AHRQ Funding for Academic Emergency Medicine

Joseph Miller, MD, MS
Brent Sandmeyer
SAEM19 - May 16, 2019
Panel: Nick Mohr (Iowa), Keith Kocher (UM), Alan Storrow (Vandy), Craig Newgard (OHSU)
AHRQ’s Mission

• To produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable

• Work to make sure that the evidence is understood and used
Clinical research to develop effective new treatments

Population health and community-based interventions to improve health

Payment and incentives for delivery of effective treatments

Research to help health care systems deliver safe and effective treatments
**Table 1**—FY12–FY16 Budgets for NIH, NSF, AHRQ, and the 13 Primary Federal Statistical Agencies

<table>
<thead>
<tr>
<th>Research Agency (amounts in millions of dollars)</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>[\text{Final Change from FY15}]</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIH*</td>
<td>30623</td>
<td>29300</td>
<td>30070</td>
<td>30311</td>
<td>32084</td>
<td>5.8%</td>
</tr>
<tr>
<td>NSF</td>
<td>7033</td>
<td>6884</td>
<td>7172</td>
<td>7344</td>
<td>7463</td>
<td>1.6%</td>
</tr>
<tr>
<td>AHRQ*</td>
<td>381</td>
<td>371</td>
<td>371</td>
<td>364</td>
<td>334</td>
<td>-8.2%</td>
</tr>
</tbody>
</table>
AHRQ Overview

• AHRQ **invests in research and evidence** to understand how to make health care safer and improve quality

• AHRQ creates materials to **teach and train** health care systems and professionals to **catalyze** improvements in care

• AHRQ **generates measures and data** used to track and improve performance and evaluate progress of the U.S. health system
Standard Funding Opportunities

• **Large research grants (R01 & R18)**
  - 3 application receipt dates per year
  - $400K/year total costs for up to 5 years

• **Small research grants (R03)**
  - 3 application receipt dates per year
  - $100K total costs for up to 2 years

• **Conference grants (R13)**
  - $50k/year total costs for up to 3 years

• **Calls for specific research topics (RFAs)**

• Visit [www.ahrq.gov/funding](http://www.ahrq.gov/funding) for details
Education & Early Career Grants

• Dissertation support (R36)
  ▶ TrainingTA@ahrq.hhs.gov

• National Research Service Awards Postdoctoral Fellows (NRSA F32)
  ▶ Shelley.Benjamin@ahrq.hhs.gov

• 18 T32 Programs

• Mentored researcher support (K01, K08)
  ▶ Tamara.Willis@ahrq.hhs.gov

• Visit www.ahrq.gov/funding/training-grants for details
Examples of Current Funding

- Improving Prehospital Emergency Maternal and Child Care (R18)
  - Jane Brice, UNC

- In Situ Simulation for Adoption of New Technology to Enhance Safety in Rural EDs (R18)
  - Emilie Powell, Northwestern University

- The Geography of Acute Care (R01)
  - Brendan Carr, Thomas Jefferson University

*For project details, visit [https://prod.ahrq.gov/](https://prod.ahrq.gov/)
Examples of Current Funding

• Cognitive Engineering for Complex Decision Making & Problem Solving in Acute Care (R01)
  ► Aaron Hettinger, Medstar Health

• Promoting Safe Care Transitions: Simulation-Based Mastery Learning to Improve Communications in Times of Diagnostic Uncertainty (R18)
  ► Kristin Rising, Thomas Jefferson University

• Improving Diagnosis in Emergency and Acute Care: A Learning Laboratory (IDEA-LL) (R01)
  ► Prashant Mahajan, University of Michigan
Examples of Current Funding

• Evaluating the Role of Telemedicine in Improving Rural Emergency Department Sepsis Care (K08)
  Nicholas More, University of Iowa

• Understanding the Causes and Consequences of Variation in Emergency Department Hospitalization Practices Across the United States (K08)
  Keith Kocher, University of Michigan

• Using Short Stay Units (SSU) Instead of Routine Admission to Improve Patient Centered Health Outcomes for Acute Heart Failure (AHF) Patients (R18)
  Peter Pang, Indiana University

• The Value of Emergency Care For Injured Older Adults (R01)
  Craig Newgard, OHSU
Funding & Grants

Research Training & Education
AHRQ-sponsored training opportunities

Project Research Online Database
Searchable database of AHRQ grants, working papers & HHS Recovery Act projects

Grantee Profiles
Profiles of AHRQ research training grantees whose work has led to significant changes in health care policy
How to Become an AHRQ Investigator: Applying for a K-Award

Nicholas Mohr, MD
Department of Emergency Medicine, Anesthesia Critical Care, and Epidemiology
University of Iowa Carver College of Medicine

nicholas-mohr@uiowa.edu
Conflicts of Interest

The presenting author has no financial conflicts of interest to report.

