

Proposal:

PATIENT SAFETY TRAINING PROGRAM

for Morgan Regional Hospital

Developed by Learning Division
Morgan Regional Hospital, Indianapolis, IN

**Morgan Regional Hospital
Learning Division**



Table of Content

Table of Content	2
Executive Summary	3
Background	4
Solution Plan	4
Step 1: Conduct Analyses	5
Procedures	5
Step 2: Identify Training Objectives	8
Step 3: Design and Develop Training Solution	9
E-training	9
Face-to-face Action Learning	11
Team Race	13
Online Patient Safety Forum	13
Theoretical Foundations	14
Step 4: Implement Training	18
Step 5: Conduct Evaluation Plan	18
Instructional Technology	20
Project Timeline	20
Funding and Staffing	21
References	24
Appendix A	26
Appendix B	27
Appendix C	28

Executive Summary

The Learning Division at Morgan Regional Hospital (MRH), proposes a solution plan that will provide MRH with a Patient Safety Training (PST) Program. The solution plan consists of the following steps: (1) Conduct Analyses, (2) Identify Training Objectives, (3) Design and Develop Training Solution, (4) Implement Training, and (5) Conduct Evaluation. There are four components within the PST Program: E-training, Face-to-face Action Learning, Team Race, and Online Patient Safety Forum. Each of these are described in detail herein.

Background

Morgan Regional Hospital (MRH) is a 1,200-bed tertiary care hospital and a Level 2 trauma center in the local area. It employs approximately 20,000 full-time employees and 5,000 part-time employees. MRH is planning on continuing medical education and employee professional development. Meanwhile, MRH is expecting an accreditation site visit by the Joint Commission before February of 2016. Hospitals accredited by the Joint Commission will have several benefits, such as strengthening community confidence towards the high quality services of hospitals, validating quality care to the patients and their families, and helping hospitals to organize and strengthen improvement efforts. To prepare all employees for the upcoming site visit, Dr. Benson, the CEO of MRH, requested a hospital-wide training program that brings different professional disciplines together. In response to this request, the Learning Division at MRH recommends the following solution plan for the professional development program.

Solution Plan

We propose a solution plan that will provide MRH with a professional development program, namely the Patient Safety Training Program (PST Program). The goal of the PST Program is twofold: in the short term, the PST Program aims to prepare MRH employees to achieve a satisfactory performance in the upcoming site visit; in the long term, the PST Program serves as a continuing professional development program that focuses on patient safety. The design of the PST Program will incorporate an instructional design structure that consists of the following steps (see Figure 1):

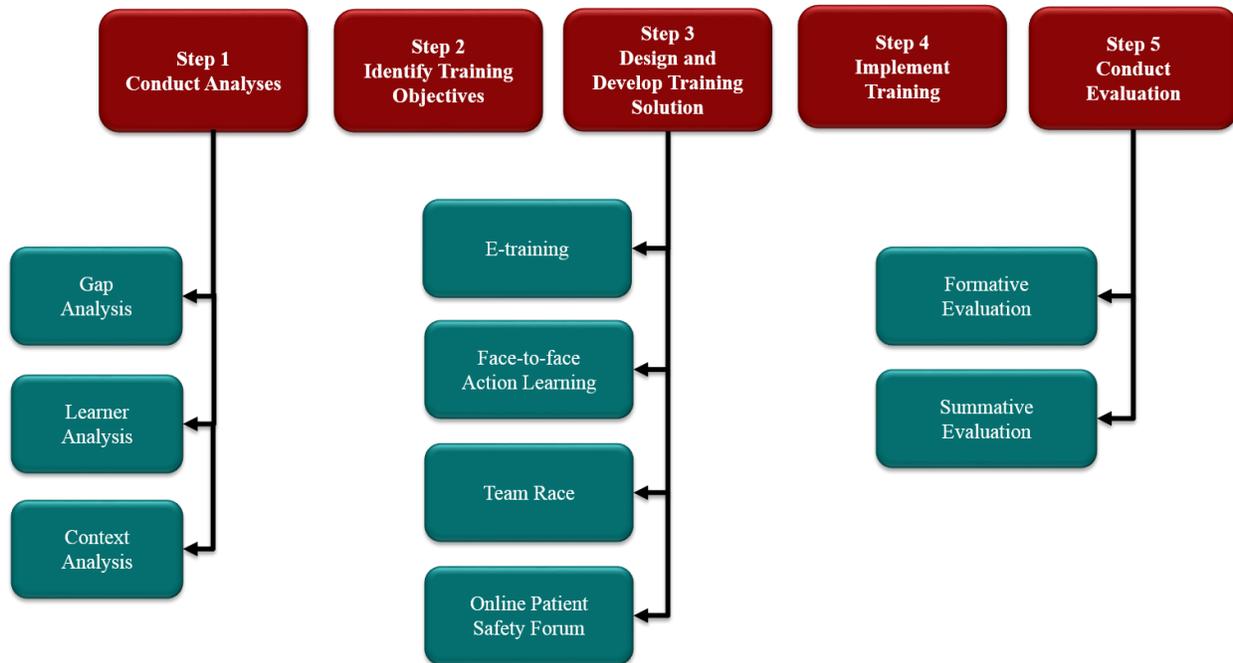


Figure 1: Instructional Design Structure for the Solution Plan

Step 1: Conduct Analyses

Immediately following Dr. Benson’s initial request, the Learning Division conducted a gap analysis, learner analysis and context analysis. The purpose of the gap analysis was to investigate the gap between the actual performance of MRH employees and the desired performance based on the National Patient Safety Goals, as well as knowledge of the accreditation process, policies and procedures, and hospital protocols. The learner and context analysis provided the details that helped shape what would be taught and how it was to be taught (Dick, Carey, & Carey, 2009). The results provided a solid foundation for the design and development of the PST Program. Below is a description of the data collection procedures and results.

