“The Impact of a Structured Research Curriculum on a Three Year Pulmonary/Critical Care Medicine Fellowship Program”

Marcos I. Restrepo, MD, MSc1,2 and Stephanie M. Levine, MD1,2

1 Division Pulmonary and Critical Care Medicine
University of Texas Health Science Center at San Antonio

2 South Texas Veterans Health Care System Audie L. Murphy Division
Authors Disclosures

- **Conflict of Interest**
  - No related conflict of interest related to this presentation

- **Disclosure**
  - Nothing to disclose
Introduction

- Scholarly activities are required for fellows in an ACGME Pulmonary/Critical Care Training (PCCM) Program

- Gap
  - Limited information is available regarding the implementation of programs designed to increase the scholarly activities according to ACGME recommendations
Objective

✓ To assess the impact of a structured multifaceted research curriculum on the scholarly productivity of a mid-size PCCM program
Methods

- **Intervention Periods**
  - Pre-intervention: January 2008-June 2010
  - Intervention implementation: July-August 2010
  - Post-Intervention: July 2010-December 2012

- **Setting**
  - Division of Pulmonary and Critical Care (PCCM) Medicine
  - University of Texas Health Science Center at San Antonio and the South Texas Veterans Health Care System
Methods

Intervention

Intervention components

1) Re-design of the PCCM division research structure
2) Survey and 1:1 meetings with PCCM fellows to assess needs, desires, and goals
3) Current research schedule assessment
4) Development and implementation of a research curriculum
5) Integration of PCCM faculty (“mentors”) and fellows multidisciplinary research activities
Survey

1. Time devoted to do research
   • Actual vs. Planned
2. Expectations rotation
3. Post-fellowship plans
4. Research areas of interest
   • Research questions
5. Potential mentors [9 questions]

CONFIDENTIAL!
Methods

Additional Interventions

Specific implementation components:
1) New role: Assistant program director and research liaison, and director of fellowship research
2) Research activities: established a formal set of activities according to the curriculum
3) Follow-up progress: progress reports and future submissions of the scholarly activities
4) Multidisciplinary feedback: promote fellow/faculty division feedback and active mentor participation
Methods
Assessment of Success

• Outcomes
  ➢ Primary outcome: “Total Number of Scholarly Activities”
  ➢ Secondary outcomes: Specific scholarly activities according to the ACGME:
    » 1) Discovery: as evidence by peer-reviewed funding or by publication of original research in a peer-reviewed journal
    » 2) Dissemination: as evidenced by review articles or chapters in textbooks
    » 3) Application: as evidenced by the publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings
    » 4) Teaching: as evidenced by designing and implementing quality research programs
Methods

- **Database Confirmation (2008-2012)**
  - Assessment of Scholarly Activities
    - Medline
    - Google and Google Scholar
    - Abstract reports from CHEST and ATS annual meetings
    - PCCM Division records

- **Statistical analysis**
  - Unpaired t-test for continuous variables
  - Statistical significance = p value of < 0.05
  - Statistical software: Graph Pad program
# Results

## Sample Participants

<table>
<thead>
<tr>
<th>Year</th>
<th>PGY-4</th>
<th></th>
<th>PGY-5</th>
<th></th>
<th>PGY-6</th>
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<td>2011-2012</td>
<td>3</td>
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<td>(D-E-F)</td>
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<td>(G-H)</td>
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<tr>
<td>2008-2009</td>
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<td>2</td>
<td>(N-O)</td>
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<tr>
<td>2008-2008</td>
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<td>(L-M)</td>
<td>2</td>
<td>(N-O)</td>
<td>2</td>
<td>(P-Q)</td>
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</table>

*n=11*
Primary Outcome

“Total Number of Scholarly Activities”

* Ratio: Mean scholarly activity per fellow (SD)

n=15

n=56

p=0.05
Secondary Outcomes

Specific scholarly activities

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Pre-intervention</th>
<th>Post-intervention</th>
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<tr>
<td>Teaching</td>
<td>* 0 - n=0</td>
<td>* 0.4 (0.5) n=4</td>
</tr>
<tr>
<td>Application</td>
<td>* 1.0 (1.4) n=11</td>
<td>* 2.9 (2.7) n=32</td>
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<tr>
<td>Dissemination</td>
<td>* 0.2 (0.4) n=2</td>
<td>* 1.7 (3.0) n=19</td>
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<tr>
<td>Discovery</td>
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</table>

* Ratio: Mean scholarly activity per fellow (SD)
Challenges

- Fellows characteristics and interests
  - Fellows motivation and “hunger”
- Faculty mentorship development
- Funding availability
- Sustainability
Conclusions

- A structured multifaceted research curriculum improved scholarly activities among PCCM fellows.

- Future intervention strategies focused on sustainability, faculty involvement and grant funding will require further evaluation.
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Questions?

restrepom@uthscsa.edu
levines@uthscsa.edu