Travel and Tourism under Pandemic Conditions

Review and Preparation Exercise

UNWTO Headquarters, Madrid, Spain
26-27 August 2009
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table of Contents</strong></td>
<td>iii</td>
</tr>
<tr>
<td><strong>Acknowledgements</strong></td>
<td>v</td>
</tr>
<tr>
<td><strong>Aim of Exercise</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Opening Session</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Roundtables</strong></td>
<td>7</td>
</tr>
<tr>
<td>First Roundtable Session</td>
<td>7</td>
</tr>
<tr>
<td>Second Roundtable Session</td>
<td>11</td>
</tr>
<tr>
<td>Third Roundtable Session</td>
<td>15</td>
</tr>
<tr>
<td><strong>Conclusions and Recommendations</strong></td>
<td>17</td>
</tr>
<tr>
<td><strong>Presentations</strong></td>
<td>19</td>
</tr>
<tr>
<td>The Rapidly Changing Situation of Pandemic (H1N1) 2009 – Today and Tomorrow</td>
<td>19</td>
</tr>
<tr>
<td>Dr. Guénaël Rodier, Director, <em>International Health Regulations Coordination, WHO</em></td>
<td></td>
</tr>
<tr>
<td>The Employment Perspective</td>
<td>45</td>
</tr>
<tr>
<td>Mr. Donato Kiniger-Passigli, Senior Specialist, <em>Strategic Partnerships and Crisis Response Coordination, ILO</em></td>
<td></td>
</tr>
<tr>
<td>Economic Impact Scenarios of the Pandemic (H1N1) 2009</td>
<td>57</td>
</tr>
<tr>
<td>Ms. Nancy Cockerell, Policy Advisor, <em>WTTC</em></td>
<td></td>
</tr>
<tr>
<td>Communication Challenges: How to Keep the Balance Between Warning and Assuring Messages?</td>
<td>65</td>
</tr>
<tr>
<td>Dr. Gaya Gamhewage, Team Leader, <em>Corporate Communications, WHO</em></td>
<td></td>
</tr>
<tr>
<td><strong>Conference Programme</strong></td>
<td>83</td>
</tr>
<tr>
<td><strong>List of Participants</strong></td>
<td>85</td>
</tr>
</tbody>
</table>
### Annexes:

<table>
<thead>
<tr>
<th>Annex</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annex 1</td>
<td>Background Information and Key Terms</td>
<td>91</td>
</tr>
<tr>
<td>Annex 2</td>
<td>Pandemic Influenza Vaccine Manufacturing Process and Timeline Pandemic (H1N1) 2009</td>
<td>95</td>
</tr>
<tr>
<td>Annex 3</td>
<td>Pandemic (H1N1) 2009: Timeline of Major Developments</td>
<td>97</td>
</tr>
<tr>
<td>Annex 4</td>
<td>Responsible Travel - Second TERN Message</td>
<td>99</td>
</tr>
</tbody>
</table>
The World Tourism Organization wishes to express its deepest gratitude to the participants and presenters who took part in this exercise for their valuable contributions, which will undoubtedly be of great interest to the different readers from the private and public sectors all around the world.

We also wish to thank the following persons for their contribution to the organization of the exercise and the preparation of this publication:

Dr. Dirk Glaesser (Chief, Risk and Crisis Management), Ms. Sandra Carvao (Deputy Chief, Market Trends, Competitiveness and Trade in Tourism), Ms. Marina Diotallevi (Chief, Cultural, Social and Ethical Aspects of Tourism), Ms. Zoritsa Urosevic (Executive Secretary, Business Council), Ms. Anud Abbassi, Ms. Lorna Hartantyo, Ms. Ana Ilic, Dr. Monica Li, Ms. Krystel Obaña from the Risk and Crisis Management Section, and Ms. Cora-Fee Dahmen, Ms. Katharina Holzfuss, Ms. Hannah Wirtz from the Publications Department.
In view of the current pandemic (H1N1) 2009, the World Tourism Organization hosted a two-day workshop on the 26-27 August 2009 on Travel and Tourism under Pandemic Conditions at UNWTO’s headquarters in Madrid.

