Applying QI Methodology to Improve an e-Learning Resource Management Platform Satisfaction, and Effectiveness in Ease at Transition

Background:
Third-year medical students at *Didacted hospital/med school* have reported dissatisfaction with an e-learning resource management platform: Pediatric Learner (LRMP). Previous changes to the platform have yielded low success in student satisfaction and effectiveness in easing transition into the clerkship, leading to increased frustration among students. Survey results have since confirmed that the LRMP's effectiveness rates lower than our in-person orientation and email communications with a score of 4.43 on a 5 point Likert scale with 1 = Poor to 5 = Excellent (N:14 / 70% response rate). The Information System (IS) Success Model, adapted into an E-learning Success Model, highlights the complexity of making meaningful changes to an e-learning platform, and the influence these changes have on the user. [1-3] System use and user satisfaction are dependent on complex interactions, including the quality of information, system, and service. [1-3]

Objective:
At *Didacted hospital/med school*, the LRMP is designed for daily use to provide students with instructional and educational information, to aide in the student's ability to successfully navigate the building, to complete course requirements and basic tasks, and to facilitate communication between departments. A student is given access to the LRMP before the clerkship starts. Our SMART AIM was to increase student satisfaction with the effectiveness of the LRMP in easing the transition to the Pediatric Clerkship from 4.43 to ≥ 4.75.

Instructional Methods/Materials Used:
Through the use of QI methodology, we aimed to increase student satisfaction with the effectiveness of the e-learning platform LRMP to ease transition into the clerkship. Methods included: a satisfaction survey using a Likert scale, change concepts, PDSA cycles and Run-chart analysis.
Our task force of administrators and directors generated a key drivers diagram informed by survey data. Through conducting an impact analysis and student focus groups, we prioritized main interventions to apply to the LRMP: Organization, Amount of information, Quality of Information and Layout.

Outcomes:
Over the last 2 months, we performed 1 needs assessment of 3rd year clerkship students to identify their satisfaction with our 3 methods of easing student transition into pediatrics: an in person orientation, email communication before the orientation and an on-line learning resource management platform (LRMP). Following 1 PDSA cycle implementing changes to the organization of information within the LRMP. The results of the needs assessment suggested that the student's accessibility the LRMP prior to starting the clerkship influenced the student's perception of the amount of information on the LRMP. We re-organized instructional information regarding the orientation of the clerkship using methods of classification, elimination, and customization, which yielded positive results.
Post-intervention effectiveness of the LRMP was rated 4.8, (N= 12 / 75% RR) demonstrating a 0.37 point improvement. Classification of information influenced the pattern of our run-chart.

Discussion:
QI methodology and interventions resulted in an improved student satisfaction with the LRMP effectiveness. We will systematically collect data, to interventions are being implemented to yield positive results, and monitor interventions do not affect our balancing measures, an application of at least 5 PDSA cycles will occur over the next 10 months.

References:

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3. Holsapple CW, Lee-Post A (2006) Defining, assessing, and promoting E-Learning Success: an information systems perspective. Decis Sci J Innov Educ 4(1):67–85. doi:10.1111/j.1540-4609.2006.00102.x.