

## Introduction

The University of Texas MD Anderson Cancer Center established the Clinical Safety & Effectiveness (CS&E) program in 2005.

The CS&E course is an intermediate-level educational program designed to train health professionals, research, and other leaders at MD Anderson in improvement. The aim of the course is to integrate quality and safety concepts into the way we do our work and enhance organizational knowledge through disseminated successful practices. All CS&E course participants are required to complete the CS&E Practicum during their course session. The course is administered through The University of Texas MD Anderson Cancer Center Office of Performance Improvement, Healthcare Systems Engineering department.

## Program Goals

The goals of the CS&E Program are:

1. Appreciate the complexity of health care systems and learn how to improve the processes that make up these systems.
2. Identify, measure and minimize needless variation.
3. Understand the need for an interdisciplinary and multi-professional approach to improvement and patient care.
4. Improve outcomes of care and enhance organizational learning through shared knowledge of best practices based on improvements.

## CS&E Curriculum

- Crossing the Cancer Quality Chasm
- Introduction to Quality Improvement
- Applying Lean Concepts to healthcare Processes
- Change enABLEment
- Six Sigma Yellow belt
- Value & Quality in Healthcare
- Leadership in Quality
- Class Project Presentations
- Team Facilitators and On-Demand Resources provide Just-In-Time PI Tools in project meetings while participants hear quality experts during the classes.

Figure 1. Course Front Page



Fig. 1 Screenshot of the course front page, accessed through [Study @ MD Anderson](#)

Figure 2. Course Skillsoft e-Textbook

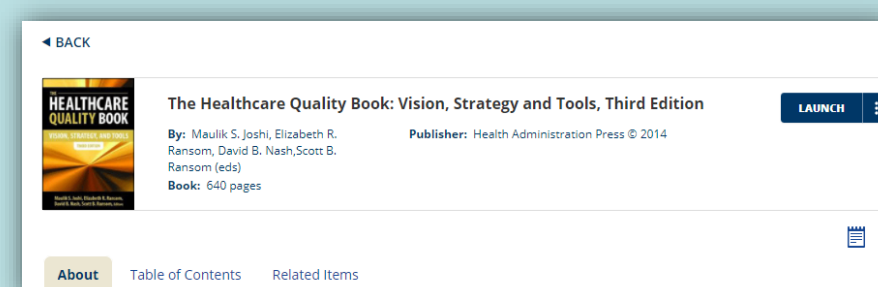


Fig. 2 Screenshot of the course Skillsoft e-Textbook, accessed through [Skillsoft courses](#)

Figure 3. Course moved to Zoom in July 2020



Fig. 3 Screenshot of the class presenters on Zoom videoconferencing on 7-24-2020

Figure 4. In-person Course in Feb. 2020



Fig. 4 In-person class at 1MC3 on 2-07-2020

## Technique

- The course with a required project was originally patterned on the Advanced Training Program by Intermountain Health Care of Utah
- As improvement projects are identified, the Team Leaders submit their project and CS&E program team members prior to the start of the session. Program participants occupy clinical, administrative, and research roles in the institution. Clinicians may be either physicians, advanced practice providers, nurses, technicians, pharmacists or a variety of multidisciplinary clinical roles.
- Participant experience in quality improvement is assumed to be limited, and course topics are intended for learners at the novice to advance beginner levels.



