Thailand's Universal Health and Preparedness Review (UHPR): a country case study of health threats well managed with multisectoral coordination

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Abstract

This case study outlines Thailand's experience with the UHPR process, focusing on the key outcomes, challenges and lessons learned, how these lessons were translated into response to public health threats, and provides recommendations to World Health Organization (WHO) to improve the process. The case study was developed to answer the question brought up by Member States, "what is the benefit of engaging in a UHPR"? Learning from Thailand's pilot experience will aid other Member States to engage in the UHPR process. The case study was based on individual interviews of members of the UHPR National Commission who led the implementation in Thailand. The key benefits of Thailand's experience were how the process drew multisectoral actions to public health emergency preparedness and response to contain COVID-19 and how Thailand's National Report helped crystalize these practices to apply to future health threats. The UHPR identified the country's best practices of good governance, planning and strong multisectoral responses, but it was also humbling in revealing gaps in the system. Most of all, it impacted attitudes of all involved, underscoring to high-level officials the importance of prioritizing and ensuring long-term investment in prevention, preparedness and response. The UHPR is a game-changing mechanism that significantly enhances multisectoral collaboration, leadership engagement and accountability in health security. Its unique value lies in its ability to mobilize high-level political commitment and mainstream health security as a national priority, ensuring that preparedness and response capacities are continuously strengthened and regularly refined. As a model of excellence, Thailand's UHPR experience serves as an inspiration for other Member States, showcasing how proactive and transparent health security practices can enhance national resilience, and regional and global solidarity.

Keywords: Thailand; World Health Organization; Universal Health and Preparedness Review; multisectoral coordination; governance; lessons learned; public health threats; social responsibility

1. Introduction

When the WHO launched the UHPR pilot, Thailand was the third country in the world, and first in Asia, to voluntarily engage in the pilot to strengthen health security through peer-to-peer learning and multisectoral collaboration *(1)*. The UHPR was created in response to the weaknesses in global health security revealed by the COVID-19 pandemic and shares the same philosophy as the WHO's new health emergency prevention, preparedness, response and resilience strategy *(2)*. The UHPR is an innovative, high-level, Member State-led review mechanism where countries voluntarily engage in regular, transparent peer-to-peer analyses of their comprehensive national health emergency preparedness capacities *(3)*. The UHPR differs from other health security assessments by its comprehensive focus on governance, financing and multisectoral partnerships, aspects often overlooked in traditional International Health Regulations (IHR) (2005) Monitoring and Evaluation Framework tools, such as the Joint External Evaluation (JEE) and State Party Annual Report (SPAR). The UHPR provides a holistic and adaptable framework that enables countries to assess their preparedness capacity under diverse conditions.

Thailand undertook the UHPR process not only to enhance its preparedness for health emergencies but to support WHO's initiative of piloting this groundbreaking work. Unlike a JEE or SPAR, the UHPR process provided an opportunity to assess governance, systems and financing in a holistic way – the whole-of-society approach that underpins the UHPR is an approach to emergency preparedness Thailand has been taking with expertise for decades. The UHPR reflected these good practices, showing how governance was critical in managing the COVID-19 response *(4),* and how social capital boosted community resilience in response to the pandemic *(5)*.

This case study provides a snapshot of Thailand in relation to the UHPR and how the Member State has and continues to use a strengthened multisectoral response to contain emerging health threats. It showcases the implementation of the pilot process, key outcomes and shares Thailand's good practices while offering advice to refine the UHPR and provide insights that can inspire other Member States in their health security responses. By actively engaging in the UHPR, countries can gain valuable insights into their health security capacities, fostering more coordinated and efficient national responses to health emergencies. Additionally, by conducting a UHPR, countries stand to benefit from peer-to-peer learning and collaboration, building stronger partnerships at both national and international levels. Finally, through the UHPR, countries are better positioned to mobilize resources – domestic or external – strengthen

governance and enhance multisectoral coordination, ultimately making their health systems more resilient and sustainable.

