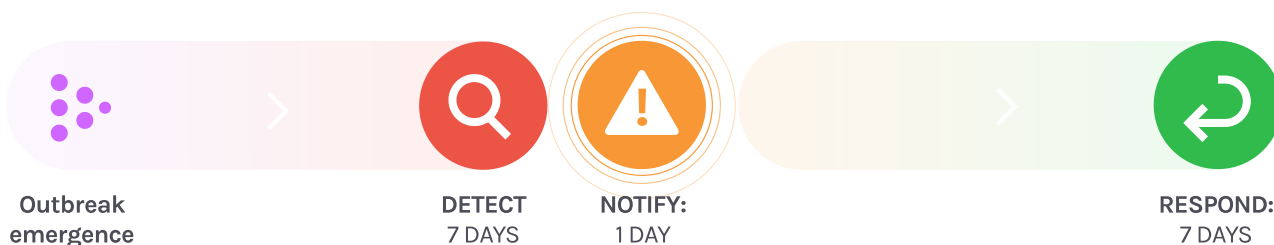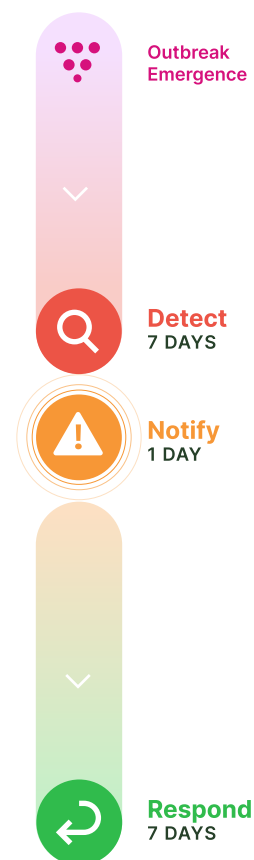# 7-1-7 Implementation Toolkit

The 7-1-7 approach uses a simple set of three timeliness metrics to assess and improve real-world performance of early detection and response systems:

- **7 days** to detect a suspected public health threat
- **1 day** to notify a public health authority responsible for action;
- **7 days** to complete early response actions.

The 7-1-7 approach complements existing measures of capacities, including the State Parties Self-Assessment Annual Reporting (SPAR) and Joint External Evaluation (JEE) tools, by providing a simple framework to evaluate the functioning of outbreak detection and early response systems under real-world conditions. It complements After Action Reviews by providing clear targets for performance during real-world events as well as a framework for identifying bottlenecks during the early stages of public health events.

The 7-1-7 target is aligned with WHO's Thirteenth General Programme of Work, which includes a global metric for the timely detection, notification and response to public health threats. It can also support monitoring and evaluation of the performance of surveillance systems and strategies for integrated disease surveillance and response.

Outbreak Emergence

Detect
7 DAYS

Notify
1 DAY

Respond
7 DAYS

Outbreak emergence

DETECT
7 DAYS

NOTIFY:
1 DAY

RESPOND:
7 DAYS

About this toolkit

This toolkit is designed to support public health authorities and partners in implementing the 7-1-7 approach.

Based on learning from pilots conducted in eight countries, the following sections present stepwise guidance to how 7-1-7 can be implemented by jurisdictions for continuous performance improvement of early detection and response systems.

Specific examples of implementation approaches or the use of tools are highlighted in "7-1-7 in Action" boxes. Whenever possible, implementation should be conducted through existing structures and all tools provided are intended to be customized by implementing jurisdictions.

Some jurisdictions may only wish to apply specific elements of the 7-1-7 approach rather than implementing it in full. Examples of these specific uses can be found below, with hyperlinks to the relevant guidance in this toolkit.

Performance evaluation of a single event using the 7-1-7 Assessment Tool

Assessment Tool

Use 7-1-7 data to make your case

Support policy advocacy

Compile 7-1-7 data to inform improved operational planning

Operational Planning

Background

Early and effective detection, notification and response are crucial to containing outbreaks of infectious disease and other public health threats before they escalate. Improving the identification and control of these threats requires setting ambitious but achievable targets and ensuring continuous evaluation and performance improvement.

Recent epidemics and pandemics have highlighted limitations in existing measures of health security capacity and underscored the importance of evaluating not only the presence, but also the real-time performance, of the systems required for early detection and response. Independent review committees have consistently recommended strengthened tools and processes for functional assessments that measure operational capacities in real-world situations.[1]

Improving early detection and rapid control of public health threats requires an approach that:

- Establishes clear performance targets;
- Quantifies variations in performance;
- Identifies the factors responsible for these variations; and
- Uses this information to support performance improvement and targeted advocacy for further financing.

Monitoring timeliness metrics can be used to evaluate trends and identify improvements in detection and response capabilities.[2]

Yet, each public health threat is unique, and performance of detection and response systems will vary. Compiling and reviewing timeliness metrics on a routine basis enables data aggregation across events to better identify trends and types of threats (e.g., food or waterborne, respiratory, vector-borne, viral hemorrhagic fever, animal outbreaks), as well as which threats might require additional technical and financial support to improve system performance. Every health threat should be an opportunity to learn and improve.

In recent years, repeated failure to contain local outbreaks which have then spiraled out of control—SARS, COVID-19 and Ebola—indicates the need for stronger global response efforts. The 7-1-7 approach establishes a simple target for outbreak detection and response that enables public health entities at all levels to evaluate progress toward clear timeliness metrics, identify bottlenecks and implement actions for performance improvement.

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Step 2: Capture 7-1-7 data for public health events	- 7-1-7 Assessment Tool - Frequently Asked Questions - Data Consolidation Spreadsheet
Step 3: Engage 7-1-7 stakeholders routinely for rapid performance improvement	- 7-1-7 Event Review Slide Template

SECTION	ACCOMPANYING TOOLS
<u>Step 4</u>: Synthesize 7-1-7 performance to prioritize long-term planning and accountability	• <u>Sample Synthesis Report Template</u> • <u>List of Bottleneck Categories</u>
<u>Step 5</u>: Use the 7-1-7 target for advocacy and accountability	• <u>Budget Advocacy Toolkit</u>

Footnotes

1   The Independent Panel for Pandemic Preparedness & Response. COVID-19: make it the last pandemic. 2021. **https://theindependentpanel.org/wp-content/uploads/2021/05/COVID-19-Make-it-the-Last-Pandemic_final.pdf** (accessed 19 June 2022). -International Health Regulations (2005) (IHR) Review Committee's report^

2   Impouma B, Roelens M, Williams GS, et al. Measuring timeliness of outbreak response in the World Health Organization African Region, 2017-2019. Emerg Infect Dis 2020; 26: 2555–64. doi: 10.3201/eid2611.191766.^

Coordinate with stakeholders to establish an implementation plan

When adopting the 7-1-7 approach, it is critical to identify and convene key stakeholders who can effectively guide its implementation. The 7-1-7 approach can be used for a variety of functions, including assessment and performance improvement of surveillance and response systems, national planning and advocacy. As a result, there are also multiple ways in which implementation can be coordinated by different institutions or teams. This section outlines steps that can be taken to enable broad stakeholder support for adoption and implementation of the 7-1-7 approach and identifies key stakeholder roles and responsibilities.

1.1   Identify 7-1-7 champions

Champions are government stakeholders who can lead change management, such as individuals with leadership responsibilities for surveillance, response and/or preparedness planning. Although 7-1-7 implementation should not be burdensome, it may require workflow adjustments, new tools and additional responsibilities for some staff. Experience has shown that 7-1-7 implementation is more likely to result in improved epidemic preparedness with the buy-in of at least one champion who can:

- Advocate for 7-1-7 implementation;
- Provide high-level oversight;
- Initiate stakeholder mapping and engagement;
- Convene stakeholders to review progress towards goals;
- Elevate high-level findings and priorities emerging from 7-1-7 implementation for the attention of leaders.