Since the outbreak of the influenza virus in April, the travel and tourism sector has been extremely challenged. Fortunately, the mild character of the virus in most countries has caused only limited impact on the sector. However, an influenza pandemic is likely to span the entire planet and last for several months, with possible recurrence known as ‘waves’ within a year of the start of the pandemic.

The event was convened to best anticipate the challenges of the next months and to adjust the preparations of the travel and tourism sector. The workshop primarily aimed at the regions of Africa, Europe and the Middle East and gathered representatives of the tourism sector of Member States, Influenza Focal Points, Tourism Emergency Response Network (TERN) and International Organizations.

The workshop was designed in an interactive way to identify and discuss the following:

- The rapidly changing situation of the pandemic (H1N1) 2009 and the further spread pattern of the virus in the months to come, including pandemic risk factors, virus severity and vaccine access.
- Key challenges for the travel and tourism sector in response to the pandemic, including targeted communications, balance of information between warning and assurance, and cross-sectorial cooperation.
- Further repercussion of the pandemic on the travel and tourism sector as the situation evolves, including issues such as absenteeism, travel behaviour and state actions.
- Strategies to help limit the negative impacts on the travel and tourism sector and lessons learned since the onset of the pandemic.
UNWTO Secretary-General a.i., Dr. Taleb Rifai, launched the workshop by welcoming all the participants and by explaining the significance of this pandemic to the travel and tourism sector. Unlike the pandemics of 1918, 1957 and 1968, tourism nowadays is a widespread activity that plays an unprecedented role in the economies of many countries. Perceptions of uncertainty and fear that surround a virus might have a detrimental effect on tourism, as well as absenteeism and its consequences on such a labour-intensive sector.

The Secretary-General a.i. explained the objectives of this review and preparation exercise that revolved around identifying gaps, exchanging best experiences and correcting assumptions to better prepare for the next waves. He also thanked the experts who intervened with presentations at the event.

- Dr. David Nabarro – United Nations System Coordinator (UNSIC)
- Dr. Guénaël Rodier – Director, International Health Regulations Coordination, World Health Organization (WHO)
- Mr. Donato Kiniger-Passigli – Senior Specialist, Strategic Partnerships and Crisis Response Coordination, International Labour Organization (ILO)
- Ms. Nancy Cockerell, Policy Advisor, World Travel and Tourism Council (WTTC)
- Dr. Gaya Gamhewage, Team Leader, Corporate Communications, World Health Organization (WHO)
The United Nations System Influenza Coordinator (UNSIC) Dr. David Nabarro addressed the participants through a video address. Dr. Nabarro explained that despite the low mortality rate that characterized the virus so far, especially in developed countries, there are some high risk groups. As the virus spreads into the southern hemisphere, he stressed the importance of protecting the populations of underdeveloped countries.

The virus is expected to return to the northern hemisphere with the beginning of the autumn season with a worsening of the degree of infection. He commended the preparedness work done by international organizations, built on the experiences of other infectious diseases such as SARS, and explained that being ready means being prepared for a worst-case scenario.

Although WHO has set the standards for the work of other organizations, he emphasized that all organizations are interrelated and should work together as a joint movement. Dr. Nabarro stressed the importance of looking beyond the health sector to deal with issues relating to unjustified panic and fear. He pointed out that communications, in the form of consistent messages with accurate and reliable information, is therefore vital and that it is now the time to correct assumptions and work on gaps. Dr. Nabarro cautioned that we have only seen the beginning of the pandemic and that coordinated work should continue in order to face the coming challenges.

Dr. Guénaël Rodier (WHO) provided a full overview of the current situation in relation to the emergence of the virus and its overall epidemiology, the disease outcome, vulnerability in Africa and other Least Developed Countries (LCD’s), vaccine production, the International Health Regulations (IHR) and the future’s uncertainty. For the full presentation see pp. 19-43.
Assistant Secretary-General Prof. Geoffrey Lipman brought in the tourism dimension, which is of high visibility, into the picture. He explained the history of the Risk and Crisis Management section at UNWTO, which was formed after the tsunami of 2004, and the relationship it has been building gradually with UNSIC and WHO.

Prof. Lipman indicated that although this pandemic is strictly a health matter, the Travel and Tourism Industry can play an important role within the overall coordination work to guarantee a common thinking. He presented the Tourism Emergency Response Network (TERN) as a network of networks and the role it plays in providing a consistent and coherent baseline message from the industry.

