



# Guidance Framework for Assessment of Country Response to Pandemic Influenza (H1N1) 2009

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## Introduction

In March and early April 2009, Mexico experienced outbreaks of respiratory illness and increased reports of patients with influenza-like illness (ILI) in several areas of the country. Some cases were reported to be severe, and attention was drawn to the occurrence of severe pneumonia and a number of fatalities in young adults. On April 17, 2009, CDC in Atlanta determined that two cases of febrile respiratory illness occurring in children who resided in adjacent counties in southern California were caused by infection with a novel swine influenza A (H1N1) virus. Neither child had contact with pigs. Rapid spreading of this novel influenza virus prompted the declaration by WHO of Pandemic Alert Phase 4 on 27<sup>th</sup> April, followed by Phase 5 on 29<sup>th</sup> April 2009. A global pandemic ensued over the following 12 months, with countries experiencing the periods of greatest transmission intensity either during the months of their traditional influenza seasons (eg. temperate zone countries of the southern hemisphere in summer 2009) or outside this period (eg. countries in the European Region of the northern hemisphere in the autumn/winter of 2009).

As the pandemic has now been declared to be over by WHO, and we are now in the post-pandemic period, it is appropriate to evaluate the pandemic response and to consider which elements of pandemic preparedness now need to be revised, re-visited, or developed *de novo*. This is especially important in consideration of the possibility of further resurgent waves of A(H1N1) activity, and the undiminished pandemic threat posed by influenza A(H5N1) and other influenza A viruses.

## Scope and Purpose

As individual countries consider how they will evaluate their pandemic response, a number have requested WHO assistance in planning these activities. The focus and process of an evaluation can vary greatly according to: political motivation, resources available, time frame, and state of pre-pandemic preparedness. These factors, coupled with the diversity of healthcare systems among WHO Member States, make it difficult to design an in-depth evaluation tool that will be useful and applicable in all settings. Instead a Guidance Framework is proposed in this document, that highlights important areas that should be considered as part of a comprehensive evaluation of the 2009/10 A/H1N1 pandemic response, but which can be adapted at country level according to needs, priorities, and the

time and other resources available. Many of the areas included in the framework have been identified during the WHO/Europe evaluation of how pandemic preparedness aided the response to the pandemic in seven Member States (<http://www.euro.who.int/en/what-we-do/health-topics/diseases-and-conditions/influenza/pandemic-h1n1-2009/who-europe-news-and-updates/update-on-evaluation-of-the-response-to-pandemic-h1n1-2009> ).

This Guidance Framework is considered applicable in all countries of the WHO European Region, and possibly beyond, and thus complements the tool developed by the European Centre for Disease Prevention and Control (ECDC) for the evaluation and review of national pandemic responses in European Union (EU) and EEA member states (MS) ([http://www.ecdc.europa.eu/en/healthtopics/H1N1/pandemic\\_2009\\_evaluations/Pages/template\\_national\\_evaluation.aspx](http://www.ecdc.europa.eu/en/healthtopics/H1N1/pandemic_2009_evaluations/Pages/template_national_evaluation.aspx)).

The excel-based tool can be obtained by sending an email to [influenza@euro.who.int](mailto:influenza@euro.who.int).

WHO/Europe welcomes Member States publishing or sharing with them the outcome of evaluations performed using this Guidance Framework.

## Usage

The Guidance Framework comprises a list of nine key domains (listed in Table 1) of pandemic response that should be evaluated, with a series of questions that should be applied in each selected domain (see Framework 1). Individual Member States should select which of the domains of response are relevant or important in their own circumstances and use these in conjunction with the five cross-cutting questions (unless marked n/a) in order to produce a matrix to assess the pandemic response.