Dr. Mohr is supported by grant K08HS025753 from the Agency for Healthcare Research and Quality (AHRQ). The views expressed here do not reflect the opinions of AHRQ or the United States federal government.
In the realm of ideas everything depends on enthusiasm... in the real world all rests on perseverance.

Johann W. von Goethe
What is a K-award?

Objective: To support an intensive mentored research career development experience, comprised of didactic study and/or mentored research opportunities in health services research.
Who is Eligible?

- U.S. citizen or non-citizen permanent resident (USCIS Form I-551)
- Clinical doctoral degree
- Not have been PI or project lead for:
  - R01 (or equivalent), P01, P50
    - R03, R21 are okay
  - Any grant > $100k direct annually
- OK to have K12, but no more than 5 total years
What does a K-award support?

- 75% time protected for research career development for 3-5 years
  - $90,000 annually for salary (plus fringe)
- $25,000 project-related expenses annually

<table>
<thead>
<tr>
<th>Program</th>
<th>Target Applicant</th>
<th>Degree Requirements</th>
<th>FOA</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHRQ Mentored Clinical Scientist Research Career Development Award (K08)</td>
<td>Early career clinician-researchers with interests in health services research and little-to-moderate research training</td>
<td>Clinical Doctorate (MD, DO, DDS, PharmD, or other)</td>
<td>PA-17-232</td>
</tr>
<tr>
<td>AHRQ Mentored Research Scientist Research Career Development Award (K01)</td>
<td>Early career research-scientists with interests in health services research</td>
<td>Research Doctorate (PhD, ScD, DrPH, or other professional doctorate)</td>
<td>PA-16-223</td>
</tr>
</tbody>
</table>
Timeline

Develop Idea and Mentor Team

Writing Grant (6-9 months)

Submission

Score/Review (4 months)

Resubmission (8 months)

Funding

<table>
<thead>
<tr>
<th>2019</th>
<th>Cycle I</th>
<th>Cycle II</th>
<th>Cycle III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deadlines</td>
<td>Feb 12</td>
<td>June 12</td>
<td>Oct 12</td>
</tr>
</tbody>
</table>
Evaluation Criteria

- Candidate
- Career Development Plan
- Research Plan
- Mentors and Research Team
- Environmental Commitment to the Candidate
• Find an excellent mentor
• Allow adequate time to write a compelling application, get good peer review
• Sell the candidate development in addition to the project
• Contact the program officer early (Tamara Willis, tamara.willis@ahrq.hhs.gov)
How to Become an AHRQ Funded Investigator:
From the Perspective of a Current AHRQ K-Awardee

Keith E. Kocher, MD MPH

Department of Emergency Medicine
Institute for Healthcare Policy and Innovation
University of Michigan

@kekocher
kkocher@umich.edu

SAEM
5.16.19
Disclosures

• Career Development Award (K08)
  – Funded by the Agency for Healthcare Research and Quality (AHRQ)

• Michigan Emergency Department Improvement Collaborative (MEDIC)
  – Funded by Blue Cross Blue Shield of Michigan and Blue Care Network
  – www.medicqi.org
Objectives

1. Scoping the AHRQ career development award opportunity

2. My view
Scoping – AHRQ Career Development Awards

• AHRQ only offers K08 mechanism for mentored clinical scientists
  – Effectively equals K23 at NIH

• Look at past and present awards in emergency medicine
  – Understand what has been successful
  – Understand key themes, topics, opportunities
Scoping – NIH RePorter

- Focused only on K08 and K23 mechanisms
  - Mentored clinical scientist career development awards

- Limited to departments of emergency medicine

From: https://projectreporter.nih.gov/reporter_searchresults.cfm
Scoping – Results

• Historical K08/K23s in departments of emergency medicine
  – 10 from AHRQ (2004 – 2019) = 12%

• Active K08/K23s in departments of emergency medicine
  – 26
  – 5 from AHRQ = 19%