Once potential champions have been identified and introduced to the 7-1-7 approach, it will be important to assess their interest, and if possible, secure a commitment to support implementation of a pilot project.

Characteristics of a 7–1–7 champion:

1. High interest in strengthening health security and the 7-1-7 approach;

2. Current or former thought leader in public health;

3. Ability to work and collaborate with multiple stakeholders across public health and other sectors;

4. Persuasive communicator with strong advocacy and negotiating skills.

Supporting Tools

🔧 **High-level introduction to 7-1-7 (PPT)**

🔧 **Continuous Improvement with 7-1-7**

🔧 **Advocacy as Easy as 7-1-7**

🔧 **7-1-7 for Accountability, Monitoring and Evaluation**

1.2   Stakeholder and institutional mapping

After the identification of a champion(s), early input should be obtained from a broad group of stakeholders capable of contributing to achievement of the 7-1-7 target, including:

1. Surveillance and response stakeholders from the human health, animal and environmental sectors;
2. Preparedness, planning or monitoring and evaluation teams that facilitate International Health Regulations (IHR) assessments and planning;
3. Financing stakeholders, including representatives from ministries of finance (for domestic financing), multilateral development banks and bilateral partners;
4. Government stakeholders responsible for multi-sectoral coordination, policymakers, and parliamentarians;
5. Research and academic stakeholders such as universities and research institutes;
6. Other relevant stakeholders including advocacy groups, civil society and community representatives.

The above stakeholders may play different roles in supporting 7-1-7 implementation as described in the table below. If helpful, countries may choose to use a **Stakeholder Mapping Tool** to assist in their identification.

ROLE	DESCRIPTION	STAKEHOLDER CONSIDERATION
Coordination	*Described in Step 1.3* As 7-1-7 implementation involves several teams within and across institutes and ministries, a coordination mechanism to oversee overall implementation and hold different teams accountable is required.	Authority with roles and responsibilities spanning public health surveillance, emergency preparedness and response.
Capture of **7-1-7** Data	*Described in Step 2* Timeliness data needs to be recorded, analyzed, and reported. Ideally data collection should be undertaken in real-time by those directly involved in the response.	Public health authority with mandate for response activities that collaborates with surveillance and One Health actors to ensure data collection teams have the relevant relationships for different public health events.
Performance Improvement	*Described in Step 3* Performance improvement involves the usage of 7-1-7 data to identify bottlenecks and drive immediate remedial actions.	Public health authority that oversees deployment of rapid response teams and possesses the capacity to address identified bottlenecks. Additionally, consider stakeholders who can convene routine reviews of 7-1-7 performance involving relevant teams for detection, notification, and response.
National Planning	*Described in Step 4* 7-1-7 implementation generates information on bottlenecks for detection, notification, and response. This information, synthesized across multiple events, can subsequently be used to inform long-term financing priorities and planning activities.	Relevant teams within a public health authority responsible for IHR, NAPHS, or other strategic national health planning, implementation, or monitoring and evaluation. Additionally, consider multi-sectoral stakeholders required for planning validation and elevation to planning and budget cycles (e.g., planning unit, ministry of finance).
Communication and Advocacy	*Described in Step 5* The 7-1-7 target provides clear and measurable metrics which can be used to demonstrate progress in the emergency preparedness and response cycle. The target also allows policy makers to easily identify bottlenecks and to prioritize activities for advocacy and resource mobilization.	Authorities that have strong influence and voice to advocate for and mobilize resources to drive system-wide improvements.

Supporting Tools

1.3 Identify the team to lead 7-1-7 coordination

After completing the stakeholder mapping, the 7-1-7 champion(s) should guide the identification of a team to lead the coordination of 7-1-7 implementation. Though implementation will require involvement of staff in multiple teams spanning surveillance, investigation and response duties, it is most likely to progress if a single team is clearly assigned responsibility for the early steps, including stakeholder coordination. The 7-1-7 coordination team should expect to work with the champion(s) to conduct initial stakeholder discussions, identify roles and responsibilities, monitor implementation progress and engage in sustained stakeholder outreach and advocacy. Ideally, the implementing team should have responsibility for emergency preparedness and response and possess both adequate staff and the convening power to ensure implementation coordination and tracking of progress.

Supporting Tools

🔧 **Stakeholder Mapping Tool**

7-1-7 IN ACTION

Stakeholder engagement and coordination structure in Uganda

Uganda initiated implementation of the 7-1-7 approach by first identifying a champion from the Ministry of Health through one-on-one engagements in different departments. The national public health emergency operations center (PHEOC) manager, a senior-level official well-positioned to influence preparedness and response activities, then championed introduction of the approach across ministries. Based on the recommendations of the champion, stakeholders working in the areas of coordination, data collection, performance improvement, national planning, and communications and advocacy were approached individually to gauge their interest. This paved the way for subsequent more formal stakeholder engagement and joint implementation planning.

The coordination of 7-1-7 implementation is now led by the PHEOC, which is responsible for national responses to higher-risk or geographically dispersed events. Implementation has subsequently been expanded to regional PHEOCs that coordinate responses to smaller and lower-risk events not requiring national support.

1.4 Sensitize key stakeholders and assess interest

Once stakeholders who can effectively influence implementation of the 7-1-7 approach have been identified, their consistent and early engagement is required. Informal one-on-one meetings should be held to introduce the approach, address any concerns about implementation, and provide clarity where there may be uncertainty. These meetings can then also lay the groundwork for subsequent stakeholder convenings and implementation planning activities.

Retrospective reviews provide an additional approach to introducing stakeholders to the benefits of 7-1-7 implementation. To conduct a Retrospective Review, the coordination team applies the 7-1-7 approach to recent public health events and presents their findings to stakeholders, thereby directly demonstrating how the approach can be used to assess system performance and identify required remedial actions. The outcomes of these stakeholder engagements may then be used by the champion(s) and coordination team to revise their stakeholder mapping to reflect perceived levels of interest, inform consensus building and define implementation roles.

Supporting Tools

- 🔧 **High-level introduction to 7-1-7 (PPT)**
- 🔧 **Continuous Improvement with 7-1-7**
- 🔧 **Advocacy as Easy as 7-1-7**
- 🔧 **7-1-7 for Accountability, Monitoring and Evaluation**
- 🔧 **Guidance for Conducting a Retrospective Review**

7-1-7 IN ACTION

A Retrospective Review in Recife, Brazil

Recife, one of the ten largest municipalities in Brazil, conducted a Retrospective Review to introduce the 7-1-7 approach to a broad group of stakeholders. The Secretary of Health for Recife championed the event, while the Surveillance Department was chosen to coordinate the review. The Surveillance Department selected public health events from the prior two years and compiled 7-1-7 performance data for them. The Secretary of Health then convened a meeting to present the data to a broad group of laboratory, response, information technology, animal health, and environmental health stakeholders. The group discussed the 7-1-7 performance data and agreed on remedial actions that could improve epidemic preparedness. Reviewing public health event performance against the 7-1-7 target was found to be a valuable exercise and it was agreed to apply the 7-1-7 approach to future public health events.

1.5 Conduct a landscape analysis to inform the implementation approach

Before developing a 7-1-7 implementation plan, a landscape analysis should be conducted to identify existing systems for event detection, notification and response, as well as meetings and platforms used to convene surveillance, response and national planning stakeholders. The coordination team should conduct the landscape analysis and then, in conjunction with the stakeholder mapping, use the results to inform the processes and outreach needed for the implementation plan.

Supporting Tools

🔧 **Landscape Analysis Tool**

1.6 Develop an implementation plan

Based on the results of the sensitization engagements with stakeholders and landscape analysis, and under the leadership of the champion(s), the coordination team should prepare a 7-1-7 implementation plan jointly with stakeholders. The implementation plan should:

- Describe the implementation approach (real-time or after-an-event) – see **Step 2.1**;
- Clarify stakeholders' roles and responsibilities;
- Define major activities required for 7-1-7 implementation with appropriate timelines (consider activities around coordination, data collection, performance improvement, national planning, communication and advocacy);
- Propose monitoring and evaluation mechanisms including stakeholder meetings when 7-1-7 performance can be reviewed; and
- Suggest financing mechanisms that may support performance improvement activities.