As he explained, the purpose of this exercise was to reassess our preparedness work, as it was done so far for a very different scenario, and to reinvigorate ourselves by sharing the results among Member States and TERN members and to learn from them.

Dr. Dirk Glaesser explained the framework and goals of the exercise and stressed the importance of understanding the assumptions of other relevant stakeholders for the next months of the pandemic.

While most of the activities of the first wave highly benefitted from the preparation work that was undertaken for a possible H5N1 pandemic, the different fundamentals of the current pandemic make it necessary to properly prepare against these different data. Therefore, the set-up of the review and preparation exercise into three different roundtables aimed at reviewing the fundamental data and identifying what went right and wrong during the first wave. The participants had first to primarily focus on the assumptions they had for the coming wave. This was to be done in three parallel roundtables concentrating on travel behaviour patterns, political and ethical dimension and operational challenges and business continuity. Based on these assumptions the last session of roundtables was designed to identify relevant and effective strategies and actions, which would help limit the impact on the travel and tourism sector.
Roundtables

The participants were divided into three separate roundtables to discuss simultaneously the experiences and lessons learned from the first wave of the pandemic, the key challenges for the travel and tourism sector in the months to come, and the strategies and actions to help limit the impact of this pandemic on the sector and the travellers. The discussion was brought back to the plenary in the form of presentations of the findings of each roundtable.

First Roundtable Session

Topic
Experiences and lessons learned from the first wave.

Objective
Identifying country and sector experiences from the first wave.

Main Questions

- **Country experiences**: How was travel and tourism affected, addressed and dealt with?
- **Sector experience**: What are the experiences from transportation, accommodation, recreation and entertainment, tour operators and travel agents, and travel services?
- What have we learned from the first wave?
- What major challenges have you encountered? How were these challenges addressed?

Main Points

- Complacency vs. overreaction
- Consistency
- Confidence
The discussions around this topic focused on the importance of messaging in dealing with this pandemic and the need for coordination among the different organizational levels in both the public and private sector. The fear factor was highlighted as well as the perceptions created by sometimes unbalanced media reporting and the effects of measures taken by some countries on travellers, such as quarantines. Existing safety guidelines and preparedness plans should be updated to deal with the current situation.

Points raised by the participants*

- Since viruses and pandemics are characterized by uncertainty, consistent communications were identified as essential for building confidence and trust in the sector. There is a need for simple, coordinated and well-disseminated messages. The message should focus on the importance of being prepared and on mitigation instead of containment.

- It is important to find a balance between the right preventive measures and encouraging travel.

- The responsibility of staying informed falls on three levels: personal, country towards its citizens and destination towards tourists.

- It is very important to have access to reliable information. Latest technologies must be used to share information and avoid duplication.

- There is a need for more cooperation between health authorities and travel operators in terms of exchange of information.

- For a sector as labour intensive as the tourism sector, work absenteeism due to illness has serious consequences on business continuity. Shortage of staff is a big challenge for the sector.

- It is difficult to distinguish between the effects of the economic crisis and the pandemic, as they are simultaneously affecting the sector.

- Travel cancellations in the future might be triggered by people’s fear of illness while on holidays.

- Cooperation between authorities within the country is often insufficient.

* The following points were raised by the participants and do not necessarily reflect the views of UNWTO. They are listed here to offer those who were not present at the event an insight into the discussions that took place.
During the roundtable discussions, concerns were raised that the simple use of the term “pandemic” is not to be recommended as it is often associated with a scenario different to the current mild virus.

Media reporting and the role it plays in travellers’ perceptions. At the early stages of the outbreak, media reporting caused panic as it was seen by travel cancellations and changes.

Other affected areas by the virus were not as negatively affected as Mexico as they received less media attention.

The role of media attention, or lack of it, can create concern or complacency among travellers. There is concern that the public won’t pay attention or would overreact to the second wave (crisis fatigue). Avian flu, as it doesn’t receive much attention anymore, is to some extent forgotten in the public opinion.

As the virus has spread more widely, people express less concern related to travel.

Staying healthy while travelling should be a general concern and should be stressed beyond the H1N1 pandemic.

