaged over a two-week period (%)</td>
<td>High morbidity and mortality will occur if there is insufficient capacity to hospitalize severe cases. Should count all hospitalizations, not only COVID-19.</td>
<td>&lt; 75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>75% - &lt; 90%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>≥90%</td>
</tr>
<tr>
<td>Vaccination uptake</td>
<td>Vaccination uptake among total population</td>
<td>Vaccination strategy are an important element in COVID-19 response to minimize deaths, severe disease and overall disease burden; curtail the health system impact; fully resume socio-economic activity; and reduce the risk of new variants.</td>
<td>≥60%</td>
</tr>
<tr>
<td></td>
<td>Uptake with at least 1 dose (in %)</td>
<td></td>
<td>40% - &lt; 60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt; 40%</td>
</tr>
<tr>
<td>Public health response capacity</td>
<td>Number of persons tested per 1000 population per week, averaged over a two-week period</td>
<td>Without sufficient testing, it is difficult to appropriately isolate and treat cases.</td>
<td>4+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 - &lt; 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Public health response performance</td>
<td>Proportion of cases for which an investigation has been conducted within 24 hours of identification</td>
<td>This indicates the capacity to identify transmission risks and exposed contacts. Where investigation is not recorded directly, can be measured by proxy indicator - proportion of cases with contacts listed.</td>
<td>80%+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60% - &lt; 80%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;60%</td>
</tr>
</tbody>
</table>
Following assessments of the level of community transmission and health system and public health service capacity and performance data, a situational level between 1 and 4 is assigned. This level defines the COVID-19 situation at country or regional level and recommends domestic PHSM that should be considered (Table 4).

Situational levels are defined as the following:

**Situational level 0**

is where basic measures are in place to prevent transmission or, if cases are already present, the epidemic is being controlled through effective measures around the cases, with limited and transient localized disruption of social and economic life.

**Situational level 1**

represents low community incidence or risk of community transmission beyond clusters. Additional measures may be required to control transmission, but disruptions to social and economic activities can still be limited. In the context of vaccination, situational level 2 may also include areas with moderate levels of community transmission but with limited health service impact, given adequate vaccination coverage in at-risk and older age groups.

**Situational level 2**

is a situation of community transmission with limited additional capacity to respond and a risk of health services becoming overwhelmed. A larger combination of measures may need to be put in place to limit transmission, manage cases and ensure epidemic control.

**Situational level 3**

is an uncontrolled epidemic with limited or no additional health system response capacity available, thereby requiring extensive measures to avoid health services being overwhelmed and substantial excess morbidity and mortality.

**Situational level 4**

**Table. 4. Situation-level table**
Risk communication and community engagement self-assessment

If information is available, users are required to conduct a self-assessment of Risk Communication and Community Engagement (RCCE) by selecting the most appropriate level for the country or geographical region being calibrated. If a self-assessment is not possible, the “No information” option can be selected. Specific guidance will be provided based on the self-assessment grading.

The criteria for these gradings are derived from 2020 State Party Self-Assessment Annual Reporting (SPAR) assessments of RCCE in which the grading is based on high, moderate and low RCCE capacity. As with the SPAR tool, the ratings are cumulative: a country should increase its rating to the next adjacent level only when it has achieved ALL the attributes of its current capacity levels. For example, in order to reach “moderate” capacity, all the attributes of “low” and “moderate” should be met. Attributes are defined as follows:

**HIGH:** RCCE is fully resourced and integrated into the emergency response system and is operational across all government levels and sectors in a coordinated manner; active and robust sociobehavioural listening and research inform the response; accurate, timely, transparent, accessible, understandable information is relevant to people’s perceptions and communicated across all relevant channels; rumours and misinformation are rapidly addressed; communities are empowered to co-design interventions; monitoring and evaluation (M&E) is in place to improve the response and build back better;

**MODERATE:** formalized RCCE systems are available but with gaps in resources, capabilities, level of integration into emergency response, and operational presence and coordination across government levels and sectors; risk communication is taking place across most popular channels; community engagement is in place with key affected communities; sociobehavioural listening and research mechanisms are in place but with significant gaps; M&E is in place but is focused on process (RCCE activities and outputs) rather than impact (changes in behaviour, perception, etc.); and

**LOW:** ad hoc RCCE systems and functions are available but without dedicated specialized resources; risk communication has a limited focus on mass media and is focused on the health sector at national level, with insufficient coordination across other levels and sectors; community engagement is ad hoc; sociobehavioural listening and research is minimal.
In order to provide tailored and nuanced information, interventions and policies, it is vital to understand the specific context using data about population behaviours and perceptions. Many countries in the Region have collected detailed behavioural insights throughout the pandemic using a survey tool created by the Regional Office or other methods. Where such data exist, these should be consulted to understand population-level uptake of PHSM as well as perceptions of the fairness of measures in place and agreement with specific policies. Data related to population trust, risk perception, health literacy and self-reported well-being and economic concerns may also be considered to better understand uptake of PHSM and ways to increase it.

