Preparing Medical Students to be Leaders in Innovative Care: Unique Curriculum on Health Systems Science

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**Rationale/Need**

Medical students must be trained differently if they are to contribute to meeting the goals of the Triple Aim. Continual improvement in healthcare requires incorporation of health systems science (HSS: patient safety, quality improvement, interprofessional care, and population health) into the formal curriculum. An urgent need exists for health professional to possess the skills to create optimal care environments, with effective leadership and care teams, using process improvement tools within health systems.

**Methods/Description**

- The Leaders in Innovative Care (LINC) Scholars Program was created to develop student leaders in HSS through advanced coursework and practical application of concepts at the clinical systems level.
- 8-week intensive summer immersion course, between M1 and M2 followed by 3-year longitudinal curriculum
- Over 50 cross discipline faculty and clinical partners as teachers
- Taught advanced conceptual foundations and skill development through:
  - Enhanced clinical exposure
  - Targeted readings
  - Small group facilitation and discussion
  - Leader interviews
  - Clinical observation
- HSS topics include:
  - Model for Improvement
  - Patient safety
  - Data analysis
  - Team management
  - Population health
  - Leadership development
  - Project Management

**Results**

5 LINC Scholars successfully completed the 8-week immersion course during the summer of 2015. Specific milestones include:

- Demonstrating understanding of competencies related to leadership, interprofessionalism, data analysis, quality improvement, health care finance and policy, public health, an innovation
- Completion of Patient Shadowing Experience
- Health systems interviews with professionals at macro-, meso-, and micro-levels
- TeamSTEPPS observation experience in various clinical settings
- Incorporation of IHI Open School Modules into health systems learning
- Presented results of Patient Shadowing Experience and QI project work
- Attendance at AMA Consortium Accelerating Change in Education Meeting in Chicago and IHI Annual Meeting in Orlando

Preliminary outcome data demonstrated an average increase of 28 points in a pre/post knowledge survey. Student self-assessment following the immersion course showed an overall improved understanding of QI/PS, ability to identify outcome measures and data tools for change projects; financial impacts on health systems; leadership attributes; and ability to lead a small group of peers in process improvement using QI principles. Students indicated a desire for enhanced clinical experiences. Observation of foundational learning as applied in real-world situations was critical.

**Scholarly Products:**

- IHI Open School Chapter Storyboard Presentation at 2015 IHI National Forum
- 2 abstracts accepted for poster presentations at the 2nd Annual REACH QI Symposium
- 1 abstract accepted for a podium presentation at the 2nd Annual REACH QI Symposium; Awarded first place podium presentation
- 2 abstracts submitted for the AMA Medical Education Innovation Challenge, published in the 2016 Team Proposals Booklet

**Impact/Lessons Learned**

- Students indicated a desire for enhanced clinical experiences.
- Observation of foundational learning applied in real-world situations was critical
- Substantial faculty commitment
- Insights gained will inform longitudinal HSS curriculum for all students
- The LINC model provides a comprehensive curriculum in HSS
- Longitudinal curriculum will continue until graduation using experiential learning project management and Capstone.
- Intraprofessional education valuable component of curriculum

**Evaluation Plan**

The outcomes of the LINC Scholar training will be evaluated through successful completion of the Health Systems Transformation and Leadership Distinction Track, including summer immersion courses, M3 independent elective, and M4 Capstone Practicum.

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