<b>DOMAIN</b>
A. LEADERSHIP
B. SURVEILLANCE & MONITORING
C. COMMUNICATIONS
D. SCIENCE & RESEARCH
E. CLINICAL CARE
F. PHARMACEUTICAL INTERVENTIONS
G. VACCINES
H. PUBLIC HEALTH MEASURES
I. WIDER SOCIETY RESPONSE

*Table 1: Key domains of pandemic response included in framework 1*

It is recommended that a dedicated team should be identified to evaluate the pandemic response. Preferably these should be individuals who were not involved (or less heavily involved) in the response during 2009/10; but equally importantly, they should be appropriately skilled in the areas of public health policy, public health response, communications, surveillance, clinical medicine, logistics and emergency planning to be able to exercise sound judgment when undertaking the review. This can help assure that assessors will maintain objectivity, and not feel a conflict of interest or any pressure to use the evaluation to highlight only successful aspects of planning or response. A multi-disciplinary team is most appropriate and assessors could be selected from within a country or internationally.

The evaluation team should have access to persons who responded to the pandemic at national, regional and local levels, including frontline healthcare workers in primary, secondary and tertiary care. It is important to use both a 'top down' and 'bottom up' approach, whereby the response as described by senior central government officials is appropriately contrasted with the response experienced by local level responders. This can be done, for example, by asking different stakeholder groups, or responders, to complete the evaluation framework 1 (the content of which has been agreed beforehand, as described above) according to their competencies followed by a discussion of the results among the stakeholder groups. In this way, consensus can be obtained on the revisions required in pandemic plans as well as a priority list of actions. This information should be captured in a report.

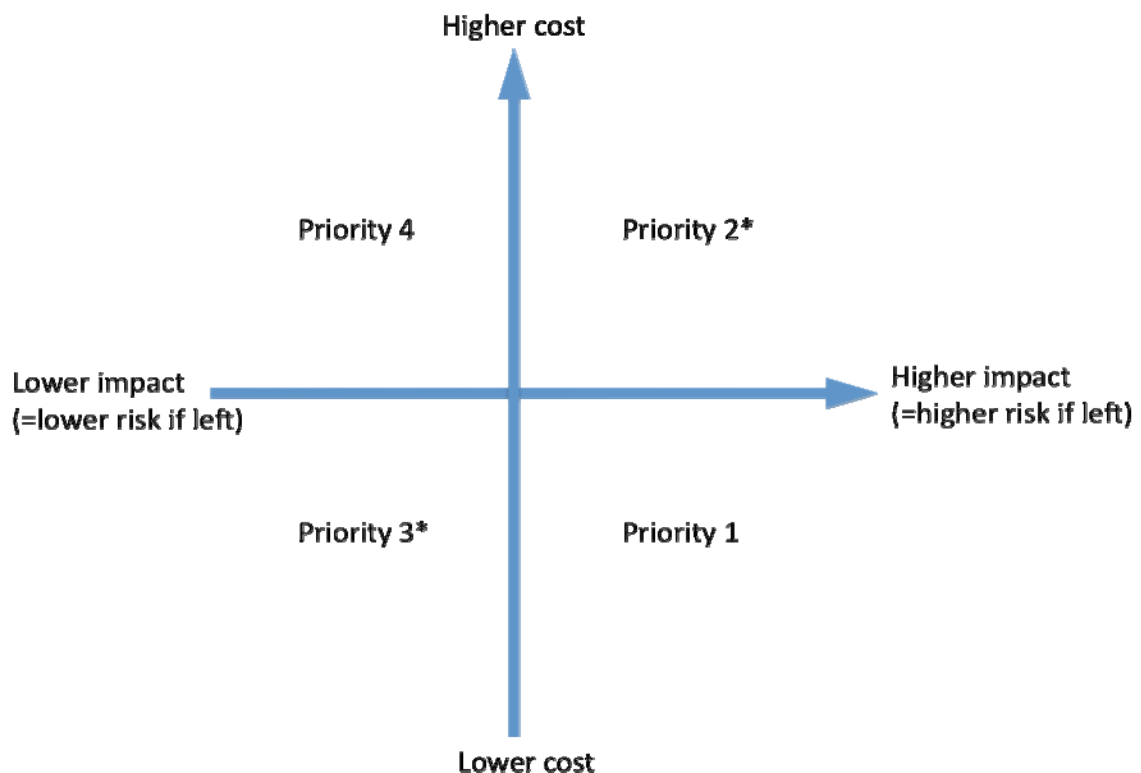
In addition, a clear timeline should be established for critical points in the evolution of the pandemic within the country (see Framework 2). This will assist those being assessed in clarifying the order of critical events, and the assessors in terms of any examination of delays or loss of synchronization.

