Improvement Academy Annual Report FY2019

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I. Purpose of the Improvement Academy

The Improvement Academy was established in April 2017 as an integrated approach to the Center for Clinical Effectiveness (CCE) education. Its goal is to create a more robust learning experience for participants that standardizes methods and language used throughout the organization. CCE Education is comprised of the Children's Mercy Lean System (CMLS), Daily Management System (DMS), problem solving, quality improvement science, patient safety, patient and family engagement, regulatory readiness and more.

II. Mission, Vision, and Goals of the Improvement Academy

A. Mission

Develop employees through didactic and experiential learning opportunities and provide timely and efficient patient-centered care that leads to improved outcomes.

B. Vision

Develop leaders who provide the highest quality care leading to effective and sustainable clinical outcomes.

C. Goals

1. Create a standard framework for continuous performance and quality improvement that is referred to as the Framework for Problem Solving.
2. Create and build sequential progression or tracks with completion certificates as result of participation in a select, focused number of courses.
3. Create and standardize the process of how a new course concept submission is constructed into a course offering.
4. Create standards for coordination and management of courses within the program.
5. Increase the number of certified facilitators for each course.
6. Increase the number of certified coaches for problem solving courses.

III. Scope of the Improvement Academy

A. Steering Committee

Direction for improvement education is provided by the Improvement Academy Steering Committee which includes representatives from Education, Clinical Safety, Performance Improvement, Quality Improvement, Improvement Academy, Organizational Development, Nursing, Allied Health, Medical Staff, Faculty Development, and Graduate Medical Education.

The Improvement Academy Committee shares course-related details and reporting with the organization’s Education Steering Committee and Medical Staff Education Committee.
B. Curriculum Committee

Direction for course development, refinement, improvement and curriculum deployment is provided by the Improvement Academy Curriculum Committee. The committee approves curriculum for courses within the program and/or provides feedback and suggestions for improvement based on education theory and adult learning principles. The committee assists in requesting continuing education as a secondary benefit to course participation. Representatives include members from Improvement Academy, Performance Improvement, Quality Improvement Regulatory Readiness, Education, and Graduate Medical Education.

The Curriculum Committee reports to the Improvement Academy Steering Committee. The Steering Committee approves all course design and content for all curricula.

C. Improvement Academy Course Workgroups, Coaching Network, Course Instructors and Facilitators

Figure 1: Improvement Academy Committee Structure

IV. Faculty and Staff

Lory Harte, PharmD, CPHQ, Director, Improvement Academy

Keith Mann, MD, Med, Executive Sponsor, Improvement Academy; Vice President; Associate Executive Medical Director; Chief Medical Quality & Safety Officer (Exit October 2018)

Lisa Schroeder, MD, Chief Medical Quality and Safety Officer (Eff. October 2018)

Mamta Reddy, MD, MBOE, Consultant, Improvement Academy; Medical Director, Quality Improvement

Andrea Raymond MACL, BA-HCM, RRT-NPS, CPHQ, Consultant, Quality Improvement (Exit July 2019)

Lisa Marshall, BSJ, Program Manager, Improvement Academy

Cece Carlson, BSPA, Program Manager, Improvement Academy
V. Program Overview

A. Coach and Facilitator Update

Volunteer Coaches are required for two courses – Problem Solving for Fellows and Problem Solving for Residents. Coaches and coaches in training increased from 27 to 30 during FY2019.

Facilitator pool increased from 16 to 29 certified presenters which support 12 live courses. The increase has been the direct result of continued recruitment efforts through CCE department leaders and individual meetings with Improvement Academy leadership.

B. Program Data

1. Children’s Mercy Lean System (CMLS)

   a. CMLS 101: Introduction to CMLS

   Purpose: In this course, staff are introduced to: terminology, principles, and elements of the Children’s Mercy Lean System (CMLS); the integration of multiple strategic efforts to form CMLS; why Children’s Mercy is practicing Lean; our implementation approach; and available resources to help with practicing CMLS.

   Introduction to CMLS is a 60-minute Cornerstone module. During FY2019, 584 employees completed the module. No CEU’s are offered for this course.
b. CMLS 301: CMLS Fundamentals

Purpose: The goal of this course is for the participant to become an advocate for change and the Children's Mercy Lean System (CMLS). The participant will be able to socialize and discuss CMLS components to include: the definition of and identification of the eight types of waste and the ability to identify opportunities for improvement. Pre-work for course: Introduction to CMLS.