From: https://projectreporter.nih.gov/reporter_searchresults.cfm
<table>
<thead>
<tr>
<th>Investigator</th>
<th>Years</th>
<th>Title</th>
<th>Themes</th>
<th>AHRQ Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Quality</td>
<td>Emerging Issues</td>
</tr>
<tr>
<td>Stephen Wall</td>
<td>2006 – 2010</td>
<td>Spanish and English multimedia intervention to increase organ and tissue donation</td>
<td>• Resource use</td>
<td>Innovation/</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Communication</td>
<td>Emerging Issues</td>
</tr>
<tr>
<td>Brendan Carr</td>
<td>2009 – 2013</td>
<td>The comparative effectiveness of time-adjusted trauma center care on mortality</td>
<td>• Systems of care</td>
<td>Comparative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Care delivery</td>
<td>Effectiveness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Improvement</td>
<td></td>
</tr>
<tr>
<td>Reena Duseja</td>
<td>2012 – 2016</td>
<td>Understanding and risk-adjusting return visits to the ED</td>
<td>• Quality</td>
<td>Patient Safety</td>
</tr>
<tr>
<td>Edward (Ted) Melnick</td>
<td>2013 – 2017</td>
<td>Clinical decision support for mild traumatic brain injury</td>
<td>• Care variation</td>
<td>Patient Safety</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Health information</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Improvement</td>
<td></td>
</tr>
</tbody>
</table>
## Current AHRQ K08 Awards

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Institution</th>
<th>Year</th>
<th>Title</th>
<th>Themes</th>
<th>AHRQ Designation</th>
</tr>
</thead>
</table>
| Nick Mohr          | University of Iowa                   | 1    | Evaluating the role of telemedicine in improving rural ED sepsis care | • Systems of care  
                  |                                      |      |                                                                      | • Care delivery  
                  |                                      |      |                                                                      | • Improvement                                             |
|                    |                                      |      |                                                                      |                                             | Health Services Research, Data & Dissemination         |
| Brian Patterson    | University of Wisconsin - Madison    | 3    | Preventing future falls among older adults presenting to the ED       | • Quality  
                  |                                      |      |                                                                      | • Safety                                                  |
|                    |                                      |      |                                                                      |                                             | Health Services Research, Data & Dissemination         |
| Jody Vogel         | Denver Health                        | 4    | Improving the quality of patient care and outcomes for frequent emergency department visitors | • Systems of care  
                  |                                      |      |                                                                      | • Quality                                                  |
|                    |                                      |      |                                                                      |                                             | Patient Safety                                         |
| Keith Kocher       | University of Michigan               | 4    | Understanding the causes and consequences of variation in ED hospitalization practices across US     | • Care delivery  
                  |                                      |      |                                                                      | • Outcomes                                                 |
|                    |                                      |      |                                                                      | • Spending                                                 | Health Services Research, Data & Dissemination         |
| Ralph Wang         | University of California - SF        | 5    | Advancing the quality of ED renal stone management                  | • Quality  
                  |                                      |      |                                                                      | • Resource use                                             |
|                    |                                      |      |                                                                      |                                             | Patient Safety                                         |
AHRQ Official Guidance

AHRQ statement:

“Within the mission, AHRQ’s specific priority areas of focus are:

• Research to improve health care **patient safety**.
• Harnessing **data and technology** to improve health care **quality** and patient **outcomes** and to provide a **360-degree view** of the patient.
• Research to increase **accessibility** and **affordability** of health care by examining innovative market approaches to care **delivery** and **financing**.”

From: https://www.ahrq.gov/funding/training-grants/k-awards.html
My View on K Awards

**Why do it?**

– Begin with the end in mind
– Provides time and opportunity
– Marker of a particular career trajectory

**How to be successful?**

– Requires year(s) of development = gather your team, nurture your ideas
– There will be failure
**AHRQ Career Development Award Opportunity in Emergency Medicine**

**Themes**
- Quality
- Safety
- Accessibility
- Affordability

**Topics**
- Data
- Technology
- Financing
- Delivery

**Ripe**
You live this every day in the emergency department!

**Commit**
- Process
- Perseverance
- Grit

**Holistic View of Patient**
An AHRQ Journey

Alan Storrow, MD

June 19, 2018
Disclosures

• Consultant, honoraria from: Alere, Siemens
• **Research support** from: NIH/NHLBI, NIH/NCATS, AHRQ, PCORI
• I will not discuss anything off-label
Background

• Residency in the military
• Research fellowship of sorts in the military
• Small animal model of altitude illness
• Transitioned to clinical CV disease research – 20 years (NHLBI, NCATS)
• The I got approached by a lawyer…
Safe Harbors

• Special type of *predetermined* standard of care

• Applied to narrowly defined emergency care conditions.

