

Process to Select and Implement a Performance Management Information System

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Introduction

The Lake County Health Department and Community Health Center (LCHD/CHC) has recently created a performance management system, requiring all of its programs to create performance measures. In order to maintain sustainability of the system and its processes, an easy to use information system had to be created to assist programs in creating, analyzing and reporting their performance measures. The process to identify, select and implement an information system to support our performance management efforts was organized into 4 main categories of work. First, the constraints and assumptions were identified and a project statement was created. This was an important step to allow for the work to begin. Without this, there could have been project scope creep and the final system may not have been as successful. Next, we identified major problem areas, categorizing them into 5 main groups. This preemptive and active approach allowed for issues to be addressed early on without significant delays. Third, we identified two potential information systems, including out-of-the-box and in-house options. Each option was rated based on ease of use, aesthetics and cost. Finally, we implemented the system that was chosen, creating a template and training staff on its use. At each step, stakeholder input was gathered to assure the final system would meet everyone's needs.

Constraints, Assumptions & Project Statement

The initial constraints and assumptions of the information system were identified as follows:

Constraints:

- *Ease of use* – The system had to be simply designed, easy to use and easy to navigate. Anything too complex or overly complicated may have been met with derision and frustration.
- *Aesthetically pleasing* – The system had to look nice in order to increase its use.
- *Cost* – The system could not cost more than the allotted budgeted amount.

Assumptions:

- The staff entering data will have access to a computer.
- The staff entering data will have basic computer skills.
- The information system will be maintained by MIS, but the data integrity will be maintained by the programs.

With these constraints and assumptions in mind, the initial step in the process was to define the project statement:

Project Statement:

“To create a robust, functional and fully integrated performance management information system capable of analyzing data, allowing the user the ability to easily and quickly assess progress.”

Barriers and Issues

The major problem areas were identified and divided into 4 main categories. This organizational technique allowed for an itemized list to be created by solving any issues preemptively.

1. Data Sources

Identify the current systems storing our data.

Issue:

- LCHD/CHC is a large agency comprised of over 1,000 employees. The functions of the agency are varied, with data stored in many different systems. The largest system with the most data comes from operating an electronic health record (EHR) to assist the 6 federally qualified health center (FQHC) sites located throughout the county. The agency also stores data in state databases, 3rd party databases and locally created data systems.

Resolution:

- The various sources of data were compiled, through meetings with each program, into one master list to make it easier to identify sources:

Database	LCHD/CHC Program	Data	License
Chameleon	Animal Care and Control	Rabies tags	3rd Party
Cornerstone	CFC, Nutrition Services, FCM	Patient/Client Data	3rd Party
Filemaker	Sexually Transmitted Infections	HIV data	In House
Garrison	Food	Restaurant Permits/Inspections	3rd Party
Hansen	Well/Non-Community, Onsite Wastewater Treatment Systems	Construction permits	3rd Party
INEDSS	Immunizations, Communicable Disease	Reportable infectious diseases	3rd Party
Lab	EH Lab	Water samples	3rd Party
MS Access	Many (over 10)	Many	In House
MS Excel	Many (over 10)	Many	In House
NextGen	Many (over 10)	Patient/Client Data	3rd Party
SEMP	Emergency Management	EOP, Site plans	3rd Party
Stellar	Lead	Blood lead levels	3rd Party

2. Data Availability

Issue:

- Much of the data required for the sustainability of the performance management system and the tracking of various performance measures is not currently available to program managers. Programs enter vast amounts of data into their databases, but do not have the mechanisms to query that data nor can they alter queries to specific designations.

Resolution:

- A schedule of meetings was created to identify the data needs of all the programs. This meeting will have representation from the performance management team; one of our agency quality improvement specialists; an employee from MIS; and staff from the program. Having all these people in one room at the same to discuss the sources of data and the techniques for querying and reporting allows for all stakeholders to be able to voice their opinions.