CMLS Fundamentals is a 2-day course with four offerings per year. Class size is limited to 30 participants per session. The course was redesigned and piloted in December 2018. Continuing education credits (CECs) for Nursing, Medical Education, Nutrition, and Respiratory were approved and effective March 2019. CECs for Radiology followed with the June 2019 session. The redesigned course has been well-received, and enrollment is consistently at or near capacity.

**Average Class Size:** 25 (of 30)

**Attendance Rate:** 96% (# actual attendees / # registered attendees)

**Total Attendees FY19:** 101

![Image of a chart showing the percentage of respondents who believe the course met their expectations.]

Did this course meet your expectations?

- Yes: 98.41%
- No: 1.59%

![Image of a chart showing the percentage of respondents who will likely utilize what they learned within the next 2 weeks.]

I will likely utilize what I’ve learned within the next 2 weeks

- Strongly Agree: 55.56%
- Agree: 41.27%
- Neutral: 3.17%
- Disagree: 0.00%
- Strongly Disagree: 0.00%

![Image of a chart showing the percentage of respondents who will likely share what they learned within the next 2 weeks.]

I will likely share what I’ve learned within the next 2 weeks

- Strongly Agree: 63.49%
- Agree: 33.33%
- Neutral: 3.17%
- Disagree: 0.00%
- Strongly Disagree: 0.00%

C.

LD 201: Leader Standard Work Lab

Purpose: Focus on creating a tiered support structure designed to: collaborate intuitively, identify and solve problems visually, and develop the next generation of leaders. Expand and elaborate on team’s infrastructure to: pursue True North (patient-centered: every action, every day), support the Daily Management System, and communicate transparently. Pre-Requisite for course: Introduction to CMLS or CMLS Fundamentals and DMS 2.1 Metrics / 2.2 Readiness Workshops.

This is a monthly, 4-hour course with 11 offerings per year. Due to team availability, one class was canceled this year. Class size is limited to 20 participants per session. The
course was piloted in August 2018. Continuing education credits (CECs) for Nursing, Nutrition and Respiratory disciplines are offered for this course.

**Average Class Size:** 11 (of 20)  
**Attendance Rate:** 89% (# actual attendees / # registered attendees)  
**Total Attendees FY19:** 117

<table>
<thead>
<tr>
<th>Module</th>
<th># Employees Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness Overview</td>
<td>63</td>
</tr>
<tr>
<td>Metrics Overview</td>
<td>57</td>
</tr>
<tr>
<td>Standard Work Overview</td>
<td>27</td>
</tr>
<tr>
<td>Problem Solving Overview</td>
<td>2</td>
</tr>
</tbody>
</table>

d. Daily Management System (DMS) Modules

Cornerstone modules for 4 of 5 Daily Management System elements were created and launched in Winter 2018 and Summer of 2019. Each module is a 10-minute overview of each DMS element. The goal, to supplement workshops, assist with onboarding, and for use as an online resource. No CEUs are offered for these modules.
2. Accreditation & Regulatory Readiness: ARR 100 – Accreditation and Regulatory Readiness

Purpose: Many formal leaders and informal leaders have limited exposure and knowledge with activities related to accreditation and regulatory bodies. With this Accreditation and Regulatory Readiness course participants will increase their knowledge related to the Joint Commission (TJC) and the Centers for Medicare and Medicaid Services (CMS). Objectives of this course include equipping participants with foundational knowledge to educate their teams about accrediting and regulatory bodies, understanding TJC standards and CMS CoPs, survey activities and logistics, pre/post survey actions including plans for correction, expectations, follow-up and enabling the participant to identify areas requiring improvements to bring into compliance.

This is a monthly, 3-hour course with a goal of 4 offerings per year. Class size is limited to 25 participants per session. The course was piloted in May 2019 with one additional offering prior to FY19 close. Continuing education credits (CECs) for Nursing, Respiratory, and Nutrition disciplines are offered for this course.

