Integrating Mental Health and Psychosocial Support into Emergency Preparedness and Response in Africa

A Theory of Change Workshop

Monrovia, Liberia

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The report was developed and reviewed by Muhammad Alkasaby (UK-PHRST), Julian Eaton (LSHTM and CBM), Angie Tarr (MoH Liberia), Ansumana Konneh (MoSW Sierra Leone), Justine Laure Menguene Mviena (MoH Cameroon), Ian Walker (UK-PHRST), Florence Baingana (WHO AFRO) Mohammed Abdulaziz (Africa CDC), Adelard Kakunze (Africa CDC), Dumsani Njobo Mamba (Africa CDC), William Bosu (WAHO), and Rosemary Mwaisaka (ECSA-HC).

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Abbreviations

Africa CDC	Africa Centers for Disease Control and Prevention
AFRO	WHO Regional Office for Africa
COVID-19	Corona virus disease 2019
DHSC	Department of Health and Social Care
ECSA-HC	The East, Central and Southern Africa Health Community
EMRO	WHO Regional Office for Eastern Mediterranean
EVD	Ebola Virus Disease
MHPSS	Mental Health and Psychosocial Support
SOP	Standard Operating Procedure
SPACE	Strengthening Public mental health in Africa in response to the COVID-19 Epidemic
ToC	Theory of Change
UK-PHRST	United Kingdom Public Health Rapid Support Team
WAHO	West African Health Organization

Introduction

The African continent is affected by a large number of health emergencies, including humanitarian crises and outbreaks. These emergencies have a huge impact on public mental health, which necessitates making MHPSS an essential part of emergency preparedness and response. In a survey by the WHO during the COVID-19 pandemic, 93 % of the countries reported disruption of their Mental Health Services [1]. With mental health often not prioritized by countries and associated challenges in coordination and health service delivery, a consortium of African public health institutions including Africa Centres for Disease Control and Prevention (Africa CDC), World Health Organization Regional Office for Africa (WHO AFRO) and for the Eastern Mediterranean Region (EMRO), the Western African Health Organization (WAHO), and The East, Central and Southern Africa Health Community (ECSA-HC), in collaboration with the UK Public Health Rapid Support Team (UK-PHRST), established the "Strengthening Public mental health in Africa in response to the COVID-19 Epidemic" (SPACE) programme in 2020.[2]

The main objective of this programme is to support the mental health response to the COVID-19 pandemic and other public health emergencies in African countries. In the first phase of the SPACE programme, the consortium designed and implemented formative research to assess the current status and gaps in the mental health response to the COVID-19 pandemic in African countries. This formative research also explored barriers and enablers to Mental Health and Psycho-Social Support (MHPSS) integration into the COVID-19 response.

African mental health leads who participated in the first phase of the SPACE programme mentioned some barriers to integrating mental Health into COVID-19 response in their countries. The key barriers were the lack of political commitment, de-prioritisation of mental health during emergencies, lack of funding, availability of trained staff to provide MHPSS activities, and weak pre-existing mental health systems. Participants also expressed the desire for better regional collaboration, identifying lessons learned, sharing best practices, and regional advocacy initiatives. Experiences from COVID-19 and other health emergencies can strongly inform and shape responses to future emergencies[3].

In view of the foregoing, a regional workshop was held in Liberia to discuss lessons learned from the current pandemic and other emergencies response and build on this experience to develop a Theory of Change (ToC) for integrating mental health into emergency preparedness and response. The workshop brought together mental health experts from public health institutions in Africa and worldwide with national mental health leads from three African countries (Liberia, Sierra Leone, and Cameroon), with colleagues from Nigeria participating virtually.

The purpose of this workshop was to facilitate establishing regional networks to share learnings and expertise from different emergencies in the continent and draw on this expertise to develop a theory of change (ToC) for integrating mental health into national emergency preparedness and response plans.

MHPSS in emergency preparedness and response: Case studies

In this section, we will provide case studies from three countries in west and central Africa about their experience in integrating MHPSS into the emergency response.

