Problem-Solving Project

Program Handbook

University of Alabama at Birmingham

Department of Obstetrics and Gynecology
Purpose: This hands-on, team approach to a problem-based project is an opportunity for residents to explore healthcare operations and improvement, which addresses the ACGME core competency of Systems-based Practice (SBP). In addition to SBP, this initiative focuses on other core competencies such as Interpersonal and Communication Skills and Professionalism.

Program Goal: To provide residents with the opportunity to promote their understanding of problem-solving concepts as well as to refine their problem-solving skills in respect to improvement of patient care by enacting change that positively helps all associated healthcare providers.

Educational Objectives:

With the active involvement in this longitudinal project the resident will:

1. Define system-based healthcare problems.
2. Identify relevant system-based healthcare problems that warrant investigation for possible improvement or “as is” acceptance.
3. Identify and describe the interrelated nature of system-based healthcare problems during the process of generating a plan for improvement or “as is” acceptance.
4. Develop an effective reasoning process including the skills of problem synthesis, hypothesis generation, critical appraisal of available information, data analysis, and decision making.
5. Function effectively as an active participant within a group engaged in exploring healthcare operations and improvement.

Group Structure:

The groups will consist of the members of each vertical resident team and a faculty advisor.

Project Timelines and Structure:

October: Assignments
Provide teams with the program handbook, group assignments, and project. Discuss the problem-solving program and address questions that residents may have at the Resident Retreat

December 1: Preliminary Report
Submit your SBP preliminary report to the Administrative Chiefs, Program Director, and Associate Director of Education. This report needs to include the faculty mentor for the group, a brief description of the problem/issue, and the proposed approach to manage/solve the issue.

This report will be reviewed by the members of the Resident Executive Education Committee and necessary comments and/or guidance will be provided to the group.

Suggestions:
- Determine how often and by what means that your group will meet
- Identify participant roles and responsibilities
- Meet with your faculty group leader during this month to discuss and get additional direction, if necessary
- Using the Seven-step Problem Solving Cycle (page 7), begin the process of assessing your group’s problem.
March: Final Report

By the time of the final presentation the group should have implemented the plan to address action item and perform trial run or disseminated information. The final report will be presented at the Friday Conference.

Use the **Structure of Quality Improvement Reports** (below) as a template for your final report. The presentation of your report should be no more than 10-minutes. Following your presentation, the faculty, fellows, and other residents may ask questions. Submit your written report to the Administrative Chiefs.

<table>
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<tr>
<th>Structure of Quality Improvement Reports</th>
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<tr>
<td>1. Brief description of context: relevant details of staff and function of department, team, unit, and patient group</td>
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<tr>
<td>2. Outline of problem: what were you trying to accomplish?</td>
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<td>3. Key measures for improvement: what would constitute improvement in the patient's view (or person affected)?</td>
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<td>4. Process of gathering information: methods used to assess problems</td>
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<td>5. Analysis and interpretation: how did this information change your understanding of the problem?</td>
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<td>6. Strategy for change: what actual changes were made, how were they implemented, and who was involved in the change process?</td>
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<td>7. Effects of change: how did this lead to improvement for patients (or persons affected) and how do you know?</td>
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<td>8. Next steps: what have you learned and/or achieved, and how will you take this forward?</td>
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Faculty Leader Responsibilities

The role of the faculty leader in a problem-solving project is very different from the usual instructor’s role. **Rather than being a "content expert" who provides the facts, the faculty is a facilitator, responsible for guiding residents to identify the key issues in each case and to find ways to learn those areas in appropriate breadth and depth.** With that said, however, although the residents have the burden of responsibility in the problem-solving groups, the instructor is not just a passive observer. He or she must be active and directive about the learning process to assure that the group does not veer completely off target and makes reasonable choices on what issues are key to the task at hand.

Faculty Leader Guidelines

**Potential Questions to Ask:**

Appropriate questioning is one of the most important means of facilitating learning. It can serve to keep the group focused, and prevent it from getting bogged down. It also can help group members by forcing them to present information and concepts more precisely.
Knowing how and when to ask appropriate questions is one of the principle skills of a good faculty facilitator.

