A visual management tool for program planning, project management and evaluation in paediatric health care

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ABSTRACT

This article describes the development and implementation of a custom-designed Excel-based visual management tool. The tool's purpose was to support program planning and evaluation by our resource support team within a paediatric health care setting. Our aims in developing it were to: 1) establish a streamlined process and supporting tools to efficiently plan and prioritize program directions and activities; 2) track progress; and 3) evaluate and report on our performance, outputs and outcomes. A collaborative approach based on the ADKAR (Awareness, Desire, Knowledge, Ability, Reinforcement) change management model and the LEADS (Lead self, Engage others, Achieve results, Develop coalitions, Systems transformation) leadership framework was used to guide the design and implementation processes. Team members reported high perceived effectiveness and efficiency with respect to the tool's utility in supporting its proposed aims. A graded approach to building knowledge and skills in using the tool, to individual responsibility for data entry, and to accountability by team members facilitated its successful implementation. Administrative support is important for sustainability and continual improvement of the tool to address changing team needs over time.

1. Introduction

1.1. Visual management for planning and evaluation

The use of visual tools is currently one of the most accepted trends in our society (Jaca, Santos, Errasti, & Viles, 2012). This practice is supported in the continuous improvement literature (Denis, 2007; Jaca, Viles, Jurby, & Tanco, 2013). Visual management tools, such as performance walls or dashboards, can promote awareness of, and alignment with an organization's vision and culture (Mestre, Stainer, Stainer, & Strom, 2000) and provide a platform for sharing ideas (Mestre et al., 2000). These tools may also improve communication effectiveness and efficiency (Kattman, Corbin, Walsh, & Moore, 2012), display indicators, including objectives, results and deviations (Jaca et al., 2013; Pace & Buttigieg, 2017), and increase the visibility of actions being taken towards an outcome or goal (Jaca et al., 2013; Pace & Buttigieg, 2017).

Visual management refers to a system or tool to support decision-making processes and organizational improvement (Jaca et al., 2013). The means by which these actions are promoted for priority issues is through the delivery of key information where it is required (Galsworth, 2013; Liff & Posey, 2004; Murata & Katayama, 2010). Visual management can improve transparency and help teams identify more closely with their work, as well as increase motivation to improve performance (Jaca et al., 2013). The tools can also help to promote innovation and staff commitment to participate in continuous quality improvement initiatives (Galsworth, 2013; Liff & Posey, 2004). By sharing performance results, process gaps and challenges can be identified and addressed more easily and efficiently (Buttigieg, Pace, & Rathert, 2017; Liff & Posey, 2004). Data management can also be facilitated by integrating multiple metrics in a single location (Kattman et al., 2012).

Hospital performance walls or dashboards are defined as tools designed to summarize strategic, tactical and operational processes and data within the health care setting for the purposes of allocating resources and aligning organizational change with strategic objectives (Wadsworth et al., 2009). These management decision-making tools are built on the ‘balanced scorecard’ of the business world, which focused on monitoring strategic goals through daily tracking of operational processes (Buttigieg et al., 2017). The existing literature documents the use of health care dashboards and performance walls primarily to track clinical and health service delivery performance related to hospital quality improvement (Buttigieg et al., 2017). In contrast, in this article we describe the development and implementation of a visual management tool (the 'Evidence Centre Performance Wall') to support program planning and evaluation by our resource support team. This team is...
Table 1

