NIPH
Norwegian Institute of Public Health

REPORT

2021

Global Health Preparedness Programme 2016 - 2021

- Final report to Norad

Final Report to Norad

Global Health Preparedness Programme 2016 - 2021

NIPH
Norwegian Institute of Public Health

Published by the Norwegian Institute of Public Health
Division of Health Services
Department of Global Health
October 2021

Title:
Global Health Preparedness Programme 2016 - 2021 – Final report to Norad

Internal project number: 38271
Publication type: Report

The report can be downloaded as a pdf
at www.fhi.no/en/publ/

Graphic design template:
Per Kristian Svendsen

Graphic design cover:
Fete Typer

ISBN digital 978-82-8406-243-3

Citation: Global Health Preparedness Programme 2016 - 2021 – Final report to Norad. [Det globale helseberedskapsprogrammet 2016 - 2021 – Sluttrapport til Norad] Report 2021. Oslo: Norwegian Institute of Public Health, 2021.

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Abbreviations

AAR	After Action Review
Africa CDC	Africa Centres for Disease Control and Prevention
AFRO	African Regional Office of the WHO
ECDC	European Centre for Disease Prevention and Control
EMRO	Eastern Mediterranean Regional Office of the WHO
FETP	Field Epidemiology Training Programme
GHPP	Global Health Preparedness Programme
GHS	Ghana Health Services
GHSA	Global Health Security Agenda
IANPHI	International Association of National Public Health Institutes
IHEMEF	International Health Regulations Monitoring & Evaluation Frameworks
IHR	International Health Regulations (2005)
JEE	Joint External Evaluation
LMICs	Low- Middle Income Countries
MoFA	Ministry of Foreign Affairs
MoH	Ministry of Health
MoU	Memorandum of Understanding
NAPHS	National Action Plan for Health Security
NCA	Norwegian Church Aid
NGOs	Non-Governmental Organisations
NIPH	Norwegian Institute of Public Health
NOK	Norwegian Kroner
NORAD	Norwegian Agency for Development & Cooperation
PHIM	Public Health Institute of Malawi
PNIPH	Palestinian National Institute of Public Health
RKI	Robert Koch Institute
SimEx	Simulation Exercise
SPAR	State Party Annual Reporting
US CDC	United States Centres for Disease Control and Prevention
USAID	United States Agency for International Development
WHO	World Health Organisation
WHO CO	World Health Organisation Country Office

Executive summary

The Norwegian Institute of Public Health (NIPH) established the Global Health Preparedness Programme (GHPP) in 2015 through an agreement with the Ministry of Foreign Affairs. After one and a half years, the GHPP continued with a grant agreement with Norad for a period of five years with a total funding of 46 879 167 Norwegian Kroner (NOK). This report covers the period of the Norad grant from 1 July 2016 to 31 July 2021. GHPP aimed to contribute to the global efforts of strengthening the International Health Regulations (2005) (IHR) core capacities in the partner countries and globally. The mode of work for GHPP was peer-to-peer collaboration between Norway and select low- and middle-income countries (LMIC), Ghana, Malawi, Moldova, and Palestine, and a global component.

The overarching goal of GHPP was to improve the capacity to prevent, detect and respond to public health events of national and international concern in the designated partner countries. That vision was grounded in the following three strategic objectives: 1) to support implementation of IHR core capacities in select partner countries. 2) to contribute to global efforts that enhance capacity and procedures to assist all countries in meeting their obligations under IHR. 3) to strengthen institutional capacity of National Institutes of Public Health, in partner countries, and globally.

Through the GHPP, the NIPH has closely worked with partner countries to strengthen their IHR core capacities through situation analysis and assessment, knowledge development, infrastructure development, exchange of expertise, competence building, and global collaboration to achieve its strategic objectives. The GHPP participated in and conducted various IHR Monitoring and Evaluation Frameworks (IHRMEF) activities including Joint External Evaluation (JEE), Simulation Exercises (SimEx), and After-Action Reviews (AAR). The results from these IHRMEFs were used to develop national implementation plans such as the National Action Plan for Health Security (NAPHS) or its equivalents. These served as implementation templates for GHPP in the countries for all core capacities. Experiences from the partner countries played an important role in the global work of improving health preparedness globally.

The COVID-19 pandemic impacted GHPP principally in two ways: It necessitated a substantial reorganisation of the project when travel was impossible, and all partners shifted from preparedness to response. The pandemic has also acted as the ultimate stress-test for how countries were able to respond. We effectively managed the transition, and all collaborating countries have communicated positive effects of the GHPP on their ability to respond to the pandemic.

The twinning collaboration approach developed during the project proved successful, and it has inspired other public health institutes to adopt a similar model. National ownership is paramount. Long-term commitment is essential; five years is a short time. It takes time to establish mutual trust which is necessary to achieve the goals. Having a strong presence in the countries proved important, either by frequent visits, secondment of a NIPH employee or appointing a local coordinator. For all four countries, a collaboration agreement with an organisation in the country improved implementation. For three of these the WHO country office was a successful choice of partner. The GHPP increased Norway's international visibility in global health security, and our country experiences from twinning, increased our credibility.

Recommendations

The COVID-19 pandemic has shown the global interdependencies of health security. A health threat anywhere is a health threat everywhere. A strong continued engagement on the global scene and in twinning country collaborations is mutually beneficial for the countries involved and the world at large. NIPH has gained substantial experience from running a complex multicontinental development project and is ready to commit.