• Legally-recognized Quality Improvement Organization (QIO) could adopt the “safe harbor” -- establish the standard of care in the context of a legal liability claim.
Safe Harbors

• Practitioners who meet such a standard satisfy their obligation under the law of medical malpractice.
• Ultimately, defining provider liability through this *predetermined*, or *ex ante*, standard of care, may result in a significant reduction in healthcare resource utilization within EM.

Targeted Clinical Practice Guideline + Legal Force as Standard of Care = Safe Harbor
<table>
<thead>
<tr>
<th>Choosing Wisely Initiative</th>
<th>Recommendation</th>
<th>Reduction Target</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low back pain</td>
<td>No imaging for first 6 weeks unless red flags present</td>
<td>X-rays, CT, MRIs</td>
<td>American Academy of Family Physicians, American Society of Anesthesiologists</td>
</tr>
<tr>
<td>Minor head injury</td>
<td>No imaging for low risk based on validated decision rules</td>
<td>CT</td>
<td>American College of Emergency Physicians</td>
</tr>
<tr>
<td>Uncomplicated headache</td>
<td>No imaging without specific risk factors for structural disease</td>
<td>CT, MRIs</td>
<td>American College of Radiology</td>
</tr>
</tbody>
</table>
Imaging tests for lower-back pain
You probably do not need an X-ray, CT scan, or MRI

X-rays, CT scans, and MRIs are called imaging tests because they take pictures, or images, of the inside of the body. You may think you need one of these tests to find out what is causing your back pain. But these tests usually do not help. Here’s why:

The tests do not help you feel better faster.
Most people with lower-back pain feel better in about a month, whether or not they have an imaging test.

People who get an imaging test for their back pain do not get better faster. And sometimes they feel worse than people who took over-the-counter pain medicine and followed simple steps, like walking, to help their pain.

Imaging tests can also lead to surgery and other treatments that you do not need. In one study, people who had an MRI were much more likely to have surgery than people who did not have an MRI. But the surgery did not help them get better any faster.

Imaging tests have risks.
X-rays and CT scans use radiation. Radiation has harmful effects that can add up. It is best to avoid radiation when you can.

Figure 1: Example of the first page of Choosing Wisely patient materials for imaging of lower-back pain.
AHRQ

- Learn the focus thoroughly, AHRQ 2.0 and website
- RFAs
- Discuss with the PO multiple times
- Promptly respond to requests
- Persistence
  - AHRQ 2011 (44, 36%), Resubmitted AHRQ 2012 (50, 33%), PCORI 2017 (not discussed)
  - Original submission to new RFA AHRQ 2018 (23, 8%), awarded
Thank You
Aim 1
Years 1-2

Tennessee QIO Submission And Approval

Aims 2 and 3
Years 3-5

Emergency Department Utilization

Parallel Evaluation
Radiation Exposure

Parallel Evaluation
Secondary Outcomes*

Comparison to Reference Setting

Dissemination

*Includes length of stay, patient satisfaction, out of pocket costs, and changes in adverse event reporting

Figure 2. Safe Harbors Approach Schema
Experience on an AHRQ Study Section & R01 Case Study: NIH vs. AHRQ

Craig Newgard, MD, MPH
Department of Emergency Medicine
Oregon Health & Science University
Portland, Oregon
Experience on an AHRQ Study Section
AHRQ *Health Care Research & Training* study section

- Focus on training grants (K08, K01, R36, F32)
- Health services research
- Quantitative and qualitative methods
- Review process (3 reviewers, scoring)
- Attention to AHRQ mission, priority areas, and priority populations
- Funding line
# Scoring guide (same as NIH)

<table>
<thead>
<tr>
<th>Score</th>
<th>Descriptor</th>
<th>Additional Guidance on Strengths/Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>Exceptional</td>
</tr>
<tr>
<td></td>
<td>Exceptional</td>
<td>Exceptionally strong with essentially no weaknesses</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Outstanding</td>
</tr>
<tr>
<td></td>
<td>Outstanding</td>
<td>Extremely strong with negligible weaknesses</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Excellent</td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>Very strong with only some minor weaknesses*</td>
</tr>
<tr>
<td>Medium</td>
<td>4</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>Very Good</td>
<td>Strong but with numerous minor weaknesses</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>Strong but with at least one moderate weakness**</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Satisfactory</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
<td>Some strengths but also some moderate weaknesses</td>
</tr>
<tr>
<td>Low</td>
<td>7</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>Fair</td>
<td>Some strengths but with at least one major weakness</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Marginal</td>
</tr>
<tr>
<td></td>
<td>Marginal</td>
<td>A few strengths and a few major weaknesses***</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Poor</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>Very few strengths and numerous major weaknesses</td>
</tr>
</tbody>
</table>
AHRQ Mission, Priority Areas, & Priority Populations

- AHRQ mission is to *produce evidence to make health care safer, higher quality, more accessible, equitable and affordable*...

