

BARRIER IDENTIFICATION AND MITIGATION TOOL

Tool Overview

Problem Statement: Guidelines summarizing evidence exist to help ensure that patients receive recommended interventions. In addition, consistent guideline adherence may significantly improve patient safety. However, adherence to these evidence-based guidelines remains highly variable both within and between units, hospitals, and states. Tools to identify factors which hinder guideline adherence (i.e. barriers) and approaches to mitigating these barriers within individual clinical units are also lacking.

What Types of Barriers Exist? Barriers to achieving consistent adherence to evidence-based guidelines are commonly related to **provider**, **guideline**, and **system** characteristics.

Purpose of Tool: Since particular barriers and the corresponding solutions may differ between individual clinical units, the Barrier Identification and Mitigation (BIM) Tool was designed to help frontline staffs systematically identify and prioritize barriers to guideline or intervention adherence within their own care setting. This tool also provides a framework for developing an action plan targeted at eliminating or mitigating the effects of the identified barriers. By providing both a practical and interdisciplinary approach to recognizing and addressing barriers, the BIM tool may serve as an aid to quality and safety improvement efforts.

Who Should Use this Tool? Both frontline clinicians (e.g., physicians and nurses) and non-clinicians (e.g., unit administrator, unit support staff, hospital quality officer) within the care setting being targeted by a particular quality improvement initiative, such as [On the CUSP: Stop BSI](#), may utilize this tool. Frequently, BIM Team members are a subcommittee of the unit's quality improvement team (e.g., [CUSP Team](#)) as identified in the unit's [Background CUSP Team Information Form](#). In addition, all BIM Team members should be trained in the [CUSP Toolkit](#) and have viewed the [Science of Improving Patient Safety video](#).

How to Use this Tool: The BIM tool is best applied within the context of a comprehensive quality and safety improvement effort, such as [On the CUSP: Stop BSI](#). This tool should be used periodically (every three to six months or so) to identify barriers if adherence to a guideline or therapy is poor. This document summarizes the 5 step process and provides more detailed explanations and sample forms for each step.

BARRIER IDENTIFICATION AND MITIGATION TOOL

Summary of Barrier Identification and Elimination/Mitigation Process

Step 1: Assemble the interdisciplinary team: Compose a diverse team with an array of associates from the targeted unit's Quality Improvement (QI) Team.

BIM Team Information Form (Form 1): Gathers contact information for the BIM team members and is completed by the designated BIM Team leader.

Step 2: Identify Barriers: Several different team members should work independently to identify and record barriers to guideline adherence in the targeted clinical area. They should do this by way of observing the process being impacted by the guideline, asking about this process, and actually walking through a simulation of the process or, if appropriate, real clinical practice.

Barrier Identification Form (Form 2): Provides a framework for identifying and recording barriers, contributing factors to barriers, and potential actions to ameliorate those barriers. Completed by individual team members engaged in observing, asking about, or walking the process impacted by guideline

Step 3: Compile and summarize the barrier data: Upon completion of all data collection, an assigned team member should compile all of the barrier data recorded by the several investigators. This team member should then summarize this information and record any suggestions provided by observers to improve adherence.

Barrier Summary and Prioritization Table (Form 3): Template for summarizing barriers, specifying each barrier's relation to the guideline, identifying method of data collection, and rating each barrier with a likelihood, severity, and priority score. Completed during team meeting.

Step 4: Review and prioritize the barriers: The Barrier Identification and Mitigation (BIM) Team should then review and discuss the barrier summary. Next, the BIM Team should rate each barrier on the *likelihood* of the barrier occurring within the unit and the *severity* of the barrier's impact on guideline adherence if it should occur. By multiplying the *likelihood* and *severity scores* together to arrive at a *priority score*, the QI team will have an understanding of how imperative it is to address each barrier.

Step 5: Develop an action plan for each targeted barrier: The BIM team should review all suggested actions to eliminate/mitigate the selected high priority barriers. Then, the BIM team should collectively select individual actions for the next improvement cycle based on the *potential impact* of each action on the eliminating or ameliorating the barrier and the *feasibility* of effectively implementing the action based on available resources. Based on these two factors, an *action priority score* is calculated such that the higher the score, the higher the priority.

Action Plan Development Table (Form 4): Framework for compiling high priority barriers, potential actions to eliminate/mitigate barriers, and evaluation measures to assess those actions. Framework also provides mechanism to score potential actions as far as their potential impact, feasibility and priority. This may be completed during a team meeting.