Questions may elicit a residents' reasoning process. If a resident asks for more information about the case, the faculty facilitator might ask "What are you hoping to find out? What are your reasons for asking that question? How would knowing the answer make a difference in your understanding of the problem? What is the core information you will need to know for future similar situations (i.e., five years down the road in your own practice)? Is there anything about this situation that presents a learning issue outside of this problem?"

The faculty facilitator encourages residents to make connections. The faculty facilitator might ask, "What is the association between hypertension and headaches? How might issues about patient lifestyle be related to this problem?"

Faculty facilitators emphasize open-ended questions to promote discussion rather than focusing on yes/no type questions or using quiz type questions.

Questions can direct residents along another path. Assume this is the situation ..., what do you need to know?

Faculty facilitators should emphasize mechanisms and causes of problems. The faculty facilitator might ask, "What processes could have caused this problem? What are the mechanisms involved here?"

Faculty facilitators should ask higher order questions. For example, in discussions of treatment it is more helpful to ask "How do we decide what to do?" than "What is the best treatment?"

A Seven-step Problem Solving Cycle

There are a variety of problem solving processes but each process consists of a series of steps, including identifying an issue, searching for options and putting a possible solution into action. It is useful to view problem solving as a cycle because, sometimes, a problem needs several attempts to solve it, or the problem changes. Figure 1 shows a seven-step problem solving cycle.

To solve a problem, take the steps, one at a time.
Step 1. Identify the problem

The first step you need to take is to identify and clarify the description of the problem.

Step 2. Explore the problem

When you are clear about what the problem is you need to think about it in different ways. You can ask yourself questions such as:

- ‘How is this problem affecting me?’
- ‘How is it affecting others?’
- ‘Who else experiences this problem?’
- ‘What do they do about it?’

Seeing the problem in different ways is likely to help you find an effective solution.

Step 3. Set goals

Once you have thought about the problem from different angles you can identify your goals. What is it that you want to achieve? It is important at this time to consider the question, ‘What is my immediate goal?’

Different goals lead to different solutions. So working out your goals is a vital part of the problem solving process.

Step 4. Look at Alternatives
When you have decided what your goal is you need to look for possible solutions. The more possible solutions you find the more likely it is that you will be able to discover an effective solution. You can brain-storm for ideas. The purpose of brain-storming is to collect together a long list of possibilities. It does not matter whether the ideas are useful or practical or manageable: just write down the ideas as they come into your head. Some of the best solutions arise from creative thinking during brain-storming. The aim is to collect as many alternative solutions as possible.

**Step 5. Select a possible solution**

From the list of possible solutions you can sort out which are most relevant to your situation and which are realistic and manageable. You can do this by predicting outcomes for possible solutions and also checking with other people about what they think the outcomes might be. When you have explored the consequences, you can use this information to identify the solution that is most relevant to you and is likely to have the best outcomes for your situation.

**Step 6. Implement a possible solution**

Once you have selected a possible solution you are ready to put it into action. Implementing the solution may take some time and effort. (If the solution had been easy to find and do, it would have *probably* already been done.)

**Step 7. Evaluate**

Just because you have worked your way through the problem solving process it does not mean that, by implementing the possible solution, you automatically solve your problem. So evaluating the effectiveness of your solution is very important. You can ask yourself (and others):

- ‘How effective was that solution?’
- ‘Did it achieve what I wanted?’
- What consequences did it have on my situation?’

If the solution was successful in helping you solve your problem and reach your goal, then you know that you have effectively solved your problem. If you feel dissatisfied with the result, then you can begin the steps again. Viewing problem solving as a cycle may help you recognize that problem solving is a way of searching for a solution which will lead to different possible solutions, which you can evaluate. If you have solved the problem you have found an effective solution. If you judge the problem has not been solved you can look for, and try, alternative possibilities by beginning the problem solving cycle again.