The pandemic must be treated as a health issue and should not be used as a political tool. WHO is the main authority on the subject, but national guidelines are the ones that should be followed.

Measures taken by countries differ considerably, which makes the effect of the disease to vary significantly among them. Consistency is key: one procedure should apply to all.

The travel and tourism industry’s responsibilities include the dissemination of information, enforcement of an audit system and implementation of basic hygiene rules.

Lessons learned from Avian Flu preparedness should be applied to the current pandemic. Preparation plans are available (IATA, WHO-guidelines etc).

Travel organizations should communicate the measures taken widely so that they send a reassuring message to the public. Measures taken by health and travel authorities (screening, etc.) can cause a certain burden for travellers but it can also give passengers confidence that the industry cares about the issues. Although WHO does not consider certain measures effective and reliable to detect illness (e.g. thermal scanners), these can build confidence among travellers.

Tour operators/travel providers cannot handle the pressures of the pandemic-related costs and ensure the safety of the travellers. Some insurance companies have included clauses to exempt H1N1 from coverage.
According to some statistics the number of travellers has decreased. Some travellers have had to undergo quarantines during travels to Asia and South America.

Improvements can be seen on three different levels:

- Governments: a more consolidated approach to the issue is needed and a better understanding of the International Health Regulations (IHR 2005).
- Travellers: should abide by health advice and be prepared for certain measures.
- Private sector: sharing of information is crucial with the public sector. The sector should continue to send out reassuring messages while continuing its preparations.
Second Roundtable Session

Topic
Roundtables on key challenges for the travel and tourism sector in the months to come.

Objective
Identifying the assumptions and challenges for the months to come.

Main Questions
On what assumptions is your government/organization/company currently basing its actions for the next wave of the pandemic?

The following assumptions were addressed:

- Severity of the virus
- Morbidity rate
- Mortality rate
- Duration of the pandemic
- Timeline for vaccine readiness
- Rate of absenteeism

Based on these assumptions, the participants were asked to identify the key challenges facing the travel and tourism sector from the perspectives of travel behaviour patterns, the political and ethical dimension and operational challenges and business continuity.

Points raised by the participants*

A. Travel behaviour patterns

Assuming that a second wave will reach its peak in the northern hemisphere in November, the participants suggested the following scenario for the purposes of their discussion:

- Low severity of virus
- High level of perception among travellers
- Medium/high morbidity rate
- Low mortality

* The following points were raised by the participants and do not necessarily reflect the views of UNWTO. They are listed here to offer those who were not present at the event an insight into the discussions that took place.
• The role of the media and the perceptions that it creates among travellers will play a major role in people's travel behaviour in the months to come.

• The healthcare system at the destination might become a decisive factor in deciding whether or not to travel, as travellers want to ensure that they are well taken care of in case they fall ill abroad.

• Communication strategies will play a decisive role as travellers would want to have reliable, timely and transparent information readily available for them.

• Different forms of travel are expected to be affected differently:
  – Leisure travel: people might want to stay home or close to home so they might choose to travel domestically. A higher impact might be noticed on family travel.
  – Business travel might be reduced to the necessary minimum.
  – Visiting family and friends: people might be more relaxed.

• Travellers generally perceive a higher risk when travelling by planes and cruise ships as they are seen as confined places.

• Given the uncertainty surrounding the pandemic, late booking is expected to increase as people tend to postpone decisions regarding travel.

• Reliability of travel operations and proper communications will be crucial during the second wave of the pandemic.

• The southern hemisphere might be perceived as “low risk” destinations in the northern hemisphere’s winter season.

B. Political and ethical dimension

• Due to lack of information, participants found it difficult to determine the assumptions about the second wave.

• Complacency and crisis fatigue are expected as the pandemic stops making media headlines.

• Travel advisories are very damaging to the industry. Countries should only revert to them after consultations between the industry and the health authorities.
Travellers have a right to reliable and trustworthy information before, during and after a trip, as well as access to health services at their destination.

There are many factors that affect tourism. Challenges caused by the pandemic are only second to the current economic crisis that has been affecting the sector.

Tourism can be seen as an income generator to finance health.

The practical implementation of the IHR is a challenge as some grey areas exist. Health and tourism roles must be clearly defined.