- AHRQ’s *specific priority areas* of focus are:
  - Research to improve health care *patient safety*.
  - *Harnessing data and technology to improve health care quality and patient outcomes* and to provide a 360-degree view of the patient.
  - Research to *increase accessibility and affordability of health care* by examining innovative market approaches to care delivery and financing.

- AHRQ *priority populations*:
  - *Inner-city* and *rural* areas
  - *Low income* groups, *minority* groups, *women, children*, the *elderly*
  - *Special health care needs* (disabilities, chronic care, or end-of-life health care)
Dr. Craig D. Newgard
2428 Nechiiff Street
Torrance, CA 90505

Re: F32 00148-01

Dear Dr. Newgard:

This is to inform you that your grant application identified above was reviewed by the Health Care Research Training Special Emphasis Panel at its meeting on February 10, 2000.

A copy of the Summary Statement reflecting comments of reviewers is enclosed. It is anticipated funding decisions will be made soon, and you will receive notification of such within the next six to eight weeks.

This letter is for information purposes only and is not an award or statement of intent to make an award. Neither you nor anyone else at your institution should make any financial commitments or public statements based upon this letter. If an award is to be made, you will receive a "Notice of Grant Award."

Sincerely,

Harvey Schwartz, Ph.D.
Project Officer

SUMMARY STATEMENT
(Privileged Communication)

Application No.: F32 HS00148-01

Review Group: Health Care Research Training Study Section

Meeting Date: February 10, 2000
Review Cycle: May 2000

Applicant: NEWGARD, CRAIG D.  Degree(s): MD
Sponsor: LEWIS, ROGER J.  Requested Years: 2
Department: EMERGENCY MEDICINE

Project Title: VALIDATION OF AN EMS TRIAGE RULE FOR CHILDREN IN MVAS

IRG Action: Scored  Priority Score: 197
R01 Case Study: NIH vs. AHRQ
The Journey

- The setting: 1st R01 (CDC) coming to a close, needed to make transition to 2nd R01 award
- NIA FOA: “Critical Illness and Injury in Aging (R01)"
- “Improving Prehospital Identification of Older Adults with Traumatic Brain Injury”
  - Aim 1: Incidence serious TBI and under-triage among >= 55 year patients transported by EMS
  - Aim 2: Focus groups on field triage practices by EMS for older adults
  - Aim 3: Derive triage guidelines to better identify older adults with TBI
  - Aim 4: Validate these triage guidelines in a prospective cohort
- Submitted to NIA October 5, 2012
Result: triaged
Discussed with NIA program officer, plan for resubmission

Result: triaged
Discussed with 2 NIA program officers, suggested R21 submission

Original R01 submission to NIA
10/5/2012

New submission to NIA (different FOA)
3/3/2013

R01 submission to AHRQ
10/2/2013

6/5/2014

3/8/2014

11/23/2014

4/2015

4/30/2015

Council meets

Responses to reviewer comments

Notice of Award

1/2015

4

12/19/201

4

4

4

Response to reviewer comments

Council meets

Notice of Award

1/2015

4/30/2015
Funded AHRQ R01 Award

♦ "The Value of Emergency Care For Injured Older Adults"
  ♦ Aim 1: Describe the current emergency care system for injured older adults, including out-of-hospital triage processes, reasons for selecting hospitals, short- and long-term outcomes, resource use, and costs.
  ♦ Aim 2: Refine and validate a previously derived out-of-hospital risk stratification tool to better identify seriously injured older adults that could be incorporated into national triage guidelines.
  ♦ Aim 3: Estimate the overall programmatic impact (benefits, harms and costs) of triage guidelines from Aim 2, compared to current triage guidelines.

♦ 5/1/2015 – 4/30/2019

♦ Results: n = 15,649
  ♦ 6 manuscripts published/in press
  ♦ 4 additional manuscripts in preparation
Lessons Learned

- AHRQ can be a more natural fit for health services research projects, including K awards
- AHRQ budget and funding lines can be volatile and unpredictable – just submit
- Attention to AHRQ mission, priority areas, and populations
- Examples of methods supported (cost analyses, cost effectiveness, mixed methods, observational studies with complex methods, clinical trials)
- Good home for emergency care research
Thank you!