*N.B. Some domains refer to interventions that were probably not deployed during the 2009/10 pandemic (e.g. arrangements for mass fatalities). Caution should be applied before concluding that such planning would be unnecessary in the future (or was unwarranted in the first place) because the emergence of a more virulent influenza virus might have produced a different outcome. Before rejecting any intervention outright, consider whether this would apply to a more severe pandemic than that experienced in 2009/10.*

## Framework 1 – Assessment Matrix:

Using the matrix in Annex 1, select from each domain those questions considered important or relevant in the national context, commensurate with the scope of the assessment and the time and other resources available.

Apply all crosscutting questions (Q1 to Q4 in the columns of Annex 1), using these to identify areas for improvement (Q3) and legacy actions (Q4). It is important to prioritize the legacy actions to be taken and this can be done using Q5 in Framework 1. One example of how to prioritize is shown in Figure 1 below:



*\* In resource-poor settings, priorities 2 and 3 might be reversed*

*Figure 1: Example of post-pandemic action prioritization matrix*

This example weighs the impact of a certain action on improving the country specific future response against the cost. Priority 1 should be given to those actions that would have a high impact on improving future responses and which are considered to involve lower costs. Priority 2 should be given to those actions that would have a high impact on improving

future responses and which are considered to involve higher costs. Priority 3 should be given to those actions that would have a low impact on improving future responses and which are considered to involve lower costs. Priority 4 should be given to those actions that would have a low impact on improving future responses and which are considered to involve higher costs. Please note that for the evaluation framework described here, which is a qualitative tool, it is not intended that detailed cost-effectiveness or cost-benefit analyses should be performed before actions can be prioritized, but that a general indication can be given.



## **Framework 2 – Timelines:**

A country specific timeline should be produced by the country, in advance of the assessment, after consideration of Framework 2 from which a list of items can be selected that are relevant within the national context (see Table 2).

### **NOTE**

The sequence of events in Table 2 is illustrative, non-exhaustive, and will vary from country to country; for example the decision to procure pandemic-specific vaccine may have been made before or after cases appeared in the country.