2. Methodology

Thailand officially engaged in the UHPR pilot in November 2021 and hosted its high-level mission in Bangkok from 21–29 of April 2022. Thailand brought together more than 100 representatives from all over the country who worked with WHO staff from the three levels of the Organization (Thailand Country Office, South-East Asia Regional Office and Headquarters). Included was His Excellency Mr Anutin Charnvirakul, the Deputy Prime Minister and Minister of Health, who strongly committed to the UHPR, mobilizing support from the Ministry of Labour, the Ministry of Foreign Affairs, and the Ministry of Higher Education, Sciences, Research, and Innovation, and other institutions, including the National Health Security Office and Social Security Office. Also present were representatives from academia, civil society, the UHPR technical advisory group, the private sector and the community.

Activities conducted during the preparation and national review phase of the UHPR,

- Document review: the country team reviewed key national reference documents, including legal frameworks, strategic plans, emergency response procedures, reports from the IHR (2005) Monitoring and Evaluation Framework, Intra-action Reviews and other relevant sources and scientific studies.
- Field assessments: two large-scale Simulation Exercises were conducted to test emergency response mechanisms, accompanied by 13 site visits.
- Key informant interviews: A total of 29 key informant interviews were conducted, gathering insights from policymakers, health professionals and community representatives.
- Opening ceremony: the Deputy Prime Minister chaired the high-level mission which was launched with an opening ceremony and attended by key national and international stakeholders.
- High-level meetings: the WHO delegation engaged in six meetings with authorities to seek perspective and promote dialogue.
- Debriefing session: the mission concluded with a presentation of preliminary findings and priorities recommendations to all relevant stakeholders *(6)*.

Following the high-level mission, Thailand embarked on the finalization of its national UHPR report *(6)*, led by the National Communicable Disease Committee of Thailand with support from the WHO Country Office. Once completed, His Excellency Mr Anutin Charnvirakul officially endorsed and shared Thailand's UHPR National Report with WHO for publication on the UHPR webpage, ensuring its accessibility to the global community and fostering shared learning among Member States.

Thailand participated in the first Global Peer Review (GPR) in February 2024 in Geneva *(7)*. Thailand presented on key findings from their National Report, shared information on the country context, the pilot methodology and the ongoing implementation of recommendations made by UHPR to a panel made up of health ministers from the Central African Republic, Portugal and Cameroon *(7)*. Thailand's approach to the UHPR serves as a blueprint for other countries, demonstrating how high-level engagement and multi-stakeholder involvement can be effectively operationalized to enhance national health security.

This case study documents the experience and impact of the UHPR on Thailand. Data was gathered via interviews of select public health professionals, who are champions of the multisectoral approach to health care and played a part in the UHPR, and with reference to Thailand's UHPR National Report and the UHPR GPR Outcome Report. In addition, this study documents Thailand's response to three selected health threats and how the UHPR impacted these responses – the avian influenza (H5N1) outbreak, the 2022 mpox outbreak and the 2024 cholera outbreak at the Thai-Myanmar border.

3. Findings

Thailand's experience piloting the UHPR in April 2022 was unique. The country conducted its high-level mission during the COVID-19 pandemic when the Omicron variant of COVID-19 was dominant and the pandemic was about to conclude. It is important to note that each country's experience with the UHPR will vary because the platform is flexible and adapts to different contexts. However, Thailand's participation as the third country to undergo the UHPR process was noteworthy.

3.1. Value added

Because Thailand's UHPR took place towards the end of the COVID-19 pandemic, the country had the opportunity to deeply analyse the novel cooperative approaches used during the response. This included review of the provincial governor's decentralized power to contain the pandemic, the populations initially targeted through the vaccination roll-out strategy, the whole-of-society policy approach, use of data monitoring systems, financial mobilization, execution and

overcoming public financing management rigidity, waste disposal practices, surveillance approaches, and innovative new technologies devised to cope with the rapidly evolving challenges of the pandemic. These gains were then leveraged to broader application. The UHPR can measure and capture a Member State's strengths and weakness at any given time, in any situation, and in this case, the UHPR took stock of Thailand's ability to cope well under the pressure of the pandemic. Thailand not only had the opportunity to clearly capture lessons learned from the pandemic with the UHPR high-level mission and the National Report and carry them forward to manage future health threats, but the country used the UHPR to strengthen connections within the public health system and collaborate between all government and private sectors to manage the COVID-19 pandemic.