Introduction

The Norwegian Institute of Public Health (NIPH) in 2015 signed an agreement with the Ministry of Foreign Affairs on the Global Health Preparedness Programme (GHPP) for the period 2015 – through the first half of 2016. The final report for this period was delivered and approved. The GHPP continued with a grant agreement between Norad and NIPH, initially for the period 1 July 2016 to 30 June 2020 for a total amount of 46,879,167 Norwegian Kroner (NOK). The end date was later extended to 1 August 2021. This report is covering the period from 1 July 2016 to 31 July 2021, a total of five years.

The International Health Regulations (2005) (IHR) are a legally binding instrument from the World Health Organization (WHO) endorsed by all its Member States. With the GHPP, NIPH aimed to contribute to the global efforts of strengthening IHR core capacities in the partner countries and globally. The core concept for GHPP was peer-to-peer collaboration between Norway and select low- and middle-income countries (LMIC), Ghana, Malawi, Moldova, and Palestine, in addition to a global component.

The overall goal of GHPP was: To improve the capacity to prevent, detect and respond to public health events of national and international concern in the designated partner countries. It had three strategic objectives: **1**: To support assessment, prioritization, and implementation of actions to meet specific IHR (2005) core capacities in partner countries. **2**: To contribute to global efforts that enhance capacity and procedures for assessment prioritization and action to assist all countries in meeting their obligations under IHR (2005). **3**: To strengthen institutional capacity of National Institutes of Public Health, in partner countries, and in national collective efforts to prevent, detect and respond to public health events of national and international concern.

Annual activity plans were agreed with partners, approved by Norad, and progress reports were submitted to Norad twice annually according to the contract. The partners also held formal meetings twice per year. NIPH conducted a mid-term self-assessment in August 2018, and Norad commissioned an external review carried out by *Hera* and it was finalised December 2019. The review was generally positive and stated e.g. "*Many stakeholders both at the global level and at the country level have expressed their appreciation for Norway's commitment through GHPP in engaging with global health security and IHR (2005). In fact, the GHPP serves as an inspiration for similar actors in the field. Norway, through the GHPP, was at the forefront of supporting IHR (2005) core competency development and according to some informants, the GHPP efforts only represent the beginning." … "The experience that the NIPH has gained with the GHPP is not only beneficial for Norway and its institutions (including NIPH, Norad, MoH and MoFA), but also for other countries and institutions that are considering providing similar support. In this regard, investing at the global level ensures keeping the seat at the table where global health security is being discussed. Supporting countries through a twinning model provides the opportunity to facilitate cross-fertilization with the global level discussions."* The recommendations for improvements from Hera were followed up in close discussions with Norad for the remainder of the project period.
We aimed to conduct separate meetings with the collaborating partners in all countries toward the end of the project period to reflect together and learn from their experiences. However, the ongoing pandemic made it impossible since all parties were occupied with the pandemic response. Instead we have had specific meetings to report, monitor and evaluate final outcomes. Hence, this final report reflects views and experiences of NIPH.

The report is structured according to the requirements in the contract. The first sections describe the results and assessments of the project, before giving a one-page summary for each of the five sub-projects (four countries and global). In addition to the narrative report attached in Annex 1, an Excel spreadsheet offers a detailed plan for each account's approved and reported activities.

Achieved results

In this section, we describe some of the major results achieved, the progress during the project period and the impact which has likely been achieved. That said, the GHPP has been a large and comprehensive project involving many stakeholders in four countries and several global organisations and actors. To provide a more detailed and comprehensive picture, we have attached an Excel spreadsheet (Annex 1) that contains one sheet for each sub-project with all biannual activity plans and reported results. In two separate sheets (one for the four countries and one for global activities), we have summarised the main *Outputs* for each of the intended outcomes and attached *Remarks* commenting on: Important learning experiences or major milestones, and project significance related to the COVID-19 pandemic.

Establishing partnerships

A key feature of the GHPP was to develop an elaborated *twinning collaboration model*. The main component is long-term peer-to-peer twinning between NIPH and governmental NPHI's, or other national bodies responsible for IHR core capacities in the collaborating countries. At the start-up of the GHPP, the project management team wanted to establish collaboration agreements with local partners, including for financial transactions. Ideally this would be with the country institutions responsible for IHR issues in the country. However, due to technical, contractual, organisational, financial, or anti-corruption reasons, it has not been possible to have direct financial contracts with the NPHI or MoH.

For two of the countries (Palestine and Malawi), collaboration had already started when GHPP was established, whereas for Ghana and Moldova it started with GHPP. Similar relationships were further developed with the World Health Organization (WHO) headquarters and regional and country offices, and the European Centre for Disease Prevention and Control (ECDC) or established with the Global Health Security Agenda (GHSA). Long-term mutual understanding, respect and trust have been essential and indispensable compositions of the project to achieve the desired outcomes. Our twinning model is also in line with concepts, tools and documents developed by the International Association of National Public Health Institutes (IANPHI) and follows core principles of Norwegian development aid and recommendations from WHO.

Developing and implementing action plans

After establishing partnerships, we conducted joint assessments or reviews of the individual country's status of implementing IHR core capacities, and then agreed on plans to complete a National Action Plan for Health Security (NAPHS) to address the identified gaps. For the global component of GHPP, we have used a similar methodology of identifying major tasks and areas of work in close collaboration with the relevant actors. This procedure proved to be very helpful as a steering document for all five sub-projects. At the same time, it was important to allow for flexibility with the development of the project when conditions for the priorities changed. This was most notable from March 2020 with the emergence of the COVID-19 pandemic. The pandemic necessitated a major change in how we operated when travels became impossible and NIPH and national and international partners needed to change their attention from preparedness to response. The pandemic has also been a real-life "simulation exercise" for what had been implemented during the project period up to the pandemic outbreak.