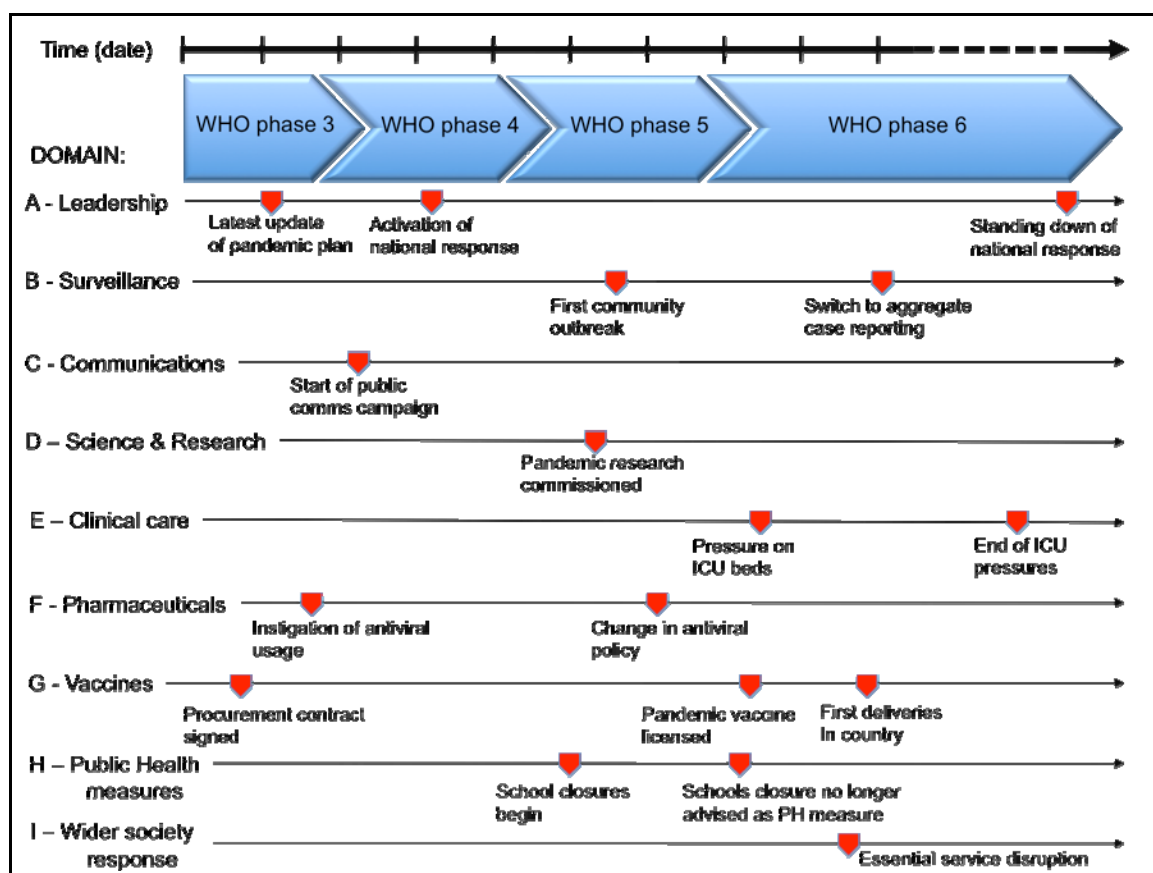
Additionally some events may have occurred more than once, e.g. changes to vaccine priority groups.

Therefore the order of events should be arranged as appropriate to the country, with duplications and additional events inserted accordingly.

EVENT	DOMAIN	DATE
National pandemic plan first completed	A	
National pandemic plan latest update	A	
Pandemic-specific vaccine procurement decision	G	
First awareness of international events	B	
Start of entry screening procedures	H, I	
Activation of pandemic-specific surveillance systems	B	
Activation of individual, case-level surveillance	B	
First in-country case	B	
First activation of national response	A	
Start of national communications campaign	C	
First in-country confirmed person-to-person transmission	B	
First in-country community outbreak	B	
Cessation of entry screening procedures	H, I	
Recognition of established community transmission	B	
Implementation of triage strategy on cases to test in order to reduce laboratory burden	B	
Pandemic research commissioned	D	
First in-country death	B	
Instigation of antiviral usage	A, F	
Vaccine procurement contract signed	G	
Activation of vaccine contract	G	
Start of public health measures (e.g. school closures)	H	
Start of wider societal impacts (e.g. essential service disruption)	I	
Move from individual to aggregate surveillance systems and reporting	B	
End of public health measures (e.g. school closures for public health reasons)	H	
Peak of first wave	B	
Identification of vaccine priority groups	A, G	
First cleared funding for pandemic research	D	
Widespread availability of diagnostic test for A/H1N1	B, E	
Notification of healthcare capacity pressures (e.g. ICU beds)	E	
Change in antiviral usage policy (e.g. prophylaxis to treatment only)	A, F	
Peak of second wave	B	
End of healthcare capacity pressure period	E	
Changes to method of antiviral delivery (e.g. GP to over-the-counter)	A, F	
Delivery of vaccine into the country	G	
Licensure of vaccine	G	
Start of vaccination campaign	G	
Changes to vaccine priority groups	A, G	
End of wider societal impacts/ measures	I	
End of in-country pandemic activity	B	
Standing down of country response	A	
Recovery of unused antiviral stocks	F	