Supporting Tools

🔧 **Implementation Plan Template**

1.7 Validate the implementation plan

Once the implementation plan has been drafted, it should be widely circulated to leadership and relevant stakeholders (as identified in **Step 1.2**) for their review. Depending on the setting, this review can be conducted through a combination of emails, one-on-one stakeholder meetings, existing meetings (e.g., an IHR Technical Working Group), or through a dedicated one-day orientation and validation workshop.

Regardless of the approaches used, validation of the implementation plan should cover the following topics:

- Purpose of the 7-1-7 approach for performance improvement and advocacy;
- Brief description of the 7-1-7 timeliness metrics;
- Illustrative example of how the 7-1-7 approach can be applied to a public health event to elicit performance bottlenecks, enablers and remedial actions;

- Detailed finalization of the implementation plan, including roles and responsibilities of different teams, approaches to collecting 7-1-7 data, timing and venues for convening stakeholders to review 7-1-7 performance.

As a result of the validation processes, stakeholders should obtain a clear understanding of how the 7-1-7 approach informs performance improvement activities, the processes and timelines for 7-1-7 implementation, and their individual roles and responsibilities.

> **Supporting Tools**
>
> 🔧   **Sample Orientation and Validation Workshop Agenda**
>
> 🔧   **Implementation plan template**

1.8   Launch the implementation plan

After obtaining buy-in and validation of the implementation plan from stakeholders, implementing jurisdictions may find it helpful to organize an official launch to announce adoption of the 7-1-7 target. This can take the form of a formal in-person event to convene stakeholders for the official commencement of a 7-1-7 project, or a high-level government communication that commits to investment in the 7-1-7 approach. Official commitments can provide a basis for increased transparency in future 7-1-7 performance evaluations and help hold stakeholders accountable to each other and to the broader public. They can help galvanize attention, resources and political will to improve the timeliness of public health threat detection, notification and response.

Capture 7-1-7 data for public health events

The 7-1-7 approach is based on the idea that every public health event presents an opportunity to learn from real-world experience and improve. By evaluating the performance of systems required to detect, notify, and respond, each public health event can be used to identify performance bottlenecks and remedial actions to improve preparedness for future threats. This section describes how the 7-1-7 approach can be applied to identify bottlenecks and enablers to detection, notification and early response, as well as the actions necessary to improve future performance.

2.1 Select an approach to collect 7-1-7 data

Jurisdictions implementing the 7-1-7 approach must determine who will collect 7-1-7 performance data. Ideally, 7-1-7 data are captured in real-time for each public health threat by those best positioned to do so, namely public health professionals directly involved in the initial investigation and response. The benefits of the 7-1-7 approach are maximized when it is used in real-time to support an ongoing response; however, the capture of real-time data may not always be possible and it may be necessary to retrospectively collect data after the event response has concluded.

REAL-TIME	RETROSPECTIVE
- Immediately after an event is detected 7-1-7 assessment tool can be used by public health authorities or by teams responsible for initial investigation or rapid response	- Immediately after an event response has concluded (e.g., "hotwash") - As part of an after-action review (AAR) - As part of a multi-event review process (retrospective review, either periodic or standalone)

Retrospective data collection can provide value, but can also be time intensive, and locating historical data for all response actions can represent a particular challenge. When retrospective data collection is determined to be necessary, 7-1-7 data may be compiled from the following sources:

- Initial risk assessment;
- Epidemiologic analyses;
- Outbreak situation reports;
- Rapid response team reports;
- Emergency Operation Center meeting notes;
- Event management systems;
- After action review (AAR) reports.

2.2 Collect 7-1-7 data for a public health event

The **7-1-7 Assessment Tool** captures 7-1-7 data for a single event. While jurisdictions may choose to use this tool, fields from the 7-1-7 Assessment Tool can also be integrated into existing templates for risk assessments, rapid response team reports, or event management systems. This section provides detailed instructions and examples of how to complete the 7-1-7 Assessment Tool. In addition, a document addressing **Frequently Asked Questions** has been developed.

Screenshot of the 7-1-7 Assessment Tool

7-1-7 IN ACTION

Incorporating 7-1-7 into rapid response team reports in Nigeria

Before implementing the 7-1-7 approach, the Nigeria Centre for Disease Control and Prevention (NCDC) had developed a report template for use by rapid response teams when investigating a public health event. After introduction of the approach, NCDC amended the report template to include data collected against the 7-1-7 timeliness metrics and documentation of bottlenecks. Rapid response teams were mandated to provide 7-1-7 data within two- and seven-days after deployment. This facilitated immediate stakeholder review of 7-1-7 performance and identified bottlenecks, enabling stakeholders to take remedial actions to address them and improve the ongoing outbreak response.

Supporting Tools

🔧 **7-1-7 Assessment Tool**

🔧 **Frequently Asked Questions**

2.2.1 | **Determine the date of emergence**

The date of emergence is often unknown when a health event is first detected. Epidemiologic information gathered during the outbreak investigation should be used to determine the date, based on whatever information is available. The date may then change as more is learned and earlier cases are identified.

The approach to determining the date of emergence varies by type of public health event:

- Endemic diseases: the date when a predetermined increase in case incidence over baseline rates occurred (e.g., IDSR alert thresholds).
- Non-endemic diseases: the date when the index case or first epidemiologically-linked case experienced symptoms.
- Other health threats: the date the threat first met criteria as a reportable event, based on existing reporting standards.

Examples of date of emergence for different event types

EVENT TYPE	EXAMPLE OF DATE OF EMERGENCE
Endemic disease (e.g., malaria)	Malaria alert thresholds are incidence-based in country X. On epidemiologic week 32, malaria cases surpassed the alert threshold of 50 cases per 100,000 population in district Y. Because data are aggregated and analyzed weekly, the last day of epidemiologic week 32 would be the date of emergence.
Non-endemic disease (e.g., Ebola virus disease [EVD] in a human)	The date of outbreak emergence would be the date when the index case or first epidemiologically-linked case experienced EVD symptom onset.
Animal disease (e.g., avian influenza in a bird)	The date of outbreak emergence would be the earliest known date of symptom onset in a bird, or the earliest known date of death if no other symptom data are available.
Other health threats (e.g., contaminated food product)	The date of outbreak emergence would be the earliest date of symptom onset among persons exposed to the contaminated product.

2.2.2 Determine the date of detection

The date of detection is the date the public health event was first recorded by any source or in any system. For indicator-based surveillance, the date of detection would be when case or incidence data were recorded (e.g., in a log book, case investigation form, laboratory requisition form). For event-based surveillance (EBS), the date of detection would be when the event information was first recorded (e.g., detected by a media scanning system, recorded by a community health worker, recorded by a hotline operator).

Examples of date of detection, by type surveillance

DETECTION TYPE	EXAMPLE OF DATE OF DETECTION
Indicator-based surveillance (e.g., aggregate data for malaria cases)	Malaria outbreaks are declared at the district level in country X. The date of detection of the malaria outbreak in district Y would be the first date on which the district aggregated the data and recorded that the incidence threshold had been exceeded.
Indicator-based surveillance (e.g., case of EVD detected in a health facility)	The date of detection would be the date when the health facility recorded a suspected EVD case in any system. Most frequently this is documented by the completion of a case investigation or laboratory requisition form, but may also be indicated on a clinical chart.
Event-based surveillance (e.g., media scanning)	A measles outbreak has been occurring in state Z for three weeks, but nobody had aggregated or analyzed the data to record that an outbreak has started. A local newspaper reports on a cluster of deaths among children likely due to measles, which is then picked up by an EBS analyst at the national public health institute. The date of detection of the outbreak would be the date this event was recorded by the EBS analyst.
Event-based surveillance (e.g., community event-based surveillance)	A community health worker notices acute flaccid paralysis in a young child on a home visit. The date of detection is the date when the community health worker recorded the suspected polio case (e.g., in a log book, a mobile application, an investigation form).