Step 1: Assemble Interdisciplinary Team

First, compose a diverse team to examine a specific quality problem. This BIM Team should be a subcommittee of the unit's Quality Improvement (QI) Team (e.g., CUSP Team). Throughout this BIM process, investigators will be viewing the targeted care setting as the "patient" in order to identify any barriers to providing evidence based care that may be occurring. Thus, make sure the team is interdisciplinary and includes members of differing levels of experience and training to more validly characterize local barriers, develop an action plan to overcome these difficulties, and achieve consistent guideline adherence.

Perhaps provide an open invitation to join the team at a quality improvement staff meeting or through an email to the QI Team for the targeted care setting. Within the QI Team, encourage clinical staff that work in the unit (e.g., physicians, nurses), support staff (e.g., unit administrators, technicians), and content experts (e.g. hospital quality officers) to join the BIM team. Then, by group consensus, assign team members to necessary roles and responsibilities including a chair of the BIM Team.

Brief the BIM team on the types of barriers to guideline adherence (e.g. provider, guideline or system level), the importance of overcoming these barriers, the evidence surrounding the utility of the tool, and on the BIM tool itself. This barrier education should include all team members watching the [Introduction to BIM module](#) along with reading the article: "A practical tool to identify and eliminate barriers to evidence-based guideline adherence" (Under Review).

Additionally, all BIM Team members should be trained on the science of patient safety (e.g., having viewed the [Science of Improving Patient Safety video](#) and be familiar with the overall process for improving quality (e.g., reviewed the [CUSP Toolkit](#)).

List the team member names and responsibilities on the **Background BIM Team Information Form** (below).

BARRIER IDENTIFICATION AND MITIGATION TOOL

BIM TEAM INFORMATION FORM

Step 1: Assemble the Interdisciplinary Team and indicate the persons designated as BIM Team Members (fill in as applicable). Your team may not have people in all of these categories.

ROLE	NAME & TITLE	RESPONSIBILITIES WITHIN BIM TEAM
Medical director of unit		
Additional Physician		
Additional Physician		
Nurse Practitioner/ Nurse Specialist		
Nurse manager for unit		
Additional nurse		
Non-clinical administrator for unit		
Hospital administrator		
Quality improvement specialist		
Human factors engineer		
Technician for unit		
Other unit support staff member		
Other content experts		

BARRIER IDENTIFICATION AND MITIGATION TOOL

STEP 2: Identify Barriers

Several team members should work independently to identify barriers to consistent guideline adherence in the targeted clinical area. Utilizing different modes of data collection facilitates obtaining an accurate and complete picture of the factors influencing guideline adherence.

Observe:

- **Observe** a few clinicians engaged in the tasks related to the guideline.
- Remember that your role is to observe, so cause as little distraction as possible.
- Focus more on observing than documentation during the observation period. Jotting a few notes is okay, but wait to complete the Barrier Identification Form until immediately following the observation period.
- Along with recording the barriers to achieving consistent adherence to the guideline that were witnessed, indicate any steps in the process that were skipped and workarounds (i.e., improvised process steps or factors that facilitated guideline adherence)

Discuss:

- **Ask** various staff members about the factors influencing guideline adherence.
- This may include informal discussions, interviews, focus groups, and brief surveys.
- Assure the confidentiality of staff responses
- Also ask staff about the problems they face and any ideas they have regarding potential solutions for improving guideline adherence.
 - 1) Are staff aware that the guideline exists?
 - 2) Do staff believe that the guideline is appropriate for their patients?
 - 3) Do staff have any suggestions to improve guideline adherence?

Walk the Process:

- **Consciously follow** the guideline during a simulation, or if appropriate, during real clinical practice.
- Investigators should continue collecting data until no new barriers are identified upon new data collection, and a comprehensive understanding of good practices and barriers to guideline adherence is achieved. This process should take approximately 3 to 6 hours.

The investigators should record all potential reasons that clinicians were experiencing difficulties with adhering to the guideline (i.e. guideline barriers), and factors encouraging guideline adherence (i.e. guideline facilitators) in the **Barrier Identification Form**. Additionally, within the Barrier Identification Form, investigators should indicate the method of data collection (e.g. observation, survey, focus group, informal discussion, interview, or walking the process), the associate who collected the data, and the clinical unit from which the data was collected.

BARRIER IDENTIFICATION AND MITIGATION TOOL

BARRIER IDENTIFICATION FORM

Step 2: Identify Barriers to guideline adherence by observing, asking about and walking the process.

