

DEFINITION

Dashboard: “. . . a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a single screen so the information can be monitored at a glance” (Few, 2006)

Defining Electronic Health Technologies and Their Benefits for Global Health Program Managers



Dashboards

There is no widespread consensus on the definition of a data dashboard. However, the definition shown on the left—developed by Stephen Few, a leading expert in the fields of business intelligence and information design—is used in many disciplines (1).

In a 2007 article, Few further clarified and distinguished dashboards from other types of data display, by emphasizing that dashboards are not used simply to present data in an interactive format but also to monitor them (2).

A post on the “Dashboard Insight” website (3) strengthens this definition, by noting key features of a dashboard:

- Updates to the data in the dashboard should be done automatically, without input from a user
- The dashboard should include visualization that depicts key performance indicators/measures that need to be monitored
- An important but not required feature of a dashboard is interactivity: for instance, being able to click on an image to access more detailed information or filter out information
- A dashboard should be useable and easily understandable by the intended user

Automatic updating is important. Dashboards are linked to one or more data sources, most commonly relational databases that store data and populate the dashboard on a routine basis. Dashboards include immediate analysis of metrics and performance indicators. Well-designed dashboards pull together data from various sources and analyze and present them in formats useful to decision makers (4). A dashboard can stand alone or be built into a health information system.

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for AIDS Relief (PEPFAR), has a mandate to strengthen health systems in low-resource settings. We are exploring how dashboards can address data gaps and support programmatic decision making in health programs. This work will culminate in recommendations to improve existing and future dashboards, so they are more responsive to the decision-making needs of global health program managers.

What Can Dashboards Do for Global Health Program Managers?

Dashboards are being used increasingly in global health program management. Examples are DHIS 2, which organizes routine health service delivery data, and iHRIS (the last four letters stand for “human resources information solutions”), which manages data on health-sector human resources. Varying with the availability of data, these dashboards are customized to highlight performance indicators, geographic representation of data, epidemiological data, cost data, and data quality, etc. at the different levels of a health system.

In Thailand, a dashboard gave provincial decision makers a view of gaps in HIV counseling and testing. Now, clinics there are identifying more clients in need of treatment and care

Thailand’s AIDS Zero Portal (AZP) is an example of a particularly robust dashboard (5). The portal uses an online open access platform to display data on the epidemiology of the epidemic, the financial investment in combating the epidemic, and progress toward reaching the AZP program’s goals. Data are displayed by program area, target population, and geographically. In interviews for a case study about the portal, users explained that having this kind of dashboard has enabled them to understand and use available data better at various levels of the health information system on a routine basis (5). For instance, a provincial AIDS sector head explained:

“. . . before AZP, the office would spend a great deal of time extracting data from technical reports so that district-level data could be compared for the Governor. With AZP, the Governor’s office can access information directly and easily and even compare facilities within districts to identify where performance improvement is needed, making more efficient use of staff time and other resources.” (5, p. 2)

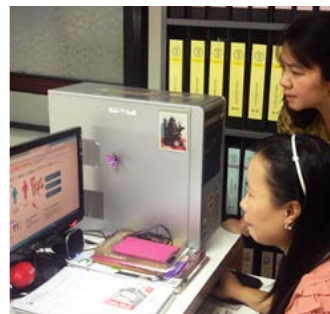


Photo: Bangkok Metropolitan Administration, AIDS Division

AZP has also helped AIDS Zero program managers analyze data quality and identify programmatic gaps. For example, in one province, the provincial health office was reviewing AZP dashboards and noticed that the number of people in key affected populations—men

who have sex with men, people who inject drugs, and sex workers (6)—who were receiving HIV testing and counseling was unexpectedly low. The team wanted to know if this was because of under-reporting or because facilities were not reaching the right people. As a result of these discussions, the province’s counseling and testing program was improved and now is identifying more clients in need of treatment and care (5).

For more information on the AIDS Zero Portal, go to:

<http://aidszerportal.org/>

For an article on improving health and healthcare with interactive visualization methods, go to:

<http://hcil2.cs.umd.edu/trs/2013-01/2013-01.pdf>

For more information on MEASURE Evaluation, visit:

<https://www.measureevaluation.org>



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ALL ABOUT eHEALTH

Electronic health (eHealth) refers to the health sector's use of information and communication technologies (ICT) such as mobile phones, portable and handheld computers, Internet and cloud-based applications, open source software, and data warehouses. Advances in ICT have increased exponentially the amount of data that health information systems can collect, synthesize, and report. Expansion of these technologies in low- and middle-income countries (LMICs) promises to revolutionize the global health sector's response to these countries' most pressing health issues.

MEASURE Evaluation—funded by the U.S. Agency for International Development—seeks new ways to exploit such eHealth solutions as data dashboards and geospatial data analysis, as part of its mandate to strengthen health systems in low-resource settings. Even though health program managers in LMICs—as everywhere—are increasingly expected to use and invest in such strategies, many lack information about how the strategies work and how they can benefit the management of health programs.

To address this problem, we developed this glossary of eHealth strategies most likely to enhance data access, synthesis, and communication for health program managers at all levels of a health system who are eHealth novices. The list has been vetted and revised by an advisory group representing the World Health Organization, the Free University of Free Brussels/European Agency for Development and Health, the University of Oslo, the Public Health Foundation of India, and the National Institute of Public Health Mexico.

The complete set consists of fact sheets on the following eHealth strategies, in addition to this one:

- **Crowdsourcing**
- **Hackathons**
- **Open data**
- **Big data and data science**
- **Geospatial analysis**
- **Integration and interoperability**
- **App competitions**

In each fact sheet, you'll find the following information:

- eHealth strategies that have been used in health information system strengthening efforts to improve access to and synthesis, presentation, and communication of health data for program management
- How the strategies have been adapted (or not) from their application in resource-rich country settings to health programs in LMICs
- An example of the strategy for global health program management
- Links to additional resources for more in-depth details on the strategies