Liberia

In 2009, Mental Health Unit (MHU) was created after the Government of Liberia recognized Mental health as an important element of Public Health services. The Unit which is headed by a director and has the mandate to guide, direct and supervise the overall development of all Mental Health programs including delivering mental health services and training the workforce.

In an effort to provide evidence-based services and as well guide the implementation of Mental, Neurological, and Substance use services in Liberia, the first Mental Health Policy and Strategic Plan was developed in 2010 for five years. Thereafter, a Technical Coordination Committee was established to coordinate Mental Health Services and report to the Minister of Health. This committee, which is comprised of both Local and International partners, Civil Society, and Service Users groups working in the Mental Health Landscape in Liberia, advises the Minister of Health on Mental Health programmes implementation. In 2016, the policy and Plan were revised for another five years which ended in December 2021.[4] The third revision of the strategy is underway. The Mental Health Law in Liberia was issued in 2017.

Liberia has one National Referral Hospital with 80-bed space which only admits adults. Children under the age of 18 are not admitted but Outpatient services are provided to them. Of the 80-bed space, 15 are used to admit persons with substance use disorders, while some are used for office space. Mental health services are also provided in other settings including primary Healthcare, Schools, prisons, and community settings. Health care services are offered free of charge in all public facilities.

The MHPSS Pillar of emergency response in Liberia

On the 21st March 2014, the Ebola Virus Disease (EVD) outbreak started spreading in Liberia and led to the death of over 5000 people. In an effort to control it, a national Incident Management System (IMS) was established with various pillars of which MHPSS is a part. Infectious Prevention Control Pillar (IPC) and MHPSS were embedded in the Case Management Pillar. Haven noticed that MHPSS were not given enough attention, it was demanded that MHPSS become a standalone pillar and it was agreed by the IMS Chair (Minister).

MHPSS partners were mobilized and the MHPSS Pillar was led by one of the partners. At the end of EVD, the leadership of the Pillar was turned over to the Government (the Ministry of Gender, Children, and Social Protection and the Ministry of health serving as Co-Chairs). The pillar member institutions meet regularly and provide updates to the IMS Chair during active response.

Training to prepare Mental Health Clinicians, Social Workers and Psychosocial Workers to provide MHPSS activities as a part of the COVID-19 response (Liberia)

Having MHPSS as a standalone pillar during emergencies and coordination between different stakeholders led to several successes during the EVD and COVID-19 responses:

- Developing an Operational Plan that provides a detailed, practical guide and roadmap for MHPSS activities
- National Mental Health and Psychosocial Support Pillar was established during EVD and reactivated to respond to COVID-19 and other disasters
- Psychological First Aid (PFA) curriculum was developed for Liberian schools (2015) and revised in 2020
- PFA Training of Trainers was provided to over 400 MHPSS service providers
- Providing different MHPSS training (Community Healing Dialogue (CHD), Psychological First Aid (PFA), etc.) in all 15 Counties
- Coordination of MHPSS activities across counties, different sectors and between different stakeholders
- Providing Psychosocial support for affected and infected persons
- Adding an MHPSS component to the clinical guidelines for Ebola Treatment Unit (ETUs)[5]
- Mental Health and Psychosocial Support Standard Operating Procedure (SOP) was developed in May 2017
- As the survivors of EVD began experiencing other health conditions, the National Ebola Survivor Network was established with Secretariat to translate the Government's Ebola Survivors Care and Support Policy.

Although MHPSS is not fully integrated into emergency preparedness and response plans in Liberia, the MHPSS pillar provided rapid response to several national incidences requiring MHPSS interventions (such as schools shooting, the sinking of the Niko Ivanka ship, a church stampede disaster which led to 31 deaths, fires and child protection issues). Unfortunately, the support provided was not sustained beyond emergencies due to lack of funding.

Sierra Leone

Sierra Leone is a low-income West African country with some of the poorest health indicators in the world.

A post-conflict systemic needs assessment by the Ministry of Health and Sanitation (2002) revealed a rise in mental health disorders amongst the population including psychosis, severe depression, and substance misuse. The burden of mental health became prevalent due to the civil war (1991 – 2002) and other humanitarian disasters.