2.2.3   Determine the date of notification

The date of notification is the date the event is first reported to a public health authority responsible for action. For countries that require notification of reportable events to multiple levels of government that are tasked with different actions, the earliest date that any of these public health authorities were notified would be the date of notification. Oftentimes, the most immediate public health jurisdiction (city, district) will be the public health authority responsible for action and the first public health authority to be notified. In some guidance, this step may be referred to as 'reporting' to a public health authority or district health team.

Notification of responsible health authorities could be from a clinical setting to a district surveillance officer. In the case of event-based surveillance or when outbreaks are detected centrally, notification to a responsible authority might be from the central level to the subnational level. This step should not be confused with notification to WHO as defined by the International Health Regulations (2005), which is typically only done after local or national public health authorities have become aware of an event.

Examples of date of notification, by notification scenario

NOTIFICATION SCENARIO	EXAMPLE OF DATE OF NOTIFICATION
Epidemic-prone disease detected by a health worker (e.g., EVD)	The date when a clinician or facility surveillance focal point contacted the public health department or local surveillance officer to inform them of a suspected viral hemorrhagic fever case. Note: if the facility sent the specimen (i.e., detected the case) but did not contact a public health department or local surveillance officer, and public health authorities only became aware of the suspected case when the laboratory result became available, the date the public health authorities received the laboratory result would constitute the date of notification.
Event detected by a community health worker	If a community health worker reported the event to a surveillance officer or public health department directly, this would be the date of notification. If a community health worker reported the event to a health facility, the date of notification is when the health facility reported the event to the surveillance officer or public health department.
Event detected by a central media scanning unit	The date when the central media scanning unit or EBS program notified the public health authorities at the jurisdiction level responsible for investigating or responding to the event.
Event detected by aggregate indicator-based surveillance	The date when the analyst or surveillance officer notified a member of the team responsible for investigation or public health response.

2.2.4   Determine the date of early response completion

The 7-1-7 approach identifies seven early response actions that should be completed within seven days of notification. The date of early response completion is defined as the latest date on which any of these seven early response actions are completed:

1. Initiate investigation or deploy investigation/response team;
2. Conduct epidemiologic analysis of burden, severity and risk factors, and perform initial risk assessment;
3. Obtain laboratory confirmation of the outbreak etiology;
4. Initiate appropriate case management and infection prevention and control (IPC) measures in health facilities;
5. Initiate appropriate public health countermeasures in affected communities;
6. Initiate appropriate risk communication or community engagement activities;
7. Establish a coordination mechanism.

All seven early response actions may not be applicable for some public health events. For example, an event may be determined to be low risk, such that countermeasures and establishment of a coordination mechanism are not necessary. For events where some response actions are not applicable, the latest date among the applicable actions should be used as the date of early response completion.

In addition to the date of early response completion, it is also recommended to review the *date of early response initiation*: the date when the first of the seven early response actions was completed. While *date of early response initiation* is not used to calculate the 7-1-7 metrics, this date is useful to identify bottlenecks to response initiation. It is suggested to aim to initiate the early response within 1 day of notification. The initiation of response actions (i.e., the first action taken) within 1 day can support monitoring of existing guidance for response initiation, as well as monitoring towards WHO's GPW 13 targets.

The early response actions, defined below, indicate *initiation* rather than *completion* of a response, and provide a framework to ensure that the relevant pillars of a response have been activated. They provide simple indicators, modified through pilot testing, to clearly identify a date when actions were taken. Some countries have found that expanding the early response actions into event or disease-specific job aids that outline detailed, specific response actions enhances performance improvement and improves accountability.

EARLY RESPONSE ACTIONS	EXAMPLES*
Initiate investigation or deploy investigation/response team	• Date the district initiated an investigation of a suspected outbreak or in response to a signal • Date a rapid response team was deployed
Conduct epidemiologic analysis of burden, severity and risk factors, and perform initial risk assessment	• Date when the first results of the epidemiologic analyses were published and the risk assessment was completed • Date when the first situation report was published and the risk assessment level was indicated
Obtain laboratory confirmation of the outbreak etiology	• Date when laboratory confirmation of the pathogen was completed • Date when the etiology of a toxicological or chemical poisoning event was confirmed
Initiate appropriate case management and infection prevention and control (IPC) measures in health facilities	• Date when a facility IPC assessment was initiated in affected health facilities • Date when appropriate case management procedures were assessed at affected health facilities • Date when IPC or case management training was initiated • Date when appropriate therapeutics, vaccines, or personal protective equipment were distributed to health facilities • Date when known cases were transferred to a specialty center or isolation unit with known capacity for case management and IPC for the etiology
Initiate appropriate public health countermeasures in affected communities	• Date when procurement or distribution of commodities to prevent outbreak spread in communities was initiated (e.g., vaccines, ORS sachets, antimicrobial agents, water treatment, soap, insect repellants, bed nets, or personal protective equipment) • Date when a food recall or boil water advisory was announced • Date when a public health or social measure was instituted (e.g., masking, travel restrictions, or quarantine)
Initiate appropriate risk communication and community engagement activities	• Date when a local or public health official announced the outbreak • Date when messaging to reduce risk or prevent spread was published or communicated • Date when two-way dialogue with communities was initiated

EARLY RESPONSE ACTIONS	EXAMPLES*
	• Date when community sentiment or knowledge, attitudes, or perceptions of the event were assessed
Establish a coordination mechanism	• Date when an incident management system (IMS) was activated • Date when the emergency operations center (EOC) was activated • Date when a task force or technical working group was initiated • Date when an incident action plan was drafted

*The earliest date should be used for 7-1-7 purposes; these examples are not comprehensive

2.2.5 Calculate the three timeliness metrics and determine if the 7-1-7 target was met

The value of determining the dates of emergence, detection, notification, and early response completion is to calculate intervals between these events, referred to as timeliness metrics. The calculation of key timeliness metrics allows public health officials and other stakeholders to identify whether the processes for detection, notification, and early response were timely, and whether the event met the 7-1-7 target. These timeliness metrics allow for an assessment of the
performance of the systems for surveillance and early response, and for bottlenecks and enablers to be identified for future planning and action (see **Steps 3** and **4**).

Calculation of the 7-1-7 timeliness metrics

1. Time to detect = Date of detection – Date of emergence [Target: 7 days]
2. Time to notify = Date of notification – Date of detection [Target: 1 day]
3. Time to complete early response = Date of early response completion – Date of notification [Target: 7 days]

7-1-7 IN ACTION

Nipah virus in India

On Aug 29, 2021, the family of a 12-year-old boy who lived near a farm frequented by Pteropus fruit bats brought him to a local clinic in the Kozhikode district of Kerala State with a headache and low-grade fever. Over the next three days, the boy was transferred to one hospital and then another as his condition rapidly deteriorated; he developed serious symptoms including disorientation and loss of consciousness.

With four previous outbreaks of Nipah virus disease reported in India since its emergence—one of which took place in the very same district of Kozhikode, Kerala—district doctors were prepared. Although the boy was much younger than previous cases of Nipah and fell sick outside the typical season for infection, his tell-tale presentation with encephalitis and the clear reporting protocols for symptoms meant that samples were immediately sent to the National Institute of Virology in Pune for testing on Sept 3. The sample was confirmed to contain Nipah antibodies the following day. Tragically, the boy succumbed to the virus on Sept 5.

As soon as Nipah was confirmed on Sept 4, health authorities were alerted and senior health officials across local, district, state and national bodies convened in the Kozhikode district to plan and implement response measures, releasing a detailed action plan and practice manual for all stakeholders on September 5. The group would meet every day—twice a day, at first—establishing a 24-hour Emergency Operations Center in a local guesthouse where they worked together around the clock.