<table>
<thead>
<tr>
<th>LEADS Framework element</th>
<th>Description (Canadian College of Health Leaders, 2017)</th>
<th>Strategies employed</th>
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</thead>
</table>
| Lead Self               | “Self-motivated leaders are self aware, manage themselves, develop themselves & demonstrate character” | • Undertook personal learning to be able to develop the electronic tool;  
• Initiated peer peer presentations on the initiative (webinar & interactive training session) |
| Engage Others           | “Engaging leaders foster the development of others, contribute to the creation of healthy organizations, communicate effectively & build teams” | • Established clear objectives that resonated with the team, generated an electronic tool that supported the project’s objectives;  
• Created 1:1 & group learning opportunities to meet needs of the team;  
• Encouraged new learning in a practical, applied context that would lead to improved efficiency;  
• Clarified team feedback & applied it to develop a relevant action plan |
| Achieve Results         | “Goal-oriented leaders set direction, strategically align decisions with vision, values & evidence, take action to implement decisions & assess & evaluate” | • Tool is aligned with & facilitates visioning around strategic objectives, with action embedded in the tool;  
• Tool targets gap in team functioning/processes;  
• Applied continuous quality improvement concepts & change management tools employed by the organization;  
• Incorporated external revenue as a metric for planning;  
• Process established team norms & reinforced values for evaluation & reporting, & helps to recognize team strengths |
| Develop Coalitions      | “Collaborative leaders purposefully build partnerships & networks to create results, demonstrate a commitment to customers & service, mobilize knowledge & navigate socio-political environments” | • Used a collaborative development, implementation & refinement process based on goals, input & feedback of team members;  
• Implementation guided by team’s learning & support needs;  
• Demonstrated the valuing of individuals’ contributions |
| Systems Transformation  | “Successful leaders demonstrate systems/critical thinking, encourage & support innovation, orient themselves strategically to the future, & champion & orchestrate change” | • Critically appraised existing performance walls for strengths & weaknesses to inform the design of the tool;  
• Advocated for an electronic tool that enhanced efficiencies beyond the objectives of the traditional physical performance walls used elsewhere in the organization;  
• Continual refinement & ongoing leadership of its use |

1.2. Our context

Sunny Hill Health Centre for Children is a provincial resource for Child Development & Rehabilitation that serves children and families throughout the province of British Columbia. Our six clinical programs offer specialized inpatient, outpatient and outreach health services to children. These services include rehabilitation, developmental, behavioural, assistive technology and feeding assessments and consultation, complex wheelchair seating and equipment provision, tone management clinics and nursing support.

The Child Development & Rehabilitation Evidence Centre is a virtual centre that was established to facilitate the use of best available evidence by health professionals and students within Sunny Hill and across the province. This role forms part of Sunny Hill’s mandate to build capacity for community partners and health professionals across the province. Staff learns about Evidence Centre services at site-wide events, a quarterly e-newsletter, and through interactions with our staff or organizational leaders. Staff and students access Evidence Centre services through in-person, email or service request e-forms. The Evidence Centre is funded by the Sunny Hill Foundation, which relies on donor funds to support targeted and innovative initiatives that enhance patient care. Our team consists of a Program Coordinator, a Clinical Librarian, an Education Assistant, a Knowledge Broker Facilitator and Evidence Centre Facilitators. A number of other staff members are engaged through non-funded appointments as a means of extending our reach and capacity.

1.3. The Evidence Centre Performance Wall

Our interest in developing a Performance Wall for the Evidence Centre emerged as the clinical programs throughout the health centre began to implement physical performance walls. Clinical program leaders wanted to document their goals, facilitate quality improvement planning and support communication among team members and families. As a program managed independently of the organization’s operational budget, our team’s ability to demonstrate the breadth, reach and impact of our support services quickly and comprehensively is paramount to our subsistence. Prior to developing our Performance Wall, our team used task lists created in Microsoft Word to track the progress of various projects or goals. However, this method failed to provide a means of quickly determining the degree of completion of any given project, nor did it adequately support our strategic planning apart from dividing tasks or projects according to team goals that were inconsistently linked to organizational strategic objectives. Prioritizing was challenging because of the inability to discern individuals’ workloads without extensive analysis of the tasks assigned within the document. Evaluation and reporting required time-consuming manual data extraction from the task lists, as well as from various other sources (e.g. dated resource inventory lists, project reports, spreadsheets). Reporting indicators were not standardized from fiscal quarter to quarter.