Procedures. Four instructional designers collected employees’ data using the following approaches:

- **Survey:** The designers created online surveys with modified items from the Patient Safety Assessment Tool (VA National Center for Patient Safety, n.d.) and Hospital Survey on Patient Safety Culture (Hospital Survey on Patient Safety, n.d.). These surveys are comprised of two parts: part one assesses general patient safety knowledge, the accreditation process, policies and procedures, and hospital protocols; part two focuses on specific patient safety knowledge based on different professional disciplines. The survey link was attached in an email announcing the initiation of the professional development program. Administrators from each department first received the email with the survey links and then sent it to their respective staff.
- **Focus-group interviews:** Two focus-group interviews were conducted with Patient Safety Officers, Quality Managers, Hospital Administrators, Nursing Directors, and Medical Directors who volunteered to participate. The purpose was to gather in-depth information from different professional disciplines that need to be well-versed on the National Patient Safety Goals.
- **Document review:** The Learning Division reviewed annual employee evaluation records at MRH, with the intent to gain concrete knowledge of employee performance. They also reviewed the National Patient Safety Goals (Joint Committee, 2015) in great detail to facilitate the design and development of the professional development program content.

Results. In total, 83.7% of the full and part-time employees responded to the survey. About 67.5% of the respondents lacked some level of knowledge about accreditation process. Roughly 50% of the respondents had low competency levels on the accreditation policies,

procedures and hospital protocols. Additionally, an average of 69% of the respondents were found with poor performance on discipline-specific patient safety knowledge.

We also identified some major issues during focus group interviews. Many employees were not familiar with the accreditation policies, procedures and hospital protocols. They also had low motivation to prepare for the accreditation site visit. A Nursing Director stated that “...some of my colleagues may have heard about the hospital accreditation but they never thought they had anything to do with this process.” Several Medical Directors expressed their concerns about hospital employees not being familiar with hospital protocols and potential patient safety problems that might occur because of this.

The following challenges were also identified from the surveys and focus-group interviews results:

1. Employees have three shifts (day, afternoon, and midnight).
2. Employees have varied educational background and responsibilities.
3. Employees have limited access to computers during their shifts.

The results provided the Learning Division with an in-depth understanding of employees’ knowledge, skills, and attitudes on Patient Safety, hospital accreditation process, policies and procedures, and hospital protocols, as well as some major challenges that may impede the implementation of training. We thus proposed the Patient Safety Training (PST) Program comprising both short-term and long-term components. The goal of this plan is to prepare MRH employees for the upcoming accreditation site visit and to foster patient safety education at MRH.

To ensure effective training, the Learning Division identified five training objectives and their associated competencies, described below.

Step 2: Identify Training Objectives

Built on Step 1 analyses results, we identified five objectives and competencies for the Patient Safety Training (PST) Program. Table 1 presents the objectives and competencies expected from the employees.

Table 1: PST Program Objectives and Competencies

Objective 1	Employees will develop intermediate to advanced knowledge on accreditation process, policies, and procedures.			
Employees will	describe accreditation process	recall policies and procedures		
Objective 2	Employees will develop and apply knowledge of hospital protocols			
Employees will	recall hospital protocols	follow hospital protocols when performing procedures		
Objective 3	Employees will develop knowledge and skills on patient safety			
Employees will	recall general and discipline-specific patient safety rules	identify instances of national patient safety goal non-compliance	identify and demonstrate critical actions that contribute to patient safety	demonstrate knowledge and skills of effectively collaborate with others from a different discipline on patient safety
Objective 4	Employees will create and sustain a culture of patient safety in MRH			
Employees will	post and/or answer patient safety questions in the Online Patient Safety Forum			
Objective 5	Employees will sustain changes on patient safety upon completion of PST program			
Employees will	continue following patient safety rules	use the online forum and other social media to discuss questions and concerns about patient safety		

Step 3: Design and Develop Training Solution

Upon MRH's primary approval of the five training objectives and their associated competencies, the Learning Division will move forward with the design and development of the PST Program. To meet MRH's short and long-term professional development goals, the PST Program consists of four components: E-training, Face-to-face Action Learning, Team Race, and an Online Patient Safety Forum. The E-training and Action Learning focus on preparing employees for the accreditation process, policies and procedures and patient safety education. Employees are expected to complete the E-training modules and the Action Learning by July 31, 2015. Those who complete the training on time will receive a Certificate of Completion as a recognition of their achievement in patient safety education. This certificate will be good for up to 3 years, and can be renewed through long-term E-training modules that will be developed by the Learning Division and supervisor approval.