Overview of some of the main outputs

A detailed description of the delivered outputs and the progress of the project are listed in the Excel spreadsheet in Annex 1, and a summary for each sub-project is given later in this narrative report including an assessment of the likelihood of impact being achieved. Here we summarise some of the main outputs across the five sub-projects.

Knowledge development

NIPH has, under the project, allocated resources and expertise to develop and expand on the IHR core capacities beyond the State Party Annual Reporting (SPAR). We participated in the development of various IHRMEF such as: Joint External Evaluations (JEE), Simulation Exercises (SimEx), After Action Reviews (AAR), and National Action Plans for Health Security (NAPHS). NAPHS and risk communication plans were consequently developed for most of our partner countries, in addition to chemical preparedness plan for Ghana. The role of knowledge development changed amid the ongoing pandemic. We engaged actively in several global initiatives like the Global Preparedness Monitoring Board (GPMB), the Independent Panel for Pandemic Preparedness and Response (IPPPR) and the Review Committee on the Functioning of the International Health Regulations (2005) during the COVID-19 pandemic.

Infrastructure development

In GHPP we collaborated with national and international partners, including IANPHI and WHO, to organise and articulate public health related activities under one national umbrella. Examples are the development of PNIPH in Palestine and PHIM in Malawi. In Ghana, we had initial discussions on the further development of Ghana Health Services, and in Moldova, we discussed functions of the Public Health Agency of Moldova with our national partners. During the pandemic, we also supported infrastructure of the Emergency Operating Centre in Moldova.

Exchange of expertise

The project was engaged in many onsite visits, hands-on webinars and workshops to implement the IHRMEF of JEE, SimEx, and NAPHS and to further advance the national skills of IHR core capacities. Many of the technical projects were conducted in mutual collaboration with national experts. Amid the pandemic, most of these activities were reshaped to assist partner countries in mitigating the emergency.

Implementation

In the project we focused to identify countries' bottlenecks, and tailoring activities to advance implementation of IHR technical capacities. These activities included developing multisectoral communication channels, supporting the further deployment of national surveillance programmes and emergency plans regarding specific IHR capacities like chemical events, AMR, biosafety and biosecurity hazards, and high-priority pathogens. Such initiatives have supported partner countries to advance their public health preparedness in emergency management during the pandemic.

Global collaboration

NIPH through the GHPP presented a dynamic model of peer-to-peer collaboration between the Global North and South. Additionally, we coordinated with other global players such as Public Health England, the Robert Koch Institute (RKI) of Germany, the Nordic Public Health Institutes, US CDC, Africa CDC and ECDC to join forces in advancing global adoption of the IHR, for example in the implementation of event-based surveillance in Ghana, Malawi, Palestine, and Moldova. In addition, there was close engagement with WHO's regional offices in developing national competencies in surveillance, IPC, and One Health.

Efficiency of turning project resources into outputs

The country summaries give more detailed descriptions. From our experience, it was of upmost importance to establish good and trustworthy relationships. To achieve this, we prioritised spending time on getting to know the countries and their stakeholders well. Once good relationships were established, it was easier to tailor activity plans to their needs and priorities, and to have candid discussions on an equal basis when changes were needed. This afforded country stakeholders greater ownership of the IHR implementations, which improves the prospect of sustainability.

We measured outputs as agreed with Norad in the results framework. However, measuring impact or how *efficiently* we turned resources into outputs was more difficult. In all countries and in the global sub-project there are always intrinsic factors that challenged the project development. Some examples were: The Israeli occupation of Palestine and the political divide between the West Bank and the Gaza Strip; the underfunded public health system in Malawi; and the political instability in Moldova.

Effect on society

The societal impact of the project could be expressed as the impact of developing Common Goods for Health. However, there was no requirement to measure the impact on society. It is also hard to measure the long-term value of prevention programmes due to ambiguity of the outcomes.

In early 2020, the entire world was hit by the COVID-19 pandemic. Although we did not specifically measure it, collaborating institutions in all five sub-projects have reported that the previous GHPP activities have contributed to an improved preparedness level, and to their national ability to handle the pandemic and mitigate its impact on society.

Sustainability of the achieved results

The work mode of GHPP was to assist the partners to advance their IHR core capabilities according to their own vulnerabilities and priorities. This increased their ownership of delivered outputs and improved the probability of more sustainable results. However, as mentioned for each country, there are threats to achieve sustainable results. These include organisational instabilities, weakness of governmental structures and lack of internal human and financial resources. Some of these factors could be mitigated, others would demand fundamental investments and changes, far beyond the scope of this project.

Deviations from implementation plan

As described in the section *Achieved* results, the GHPP conducted country assessments and developed national action plans in close collaboration with country stakeholders. These were reflected in the annual implementation plans submitted in November for the following year. Norad has continuously been informed of any notable deviations from the approved implementation plans. We have had an open and transparent dialogue with Norad and have experienced an understanding when plans needed to change. In the country summaries, we have provided some examples of changes that occurred during the project period. These are described in detail in Annex 1. The ongoing COVID-19 pandemic has had the greatest impact on the project and is described in the following section as well as in the country summaries.

Impact of COVID-19

The IHR provide an overarching legal framework that defines countries' rights and obligations in handling public health events and emergencies which have the potential to cross borders and cause distress. Of public health emergencies, a pandemic is one of the most feared. The COVID-19 pandemic which emerged early in 2020 affected GHPP principally in two ways: How we adapted to the new situation and how the partners were able to respond to the pandemic threat nationally and globally. The pandemic necessitated major changes in how GHPP operated when travels became impossible and national and international partners shifted their attention from preparedness and planning to response. Regarding pandemic response the pandemic has served as a real-life "simulation exercise" or a *stress test* for how well measures implemented in GHPP prior to the pandemic helped the countries in their response. In this section we share how GHPP has empowered the national response of our partners during the pandemic. We also present activities that were negatively impacted by COVID-19.

