Data Use Net members,

Welcome to day three of the discussion on using dashboards to facilitate data-informed decision making. Thank you for your thoughtful comments and posts. Before we discuss today's post, I'd like to follow up on a topic from yesterday. Yesterday we saw examples of how dashboards were used in program monitoring and decision-making around program sustainability in three countries. We also discussed the financial and technical resources needed to develop dashboards. For today's discussion I'd like to build on the topic of resource requirements when designing dashboards and highlight the Excel based dashboard.

As mentioned yesterday, there are many ways to design dashboards. The most dynamic and flexible dashboards are frequently expensive and require advanced IT programming skills to develop. If resources are available to support this type of dashboard they are often the preferred choice as they have the capability to drill down to the underlying data and are have built-in flexibility that allows the user to ask new questions of the data without major reprogramming. These dashboards also often have other features such as alert functions, dynamic display of data based on a selection inputs or complex calculations. However, this type of product may not be within the budget or scope of your project. In these cases, Excel is a powerful tool that can provide you with a helpful decision support tool. Excel dashboards are powerful, fairly easy to design and a great way to improve your Excel and data visualization skills. Also mentioned yesterday, having advanced Excel skills are necessary to create a quality dashboard. Unfortunately, you will lose some of the flexibility of the more sophisticated dashboards like being able to see query results from large and varying data sets but Excel-based dashboards are often an excellent choice in resource constrained settings. See below for an example of this type of dashboard. Visit http://www.excelcharts.com/blog/how-to-create-an-excel-dashboard for an overview of the capabilities of Excel to create dashboards.

Example - Excel Dashboard

The APHIA II Evaluation project is working with the Kenyan Ministry of Health to strengthen the capacity of the National Health Management Information System (NHMIS) and the U.S. Government's (USG) implementing partners' M&E systems to collect and use HIV/AIDS, RH/FP, and MCH data. In addition to working at the national level, the APHIA II Evaluation project includes a specific focus on strengthening the capacity of information systems at the decentralized level to report and use the information it collects. The project is building upon previous work implemented in Kenya through the MEASURE Evaluation project to use HIV information at the decentralized level to improve service delivery.

Through consultations with the GOK and MOH staff from the national, provincial and district levels, as well as USG partners, a need was established to develop a tool for periodically accessing and reviewing district-level data and using that information to make district-specific decisions about service delivery. It was decided that an Excel-based dashboard would be developed to facilitate the capture of the necessary data to inform specific decision making. The tool was developed through a collaborative process where key programmatic questions were identified that district-level decision makers needed to answer on a quarterly basis to inform

upcoming decisions. The dashboard relies on monthly service delivery data captured by the NHMIS, census data, and survey data to answer the following questions (by district):

- Are HIV positive individuals that are eligible for treatment receiving treatment?
- Are HIV positive individuals receiving both facility & community - based support?
- Are testing & counseling services reaching the populations in need?
- Are pregnant women who seek ANC services being tested & HIV+ women receiving prophylaxis?
- Are HIV+ women receiving preventive prophylaxis for their babies?
- Are pregnant women who seek maternity services being tested & HIV+ women receiving prophylaxis?
- Are HIV+ women receiving preventive prophylaxis for their babies?
- Are OVC services reaching the populations in need?
- Are pregnant women accessing maternity services?
- How many family planning methods have been distributed this quarter?
- Are family planning services reaching new clients?
- How well are facilities and partners reporting?

The dashboard uses some advanced Excel techniques such as hyperlinks for easier navigation and drop down menus to select the district of interest and specific dates and reporting periods. Furthermore, the dashboard shows sophisticated graphs that required layering. The colors and order of the graphical elements are also consistent and understandable. The tool also features a spreadsheet link function that allows users to link the monthly district Excel sheet that aggregates district level service delivery data to the dashboard so that there is no additional data entry. Moreover the dashboard is also linked to an additional data sheet (that is updated yearly) that uses national level data to determine the denominators for the underlying calculations. This allows districts to track their performance in relation to their district targets and populations in need of specific services. See http://www.cpc.unc.edu/measure/networks/datausenet/dashboards-and-data-use-forum-may-2010/dashboards-and-data-use-archive for screen shots of this dashboard. For a copy of the actual interactive dashboard email me at tnutley@futuresgroup.com and I will send you the most recent version.

The Kenya APHIA II dashboards allows district decision makers to quickly access data from multiple sources to track the progress of their programs. Prior to the development of this tool it was challenging for districts to easily access data beyond what was captured by the HMIS. Also the process of developing denominators for calculating the graph outputs, was an excellent exercise for the government of Kenya. It engaged them in a discussion about the limitations of existing data and highlighted the need for additional data. This process increased the demand for quality data and built ownership around, and understanding of, the data that was available.

Post #1 Submitted by: Dr. Prabhjot Singh,

Organization: Pan American Health Organization

Position: Consultant Epidemiologist, Malaria Program

Dear all,

The Malaria Program at Pan American Health Organization (PAHO) has been using data dashboards internally for presenting data to various stakeholders to provide a quick yet comprehensive picture of the situation of malaria to all who are interested.

Going a step forward, we have developed an online interactive data dashboard presently accessible at http://ais.paho.org/phip/viz/malaria_surv_indicators_popup.asp

This approach has been used in various other programs all across PAHO.
Here are a few examples:

Haiti Earthquake(s):
http://new.paho.org/hq/index.php?option=com_content&task=view&id=2205&Itemid=1864

Dengue Surveillance: http://ais.paho.org/atlas/dengue/paneldengue1.html

Annual country-level data reports for malaria indicators are received by PAHO. Information from these reports was used to make the data dashboards. We used Tableau 5.0 for making and hosting the dashboards. The idea was to make public the information available on malaria so that trends before and after the call for Rolling Back Malaria in the year 2000 could be seen. Going through information and trends of various countries it is obvious that before the concerted efforts were undertaken from 2000 onwards, malaria increased significantly in some countries in the 1990s while in others it showed steep annual variation. However, post 2000 and more towards the later part of the decade a steady decline is noted for most countries with less steep variations, if any. This decreasing trend when seen along with increasing interventions (bed nets, insecticide spraying) and increased finances for malaria control gives a larger picture behind the success of control.

This information is vital for people presently working on malaria in the Americas including researchers, national programs, international stakeholders, donors, NGOs etc who have found the data dashboards very useful in seeing the effect and taking decisions appropriately.

Moderator comments

Dr. Prabhjot, thank you for your post. This is an excellent example of a simple yet interactive dashboard in Tableau. These dashboard examples show how data visualization can highlight trends without having to search through spreadsheets of data. Even for the non-subject matter expert, you can glean the key relationships and trends. I would like to hear from other in the Data Use Net community who has also used Tableau and the ease of using this software. Please keep the comments coming.

We encourage you to keep your submit your questions and experiences. We will be summarizing and responding to your posts daily. Please remember to include your name, organizational affiliation and country of residence when you post. We thank you in advance for your time and effort in participating in this discussion.

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