Examples of useful data sources that can be geo-referenced and used for spatial analysis and informed decision making:

- Survey data (e.g., Demographic and Health Survey, Integrated Biological and Behavioral Surveys)
- Routine surveillance data
- Coverage data (e.g., population, antiretroviral therapy, commodities, health and social services)
- Administrative data (e.g., roads, towns)
- Service facility data (e.g., Master Facility lists)

The Health Policy Project’s GeoHealth activity builds capacity to use mapping and spatial analysis to improve understanding of HIV at the subnational level

Geospatial analysis has given epidemiologists a clearer picture of HIV. Although scientists have long understood that HIV does not emerge in populations uniformly, they now have the ability to visualize with increasing precision where HIV infections are concentrated, giving them a greater understanding of how to drive down rates of infection. Because HIV exists in hotspots—pockets of higher transmission and infection rates—bringing the epidemic under control will involve targeting the specific geographic areas and marginalized populations most affected by the disease. Mark Dybul, the executive director of the Global Fund recently emphasized the importance of geographic prioritization of HIV, stating, “We have to look at geographies and we have to look at populations, those most at risk, to ensure that we have equity. We have to bring the epidemic under control in all of those sub-geographies and sub-regions and all populations and key affected populations” (Global Fund, 2014).

A geospatial analysis of epidemiological data can generate maps of hotspots, existing medical and social services, and infrastructure. By layering multiple maps, planners can see clearly where HIV resources and programs are lacking and should be deployed to have the greatest impact.

Technical assistance to put a new HIV tool into national practice

Investing for impact is an explicit goal of the Global Fund to Fight AIDS, Tuberculosis and Malaria. The institution's strategy for 2012 to 2016 focuses on countries and populations where interventions promise maximum rewards for public health. As part of this “New Funding Model,” the Global Fund is asking applicant countries seeking financing to demonstrate with far more accuracy where and how their HIV programs will yield significant, measurable improvements in limiting the spread of the virus. Accomplishing this will depend to a great extent on each country’s ability to use geospatial analysis of epidemiological data to target resources to areas with the greatest need.

Not all countries seeking Global Fund support have deep experience with geospatial analysis. To address this gap, the Health Policy Project (HPP)—funded by the United States Agency for International Development (USAID) and the President's Emergency Plan for AIDS Relief (PEPFAR)—is working with 10 countries eligible for Global Fund support to strengthen their use of geospatial analysis in HIV policymaking and strategic, financial, and program planning.
To support this effort, HPP developed a set of tools to satisfy both short- and long-term geographic information system (GIS) strengthening needs:

- In the short term, countries are actively preparing to submit concept notes to the Global Fund New Funding Model and are being encouraged to identify what is needed to strengthen GIS as part of their national health data infrastructure. The first set of tools includes a checklist of minimum standards for a functioning GIS; a worksheet for prioritization across key components of GIS; and an accompanying budget template to support requests for assistance from Global Fund or other funding mechanisms (i.e., Country Operational Plans). These tools work together to help countries identify, prioritize, and assign costs associated with technical and/or financial assistance.

- In the long term, ensuring routine use of mapping and spatial analysis requires goal and priority setting, planning, and continuous monitoring and evaluation. This is an ongoing process that requires multisectoral participation. HPP has therefore developed a framework or Road Map to guide countries in continuous strategic planning in GIS as part of a national health data infrastructure.

HPP’s GeoHealth activity also offers technical assistance in complementary areas, including:

- Assessing data availability and quality
- Identifying important data gaps that limit understanding of the HIV epidemic at subnational levels
- Triangulating data and developing an epidemiological “snapshot”
- Building the capacity of decisionmakers at all levels to use geospatial analysis to support national and subnational investment in the HIV response

As a result of HPP technical assistance, countries will have an improved understanding of how HIV impacts communities at the most granular level. By using data more strategically, these countries will be able to better target both their own and donor resources for higher-impact program planning.

For more information about HPP’s work to help country programs systematize their linkages of HIV and service data to geospatial mapping and analysis, please contact Anita Datar, at adatar@futuresgroup.com.

Reference