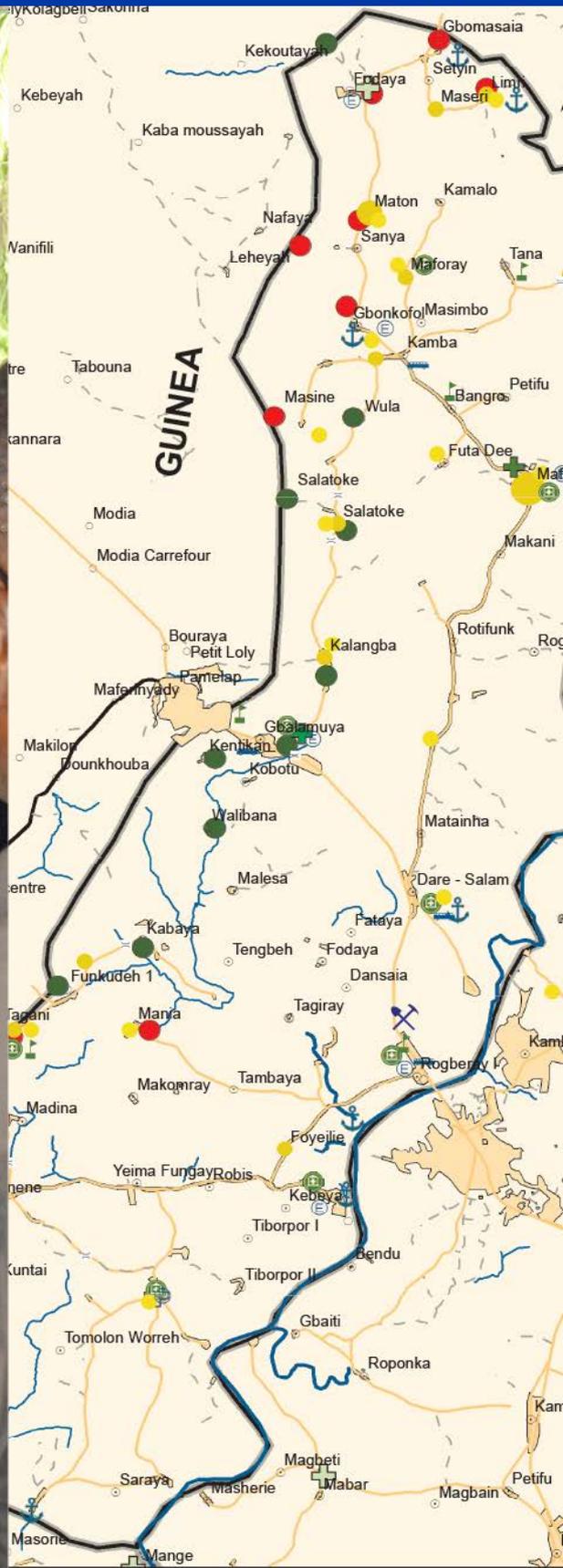




International Organization for Migration (IOM)
The UN Migration Agency

ASSESSING POPULATION MOBILITY DYNAMICS AND PATTERNS FOR PUBLIC HEALTH EMERGENCY PREPAREDNESS AND RESPONSE



HEALTH, BORDERS AND HUMAN MOBILITY

Local, regional and far-flung international human mobility is a complex and dynamic phenomenon, which has shown capable to amplify the spread of communicable diseases and the impact of public health events. The Ebola Virus Disease (EVD) outbreak in West Africa is a reminder of this fact.

While the International Health Regulations (IHR 2005) put a lot of emphasis on public health measures at Points of Entries (POEs), at airports, seaports and ground crossings, the reality of human mobility goes far beyond official border crossing. In fact, borders should be seen as spaces, not only as a line dividing countries, nor as points of crossing. In many parts of the world, communities living around international border lines share familial and social ties across the border; for them, these administrative lines do not exist, and international movement is a common part of daily lives. The concept of border spaces is inclusive of these communities, as well as their health and social systems, all of which may play a role in either curbing, or perpetuating the international spread of diseases and other health threats.¹

IOM's Health, Border & Mobility Management (HBMM) framework² endeavours to build human mobility competent health systems, notably at the community and primary health care level. Such systems are responsive to the dynamics of human mobility and are inclusive, ensuring Universal Health Coverage (UHC). HBMM is both a conceptual and operational framework with the ultimate goal of improving prevention, detection and response to the spread of diseases and other health threats along the mobility continuum, with particular focus on border spaces. HBMM unifies border management, human and health security that ultimately supports the implementation of the International Health Regulations (IHR 2005). The scope of HBMM activities ranges from collection and analysis of information on human mobility dynamics, to disease surveillance and response mechanisms along mobility corridors.

Human mobility dynamics include the “who”, the “why”, the “where” and the “how” of travellers³. They comprise the profiles of travellers, the routes and patterns of movement, and the Spaces of Vulnerability (SOV). SOVs are locations where travellers interact with other travellers, as well as with stationary, local communities. They represent an environment that is conducive to increased health risks, in a community where people live, work, interact, pass through or originate from. SOVs can include migration

IOM'S POPULATION MOBILITY MAPPING EXERCISES ANSWER THE FOLLOWING QUESTIONS:

- Who is travelling to, through and from the area?
- How many are travelling?
- Why are they travelling?
- Where do the travellers come from?
- Where are they going?
- How frequently do they travel?
- How are their travel patterns influenced by external factors?
- What mode of transportation do they use?
- What routes do they take?
- Where do they transit and interact with local communities?
- Where do they stay?
- How long do they stay?
- What are the public health emergency preparedness and response capacities in the area?

