Department of Emergency Medicine Research Program Overview: Annual Update

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Vice Chair for Research

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The scope of our research

Laboratory Research
Clinical Investigation
Health Services/Population Science
Community Oriented Research

David Jang
Tony Davila
Felipe Teran
Ben Abella
Nova Panebianco
Zack Meisel
Fran Shofer
Kit Delgado
Raina Merchant
Gina South
Ben Abella

Some examples of faculty in each domain – just as illustrations
### Ranking of Emergency Medicine Departments:
**Federal funding, 2016 (most recent available)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Emergency Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UNIV OF NORTH CAROLINA CHAPEL HILL</td>
<td>$4,425,708</td>
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<tr>
<td>2</td>
<td>ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI</td>
<td>$3,494,524</td>
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<tr>
<td>3</td>
<td>UNIVERSITY OF CALIFORNIA AT DAVIS</td>
<td>$2,914,134</td>
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<tr>
<td>4</td>
<td>UNIVERSITY OF MICHIGAN</td>
<td>$2,864,272</td>
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<tr>
<td>5</td>
<td>UNIV OF MASSACHUSETTS MED SCH WORCESTER</td>
<td>$2,810,861</td>
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<tr>
<td>6</td>
<td>OREGON HEALTH &amp; SCIENCE UNIVERSITY</td>
<td>$2,283,592</td>
</tr>
<tr>
<td>7</td>
<td>YALE UNIVERSITY</td>
<td>$1,991,022</td>
</tr>
<tr>
<td>8</td>
<td>THOMAS JEFFERSON UNIVERSITY</td>
<td>$1,956,964</td>
</tr>
<tr>
<td>9</td>
<td>NEW YORK UNIVERSITY SCHOOL OF MEDICINE</td>
<td>$1,401,606</td>
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<tr>
<td>10</td>
<td>UNIVERSITY OF PITTSBURGH AT PITTSBURGH</td>
<td>$1,224,338</td>
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<tr>
<td>11</td>
<td>UNIVERSITY OF PENNSYLVANIA</td>
<td>$1,135,620</td>
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<tr>
<td>12</td>
<td>GEORGE WASHINGTON UNIVERSITY</td>
<td>$1,058,800</td>
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<tr>
<td>13</td>
<td>UNIVERSITY OF MISSISSIPPI MED CTR</td>
<td>$660,941</td>
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<tr>
<td>14</td>
<td>UNIVERSITY OF WISCONSIN-MADISON</td>
<td>$737,126</td>
</tr>
<tr>
<td>15</td>
<td>TEMPLE UNIV OF THE COMMONWEALTH</td>
<td>$732,219</td>
</tr>
<tr>
<td>16</td>
<td>UNIVERSITY OF ALABAMA AT BIRMINGHAM</td>
<td>$680,460</td>
</tr>
</tbody>
</table>

Our Department is #11 in the nation for NIH funding among EM Departments
Tabulation does not include PCORI funding, of which we are major recipient
Domains of Research

Centers within the Department

- Center for Emergency Care Policy and Research  Zack Meisel
- Center for Resuscitation Science  Ben Abella

Penn entities with strong EM presence/collaboration

- Social Media & Health Innovation Lab  Raina Merchant
- Neurological Emergency Treatment Trials network  Jill Baren
- Leonard David Institute of Health Economics
- Center for Clinical Epidemiology and Biostatistics
Spans clinical and health services and population science

**Topics of interest:**
Patient narratives to guide health care
Access and transitions of care
Drug and alcohol abuse
Intimate partner violence
Economics of emergency care access

**Examples of recent publications**

<table>
<thead>
<tr>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
</table>
| Which transfers can we avoid: Multi-state analysis of factors associated with discharge home without procedure after ED to ED transfer for traumatic injury<br>Laura N. Medford-Davis, MD MS, Daniel N. Holena, MD FACS, David Karp, MS, Michael J. Kallan, MS, M. Kit Delgado, MD MS<br>1 Department of Emergency Medicine, Baylor College of Medicine, 1545 Holleman Drive, Houston, TX 77030, United States<br>2 Division of Trauma, Surgical Critical Care and Emergency Surgery, Perelman School of Medicine, University of Pennsylvania, 627 Blockley Hall, 627 Guardian Drive, Philadelphia, PA 19134, United States<br>3 University of Pennsylvania Wharton Geographic Information Systems, 523 Blockley Hall, 627 Guardian Drive, Philadelphia, PA 19134, United States<br>4 University of Pennsylvania Department of Biostatistics, Epidemiology and Informatics, Perelman School of Medicine at the University of Pennsylvania, 623 Blockley Hall, 623 Guardian Drive, Philadelphia, PA 19134, United States<br>5 Center for Emergency Care Policy and Research, Department of Emergency Medicine, Perelman School of Medicine at the University of Pennsylvania, 627 Blockley Hall, 627 Guardian Drive, Philadelphia, PA 19134, United States<br>6 Leonard Davis Institute of Health Economics, University of Pennsylvania, 3651 Market Street, Philadelphia, PA 19104, United States | A Randomized Trial Testing the Effect of Narrative Vignettes Versus Guideline Summaries on Provider Response to a Professional Organization Clinical Policy for Safe Opioid Prescribing<br>Zachary F. Meisel, MD, MSHP; Joshua P. Metlay, PhD; Lauren Sinnerberg, BA; Austin S. Killian, MD; Anne Grossastraouer, PhD; Francois K. Berg, PhD; Francois S. Shofner, PhD; Karin V. Rhodes, MD; Ma Jeanmarie Perrone, MD<br>*Corresponding Author. E-mail: zm@hershey.caremail.com; Twitter: @Zacharymessel.
Spans from laboratory to community oriented research