According to the Ebola survivors End Line Report, the Ebola virus disease (March 2014 – Nov. 2015) intensified mental health disorders in Sierra Leone and was later exacerbated by the mudslide disaster (2017), the Wellington fire incident (2021) and the COVID-19 pandemic.

Despite the huge burden of Mental health problems, less than 1% of the total population of persons affected by mental health is treated. [6] The high rate of stigma causes people to avoid treatment or hide it. One psychiatric hospital with 200 inpatient beds is the only institution that serves the people of Sierra Leone.

The MHPSS Pillar of emergency response in Sierra Leone

The MHPSS Pillar was established during the Ebola virus disease (EVD) outbreak in 2014 to support both the immediate and long-term mental health needs and psychosocial well-being of the affected population.
As a follow-up measure, the MHPSS Strategy for Sierra Leone was developed in 2015 to improve access to effective and sustainable MHPSS resources and services for the affected population.

Psychosocial responders are trained to address vaccine hesitancy and encourage the population to be vaccinated (Sierra Leone)

When the first case of COVID-19 in Sierra Leone was announced in March 2020, the MHPSS Pillar was resuscitated and the MHPSS Strategy reviewed. The MHPSS Pillar is a part of the broad architectural framework of the National COVID-19 Emergency Response Centre (NaCOVERC). The Pillar consists of practitioners from the Ministry of Health and Sanitation (Mental Health Nurses), Ministry of Social Welfare (Social Workers), Community volunteers and other partners. Psychosocial responders follow clear Methodology and Standard Operating Procedures (SOPs) to support Covid 19 affected populations. The role of the MHPSS Pillar in the COVID-19 response and other disasters included the following:

- **Training and Capacity Development:** About 320 frontline MHPSS workers across the country were trained to offer Psychological First Aid (PFA) to persons and communities affected by COVID-19. Psychosocial staff are attached to the 117 Call Centre (COVID-19 helpline) to integrate MHPSS through tele-counselling and compassionate communication. In partnership with IPC and other pillars, 500 teachers and lecturers were trained to address the psychosocial needs of children and young persons in schools and colleges.
- **Inter-Pillar Collaboration:** MHPSS responders offer practical care and emotional support to persons in quarantine homes, treatment centres and community care centres. Responders partner with Risk Communication and Social Mobilization and Surveillance officers to conduct case investigations and contact tracing. They also lead in the disclosure of positive COVID-19 results in collaboration with Laboratory/Case management pillars. In addition, they work with the Vaccine Pillar to address vaccine hesitancy and encourage the population to be vaccinated.
- **Support to communities:** Psychosocial workers address COVID-19 related stigma and discrimination in the community. This is done through Stakeholder Engagement and reintegration of the affected population into their communities. Responders and other partners manage Protection Desks during Humanitarian disasters such as the Mudslide, Flooding and the recent Wellington Fire outbreak.

In addition to the above, the MHPSS Pillar also addresses cross-cutting issues including child protection concerns, sexual and gender-based violence (SGBV), and other safeguarding issues associated with COVID-19. Responders seek the welfare and protection of vulnerable groups including pregnant women, lactating mothers, children, Persons with Disabilities, persons with co-morbidities, the destitute and the elderly.