Consequently, we developed a custom electronic tool to enable integrated strategic planning, progress tracking, project management, and evaluation and reporting functions in real time. The objectives of this tool were to 1) increase transparency and awareness of our work within the organization; 2) enable the documentation of new ideas in a centralized location; 3) assist the team with planning, including aligning work with the strategic objectives of the organization, prioritizing work and workloads, and tracking progress on current projects; 4) monitor the outputs and outcomes of our work; and 5) facilitate the reporting of these evaluation efforts. Our aim was to establish a streamlined process, with supporting tools to improve the efficiency and effectiveness of this work. The purposes of this article are to describe the development, design and implementation of this collaborative electronic program planning and evaluation tool, and the results and impact of its implementation within our program.
2. Methods

2.1. The Performance Wall development process

The project lead applied the LEADS in a Caring Environment Framework (Canadian College of Health Leaders, 2017; Vilches, Fenwick, Harris, Lammi, & Racette, 2016) to guide and to reflect on the process of facilitating the Performance Wall’s development and implementation. LEADS is a leadership capabilities framework that outlines the key competencies required to lead in an organization. These competencies are: 1) Lead self; 2) Engage others; 3) Achieve results; 4) Develop coalitions; and 5) Systems transformation. This framework had been adopted by our organization and its use was encouraged to guide leadership activities. The framework helped to ensure that sound leadership approaches informed the work in order to improve the likeliness of its success. Table 1 provides an overview of the elements of the LEADS Framework and how they were realized during the tool’s development and implementation.

The development process began with the identification of the need for a performance wall by the team’s Coordinator. This need was identified to fill a gap in the team’s ability to demonstrate its strategic planning and performance outputs to other programs and teams within the organization. As a small, but somewhat physically dispersed team of 7–8 members that did not have the opportunity to ‘huddle’ regularly around a physical board, we decided on an electronic dashboard. Such a format would also enable us to integrate project and program evaluation into our planning processes, and to improve efficiencies by documenting progress in a single place. The brainstorming stage of development involved the Performance Wall project lead (1st author) engaging team members in identifying goals, gaps and preferences for the performance wall. This process occurred within team meetings, as well as one-to-one with each team member to ensure everyone had an opportunity to exchange ideas. She then mocked up a prototype for feedback, and refined the tool over several iterations by modifying the layout, adding features, and refining the formulas and data being gathered. Once the tool was functional and had been populated with existing program data, it was piloted during a series of team meetings as a way of demonstrating its utility as a planning resource. Ongoing refinement is based on feedback and discussion at team meetings. The key elements of the tool are described below.

2.2. Design of the tool

The Performance Wall consists of a Microsoft Excel workbook with multiple worksheets, or ‘tabs,’ which house the information required for strategic planning and evaluation reporting. Excel software was selected because of its accessibility for all staff, its compatibility with organizational information technology support, its familiarity to the team, and its functionality. We were not aware of an existing program planning or project management software application that would enable the customization required for our purposes. Also under consideration were organizational constraints with respect to software support, our staff’s training capacity and the program’s budgetary constraints. The tool tracks strategic directions by aligning projects with organizational objectives, individual performance by tracking project task completion, operational processes by documenting standard work, and team performance by monitoring outputs and outcomes of our activities (Pace & Buttigieg, 2017). A screenshot of the tool is provided in Fig. 1. A sample version is included with this article as Supplemental File 1. A description of each worksheet (i.e. tab) and its purpose and functionality is provided in Table 2.

2.3. The implementation process

The Prosci ADKAR Model (Hiatt, 2012; Karambelkar & Bhattacharya, 2017) guided implementation of the Performance Wall within the Evidence Centre’s team planning and evaluation processes. Because this implementation necessitated change in team members’ knowledge, skills and workflow in order to be effective, a change management model was selected to guide the implementation process. The ADKAR Model is a goal-oriented change management model, which identifies five milestones an individual must achieve in order for change to be successful. These milestones are 1) Awareness; 2) Desire; 3) Knowledge; 4) Ability; and 5) Reinforcement (Hiatt, 2012; Karambelkar & Bhattacharya, 2017). Addressing challenges in each of these areas may support the success of the implementation process, as well as facilitate maintenance of change over time.