While the pandemic already had the attention of top health officials, other ministries and non-government sectors focused on its economic impacts from the shutdown on job and income losses, disproportionately affecting people in vulnerable situations, school closures and difficulties for online learning, especially among the poor and those experiencing a digital divide. Because preparedness was already high on everyone's radar, invitations to the UHPR high-level mission were readily accepted, and bringing these people together at such a crucial time was a critical factor in gaining support from policymakers in the fight against the pandemic. As the third country to engage in the UHPR, high-level participation fostered curiosity of other ministries, civil society organizations (CSOs) and community leaders. Bringing in a high-level WHO delegation led by Dr Samira Asma, Assistant Director-General, and prolific governmental officials, such as the Minister of Health, who was also Deputy Prime Minister of Thailand, Mr Anutin Charnvirakul, raised the profile of the event. Thereby, the importance of multisectoral collaboration, the value of health security and the symbolic profile of the UHPR were elevated.

The UHPR's comprehensive, high-level and multi-stakeholder nature, combined with its Member State-to-Member State peer-to-peer dialogue at the GPR, positions it as a strategic investment and a powerful catalyst for both domestic and external fundraising, though Thailand does not rely on external donor support. Through the UHPR process, Thailand demonstrated how high-level engagement and multisectoral collaboration can identify gaps and translate recommendations into concrete proposals, including strengthened governance, improved resource mobilization, increased political commitment and investment in health security. This inclusive approach not only inspires confidence among domestic and international partners but also enhances the credibility and visibility of health security investments, making the UHPR a game changer in mobilizing sustainable funding and maintaining long-term political commitment.

Thailand has taken a whole-of-society approach for decades when it comes to health care and preparedness – the Member State has had a Coordinating Unit on One Health since 2014 *(8)*. The UHPR did not introduce the importance of multisectoral collaboration rather, it reiterated, strengthened and maintained the need for intersectoral response to health emergencies. The

UHPR brought to the attention of the Ministry of Public Health (MoPH) the importance of national self-sufficiency and self-reliance, and the concerns of vulnerable populations were emphasized – something other health evaluations rarely achieve. These issues were clearly presented to policymakers to drive home their importance and enact change.

3.2. Outcomes of the UHPR

Thailand has made significant progress in addressing the challenges identified during the UHPR. Every gap revealed became an opportunity to find a solution with broader application. Through discussions at Thailand's UHPR high-level mission and crystalized in their UHPR National Report, issues were identified and the solutions found produced lasting and leverageable results. Recognized as priorities by country leaders, the UHPR played a role in driving the following capacity enhancements: Thailand has strengthened its multidisciplinary health workforce through in-service training especially public health and field epidemiologists including One Health professionals; it has strengthened more than 8000 surveillance and rapid response teams nationwide; boosted domestic production capacities of diagnostics and personal protective equipment (PPE); enhanced data interoperability and integration; strengthened emergency operations centre procedures; and collaborated to better manage medical waste.

3.2.1. Strengthened multidisciplinary health workforce

As active members of the Global Health Security Agenda Steering Group *(9)*, and a leader in workforce training, Thailand coordinates with other countries in a field epidemiology training programme. Participants from Thailand include One Health professionals such as veterinarians, wildlife veterinarians, medical doctors and public health professionals. This type of training was used to build multidisciplinary teams during the COVID-19 pandemic. The training method has developed since the early 1980s and boosted by the UHPR, continues to contribute to maintaining preparedness and response capacity.