Table 2: Suggested events to develop a country-specific timeline to facilitate the assessment (Framework 2)

Figure 2 shows an example of a country-specific timeline:



*N.B. The sequence of events in this table is illustrative, non-exhaustive, and will vary from country to country; for example the decision to procure pandemic-specific vaccine may have been made before or after cases appeared in the country. Additionally some events may have occurred more than once, e.g. changes to vaccine priority groups. Therefore the order of events should be arranged as appropriate to the country, with duplications and additional events inserted accordingly.*

Figure 2: Example of national timeline chart

## Post-Assessment Actions

Whilst influenza activity appears to be returning to seasonal patterns across the globe, the threat of a future influenza pandemic remains. For example, there is no evidence that the threat posed by influenza A(H5N1) has decreased, and the timing of the next influenza pandemic remains totally unknown. It is important that issues identified as a result of any assessment of pandemic response are prioritized (Figure 1) and action should be taken (e.g. through revision of the national pandemic plan) subject to the availability of resources. In addition, sharing the results of the assessment with all relevant stakeholders within a country through dissemination of a report is an important part of the evaluation process, and publication of the report should also be considered. This will allow the sharing of experiences with other countries, especially neighbouring ones.

For comments or questions related to this framework, please contact [influenza@euro.who.int](mailto:influenza@euro.who.int).

## Annex 1: Pandemic assessment framework matrix

CROSSCUTTING QUESTIONS					
DOMAIN	Q1. Degree of overlap between planning and response (select from the following): <i>~planned for and needed in response</i> <i>~planned for and not needed in response</i> <i>~not planned for but needed in response</i> <i>~not planned for and not needed in response</i>	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): <i>~aspects that can be suspended or discontinued</i> <i>~aspects that should be maintained as routine practice</i> <i>~aspects that require improvement</i> <i>~aspects that require de novo development</i>	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
<b>A. LEADERSHIP</b>					
<i>A1. Central Government response</i>					
~response to information from outside the country (e.g. from Mexico, N. America, or near neighbour)					
~cross-government coordination (between Ministries)					
~command and control arrangements with lower tiers of government/healthcare system					
~international liaison (with international bodies (e.g. WHO), regional agencies (e.g. ECDC) and neighbouring states)					
~availability and accessibility of contingency funds					

<i>A2. Regional response</i>					
~response to information from central government/above tier					
~multi-sectoral coordination					
~command and control arrangements with lower levels					
~command and control arrangements with central government					
<i>A3. Local response</i>					
~response to information from regional tier/above tier					
~multi-sectoral coordination					
~command and control of local responders					
<i>A4. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				
~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				
<i>A5. Specific legal issues</i>					

### B. SURVEILLANCE & MONITORING

	<b>Q1. Degree of overlap between planning and response</b> (select from the following): ~planned for and needed in response ~planned for and not needed in response ~not planned for but needed in response ~not planned for and not needed in response	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): ~aspects that can be suspended or discontinued ~aspects that should be maintained as routine practice ~aspects that require improvement ~aspects that require de novo development	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
<i>B1. Systems in existence prior to the pandemic</i>					
~syndromic (e.g. ILI, ARI etc..)					
~laboratory-based: virological					
~laboratory-based: serological					
~laboratory-based: bacteriological					
~hospital based (e.g. SARI or other)					
~community based (e.g. school or workplace absenteeism monitoring, early warning events reporting etc..)					
<i>B2. Systems in development that required modification/ finalisation</i>					
~syndromic (e.g. changes to case definitions etc..)					
~laboratory-based: virological					
~laboratory-based: serological					