Impact of GHPP on global and national responses to the pandemic

Global

- Through GHPP, employees at NIPH have provided support to global actors including WHO, the GHSA, the GPMB, IANPHI and others in handling and coordinating the global response to the pandemic.
- GHPP participated in the ongoing WHO-led technical working group to update the IHRMEF.
- GHPP collaborated with other stakeholders to deploy technical assistance to severely affected countries during the pandemic.
- Through scientific and public health networks, the programme has contributed to several research papers, chronicles, media appearances, and conferences on global health preparedness.

Country level

Collaborating countries within the programme have greatly improved their preparedness level as described in the country reports and in Annex 1. Nonetheless, what has been implemented varies between countries. Some examples include:

- Multisectoral collaboration between various stakeholders at the national level.
- Development of national IHR committees, networks, and SOPs.
- Identification of the national shortcomings in emergency management and completed steps to tackle these gaps.
- Development of national emergency plans and protocols for surveillance, infection prevention, effective communication, emergency management, and sharing resources.
- Development of national laboratories networks
- Capacity building through hands-on training programmes in the form of simulation exercises, webinars, and workshops.
- Implementation of national risk communication including 24/7 hotlines, social networking, and referral systems to combat infodemics.

Main activities which were affected by Covid-19

Ghana

- The NAPHS was finalized but it was not launched due to COVID-19.
- Implementation of a health sector plan for chemical emergency was postponed due to the pandemic
- Postponement of a WHO-led One Health Technical Working Group (TWG).

Malawi

- The finalisation of NAPHS was delayed.
- Covid-19 related activities, including a prevalence study, were prioritised over other ongoing activities linked to preparedness planning and exercises.
- Implementation of new activities in the last year of the project, including development of national biosafety and biosecurity inventories and One Health collaborations, was affected.

Moldova

- Development of the NAPHS was postponed.
- Implementation of annual Point Prevalence Surveys in 2020 and 2021 was postponed.
- Development of Moldovan competencies of biosafety and biosecurity was affected.
- Development of chemical risk assessment guidelines and work on setting up the national poison control centre were cancelled.

Palestine

- AMR application of Event-based Surveillance was postponed.
- Development of national guidelines for Infection Prevention Control in hospitals was affected.
- Development of a national strategy for biosafety and biosecurity was postponed.
- Cancellation of biosafety hands-on training in Gaza laboratories due to travel ban.

Global

- All JEE activities and country missions were postponed during the pandemic.
- Diversion of most of the global activities from implementation of IHR technical capacities to a focus on mitigating activity of COVID-19.
- Most of the global activities were reoriented to share the know-how and learning experience of managing the pandemic.

Main obstacles and challenges

GHPP is a programme working in four countries on three continents, aiming to assist each partner country to prioritise their needs and develop national competencies to implement the IHR core capacities, and bearing in mind their vulnerabilities and challenges. Facing some obstacles is inevitable especially within intercultural development projects. In this section, we present some of the major obstacles on two levels during the project period.

Intrinsic factors

In this section, we refer to factors related to the Norwegian side of the collaboration, either related to NORAD or NIPH.

Development of a peer-to-peer collaboration model

NIPH has previously had collaboration projects with actors in LMICs, typically research projects. The GHPP was the first project in developing a more comprehensive, broad, and sustainable collaboration model. In the initial part of the project, NIPH received funding from several budget posts at MFA with different expectations of the project, making it more challenging to develop a good model. When GHPP responsibilities were transferred from MFA to Norad, expectations changed again, and were soon more predictable and coherent. Shift of project leadership four times at NIPH during the project period may also have delayed the collaboration model, although all leaders had been involved in the project from the start.

Alterations in financial requirements

Receiving funding from four budget posts at MFA, each with its restrictions of resource allocation, limited the flexibility of spending funds in an optimal way for the project. After the transfer to Norad and renegotiating the financial conditions in the contract, the execution of the project improved considerably.

Collaboration with other Norwegian agencies abroad

Because NIPH does not belong to the Norwegian Foreign Service, it has an intermediate position when working with international aid. Although we experienced good support and relations with the Norwegian embassies in the countries we worked, we were still partly on the outside. To be more integrated within the foreign service could be beneficial for both parties, NIPH and the foreign service.

Extrinsic factors

Extrinsic factors refer to aspects related to the recipient side or collaborating country, and global agencies.

Diversity of public health systems

The structure and capacity of the health system and the organisation of the national public institutional functions in the collaborating countries varies. The transferability of learning experiences between countries were sometimes limited and needed to be adapted to the country situation. On the other hand, this underscored the need to develop flexible and adaptable solutions.

System challenges in the form of:

- Political or security instability, interference or change of national or institutional leadership.
- Lack of human and financial resources (or prioritizing investment in public health).

Fragmented public health structure

In many LMICs, public health is frequently based on vertical projects financed and managed by various international donors/agencies where there may be a lack of cross-functional coordination.

Multitude of international actors in the country

Collaboration between international organisations working in a country is time and resource demanding in addition to it depending to a certain degree on their priorities and expertise. For instance, GHPP in Ghana worked closely with other donors like US CDC & USAID in developing an event-based surveillance system. Multilateral collaborations were also tried in other countries.

Risk factors

In this section we give a brief account of perceived risk factors and how they were mitigated.