3. *Data Security & Sensitivity*

Two types of sensitive data were identified in this process:

Issue: *Financial Data*

- LCHD/CHC utilized a modified balanced scorecard tool to assist programs in selecting their measures. One of the perspectives of the modified balanced scorecard was Financial and Business Process, meaning that each program needs to have at least one financial measure. Many programs collect either client payments or permit fees.

Resolution:

- The financial measures are to be aggregated when reported. Additionally, no individual financial information will be made available for reporting.

Issue: *Patient Privacy and Health Information*

- Due to the sensitive nature of the data located in the EHR, including hypersensitive patient privacy and health information (PHI), LCHD/CHC needs to be careful when looking at health outcomes dealing with patients/clients. HIPAA rules and regulations restrict the viewing and distribution of these data. However, to improve on health outcomes, individual data needs to be available in reports.

Resolution:

- LCHD/CHC revised its PHI policies and has updated its training about the use and abuse of PHI in the workplace.

4. *Data Tracking and Reporting*

Issue:

- With so many programs and various data sources, there is a possibility of the data getting lost and/or not reported. There is also the possibility that, if not monitored, the data will not be entered in a timely fashion.

Resolution:

- Require data to be tracked by the program in which the performance measures reside, not by MIS or any individual entity. Additionally, the programs will be responsible for reporting their progress to the quality improvement council every 6 months. A policy has been drafted to codify this and senior level staff have been advised to discuss performance measure progress with their staff on a regular basis.

Information System Selection

LCHD/CHC is already a Microsoft shop, so we limited our potential system selection to using an MS SQL platform. This was done in order to facilitate lower costs and shorten learning curves. We developed the score sheet below to grade our options. Various stakeholders from the senior leadership level to the front line level were asked to give their input on which system would best fit our needs.

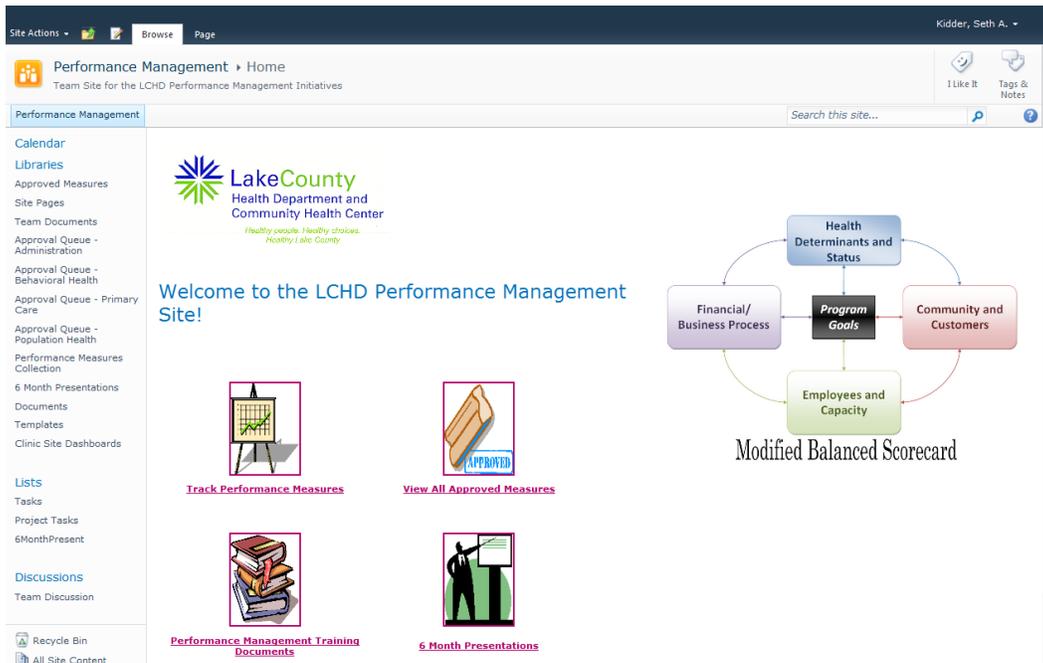
System	End User – Ease of Use		Aesthetics		Cost		Maintenance		Total Score
	Notes	Score	Notes	Score	Notes	Score	Notes	Score	
Microsoft Sharepoint Business Intelligence	Data still must be uploaded into system. Once uploaded, reports can be generated to view progress.	7	Dashboard is pleasing. Can be viewed internally or externally. Allows for quick visualization of trends for KPIs.	9	Significant charge per user with over 650 FTEs in LCHD/CHC. Cost estimates over \$200,000 implementation and \$50,000 annual maintenance. Need to have volume licensing agreements with county to keep affordable.	2	May be time consuming, in implementation and maintenance. Costly annual maintenance.	5	23
Microsoft Excel	Data still must be uploaded into system. Reports are difficult to create out of excel, but most users know how to use a spreadsheet. Ability to easily customize on the fly.	8	No dashboard built in, but can be created with charts and formulas. Can allow for quick visualization of trends.	4	Excel on all computers already. Every few years, need to upgrade version of Microsoft Office, but we are doing this already.	9	Easy to set up. Create template on shared drive. Fast implementation and low maintenance	7	28