**Average Class Size:** 19 (of 25)

**Attendance Rate:** 92% (# actual attendees / # registered attendees)

**Total Attendees FY19:** 37
3. Patient and Family Engagement: NRC Real-Time

Purpose: The NRC Real-Time reporting platform is used to obtain data related to patient experience at Children’s Mercy. This course is designed to teach the participant the steps involved with the patient experience survey process, how to navigate the reporting platform where data is stores, and access reports that include quantitative and qualitative data that may be used to improve care delivery.

NRC Real-Time is a monthly, 1-hour class, offering hands-on NRC data access training. Enrollment is limited based on computer training room capacity. No CEUs are offered for this course.

Average Class Size: 7
Attendance Rate: 83% (# actual attendees / # registered attendees)
Total Attendees FY19: 69
4. Patient Safety: PTS 101 – Cause Analysis

Purpose: To equip leader's with skills in detecting, reporting, and containing abnormalities. To develop their skill set in cause analysis and risk assessment so they can learn to analyze reports, prioritize risk, and implement change based on defects at the local level.

During FY19, 36.6% (209 of 570 targeted file managers) have completed the course. The course has been made available to all employees with an emphasis on staff members who review and respond to events.

Through review of learner feedback, improvement opportunities for the course were identified. In Fall 2018, Cause Analysis was revised and course duration was shortened by 1.5 hours. Cause Analysis is now a monthly, 2.5-hour course. Enrollment is limited to 25 participants per session. Continuing education credits (CECs) for Nursing, Radiology, Respiratory, and Nutrition disciplines are offered for this course.

**Average Class Size: 14 (of 25)**
**Attendance Rate: 82% (# actual attendees/# registered attendees)**
**Total Attendees FY19: 127**

*New questions effective May 2019.*
Pre- and post-assessment scores are captured for the Cause Analysis course through a Qualtrics survey prior to class and a post-assessment via the use of TurningPoint™ questions during the live class. Participants have demonstrated an average increase in knowledge from 81% (pre-assessment scores) to 91% (post-assessment scores).

5. Problem Solving

a. PS 101: Problem Solving Basics

Purpose: Many of us in clinical and non-clinical disciplines were socialized to think of problems as originating with people. Over the years we’ve learned that it is most often our systems that fail us not an individual. Yet, we still frequently leap to the “who” when a problem arises. With this Problem Solving course participants will learn new ways to evaluate problems and how to pause and consider the complexity of the problem and the factors that contributed to the problem so that the problem is fully understood before identifying solutions. Learning and guiding colleagues in this way of thinking can feel foreign if we are accustomed to making quick analyses and problem solving decisions. However, using a rigorous problem solving approach rooted in the principles of quality and safety science is a valuable skill that prepares us to develop and design countermeasures that are effective and sustainable.

This is a monthly, 7-hour course with 7 offerings per year. Class size is limited to 30 participants per session. Continuing education credits (CECs) for Nursing, Radiology, Respiratory, Nutrition, Pharmacy, Social Work disciplines are offered for this course. Continuing medical education (CME) and Maintenance of Certification (MOC) Part 2 credits are also offered for this course.

The 3-year course attendance goal is 800, or approximately 10% of CMH employees, per the FY2018 Education Plan. By the end of FY2019 75% of this goal had been met,
nearing saturation point. Due to demand and resource needs required for this live course, it is currently under development as an online course, with goals for this course to increase availability to all CMH employees within the organization (all campuses), offer continuing education credits (CECs) and to lessen facilitator resource needs.

**Average Class Size:** 24 (of 30)
**Attendance Rate:** 92% (# actual attendees/# registered attendees)
**Total Attendees FY19:** 165

Pre- and post-assessment scores are captured for the Problem Solving Basics course through a Qualtrics survey prior to class and a post-assessment via the use of TurningPoint™ questions during the live class. Current post assessment score goal is 80%. This goal has been surpassed, as pre-assessment (average) scores are 69%, with post-assessment (average) scores at 89%.
b. Problem Solving for Leaders

Purpose: This workshop is designed to improve the participant's application of A3 thinking for problem solving and coaching staff on problem solving. The difference between this course and Problem Solving Basics is that Problem Solving for Leaders is an application based course to guide in solving a problem. Two Improvement Academy courses target physicians-in-training and support Program Directors in meeting Accreditation Council of Graduate Medical Education (ACGME) requirements for didactic and experiential opportunities related to quality improvement and practice based learning. Both courses require completion of a Problem Solving A3, a method of problem solving that allows for documenting the improvement journey through story telling.