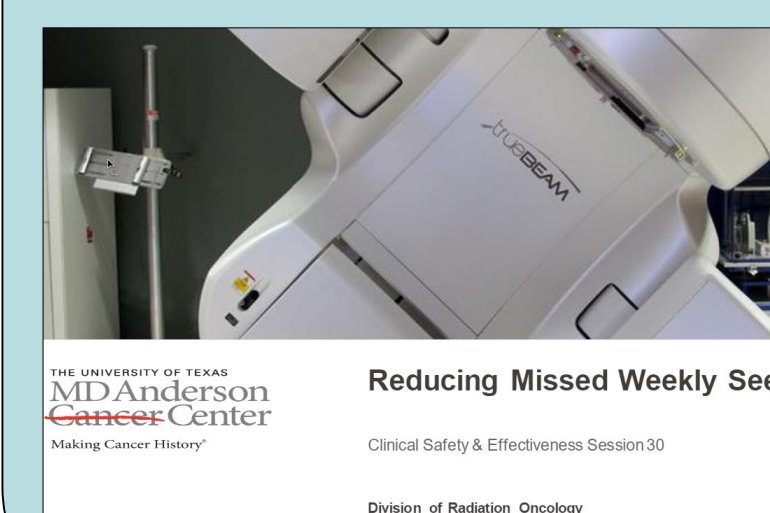
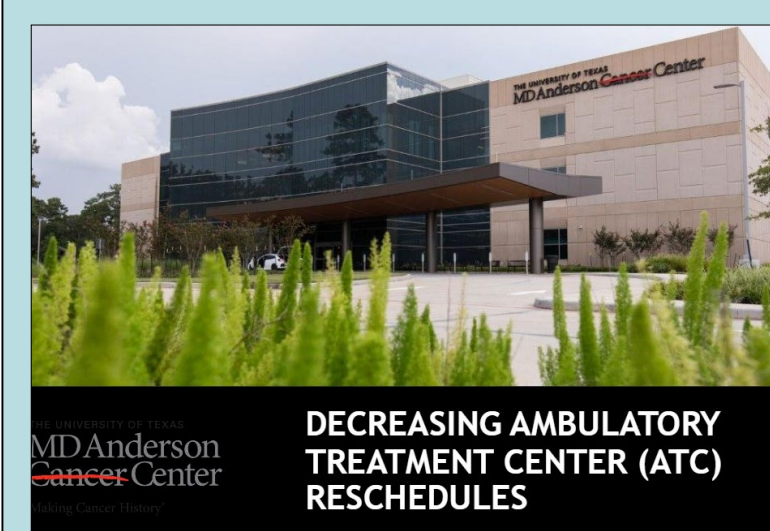
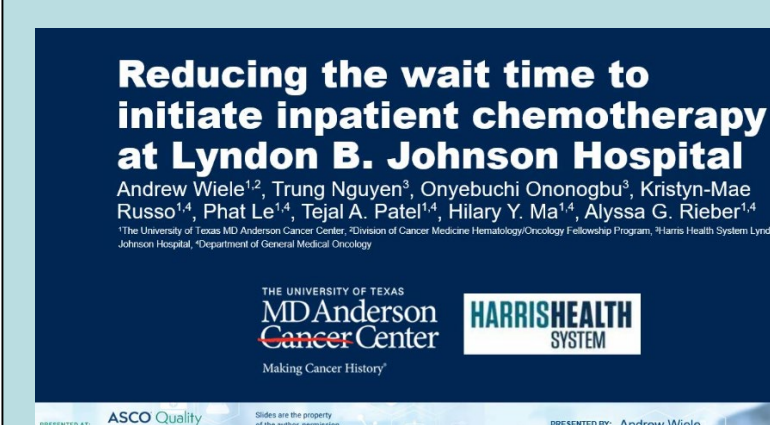
- CS&E is a six-month course comprised of six in-person eight-hour classes and graduation or eight virtual three-hour classes, self-study online modules, and graduation. To graduate, each participant is required to:
  - Attend 90% of the classes in their session and graduation
  - Submit their project for review by the Quality Improvement Assessment Board
  - Complete a quality improvement project through one PDSA cycle
  - Midway through the course, participants stage interventions and test their hypotheses.
- For the immediate future, CS&E will remain 100% virtual. However, in 2022, plans for the course to return to in-person and a virtual offering are in the planning stage.

## Value

CS&E participants provided the following evaluation of the course:

- *The CS&E class is a great experience. It is great to see colleagues throughout the institution making change.*
- *It gave me a better understanding on the quality tools for a process improvement project*
- *Very important and necessary class because it prioritizes the importance of quality of care and patient safety.*
- *It really changed the way I look at work flow and think of ways to improve it.*
- *It is helpful to work on a team project to improve an aspect of the institution. The tools for learning about process improvement can be broadly applied.*
- *CS&E offers an invaluable experience for all who attend. It is very useful in learning and applying QI tools to real-life scenarios.*
- *We can always improve. This is an effort for everyone.*
- *It's simply invaluable. We always want to improve on behalf of our patients and peers.*

Figure 5. CS&E 2020 Project Examples, many with conference presentations and publications



## Results

CS&E from 2005 - 2021:

- 31 Sessions
- 499 Project Teams
- Over 1,600 Alumni with 26% MD & 18% Nursing
- 53+ Journal Publications and 73+ National & International Oral/Poster Presentations
- The course has been spread to the 6 UT Health Institutions
- In 2009, the first Celebrating Improvement at MD Anderson was held and the UT System held it's first of 7 CS&E system-wide Conferences
- CS&E projects have received 4 National Awards and 9 UT System Awards

## Conclusions

With over 15 years at MD Anderson, the CS&E program has had a significant impact improving healthcare at MD Anderson clinics. In addition, CS&E has helped establish sister training programs throughout the UT System Healthcare Institutions.

The 499 Quality Improvement projects include a review of evidence, standardization, and redesign carried out through data collection, analysis of protocols, and complex care processes.

98% of the Session 30 participants felt the course achieved its purpose to integrate safety, quality and process improvement into the daily fabric of our work; 97% would recommend the course to others; 95% will be able to sustain and monitor their project metric after their graduation from the course; 90% of the CS&E participants feel that the curriculum prepared them to plan and execute an evidence-based improvement project.

## Contact Info

Enroll now to participate in CS&E:

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