A brief survey consisting of 5 items exploring individual change readiness based on the ADKAR model was developed to explore these milestones, and administered to all team members to assess change readiness prior to (baseline), and four months after implementation of the Performance Wall. In this way, key barriers and facilitators could be identified and targeted to enhance successful implementation. Ratings of perceived effectiveness and efficiency of the Performance Wall in achieving each objective for its implementation were also gathered following the implementation process, along with open-ended questions requesting information about barriers to and perceived benefits of implementing the Performance Wall.

Fig. 2 presents the results of the ADKAR milestone assessment at both time points. These findings suggested improvements in change readiness related to Desire, Knowledge, Ability and Reinforcement. The significance of these differences was not calculated because of the small sample size (n = 7). However, the data did assist in prioritizing areas to target during the development and implementation of the tool, and demonstrated a trend toward improvement at following-up across all categories except awareness, which was high at baseline. At baseline, identified barriers were lack of knowledge and skills in using the tool, and the need for administrative support to manage its use. Strategies to address these key barriers are described below, while a summary of the strategies used to address each of the five ADKAR milestones is provided in Table 3.

To build competencies in using the tool, the project lead described its features to the team at successive team meetings, demonstrated relevant data entry to the group and guided individuals in one-to-one sessions. The complexity of the content was graded such that novice Excel users were provided with basic instructions, while more advanced users learned about higher-level features and employed keyboard shortcuts. The level of individual responsibility to integrate the tool into their daily work was increased gradually over several months.

2.4. The maintenance process

The Performance Wall has been fully implemented within our team since February 2015. Team members access the tool from a shared team storage drive on the organization’s networked server. Our internal server backs up the file regularly to safeguard its contents. Administrative support for the tool was established by engaging the team’s Education Assistant to take over the management of the tool. A mentoring process was employed to train her on its use. She was then responsible for transferring data from other sources into the Dashboard tab, generating quarterly and annual reports, and refining cell formulae, formatting and other tasks as needed.

Initially, team members contributed data and progress updates for the Performance Wall verbally during team meetings, which were entered manually by the project lead. While most team members update progress on their project tabs independently, some seek support from the project lead or Education Assistant, or rely on other project team members to enter these updates. Others are proficient in generating new project tabs and updating data on the Dashboard tab.

The tool is used as a framework for guiding team meetings so that the team can update and visualize progress on projects in real time. Individual prompts during meetings and email reminders have been used to
support ongoing updating in order to avoid concentrated data entry requirements at quarter’s end. Issues also arise occasionally as multiple users share a single file without concurrent editing capabilities.

3. Results

Specific outcomes linked to the tool’s objectives are described below. These outcomes were drawn from open-ended questions on the survey, and from team discussions about the performance wall and its utility.

3.1. Increasing transparency and awareness of our work within the organization

As a communication tool, the Performance Wall enables discussion with organizational leaders during leadership meetings because of its alignment with strategic objectives shared across the organization. The tool is effective at distilling a large amount of detail from diverse projects and activities into a clear visual summary with an accompanying report describing the nature of the work (e.g. specific knowledge products developed, topics addressed by literature searches, etc.). This approach targets the reporting needs of these leaders and demonstrates the ways in which the Evidence Centre work advances organizational aims. Staff, including clinicians, can access quarterly and annual evaluation findings summarized by the tool on our organization’s internal intranet site. Many internal leaders and external partners familiar with our Performance Wall have expressed a need for a similar tool to support their own work.