3.2.2. Improved domestic production and technical capacities

The rate of progress in research and development and production has been slow but is still notable. Since the UHPR, Thailand has increased domestic production capacities of PPE and diagnostics. Thailand now produces surgical masks, and some other PPE domestically, whereas prior, they had to import. Laboratory diagnostics have also increased capacity. For example, investments have been made in whole genome sequencing since the UHPR, in terms of more equipment and training of laboratory scientists. This enables the domestic capacity to identify new pathogens and variants to share with the global community. Furthermore, domestic private companies have invested more in diagnostic tests. For example, a private company took diagnostic practices used during the pandemic with similar technology, but they used urine

samples instead of nasal swabs. Using local resources, they developed a new diagnostic urine test to detect liver fluke parasites, *Opisthorchis viverrine (10)*.

3.2.3. Enhanced data interoperability and integration

Data integration is critical to offer better insights and decision-making throughout an organization. The MoPH has been working on integrating all data from all health care facilities nationwide. Using a good example from the COVID-19 vaccination data – having administered over 140 million doses within two years, the largest vaccination programme in the country's history – Thailand grew in their ability to manage big data. Furthermore, they used this platform to upgrade the entire health care system's records; not only the vaccination system, but patient records, medical certificates and other services were scaled up through this integration. Following the pandemic, in the three years since, Thailand has developed a huge database for the health care system, including finance data.

3.2.4. Strengthened emergency operations centre standard operating procedures (SOPs)

Thailand has quite a good public health emergency system for outbreaks and epidemics. Emergency operations is a division under the Department of Disease Control. It is routine to continually monitor for abnormal health events such as infectious disease outbreaks, in accordance with Article 11.4 of the IHR (2005) *(11)*. Since the pandemic and the UHPR, Thailand has further developed guidelines and SOPs on laboratory testing, specimen transportation, case management and vaccination.

3.2.5. Collaboration to manage medical waste

Medical waste, such as used masks and other PPE, became a concern during the pandemic because of the sheer volume of garbage from so many people wearing masks and the potential spread of coronavirus from this PPE. Medical waste is a municipal responsibility yet often becomes a problem at the health care facilities. The UHPR brought the attention of the whole-of-society importance of this issue and MoPH worked together with municipalities to solve the problem of the abundance of medical waste. Also, the disposal of medical wastewater has been improved since the UHPR, again, using multisectoral collaboration, to protect the community and safeguard the environment from harmful germs and contaminants that might be found in wastewater.

3.3. Challenges and solutions

Unfortunately, the highest level of government, policymakers, who have competing interests, often do not pay attention to a health issue until it is an emergency. In Thailand's case, during the high-level mission, in 2022, pandemic preparedness was high on the agenda. Once COVID-19 stopped being an emergency, it was difficult to get governmental follow-through because other

priorities took the place of preparedness. Complacency in high-level officials regarding infectious disease has been noticed three years after the UHPR mission as their focus has shifted to problems surrounding noncommunicable diseases such as diabetes and hypertension. The current minister of public health has placed noncommunicable diseases high on the policy agenda. Short of another severe health emergency, to get preparedness high on the government agenda requires continued and proactive advocacy. The MoPH will continue to bring national and global health security preparedness to the table, upholding its commitments and obligations under the IHR (2005), and leveraging tools, such as the UHPR, to foster high-level engagement, multisectoral collaboration and whole-of-society participation. By consistently drawing ministerial attention to prevention and preparedness before the onset of another major public health event, the MoPH aims to break the panic and neglect cycle and ensure that primary prevention and preparedness remain a central component of the government's strategic agenda. The UHPR is a major catalyst in this effort.

3.4. Stakeholder engagement

In Thailand, it is often personal connections that help get the job done quickest in the MoPH. In surveillance and response, the news often gets from sector to sector through friends faster than official channels. In the case of an abnormal wildlife health event, the protocol is that a rural watch team sends a notification to a focal point in the livestock department. From there, the information flows through the necessary ministries before reaching municipal health, where it is logged, and all concerned parties are notified. However, concerned parties likely already know this due to their personal network. The UHPR further strengthened these networks by connecting people who might not have met otherwise as well as validating and encouraging continued cross-sectoral collaboration.

