May 27, 2010

Dear Data Use Net Colleagues,

Welcome to day four of the discussion on using dashboards to facilitate data-informed decision making. We have received two interesting posts on the topic. Please see below for specific posts and moderator comments.

 Tomorrow is the last day of our discussion so please find the time to share your final thoughts and comments on this topic. We will be summarizing and posting the discussion from day 5 by tomorrow evening. On Monday we will provide a summary of the key topics from the entire week. We thank you in advance for your time and effort in participating in this discussion.

Post #1 Submitted by: Michael Edwards

Organization: John Snow International

Position: Biostatistician/Senior Health Informatics Advisor MEASURE Evaluation

Example: Microsoft Access-based Decision Support System

MEASURE Evaluation has been working with the Ministries of Health in numerous countries and with USG PEPFAR SI teams to facilitate the use of routine health information data for informed decisions through the addition of Decision Support System tools to their health information systems.

A decision support system is a tool related to the dashboard.   A decision support system provides users with dynamic multidimensional analyses capabilities (data triangulation) in which users can visualize temporal and geographic patterns in their data. A decision support system allows decision-makers to rapidly visualize graphically the health indicators collected by the Health Information System. The process involves choosing from a user-friendly interface the level of analysis, the health program, the program specific indicator, and the graphical display. These displays include line graphs for time trends, histograms and thematic maps for geographic comparisons, as well as pie charts and summary tables. Examples include The Moroccan National Health Information System for Maternal and Child Health (2000), the Eritrean

Health Management Information System (2002), the Health Information System for Haiti (2003), the Djibouti Health Information System (2008) and various HIV/AIDS Program Monitoring Systems for Kenya, Cote d'Ivoire, Tanzania, Lesotho, Mozambique and Swaziland (2006-2010).

Results show that the DSS has been widely appreciated by district health managers as a planning and programming tool for health activities in their districts. However, even when quality data are available and well presented, managers and care providers tend to make little use of information for decision making. More research is needed to explore the importance on data

The DSS has license-free distribution, and it is designed to be accessible to all levels of government and private organizations. Its Visual Basic for Applications architecture enables it to easily function with most any Access databases, and it is scalable to other database platforms. Using simple bar charts, line graphs, tabular reports and thematic mapping, the DSS translates raw data into easily understood graphics. These graphics can be made to illustrate data at the health facility, district, regional or national level. Indicators can be examined by administrative level, periodicity, or by geographic or reporting source. Users can then print or electronically save the output for use in summary reports. Summary data can also be exported to Excel

for further analysis.

Reference Article with screenshots: http://hmn-tsp.net/HCCDE02.PDF

Moderator comments

Mike, this is an excellent example of a flexible decision-support system that responds to data needs at the national, regional, district, or health center. The drop-down menus provide the user with the ability to tailor their analyses to their specific needs. The ability to select how the analysis is then displayed, export data and conduct comparative analysis are also a helpful feature of the tool.

From an IT perspective, there are a lot of benefits of using a Microsoft Access database with a Visual Basic programmed user interface. This combination allows you to leverage all of the good things that Access provides: the software is not expensive; there are many programmers with the

right skills to program the dashboard; it allows for rapid application development; and it's easy to deploy. This can be a good choice for developing a dashboard if the user population can install the dashboard directly onto their machines and the data updates can be done centrally.

Post #2 Submitted by: Eric Sarriot

Organization: MACRO International

Position: Public Health & Systems Evaluation Specialist

Hopkins and IIHMR conducted this national exercise in Afghanistan a few years back and I think it's a worthwhile contribution to the discussion. This is based on the Business Management model of the "balanced scorecard", which is a type of dashboard, and considers multiple dimensions of performance for all health regions of the country. See http://www.cpc.unc.edu/measure/networks/datausenet/dashboards-and-data-use-forum-may-2010/dashboards-and-data-use-archive for the full report on the Afghanistan balanced scorecard.

One other point:

- I liked the links to some of the software available. For folks who want to build index (summary) measures based on some quantitative indicators belonging within a similar domain, we long ago developed guidelines for such an exercise. It may go beyond the discussion on dashboard – as the point here was to build summary indices to map multiple dimensions (usually in a simple Excel spreadsheet). The link has migrated – I will have to enquire with my MCHIP colleagues about where this can be found.

Thanks. Eric

Moderator comments

Thank you for your post Eric. Balanced Scorecards can definitely be displayed in a dashboard set up and are used by many departments and across a wide variety of industries. The Afghanistan example is interesting in that the color coding - green, yellow and red - is very helpful for an immediate analysis of a large amount of data. I'm wondering if you know if the scorecard is linked to a database and if you can drill down to the data itself? If not, this may not technically be considered a dashboard but more of a creative data display technique. Either way, the Afghan example gives us a thorough example of a decision support tool to measure and manage

performance in delivery of the Basic Package of Health Services (BPHS) throughout Afghanistan.