A *Team Race* will be initiated after MRH employees complete the E-training and Action Learning. This component of the PST Program will help employees to be prepared for the accreditation site visit. Furthermore, the Online Patient Safety Forum will provide extended support after the training courses are completed, aiming to promote retention and maintain changes on patient safety culture at MRH.

E-training

Patient Safety training will be primarily delivered in the form of self-paced, interactive E-training modules to all MRH employees. MRH uses an Electronic Performance Support System (EPSS) on a regular basis, to which all employees have access. All E-training modules will be created with Adobe Captivate software and then uploaded to the EPSS, utilizing xAPI data to pass completion data from the training module to the EPSS. The Learning Division has chosen

Captivate 8 due to its data-tracking ability as well as its unique ability among authoring tools to create responsive designs. That is, these modules will be produced in formats compatible with different computer systems and mobile devices, ensuring convenient access to the training.

Employees can work individually either in a hospital computer lab or remotely from a personal computer or mobile device. One of the complaints about former training that employees noted in the initial analysis was an annoyance at the need to have to be physically present at the hospital, using the local network to complete mandatory training. In our proposed system, progress on each module will be logged within the system, so that employees can not only complete training when and where it is most convenient, but will also be able to progress more quickly but being able to pick up where they stop in earlier sessions (a common occurrence when completing the training while on one's normal shift).

The overall length of E-training is six hours, which are divided into 12 30-minute E-training modules. These modules accommodate the needs of different professional disciplines, without being unnecessarily lengthy. Based on Step 1 analyses and training objectives, E-training covers the following general aspects:

1. General training on patient safety, accreditation process, policies and procedures and hospital protocols (for all employees)
2. Specific training on patient safety and hospital protocols based on their disciplines (for selected employees that need to be well-versed on patient safety and hospital protocols)
3. Practice case analysis within and across professional disciplines (for all employees)

As employees log on to the EPSS system with their employee ID, they will be automatically directed to the modules tailored to their individual professional discipline. The

topics and content of the E-training is designed based on National Patient Safety Goals that we reviewed during Step 1 analyses. Below are the topics for the twelve training modules.

1. Introduction to Patient Safety Training Program and Accreditation Process
2. Policies, Procedures and Hospital Protocols (Part 1)
3. Policies, Procedures and Hospital Protocols (Part 2)
4. Introduction to National Patient Safety Goals (NPSG) & Goal 1 Improve the Accuracy of Patient Identification
5. Goal 2 Improve the Effectiveness of Communication among Caregivers
6. Goal 3 Improve the Safety of using Medications
7. Goal 6 Reduce the Harm Associated with Clinical Alarm Systems.
8. Goal 7 Reduce the Risk of Health Care–associated Infections (Part 1)
9. Goal 7 Reduce the Risk of Health Care–associated Infections (Part 2)
10. Goal 15 Identify Patient Safety Risks
11. Universal Protocol 1 Prevent Mistakes in Surgery
12. Review

Each module is designed with the guidance of Gagné’s nine instructional events (Gagné, Briggs, & Wager, 1992). A sample E-training module is provided in Appendix A.

Face-to-face Action Learning

Face-to-face Action Learning will occur in addition to E-training and is designed for Patient Safety Officers, Quality Managers, Hospital Administrators, Nursing Directors, and Medical Directors. These employees need to be well-versed in patient safety knowledge and skills. They should also be better prepared for the upcoming site visits than other employees because they are likely to be more involved in the accreditation process. The Action Learning

sessions will gather different professional disciplines to review cases of best and worst practices in patient safety and collaborate in solving problems that might occur within the hospital.

Action Learning will be delivered in four 90-minute sessions. Considering the constraints identified during Step 1 analyses, each Action Learning session will be offered at four different times a week. Employees can choose which one to attend based on their working schedule. The topics and content of the Action Learning is based on the National Patient Safety Goals that we reviewed during Step 1 analyses. The Action Learning sessions are listed below.

Session 1. Patient Identification Accuracy

Session 2. Improve the Effectiveness of Communication among Caregivers

Session 3. The Safety of Using Medications

Session 4. Reduce the Harm Associated with Clinical Alarm Systems

During Step 1 analyses, we identified some employees who have high competency levels on patient safety knowledge and are willing to facilitate the Action Learning sessions. A facilitator's manual will be provided ahead of time so that the facilitators have enough time to review and ask questions regarding the manual or training activities. The manual will include detailed guidelines on how to structure, facilitate, and debrief case discussions. In addition, the facilitators will attend a training session to be held a week before the Action Learning commence. The purpose of this training session is to learn and practice facilitation strategies that can be used during the Action Learning sessions. For example, Hmelo-Silver and Barrows (2006) proposed that prompting learners to explain their reasoning and asking them to hypothesize links between issues and solutions will facilitate learners' problem solving process. Facilitators who complete this portion of the training will be recognized facilitators and will receive a nominal bonus for their efforts.