Corruption and other financial mismanagement

At the start of the GHPP, the project management team wanted to establish collaboration agreements with local partners, including for financial transactions. Possible solutions were discussed with relevant partners in the countries, including with the Norwegian foreign service. None of the countries selected the national government as the financial contract partner as explained in the section Achieved results. In Ghana, Palestine and later on also in Moldova, the WHO Country office (CO) was selected and contracts signed. In Ghana, the University of Ghana was also a contract partner. Initially in Moldova, the WHO CO was reluctant to develop a contract with NIPH, and consequently all procurements and payments for work were conducted via NIPH. In Malawi, NIPH had for two years stationed a seconded employee in the country who was in charge of small procurements and payments. Later, a contract was signed with Norwegian Church Aid. At NIPH great efforts were done to minimise the risk of corruption, and we engaged external expertise to assist us in improving our anti-corruption routines.

Climate and environment

Travels to the country sites and global meetings had been essential to the success of the project. However, great care had been placed on reducing travels to a minimum, and mostly relying on telephone conversations, written communication, and virtual meetings. With the advent of the pandemic, all travels ceased completely, and all communication has been electronic and virtual.

Gender Equality

The GHPP adhered to standard recruitment policies to avoid gender discrimination in recruitment processes. Three positions recruited locally in the GHPP during the project period (two in Malawi, one in Palestine) were women, and the person recruited in Ghana was a man.

Human rights

The team comprising GHPP was multinational and multicultural. Adhering to universal human rights rules were fundamental in all aspects of the project, and was grounded on openness, transparency, and respect for all people, regardless of ethnic, cultural, religious, or other backgrounds. In addition, the aim of the project was to promote improved public health.

Lack of absorption capacity

The project obtained necessary local knowledge of capacities in partner countries and prioritised activities that ensured capacity-building at the proper level in close collaboration with the local partners.

Donor dependency and lack of ownership

The project was built on mapping of donors and their contributions and collaborated closely with relevant actors to avoid duplication. Activities were harmonised with national strategic plans and work was conducted in close collaboration with collaborating partners when developing activity plans.

Political instability and changes in leadership

During the project period, we continuously worked to secure formalised agreements, Memorandum of Understanding (MoUs), national ownership and partnership at institutional level, and kept close dialogue with the Norwegian Embassies and representation offices to follow the political situations in the partner countries.

Main lessons learned

The twinning collaboration approach which NIPH developed and used during the project period, together with the technical expertise provided by employees at NIPH and our national and international partners, has been fundamental to the project's success. Long-term commitment is essential; a five-year project is a short time to be able to show substantial and sustainable change.

GHPP management collaboration was characterised by close and frequent interactions with our partners, which generated a strong bridge of ownership, trust, and openness. It takes time to establish mutual trust which is necessary to achieve the goals. Having a strong presence in the countries proved important, and was carried out either by frequent visits, secondment of a NIPH employee or appointing a local coordinator.

National ownership to the project is paramount. All priorities and plans for activities were developed in collaboration with and consent from national authorities. Knowing and understanding the national stakeholders and the country specific sociocultural context was important to foster and enable sustainable outcomes. For instance, having a national Palestinian coordinator partly positioned in the MoH delivered a higher level of ownership and sense of commitment and greatly fostered the implementation.

As described under *Establishing partnerships* and under *Risks,* financial contracts were not signed with country authorities (MoH or NPHI). For all four countries, a collaboration agreement, including a financial agreement was signed with an organisation in the country. This greatly improved implementation. For three of the countries, the WHO country office was the choice of

partner. Despite not having a financial contract with country authorities, the collaboration with them was good.

Having a designated point of contact in each country who had designated time to follow up on GHPP planning and activities, proved important for efficiency of implementation and to reflect better understanding of the country specific context and dynamics. This consequently helped to tailor and modify the project according to the actual and perceived needs in the country. Additionally, it helped to structure a multisectoral collaboration between all relevant stakeholders. For a period, we did not have one dedicated contact person in Moldova, which inhibited progress of work. In addition, not having a financial contract partner in the country made organising events and simple procurements more difficult.

The GHPP has increased Norway's international visibility in global health security, and our country experiences from twinning, have increased our credibility. Multilateral collaboration with various international donors, WHO and NGOs proved to be an essential component for sustainable and effective implementation. This was specifically expressed by both Palestinian and Ghanaian stakeholders.

Grounding the project's objectives on previously performed IHRMEF proved to be useful to tackle country specific vulnerabilities. For instance, in Ghana, the activity plan for GHPP was partly based on a previously conducted JEE assessment, and similarly in Malawi where several simulation exercises were conducted. Additionally, IHRMEF could be used as a tracking tool for progress.

NIPH has a long history of strong international experience in technically focused activities, for research and implementation projects, and in international collaborations and development in high, middle, and low-income countries. However, we have had less experience with larger development aid projects, before GHPP. This was also pointed out in the Hera review of 2019. During the project period, and in other projects, the competence and experience have increased substantially, making NIPH better equipped and prepared for new development aid projects.

Internally at NIPH, having a designated coordinator at NIPH for each of the five sub-projects proved important. Setting up a project team for complex projects like GHPP, requires an interdisciplinary team of experts from various departments at NIPH. During the course of the GHPP was characterized by multisectoral collaboration between various experts who were actively engaged with the partner countries.

The process of implementation should be adaptive and responsive. GHPP faced several challenges, not the least during the pandemic, which were overcome by reorganising priorities and resources.

More detailed descriptions of lessons learned are given in the next section.

Country Summaries

In this section we summarise the main experiences for each of the five sub-projects. For detailed oversight, please refer to Annex 1.

