Data Use Net Discussion Summary
Discussion topic: Using Dashboards to Facilitate Data Informed Decision Making in Health Programs
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Defining Dashboards

- A dashboard is a tool that visually presents critical data in summary form so that decisions can be made quickly. Dashboards give an at-a-glance perspective on the current status of a project in the context of predetermined metrics for that project.
- Dashboards are linked to a database so that users can change key inputs to see how they affect what is displayed on the dashboard and also so that users can drill down to source data to understand the relationships they see on the dashboard.
- Dashboards are gaining popularity as a decision support tool to assist in the management of the large amount of data that are being collected by health programs.
- Dashboards assist program managers to track key program metrics so that they can view trends, identify problems and target specific follow-up activities to improve services.

Developing Dashboards

- There aren't many simple tools for creating dynamic dashboards. Excel is a good place to start.
- Programming resources are required for most dashboard development. Even a relatively simple program such as Access with an interactive user interface will likely require information technology (IT) professionals.
- As the dashboard becomes more sophisticated, higher priced programming components are required; as well as more skilled programming resources
- For really dynamic and high functioning dashboards, a full software development effort is required.
- For dashboards to be most effective in health decision-making, subject matter experts should work with monitoring and evaluation (M&E) and IT professionals. Subject matter experts contribute to the dashboard design by identifying the programmatic decisions they need to make. M&E professionals assist with identifying what data that informs the programmatic decisions and IT experts define how best to optimize the data display. The involvement of data users and data producers working together to define what is displayed in the dashboard is critical to developing a useful decision-support tool.
- The effort involved with designing and then programming a dashboard can be significant and good planning should be done upfront so that resources and budgets can be allocated appropriately.

Dashboard Design

- When designing a dashboard, think about what kind of data should be displayed. Ask: What information do decision makers need to review to monitor program objectives?

What are the decisions they need to make about their programs? These questions should be actionable.

- Verify that every chart and table in the dashboard has high value in the decision making process; less is more.
- Try to display elements in such a way that users can easily understand the relationship between data variables.
- Use colors effectively so that they have meaning or highlight important data.

Dashboard Resources – see table

Tool Name	URL Reference	Comments
Out-of-the-box tools		
Excel	http://office.microsoft.com/en-us/excel/HA012261271033.aspx http://www.officetemplates.org/dashboard-templates-for-excel.html http://www.freeexceldashboards.com/	Easy to use and develop. Good place to start when developing a dashboard. No or little IT resources required. Use of pivot tables can aid in changing the views that are displayed. Use of conditional select lists can change the view displayed. Does not handle data base queries. Lowest cost choice.
Tableau	http://www.tableausoftware.com/	Can use with Excel. Can use with a database. Nice visuals – graphics and tables are attractive. Can become costly depending on the number of users.
Access DB with Visual Basic programmed user interface	http://download.cnet.com/Dashboard-Builder-for-Microsoft-Access/3000-2065_4-10822357.html http://www.accessdashboards.com/	Easy to develop but requires IT skills. Uses a relational database and can query the data. Graphics can be limited but with additional graphic packages, can produce a nice looking display. Desktop solution; requires installation on each machine; no central database. Dashboard helper packages are available. Look under MS Access and dashboard in Google and you will find some free tools.
Examples of software components used to build dashboards		
Fusion Chart, Map	http://www.fusioncharts.com/	Used to create multi-user,

		web-based dashboards. Very pretty and a wide variety of maps and graphs. Graphs include animation. Highly flexible display options. Must use with a relational database in the back end. Requires highly skilled IT resources.
Dundas	http://www.dundas.com/ http://www.dundas.com/Dashboard/Start/Samples/index.aspx	Similar to Fusion. More expensive. Even prettier graph and map components. See their website for examples of dashboards. Requires highly skilled IT resources.
Chart Director	http://www.advsofteng.com/	Chart tool add-on for programming graphs. Allows for faster and more flexible software development. Not very expensive Requires skilled IT resources.
Telerik Charts	http://www.telerik.com/	Chart tool add-on for programming graphs. Allows for faster and more flexible software development. Use with a .Net (Microsoft programming environment). Requires skilled IT resources.
Examples of very high end software packages used in enterprises		
SAP Business Objects, Oracle BI Server and others	http://www.businessintelligencetoolbox.com/bitoolslist.htm	Used by large corporations (manufacturers, financial companies) that collect huge amounts of data, sometime in real-time. These are very expensive programs to purchase and very expensive to set up. The learning curve to use these tools is steep.

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