Team Race

In order to motivate hospital staff to participate in training, we will institute a Team Race. Team Race is a competition on patient safety knowledge and skills among departments at MRH. The purpose is to prepare employees for the impromptu accreditation site visits. As part of the PST Program, Team Race begins on August 1, 2015, when employees should have completed the E-training and Face-to-face Action Learning. Every two weeks, group of three or four Hospital Administrators will role play as site visit reviewers and quiz two randomly selected employees from each department without notice. A sample of quiz question is presented in Appendix B.

One of the longest and most studied effects of learning is the duration of learned knowledge (Carpenter, Cepeda, Rohrer, Kang, & Pashler, 2012). Repeated research has established that distributed practice and regular recall help to solidify knowledge so that it persists in practice (Karpicke & Grimaldi, 2012; Agarwal, Bain, & Chamberlain, 2012). The Team Race will provide both motivation and a form of distributed practice. A sample of the quiz question is B. Scores from the quiz will be accumulated for every department. The top two departments for each month will be announced and rewarded with an incentive decided by the hospital. Team Race will last until the real site visit takes place. After that, the top three departments of all accumulated quiz scores will be announced and rewarded with a higher value incentive chosen by the hospital.

Online Patient Safety Forum

According to Agrawal (2014), "...Patient Safety discipline... is a function of good teams, not good individuals acting alone" (page xi). It is important to establish a platform for employees to gather and build good professional teams. Therefore, we propose creating an Online Patient

Safety Forum where the employees can connect with those from the same or different disciplines through synchronous and asynchronous communication. The online forum will be put into use with the launch of the PST Program. On this platform, employees can share their learning experiences from the PST Program, post and/or answer patient safety questions, contribute patient safety knowledge and tips, and seek help when encountering patient safety problems. The online forum is a means to promote cross-discipline communication within MRH and to facilitate the sustainability of knowledge and skills gained from the training.

Theoretical Foundations

We apply several principles, theories, and models to the design and development of the PST Program. This section describes these theoretical elements and application.

First Principles of Instruction are proposed by Merrill (2002) based on a thorough review of instructional design theories and models. Merrill (2002) asserts that a learning environment is most effective when it centers on real-world problem solving and involves four phases of effective instructions (i.e. activation, demonstration, application, and integration), which is illustrated in figure 2. The Face-to-face Action Learning, in particular, adopts real-world cases from *Patient Safety: A Case-based Comprehensive Guide* (Agrawal, 2014) as the problems that MRH employees will solve during the face-to-face sessions. A sample case and discussion that will be used for Action Learning is provided in Appendix C. In addition, table 2 presents detailed information on how the activities during the face-to-face sessions will be conducted based on the first principles of instruction.

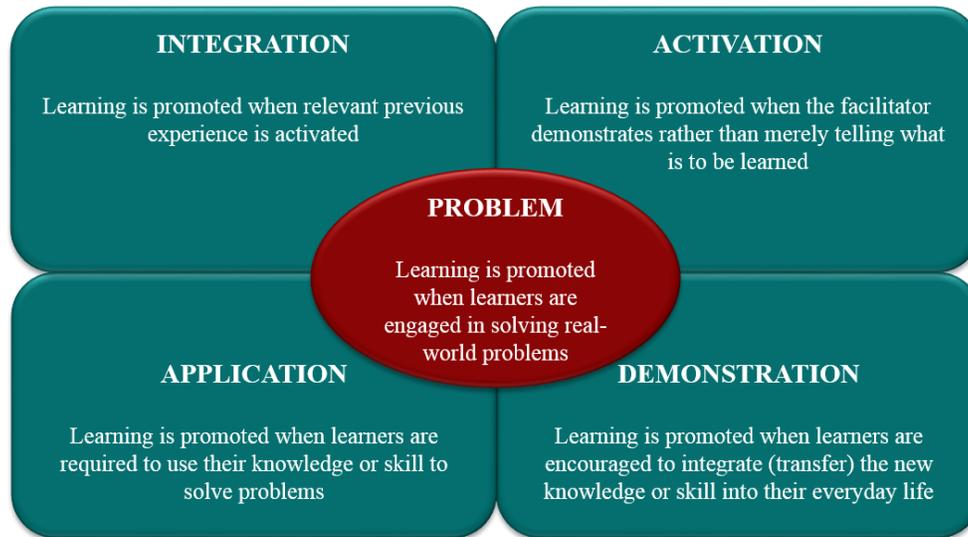


Figure 2: Phases of Effective Instruction

Table 2: Action Learning Activities based on Merrill’s First Principles of Instruction

First Principles of Instruction	Activities
Activation	The employees will be directed to recall, relate and describe, or apply knowledge from relevant past experience in the cases presented to them. For example, employees will share prior experiences with their peers to enhance activation of prior knowledge (Merrill, 2009).
Demonstration	The facilitator will demonstrate what is to be learned by providing examples of concepts, visualization of processes and modeling of behavior. For example, the facilitator will guide the employees to develop a step-by-step process to demonstrate procedures to solve the cases given (Merrill, 2002).
Application	The employees will be given the opportunity to apply their new knowledge and skills to solve the cases. The facilitator will need to provide feedback that are corrective, specific and help to improve the employees’ performance. Guidance should be diminished after the employees demonstrate their ability to solve the case on their own (Driscoll, 2005)
Integration	The facilitator will help the employees to reflect, discuss, and defend their solutions to the cases. In addition, employees will need to discuss and solve real MRH problems on patient safety that will be posted in the online forum. This will promote transfer of knowledge and skills gain from the Action Learning.
Problem-centered	The employees will be given cases that depict patient safety problems to engage them in real-life problem-solving contexts.