Ghana

Ghana was a country that NIPH had not collaborated with previously, therefore the project success rested on building a strong foundation for mutual collaboration with various national and international stakeholders including the Ghana Health Services, the University of Ghana, WHO, US CDC, and Public Health England. Our collaboration was characterized by frequent meetings to enhance communication and alignment between team members. The cooperation model in Ghana had the same structure as in Palestine with transfer of funds to the WHO country office and a local employee who was responsible for following up on project activities.

Achieved results (outputs, progress of outcomes, impact)

A Joint External Evaluation was conducted in 2016 and was a starting point, followed by investing in activities in highly prioritised topics like developing a national chemical preparedness plan, event-based surveillance, and a risk communication plan. In addition to reviewing all organisational structures, SOPs, and communication channels, the GHPP assisted in developing a Ghanaian National Action Plan for Health Security. Furthermore, the project supported the implementation of an Integrated Disease Surveillance and Response for chemical events that was further developed and used for COVID-19 management.

Deviations

Since Ghana was a new country for NIPH to collaborate with, acquiring an understanding the country and the major stakeholders took time. Initially we did not have any in-country funding allocated to personnel support making it more challenging to initiate and follow up on activities. As in Palestine, this improved substantially when a contract was signed with WHO CO and a national employee was recruited. Additionally, with the COVID-19 pandemic, all physical activities in terms of workshops and webinars had to be cancelled. The pandemic also negatively affected the implementation of the newly developed NAPHS as well as the planned development of a National emergency plan for One Health.

Efficiency of use of project resources

Initially GHPP focused on developing the national competencies to lead the implementation phase, which proved to be challenging and therefore it was decided to liaise with the WHO CO. Networking and synergies with other donors were proven to be essential to deliver tangible progress, nonetheless, collaborating with WHO CO provides invaluable insight into government priorities and the relationship was essential for project outputs.

Risk factors

New and vulnerable relationships were the biggest risk to the project. This was managed by forging a relationship with WHO CO. As in most LMICs, the public sector is fragmented and lacks multisectoral collaboration, transparency and accountability mechanisms which can affect project's ownership.

Impact on society

Pre-pandemic activities as implementation of IDSR-3, contact tracing and data management and training have been important in supporting the national response when the pandemic struck, while training health information officers positively contributed to tackle infodemics during the pandemic outbreak.

Sustainability

GHPP succeeded in reorienting and reorganising IHR activities in Ghana in several ways. This orientation has strengthened coordination between Ghana Health Services and the Ministry of Health and is expected to continue.

Lessons learned

- National application of IHRMEF served to identify the most compelling bottlenecks, to handle them efficiently, and to follow up on the progress made during implementation.
- These identified bottlenecks should be prioritised and aligned based on national multisectoral collaboration to empower ownership and develop national competences.
- To capitalise on achieved outcomes, future twinning projects could benefit from improved collaboration with other active donors to avoid overlap and increase sustainability.

Malawi

Malawi is a Norwegian priority country for development aid. NIPH in collaboration with IANPHI and national authorities in Malawi was supporting the development of the Public Health Institute of Malawi (PHIM) when the GHPP activities started. From 2015, NIPH seconded a professional expert to PHIM for a two-year period. A collaboration agreement was signed with Norwegian Church Aid (NCA) in Malawi for activities related to the GHPP and lasted until 2020. NCA administered funds spent in the project in Malawi as well as employed local positions.

Achieved results (outputs, progress of outcomes, impact)

Experts at GHPP assisted Malawi in conducting a JEE and a full-scale simulation exercise (SimEx) of Ebola, provided technical and financial support during responses to several infectious disease outbreaks, including cholera and anthrax, and participated in several national committees, including the National Rabies Task Force. Through the GHPP, the NIPH supported Malawi in developing their NAPHS after the JEE. GHPP's extended activity list included building national competencies of disease surveillance and outbreak response via implementation of IDSR and Field Epidemiological Training Programme (FETP) and developing a communication strategy for PHIM. GHPP also provided technical and financial support for a study on COVID-19 prevalence and knowledge led by I-TECH.

Deviations

Although the scale was limited, technical support for implementation of IHR core capacities was strong and mostly worked well in all phases of the project period. The organisational building and strengthening of PHIM as a formal NPHI was not prioritised as a GHPP activity until the end of the project period, partly due to limited direction from the Malawian government. GHPP activities were redirected to focus primarily on technical aspects linked to IHR implementation (including surveillance and response). The COVID-19 pandemic greatly hampered planned activities in the last year of the project, e.g. such as activities related to the national strategy for laboratory biosafety and biosecurity, and the national preparedness plan for One Health. In addition, ending the collaboration between NIPH and NCA in September 2020 limited the logistical and administrative support for conducting planned activities.

Efficiency of use of project resources

Since NIPH has been a long-standing partner with Malawi, GHPP was able to navigate through contextualized challenges, coordinate with other Norwegian aid agencies and achieve tangible results. Collaboration and coordination between various Norwegian aid agencies that are actively engaged within a country is fundamental to sustainable development.

Risk factors

Malawi has a vulnerable political and public system, with an overstretched and underfunded public service. Corruption and potential misuse of funds was a high risk that was mitigated by engaging NCA in management of project funds. Frequent outbreaks of infectious disease, including cholera, and implementation of simultaneous projects supported by other organisations could lead to competing priorities for national partners. High turnover of skilled staff also challenges the sustainability of achieved results.

Impact on society

The programme supported the completion of a JEE and development of a NAPHS with the involvement of various national stakeholders, which could have an important role in long-term planning. The competencies developed and built during the project period, including several outbreak investigations and simulation exercises, has enhanced Malawi's national ability to manage public health emergencies. GHPP allowed for networking between different partners that were active in the country, that allowed for collaborative projects, including conducting a research study on the prevalence of active SARS-CoV-2 infection in communities and health care workers.