Insurance coverage must be addressed to cover cases of cancellations, obtaining medical attention abroad and involuntary prolonged stays.

Fast and sincere reporting by destinations on the situation at hand is very helpful and should be encouraged despite fears of repercussions on tourism and travel.

Messages and actions are constantly changing as the situation develops. This builds up more uncertainty. Messages should reach everyone and care should be taken in order to avoid misinterpretation. Messages must be simple and honest.

C. Operational challenges and business continuity

Assumptions should be considered on the characteristics of the virus and of people’s perceptions of it.

The number of companies that actually have business continuity plans is unknown and expected to be quite limited. Nevertheless, businesses should be prepared and have plans in place.

Preparedness plans and guidelines have to be flexible in order to respond to change, as the situation continues to evolve.

The issue of staff shortages is decisive for business continuity in the travel and tourism sector. Cross training can be considered to deal with increased absenteeism rates due to the pandemic. Some essential tasks, however, cannot be easily substituted as in the case of airline pilots.
- Travel and tourism businesses should determine the minimum number of staff necessary for safety and business continuity reasons.

- Some measures such as social distancing, used to limit the impact of the virus, might be difficult to be implemented by the tourism industry.

- The issue of travelling while being sick was discussed. Whether it should be left up to the traveller's personal responsibility or whether countries should implement official guidelines and recommendations.
Third Roundtable Session

Topic
Roundtables on strategies and actions to help limit the impact of this pandemic on the travel and tourism sector and travellers.

Objective
Identifying from a public and private sector’s perspective strategies and actions that help limit the impact on the travel and tourism sector and travellers.

Main Questions
What strategies and actions can be recommended to help limit the impact?
Especially in view of:
- Responsible (recovery) marketing.
- Effectiveness and feasibility.
- Sustainability.

Points raised by the participants*:
- Given the high degree of uncertainty surrounding this pandemic, there is an urgent need for coherent contingency plans and access to reliable information.
- From a marketing perspective, destinations should highlight normality but at the same time provide transparent and factual health information to travellers in order to build confidence and trust. Social media campaigns can be launched using webcams, personal reports and user opinions.
- Responsibilities and duty of care were highlighted. Practical information should be provided for travellers at their destinations, preferably in different languages, on how to

* The following points were raised by the participants and do not necessarily reflect the views of UNWTO. They are listed here to offer those who were not present at the event an insight into the discussions that took place.
and where to seek health assistance if they fall sick. Roaming messages and SMS-services can be used for this purpose.

- Agreements with insurance companies must be revised to ensure that the unforeseen costs relating to the pandemic are not exempted from coverage.

- To ensure business continuity, protocols, training, back-up plans, and agreements with local authorities need to be developed. This is especially the case for small and medium sized establishments. There is an urgent need for cooperation and sharing of information on valid and up-to-date pandemic and business continuity plans.

- Linkages between relevant existing networks should be strengthened and cooperation between businesses put in place. This could be done by identifying key partners at all levels (national, international, public-private) and establish two-way-communications between them.

- Fast and sincere reporting from destinations as well as trustworthy and reliable communications are very important and should be encouraged.

- Experts should ensure that their messages are easy to understand by the general public. Tourists need to be informed prior to travelling, while at their destination and if and when someone falls sick.

- It was suggested that UNWTO should build a group similar to TERN to include the public sector and to divide it according to regions for distribution and sharing of information in a defined system.

- The need to have a common message among the industry persists, as well as to giving regional and sector differences a consideration.

- The sector should be ready to provide facts and figures. It should make proper use of the latest technologies in communicating and learn to adapt to the new communication trends. SOS.travel provides an ideal platform for this purpose.

- Suggestion to UNWTO to narrow down its data base to the right contact person in order to avoid information overload and repetitions.

- There is a need for determining the right flow of information in a systematic approach. Providing true and balanced information to the public and following WHO’s and national recommendations is essential.

- The importance of close collaborations especially between Ministries of Health and Ministries of Tourism was highlighted.
Conclusions and Recommendations

The purpose of this exercise was to reassess, re-envision and reinvigorate the sector’s response to the challenges presented by the H1N1 pandemic. The recommendations and conclusions which were reached at this workshop are important for the tourism sector but also for other social and economic activities depending on travel and tourism.