Gagné’s Nine Events of Instruction promote active processes where learning takes place. The nine events are gain attention, inform learners of objectives, stimulate recall of prior learning, present the content, provide learning guidance, practice, provide feedback, assess performance, and enhance retention and transfer to the job (Gagné, Briggs, & Wager, 1992). These events are integrated into the instructional elements of E-training modules. Table 3 presents an example on how we applied Gagné’s nine events of instruction in designing the E-training sample module.

Table 3: Application of Gagné’s nine events of instruction in E-training sample module

Gagné’s Nine Events of Instruction	Content/Activities
Gain attention	Present the title: Goal 2 Improve the Effectiveness of Communication among Caregivers
	Show a video about the importance of communication
Inform learners of objectives	At the end of this module, you will be able to:
	Topic Overview: <ul style="list-style-type: none"> • “Patient Safety discipline... is a function of good teams, not good individual acting alone” (Agrawal, 2014, p. xi). • Communication is the fundamental underpinning of good teamwork. • The Joint Commission notes that a majority of sentinel events include the failure of team work and communication as a contributing factor adverse events.
Present the content	Introduce Five “C”s of Effective Teamwork
	Introduce SBAR (Situation, Background, Assessment, Recommendation) Communication
Provide learning guidance	Present a table of SBAR Communication by the Joint Commission with examples
	Present Case I: Pulmonary Embolism due to Delay in Heparin Ordering and Administration Ask questions and discuss answer to increase their understanding of the problem: <ul style="list-style-type: none"> • What is the issue? • What care processes could be suggested?
Practice and provide feedback	Present a communication solutions by using SBAR to solve issue in Case I
Enhance retention	Provide key lessons learned: <ul style="list-style-type: none"> • Components of an effective team include the Five “C”s: a common goal; commitment; competence; communication; and coordination.

	<ul style="list-style-type: none"> • SBAR (Situation; Background; Assessment; Recommendation) can be applied to written and verbal communications to communicate issues, problems or opportunities for improvement to coworkers or supervisors.
Promote transfer to the job	Notify the learners that past and recent communication issues at MRH will be posted in the Online Patient Forum and the employees need to participate in the discussion and solve the issue in order to get the Certificate of Completion
Assess Performance	Present Case 2 and ask the learners to apply SBAR to solve the communication issue.

Multimedia principles should be applied when training is delivered in digital form (Mayer, 2009). Clark (2002) identifies six multimedia principles of how multimedia can optimize learning and they are: adding graphical illustrations, placing text next to graphics, explaining graphics with audio, no redundant text when explaining graphics with audio, maintaining coherence in the use of visuals, text and sounds, and using conversational tone and pedagogical agents. To ensure training quality and effectiveness, Learning Division creates the E-training modules on the basis of these principles.

Gamification refers to the application of game mechanics in non-game settings. Huang and Soman (2013) describe game mechanics as self-elements or social-elements. The use of scores or points incorporates self-element. On the other hand, social-elements are exemplified in interactive competitions. With Team Race activities, Learning Division brings both self and social-elements into the PST Program to stimulate employees' motivation and engagement in the training.

ARCS Model proposed by Keller (1983) is weaved into the design and develop of the PST Program. We gain learners **attention** through the variability of content presentation and the use of real-world patient safety cases that are **relevant** to employees' work. Learners have the control over their progress in E-training. They will also receive feedback that are constructed to

facilitate achieving success. Certificate of Completion will be provided upon satisfactory learner performance as a recognition of professional development achievement. These training elements will contribute to building learner **confidence** and generating learning **satisfactory**. Additionally, the use of game mechanics described above also pertains to enhancing employees' motivation.

Step 4: Implement Training

After the four components of the PST Program have been developed, the Learning Division will collaborate with Hospital Administrators, Patient Safety Officers, Quality Managers, and technical support staff to monitor the implementation of PST Program. We will oversee the delivery and overall use, as well as provide support and troubleshooting of the E-training modules. In addition, we will ensure that the facilitators for the Face-to-face Action Learning will be well-trained and prepared for the sessions. Our team will also facilitate the Hospital Administrators for the Team Race procedures and quizzes. In regard to the Online Patient Safety Forum, there will be three online facilitators assigned to monitor and maintain the forum.

Step 5: Conduct Evaluation Plan

To ensure the quality and assess the effectiveness of the PST program, the Learning Division has developed an evaluation plan that consists of both formative and summative elements.

Formative Evaluation will be an on-going process during the design and development phase. We will obtain data from one-to-one and small group evaluation to revise the training materials as they are developed. Two Patient Safety Officers will be invited to one-to-one evaluation to review the training modules and comment on the accuracy and currency of the content. Volunteers will be recruited from all disciplines to participate in the one-to-one and

small group evaluation, representing the target learners of the PST Program. These learners will provide information on clarity, impact, and feasibility of the E-training, Face-to-face Action Learning, Team Race (i.e., quiz items), and Online Patient Safety Forum. At the end of each evaluation session, participants will complete two surveys: one on training design and the other on their attitude towards the program. Both surveys will be comprised of Likert-scale items and open-ended questions.

