



**POSITION PAPER**

## **Learning from the pandemic, building increased international cooperation**

**Henrique Lopes<sup>1</sup>, John Middleton<sup>2</sup>**

<sup>1</sup> Institute of Health Sciences, Universidade Católica Portuguesa, Lisbon, Portugal;

<sup>2</sup> Association of Schools of Public Health in the European Region, UM Campus Brussels, Av de Tervuren 153, 1150 Brussels, Belgium.

**Corresponding author:** Prof. Henrique Lopes;

Address: Institute of Health Sciences, Universidade Católica Portuguesa, Lisbon, Portugal;

Email: henrique.lobes@ucp.pt

## Abstract

The COVID-19 pandemic highlighted a fragile preparation by countries and regions for epidemic events, exposing exacerbated nationalisms in pandemic mitigation and control actions. Both conditions decisively compromise the effectiveness and efficiency of pandemic control capacity. It is important to develop frameworks that help overcome frailties in response to epidemics.

Based on a thematic literature review and discussions with multiple national and international entities an attempt was made to build a tool for responding to future epidemics, the Pandemic Preparation Framework (2PF).

The proposed 2PF tool is aligned with the Sendai Framework for Disaster Risk Reduction and with international bodies, such as the European Health Emergency Preparedness and Response Authority (HERA). It aims to be a framework for operationalizing these agreements. The response to pandemics must be based essentially on international action and closer collaboration between countries and regions.

**Keywords:** *crisis management, framework, internationalization, strategic management, pandemic.*

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## Background

Although the appearance of a pandemic such as the one caused by the SARS-CoV-2 virus has been alerted since 2007 (1) and the Center for Disease Control and Prevention (CDC) warned in 2013 (2) about the risks of accidents with laboratories at levels 3 and 4 of 0.2%/year, the frameworks and necessary reactions were not developed so that one could not act with full preparedness. The very nature of the current pandemic's origin is not yet definitively identified as stated recently (<https://covid19commission.org/>).

Pandemics and epidemics will undoubtedly return in the current century. All the conditions for increased circulation of individuals, goods, climate change, contact with wildlife and devastation of ecosystems previously untouched by humans are currently gathered and will worsen in the predictable horizon. The latter conditions are estimated to generate around 60-70% of new diseases and epidemics (3). Therefore, we must prepare so that the Public Health catastrophe of COVID-19 will not be repeated. The countries judged to be most well-prepared for pandemic in 2018, often performed poorly. Many of the failures were attributable to political positions and indecision (4). We identified at least seven weaknesses in Western countries:

- Passive, indecisive and slow.
- Bureaucratic-Normative.
- Without conceptual preparation for surveillance, preparation, or coordination of actions.
- Without strategic reserves of Protective Personal Equipment (PPE) material nonsignificant hospital reserves (facilities and capacity).
- Lacking pandemic response tools at the macro, meso and micro level.
- Nationally centered, paying little attention to WHO or other international authorities.
- Low knowledge management and knowledge transfer.

In our reading, much of this result is due to consecutive years of disinvestment in Health, especially in the last decade and because Public Health is usually the poor branch of health, the one in which little is invested, where little space is given to the preparation of people and logistics (5,6). This cycle should be reversed placing Public Health as a strategic tool for national and international cooperation. Much can be done without relevant effort if the lessons of COVID-19 and the accumulated experience of decades in the surveillance and mitigation of effects caused by natural risks are considered. Therefore, we propose the creation of a framework for approaching biological risk with pandemic danger—the Pandemic Preparation Framework (2PF).

## The proposed Pandemic Preparation Framework (2PF)

With the 2PF, we propose a way of dealing with future epidemics/pandemics that can at least partially address the difficulties and problems of the seven weaknesses in Western countries' health response during the COVID-19 crisis, as summarized above.

- Pandemics and major epidemics are overcome in the **Prevention phase**.
- When it is no longer possible to maintain either situation with very high certainty in the preventive phase, there must be a **Planning and Preparation phase** for a concrete risk.
- **Proactive response to the pandemic** when it is already installed on the field.
- The identification, prevention, planning of preparation and combating a pandemic or major epidemic can only be successful through intensive **International Cooperation**.