3.4.1. Interpersonal

The UHPR successfully identified and engaged non-traditional stakeholders. On a macro level this was evident in increased interaction between the MoPH and the Office of the Prime Minister, but on an individual basis, the UHPR had an impact by simply getting people together in a room. With a broadened, more multisectoral network of colleagues, an epidemiologist in attendance at the high-level mission, for example, would have more support to call upon in response to an outbreak.

3.4.2. Cross-sectoral collaboration

The Ministry of Finance oversees most banks in Thailand. The ministry has been collaborating annually with the MoPH on budgeting and additional investment in health care for some time. More recently, Thai-based banks have sent finance data scientists to work with the MoPH during the pandemic, the UHPR and afterwards. The high-level mission validated, encouraged and elevated practices such as these, strengthening the collaboration between the MoPH and the

Ministry of Finance. These professionals not only lent their specialized skills in security, finance and information technologies, but brought varied ways of thinking, and fresh perspectives to the MoPH. The collaboration benefits the bankers themselves as this experience not only teaches them things they would not otherwise have learned in the financial sector, but helps their reputation, raises their professional profile and gives them credible work experience. MoPH staff not only benefit from sharing staff by saving time on tasks better suited for a financier but by expanding their network of colleagues with different skill sets.

Such cross-sectoral collaboration, generated by the pandemic and fostered through the UHPR process, is instrumental in laying the groundwork for better and more sustainable funding of preparedness activities. It also creates a foundation for innovative financing of response activities that will benefit all of society, including the financial sector that was significantly impacted by the pandemic. This innovative collaboration between health and finance reinforces the idea that emergency preparedness is an investment rather than a cost, demonstrating that building resilient health systems contributes to economic stability and societal well-being.

The cross-sectoral approach driven by the UHPR has sparked innovation, leveraging the expertise of financial, technical and community stakeholders to create efficient and responsive health systems.

3.5. Planning

Thailand is known to access any good opportunity to its fullest and is no stranger to planning tools. Notably and recently, Thailand published a National Action Plan for Health Security (NAPHS) in 2024 *(12)* and consistently produces action plans through the Public Health Emergency (PHE) programme under the WHO CCS 2022-2026 *(13,14)*, i.e., yearly plans in line with the WHO Country Cooperation Strategy developed and produced in 2022 in partnership with the WHO Country Office. The lessons learned and recommendations from the UHPR have been used to inform these action plans.

Thailand's NAPHS and the UHPR share a similar ideology, that to achieve sustainable overall prosperity, it takes a network of organization, and that their health system plays a key role in driving economic development. Following the recommendations from the JEE, which was undertaken five months after the high-level mission, the UHPR was listed first among 13 evaluation tools in the NAPHS. The action plan cited support from senior policymakers, collaboration of all sectors (government, private, CSO, education, volunteer), community engagement and technology innovation, as critical factors identified in the UHPR process in the COVID-19 response *(12)*. The UHPR process has fostered a sense of community ownership and collective responsibility for health security capacity-building, empowering diverse stakeholders to take an active role in preparedness and response.

The 2024 Action plan of the CCS-PHE programme recommends that the lessons learned from the UHPR be leveraged to strengthen institutional and legislative frameworks and continue to follow-up, encouraging continual review and oversight *(13)*. The 2025 Action plan of PHE programme cites the UHPR as a tool to be encouraged for use in capacity-building, networking, policy development and strategic planning, that Thailand's involvement in international forums such as the GPR should continue *(14)*.

The UHPR process played a pivotal role in elevating the NAPHS to a national priority, securing the engagement and commitment of country leaders to support and sustain NAPHS actions. This has been a game changer for country accountability, leadership engagement and support to the NAPHS, which have historically struggled to garner adequate attention and political backing. As a result, the UHPR can be seen as a powerful tool for mobilizing resources at both domestic and external levels, reinforcing its value as a fundraising instrument and a catalyst for sustained health security investment.