In addition to national level data, applicable insights may exist in local administrations, academic institutions, market research companies and others in the country conducting research into behavioural, social and cultural insights.

This section of the tool provides guidance through the generated report on behavioural insight strategies that can improve the uptake of PHSM. Users are required to input relevant and recent behavioural insight survey results (if available) into the provided data fields in order to generate tailored guidance. General guidance will be provided if no data is provided by the user.
Once a situational level has been generated, users are required to select and input what PHSM are currently in place within the following categories. These categories have been selected based on the WHO PHSM taxonomy and glossary (10):

### STEP 7.

**Input of PHSM currently in place in selected country**

A number of measures can be selected from the dropdown lists provided under each indicator. While there are many combinations of measures, not all have been included for selection in the lists provided. If measures that are in place within a region cannot be found in the lists, users can input them into the free-text section.

**Individual measures:** measures such as hand hygiene, maintaining physical distance from others, mask-wearing and respiratory etiquette

**Schools:** protective measures implemented within schools for students, teachers and staff, including spacing and grouping adaptations for students, testing of suspected cases and disinfection of classrooms

**Businesses:** measures targeting offices, businesses and institutions, including operations closures and adaptation measures such as closure of high-risk businesses and the adoption of remote working

**Gatherings:** measures applied at national level to require event organizers to reduce, adapt or restrict gatherings of individuals

**Movement:** measures that affect the domestic movement of individuals and adaptations to public transportation networks, such as imposing capacity limits and ensuring spacing of travellers

**Vulnerable populations:** protective measures implemented to protect vulnerable people

**Vaccination:** measures and programmes that aim to increase vaccination uptake among the general population

**RCCE:** strategies put in place to increase the RCCE efforts of national and local governments.
The calibration tool brings together relevant information and guidance on PHSM that can be used by stakeholders to assess protective measures currently in place against those that are strongly recommended at any given situational level. Links to relevant guidance documents and resources are conveniently accessible through the tool.

This operational tool aims to support government and local authority decision-making processes on PHSM implementation, with the overall goal of reducing transmission of SARS-CoV-2, relieving pressures on health systems and lessening the numbers of people becoming seriously ill or dying from COVID-19.

PHSM should be implemented and adjusted according to local settings and conditions. Implementation of PHSM must be balanced between their potential effects on reducing transmission and their possible disruption to social, economic and political systems. Delays in appropriate adoption of preventative measures can lead to increases in morbidity and mortality and the need for more stringent measures to regain control.

Planning updates: Research on the effectiveness of appropriate PHSM is currently ongoing. WHO guidance will be adjusted based on the most recent and relevant scientific evidence. The tool and guide will be updated based on the most up to date recommendations when these are made available.

**STEP 8. Report generation**

Once steps 1–7 have been completed, users should select the “Generate report” button at the top of the page to download the generated PHSM calibration report. The report allows users and stakeholders to contrast the PHSM that are advised at designated situational levels against the measures currently in place. This provides all stakeholders with situationally relevant guidance, recommendations and resources that can be used to guide discussions and decisions on whether an adjustment of PHSM is required.

The report will include information that has been inputted, PHSM considerations under each of the assessed PHSM indicators (and for RCCE), and behavioural insight and vaccination strategies. All sections of the calibration tool should be completed as thoroughly as possible to ensure optimal guidance is generated (Fig. 4).

**CONCLUSION**

The calibration tool brings together relevant information and guidance on PHSM that can be used by stakeholders to assess protective measures currently in place against those that are strongly recommended at any given situational level. Links to relevant guidance documents and resources are conveniently accessible through the tool.

This operational tool aims to support government and local authority decision-making processes on PHSM implementation, with the overall goal of reducing transmission of SARS-CoV-2, relieving pressures on health systems and lessening the numbers of people becoming seriously ill or dying from COVID-19.

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5. COVID-19 situation in the WHO European Region [online database]. Copenhagen: WHO Regional Office for Europe; 2022 (https://who.maps.arcgis.com/apps/dashboards/ead3c6475654481ca51c248d52ab9c61).


All references were accessed on 25 July 2022.
The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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Cyprus  
Czechia  
Denmark  
Estonia  
Finland  
France  
Georgia  
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Hungary  
Iceland  
Ireland  
Israel  
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