With the help of a multi-disciplinary team from the Indian Government's National Centre for Disease Control, rapid and exhaustive epidemiological investigations quickly identified 240 of the index case's contacts and other potential cases in nearby districts; officials also conducted extensive sampling and testing of the fruit bats near his home—all by Sept 6. The district had learned from previous outbreaks how important contact tracing and case investigation would be to containment efforts, as well as establishing triage centers and isolation facilities to control transmission, a field laboratory for faster test results, and risk communication activities targeting health literacy and behavior change.

The public was informed about Nipah virus transmission and prevention measures through daily press briefings and a "No Nipah" media campaign, and neighboring states were quickly alerted to the potential threat. After a conservative waiting period of 42 days with no new cases detected (twice the length of the potential incubation period of 21 days), India's Health Minister announced the end of the outbreak on Oct 17, 2021.

Date of Emergence Aug 29: The first known case developed a fever and the family sought care.
Date of Detection Sept 3: The clinician determined that the patient might have Nipah virus, completed a specimen requisition form, and sent the specimen for testing.
Date of Notification Sept 4: Public health officials were notified of the case.
Date of Early Response Completion Sept 6: The investigation had been initiated, risk had been assessed, contacts were placed under quarantine, Nipah virus was confirmed, the public had been informed of the outbreak, and a coordination structure had been established.
Time to detect: "Sept 3" – "Aug 29" = **5 days**
Time to notify: "Sept 4" – "Sept 3" = **1 day**
Time to initiate early response: "Sept 4" – "Sept 4" = **0 days** (coordination initiated on the same day as notification)
Time to complete early response: "Sept 6" – "Sept 4" = **2 days**

*Read the whole story at **preventepidemics.org***

2.2.6   **Record bottlenecks and enablers**

While the 7-1-7 timeliness metrics provide a quantitative measure of the performance of systems for surveillance and early response, on their own they do not provide information about why systems did or did not perform well. Documenting the bottlenecks and enablers of system performance is critical for identifying best practices as well as the specific systems or processes that require strengthening. Bottlenecks and enablers are factors that, respectively, prevent or facilitate timely action.

After recording the timeliness metrics and reviewing whether the 7-1-7 target has been achieved, individuals directly involved in the initial investigation and response should consider holding a participatory session to discuss bottlenecks, enablers and their root causes:

- Review 7-1-7 data to identify bottlenecks and enablers by considering potential reasons that may have hindered or facilitated, respectively, the timeliness of processes in the detection, notification and response intervals. These bottlenecks and enablers may be technical, operational or political.
- When identifying bottlenecks, ensure that they are clear and root causes are determined so these can later be addressed. Examples of clear bottlenecks are provided below. Stakeholders may utilize brainstorming approaches such as "Five Whys," where "Why?" is simply asked multiple times (more or less than five) in

succession until a root cause is determined. Alternative methods that can be used to conduct a root cause analysis are the fishbone diagram, interviews and focus groups.

CHARACTERISTICS OF A CLEAR BOTTLENECK	UNCLEAR BOTTLENECK	CLEAR BOTTLENECKS
• Phrased in specific terms • Defines the root cause of an observed delay • Focuses on systemic issues and avoids individual blame or complaints	"Lab transportation"	"Lack of dedicated vehicle for lab transport to collect samples from health facilities" "Lack of fuel for the vehicles at the clinic to transport samples from the health facility to the laboratory"

2.2.7 Propose remedial actions

Review the list of bottlenecks and propose remedial actions that can resolve the bottlenecks. Actions proposed should be made as clear, specific and realistic as possible. Two categories of remedial actions may be surfaced through 7-1-7 implementation:

- Immediate actions: actions for which necessary resources are already available to begin implementation.
- Longer-term actions: actions for which necessary resources are not currently available, but which should be considered in future national planning (e.g., included in National Actions Plans for Health Security, or NAPHS, or funding requests to government or external donors).

Implementation of the immediate actions should begin as soon as possible. For outbreaks that are ongoing, these remedial actions should inform the incident action plan. In most settings, the initial investigation and response team proposing remedial actions may not be empowered to implement them or have the resources to do so. Thus, it is recommended that the proposed actions be presented to a broader group of stakeholders to obtain the necessary buy-in and financial resources. This process is described in **Step 3**.

CHARACTERISTICS OF A CLEAR REMEDIAL ACTION	UNCLEAR ACTION	CLEAR ACTION
• S.M.A.R.T. (specific, measurable, achievable, relevant, time-bound) and addresses root causes of a bottleneck • Moreover, ensure that the action is linked to relevant implementing authorities and planning and funding opportunities (for longer-term actions)	"Train PHEOC staff"	"Design and deliver a three-day training on emergency management protocols for five PHEOC staff"

2.3 Consolidate 7-1-7 performance: metrics, bottlenecks, and remedial actions

After each public health event, data originally captured on the **7-1-7 Assessment Tool** should be stored in a single location in order to facilitate performance analysis across events. Ideally, these data should be captured in event or project management systems used to track other activities and collect other surveillance and/or response data. Jurisdictions lacking a suitable existing data system may choose to use the **Data Consolidation Spreadsheet**, a Microsoft Excel database developed to support implementation of the 7-1-7 approach. This tool contains four different sheets:

1. **Input timeliness data**: This page of the worksheet permits jurisdictions to record timeliness metrics, bottlenecks and enablers for each public health event reviewed against the 7-1-7 target;

2. **Assess 7-1-7 results**: This page automatically calculates the three timeliness metrics for each public health event and generates tables and graphs that summarize performance across all events entered in the spreadsheet;
3. **Track remedial actions:** This page allows jurisdictions to record all remedial actions identified as well as the responsible authority and implementation status;
4. **Bottleneck analysis:** This optional page can be used by jurisdictions to consolidate the bottlenecks identified through 7-1-7 implementation and categorize them, facilitating identification of the most common bottleneck types. This analysis has been found useful in helping jurisdictions prioritize longer-term remedial actions for funding.

Supporting Tools

🔧   **Data consolidation spreadsheet**

Engage 7-1-7 stakeholders routinely for rapid performance improvement

While 7-1-7 data should be captured by the initial investigation and response team (**Step 2**), it is critical to routinely engage a broader group of stakeholders to enable the political buy-in to prioritize and resolve bottlenecks and improve early detection and response systems. This section describes how 7-1-7 data can be shared with stakeholders to support implementation of remedial actions that lead to performance improvement.

3.1   Convene stakeholders to review 7-1-7 performance

An essential component of 7-1-7 implementation is deciding on an approach for convening key stakeholders to review performance against the 7-1-7 metric and discuss remedial actions for future improvement. While a real-time review of events is ideal to enable immediate improvements, different approaches can be used to convene stakeholders, as described below:

VENUE	SETTING	DESCRIPTION
Response meeting	Emergency Operations Center, National Task Force or Incident Management System meetings	Rapid review of 7-1-7 performance for an ongoing public health threat in a meeting dedicated to coordinating the response against that health threat
Routine review meeting	Existing epidemiology or outbreak review meetings held weekly or monthly	Review of 7-1-7 performance for recent public health threats are incorporated into routinely held meetings that convene key stakeholders
Multi-event review meeting	Quarterly or annual meeting organized specifically to review 7-1-7 performance	A half- or full-day meeting dedicated to reviewing 7-1-7 performance for multiple recent public health threats
After Action Reviews	AAR workshop	In-depth analysis of individual or multiple events in which the 7-1-7 target can be used as a performance benchmark to focus on critical areas for strengthening

7-1-7 IN ACTION

Convening stakeholders to review 7-1-7 performance in Nigeria

Nigeria is implementing the 7-1-7 approach through its national public health institute, the Nigeria Centre for Disease Control and Prevention (NCDC). To ensure effective 7-1-7 implementation, a monthly National Surveillance and Outbreak Review Meeting (NaSORM) was reactivated to track timeliness of outbreak detection, notification and response against the 7-1-7 target and as a venue where stakeholders may discuss remedial actions to improve future systems performance.