Cameroon

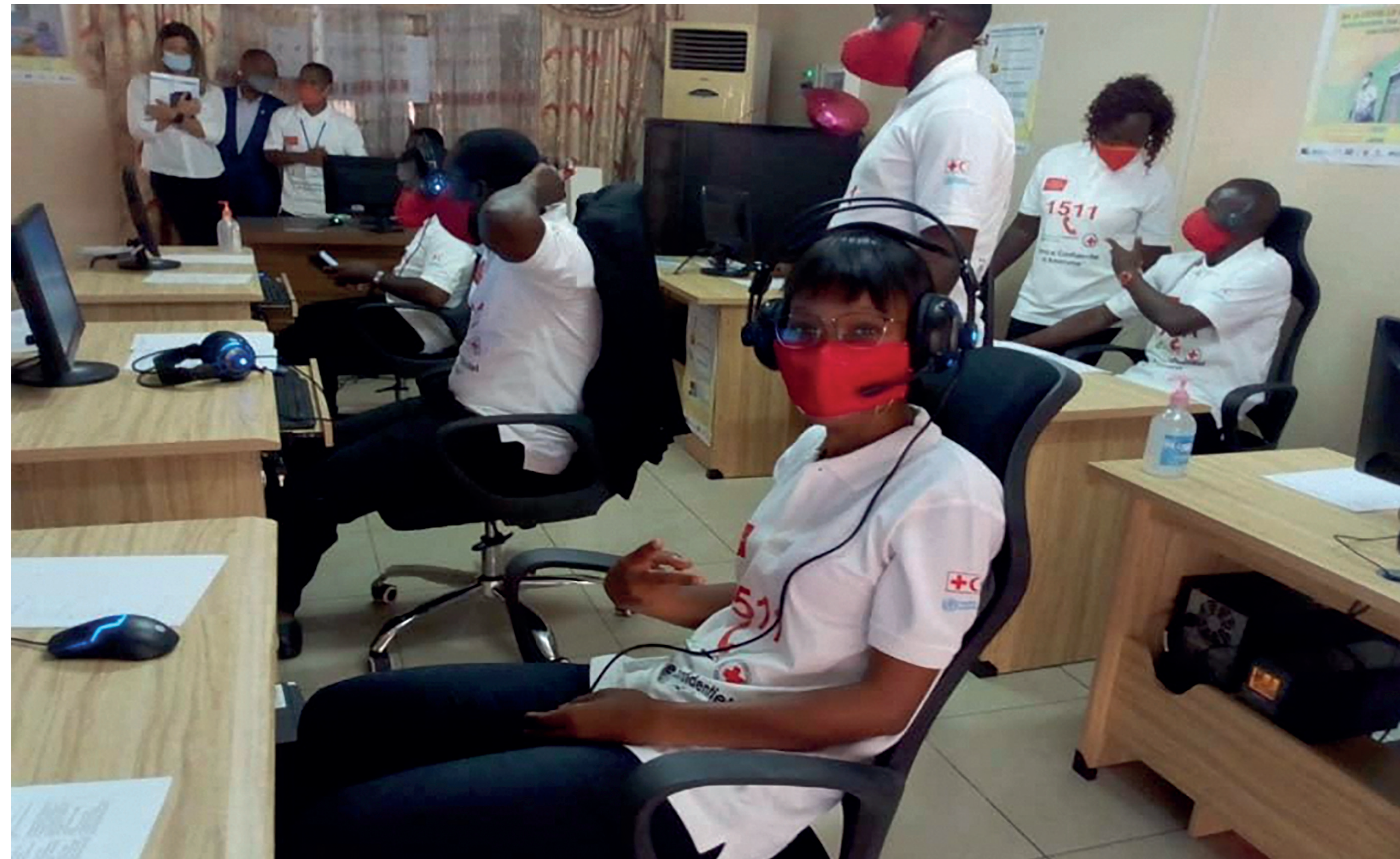
Cameroon is affected by several public health emergencies including outbreaks, conflicts and violence, which have a huge impact on people's mental health.

Mental health was introduced in the minimum package of healthcare services in Cameroon as a part of the National Health Development Plan (2016 – 2020). The first mental health plan and policy in Cameroon were published in 2016. There is a lack of mental health professionals and services in Cameroon, when exist, they can mainly be found in big cities, leaving rural areas lacking mental health services.

The MHPSS Pillar of emergency response in Cameroon

In 2017, Some 250 vulnerable Cameroonian migrants have been repatriated from Libya. Many of those had witnessed the violence and torture and needed immediate medical and psychological aid. Psychological support was provided to those in need upon their arrival at Yaoundé Nsimalen International Airport and also in the hotels where they were accommodated.

With the emergence of the COVID-19 crisis, a psychological care sub-unit was established as a part of the Incidence Management System (IMS) within the Public Health Emergency Operations Centre (PHEOC) in April 2020. This unit played an important role in supporting the population affected by the COVID-19 pandemic. As a result of these efforts, and with the recommendation of the minister of health, the psychological care sub-unit became a separate unit within the PHEOC in July 2020.