3.2. Enabling the documentation of new ideas in a centralized location

The Performance Wall provides a framework for team meetings, and a centralized place to track and to visualize progress. We can efficiently screen potential projects to ensure they are consistent with strategic objectives of the organization, thereby enabling prioritization when competing demands exist. The tool provides a visual representation of workload that we use to assess capacity, including revising projects that are on hold for reasons beyond our control. The tool is also adaptable; all team members contribute ideas to enhance the tool as our needs evolve. Fig. 3 illustrates 4-month follow-up mean ratings by team
<table>
<thead>
<tr>
<th>Performance Wall worksheet/tab</th>
<th>Purpose</th>
<th>Features</th>
<th>How it is used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarterly Performance Wall tab comprised of 5 sections, each with a corresponding tab:</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Strategic Objectives</td>
<td>To summarize organizational strategic objectives &amp; our role in achieving them</td>
<td>Colour coding to assist the team in identifying how a given project fits within the larger aims of the organization; our role in the strategic objectives presented in bold</td>
</tr>
<tr>
<td></td>
<td>Idea board</td>
<td>To document suggestions for new projects, directions or services</td>
<td>Summary statement about the idea, its priority level, &amp; whether or not it has been addressed; entries auto-populate Idea Board tab where additional detail can be added to prompt recall when ideas are revisited</td>
</tr>
<tr>
<td></td>
<td>Projects in Queue</td>
<td>To facilitate planning &amp; workload management</td>
<td>Highlights upcoming projects, their projected start dates &amp; team members assigned; entries auto-populate Projects in Queue tab to prompt recall when projects are revisited</td>
</tr>
<tr>
<td></td>
<td>Progress Summary</td>
<td>To support workload planning, monitor progress on current projects &amp; facilitate reporting</td>
<td>Charts that visualize progress on current projects linked from Progress Summary tab; shading highlights % initiated/completed or slated for next fiscal year; colour coded by strategic objective</td>
</tr>
<tr>
<td></td>
<td>Quarterly Performance Dashboard</td>
<td>To summarize key indicators for program planning &amp; evaluation</td>
<td>Charts that visualize performance (e.g. # projects completed, knowledge products &amp; educational opportunities delivered, # article requests filled) relative to targets, as well as social media &amp; web analytics; charts auto-populated from Dashboard tab, which is auto-populated from a second Excel workbook of extensive data on standard work</td>
</tr>
<tr>
<td>Project tabs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Project management</td>
<td>Colour-coded by strategic objective; list project objectives, leader, team, targeted completion date; document each task required to complete the project, targeted completion date, start date, completion date &amp; person(s) responsible; task completion tallies are linked to the Progress Summary tab to generate charts for the Progress Summary section of the Performance Wall tab</td>
<td>Used individually &amp; during team meetings to manage projects &amp; assign tasks, facilitate communication among team members, monitor progress &amp; promote accountability</td>
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<tr>
<td>Annual Charts tab</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>To compile summary data &amp; charts for annual standard reporting</td>
<td>Information about services by clinical program, discipline &amp; staff role; tallies of outputs; productivity relative to annual targets</td>
<td>Shared with organizational leaders, funders &amp; service recipients to demonstrate performance</td>
</tr>
</tbody>
</table>
members for perceived effectiveness and efficiency of each objective for implementing the Performance Wall.

3.3. Assisting the team with planning, including aligning work with the strategic objectives of the organization, prioritizing work and workloads, tracking progress on current projects

The tool supports the team to set transparent, realistic and achievable targets to help us meet our strategic objectives. Because of our limited capacity, team members value the tool for its ability to visualize multiple projects and goals. This feature assists us in developing a complete overview of our current workload demands. The information simplifies our prioritization process for new tasks or projects and helps us to distribute work more effectively among team members. The tool also directs us to support projects that are falling behind established timelines documented on each project tab and on the Progress Summary tab. Team members have expressed concern about the risk of deleting data or formulas, which may necessitate the locking of specific cells to ensure that only those team members with password access can modify their contents. However, we benefit from the standardized data collection processes that have been implemented alongside the Performance Wall. This data enables us to identify quarterly and annual trends to support planning processes and the establishment of realistic targets.

3.4. Monitoring the outputs and outcomes of our work

The project tabs and progress summary sections ensure accountability and assist the team in recognizing and celebrating its productivity and accomplishments. While outputs (e.g. knowledge products developed, tools created, child health-related literature searches conducted) are tracked in a separate spreadsheet, this data is compiled and visualized on the Performance Wall tab (Quarterly Performance Dashboard section in lower-right quadrant). This summary has been helpful in monitoring our progress (e.g. on project completion and on outputs) relative to targets. Not all outcomes are represented on the performance wall, however, in order to preserve a balance between utility and complexity. Team members indicate that too much information will render the tool too difficult to interpret at a glance. For this reason, some outcomes are reported only on annual charts, or in specific reports to stakeholders.

