**Online Supplementary Document**

**Table S1.** Scoping review search strings

Strings for PubMed:

Search 1:

```
((situation analysis[Title/Abstract]) OR (situational analysis[Title/Abstract]) OR (strategic
analysis[Title/Abstract]) OR (SWOT[Title/Abstract]) OR (PESTEL[Title/Abstract]) OR (PESTELI[Title/Abstract]) OR
(STEEPLE[Title/Abstract])) OR (PEARLES[Title/Abstract])
AND
((pandemic*[Title]) OR (epidemic*[Title]) OR (outbreak*[Title]))
```

Search 2:

```
((preparedness*[Title]) OR (planning[Title]) OR (response*[Title]) OR (control[Title]) OR (mitigate*[Title]) OR
manag*[Title])
AND
((facilitat* [Title/Abstract]) OR (inhibit*[Title/Abstract]) OR (influenc*[Title/Abstract]) OR
(correlate*[Title/Abstract]) OR (determinant*[Title/Abstract]) OR (predictor*[Title/Abstract]) OR
(barrier*[Title/Abstract]) OR (contribut*[Title/Abstract]) OR (driv*[Title/Abstract]))
AND
((anthropolog*[Title/Abstract]) OR (socio*[Title/Abstract]) OR (social*[Title/Abstract]) OR
(politic*[Title/Abstract]) OR (economic*[Title/Abstract]) OR (technolog*[Title/Abstract]) OR
(ecolog*[Title/Abstract]) OR (environment*[Title/Abstract]) OR (legislati*[Title/Abstract]) OR
(law*[Title/Abstract]) OR (regulat*[Title/Abstract]) OR (industr*[Title/Abstract]))
AND
((pandemic*[Title]) OR (epidemic*[Title]) OR (outbreak*[Title]))
Limit: 2000-current
Limit: English only
```

Strings for Ovid databases:

Search 1:

```
1. (situation analysis or situational analysis or strategic analysis or SWOT or PESTEL or PESTELI or STEEPLE or
PEARLES).ab. and (pandemic* or epidemic* or outbreak*).ti.
2. limit 1 to English language
3. limit 2 to yr = "2000-Current"
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Search 2:

```
1. (((prepare* or planning or respon* or control* or mitigate* or manag*) and (facilitat* or enabl* or inhibit* or
influenc* or correlate* or determinant* or predictor* or barrier* or contribut* or driv*) and (anthropolog* or
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socio* or social* or politic* or economic* or technolog* or ecolog* or environment* or legislati* or law* or regulat* or industr*)).ab. and (pandemic* or epidemic*).ti.) not (diabet* or asthma or opioid* or obes* or HIV or malaria or tuberculosis).ti.
2. limit 1 to english language
3. limit 2 to yr = “2000-Current”

**Table S2.** Facilitators and inhibitors in pandemic management identified in individual studies

(a) COVID-19

| | Political (P) | Economic (Econ) | Sociological (S) | Technological (T) | Ecological (E) | Legislative (L) | Industry (I) |
|---|---|---|---|---|---|---|---|
| | **COVID-19** | | | | | | |
| (21) | **Facilitators** | | | | | | |
| | Enactment of emergency policies and decrees | | | | | Banned air traffic from China; mandatory reporting of travel history to the Italian National Health Service (NHS); mandatory quarantine | Rapid response including increased healthcare human resources capacity and protected supply chains |
| | **Inhibitors** | | | | | | |
| | Inconsistency between local and national guidance in technical orders and clinical protocols | | | Constraints in data integration and smart technologies to support contact tracing, surveillance, and other interventions | | | |
| (22) | **Facilitators** | | | | | | |
| | | | | Health informatics technologies (*e.g.* big data for tracking and tracing; 5G network for telemedicine; artificial intelligence for rapid, precise diagnostics); regulation of travelling using QR code of health record | | | High internet coverage and utilisation |
| | **Inhibitors** | | | | | | |
| | | | | Lack of rapid deployment of information systems; suboptimal information exchange across heath institutions; non-standardised electronic health records to streamline emergency information | | | |
| (25) | **Facilitators** | | | | | | |
| | | | | | | | |
| | **Inhibitors** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Lack of public knowledge resulted in continuation of mass gatherings | | | | |