Sustainability

The GHPP in Malawi has provided a strong and lasting improvement in IHR core capacities and competencies and established collaborations that can lead to further activities. To invest in more robust infrastructure, including the formal establishment of a national public health institute, may improve the chance of lasting impact, but this was beyond the scope and resources of the programme. Retainment of staff and continuing routine activities due to competing priorities are known challenges for the sustainability of similar projects.

Lessons learned

- As a country with limited resources, Malawi has challenging dynamics to implement sustainable activities. To overcome these dynamics, a strong long-term presence is necessary to capitalise on collaboration with established institutions in the country, in addition to investing in organisation building.
- Invest in developing technical competences as this is fundamental but may be at risk of fragmentation without a solid organisational framework in the form of a national public health institute like PHIM. This could be strengthened with the formal establishment of PHIM as an autonomous organisation.
- Capitalise on previous experience of conducted projects and ongoing projects with other partners.
- Prioritise investment in developing national multisectoral coordination system for external aid to IHR core capacities.
- Collaborate and communicate with other Norwegian aid agencies who are actively engaging within the partner country.
- Engage with partner country in conducting IHRMEF activities such as SimEx, JEE, and After-Action Reviews which helps to develop national expertise.
- Analyse and consider country-specific vulnerabilities prior to launching a twinning programme in order to anticipate implementation setbacks.
- Prioritise investment in improving governance prior to developing technical skills to achieve sustainable results. However, this would need substantially larger and longer-term investments than was available in this project.

Moldova

Moldova was a new partner country for GHPP project implementation. It was selected due to a MoU between the Moldovan and Norwegian MoH, and a desire of Moldova to strengthen IHR implementation. Since NIPH did not have a local contract partner in Moldova, project funds were administered from Norway. In the latter part of the project period, a collaboration agreement was signed with WHO CO and proved especially useful during the pandemic.

Achieved results (outputs, progress of outcomes, impact)

NIPH had a solid partnership with the newly established national IHR focal point. During the JEE which GHPP supported, the collaboration with Norway was repeatedly highlighted as important for Moldovan IHR development by the Moldovan authorities. GHPP assisted in developing Moldovan National Emergency Preparedness and Response Plan (NEPRP). In addition, it funded the renovation of the national Emergency Operation Centre with procurement of audio-visual equipment, supported the development of Standard Operating Procedures for the IHR focal point and national guidelines for chemical risk assessment which were implemented in 2020. In the area of knowledge exchange and capacity building, the project worked closely with Moldovan partners to develop and implement Point Prevalence Surveys (PPS) to measure healthcare associated infections and antimicrobial use and in developing national guidelines for chemical risk assessments. Additionally, the project assisted in developing an algorithm for diagnosing dangerous pathogens, including molecular methods, which were further adopted in mitigating the pandemic. Furthermore, GHPP assisted the Moldovan authorities to develop their national risk communication plan for COVID-19 based on multisectoral engagement between various national stakeholders.

Deviations

Several activities agreed upon in the first phase were either discontinued or postponed. This was partly due to rotation of personnel and resulted in changes in priorities. Most of affected activities were related to laboratory preparedness (e.g., participation of Moldova in External Quality Schemes, senior expert exchanges, and several small projects) and chemical preparedness (development of national chemical risk assessment guidelines or setting up a Poison Centre at the Agency). In addition, the COVID-19 pandemic severely hindered activities in Moldova. Several field activities, workshops and webinars were cancelled due to travel restrictions. To be able to continue activities and shifting focus from preparedness to response, the WHO CO implemented pandemic response measures approved by NIPH and Norad in the activity plans.

Efficiency of use of project resources

Since we did not have a national contracted partner, all tenders, contracts, and procurements needed to be handled from Norway. This was time consuming, expensive, and not rational, but necessary to mitigate risks of corruption. The political instability with frequent change of government, including leadership in the MoH also resulted in constant change of positions, responsibilities, and national priorities, which led to weak ownership. For our main partner in Moldova, the Public Health Agency, the political instability resulted in frequent reorganisations and shift in leadership, which made networking challenging and time consuming. The collaboration agreement with WHO CO made the work much easier for us with better use of project resources.

Risk factors

For Moldova, being the country in Europe with the lowest GDP, corruption and misuse of funds is a high risk, which was mitigated by handling all contracts from Norway until an agreement with WHO was signed. The political instability with frequent changes of plans delayed implementations. Low public salaries for employees made it necessary for many to have more than one job and weakening their dedication and prioritising to focus on daily tasks rather than

collaborating with overseas projects. Although all activities were discussed and approved as national priorities, many stakeholders gave feedback that this work was a burden for them, as they had to work on these assignments on top on their daily tasks.

Impact on society

The GHPP assisted the Moldovan authorities in setting their national priorities of preparedness, and to improve their IHR core capacities based on their JEE's findings. The progress made prior to the pandemic was important. GHPP was responsive enough to apply key learnt lessons from PPS and translation and printing of the "WHO guidelines on Core Components of Infection Prevention and Control Programmes". This whitepaper was further tailored to mitigate the COVID-19 pandemic. GHPP also was engaged in developing the know-how of national emergency competencies.

Sustainability

NIPH through the GHPP succeeded to develop the Moldovan National Emergency Preparedness and Response Plan, which is expected to last for years to come. NIPH, moreover, aims to keep in contact with key stakeholders in Moldova to be able to continue our collaboration in the event that new funding is made available. Structural instabilities and continued rotation of key personnel may challenge sustainability.

