Thinking Like A Scientist ... And An Engineer: Training future leaders and innovators in health care systems and delivery

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**BACKGROUND**

**Current State of Physician Leadership Pathways**

- Health care is increasingly becoming more complex with the advancement of accountable organizations, expansion of hospital systems, and major insurance and government reforms.
- To address the need for physician leaders with management skills, the number of MD/MBA programs has risen dramatically since the 1990s, with 65 joint programs in the US, out of 141 accredited medical schools as of 2013. (Goyal, 2013)
- More recently, residency programs and medical schools have also started to develop leadership pathways for its students.

**METHODS**

**PLAN: “A3” PDSA Cycle**

- **Problem**
  - The term A3 was initially coined by Toyota, which limited all process analysis and project reports to an A3 11 x 17 sheet of paper.
- **In business, A3 is referred to as a template for process analysis and improvement. It captures the iterative steps of problem solving by directing the planner through the Plan Do Study Act (PDSA) cycle.**
- **To analyze leadership and apply the PDSA cycle, we evaluated the achievements and challenges of the Quality Improvement Health Care Elective, a student led series of lectures on health care process, Lean management, and health care leadership.**

**RESULTS**

**UMMS Student Survey on Health Care Leadership**

- **168 students responded to at least one question on the survey.**
- An estimated 20% of the UMMS student population (n=125) completed the survey.
- Our survey identified overwhelming interest in the topic of leadership, with 20% of respondents reporting “very likely”, and 54% “somewhat likely” to take an elective or join a student group on the topic.
- UMMS students aspired to be leaders of hospitals, clinics, and medical departments as well as starting their own private practices.
- Students are most interested in receiving career guidance for leadership and mentorship opportunities.
- A staggering 89% of respondents were either “somewhat interested” or very interested in a 1 day training certificate on health systems and process improvement. Of the 89%, 51% reported they were “very interested”.

**CONCLUSION**

**Findings**

- Combining the results from the root cause analysis, counter measures, and evidence from the student survey, we have the data we need to design and implement an informed and attractive educational option for students.
- A similar leadership survey can be released to other health professional schools (ie. nursing, pharmacy) to identify interprofessional areas of focus.
- Integrating Lean management in UME is one way to teach students about health care systems, and process improvement.

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