This is a monthly, 7-hour course with 11 offerings per year. Due to low enrollment, one session was canceled this year. To maximize learning outcomes and accommodate coaching, class size is limited to 10 participants per session. Continuing education credits (CECs) are not currently available for this course.

**Average Class Size:** 8 (of 10)
**Attendance Rate:** 91% (# actual attendees / # registered attendees)
**Total Attendees FY19:** 70

![Survey Results](image1)

*New questions effective May 2019.*

c. Problem Solving: Problem Solving Terms and Tools Module

Purpose: Although problem solving is founded on asking the right questions at the right time, there are several terms and tools that support its efficacy. The Problem Solving Framework includes seven steps that includes tools and terms in which participants may not be familiar. In addition, the algorithm for determining the approach to problem solving based on the level of complexity introduces additional tools.
This course is utilized as recommended pre-work for Problem Solving Basics and Problem Solving for Teams.

Launched in August 2018, 137 employees have completed the 20-minute Cornerstone module. No CEU’s are offered for this course.

Due to a low survey response rate, no additional detail is available.

d. PS 301: Problem Solving for Fellows and PS 302: Problem Solving for Residents

Two Improvement Academy courses target physicians-in-training and support Program Directors in meeting Accreditation Council of Graduate Medical Education (ACGME) requirements for didactic and experiential opportunities related to quality improvement and practice based learning. Both courses require completion of a Problem Solving A3, a method of problem solving that allows for documenting the improvement journey through story telling.

   i. Problem Solving for Fellows 2018/2019 Cohort

   The Problem Solving for Fellows course offers the Fellow an opportunity to systematically investigate an opportunity for improvement, apply improvement tools and methods, engage key stakeholders in implementing change, and produce scholarly work as a result of their improvement efforts. The goal is to create processes that are effective, timely, efficient, equitable and patient-centered that result in improved patient outcomes while using A3 thinking or methodology.

   Fellows are required to complete the Problem Solving Basics course to qualify for enrollment to this course.

   This course is offered once time each year, meeting monthly between November and June with maximum of 15 fellow participants. Children's Mercy is a portfolio sponsor through the American Board of Pediatrics’ (ABP) for Maintenance of Certification (MOC) parts 2 and 4. MOC parts 2 and 4 are approved for qualified fellows and projects.

   FY2019 15 project participants, comprising 9 project teams successfully completed the course. Average assessment score of all problem solving A3 sections, for all participants, was 4.3 out of 5.

   Four of the nine fellow projects were accepted and presented at the UMKC 6th Annual Vijay Babu Rayudu Quality & Patient Safety Day, this past May. Several fellows have gone on to present their project at national meetings through podium presentation or poster format.
Fellow Post-evaluation of Course

**Utilize what I learned in Problem Solving for Fellows to solve another problem, in the future**

- Yes (100%)

**Would you recommend this course to future fellows?**

- Yes (100%)

Coach Post-evaluation of Fellow Team Members

**Demonstrates the ability to comprehend information from medical and scientific literature and apply findings into quality improvement projects**

- Yes (100%)

**Recognizes the observed needs and opportunities for improving quality of patient care and is able to lead the actions within the systems**

- Yes (100%)

#### ii. Problem Solving for Residents FY2019 Cohort

The Problem Solving for Residents course supports the Resident in systematically analyzing his or her practice using quality improvement methods and implementing changes with the goal of practice improvement. Course consists of didactic and coaching sessions over 9 months, September through June. During FY2019, 8 project teams (40 total participants) participated. Each team worked with a Patient Family Advisor to complete their projects related to communication.

Average assessment scores of all problem solving A3 sections, for all participants was 3.2 out of 5.

Four of the eight fellow projects were accepted and given the opportunity to present their work at the UMKC 6th Annual Vijay Babu Rayudu Quality & Patient Safety Day, this past May.