Summative Evaluation will be conducted after the PST Program is delivered using a five-level evaluation model based Kaufman, Keller, and Watkins’ (1996) recommendations. Building upon the four levels of Kirkpatrick’s evaluation model (i.e., reaction, learning, behavior, and results), Kaufman, Keller, and Watkins proposed a fifth level, which address “the practical concern for the contributions an organization must make to its clients and society” (p. 11). Therefore, in addition to assessing the organizational results from the training, it is also important to assess the societal consequences of the training in relates to patient safety policies and satisfaction. Table 4 presents the focus of the levels, instruments, and descriptions of the evaluation process.

Table 4: Summative Evaluation Focus, Instruments, and Descriptions

Level	Focus	Instruments	Descriptions
1: Reaction	Acceptance and efficiency	Questionnaires	<ul style="list-style-type: none"> After E-training, Action Learning, and Team Race ended After Online Patient Safety Forum launched for one month
2: Learning	Knowledge and skills acquisition	Tests	At the Review section of E-Training
		Quiz	Race Team scores
		Problem Solutions Path	At the end of Action Learning, employees need to draw solutions path that will be evaluated by a rubric

3: Behavior	On-the-job performance	Performance Checklist	<ul style="list-style-type: none"> • Starts early September 2015 to allow enough time for a change in behavior to take place • Patient Safety Officers, Quality Managers, and Hospital Administrators will observe and interview employees
4: Results	Organizational payoffs	Return on Investment (ROI)	Will be conducted in July 2016 to allow enough time for results to be achieved
5: Society	Societal contributions	Quality Surveys	<ul style="list-style-type: none"> • Clients and patient will complete surveys on quality services and satisfaction • Successful accreditation and reports of changes in patient incidents over time will also show societal contributions

Instructional Technology

Adobe Captivate will be used to develop the E-training and the hospital's ESPP will be the platform for E-training modules. In Face-to-face Action Learning, video clips and procedural graphics will be used to demonstrate cases and solutions. Electronic and hard-copy handouts will be developed for the employees to refer to during and after the sessions. The Online Patient Safety Forum will be developed and embedded into MRH website.

Project Timeline

The design, development, and implementation of the PST Program will be conducted within nine months prior to the accreditation site visit. In addition, the Online Patient Safety Forum will provide extended support to the employees. The summative evaluation for results and societal contributions will also be conducted in 2016 to allow enough time for results and contribution to be achieved. The project timeline of the PST Program is presented in figure 3.