**Topics of interest:**
- Ischemia-reperfusion injury
- CPR performance
- Post-arrest care and outcomes
- Disparities in CPR training
- Targeted temperature management

**Examples of Recent publications**

- **Cardiopulmonary Resuscitation Training Disparities in the United States**
  
  Audrey L. Blower, MPH; Said A. Ibrahim, MD, MPH, MBA; Marion Leary, MPH, MSN, RN; David Dutwin, PhD; Bryan McNally, MD, MPH; Monique L. Anderson, MD; Laurie J. Morrison, MD, MS; Tom P. Aufderheide, MD; Mohamud Daya, MD, MS; Ahamed H. Idris, MD; Clifton W. Callaway, MD, PhD; Peter J. Kudenchuk, MD; Gary M. Vliet, MD; Benjamin S. Abella, MD, MPhil
  
  2017

- **Duration of Cardiac Arrest Resuscitation: Deciding When to “Call the Code”**
  
  Eric L. Mutter, MD; Benjamin S. Abella, MD, MPhil
  
  2016
Center for Resuscitation Science website with research project information and clinical resources

Visit https://www.med.upenn.edu/resuscitation/
Clinical and community oriented research projects

**Topics of interest:**
Crowdsourcing for health information (e.g. AEDs)
Social media as diagnostic of health status
Health app development
Data mining of social networks

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**Examples of recent publications**

**Original Research**

**Public sentiment and discourse about Zika virus on Instagram**


_Penn Medicine Center for Digital Health, University of Pennsylvania, Philadelphia, PA 19104, USA_

2017

**Neighborhood-Level Disparities in Resuscitation and the Potential of Connected Health**

_Raina M. Merchant, MD, MSHP; Peter W. Groeneveld, MD, MS_

2017
Large national NIH consortium
Penn is a “hub site”

**Topics of interest:**
Management of status epilepticus
Traumatic brain injury treatment
Stroke clinical trials

**Examples of recent publications**

**Intensive Blood-Pressure Lowering in Patients with Acute Cerebral Hemorrhage**

Adnan I. Qureshi, M.D., Yuko Y. Palesch, Ph.D., William G. Barsan, M.D.,
Daniel F. Hanley, M.D., Chung Y. Hsu, M.D., Renee L. Martin, Ph.D.,
Claudia S. Moy, Ph.D., Robert Silbergleit, M.D., Thorsten Steiner, M.D.,
Jose I. Suarez, M.D., Kazunori Toyoda, M.D., Ph.D., Yongjun Wang, M.D.,
Haruko Yamamoto, M.D., Ph.D., and Byung-Woo Yoon, M.D., Ph.D.,
for the ATACH-2 Trial Investigators and the Neurological Emergency
Treatment Trials Network*
Research program activities

- Annual Research Day symposium
- Research in Progress seminar series
- Academic Associates program
- Journal Club series
- SAEM annual meeting activities
One day symposium each Spring

Oral presentations and posters from ED family (faculty, residents, nurses, medical students)

Guest keynote speaker from national Emergency medicine domain

Wonderful opportunity to showcase Our work and share within the Department and the Penn SOM community

*Planning underway for our next Research Day, March 14, 2018!*
Research Day activities this year to include:

Resident “SHARK TANK” – research proposal competition with $1000 funding as prize

Guest speaker breakfast with residents – mentorship discussions, career advice, networking

Oral and poster science presentations from faculty, nurses, residents, fellows

Prior Keynote Speakers

2016
Lynne Richardson, MD
Vice Chair of EM
Mt. Sinai SOM (NY)

2017
Federico Vaca, MD MPH
Vice Chair of EM
Yale SOM (New Haven)

2018 Keynote Speaker
Jesse Pines, MD MBA MSCE
Director of the GW Center for Healthcare Innovation and Policy Research

George Washington University SOM (D.C.)
Research in Progress (RIP) seminar series

Wednesdays at noon – lunch provided

Informal presentations on research at any stage: prepping for proposals, early data, prepping for manuscript submissions

Great chance to get advice and feedback

Speakers from EM but also guest speakers with relevant collaborations:

Some of our guest speakers:
- Josh Levine
  - Neuro ICU
- Nuala Meyer
  - MICU
- Carrie Sims
  - Trauma/ESS
Academic Associates (AA) program

Resource for clinical research screening
And enrollment in the ED

“Blue coats” are pre-health students
(mostly Penn post-bac program)

Program led by full time Research Coordinator Tim Vaughan

All new projects are welcome – contact us if you want to start collecting data for your project
Journal Club series

Collaboration between research and residency domains of our department

For residents, fellows and faculty

Hosted at faculty homes – discussion led by residents with faculty support

Dinner provided

Mira Mamtani, Kevin Scott, and Lauren Conlon
Residency Program Directors
Michele Haynes
Residency Program Coordinator

Fran Shofer
Director of Research Design & Biostatistics
SAEM annual meeting activities

Society of Academic Emergency Medicine Annual meeting

Last year: Orlando, May 2017
Next year: Indianapolis, May 2018

SAEM “prep day” to practice poster and oral presentations

Penn EM reception

For this next year: Penn EM group “rounding” and discussion

*SAEM committee participation and pre-conference workshop encouraged*
Key people to help you with research within EM

Tim Vaughan
AA program coordinator

Libby Moore
Grants administrator

Fran Shofer
Director of research design & biostatistics

Ben Abella
Vice Chair for Research

Zack Meisel
Director, CECPR

Eileen McDonnell
Research administrative coordinator
Final note

A marker of program success

Examples of recent resident alumni who have now chosen academic careers and further scholarly training

Kevin Scott: educational fellowship, now faculty at Penn EM
Cindy Hsu: critical care fellowship, now faculty at U Michigan EM
Nick Johnson: critical care fellowship, now faculty at U Washington