Nowadays, travel and tourism is a widespread social and global phenomenon that affects many more sectors than when the last pandemic occurred, more than 40 years ago. Thus, even if the virus continues to be as mild as it currently is, when combined with the economic crisis and the next wave of the pandemic, the sector will have to deal with more challenges in terms of business continuity. The sector, therefore, needs to stay vigilant and monitor the situation closely.

Drawing from the rich discussions of this workshop, the following points were highlighted, which should help the sector in further improving the management of this situation.

- There was a wide consensus that travel restrictions and border closures are not to be recommended. The participants coincided with the assessment of the World Health Organization (WHO) on this issue. Such restrictions would have little or no effect on containing the spread of the virus, which is virtually present in all countries of the world, but would carry with it enormous economic and societal consequences.

- The need to increase preparedness was constantly pointed out. It seems that the predominantly mild character of the virus so far has caused complacency in several subsectors. The lessons learned from the extensive preparedness work for a possible Avian Flu (H5N1) Pandemic have benefitted the sector at large in its initial coordination and communication efforts facing the H1N1 pandemic. However, as a second wave of the pandemic is expected to commence, coinciding with the beginning of the flu season during the Northern Hemisphere’s autumn, countries are expected to face new and different challenges especially in terms of numbers of affected persons and businesses. It is therefore essential to use the available time to prepare as best as possible.

- The cases studied and discussed at the workshop underlined that determined, transparent, consistent and timely action by health administrations had been beneficial for the travel and tourism sector. Responsibility and credibility paired with balanced information are cornerstones of a successful management of pandemic challenges.

- The need for regular and timely exchange of information both at the horizontal level, e.g. across health and tourism officials, and at the vertical level, e.g. national and regional administrations, is important to reduce the uncertainty while planning and acting and to guarantee the relevance of actions. As new H1N1 virus-related information is emerging constantly and as we are dealing with a highly communicative issue, two-
way communications, through telephone or video conferences, prove to be very efficient for communication and coordination. In this regard, participants welcomed the regular exchanges within the Tourism Emergency Response Network (TERN) convened by UNWTO.

- As vaccines for certain segments of countries’ populations are only expected to be available towards the end of the year, it is necessary to consider additional methods relating to business continuity, to minimize the impact of the pandemic on the sector. The discussions extensively touched upon plans addressing both operational feasibility and personal protection for guests and personnel. Some guidelines for hotels and restaurants, in which practical steps are described, are now available on www.unwto.org/rcm.

- Countries can minimize the impacts of the Pandemic, especially when tourism is pivotal for their economies, by including crucial functions of the travel and tourism sector among priority groups in their vaccination plans. As many destinations are heavily depending on air and sea transport, crucial functions to maintain those services should be added to those lists.

- It was felt that certain segments of the sector are affected more than others. Among these are business travellers and Meetings, Incentives, Conventions and Exhibitions (MICE) tourism.

- Inconsistencies, especially when affecting personal freedoms as in the case of quarantines, are very likely to attract media’s attention. They have a detrimental impact on the travel and tourism sector and need to be avoided by all means.

- Participants stressed that travellers should be responsible. Travellers should – in line with the recommendations of WHO – remain vigilant about their own health, stay informed and follow fundamental hygiene precautionary measures such as frequent hand washing and proper cough etiquette. Calling upon the responsibility of the traveller is important and serves the interest of everyone.

- As one of the main factors that travellers take into account when deciding on a trip relates to the attention that they would receive if they fall ill due to the influenza A(H1N1) virus while abroad, it was highlighted that procedures and help lines used to communicate with travellers and used by them to receive assistance when falling sick should be easily accessible for them and clear for all those involved in the process.

- It was also emphasised that travellers should ensure that their travel insurance will cover unforeseen flu-related expenses in the event they fall sick away from home. Travellers should take medical advice in the event they experience flu symptoms immediately before, during or after a trip.

- Marketing efforts should send messages of normality without downplaying the pandemic. The exercise showed clearly that there is neither need nor place for panic.

This review and preparation exercise is just another step in the line of continuous preparedness efforts. The travel and tourism sector should continue with its preparations and do its utmost to help limit the negative impacts of this Pandemic.