#### 6. Quality Improvement Science: QI 101 – IHI Open School

Institute for Healthcare Improvement (IHI) Open School purchased membership provides access to courses that cover a range of topics including: improvement capability; patient safety; triple aim for populations; patient- and family-centered care; leadership; and quality, cost, and value. Each module includes post-lesson assessments with basic certificates of completion awarded at the completion of modules. Courses are accessed via passcode provided by the Improvement Academy to employees that have expressed interest. Fifty (50) licenses are available annually, June 1st – May 31st. Select CEUs are available through IHI for the certificate courses.
During the license timeframe of June 1, 2018 thru May 31, 2019 a total of 49 courses were completed by 12 participants.

VI. Courses in Development

A. Disclosure

Disclosure refers to the process of communication to the patient and/or family when an adverse event occurs, i.e. hospital acquired condition, near-miss event, or precursor event. This course is intended to prepare clinicians to discuss such events with patients and families. The training focuses on a subset of the overall process including: huddle, the discussion with the patient and family, post discussion debriefing, and medical record documentation. The didactic for this course will incorporate discussion, activities, and simulated practice. The course pilot was successfully completed on August 14, 2019.

This is a monthly, 3-hour course with 11 offerings per year. To maximize learning outcomes and accommodate simulations, class size is limited to 10 participants per session. The target audience includes Providers, Hospital Shift Supervisors, Nurse Directors, Charge Nurses, Safety Coaches, and Allied Health Leaders. Continuing education credits (CECs) for Nursing is offered for this course. Continuing medical education (CME) and Maintenance of Certification (MOC) Part 2 credits are also offered for this course.

B. Problem Solving Basics – Online Modules

Problem Solving Basics – Online Modules is currently in development and will replace the live Problem Solving Basics course. Cornerstone go live is scheduled for January 2020. With its initiation, the online modules will be utilized for multiple current live courses, thereby lessening presenter commitment and will allow availability to all Children’s Mercy employees throughout the organization.

This course will provide an overview of A3 thinking and Children’s Mercy’s Framework for Problem-Solving. Learners will be prompted to pause and consider the complexity of the problem, factors contributing to the problem, and determine what they plan to achieve before identifying solutions. This rigorous problem solving approach is rooted in principles of lean, quality improvement, and safety science and is a valuable skill that prepares us to develop and design countermeasures that are both effective and sustainable.
The course is to be comprised of nine separate voice-over modules. With completion of all modules, GME, CNE, Allied Health continuing education credits (CEC’s) are anticipated.

C. Problem Solving for Teams

Team Problem Solving is a project-based learning experience derived from evidence-based improvement tools and methodologies that are effective in solving complex problems related to patient care or patient experience through interdisciplinary teamwork. This course is designed to provide staff with the knowledge, skills, and tools for practical team problem-solving strategies needed in dynamic, complex, and highly uncertain healthcare environments. Participants are expected to identify a team and a problem to solve within their Department, Division, or Unit prior to attending the comprehensive course. Using the A3 problem solving approach, the learner will be able to implement countermeasures to improve patient outcomes. Finally, the learner will be equipped with skills to solve future problems in their work setting. The course successfully piloted in August 2019. Recruitment for the Spring 2020 cohort will begin in October 2019.

This is a 4-month, 2-day course with 2 offerings per year (Spring and Fall). Class size is limited to 20 participants or 4 teams. The target audience includes both clinical and non-clinical staff. Continuing education credits (CECs) for Nursing, Nutrition, Radiology and Respiratory disciplines are offered for this course. Continuing medical education (CME) is also offered for this course.

VII. Stewardship

In alignment with Operational Excellence objectives, Improvement Academy stewardship efforts have included resource and material management as well as reduced catering costs. Increased usage of internal catering (when an option) has allowed us to remain within the catering budget. The purchase of minor equipment to provide beverages has also helped to reduce costs and disruption in administrative areas.

The modification to the dietary restrictions form (allowing staff to indicate if they plan to provide their own meals and make changes up to 3 days prior for internal catering and 7 days for external catering) assisted in the reduction in catering waste from $602 in FY18 to $394 in FY19. Though we have taken measures to reduce catering waste, the issue persists as no-shows for catered courses continues.

Application of the Children’s Mercy Lean System (CMLS) by the Improvement Academy has continued to be beneficial. The Improvement Academy has increased reliance on technology and electronic means for collaboration. Printed materials for courses have been limited. Once courses are in maintenance, most of the documentation is only provided in electronic format thereby reducing the overall materials cost and waste.
VIII. Scholarly Work

A. Journals/Articles


B. Poster Presentations