3.6. Impact on national priorities: Thailand's multisectoral approach to health threats

This section documents how the UHPR's added value in strengthening bilateral and multilateral collaboration for health security played a key role in driving these best practices in response to current health threats. Thailand's leveraging of the UHPR-captured response mechanisms used during COVID-19 was employed in the maintenance and continued vigilance against the potential incursion of H5N1, the halting of mpox and the management of cholera on the Myanmar border.

3.6.1. H5N1

The last case of H5N1 in Thailand reported in humans was in 2004, and the last in poultry was 2007 *(15)*. Since then, no cases have been reported in chickens because protocols are strictly followed: any time there was an abnormal event, such as a sudden death in poultry, pathogens are identified, and flocks are culled. These measures have been followed and therefore no outbreaks in poultry have been problematic nor has there been any evidence of spread of H5N1 transmission. The United States, however, is experiencing infection in poultry and dairy cows with several recent human cases in farm workers *(16)*. Thailand has been collaborating with the United States to share methods and SOPs that proved effective in containing the disease after the outbreak prior to 2008. Cambodia reported a total of 10 human cases with very high case fatality rate of 59.7%; this triggered alert and close monitoring along the Thai-Cambodian land border *(17)*.

3.6.2. Mpox

During the 2022 outbreak of mpox, Thailand feared it becoming widespread even though the case fatality rate was low. Since January 2022, there were total 828 cases of mpox in Thailand with 11

deaths. When this outbreak took place, it was an obvious choice for ministries and different divisions of the MoPH to coordinate and cooperate. For example, officers in surveillance worked alongside health care workers in clinical practice who in turn collaborated closely with the suppliers of medicines. The experience of the COVID-19 pandemic response primed officers and health care workers to trigger public health and social measures. Thailand follows WHO guidelines for mpox, "the overall goal of surveillance, case investigation and contact tracing is to detect new outbreaks and stop transmission in order to contain the multiple ongoing outbreaks, protect people at risk in endemic and new settings, and make progress towards elimination of human-to-human transmission" *(18)*. Therefore, the response to the 2022 mpox outbreak was quick and the resources – human and medical supplies – were prepared.

3.6.3. Cholera

Cholera is not considered endemic to Thailand, meaning it is not constantly present year-round. Cholera outbreaks can occur, often linked to poor sanitation, inadequate water treatment or food contamination. There were five cases between 1 January to 29 December 2024 with no mortality. The humanitarian crisis in neighbouring Myanmar poses a health threat along the border areas. From 1 January to 29 December 2024, Myanmar reported 7498 cases, with zero fatalities *(19)*.

More recently, in December 2024, an outbreak of cholera in Shwe Kokko Myaing, Myanmar, killed two people and infected 300 *(20)*. Infected cases were said to have travelled across the Thailand–Myanmar border and the border was subsequently closed *(21)*. With lessons learned from COVID-19 pandemic and captured with the UHPR, Thailand used a swift, multisectoral approach to ensure an effective response. Early in the outbreak, Thailand went to hospitals to gather data and gave recommendations on how response efforts should be focused. Thailand also donated medical supplies to strengthen the response, and the WHO Country Office was asked to procure supplies to replenish what Thailand's MoPH had already supplied *(21).* The humanitarian emergency at the Myanmar border was one that required a multidisciplinary approach, not only to contain insurging cholera but to cope with the influx of displaced people. In this case, staff at the border had been trained, used protocols developed during and since the COVID-19 pandemic, and were fully prepared; therefore, the potential crisis was well managed.