GUIDELINE:																																																														
DATA COLLECTION MODE:	INVESTIGATOR:	UNIT:																																																												
FACTORS	BARRIER(S)	POTENTIAL ACTIONS																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 5px;">PROVIDER</td> <td style="width: 80%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>Knowledge of the guideline <i>What are the elements of the guideline?</i></td> <td></td> <td></td> </tr> <tr> <td>Attitude regarding the guideline <i>What do you think about the guideline?</i></td> <td></td> <td></td> </tr> <tr> <td>Current practice habits <i>What do you currently do (or not do)?</i></td> <td></td> <td></td> </tr> <tr> <td>Perceived guideline adherence <i>How often do you do everything right?</i></td> <td></td> <td></td> </tr> <tr> <td colspan="3" style="height: 50px;"></td> </tr> <tr> <td colspan="3" style="height: 50px;">GUIDELINE</td> </tr> <tr> <td>Evidence supporting the guideline <i>How "good" is the supporting evidence?</i></td> <td></td> <td></td> </tr> <tr> <td>Applicability to unit patients <i>Does the guideline apply to the unit's patients?</i></td> <td></td> <td></td> </tr> <tr> <td>Ease of complying with guideline <i>How does adherence affect the workload?</i></td> <td></td> <td></td> </tr> <tr> <td colspan="3" style="height: 50px;"></td> </tr> <tr> <td colspan="3" style="height: 50px;">SYSTEM</td> </tr> <tr> <td>Task <i>Who is responsible for following the guideline?</i></td> <td></td> <td></td> </tr> <tr> <td>Tools & technologies <i>What supplies & equipment are available/used?</i></td> <td></td> <td></td> </tr> <tr> <td>Decision support <i>How often are aids available and used?</i></td> <td></td> <td></td> </tr> <tr> <td>Physical environment <i>How does the unit layout affect adherence?</i></td> <td></td> <td></td> </tr> <tr> <td>Organizational structure <i>How does the organizational structure (e.g. staffing) affect adherence?</i></td> <td></td> <td></td> </tr> <tr> <td>Administrative support <i>How does the administration affect adherence?</i></td> <td></td> <td></td> </tr> <tr> <td>Performance monitoring/feedback <i>How does the unit know it is following the guideline?</i></td> <td></td> <td></td> </tr> <tr> <td>Unit culture <i>How does the unit culture affect adherence?</i></td> <td></td> <td></td> </tr> </table>			PROVIDER			Knowledge of the guideline <i>What are the elements of the guideline?</i>			Attitude regarding the guideline <i>What do you think about the guideline?</i>			Current practice habits <i>What do you currently do (or not do)?</i>			Perceived guideline adherence <i>How often do you do everything right?</i>						GUIDELINE			Evidence supporting the guideline <i>How "good" is the supporting evidence?</i>			Applicability to unit patients <i>Does the guideline apply to the unit's patients?</i>			Ease of complying with guideline <i>How does adherence affect the workload?</i>						SYSTEM			Task <i>Who is responsible for following the guideline?</i>			Tools & technologies <i>What supplies & equipment are available/used?</i>			Decision support <i>How often are aids available and used?</i>			Physical environment <i>How does the unit layout affect adherence?</i>			Organizational structure <i>How does the organizational structure (e.g. staffing) affect adherence?</i>			Administrative support <i>How does the administration affect adherence?</i>			Performance monitoring/feedback <i>How does the unit know it is following the guideline?</i>			Unit culture <i>How does the unit culture affect adherence?</i>		
PROVIDER																																																														
Knowledge of the guideline <i>What are the elements of the guideline?</i>																																																														
Attitude regarding the guideline <i>What do you think about the guideline?</i>																																																														
Current practice habits <i>What do you currently do (or not do)?</i>																																																														
Perceived guideline adherence <i>How often do you do everything right?</i>																																																														
GUIDELINE																																																														
Evidence supporting the guideline <i>How "good" is the supporting evidence?</i>																																																														
Applicability to unit patients <i>Does the guideline apply to the unit's patients?</i>																																																														
Ease of complying with guideline <i>How does adherence affect the workload?</i>																																																														
SYSTEM																																																														
Task <i>Who is responsible for following the guideline?</i>																																																														
Tools & technologies <i>What supplies & equipment are available/used?</i>																																																														
Decision support <i>How often are aids available and used?</i>																																																														
Physical environment <i>How does the unit layout affect adherence?</i>																																																														
Organizational structure <i>How does the organizational structure (e.g. staffing) affect adherence?</i>																																																														
Administrative support <i>How does the administration affect adherence?</i>																																																														
Performance monitoring/feedback <i>How does the unit know it is following the guideline?</i>																																																														
Unit culture <i>How does the unit culture affect adherence?</i>																																																														

BARRIER IDENTIFICATION AND MITIGATION TOOL

FACTORS	BARRIER(S)	POTENTIAL ACTIONS
OTHER		

Step 3: Compile and summarize the barrier data

Once data collection is complete, a team member should compile all of the data from the various investigators in the above Barrier Identification Form. The information should then be summarized in columns 1, 2, and 3 of the **Barrier Summary and Prioritization Table**. In column 1, briefly summarize each barrier; in column 2, provide a brief description of the part of the guideline to which the particular barrier pertains; then in column 3, provide the source of data collection (i.e. observation, survey, interview, informal discussion, focus group, walking the process).