**Figure 1. Four Principles support 2PF**



The strategic idea is that the coordination of the response to an epidemic/pandemic must be essentially achieved at a supranational level, through adequate prior preparation and based on knowledge management. The need for this paradigm shift was recently addressed at the European Union level, with the regulation entity proposal entitled “European Health Emergency Preparedness and Response Authority” (HERA) (4). However, with emerging diseases having the potential of becoming a global threat, a more global approach was reinforced by the signature of a Global Pandemic Preparedness Treaty by 24 world leaders and the World Health Organisation (WHO) (5). During the Twentieth century, the world has progressed from national to supranational entities whenever the Common Good is to the parties' advantage, of which the ultimate example will be the United Nations (UN). Countries have also learned that major crises are faced by cooperation and have created mechanisms for that purpose within supranational organizations. In addition, there is an increasingly globalized world where everything tends to occur almost simultaneously. Only international solutions based on cooperation will be able to respond to major issues since what affects a country can quickly become a global threat. Therefore, it is in the direct interest of all nations to participate in the elimination or mitigation of a risk in any country in the world. For example, since 2005, with the signing of

the UN Hyogo Framework (6) for response actions to disasters, and later with the Sendai Framework for Disaster Risk Reduction (7), global targets were defined towards reducing disaster consequences such as: mortality, affected people, economic loss in GDP, infrastructural damage and service disruption, national/local risk reduction strategies, international cooperation, availability and access to multi-hazard warning systems. The COVID-19 pandemic has shown beyond a reasonable doubt that the capacity to control a pandemic is something that goes beyond the national dimension, as declared by many politicians (8) and scientists (9). Only through the highest international cooperation is it possible to find appropriate solutions, supply equipment volumes at an adequate time and acceptable prices, with universal standards and applicability, and exchange experiences to debug national procedures. International cooperation in a pandemic state has immense scope for progression in all fields (10). The degrading spectacle of government officials redirecting clinical equipment at airports should not be acceptable (11). Many national strategies have sought only to concentrate the maximum level of resources with those who can afford them. For example, in the case of worldwide vaccine distribution there is the need of international agreement on its optimal and adequate allocation instead of being focused in profits (12) and realpolitik (13). Interna-

tional authority is needed to ensure resources go to areas where they can be globally most useful and effective in combating the pandemic (14). The absolute need for knowledge management was verified, proving to be the central element for an adequate fight against the pandemic. This element can only be appropriately developed in a wide-ranging, fully internationalized way and with the greatest transparency. Finally, it should not happen again that the strengthening of local response capacities through international means is minimal and appears as an insufficiency of the local political response. In the COVID-19 pandemic, the international reinforcements that existed were vestigial (14,15) concerning the means deployed in each country and always with difficulties articulating with the local structures that led to situations in which even the smallest help made available was not used: language, local procedures and other complexities (15). Only the creation of automatism can change this framework for the integration of Health Services. The tactical-operational idea is that national/local actions must be part of an articulated whole composed of three dimensions: Prevention, Planning and Preparedness, Proactive response to the pandemic. This means that there must also be a high level of international operational cooperation, presenting the great challenge of requiring mutual knowledge and preparation work. Things as simple as consolidating new positive cases or the lethality of a disease among countries can, in practice, be an impossibility when each country works in its own way. Consistency in case definitions and ascertainment is needed, for example, to secure cross border intelligence and enable accurate inter-country comparisons. With the ongoing COVID-19 pandemic threat, it must not be forgotten that there are other biological threats still emerging, as seen recently with avian influenza (H5N8) in Russia (16) and the African Swine Fever in Poland (17). These examples and other situations have been

mainly dealt with by the national structures in which the threat emerges, a context that, despite being local, may reach the planetary scale if not controlled and for which there is little to no international response. It is important to note that every nation has a responsibility in preventing and reducing disaster risk, surpassing the national-level interventions, including cooperation with other nations and regions (18). Following this approach, reacting promptly to a threat requires having previously allocated, trained, certified resources in sufficient quantity and the capacity to travel to another part of the planet, if accepted and allowed, to immediately integrate the national structures in an environment of full informational transparency. Pandemic preparedness investment is beyond almost all countries' capabilities, which greatly reinforces the need to be thought out globally. Structures such as the WHO, ECDC, CDC and FEMA (national level) did not have the resources that would have been desirable at the beginning of the pandemic, capable of being sufficient to mobilize countries with the needed tenacity and resources (19,20). Namely, the WHO is the organization naturally dedicated to having the above mentioned global competencies. However, to be able to address this issue, it is essential to have a great reinforcement of human, financial and technological resources. In Western countries, the main Cooperation Bodies are the WHO, the European Centre for Disease Prevention and Control (ECDC) or the Federal Emergency Management Agency (FEMA) of CDC. These coordinating organisations need to have their skills and resources strengthened to be able to deal proactively and appropriately with the epidemic/pandemic risk.

