

Developing Data Capacity

Data Tools



Identifying the Right Data Tools

Don't let all of the analytics and data jargon overwhelm you or convince you that implementing a quality improvement process requires a six-figure investment. Analytics can be as basic or as complex as you need them to be based on your available resources, patience for implementation, and program capacity. There are few types of tools, some of which you might already use, that can be easily deployed in your organization for data visualization and analysis. None of these tools are absolutely required to implement a quality improvement process, and the needs, priorities, and capacity of your program will dictate which of these will be applicable to you. Analytics can be as basic or as complex as you need them to be based on your available resources, patience for implementation, and program capacity.

Data Tools



Data
Integration



Data
Visualization
Software



Data
Distribution
Platform

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Data Integration

Many Head Start programs store data in a variety of different systems – one for demographic and management information, a different one for assessment data, another for finance, a fourth for human resources, and more and more. Data warehouses are one way that information can be collected from these disparate, siloed systems and integrated to allow for analysis.

Data warehouses store massive amounts of data that is readily available for analyzing and making management decisions. They have been used in the for-profit world for decades, but are only now starting to become more prevalent in the education space. While the process is complex, using a data warehouse is one way to integrate data while respecting privacy rules.

Designing and building a data warehouse, if you choose that route, may be the largest cost you will incur when implementing an analytics program, depending on how complex the warehouse will be, how many system integrations are needed, and whether the integration will be automated or manual. There are also standard, pre-built data warehouses that can be adapted to fit your organization instead of building a new one from the ground up.

Another option for integrating data across multiple systems is to use open APIs. APIs, or application program interfaces, are software interfaces that communicate with the various systems but do not require the data to be exported and stored together. Instead, it is possible to build a module (like a webpage) that can talk to each of the various systems, collecting the information it needs, and providing you with analytics or visualizations as needed.



Data Visualization Software

Once you have aggregated your data, the next step is to analyze it. There are a variety of tools that will allow you to slice and dice your data and create visualizations that provide actionable information to everyone from classroom teachers on up to executive directors.

There are a wide range of data modelling and visualization tools available that fall everywhere on the cost spectrum – from no-cost to thousands and thousands of dollars. For some organizations, an Excel-based (or similar) reporting tool may be sufficient. For other organizations, more complex data visualization tools can provide robust analysis and visualization capabilities for a relatively low monthly per user fee.

Two of the highest ranking tools that Head Start programs have been able to use are Microsoft Power BI and Tableau.



Data Distribution Platform

After producing your data models and visualizations, you need a vehicle for sharing the actionable information with staff, management, executives, board members, and any other stakeholders in your organization.

It is critical to ensure that the information is shared regularly, no matter which distribution method you choose. Options for sharing include everything from printed handouts, static reports via e-mail, or interactive online dashboards. You can tailor the distribution of information in the manner that most suits your audience.

Consider whether your organization is best-suited and prepared for static reports or dynamic reports. Static reports are just that, static. The information is a snapshot in time and does not change. These are most likely printed or electronic reports. Dynamic reports on the other hand act more like a window through which you can observe the changing environment. With dynamic reports, you can change the way you are looking at the information by applying filters and selecting different pieces of information to view. Dynamic reports are accessed electronically, usually through online or software-based dashboards.