The final decision was to select Microsoft Excel, mainly due to the ease of use and low cost.

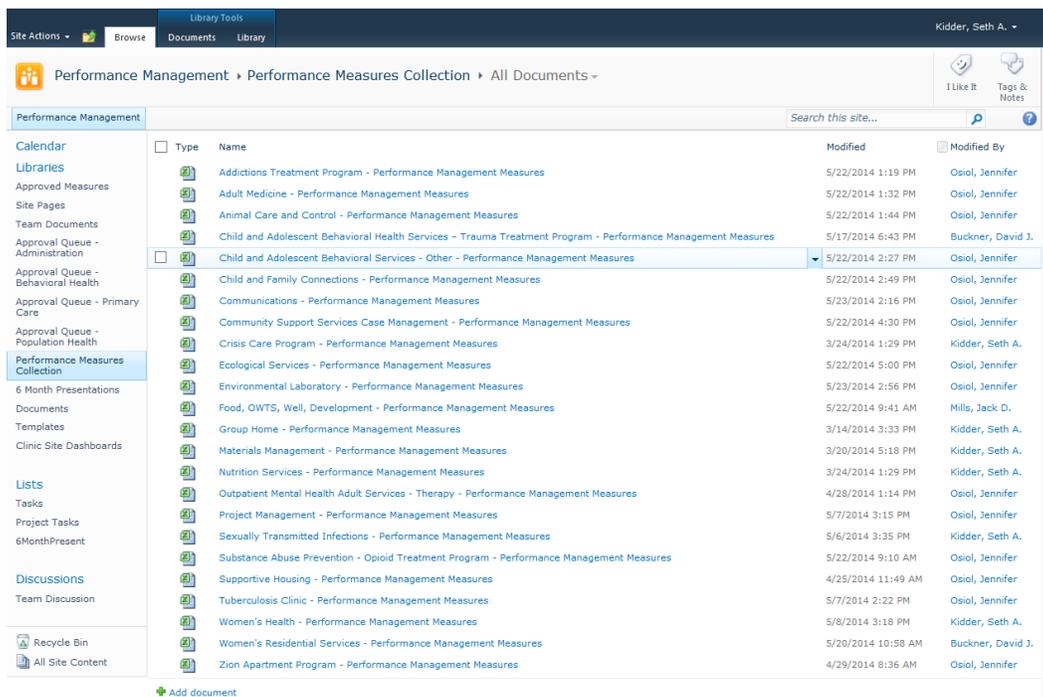
System Implementation

After selecting Microsoft Excel as our information system to support the performance management system, the following implementation steps were taken:

1. Created performance management intranet site to house spreadsheets.



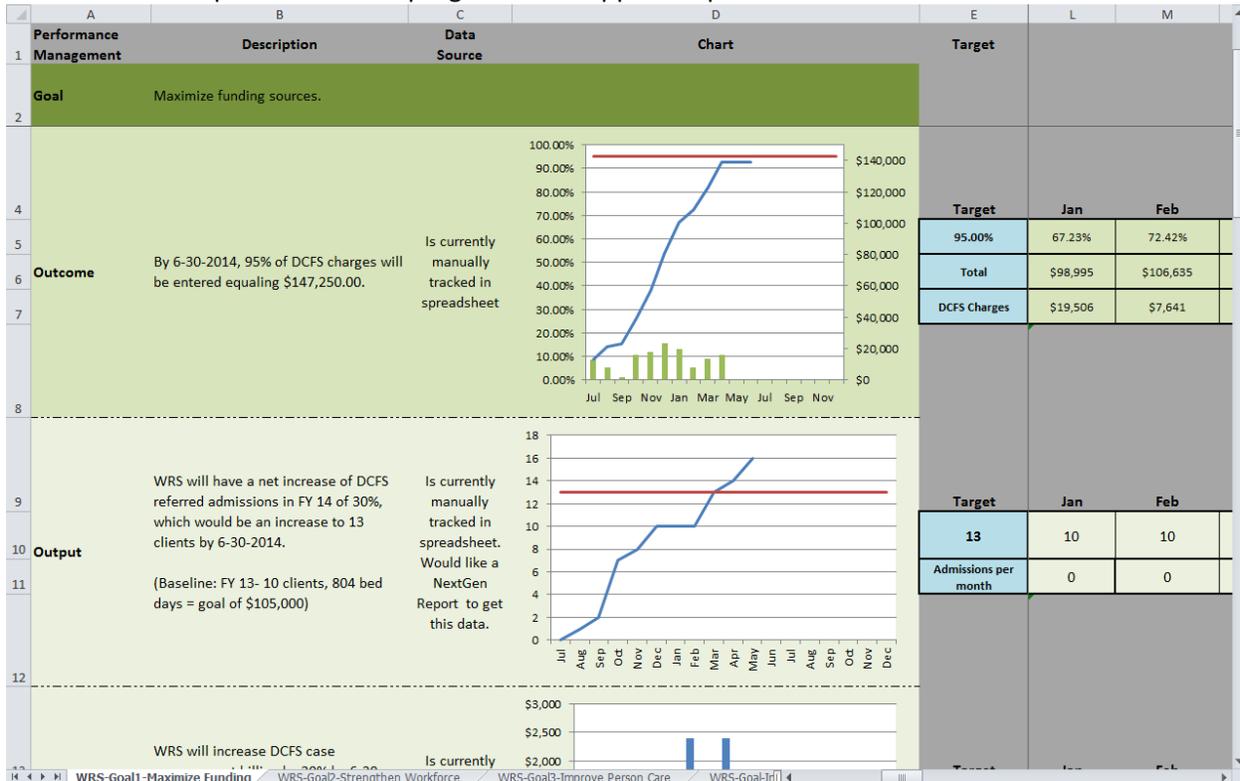
The screenshot shows the 'Performance Management' home page. It features a navigation sidebar on the left with categories like 'Calendar', 'Libraries', 'Team Documents', and 'Discussions'. The main content area includes the Lake County logo, a welcome message, and four icons with links: 'Track Performance Measures', 'View All Approved Measures', 'Performance Management Training Documents', and '6 Month Presentations'. On the right, there is a 'Modified Balanced Scorecard' diagram with four quadrants: 'Health Determinants and Status', 'Financial/Business Process', 'Community and Customers', and 'Employees and Capacity', all connected to a central 'Program Goals' box.



The screenshot shows the 'Performance Measures Collection' page, displaying a list of documents. The table below represents the data shown in the screenshot.