Lessons learned

- National ownership driven by political leadership who sets national priorities is crucial for the progress of twinning programmes.
- Networking with identified public health stakeholders is important to understand country dynamics and vulnerabilities and investing in long-term engagements are ways to counter political polarization.
- Expanding the collaborative model to include international organisations such as WHO could be a way forward.

Palestine

For Palestine, the main contractual partner was the WHO country office, but working in close contact with the Palestinian Ministry of Health (PA MoH). A full-time dedicated Palestinian doctor was recruited to WHO in 2017 and worked most of the time in the MoH. Synergies with related projects (nationally or externally funded) were explored and utilised.

Achieved results

All organisational frameworks and structures, IHR committees and focal points, laws and regulations, organisational guidelines and SOPs were revised and implemented before the pandemic. Improvements in indicator- and event-based surveillance systems, laboratory capacities, hospital infection prevention and control (IPC) and risk communication were developed. There was a marked increase in implementation capacity when a dedicated person was in place in 2017. The GHPP has had a substantial impact on Palestine's ability to be prepared to handle the pandemic.

Deviations

Based on prior assessment and needs defined by MoH, we intended to facilitate the establishment of a high-level biosecurity laboratory (BSL-3) in Ramallah, West Bank, but gradually decided to discourage it due to costs and lack of national experience in sustainable maintenance. The process of changing priorities towards sustainable alternatives took a long time but was necessary in order to get acceptance from the MoH. Biosafety and biosecurity training had to be cancelled due to travel bans during the pandemic.

Efficiency of use of project resources

Collaborations and synergies with national priorities and other donor supported projects was beneficial. Using WHO as the country project partner was essential to achieve success and avoid misuse of funds and was in reality the only possible option outside of the Norwegian foreign service. However, the UN organisation is more costly than using nationally employed staff.

Risk factors

The political instability, both between Palestine and Israel, and between West Bank and Gaza Strip, delayed some activities, and especially affected activities in Gaza.

Impact on society

The GHPP in Palestine has improved the IHR core capacities and has likely had a substantial impact on the country's handling of the pandemic.

Sustainability

Successful efforts to integrate activities into governmental structures and plans suggests that, it is as sustainable as other structures in Palestine. However, the volatile political situation and national resource challenges may hamper sustainability.

Lessons learned

- The importance of having a dedicated national person in Palestine who has sufficient time to follow up activities to ensure progress.
- The importance to understand the country dynamics and partners by being present to ensure reciprocal trust and ability to ensure progress.
- Engagement of WHO as a contract partner was useful also because IHR is among their core activities.
- More direct engagement with the MoH in some of the processes can facilitate progress.
- Development of technical modules should aim to be generic and transferable to other countries (e.g., global common goods)

Global

GHPP has served as an active addition to NIPH's global responsibilities and activities. Experiences from the work in the four collaborating countries has been useful when engaging in activities in the global arena. The ultimate objective of global activities was to improve global adherence and uptake of the IHR. The experiences from GHPP in addition to the pandemic response, was instrumental in developing several IHR monitoring and evaluation frameworks. GHPP had secured a seat for Norway within the global health governance structure building on experience we acquired during the project period.

Achieved results (outputs, progress of outcomes, impact)

A- Prior to COVID-19

- Active participation in Global Health Security Agenda activities, workshops and seminars.
- Participation in preparing for, developing and conducting JEEs, SimEx, After action Reviews (AAR) and NAPHS.
- Performing several JEE activities, SimEx, AAR, and NAPHS.
- Engaging with WHO technical working groups.
- Participation in the development and the work of the Global Preparedness Monitoring Board (GPMB)
- Dissemination of lessons learned from partner countries with global organisations e.g. WHO, IANPHI, ECDC and Africa CDC.
- Coordination of global initiatives with Nordic countries, the United Kingdom, Germany, and others.

B- During and after COVID-19

- Knowledge production with GPMB
- Active participation in all global initiatives following the pandemic (IPPPR, IHR review committee, GPMB and CEPI).
- Participation in WHOled Technical Working group to update and synchronise the IHRMEF.
- Engagement with other European countries to organise and deploy emergency aids.
- Dissemination of scientific publications, lectures, and workshops on pandemic management.

Deviations

As a ramification of COVID-19 pandemic, all planned JEE activities during 2020-2021 were put on hold, however GHPP had compensated these activities by being a proactive player to coordinate, organise and foster global collaboration in mitigating the pandemic. All other physical activities were diverted to digital platforms, and GHPP was an active participant.

Efficiency of use of project resources

The global part of the GHPP had secured a front seat for Norway within the governance of global health. GHPP-global served as a trustworthy, knowledgeable partner in articulating IHRMEF.

Sustainability

GHPP-global was very active globally speaking on behalf of vulnerable countries and was efficient in developing and deploying assistance to strengthen their national capabilities. The experiences gained during the project period were, and will continue to be, used to improving global health security.

Lessons learned

- Through GHPP global, NIPH developed a vast network with various global decision makers and organisations like ECDC, WHO, USCDC, IANPHI, Africa CDC and others.
- The global activities of the programme granted Norway a position as an upfront global health security leader grounded on knowledge, competence, connectivity, and impartiality.
- NIPH through GHPP global has worked closely with IANPHI to strengthen public health institutions and to develop the association to the benefit of its members around the world.
- Working on the global health arena, GHPP's members have gained experience in assisting countries to develop their national IHR competences of prevention, detection and response.
- Most of these global activities are based on personal relationship and networking, which will continue beyond the GHPP's lifespan.

Annex

Annex 1 is a digital Excel file which offers an overview of the main outcomes that have been delivered and implemented in collaboration with partner countries and global institutions.

Published by the Norwegian Institute of Public Health
October 2021
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The report can be downloaded as pdf
at www.fhi.no/en/publ/