



HOW TO WRITE A QUALITY IMPROVEMENT PROJECT

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It is not uncommon for those involved in hospital- or healthcare organization-based quality improvement (QI) initiatives to implement a robust QI project, present the results within the organization, celebrate wins, and quickly move on to the next project that demands attention. This rapid cycle turnover of QI projects leaves little time or energy for those involved to publish their findings to a broader, academic audience, despite the likely usefulness of these projects for others beyond the walls of the home institution.

For an already overburdened healthcare professional, it is likely that the typical reaction to formal QI publication is met with dread or the perpetual “I’ll get around to it.” However, the academic publication of your QI project could be much simpler than you previously imagined.

The purpose of this piece is to provide a succinct, actionable guide to translating your quality improvement project plan into a formal publication available to the world. The following framework is based on the SQUIRE 2.0 guidelines.¹ SQUIRE is considered the gold standard for describing broad-based QI efforts in healthcare.

Introduction

The Problem Description and Available Knowledge

It is likely your problem statement for your organization was short, sweet, and intended to convey the problem and why it matters quickly to executive leadership. Translating this problem statement to a problem description for publication involves elaborating on the active or latent inadequacies or failures in current processes, technologies, or interactions that compromise the ability of organizations to provide safe, high-quality care.



To demonstrate the priority of initiatives to overcome this problem, pull in literature to support the breadth of this problem in other contexts. This may include an overview of current barriers and challenges that contribute to the problem, statistics to illustrate financial and clinical implications of the problem, and the future implications if the problem is not addressed.

Rationale

Often an area that poses difficulty when translating frontline QI projects into academic publications, the rationale section should explain to readers the reasons for selecting the tools and frameworks used to address the problem. Think of this section as the place to explain why you are doing what you are doing and why this particular intervention is the optimal intervention.

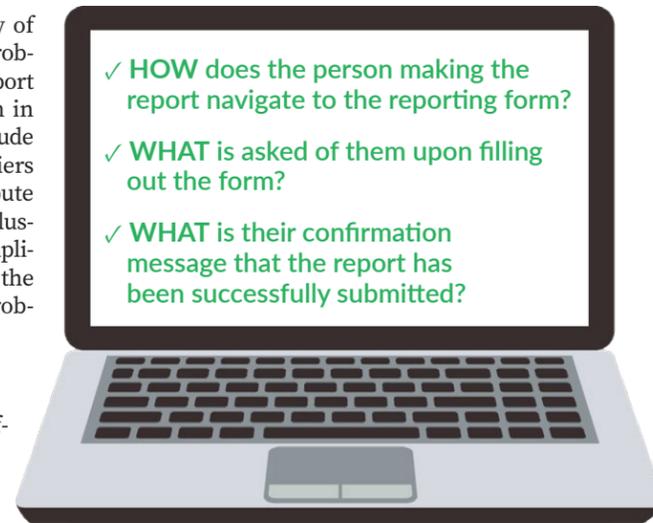
For example, if the problem is lack of error reports that are useful for improvement, it would be wise to review frameworks, concepts, and theories that may explain this problem, such as culture of blame, time burden of reporting, and lack of understanding that an incident happened at all. Review related literature with the intention of understanding what interventions already exist and the current gaps in the literature. In each article reviewed, take note of the independent and dependent variables, how the variables were operationalized and measured, and the setting in which the intervention took place.

In the case of incident reporting, there is a plethora of literature around redesign of reporting systems to reduce time burden of reporting, but there may be a gap in research around the usefulness of the reports received by the reviewer. On the other hand, you may find that most studies operationalize the burden of creating a report by measuring time to make a report, rather than the cognitive burden of finding and interpreting the reporting form. These gaps can shed light on the needed areas for future research.

For further insight, examine the strengths, limitations, and future research sections of each article reviewed.

Specific Aims

What questions are you trying to answer, based on your problem and review of gaps



in the literature? In the example of incident reporting, these questions may be, “What is the minimum required information in an incident reporting form to ensure the reviewer has adequate context for improvement?” or “How does the ease of locating and completing an incident reporting form relate to frequency of reports made?”