A helpline established in collaboration between the Ministry of Health and the Cameroonian red cross is providing psychological support to the population affected by COVID-19 (Cameroon)

MHPSS staff were involved in the COVID-19 response activities including case management, infection prevention and control (IPC), and Risk Communication and Community Engagement (RCCE). MHPSS activities implemented as a part of the COVID-19 response include the following[7]:

- Developing a strategic plan for MHPSS response to the COVID-19 pandemic (in English and French)
- MHPSS staff were deployed at international airports to help travellers who have to be quarantined for 14 days upon arrival, hostels where these travellers were hosted, and isolation sites where positives cases with mild COVID-19 were admitted
- MHPSS staff were involved at all levels, including the delivery of COVID-19 laboratory results and contact tracing in the community
- Training of health care workers on the frontlines on PFA and stress management. In addition to healthcare workers, personnel from other ministerial departments who are involved in the COVID-19 response were also trained
- Setting up a toll-free number to provide psychological support for the population affected by COVID-19
- Developing guidelines for Children and adolescents' mental health care (in English and French)
- Developing guidance for school counsellors on providing psychological support within the school environment
- The widespread misinformation about COVID-19 in the community brought about resistance to the IPC efforts. The psychological care unit was involved to reassure community members and provide information to facilitate the IPC efforts. Activities provided in the community included counselling before and after testing
- Data on MHPSS activities provided were collected by different health regions. Key personnel from each region were trained on data collection. The data included the number of beneficiaries from each service and the number of staff trained on basic MHPSS skills.

Challenges to integrating MHPSS into emergency response

Despite the success achieved in these countries in terms of integrating MHPSS into emergency response, there were many challenges on the way to achieving full integration.

The following challenges were mentioned by participants:

- MHPSS is perceived as a less important Pillar in outbreaks and humanitarian crises
- There is a lack of long-term funding for response activities, making it hard to sustain MHPSS activities.
- The lack of number and capacity of MHPSS responders, even when they exist, low staff morale due to low remuneration and recognition is another challenge faced.
- There are conflicting views between professionals with respect to balancing the Medical VS Psychosocial model of Mental health
- Stigmatization of service users and MHPSS responders
- Logistical constraints such as communication networks, fuel supply, mobility, and availability of medications.
- Although training was provided, limited capacity-building opportunities for the MHPSS workforce was seen as an obstacle
- The past traumatic experiences of the population (e.g. conflicts, EVD) led to complex mental health problems, which can be hard to be delt was by MHPSS staff.
- The data collected on the impact of the emergency on mental health and also the impact of MHPSS interventions provided was not enough to inform planning and implementation and improve the response.
- The MHPSS Pillar of emergency response is usually reactive with a little focus on the preparedness component.

Durban, KZN, South Africa
Credit: Pexels, Magda Ehlers

Lessons and recommendations for a better emergency response

Participants shared some lessons and practices from the COVID-19 pandemic and previous emergencies response that can be used to improve emergency preparedness and response to future public health emergencies:

- Maintaining the MHPSS Pillar beyond emergencies
- Collaboration across sectors, consultation and implementation with partners are crucial for a successful integration
- Communities are an essential part of the emergency response, and their involvement can help mitigate the negative impact of emergencies on their well-being and reduce the stigma and discrimination.
- Documentation during the implementation of MHPSS activities is essential. It allows us to evaluate the impact of these activities, hence, improving the response.
- Government, International and local partners need to increase financial allocation to MHPSS activities and sustain it beyond emergency response.
- MHPSS emergency preparedness and response plan should be developed and fully embedded into the National Disaster Prevention and Response Plan
- Media involvement can help raise community awareness of mental health issues, reduce the stigma and mitigate the negative impact of emergencies on mental health.
- Empowering different Mental Health Coalitions, CSOs, NGOs, and people with lived experience groups to promote change
- Record good practices and Lessons Learned from COVID-19 and previous emergencies to inform the preparedness and response to future emergencies
- Undertake research to assess the Mental health impact of emergencies and promote evidence-based practices
- Mobilising, training and motivating the MHPSS workforce to be prepared for emerging crises
- MHPSS Tools and guidelines (such as IASC guidelines) need to be available and actively used to inform the response.