~laboratory-based: bacteriological					
~hospital based					
~community based					
<i>B3. Systems developed de novo during the pandemic</i>					
~syndromic (e.g. new case definitions)					
~laboratory-based: virological					
~laboratory-based: serological					
~laboratory-based: bacteriological					
~hospital based					
~community based					
<i>B4. Early response/ detection using the above</i>					
<i>B5. Monitoring surge</i>					
~disease activity (number of cases)					
~pressures on the health care system					
~pressures on other sectors of society					
<i>B6. Monitoring the public health impact</i>					
~hospitalisations					
~deaths					
<i>B7. Use of surveillance data by the leadership tier</i>					
~for policy development					
~to inform the evolution of the response					
~for modelling					
<i>B8. Unnecessary data (collected but not used actively)</i>					
<i>B9. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				

~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				
<i>B10. Specific legal issues (e.g. use of PII)</i>					



### C. COMMUNICATIONS

	<b>Q1. Degree of overlap between planning and response</b> <i>(select from the following):</i> ~planned for and needed in response ~planned for and not needed in response ~not planned for but needed in response ~not planned for and not needed in response	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): ~aspects that can be suspended or discontinued ~aspects that should be maintained as routine practice ~aspects that require improvement ~aspects that require de novo development	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
<i>C1. Communications systems in existence prior to the pandemic</i>					
~identification and use of spokespeople					
~channels of communication					
~development of messages/ lines to take					
~media preparation/education					
<i>C2. Communications systems that required modification/ finalisation</i>					
<i>C3. Communications systems developed de novo during the pandemic</i>					
<i>C4. Communication problems and failures</i>					
<i>For each of the above, consider aspects of:</i>					
~communication with the public					
~communication with health care workers and other responders					

~communication with the media					
~feedback to those giving the messages					
~handling of changes to the response (e.g. change in treatment strategy from prophylaxis to treatment only)					
<i>C5. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				
~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				

### D. SCIENCE & RESEARCH

	<b>Q1. Degree of overlap between planning and response</b> (select from the following): ~planned for and needed in response ~planned for and not needed in response ~not planned for but needed in response ~not planned for and not needed in response	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): ~aspects that can be suspended or discontinued ~aspects that should be maintained as routine practice ~aspects that require improvement ~aspects that require de novo development	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
D1. Areas where scientific support to the response was available					
D2. Areas where gaps/ uncertainties in the science caused problems	n/a				
D3. Research response to immediate needs					
D4. Research response exploiting the scientific opportunities of the pandemic					
D5. Use of modelling to inform the response					
D6. Access to modelling data by those leading the response					
D7. Arrangements for rapid ethical review of new research activity					
D8. Specific ethical issues					
~identified in advance and arose as an issue during response	n/a				
~identified in advance but did not arise as an	n/a				

issue					
~not-identified in advance but arose as an issue during response	n/a				

### E. CLINICAL CARE

	<b>Q1. Degree of overlap between planning and response</b> <i>(select from the following):</i> ~planned for and needed in response ~planned for and not needed in response ~not planned for but needed in response ~not planned for and not needed in response	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): ~aspects that can be suspended or discontinued ~aspects that should be maintained as routine practice ~aspects that require improvement ~aspects that require de novo development	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
<i>E1. Diagnostic services (virology and bacteriology including non-influenza diagnoses)</i>					
<i>E2. Clinical algorithms</i>					
~case identification					
~criteria for hospital admission and/or discharge					
~triage and selection for higher level care					
<i>E3. Availability of secondary care services</i>					
~beds with oxygen					
~level 2 beds (high dependency)					
~level 3 beds (intensive care)					
~extreme and specialised interventions (e.g. ECMO)					
<i>E4. Capacity of healthcare service to respond</i>					
~staff					

~beds					
~equipment					
~consumables (e.g. PPE, essential drugs, oxygen, cleaning products)					
~maintenance of business-as-usual in non-pandemic care (e.g. essential emergency surgery, trauma, childhood vaccinations, maternity service)					
<i>E5. Severity monitoring of patients (e.g. pulse oximetry, arterial blood gases, C-reactive protein)</i>					
<i>E6. Duration of response</i>					
<i>E7. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				
~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				
<i>E8. Specific medico-legal issues</i>					