### **Proposal of an operational mesostructured**

In addition to strengthening international bodies whose nature leads them to a macro health policies approach, we propose the creation of a new entity, on a continental

scale, with national representation in each country for connection to health systems. Therefore, it has a different nature and is complementary to the existing bodies with a vocation for field action in biological risk situations and the capacity to strengthen local structures designed to deal with disruptive health situations such as pandemic contexts. Considering the pandemic/epidemic generating factors strongly related to contacts with wildlife, this entity should also integrate and consolidate veterinary and agricultural knowledge within the Public Health dimension. It is possible to capacitate this entity for action regarding other health threats besides pandemics (18): large-scale earthquakes, large industrial accidents as happened in Bhopal (21), or others that by nature exceed the country's response capacity in the healthcare action sphere. Similar to the other risks already covered with this type of response, aid must not be read as a weakness in a given country but as a collective response to a common threat. Biohazard plans must be directly linked to the preparation for action on the field. The entity must know the concrete field where the threat occurs, the existing and missing resources, and the hierarchy of supply priorities for a given risk in a given location when the event occurs. The entity must also have the first materials available to support risk mitigation. To properly perform its functions, the entity needs two fundamental competencies: knowledge management and emergency logistics (heavy materials as modular hospitals fully equipped with devices, personnel and light materials as

PPE/medicines stocks). In addition to being guided by the latest scientific evidence and WHO advising, it must have the capacity to analyze risk and advise policy-makers before substantial evidence is gathered, whenever the need to act is more pressing than the evidence available at that time. The difficulty of many governments and authorities in providing clear directives was evident in the absence of scientific evidence, which resulted in numerous delays (22). Countries that opted for the proposed forms of decision that were sometimes more crisis management than scientific, ended up having better results as happened in South Korea and New Zealand.

## 2PF-Strategy-operations concept

### *Knowledge management*

The international body should have knowledge management competencies for the proactive monitoring of potential risks, anticipating as far as possible which biological agents have pandemic capacity while designing strategic and tactical response plans that help containing the threat in early stages. The entity should promote training to national and international agents to interconnect, in case of a biological threat, and field exercises to test the respective systems' weaknesses and provide them with tactical tools. We propose that the entity works on an association between risk and probability (Table 1). This will result in each continental zone having a Biohazard Letter that will allow governments to prepare conveniently, or at least have that opportunity.

**Table 1. Risk identification and action priority rankings**

Risk \ Probability	High	Medium	Low
High	1	2	3
Medium	2	3	4
Low	3	4	5

Note: The intersection of each risk level is identified as a scale from 1 to 5, in which 1

represents a primary priority and 5 represents a lesser priority.

The creation of data quality assurance tools about the threat must also encompass knowledge management work, such as ensuring easy consolidation of data and semantic sharing.

### **Logistics**

Another competence of this supranational entity is to have a minimum reserve of protective materials (field Hospitals, critical medical devices, PPE and other equipment) that enable the first action against a pandemic, at least in the early days, until industrial supply chains are adapted to the new reality. Under this view, time is critical for prompt action and efficient crisis management. All threats contained in a first moment will be much easier to deal with than after spreading to large areas, as happened with COVID-19. The set of procedures deployed in countries should also be worked on towards the greatest harmony possible, at least at a level that allows for the reinforcement teams not to spend several days studying local procedures before starting to work (23). It must also be ensured that at least critical medical devices can interconnect. Furthermore, there is a need to respond to another point that has failed in the current pandemic data management. The entity should be responsible for previously defining the metrics of morbidity and mortality, systems of data collection, registration, and consolidation, to prevent information cacophony recurrence in countries with different data collection times, metrics, and regional data, among other aspects. Whatever the data, it must be possible to consolidate with sufficient quality to be elements itself in combating the pandemic. The entity's nature is essentially national, but it should not be exhausted. For example, it must provide for the capacity to reinforce other similar national branches when necessary. Again, there is a need to strengthen international cooperation. Still, for it to be effective, the types of action must be aligned between countries. For example, materials are com-

patible, procedures are acceptable elsewhere, national laws and rules are not overlapped. Another critical point in creating an entity of this nature is to support information management/literacy of the populations/literacy of journalists/literacy of politicians about the pandemic through specific and specialized communication tools. This set of proposals represents a significant investment. However, no more than millionths of the cost that has been incurred so far. The current century is likely to be the century of pandemics.

### **Conclusions**

We must start preparing for the next pandemic. The proposal aims to present an organizational alternative for improvements in many points that went wrong in the COVID-19 pandemic: international cooperation, scientific reading, prompt action, transmission mitigation, critical materials supply chains, decision-making processes, preventive action. Most Western action comprised waiting and acting with hospital facilities until exhaustion and accepting successive pandemic waves as something natural, which is not. COVID-19 was worse enough not to repeat without having learned anything. The countries judged to be most well-prepared for a pandemic in 2018, in many cases performed poorly. Much of the failures were attributable towards political positions and indecision. There is no more room for national approaches. If politicians are able to commit to these new international mess structures, and an expanded and enhanced role for the World Health Organisation, it will be a demonstration of a willingness to pool sovereignty and recoil from the narrow-minded nationalism that has cost so many lives in this pandemic. The world will be a safer place, and humanity will have stepped back from the cliff edge.

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