Type	Name	Modified	Modified By
<input type="checkbox"/>	Addictions Treatment Program - Performance Management Measures	5/22/2014 1:19 PM	Osiol, Jennifer
<input type="checkbox"/>	Adult Medicine - Performance Management Measures	5/22/2014 1:32 PM	Osiol, Jennifer
<input type="checkbox"/>	Animal Care and Control - Performance Management Measures	5/22/2014 1:44 PM	Osiol, Jennifer
<input type="checkbox"/>	Child and Adolescent Behavioral Health Services - Trauma Treatment Program - Performance Management Measures	5/17/2014 6:43 PM	Buckner, David J.
<input type="checkbox"/>	Child and Adolescent Behavioral Services - Other - Performance Management Measures	5/22/2014 2:27 PM	Osiol, Jennifer
<input type="checkbox"/>	Child and Family Connections - Performance Management Measures	5/22/2014 2:49 PM	Osiol, Jennifer
<input type="checkbox"/>	Communications - Performance Management Measures	5/23/2014 2:16 PM	Osiol, Jennifer
<input type="checkbox"/>	Community Support Services Case Management - Performance Management Measures	5/22/2014 4:30 PM	Osiol, Jennifer
<input type="checkbox"/>	Crisis Care Program - Performance Management Measures	3/24/2014 1:29 PM	Kidder, Seth A.
<input type="checkbox"/>	Ecological Services - Performance Management Measures	5/22/2014 5:00 PM	Osiol, Jennifer
<input type="checkbox"/>	Environmental Laboratory - Performance Management Measures	5/23/2014 2:56 PM	Osiol, Jennifer
<input type="checkbox"/>	Food, OWTS, Well, Development - Performance Management Measures	5/22/2014 9:41 AM	Mills, Jack D.
<input type="checkbox"/>	Group Home - Performance Management Measures	3/14/2014 3:33 PM	Kidder, Seth A.
<input type="checkbox"/>	Materials Management - Performance Management Measures	3/20/2014 5:18 PM	Kidder, Seth A.
<input type="checkbox"/>	Nutrition Services - Performance Management Measures	3/24/2014 1:29 PM	Kidder, Seth A.
<input type="checkbox"/>	Outpatient Mental Health Adult Services - Therapy - Performance Management Measures	4/28/2014 1:14 PM	Osiol, Jennifer
<input type="checkbox"/>	Project Management - Performance Management Measures	5/7/2014 3:15 PM	Osiol, Jennifer
<input type="checkbox"/>	Sexually Transmitted Infections - Performance Management Measures	5/6/2014 3:35 PM	Kidder, Seth A.
<input type="checkbox"/>	Substance Abuse Prevention - Opioid Treatment Program - Performance Management Measures	5/22/2014 9:10 AM	Osiol, Jennifer
<input type="checkbox"/>	Supportive Housing - Performance Management Measures	4/25/2014 11:49 AM	Osiol, Jennifer
<input type="checkbox"/>	Tuberculosis Clinic - Performance Management Measures	5/7/2014 2:22 PM	Osiol, Jennifer
<input type="checkbox"/>	Women's Health - Performance Management Measures	5/8/2014 3:18 PM	Kidder, Seth A.
<input type="checkbox"/>	Women's Residential Services - Performance Management Measures	5/20/2014 10:58 AM	Buckner, David J.
<input type="checkbox"/>	Zion Apartment Program - Performance Management Measures	4/29/2014 8:36 AM	Osiol, Jennifer

2. Created spreadsheets for programs with approved performance measures.



3. Trained staff on how to use their spreadsheet.

This was accomplished through a meeting where the intranet site was introduced, the performance measures were reviewed and the spreadsheet was customized to that programs specifications.

4. Began whole agency QI Council meetings

These meetings provide an opportunity for the programs:

- To report to the Directors the progress of their measures;
- To gain feedback on their measures;
- To discuss quality improvement efforts throughout the agency;
- To overcome obstacles in reaching targets; and
- To celebrate our successes.