3.7. Collaboration and regional and global alignment

Thailand participated in the historic inaugural GPR alongside Central African Republic and Portugal on 13 and 14 February 2024 in Geneva. These countries and others gathered to advance the function of the UHPR by sharing their national reports for feedback from the other two participating countries, and Cameroon, Sierra Leone and Luxembourg, who participated as panellists. Additional WHO Member States provided written feedback on Thailand's findings related to best practices, gaps and priority areas for cooperation, and contributed comments and

suggestions during the live GPR session. The discussion was conducted in a spirit of mutual respect, solidarity and peer learning, reflecting the collaborative essence of the UHPR process. During the peer review session of Thailand's report, the Central African Republic, Cameroon and Portugal served as panellists and raised questions on Thailand's pandemic response measures, vaccine production, private sector collaboration, UHC legislation and civil society engagement. Additional interventions came from Samoa, Sierra Leone, the United States, Indonesia and Kenya, with interest in areas such as rural health access, CSO participation, digital health and comparisons between the UHPR and JEE processes. Thailand responded thoughtfully to all interventions, expressing appreciation for the insights shared and offering detailed reflections on the points raised *(7)*.

Though Thailand's participation in the GPR was helpful, results of this case study showed that Thailand may have benefited more from a regional than a global dialogue as it might have been more relevant to coordinate with a nearby country such as Indonesia with whom the Member State shares a greater mutual understanding. Most countries in the same region share similarity in their socioeconomic and health systems context; hence a Regional Peer Review may be considered in the future.

The GPR provided Thailand with a unique opportunity not only to present its challenges and priorities but also to showcase its best practices in health security. This included demonstrating its expertise in early detection and successful containment of highly infectious diseases, such as H5N1, through rigorous protocols and multisectoral collaboration. The country also expressed its commitment to sharing its experience and providing support to other Member States that may face challenges in managing similar threats. As a regional leader in health security, Thailand is particularly dedicated to strengthening collaboration within Southeast Asia, as has been seen recently in Shwe Kokko, offering technical support and capacity-building to countries in need of assistance.

4. Recommendations

To achieve the most out of the UHPR process in the future, the participants in this case study suggest that WHO should alter or enhance the following:

- If the UHPR is to be a country-led process, this should be spelled out clearly in the beginning. In this pilot, the structure of the UHPR was unclear to the Thai participants. Written instructions, like a step-by-step handbook may help in this regard; however, because each country has a unique context, it may be difficult to write a one-size fits all guide.

- Make it a slimmer and smarter tool to qualitatively assess country capacity in preparedness, prevention and response that works in tandem with existing IHR (2005) tools – SPAR and JEE. Based on the UHPR pilots so far, WHO should prioritize which elements of the UHPR are most important and focus on the core elements of UHPR, such as governance and financing that are covered by neither the JEE nor SPAR. Considering the anticipated adoption of the Pandemic Agreement at the 78th World Health Assembly in May 2025 as an outcome of successful negotiation of the Intergovernmental Negotiating Body in April 2025, WHO may consider streamlining these tools including the SPAR, JEE and UHPR in accordance with the requirements of the legally binding provisions in the Pandemic Agreement.

- There should be more direct representation of vulnerable populations in the national UHPR process. Evidence clearly shows a disproportionate impact of emergencies on people in vulnerable situations *(22,23)*. The issue of health inequity among vulnerable groups should be made clear to policymakers at the ministry level during the UHPR high-level mission for improvement of well-being among vulnerable populations. Improvement is needed here because vulnerable groups (incarcerated, elderly, people with disabilities or health conditions and those living in poverty) are disproportionately affected more by infectious disease and have higher mortality because they have less capacity and less access to comply with public health and social measures. To give vulnerable groups leadership roles in the process and seats at the table in summits such as the UHPR high-level mission aligns with the 2024 World Health Assembly resolution on social participation which was co-sponsored by Thailand *(24)*.

- Make the UHPR more affordable by streamlining and cutting some activities. For example, limit the large Simulation Exercise and ceremonial activities at the high-level mission, and scale back the travel cost associated with GPR.

- Provide clear instructions and prepare all invitees. From a CSO perspective, WHO did not provide enough information or guidance in advance of the UHPR high-level mission. More guidance would be preferred both for CSO representatives engaged in the UHPR and to governments on how to engage civil society in the UHPR.