Integrating MHPSS into Emergency preparedness and response: a Theory of Change

Over 3 day of the workshop in Liberia, participants worked as a group building a Theory of Change to strengthen the mental health component of emergency preparedness and response at country-level. This process included establishing consensus on the ultimate intended impact, and the steps that would be necessary to achieve this impact. Practical barriers and enablers to application, as well as assumptions and risks were discussed, drawing on the experience of the participants, all of whom are well placed to contribute, as many had worked in this field through several emergencies (see country case studies above).

The ultimate goal agreed on was: 'to ensure the well-being of the population is protected during emergencies'. There was a clear understanding here of the broader public health imperative of considering population wellbeing, not just access to health services, or treatment of diagnosable conditions. This is in line with accepted formulations of the spectrum of interventions under the IASC pyramid, encompassing intersecting elements of Mental Health (services for people with specific mental health conditions) and Psychosocial Support (protection from, and response to, population distress with less intense practical social and emotional support that facilitates recovery and return to functioning).

In order to achieve this, both effective preparedness and response phases are essential, and form an ongoing cycle of action, crossing time-frames pre, during, and after emergencies.

Development/humanitarian nexus: sustainability and Health System Strengthening

Effective preparedness and response closely align to the achievement of sustainability of the response, given that the resources for MHPSS activities are focused in the response phased and interventions are rarely able to continue between emergencies. One important means of facilitating sustainability is investment in strengthening systems for the long-term. This builds on the ideas of 'building back better', recognizing the well-established lesson that emergencies tend to lead to a greater recognition of mental health and wellbeing, and represent an opportunity to build on political will.

Theory of Change

Outcome: Timely coordination has promoted effective MHPSS interventions that promote well-being of beneficiaries.

Actions:

- Establishing multi-sectoral coordination to coordinate MHPSS activities across different sectors
- Maintaining coordination beyond emergency situations.
- Considering all the key stakeholders in this coordination.