Methods

Context

It is important that readers understand the context of where the intervention took place. Start by describing the organization, its size, demographics, culture, and even leadership. Provide specific information about the intervention pilot site, reason for selection of the pilot population, and any opportunities or constraints of the implementation.

In the case of the incident reporting project, this may include information about previous and current reporting systems, quantitative and anecdotal feedback from previous and current reporting systems from both the front line and those receiving the reports, and how these reports have been used to inform improvement efforts.

Intervention

The intervention should be based on the gaps previously defined in the literature. Describe the intervention as clearly as possible to guide readers in replicating the same intervention. How does the intervention function?

In the case of improving the context of incident reports, how does the person making the report navigate to the reporting form, what is asked of them upon filling out the form, and what is their confirmation

message that the reporting has been successfully submitted? In this context, much of this intervention should be informed by the rationale section, such as minimizing the number of “clicks” to fill out the form or providing enough context for the reporter to answer the questions appropriately. Include tables, figures, and images to illustrate the intervention and its implementation.

Study and Measurement of the Interventions

The approach selected to understand the impact of the intervention will likely be very similar in the academic publication and the organization-based QI project. The organization-based QI initiative will likely include measures aligned with that organization’s strategic plan, mission, and vision. In the academic publication, the metrics will be similar but likely generalized to a broader context.

The incident reporting system project example may be measured by asking those receiving the reports about their ability to use the reports for improvement before and after the intervention. Selecting the appropriate measures should be informed to some extent by the measures used in other similar studies. Consider the surveys, assessment tools, or observation techniques employed in previous research to determine if and how this may be applied in examining the impact of the current intervention. Of course, correlation does not mean causation, but a change in pre- and post-reports could be informative of the intervention’s success or areas for improvement.

Results and Analysis

Thorough analysis is contingent on the appropriate collection of the data to yield data integrity. Assuming the organizational intervention set up robust systems for data collection, translating these findings into an academic report should be fairly seamless.

What story is the data collected telling you? Examine changes pre- and post-intervention using analysis tools applicable for the data (e.g., regression analysis, correlation, thematic analysis, etc.). In organizational QI initiatives, particularly those that use a continuous improvement framework, such as Plan-Do-Study-Act, it is likely that throughout the intervention, data is analyzed and adjustments are made accordingly repeatedly. It is important to capture this continuous adjustment in the analysis of data.

For example, if a correlation analysis is selected to understand whether a redesign of the incident reporting system would provide more information to the report reviewer for improvement, it would be important to note key adjustments to the reporting system in the run chart for the duration of the implementation. Any external factors that may have influenced the data should be noted. In this case, externalities may include reporting system downtime, lawsuits for medical errors, or changes in leadership.

Summary and Interpretation

The key findings should be clearly displayed for the reader and should align with the aims initially stated in the paper. How did the intervention improve the quality of care in the organization? How do the results compare with results from other similar interventions published in the literature? Were the actual outcomes aligned with the anticipated outcomes? If not, what were the unforeseen circumstances?

In the organization-based QI project, it is likely that the project manager clearly states the conclusion or even the plan for spread beyond the pilot unit. Identify the indicators that the project was ready for spread and capture these indicators in the academic publication. For example, it is likely that the incident reporting system designed to enhance context for improvement was deemed adequate for spread to other units based on positive feedback from the pilot unit with no further suggestions for advancement.

Limitations

Were there any drawbacks or weaknesses of the intervention? Were there any biases that compromised the integrity of the data or the generalizability of the intervention to other areas? Pay attention to the particular challenges encountered during the design and implementation of the initiative.

In the academic publication, emphasize how staff adjusted for these challenges. In the case of the incident reporting system, a limitation could have been that leaders in the organization already provide timely feedback to reports during daily leader rounds, and therefore staff were already primed to report. This culture of reporting may not be generalizable to every context; thus, an intervention that relies on a pre-established culture of reporting, such as



an intervention designed to improve the context of reports, may not be optimal in many settings.

Conclusion

Restate how the intervention filled the gaps identified in the literature and the impact the intervention could have on clinical and financial operations. Offer suggestions for next steps in the research, particularly in other contexts.

References

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