Finally, this team member records any suggestions provided by observers to improve guideline adherence in the **Framework for the Development of an Action Plan**.

Step 4: Review and prioritize the barriers

As a team, review and discuss the barrier summary. Then, in columns 4, 5, & 6 of the Barrier Summary and Prioritization Table, rate each barrier on the likelihood of the barrier occurring in the unit (likelihood score) and the probability that it, if encountered, would lead to guideline non-adherence (severity score). Each barrier is scored from 1, indicating a low likelihood or severity, to 4, indicating a high likelihood or severity. The priority score for each barrier is then calculated by multiplying the likelihood and severity scores.

The higher the priority score for a barrier, the more critical it is to eliminate or mitigate the effects of that barrier. As a team, develop your own criteria for determining which barriers to target during this Quality Improvement cycle. For instance, you could set a priority score threshold to decide which barriers to target (e.g. barriers with a priority score ≥ 9) or target the top 3 barriers.

Appendix #

BARRIER IDENTIFICATION AND MITIGATION TOOL

BARRIER IDENTIFICATION AND MITIGATION TOOL

BARRIER SUMMARY AND PRIORITIZATION TABLE

Step 3 & 4: Compile, summarize, review as a team, and prioritize the barrier data collected from the investigators.

BARRIER	RELATION TO GUIDELINE	SOURCE	LIKELIHOOD SCORE*	SEVERITY SCORE**	BARRIER PRIORITY SCORE***	TARGET FOR THIS QI CYCLE?

* Likelihood score: How likely is it that a clinician will experience this barrier?

- 1. Low 2. Moderate 3. High 4. Very High

** Severity score: How likely is it that experiencing this particular barrier will lead to non-adherence with the guideline?

- 1. Low 2. Moderate 3. High 4. Very High

*** Barrier priority score = (likelihood score) x (severity score)

Step 5: Develop an action plan for each targeted barrier

As a team, list and review the potential actions to eliminate/mitigate the selected high priority barriers in the **Framework for the Development of an Action Plan** - as suggested by the observers in Step 2. Next, identify any additional potential actions using brainstorming techniques and record these in the Framework for the Development of an Action Plan as well.

Then, collectively select individual actions for the next improvement cycle based on the potential impact of each action on the barrier as far as improving guideline adherence (if the action is successfully implemented) and the feasibility of effectively implementing the action based on the resources currently available. Thus, rate each suggested action with a *potential impact score* and a *feasibility score*. As in Step 4, each action is scored from 1, indicating a low impact or feasibility, to 4, indicating a high impact or feasibility. The *action priority score* for each potential action is then calculated by multiplying the *potential impact score* and the *feasibility score* together. Teams should consider setting a threshold *action priority score* for which actions to pursue during the upcoming quality improvement (QI) cycle.

It is critical to closely examine the feasibility of implementing an action. For example, placing a sink within each patient's room may increase the frequency of clinicians washing their hands, but may not be as cost effective as placing a dispenser for hand sanitizer within each patient's room. For each action, the group should assign an appropriate leader, performance measures, and follow-up dates to evaluate progress. This information should be recorded in the Framework for the Development of an Action Plan as well.

Appendix #

BARRIER IDENTIFICATION AND MITIGATION TOOL

BARRIER IDENTIFICATION AND MITIGATION TOOL

FRAMEWORK FOR THE DEVELOPMENT OF AN ACTION PLAN

Step 5: Develop an action plan for each targeted barrier.

PRIORITIZED BARRIERS	POTENTIAL ACTIONS	SOURCE	POTENTIAL IMPACT SCORE*	FEASIBILITY SCORE**	ACTION PRIORITY SCORE***	SELECT FOR THIS QI CYCLE?	ACTION LEADER	PERFORMANCE MEASURE (METHOD)	FOLLOW -UP DATE

*Potential impact score: What is the potential impact of the intervention on improving guideline adherence?

- 1. Low
- 2. Moderate
- 3. High
- 4. Very high

**Feasibility score: How feasible is it to take the suggested action?

- 1. Low
- 2. Moderate
- 3. High
- 4. Very high

***Action priority core = (Potential impact score) x (feasibility score)