(b) Ebola

| | Political (P) | Economic (Econ) | Sociological (S) | Technological (T) | Ecological (E) | Legislative (L) | Industry (I) |
|---|---|---|---|---|---|---|---|
| | **Ebola** | | | | | | |
| (27) | **Facilitators** | | | | | | |
| | Political commitment contributed to a rapid/effective response in some countries (*e.g.* Nigeria) | | | | | | |
| | **Inhibitors** | | | | | | |
| | | Poor healthcare system financing | Inadequate self-prescribed infection preventative measures due to poor health education; poor housing conditions in rural areas; poor safety orientation (training) in hospitals; low adherence to government regulations in rural areas despite public campaigns; re-infection due to risky sexual behaviours; lack of follow-up with recovered cases and long-term monitoring; culture and tradition (*e.g.* mass gathering at funerals) | | High prevalence of nosocomial infections; climate conditions increasing transmission; deforestation; physical proximity between human and wildlife, including animal reservoirs (*e.g.* fruit bats); zoonotic pathogens transmitting across species; low vaccination due to misinformation on mass media | Cross-border transmission due to relaxed immigration policies | Inadequate drug and PPE supply; staffing limitation due to transmission among HCWs |
| (23) | **Facilitators** | | | | | | |
| | | | | | | | |
| | **Inhibitors** | | | | | | |
| | Political interference (*e.g.* contact tracer recruitment and organisation led by non-health institutes) | | Rejecting contact tracing due to stigma and fear, and/or to avoid quarantine; inadequate training of contact tracers; lack of support to quarantined citizens | Incomplete case monitoring database | | | Lack of appropriate equipment for contact tracers; heavy workload due to shortage of contact tracers |
| (24) | **Facilitators** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Declaration of national emergency (*e.g.* Nigeria); demonstration of political commitment (*e.g.* Presidential Summit attended by Minister of Health, State Governors and their Commissioners in Nigeria); national weekly briefings to provide up-to-date information, and dispel fears, rumours and misconceptions | | Hand shaking discouraged by the federal government; HCWs and non-clinical staff in hospitals demanding full PPE before consulting any patient; high public awareness and interest; trust and confidence in public authorities enhancing adoption of recommended containment measures | | | Temporary boarder closure (*e.g.* Cameroon and Chad) | |
| | **Inhibitors** | | | | | | |
| | | | Stigma and discrimination against patients and HCWs who treated them and subsequent actions (*e.g.* protests near treatment centres due to lack of knowledge, fear, and misinformation on mass media (*e.g.* Ebola infection is incurable); low willingness among HCWs to join the front line due to fear; low confidence in the capacity of health system and leadership to provide reliable information and resources for infection prevention | | | | |
| (28) | **Facilitators** | | | | | | |
| | Deployment of foreign HCWs, as aids from allies, maintain global balance of political power; historical choices and policies facilitate institutionalised capacities and norms for civil emergency management, foreign medical aid, or overseas military personnel deployments | Countries with trading partners are more likely to act early to protect trade and prevent contagion; securing important inputs for domestic industries or output markets motivate HCW deployment abroad | Media coverage and public attention facilitate humanitarian assistance and HCW deployment | | | | |
| | **Inhibitors** | | | | | | |

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|---|---|---|---|---|---|---|---|
| | Contests between powerful domestic actors delaying crisis response; organisational limitations, cognitive barriers and political construction of threat perception in policy makers may lead to hesitation in HCW deployment | | | | | | Deployment of HCWs can be delayed if industry interdependence exists, such as logistical planning, medical evacuation, and other necessities |

## (c) Influenza A (H1N1)

| | Political (P) | Economic (Econ) | Sociological (S) | Technological (T) | Ecological (E) | Legislative (L) | Industry (I) |
|---|---|---|---|---|---|---|---|
| | **Influenza A (H1N1)** | | | | | | |
| | **Facilitators** | | | | | | |
| | External funds through the Partnership Contribution (PC) of pandemic influenza preparedness (PIP) | | | Vaccination coverage; early initiation of antivirals | | | |
| | **Inhibitors** | | | | | | |
| (32) | Inadequate preparedness plans lacking detailed strategic review and assessment | | The annual Islamic pilgrimage (Hajj) driving transmission; population displacement and migration due to ongoing wars and conflicts | Lack of complete surveillance systems across national, sub-national and regional level; absence of integration between animal and human surveillance networks | Global migratory bird flight increasing transmission of Avian influenza through wild birds, poultry and humans | Absence of legal framework (for declaring emergency and taking actions) in pandemic planning | Shortage in trained staff and laboratory equipment for surveillance; lack of planning for procurement, storage and distribution of vaccines; low utilisation of research and evaluation to revise preparedness plans and improve prevention and containment measures |
| | **Facilitators** | | | | | | |
| (33) | | | Public knowledge (*e.g.* knowledge in transmission mechanism, how to infection control measures; efficacy and effectiveness of control measures); optimal perception of severity and vulnerability of the infection | | | | |
| | **Inhibitors** | | | | | | |

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|---|---|---|---|---|---|---|---|
| | | | Anxiety and fear | | | | |
| (34) | **Facilitators** | | | | | | |
| | Arrangement and strength in governance and stewardship | | | Technologies available for surveillance, case detection, and infection control | Existing epidemiological profile of high life expectancy and low mortality | | External resources available for LMICS (*e.g.* Laos, Cambodia) |
| | **Inhibitors** | | | | | | |
| | | Insufficient budget for pandemic preparedness; reliance on external funding | Lack of public health education specifically for Influenza A (instead focusing on Avian influenza) | | | | Shortage of qualified human resources restricting surveillance and response capacity |
| (26) | **Facilitators** | | | | | | |
| | | | Optimal knowledge in the influenza pandemic; having a health-related personal network (*e.g.* having family or friends who can provide health-related information or support) | | | | |
| | **Inhibitors** | | | | | | |
| | | | Low education; unemployment and low socio-economic position associated with inadequate access to health information | | | | |
| (35) | **Facilitators** | | | | | | |
| | | | Adherence with antiviral medication (either as prophylaxis or treatment) associated with previous compliance with other precautionary advice about pandemic flu, beliefs that the recommended preventive measures were necessary; having discussed the option of taking antiviral medication with someone who had not experienced side effects | | | | |