3.5. Facilitating the reporting of these evaluation efforts

The use of the tool has also compelled us to examine more closely the metrics we use to evaluate our program, and the data collection and reporting processes we employ. As a result, we have identified specific metrics and indicators that would be of value to the different stakeholder groups to whom we report (e.g. organizational leaders, health

Table 3

Strategies employed to address outcomes critical to successful implementation.

<table>
<thead>
<tr>
<th>ADKAR (Hiatt, 2012) milestone</th>
<th>Strategies employed</th>
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</thead>
<tbody>
<tr>
<td>Awareness of the need for change</td>
<td>Discussions about the impact of organizational change on the team</td>
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<tr>
<td></td>
<td>Messaging from the sponsor of the project (Evidence Centre Coordinator)</td>
</tr>
<tr>
<td>Desire to support the change</td>
<td>Initial low responsibility</td>
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<tr>
<td></td>
<td>Incorporating familiar processes</td>
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<tr>
<td></td>
<td>Culture of innovation</td>
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<tr>
<td></td>
<td>The team’s passion for our work is high</td>
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<tr>
<td>Knowledge of how to change</td>
<td>Needs assessment conducted</td>
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<td></td>
<td>One-to-one coaching provided</td>
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<td></td>
<td>Demonstration &amp; discussion of new processes and tools with all team members</td>
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<tr>
<td>Ability to demonstrate new skills and behaviours</td>
<td>Access to expert (project lead)</td>
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<td></td>
<td>Individualized 1:1 education with graded degree of challenge and responsibility to use the tool</td>
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<td></td>
<td>Built-in practice during monthly team meetings</td>
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<td></td>
<td>Performance monitoring during team processes</td>
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<tr>
<td></td>
<td>Webinar (Glegg, 2015) and interactive workshop</td>
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<tr>
<td>Reinforcement to make the change stick</td>
<td>Evaluation of the change initiative &amp; sharing of results</td>
</tr>
<tr>
<td></td>
<td>Embedded use of the tool during meetings</td>
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<tr>
<td></td>
<td>Accountability via individual contributions to quarterly reporting</td>
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<tr>
<td></td>
<td>Recognition &amp; celebration of achievements</td>
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</tbody>
</table>
sector leaders, clinicians, funders, external audiences). In some cases, these metrics fall under the jurisdiction of the clinical programs we serve. As such, their collection presents a challenge for us. This reflection has stimulated a review of our report generating processes and templates, which will strengthen the quality and relevance of our reporting to these groups.

4. Discussion

As a small team, the Performance Wall supports our communication during and between team meetings. Larger teams may face challenges, particularly in maintaining a consistent routine for updating project progress and metrics. However, the routines we have established to incorporate it into team meetings as an agenda guide, and a point-person to encourage consistent updating have helped to increase engagement with it, despite it not being as visible as physical performance walls in our centre.

Our key performance indicators differ from those typical of a hospital dashboard, necessitating a custom tool. For example, our team has no need to directly monitor common indicators, such as daily staffing, safety incidents or resource use (Buttigieg et al., 2017). Clinical service delivery indicators, such as length of stay, readmission rates and inventory stock (Buttigieg et al., 2017), are not relevant to our current work. The performance wall allows us to tailor our reporting outputs to reflect our work as well as the needs of those to whom we report. Further development of the evaluation and reporting templates, and coordination with clinical programs to collect and to share this data may facilitate impact reporting in the future. ‘Impact’ metrics related to our work that extend beyond outputs and outcomes of a project (e.g. health service delivery changes and their effects on patient and family health indicators), are not captured at this time. Although we are a site resource for health professionals and leaders, no obligation exists for clinical programs to gather or to share impact-level metrics with us. Further collaboration, and case examples to showcase the value of gathering these data may support our efforts.