- While keeping the process country-led, back the UHPR with participation of more United Nations agencies. As a joint mission, heads of state may receive the idea even more positively as a joint UN mission as this may elevate the importance of pandemic planning and offer broader support.

- On the GPR, it was suggested to shift from a global to a regional review. Countries may be sensitive to being compared with those they have little in common with socially and

economically, as well as health systems context and capacity. Regional peers are likely to share similarities and trust, making comparisons more meaningful. For example, comparing Portugal with Thailand or the Central African Republic was said not to offer much insight.

Opinions on whether to keep the UHPR a stand-alone assessment or merge it with the JEE (back-to-back JEE–UHPR missions) was divided among participants of this case study. Some suggested adding a qualitative and collaborative component to the quantitative JEE due to its global recognition and that combining the processes would be cost effective and a simpler route to gaining funding. Others favoured keeping the UHPR as a separate event to avoid losing its unique qualitative and customizable features, including high-level engagement, Member State-to-Member State peer-to-peer dialogue, and the qualitative review of specific capacities, such as governance and financing for health security. These distinctive elements make the UHPR an invaluable platform for tailored and in-depth assessments, setting it apart from other health security initiatives.

The JEE cannot capture to a description of the quality of life of the captive population and that elderly residents in institutionalized care have or look at the bigger picture of how PHE response links with other components of the health system, in the way the UHPR was able to do in Thailand. In fact, few reviewing mechanisms can be as flexible as the UHPR. Though the JEE has some things that the UHPR does not, such as a component on preparedness for chemical and nuclear events, the UHPR is much more comprehensive and customizable. The JEE does not cover the interrelationship between public and government whereas the UHPR has a broader capacity to identify what is going on between the lines. For example, if problems lie in relationships between groups, this novel method of analysis will uncover issues such as distrust in government, fake news and identify all ramifications of a PHE. Therefore, both approaches should be maintained as complementary processes, as they bring unique and insightful perspectives on country capacities and priorities that are essential for planning and resource mobilization. To maximize their impact, they should be better aligned and harmonized to enhance synergies and cost-efficiency, leveraging the strengths of both approaches to support more robust and sustainable health security planning.

5. Conclusion

Long before the UHPR, Thailand employed a multisectoral approach, looked at situations holistically and leveraged good opportunities. The review highlighted gaps in both health security and the health system but also reinforced Thailand's existing good practices in leadership, governance, coordination and financing, thus aiding in their maintenance and enhancement. The UHPR high-level mission significantly impacted attitudes and imparted lasting lessons on those

involved, influencing future decisions and underscoring to top government officials the importance of emergency prevention, preparedness and response. The reflection provided by the UHPR confirmed that Thailand was on the right path and identified areas requiring further work to sustain and leverage gains made during the COVID-19 pandemic response. By enhancing multisectoral coordination and gaining support from policymakers at such a critical time, the UHPR helped Thailand widen their understanding of whole-of society pandemic response. The UHPR fostered the commitment of country leaders to prioritize health security at the highest political level, while enhancing sustainable financing, strengthening regional and global solidarity, and ensuring long-term investments in health security. It emphasized the importance of cross-sectoral data integration, addressed inequity, highlighted the need to boost social capital and community resilience in support of vulnerable populations. Health care professionals involved, all advocates for vulnerable groups, noted that few other emergency assessment tools focus as closely, if at all, on the populations most in need of health care. The UHPR adopted the high-level, multisectoral, and whole-of-society approaches and other innovations that proved effective during the COVID-19 pandemic and expanded their application to routine work and responses to emerging or ongoing health threats.

Engaging in the UHPR not only empowers countries to strengthen their preparedness and response capacities but also drives greater multisectoral collaboration, creates awareness and boosts leadership commitment and sustainable investment. In an era marked by complex and interconnected health challenges, economic uncertainty and security instability, the UHPR stands as a transformative mechanism that galvanizes multisectoral partnerships, mobilizes sustainable financing and fosters long-term investment in health security, while promoting global learning and solidarity.

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