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|---|---|---|---|---|---|---|---|
| | **Inhibitors** | | | | | | |
| | | | Non-adherence with antiviral medication due to experienced or perceived adverse effects, not wanting to take medication, forgetting, losing, or running out of tablets | | | | |
| (36) | **Facilitators** | | | | | | |
| | | | | | | | |
| | **Inhibitors** | | | | | | |
| | | | Social stigma and discrimination against one or more particular social sub-group (s); lack of trust in government's capacity and fairness when handling the emergence; inequalities in exposure to public health communication messages, which led to negative outcomes, including low vaccine uptake; inadequate knowledge, attitude, and beliefs about the pandemic, suboptimal care seeking behaviour; low ability and willingness to seek and process information; poor emotional responses | | | | |
| (37) | **Facilitators** | | | | | | |
| | | | Perception of benefits of vaccination (*e.g.* protecting themselves and loved ones, protecting patients); adequate perception of susceptibility (*e.g.* risk of infection, immunity via previous exposure) and severity; responsive action to information from mass media, public health authorities, and co-workers/supervisor | | | | |
| | **Inhibitors** | | | | | | |

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|---|---|---|---|---|---|---|---|
| | | | Vaccine hesitancy among HCWs due to concerns in vaccine safety, adverse effects, effectiveness/efficacy) | | | | |

## (d) Multiple pandemics

| | Political (P) | Economic (Econ) | Sociological (S) | Technological (T) | Ecological (E) | Legislative (L) | Industry (I) |
|---|---|---|---|---|---|---|---|
| **Multiple pandemics** | | | | | | | |
| (38) | **Facilitators** | | | | | | |
| | Policies to define CHW tasks and roles; stakeholder engagement in governance arrangements | Sustained investment in CHWs (*e.g.* financial incentives remote area allowance, performance-based financing payments or accommodation); additional resources to support the wellbeing of CHWs during and post pandemic | Appropriate CHW training; organised and funded wellbeing support to CHWs; community engagement to enhance social mobilisation, build trust and increase service utilisation; transparency in communication mitigated fears | Information management systems and digital health technology employed for CHW programmes | Improved vaccination coverage with as an outcome of CHWs' regular household visits, liaising with poultry and feed sellers at marketplace | | Adequate PPE supply to CHWs |
| | **Inhibitors** | | | | | | |
| | Lack of a priori pandemic communication plan | | | Non-functional surveillance systems due to delayed reporting from health facilities; contact tracing potentially hamper primary service delivery | | | Disruption in drug and equipment supplies common during pandemics; lack of research in equity, gender equality, and economic evaluation of CHW programmes |
| (39) | **Facilitators** | | | | | | |
| | | | Community palliative care to support people who prefer to remain at home towards end of life; re-deployment of volunteers to provide psychosocial and bereavement care; support carers to deal with stress | Volunteers transitioned to become virtually deployed | | | |
| | **Inhibitors** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Delayed, poor coordination of hospital level policies and protocols and hospice-specific guidance | Ethical challenges concerning allocation of scare resources | | Lack of data collection systems to understand patient outcomes and share learnings | | | Lack of material supplies (*e.g.* PPE, diagnostic and monitoring equipment) |
| (29) | **Facilitators** | | | | | | |
| | Collaboration between governmental agencies and external organisations (*e.g.* the CDC and WHO) | | | | | | |
| | **Inhibitors** | | | | | | |
| | | | | Low adoption of remote medical assistance to detect and control zoonotic infectious disease outbreaks | Fast transmission due to environmental change and international travel via railway and air way | | Lack of integration of internet and related technologies for surveillance activities (*e.g.* simultaneous reporting and monitoring, end-to-end connectivity, data assortment and analysis, tracking and alerts) |
| (30) | **Facilitators** | | | | | | |
| | | | | Pathogen discovery techniques; meta-genomic technology to predict pandemic potential in novel microbes | | | |
| | **Inhibitors** | | | | | | |
| | | | | | Juxtaposition of livestock production and wildlife populations; change in land use related to development of tropical forests | | |
| (31) | **Facilitators** | | | | | | |
| | Credibility of evidence informing responses; healthcare system capacity | | | | | | |
| | **Inhibitors** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Confusion in attribution of responsibility (*e.g.* healthcare system or the general public?); lack of coordination in responses among agencies due to competing causal explanations of the pandemic and conflicts in priorities | Economic inequalities in social sub-group(s) | Globalisation accelerating transmission; culture (*e.g.* traditional burial practices, dietary habits such as consumption of bush meat, blaming and social stigma) | Inadequate case reporting due to lack of information technologies | | | |