3.2   Present 7-1-7 performance to stakeholders

Once stakeholders have been convened, 7-1-7 performance should be reviewed for individual public health events. This review should contain the following key components:

- Brief narrative description of the public health threat;
- Timeline of key milestones (including the four 7-1-7 timeliness milestones) and calculation of the three timeliness metrics;
- Descriptions of bottlenecks and enablers to detection, notification, and early response;
- Proposed remedial actions to address bottlenecks and improve preparedness for future threats.

The **7-1-7 event review slide template** can be used to present 7-1-7 data from a single public health event to stakeholders. This template was designed to facilitate a 10-minute presentation that raises stakeholder awareness of performance bottlenecks and facilitates a discussion of appropriate remedial actions and improvement of ongoing and future responses.

> **Supporting Tools**
>
> 🔧 **7-1-7 event review slide template**

3.3   Agree on remedial actions

The output of the stakeholder review of 7-1-7 performance is a consensus list of remedial actions. Actions agreed to be immediate should be designated to a responsible authority provided with the necessary resources to complete them. Longer-term actions should be documented for consideration during future planning activities. All actions should be recorded in a database. Ideally actions from 7-1-7 may be captured in existing project management software or databases or on the action tracker sheet of the **Data Consolidation Spreadsheet**. All actions should be written using the SMART criteria (specific, measurable, attainable, relevant, and time-bound) described in detail in **Step 2.2.7.**

> **7-1-7 IN ACTION**
>
> ### Identifying immediate remedial actions in the United States
>
> Review of performance against 7-1-7 for a measles case in the United States identified a response bottleneck: it took multiple days to receive the flight manifest for a person infected with measles. After realizing this delay, the jurisdiction determined that it did not have the correct phone number at the airport for requesting flight manifests. This led to an immediate action – someone was assigned to identify the correct phone number. This phone number was updated, which enabled the jurisdiction to receive a flight manifest within one day for a subsequent monkeypox case.

3.4   Track progress towards completing immediate remedial actions

When conducting routine response or review meetings on 7-1-7 implementation, an agenda item reviewing the implementation status of immediate remedial action items identified at prior meetings should be included. This will increase accountability and help ensure that actions are completed in a timely manner and lead to performance improvement. Some actions initially selected for immediate implementation may remain incomplete and ultimately need to be considered alongside other longer-term actions in future planning activities.

Synthesize 7-1-7 performance to prioritize long-term planning and accountability

By evaluating the real-world performance of detection, notification, and early response systems, implementation of the 7-1-7 approach generates information that can be used to inform financing and planning decisions. The approach does not replace, but rather complements, existing components of the IHR Monitoring and Evaluation Framework—such as the State Parties Self-Assessment Annual Reporting (SPAR) and Joint External Evaluation (JEE) tools, both of which assess the existence of country system capacities as opposed to real-world performance. This section outlines how 7-1-7 data can be consolidated across multiple events and used to support prioritization of financing and planning activities by stakeholders.

4.1 Prepare consolidated data for analysis

Prior to analyzing consolidated 7-1-7 data, the following actions should be completed:

1. *Confirm that all data have been entered*: Review the list of public health events that occurred during the period of interest and confirm that all event data have been entered in the appropriate databases.
2. *Clean the data*: Review the data entered in the databases and check for any missing fields. In addition, check the calculated values for each of the three timeliness metrics and confirm that any outliers (e.g., negative numbers, large numbers) are correct. For jurisdictions using the **Data Consolidation Spreadsheet**, this can be done by reviewing outputs on the "Assess 7-1-7 Results" sheet where the timeliness metrics are automatically calculated, and blanks and negative values highlighted.

4.2 Routinely produce and disseminate a Synthesis Report to inform stakeholders on 7-1-7 performance

7-1-7 data across public health events should be routinely synthesized in a brief report for dissemination to stakeholders and policy makers. Objectives of this Synthesis Report include:

- Providing a high-level summary of the most important learnings from 7-1-7 implementation. These can be prioritized based on observed frequency of bottlenecks or anticipated system-wide impacts of interventions;
- Informing stakeholders of performance against the 7-1-7 target;
- Reviewing progress in completing immediate actions selected to improve epidemic preparedness;
- Consolidating and disseminating long-term actions in order to inform planning and financing requests, including integration into NAPHS or similar plans and alignment with funder priorities.

The ideal frequency of Synthesis Report dissemination will vary based on the number of public health events within a jurisdiction, available human resources, and the periodicity of planning activities and funding opportunities that can support completion of remedial actions. At a minimum, a report should be developed and disseminated shortly before each planning cycle. The sub-steps below describe key components of a Synthesis Report.

> **Supporting Tools**
>
> 🔧 **Sample Synthesis Report Template**

4.2.1 Calculate the proportion of events meeting 7-1-7 timeliness metric targets

Calculating the proportion of events that meet each component of the 7-1-7 target provides stakeholders with a high-level understanding of a jurisdiction's performance. It can help understanding of whether systems used for detection, notification, or early response are able to routinely complete timely and appropriate actions. It is recommended that countries present the proportion of events meeting each component of the 7-1-7 target, rather than presenting medians. Median results may be misinterpreted by stakeholders as success when they in fact indicate that only half the events have met the target and critical system strengthening needs may still exist.

Jurisdictions should perform the following calculations:

- The proportion of events that meet each of the three components of the 7-1-7 target;
- The proportion of events that met all three components of the 7-1-7 target;
- For each of the seven early response actions, the proportion of events where the early response action was completed within 7 days.
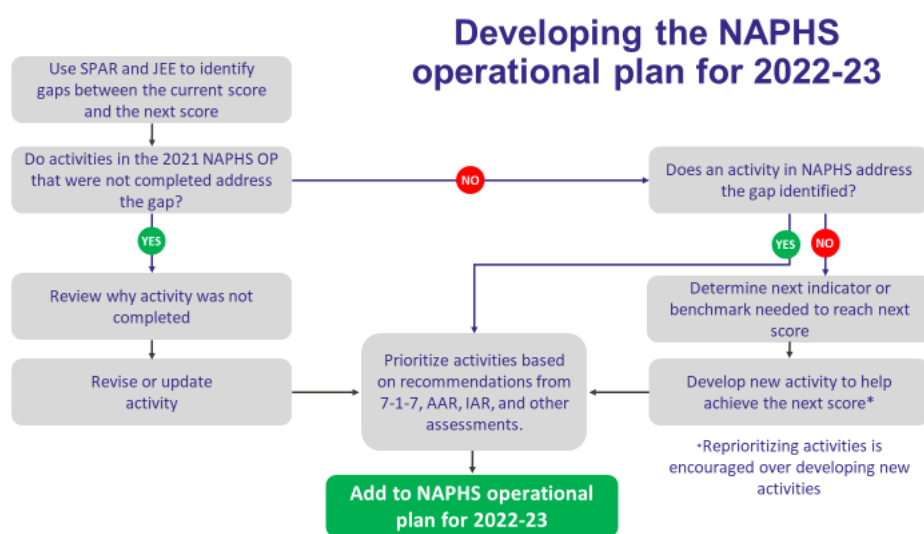
4.2.2 Evaluate progress over time

Jurisdictions that have implemented the 7-1-7 approach over multiple reporting periods should evaluate if the proportion of events meeting the 7-1-7 target is increasing over time. This can demonstrate progress (or lack thereof) to stakeholders.

4.2.3 Categorize bottlenecks to inform prioritization (optional)

As a result of implementation of the 7-1-7 approach, a list of bottlenecks and proposed remedial actions will be compiled. To facilitate prioritization, jurisdictions have found it useful to categorize bottlenecks, the most common categories suggesting the areas most likely in greatest need of remedial actions and investment.