### F. PHARMACEUTICAL INTERVENTIONS

	<b>Q1. Degree of overlap between planning and response</b> <i>(select from the following):</i> ~planned for and needed in response ~planned for and not needed in response ~not planned for but needed in response ~not planned for and not needed in response	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): ~aspects that can be suspended or discontinued ~aspects that should be maintained as routine practice ~aspects that require improvement ~aspects that require de novo development	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
F1. Antibiotics					
F2. Antivirals					
F3. Over-the-counter medicines					
<i>For all of the above, consider:</i>					
~strategy for use (treat all, treat some, prophylaxis)					
~strategy changes					
~stockpile size					
~choice of agents					
~contracting and procurement					
~logistics (distributing from central stockpile to region/ local holding points)					
~logistics (distributing from local level to healthcare premises)					

~speed and ease of access by patients (delay from symptom onset to issue)					
~replenishment of local stocks from central stockpile (ad hoc or on demand)					
~clinical algorithms (eligibility for treatment, clinical pathway)					
~specific communication issues around antiviral drugs with public or health professionals					
~access route for patient (business as usual or <i>de novo</i> )					
~recovery of un-used stock into national stockpiles					
~wastage					
~pharmacovigilance					
~assessment of clinical effectiveness					
<i>F4. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				
~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				
<i>F5. Specific legal issues (e.g. prescribing, charging)</i>					



### G. VACCINES

	<b>Q1. Degree of overlap between planning and response</b> (select from the following): ~planned for and needed in response ~planned for and not needed in response ~not planned for but needed in response ~not planned for and not needed in response	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): ~aspects that can be suspended or discontinued ~aspects that should be maintained as routine practice ~aspects that require improvement ~aspects that require de novo development	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
<i>G1. Determination of vaccination strategy</i>					
~policies (pre-existing, in development or produced <i>de novo</i> )					
~whether or not to use vaccine					
~if using vaccine: who to vaccinate (e.g. whole population, priority groups and ordering of)					
<i>G2. Procurement</i>					
~choice of product(s) (e.g. one or more types of vaccine) and why					
~Advance Purchase Agreements (APA) and flexibility therein					
~rapid-response procurement					
~timeline from purchase/ activation of APA to vaccine arrival in country					
~availability of funding for vaccine and vaccination campaign					

<i>G3. Licensure+A7/ approval</i>					
~in country or by outside recognition (e.g. acceptance of FDA or EMEA licensure outside USA or EU)					
~limitations of license (e.g. pregnant women)					
~timing of licence with regards to vaccine availability (i.e. timing of approval in relation to product availability within country)					
<i>G4. Logistics</i>					
~receipt of vaccine into country					
~distribution of vaccine across country (e.g. to regional distribution centres, to vaccinators)					
~cold chain aspects					
~availability and provision of necessary consumables for vaccination (e.g. syringes, needles, sharps bins)					
<i>G5. Execution of vaccination campaign</i>					
~identification of vaccinators					
~vaccination campaign process (mass vaccination clinics vs by invite)					
~order of vaccination (identification and use of priority groups, e.g. all at once or staggered)					
~level of acceptance and uptake (public and healthcare workers)					
~ongoing pandemic vaccination campaigns (e.g. for all or sub-priority groups)					
~specific communications issues around vaccination (e.g. trust in national messages)					
<i>G6. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				

~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				
<i>G7. Other legal issues</i>					

### H. PUBLIC HEALTH MEASURES

	<b>Q1. Degree of overlap between planning and response</b> (select from the following): ~planned for and needed in response ~planned for and not needed in response ~not planned for but needed in response ~not planned for and not needed in response	Q2. What aspects of this domain were successful? (~list/specify)	Q3. What aspects of this domain were problematic? (~list/specify)	Q4. What are the legacy issues related to this domain? (select from the following): ~aspects that can be suspended or discontinued ~aspects that should be maintained as routine practice ~aspects that require improvement ~aspects that require de novo development	Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):
<i>H1. School closures</i>					
~policies (pre-existing, in development or produced <i>de novo</i> )					
~use of school closures (e.g. ad hoc, nationally/regionally/locally)					
~duration of school closures (in individual schools and period of operation of national or regional policy)					
~primary impact of school closures - did they work?					
~collateral impact of school closures on other sectors of society					
~specific communication issues around school closures (e.g. to pupils, parents and wider community)					
<i>H2. Cancellation of mass gatherings</i>					