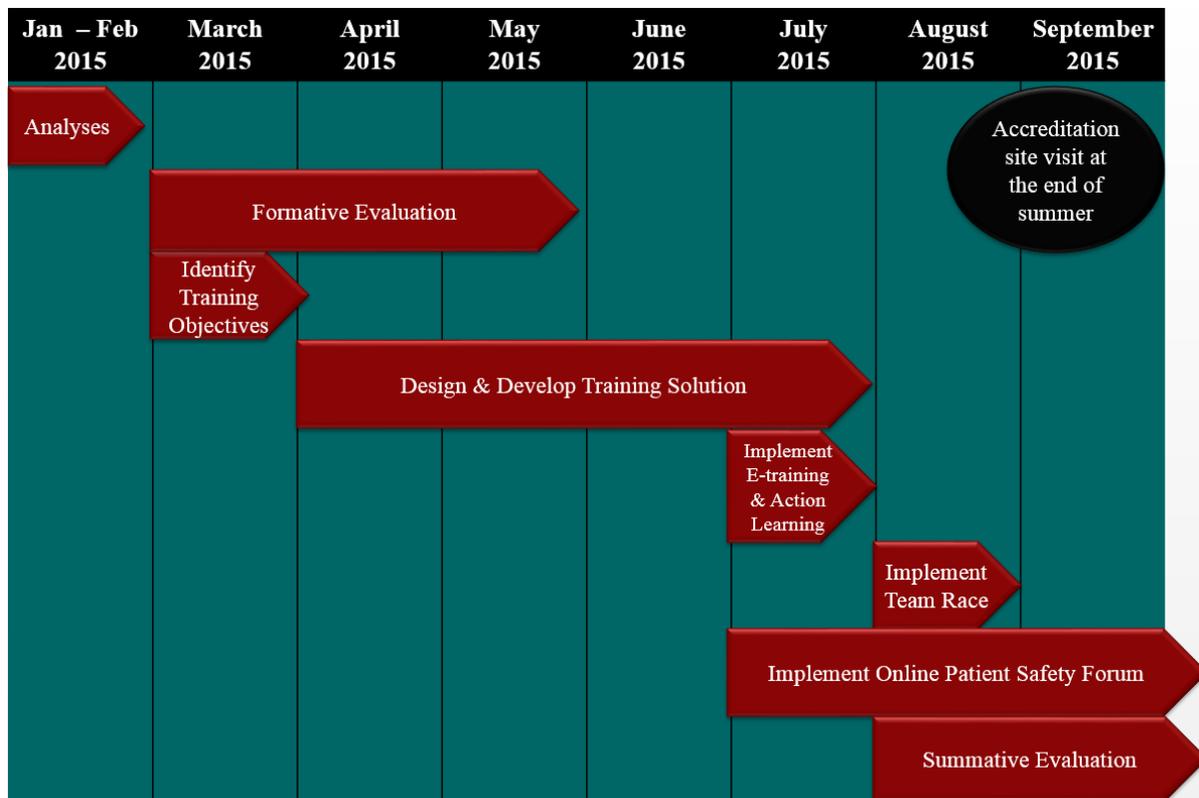


Figure 3: Project Timeline

Funding and Staffing

Currently, we have the Chief Learning Officer as the project manager and four instructional designers that work under the Learning Division at MRH. There will be no additional cost for the Learning Division staff, since we are paid through monthly salary. We hire two additional instructional designers for the design and development of training solution. Other MRH employees (e.g. Hospital Administrators and Patient Safety Officer) will receive incentives for their involvement in this project. Table 5 presents the detailed budget estimation for the project.

Table 5: Budget Estimation

Project Process	Staff	Responsibility	Hours	Rate/hr.	Cost (in US dollars)
Step 1: Conduct Analyses					
<ul style="list-style-type: none"> Gap analysis Learner analysis Context analysis 	4 Instructional designers (ID)* & 1 Project Manager (PM)*	<ul style="list-style-type: none"> Develop surveys Conduct focus-group interviews Review documents Analysis and report findings 	240	N/A	N/A
Step 2: Identify Training Objectives					
	4 ID* & 1 PM*	Identify and develop training objectives from the Step 1 results	40	N/A	N/A
Step 3: Design and Develop Training Solution					
E-training	4 ID*	Design, develop, and upload E-training modules to MRH EPSS	300	N/A	N/A
	2 ID		300	30	9,000
Face-to-face Action Learning	4 ID*	Design and develop face-to-face materials (hands out, videos) and facilitator manual	150	N/A	N/A
	2 ID		150	30	4,500
Team Race	2 ID	Develop quiz questions and procedures	100	30	3,000
Online Patient Safety Forum	4 ID*	Design and develop online forum	120	N/A	N/A
	2 ID		80	30	2,400
	Technical support staff*	Support ID to embed online forum in MRH website	40	N/A	N/A
Step 4: Implement Training					
E-training	2 ID*	Manage EPSS for E-training	140	N/A	N/A
	Technical support staff*		60	N/A	N/A
Face-to-face Action Learning	4 ID*	<ul style="list-style-type: none"> Conduct facilitator training Support facilitators during sessions 	40	N/A	N/A
	2 Patient Safety Officer**	<ul style="list-style-type: none"> Attend facilitator training Facilitate face-to-face sessions 	40	30	1,200
	1 Quality Managers**		20	30	600
	1 Hospital Administrators**		20	30	600
Team Race	2 ID*	Support Hospital Administrators	20	N/A	1,200
	3 Hospital Administrators**	Role play as site visit reviewers and quiz employees	60	30	1,800
Online Patient Safety Forum	2 ID*	<ul style="list-style-type: none"> Manage the forum Facilitate discussions in the forum 	280	N/A	N/A

	*Technical support staff	Help the instructional designers to embed the online forum in the MRH website	80	N/A	N/A
Step 5: Conduct Evaluation Plan					
Formative evaluation	4 ID*	<ul style="list-style-type: none"> Conduct one-to-one and small group evaluation Develop evaluation surveys 	300	N/A	N/A
	2 Patient Safety Officers**	SME for the one-to-one evaluation	10	30	300
Summative evaluation	4 ID*	Develop questionnaires, test, problem solving rubric, performance checklist, and quality surveys	340	N/A	N/A
	1 Patient Safety Officer**	Use the performance checklist to observe and interview employees	20	30	600
	2 Quality Managers**		40	30	1,200
	1 Hospital Administrators**		20	30	600

Resources

Cost of Materials

<ul style="list-style-type: none"> Analyses materials Face-to-face handouts Facilitator training materials and manual Team Race quiz questions and materials Evaluation materials Certificate of Completion 	Paper		300
	Commercial printer and ink		500

Instructional Hardware

Computers and hardware	Merchant		1,800
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Instructional Software

Adobe Captivate License	Merchant		718
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TOTAL			30,318
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*Permanent MRH staff that get paid through monthly salary