A list of **bottleneck categories** has been developed to support this process. In addition, the **Data Consolidation Spreadsheet** contains a sheet to list bottlenecks and assign them to a category. A table is then automatically generated showing the frequency of each category of bottleneck.

Supporting Tools

4.2.4 **Additional analyses (optional)**

Depending on a jurisdiction's context and the number of events reviewed using the 7-1-7 approach during the reporting period, the following additional analyses may be considered for inclusion in a Synthesis Report:

- 7-1-7 performance by event type;
- 7-1-7 performance by geographic area (e.g., region or district);
- Review of the most common bottlenecks for detection, notification, and response;
- Review of bottlenecks by the level(s) of the health system where they occur (e.g., community, health facility, intermediate, or national level).

4.3 **Use the 7-1-7 approach to prioritize activities for financing**

The 7-1-7 approach identifies bottlenecks and remedial actions that can feed into the development of operational (annual) or strategic (multi-year) planning cycles, including National Action Plans for Health Security (NAPHS). In many settings, effective NAPHS implementation has been hindered by lack of prioritization. Integrating the 7-1-7 approach into the NAPHS process, and focusing on areas identified for performance improvement, helps define a more feasible number of priorities per IHR technical area for financing and implementation.

To facilitate this process:

- Ensure that critical stakeholders are involved in event reviews, so that they understand the 7-1-7 approach and rationale for the identification of bottlenecks and corresponding remedial actions;
- Ensure that remedial actions are assigned to relevant IHR technical areas since, commonly, technical area priorities are defined before consolidation into national plans;
- The 7-1-7 approach must be considered alongside the results of IHR and other assessments, including WHO benchmark recommendations to determine NAPHS priorities. In determining what to prioritize during an implementation period, 7-1-7 bottlenecks and remedial actions can be incorporated as additional items or included as a result of reprioritization of relevant actions from the previous cycle.

The Synthesis Report is designed to include information needed by stakeholders to support these steps and must be disseminated to stakeholders before national planning meetings.

7-1-7 IN ACTION

Using 7-1-7 data to inform activity prioritization during operational planning in Uganda

The Uganda Ministry of Health and Infectious Diseases Institute utilized the 7-1-7 approach to inform 2023 NAPHS operational planning. Prior to the NAPHS planning workshop, stakeholders convened to review 7-1-7 results and identify common bottlenecks and corresponding remedial actions. These were then assigned to IHR technical area leads who referenced the data against recommendations from the most recent State Parties Self-Assessment Annual Reporting (SPAR) and Joint External Evaluation (JEE) to determine priorities for the upcoming cycle of NAPHS implementation. For example, use of the 7-1-7 approach identified a bottleneck in the detection of anthrax and viral hemorrhagic fever due to lack of community

awareness. This then led to prioritization of the development and distribution of community education materials in the annual operational plan.

Process flowchart adopted by Uganda

Developing the NAPHS operational plan for 2022-23
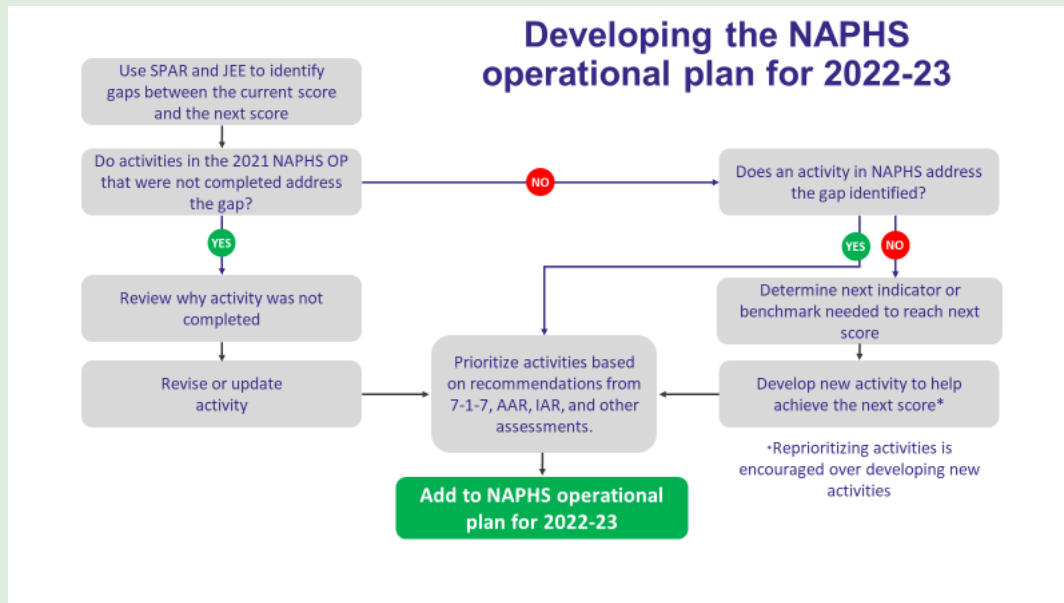
Use the 7-1-7 target for advocacy and accountability

Clearly articulated, objective targets can help identify strengths and weak spots, and bottleneck analysis can point to financing and resources needed for improvement. Findings from use of the 7-1-7 approach, including both performance against the three metrics and identification of bottlenecks, can then be translated into advocacy asks. The 7-1-7 approach also offers an easy means to capture and report on improvements once investments have been made. This creates a virtuous cycle of accountability and advocacy by providing stakeholders with a clear view of progress and measure of return on investments.

A key challenge to improving health security capacities in both high- and low-income countries has been **adequate financing** of national plans. Substantial efforts have been made to improve multisectoral planning initiatives, including NAPHS, but integration of these plans into national planning and budget cycles is critical for their actual implementation. In a recent publication on its NAPHS development process, Cameroon **recommended that the NAPHS be accompanied by a financing strategy**.

This step focuses on translating 7-1-7 findings into clear messages for different stakeholders to promote increased financing and strengthen implementation, as well as processes to enhance budget advocacy.

> **Supporting Tools**
>
> 🔧 **Global Health Advocacy Incubator Budget Advocacy Toolkit**

5.1   Plan for advocacy using the Budget Advocacy Toolkit for epidemic preparedness

The results of 7-1-7 assessments or the Synthesis Report can help surface investment priorities from the planning and prioritization exercises conducted in Step 4, and identify whether they lend themselves to being addressed through advocacy.

A landscape analysis can then prove useful to assess the country-specific context, understand the needed changes to be pursued (policy, budget or program), support the translation of investment priorities into specific objectives (e.g., increased domestic funding for national priorities identified by 7-1-7 for the next budget cycle), and serve as a basis for the development of a targeted advocacy strategy.

Assessment of the political landscape and budget process can allow for the development of more targeted approaches to ensure that plans developed in **Step 4** are integrated into the budget planning process. The necessary tools for conducting a landscape analysis, including budget cycle mapping, political landscape, and stakeholder mapping, are provided in the Budget Advocacy Toolkit.

> **Supporting Tools**
>
> 🔧 **Landscape Analysis Tool (GHAI Budget Advocacy Toolkit)**

5.2   Use 7-1-7 to support communication of your advocacy objective

The 7-1-7 target can focus the world's attention on the need for effective and swift outbreak response and become a rallying point for a virtuous cycle of advocacy and accountability. After the landscape analysis has been

completed and policy objectives and strategies set, the 7-1-7 approach can be used as a tool for effective communication of the systems and actions required to strengthen health security.

7-1-7 IN ACTION

A multi-country Retrospective Review identifying common bottlenecks

One example of how the 7-1-7 approach has been used to raise global awareness of key investments needed for health security strengthening is a Retrospective Review of events undertaken by five countries (Brazil, Ethiopia, Liberia, Nigeria, and Uganda). The review established that fewer than 25% of outbreaks in these countries achieved the full 7-1-7 target. It then synthesized the most common bottlenecks. The review also identified that delays in detection were primarily at the health facility level, while delays in notification and response were most often at the intermediate/subnational level. The document advocated for increased investment in health facilities and health worker training to improve prompt disease detection and reporting, as well as the strengthening of response mechanisms at the subnational level.