~policies (pre-existing, in development or produced <i>de novo</i> )					
~use of mass gathering cancellations (e.g. ad hoc, nationally/regionally/locally)					
~duration of period when mass gatherings were cancelled					
~primary impact of cancelling mass gatherings - did they work?					
~collateral impact of cancelling mass gatherings on other sectors of society					
~specific communication issues around cancelling mass gatherings					
<i>H3. Mass transportation interventions</i>					
~policies (pre-existing, in development or produced <i>de novo</i> )					
~use of mass transportation interventions (e.g. ad hoc, nationally/ regionally/ locally)					
~duration of period when mass transportation interventions were used					
~primary impact of mass transportation interventions - did they work?					
~collateral impact of mass transportation interventions on other sectors of society					
~specific communication issues around mass transportation issues					
<i>H4. Air travel/ border restrictions</i>					
~policies (pre-existing, in development or produced <i>de novo</i> )					
~use of border restrictions (e.g. global or selected countries)					
~use surveillance at borders (e.g. temperature screening, public health survey)					
~duration of border restrictions					

~primary impact of border restrictions - did they work?					
~collateral impact of border restrictions on country					
~specific communication issues around border restrictions (e.g. advice not to travel to certain countries)					
<i>H5. Individual and household level interventions</i>					
~provision of advice to citizens (e.g. use of non-native languages, advertising campaigns, specifics of advice)					
~provision of consumables to citizens (e.g. tissues, hand-gels)					
~adoption of interventions by citizens					
~specific communication issues around advice to individuals/households					
<i>H6. Handling of outbreaks in closed communities (e.g. prisons, care homes, boarding schools)</i>					
<i>H7. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				
~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				
<i>H8. Specific legal issues</i>					

### I. WIDER SOCIETY RESPONSE

	<b>Q1. Degree of overlap between planning and response</b> <i>(select from the following):</i> <i>~planned for and needed in response</i> <i>~planned for and not needed in response</i> <i>~not planned for but needed in response</i> <i>~not planned for and not needed in response</i>	<b>Q2. What aspects of this domain were successful?</b> <i>(~list/specify)</i>	<b>Q3. What aspects of this domain were problematic?</b> <i>(~list/specify)</i>	<b>Q4. What are the legacy issues related to this domain? (select from the following):</b> <i>~aspects that can be suspended or discontinued</i> <i>~aspects that should be maintained as routine practice</i> <i>~aspects that require improvement</i> <i>~aspects that require de novo development</i>	<b>Q5. For those legacy issues that require post-pandemic action (~indicate priority category for action from 1-4 using the drop-down list):</b>
<i>11. Business continuity planning for food supply</i>					
<i>12. Business continuity planning for fuel supply</i>					
<i>13. Business continuity planning for power supply</i>					
<i>14. Business continuity planning for law &amp; order</i>					
<i>15. Business continuity planning for other sectors</i>					
<i>For each of the above, consider:</i>					
~policies (pre-existing, in development or produced <i>de novo</i> )					
~impact of the pandemic on these sectors					
~utilisation of policies					
<i>16. Mass fatality arrangements</i>					
~policies (pre-existing, in development or produced <i>de novo</i> )					
~utilisation of policies					

<i>17. Specific ethical issues</i>					
~identified in advance and arose as an issue during response	n/a				
~identified in advance but did not arise as an issue	n/a				
~not-identified in advance but arose as an issue during response	n/a				
<i>18. Specific legal issues (e.g. early release of offenders in custody)</i>					