**Permanent MRH staff that will get incentives

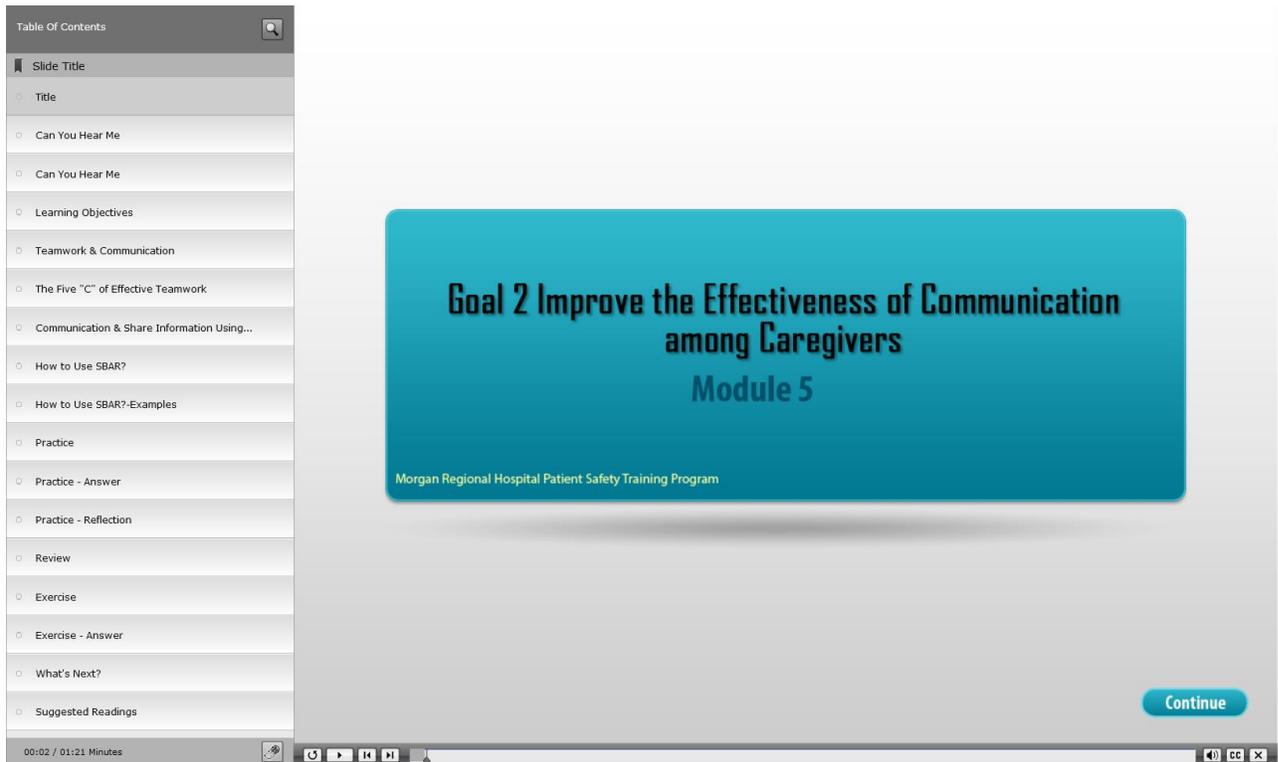
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Appendix A

Sample E-training Module



Screenshot of Sample Module on Patient Safety Goal 2 (Module 5)

Links to sample module:

Google Drive: <https://drive.google.com/open?id=0BxcQ1LPNptlwdFhSRG84XzVidEk>

Dropbox: <https://www.dropbox.com/s/thvrznhp2mjtmIn/Sample-Module%205.swf?dl=0>

Appendix B

Sample quiz question

Goal 1: Improve the Accuracy of Patient Identification

What are the methodologies that hospitals use to investigate patient misidentifications in order to formulate viable systems-based solutions?

Answers: Proactive risk assessments & Root cause analysis (RCA)

Source: Page 4, Agrawal (2014)

Appendix C

A sample case for the Face-to-face Action Learning

Session 1. Patient Identification Accuracy

Patient Alex and Patient Oscar were both admitted to the same medical unit on the same day. They had the same last name and date of birth. Alex's blood type was A-positive and Oscar's blood type was O-positive. The physician ordered a transfusion for Patient Oscar.

The medical resident went to Patient Alex's room with an empty vial and drew the blood specimen. Patient Alex was dozing off and not paying much attention. Then, the resident proceeded to the nurses' station and asked the nurse to label the tube with Patient Oscar's information while she completed the blood request form. Once complete, both resident and nurse signed the form. Then, the clerk transported the specimen and form to the Blood Bank for processing.

The Blood Bank processed the specimen according to standard protocol. They did not have a historical blood type on file for Patient Oscar, since he was a new patient to the hospital. Based on the appropriate processing results, the Blood Bank released a unit of A-positive blood to the medical floor.

The unit nurse along with another nurse hung the A-positive blood at the patient's bedside. Before starting the transfusion, the nurse casually asked the patient "so, what's your blood type again?" Patient Oscar responded "O-positive." At that moment, both nurses realized the significant error; an A-positive bag of blood was hanging on the bedside. They immediately removed the blood before the transfusion was started and notified the medical resident and the Blood Bank. Upon further investigation, the medical resident discovered that she had drawn the blood from the wrong patient.

Discussion:

What are the procedural vulnerabilities that contributed to the blood being drawn from the wrong patient?

- (1) The patient's specimen labels were not brought to the bedside so that they could be verified against the patient's wristband
- (2) Two identifiers were not used to properly identify the patient
- (3) The tube was not labeled at the bedside after the blood was drawn
- (4) A second verification process (e.g. another person or technology) was not instituted.

Solutions:

- (1) Using two identifiers and active identification at the bedside should be built into the standard process of drawing blood
- (2) Hospital should have a standard process (i.e. checklist), such as time-out, before the transfusion was initiated

Source: Page 5, Agrawal (2014)