Communications with stakeholders can be undertaken in different ways, using different tactics and assets, alone or in combination, with adjustments over time. They should be informed by the targeted advocacy strategy developed in **Step 5.1**. Stakeholders will inherently have different interests and areas of influence.

Different types of stakeholder roles may include:

Government stakeholders:

Government stakeholders have influence over what is included in national budgets and on implementation priorities. The 7-1-7 target allows governments to identify points of failure and bottlenecks across outbreak responses. Because the 7-1-7 approach highlights the interplay of various systems, it helps focus accountability rather than just vaguely attributing failed responses. It provides data to help drive decision-making — where to direct attention, training, technical assistance, and funding. Ministries of Health, National Public Health Institutes (NPHI) and local and other officials can reference transparent reporting to advocate for increased investment of domestic resources in systems to improve performance against the 7-1-7 target. They can also use the 7-1-7 approach to increase and focus support from external donors, while building confidence that funds will be targeted to critical needs and impacts will be measured.

Civil society and communities:

Civil society and communities have been amongst the most potent forces in advocating for resources and programs to address the HIV pandemic and in demanding accountability from officials when shortcomings are identified. Over the past decades, they have used HIV treatment targets to mobilize action. Civil society and community organizations can have a significant impact in terms of mobilizing funds for outbreak preparedness and response, while tracking how funds are spent and demanding accountability. The 7-1-7 approach can further support efforts by advocates to push for increased attention and funding where gaps exist and governments fail to invest adequately in epidemic preparedness.

Funders and development partners:

Part of the reluctance to fund epidemic preparedness stems from the absence of simple measurements of progress as well as a lack of prioritized funding needs. As in the case of HIV, synthesized data collected against the 7-1-7

metrics can help funders and development partners (including foundations, bilateral donors, development banks and technical assistance providers) understand how best to direct resources and structure program funding, while also offering a measure of funding impact. With measurable metrics and an evidence-based list of priority needs — a requirement for bringing major funding on board — the 7-1-7 approach helps focus funding contributions on areas of greatest need and builds confidence that funds are well spent.

Depending on the specific demands and opportunities for engagement, different assets and tactics can be employed to leverage the 7-1-7 target as a communications and advocacy tool. These include:

- Workshops or high-level conferences to obtain consensus and buy-in;
- Individual meetings to identify opportunities and obtain commitments;
- Presentations to key committees or interest groups;
- Policy briefs;
- Media campaigns;
- Editorials or publications;
- Planning documents.

5.3   Demonstrate progress and communicate success

Routine collation and synthesis of 7-1-7 data (**Step 4**) can help demonstrate progress and highlight persistent bottlenecks. Routine reports (quarterly, annual) can also provide evidence of performance improvement to stakeholders (government, civil society, and funders) and detailed feedback on the value of their investments.

> ## Using timeliness metrics to advocate for investments and show returns
>
> **❚❚ Prior to this investment in diagnostic capacity, it was a huge challenge for countries across Africa to accurately ascertain where yellow fever outbreaks were at risk of breaking out.**
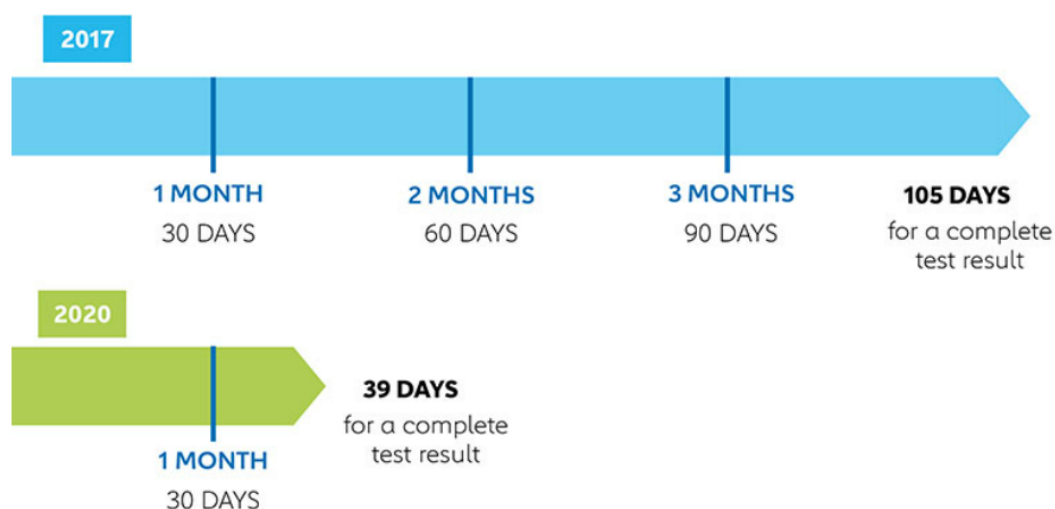> —*Dr Seth Berkeley, CEO of Gavi, the Vaccine Alliance*
>
> Containing yellow fever is a unique challenge. Effective vaccines exist but are in limited supply for a variety of reasons, including their substantial cost. Yellow fever can be difficult to distinguish from other infectious diseases because the virus that causes it is similar to other viruses and can elicit a similar immune response.
>
> Strong diagnostic capacity is required to differentiate yellow fever from other diseases that may require different containment strategies. On the African continent it took an average of 105 days to complete yellow fever testing. Recognizing this challenge, Gavi implemented a program to scale up diagnostic testing capacity in Africa, which quadrupled the number of laboratories able to complete yellow fever testing. To demonstrate the impact of the investment, **Gavi highlighted that the average time to complete yellow fever testing** had decreased to 39 days by 2020.
>
> In **Nigeria, the results were** even more dramatic: yellow fever specimens can now be confirmed within 24 hours at the national reference laboratory, accredited by WHO for molecular confirmation in 2021.

High-risk African countries had an average **70% reduction** in the amount of time needed to complete yellow fever testing.

2017

1 MONTH	2 MONTHS	3 MONTHS	105 DAYS
30 DAYS	60 DAYS	90 DAYS	for a complete test result

2020

39 DAYS
for a complete
test result

1 MONTH
30 DAYS

If performance against the 7-1-7 metrics is not progressing as expected, the data can be used to communicate where additional investments are needed. Data collected through the 7-1-7 approach should also be used to identify enablers and those aspects of the system that are working. Demonstrating the success of public health efforts in preventing epidemics and other health threats is a challenge, because the mark of success is when nothing happens. The 7-1-7 approach not only makes the successful containment of public health threats more concrete, but also identifies the specific system factors and investments responsible for success.

7-1-7 IN ACTION

Accelerated responses in Nigeria after a bottleneck analysis

The use of timeliness metrics and the 7-1-7 target can help countries identify catalytic investments and communicate their success.

From 2017 to 2019, it took the Nigeria Centre for Disease Control and Prevention (NCDC) a median of six days to undertake essential early response action upon detection of an outbreak — and more than one month to respond to one in five (20%) outbreaks. For instance, an outbreak of meningitis in Zamfara (a state in northwestern Nigeria with large agricultural and gold mining industries) went 108 days without a response from NCDC due to a complex interplay of factors.

To remedy this problem, on February 1, 2019, the NCDC established the Revolving Outbreak Investigation Fund (ROIF), which enables the rapid release of funds to investigate, verify and control infectious outbreaks. **Since then, the median time to respond to a viral threat** has dropped to two days, a 67% improvement over the previous two years. These results have been used by advocates to promote the creation of a rapid response funding line in the federal budget.

Ready to become a member of the 7-1-7 Alliance? Submit an Expression of Interest to **contact@717alliance.org** to get started.

Program Secretariat

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