4.1. Future directions

Our recent review of the Evidence Centre’s evaluation processes enabled us to identify the specific indicators of interest to each stakeholder group to whom we may report (e.g. our funding agency, the organization’s administration, clinical program leaders, clinicians, knowledge brokers, students, etc.). While the Quarterly and Annual Charts tabs efficiently compile data of high value to our team and to the organization’s senior leaders, we found that key information was missing. However, we have the means to incorporate this information easily. Not all of these indicators may be of interest to the clinical staff, students and leaders with whom we work. We recognized that these groups may benefit from learning more about the services we provide, and the outcomes of this work. By expanding the range of stakeholders to whom we report (e.g. the children and families served by our organization), we can raise awareness of our role and impact, thereby allowing us to extend the reach of our services.

We also have plans to group relevant information that we already collect, by topic. For example, a Capacity Building reporting tab would compile data about the number of educational opportunities provided, participants, learning outcome and participant satisfaction data, and the topics and learning objectives addressed, reported by stakeholder group (e.g. students versus clinicians vs. leaders). Generating standardized self-populating reporting templates for each audience and each strategic objective will streamline our reporting processes and improve efficiency. Benchmarking with other similar teams across the country may also help to inform performance targets for our work (Buttigieg et al., 2017), in tandem with previous performance data, priorities and goals, and knowledge of our organizational context.

5. Lessons learned

Early involvement of end-users may reduce resistance to change (Buttigieg et al., 2017). Implementation and training need to be carried out slowly and gradually to meet the needs of team members with variable skills in using the software. Over time, learners become more aware of the benefits of the tool, as they experience its utility in carrying out their daily work. Training has also been shown to develop a sense of responsibility and a propensity for staff to engage in quality improvement (Crofts et al., 2014). A project lead responsible for all data entry and analysis can gradually increase the responsibility of other teammates in maintaining and updating the tool as confidence among team members increases. Leadership to monitor data entry targets required to meet reporting timelines may also be beneficial, particularly with larger teams.

The leadership frameworks were useful for guiding the development and implementation processes from start to finish. The principles drawn from the ADKAR model facilitated an efficient needs analysis to inform the implementation plan. The LEADS framework ensured that the process was collaborative, goal-directed, based on previous learning, and valued existing organizational practices and strategic objectives. A similar approach may prove useful in other settings.

Care must be taken to balance team and decision-maker information needs with the visual complexity of the tool (Buttigieg et al., 2017). Flexibility has also been key in adapting the tool to meet changing needs. For example, the presentation of project progress was modified to differentiate between tasks targeted during the current versus upcoming fiscal years. Data calculations from separate workbooks used to track details about standard work (e.g. article retrievals, education sessions provided, knowledge products produced) have now been linked to the Performance Wall Dashboard tab to eliminate the need for manual entry or calculations. Formulas were added or modified to streamline quarterly reporting. Without this adaptability, team members reported becoming frustrated, leading to decreased motivation to fully utilize the tool. Furthermore, the tool may fail to evolve as the activities, functions and evaluation strategies of the team advance.

Developing a maintenance and reporting protocol also supported the administrative support person to learn how to update the tool, to troubleshoot cell formulas and chart generation, and to ensure consistency in reporting outputs. Finally, personnel support is indispensible for sustainability, with respect to data entry, data analysis and refining the tool to meet the evolving needs of the team – a sentiment echoed in the literature (Simms et al., 2013).

6. Conclusion

The development of a custom, user-friendly Excel-based tool can enable efficient and effective integrated strategic planning, progress tracking, evaluation and reporting for our program. Its development and implementation using established leadership frameworks ensured collaboration, utility and acceptance of the change process required to integrate it into daily workflow. A gradual and collaborative process guided by leadership and change management frameworks, administrative support for its maintenance, and flexibility for adapting the tool over time were important for its implementation and sustainability in our paediatric health centre. In our complex organizational, funding and partnership environment, the tool has filled a significant gap by assisting us to weave in and to extract information about multiple objectives and projects during program planning and project management, and to meet our many reporting requirements.

Declaration of interest

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.evalprogplan.2018.09.005.

References


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