¹ IOM Statements delivered during the IHR Review Process

² IOM's Health, Border & Mobility Management (HBMM) Framework

³ Travelers include all individuals engaged in all forms of mobility, regardless of intention and duration; in humanitarian crises, the term “travelers” shall also include displaced populations, stranded migrants, etc.

routes, transport corridors and waterways, transit hubs, POEs and other border crossings, ports and ferry landings, urban settings, temporary places of residence, informal settlements, marketplaces, health facilities, alternative/traditional medical facilities, schools, places of worship, and worksites that attract migrant workers in such industries as extractive (mining), logging, construction, commercial agriculture, fisheries, and others.⁴

The knowledge on population mobility dynamics is important for epidemiology and public health decisions aiming to prevent, detect and respond to public health events. It therefore supports the realization of the Global Health Security Agenda (GHSA).

EXPERTISE IN MOBILITY TRACKING IN THE CONTEXT OF HUMANITARIAN AND PUBLIC HEALTH EMERGENCIES

The International Organization for Migration (IOM) has a long standing experience in implementing data collection on population mobility during humanitarian crises. The IOM Displacement Tracking Matrix (DTM) is a system that is made of a variety of processes and tools that regularly track and monitor forced mobility, including displacement, during crises. It is a structured approach to manage mobility information, to inform humanitarian actors on the evolving needs of a population on the move, on site or en route.⁵ The DTM has been utilized in multiple crises following its inception in Iraq, in 2004. To date more than 60 IOM country operations have benefited from the system.⁶

With offices in over 400 locations and operations in over 120 countries, IOM's added value is in its field presence and, therefore, its familiarity with human mobility dynamics on the ground, notably at strategic Spaces of Vulnerability (SOVs) and across international borders. Through its direct interaction with the thousands of travellers and their host communities, IOM is able to obtain primary data from target populations.

Within its EVD outbreak response efforts in West Africa, IOM utilized the DTM model to monitor cross-border mobility flows. Flow monitoring data collection was integrated in all IOM health screening processes implemented during the outbreak, in and between, Liberia, Guinea, Sierra Leone and Mali. The information collected on cross-border travellers' profiles, places of origin and destination was mapped and cross-referenced against locations of reported EVD cases. This experience led to the development of more methodologies and tools for mapping mobility patterns, combining qualitative and quantitative methods, for the purpose of informing public health interventions, regardless of the typology of the health threat.

POPULATION MOBILITY MAPPING FOR PUBLIC HEALTH EMERGENCY PREPAREDNESS AND RESPONSE

Understanding population mobility dynamics facilitates the identification of priority communities and locations that are at higher risk of potential spread of diseases and other health threats, as a direct result of human mobility. It is therefore an essential component of evidence-based public health programming, which combines and correlates the more familiar information on burden of diseases, and health system capacities, with the different levels of health risks associated with population mobility within an affected country, region, or locality.

⁴ IOM definition of SOV, multiple resources

⁵ DTM Information Sheet

⁶ DTM map of past and present operations (<http://www.globaldtm.info/>)

Assessing population mobility dynamics and patterns has the ultimate goal to inform public health actions. IOM's Population Mobility Mapping (PMM) approach complements traditional public health risk assessments and big data analysis on mobility, enabling more accurate prioritization of vulnerable locations and public health interventions.

PMM data, when cross-analysed with other public health risks assessments, results in the identification of more accurate, mobility-affected priority locations, as well as their priority public health interventions. This will enable public health actions and three different levels:

1. Community based interventions, such as Community Event-Based Surveillance (CEBS), risk communication and community mobilization;
2. Technical, material and managerial capacity building for disease surveillance and response, including health screening procedures, diagnostics capacity, emergency operations, supply chain management, etc.; and
3. Multi-sectoral and cross-border coordination.

OBJECTIVES OF IOM'S POPULATION MOBILITY MAPPING:

1. To identify the profiles of travellers and patterns of mobility within a specific country or locality;
2. To identify Spaces of Vulnerability (SOVs) – locations where travellers interact with other travellers and stationary, local communities, which are at higher risk of spread of diseases and other health threats, as a result of human mobility;
3. To anticipate the potential spread of diseases and other health threats, based on prevailing human mobility patterns;
4. To identify priority SOVs with low capacities for public health emergency preparedness and response; and
5. To identify priority public health actions and resource allocations, as well as develop action plans aimed at strengthening public health emergency preparedness and response capacities.

PMM for Public Health Emergency Management

PMM for Prevention • PMM is used to inform priority locations for public health emergency prevention measures, such as health promotion, risk communication and vaccination.

PMM for Detection • PMM is used to inform priority locations for strengthened disease surveillance, including CEBS – these locations may include SOVs, such as cross-border markets, bus stations, migrant worker sites and entertainment centres.

PMM for Preparedness • PMM is used to inform priority locations for capacity building, infrastructure improvement and stockpiling.

PMM for Control • PMM is utilized to identify locations where control measures need to be put in place, including health screening whenever relevant, community mobilization, infection prevention and control.