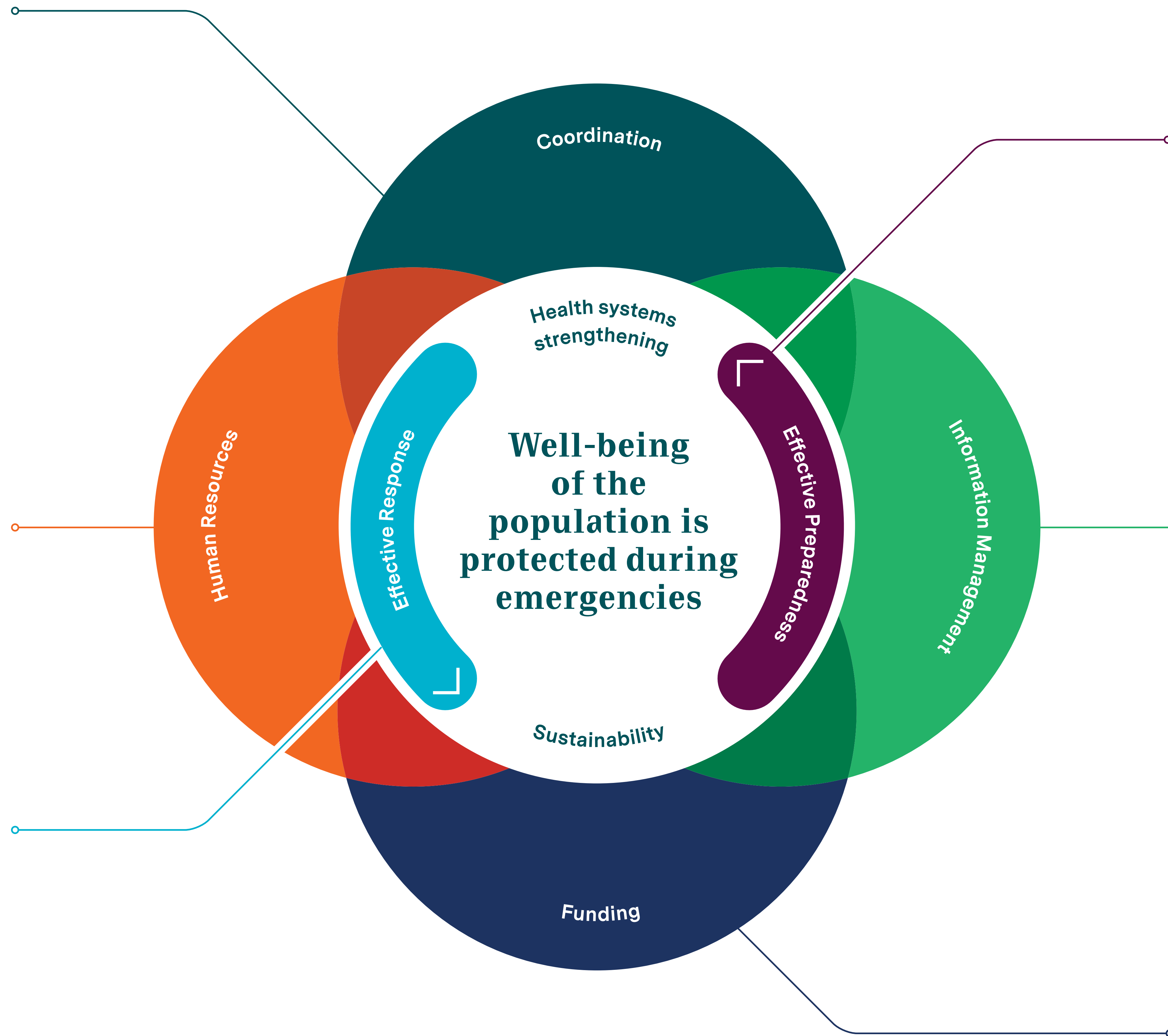
Outcome: The right staff has been identified, recruited, trained and deployed in the right places at the right time.

Actions:

- Training first responders on the basic MHPSS skills
- Improve the capacity of national mental health leads in order to enable them to advocate, plan for and implement various MHPSS activities in emergency contexts.
- Supporting the psychological well-being of staff involved in emergency response.
- Strengthening the evidence-based practice through familiarizing MHPSS staff with the common guidelines, frameworks and tools.

Sustainability

Outcome: Sustaining MHPSS activities beyond emergency response.



Health Systems Strengthening

Outcome: Improving the accessibility and availability of mental health services.

- Integrating mental health services into primary healthcare services.
- Training healthcare workers to provide mental health services.
- Increasing the budget allocated to mental health.
- Decentralising mental health services.

Outcome: Generated knowledge has been documented and used to improve future practice.

Actions:

- Measuring the impact of emergencies on people's mental health
- Conducing rapid needs assessment and situational analysis.
- Establishing Monitoring & Evaluation systems to collect data on MHPSS activities and evaluate their impact.
- Conducting research to inform the current and future response.
- Producing IEC materials to increase the population's awareness to mental health.

Outcome: Sustainable domestic and external funding for MHPSS activities is available.

- Explore diverse and sustainable sources of funding (e.g. government budget, international and national donors, and the private sectors).
- Having a standing alone funding for MHPSS during emergencies and not being embedded in the whole emergency response funding (to avoid spending on other components of emergency response at the expense of MHPSS activities.

Sustainability

Outcome: MHPSS activities are sustained beyond the emergency response phase and intersect with longer-term system strengthening

Health systems strengthening

Outcome: Improving the accessibility and availability of mental health services

To achieve this outcome, the following actions were suggested:

1. Integrate mental health services into primary healthcare services
2. Training healthcare workers to provide mental health services
3. Increase the budget allocated to mental health
4. Decentralising mental health services.

The pillars of effective emergency preparedness and response:

Coordination

Outcome: Timely coordination has promoted effective MHPSS interventions for well-being of beneficiaries.

To achieve this outcome, the following actions were suggested:

1. Establishing multi-sectoral coordination to coordinate MHPSS activities across different sectors, ensure the best use of available resources and avoid the duplication of efforts
2. Maintaining coordination beyond emergency situations, including structures established during emergencies
3. Considering all the key stakeholders in this coordination, especially people with lived experience.

Human resources

Outcome: The right staff has been identified, recruited, trained, and deployed in the right place at the right time, aligned to needs.

To achieve this outcome, the following actions were suggested:

1. Training Healthcare workers and first responders on the basic MHPSS skills
2. Improve the capacity of national mental health leads in order to enable them to advocate, plan for and implement various MHPSS activities in emergency contexts
3. Supporting the psychological well-being of healthcare workers and other staff involved in emergency response
4. Strengthening the evidence-based practice through familiarizing MHPSS staff with the common guidelines, frameworks and tools used in emergency response.

Knowledge management

Outcome: Evidence was used in planning and implementation, and newly generated knowledge has been documented and used to improve future practice.

To achieve this outcome, the following actions were suggested:

1. Measuring the impact of emergencies on people's mental health
2. Conducing rapid needs assessment and situational analysis to understand the needs and gaps and inform a better response

3. Establishing Monitoring & Evaluation systems to collect data on MHPSS activities and evaluate their impact
4. Conducting research to extract learning from previous emergencies and improve the current and future response
5. Producing IEC materials to increase the population's awareness of the psychosocial impacts of emergencies and best practices to mitigate this impact.

Funding

Outcome: Essential funding for effective emergency preparedness and response is available and sustained.

To achieve this outcome, the following actions were suggested:

1. Explore diverse and sustainable sources of fundings (e.g. government budget, international and national donors, and the private sectors)
2. Having a standing alone funding for MHPSS during emergencies and not being embedded in the whole emergency response funding (to avoid spending on other components of emergency response at the expense of MHPSS activities.

References

1. World Health Organization. Department of Mental Health and Substance Abuse. The impact of COVID-19 on mental, neurological and substance use services: results of a rapid assessment. :36.

2. Mental Health Innovation Network. Strengthening Public Mental Health in Africa in Response to Covid-19. Available from: https://www.mhinnovation.net/innovations/strengthening-public-mental-health-africa-response-covid-19

3. Walker A, Alkasaby MA, Baingana F, Bosu WK, Abdulaziz M, Westerveld R, et al. Challenges and Opportunities for Mental Health and Psychosocial Support in the COVID-19 Response in Africa: A Mixed-Methods Study. Int J Environ Res Public Heal 2022, Vol 19, Page 9313 [Internet]. 2022 Jul 29;19(15):9313. Available from: https://www.mdpi.com/1660-4601/19/15/9313/htm

4. Mental Health Policy and Strategic Plan for Liberia 2016 - 2021 | WHO | Regional Office for Africa. Available from: https://www.afro.who.int/publications/mental-health-policy-and-strategic-plan-liberia-2016-2021

5. Ebola Survivors Clinical Care Guidance | RRHO. Available from: https://www.resilientinstitutionsafrica.org/resources/ebola-survivors-clinical-care-guidance

6. WHO MiNDbank - WHO proMIND: Profiles on Mental Health in Development Sierra Leone. Available from: https://www.mindbank.info/item/1232

7. Mviena JLM, Fanne M, Gondo R, Mwamelo AJ, Esso L, Epée E, et al. How mental health care is changing in Cameroon because of the COVID-19 pandemic. The Lancet Psychiatry. 2020 Oct 1;7(10):e62–3. Available from: http://www.thelancet.com/article/S2215036620303904/fulltext

UK Public Health Rapid Support Team

London School of Hygiene & Tropical Medicine
Keppel Street, London WC1E 7HT
United Kingdom

Email: uk-phrst@lshtm.ac.uk

Website: lshtm.ac.uk/research/centres-projects-groups/uk-phrst

Knowledge Hub: uk-phrst.tghn.org

Twitter: @UKHSA | @LSHTM