



KNOWLEDGE AND EVALUATION RESEARCH

## **Annual Overview - 2014**

## Evidence-based Practice Center

The Evidence-based Medicine Section of the KER Unit, also called the Knowledge Synthesis Program, made significant achievements in 2014. The KS program was awarded a five-year contract from AHRQ to become the 13th Evidence-based Practice Center in the US. We are very excited to receive this prestigious award after two previous attempts (third time is the charm). The new Evidence-based Practice Center or EPC will now be able to compete for requests from AHRQ to conduct systematic reviews for Medicare (i.e., CMMS), USPSTF, CDC, and other government agencies as well as organizations that use the EPC designation as a marker of review quality.

In 2014, we continued to publish heavily in high-impact journals. KS is the largest producer of high-quality systematic views in the known universe. We maintain our lucky streak in recruiting the brightest research fellows and clinical fellows to our team. We are currently conducting several methodological projects to evaluate the phenomenon of extreme effect sizes observed early during the publication of a body of evidence, and we are using natural language processing for study selection in systematic reviews to improve our efficiency. We have also completed 8 network meta-analyses and provided guidance on rating the quality of evidence derived from these complex studies.

### Awards

Our AHRQ funded "Translation into Practice of Comparative Effectiveness of Depression Medications: The Depression Medication Choice Decision Aid Trial" was awarded Best Presentation – Invited Plenary by the Society for General Internal Medicine Annual Conference. San Diego, California.

Our AHRQ funded "Translation into Practice of Comparative Effectiveness of Depression Medications: The Depression Medication Choice Decision Aid Trial" was awarded Best Presentation – Patient Oriented Research by Academy Health Annual Conference. San Diego, California.

Our publication in Implementation Science (Wyatt KD, Branda ME, Anderson RT, Pencille LJ, Montori VM, Hess EP, Ting HH, LeBlanc A. Peering into the black box: a meta-analysis of how clinicians use decision aids during clinical encounters. Implement Sci. 2014;9:26) received the Highly Accessed classification (>3000 accesses in less than a year).

The way we engaged patients and stakeholders throughout the research process during the Depression Choice Decision Aid trial was highlighted locally by Employee and Community Health News and Mayo Weekly News and is cited in the PCORI dissemination and implementation framework and toolkit as an exemplar of patient engagement in implementation of research findings.

## KER Unit Described through its Guiding Problems

This year we have explored describing the KER UNIT through the problems that guide and animate our work.

### Evidence

**Guiding problem:** A large volume of evidence of variable certainty may not be helpful and can be misleading

We investigate how medical knowledge is created and how medical professionals, patients and communities use research evidence. We produce useful and useable summaries that accurately present what health science knows and doesn't know.

### Shared Decision Making

**Guiding problem:** Serving the person when there is no one right or best answer in medical science

Patients and clinicians together must decide how to meet the challenges of illness. We study how to bring patients and clinicians together to contribute their own unique expertise in decision making. We design and produce tools that support respectful and illuminating deliberative healthcare conversations.

### Minimally Disruptive Medicine

**Guiding problem:** Health care often unduly and unnecessarily disrupts the lives of patients and caregivers

We investigate the burdens that healthcare places on patients and their families. We seek to minimize these burdens by proposing and testing approaches to care that tailor the extent, composition and goals of treatment to fit and advance each person's situation.

## 2014 at a Glance

### Publications

129

### Grants received

12

### Ongoing projects

82

### Completed projects

7



### Chili Challenge (fundraiser for Boys/Girls Club)

Spicy Spirit Award (6<sup>th</sup> year)  
1<sup>st</sup> Place: Kid's choice  
2<sup>nd</sup> Place: People's Choice

## NEW to the Unit



Kirsten Fleming, Admin Assist (August 2014)



Ian Hargraves, Designer (May 2014)

## New to the Family



Wynn Ray Behnken  
Born 10/30/2014 @ 11:11 AM  
9 lbs, 6 oz and 21 inches  
Parents: Emma Heim/Cory Behnken

## Accomplishments

In August, Kasey Boehmer, who has been with the KER Unit for three and a half years, completed her Masters in Public Health through the University of Minnesota's School of Public Health. Her thesis "Domains of capacity and their association with disruption in patienthood: Results from a survey of patients on dialysis" was a prospective survey study of 137 dialysis patients and received Honorable Mention for the Best Masters Thesis in her program. The manuscript of this work is currently under review for publication. Because she had absolutely nothing to occupy her time after graduation, she is planning to begin her PhD in the fall of 2015.



Sara Dick (Study Coordinator, member of the KER-Unit since 2007) earned her graduate degree, Master of Science in Sport Psychology, from Capella University. Her projects consisted of a research proposal on the Use of Imagery to enhance Athletic Performance of Adolescent Athletes and an applied project of Imagery Interventions from novice to experienced athletes. Sara appreciates the balance of coaching volleyball during the fall to pursue this passion, while continuing to be a part of the professional team of the KER-Unit.

J. P. Brito, M.D. was promoted to Assistant Professor of Medicine and Mayo Clinic Scholar in the Division of Endocrinology and Nutrition at Mayo Clinic in Rochester, Minnesota. He also is a co-investigator in the Knowledge and Evaluation Research (KER) Unit at Mayo Clinic. Dr. Brito has authored over 40 peer-reviewed publications. He is a member of the Endocrine Society Research Affairs Core Committee and a recognized expert in thyroid cancer over-diagnosis and overtreatment. His research interests include the application of patient centered health care delivery of diagnostic tests and treatments.



## Projects

**ICAN:** In February, we began developing the Instrument for Patient Capacity Assessment (ICAN), and encounter-based communication tool for patients and clinicians to use together to discuss their capacity to enact proposed treatment plans. This work is a key project for the pursuit of Minimally Disruptive Medicine and is supported by a qualitative systematic review and methodology in user-centered design. We are currently on our 8th prototype and are currently seeking funding to test the final version. The systematic review and the final prototype of the tool are expected to be complete sometime in the spring.

**SCIP:** The Statin Choice Implementation Project (SCIP) is a prospective study of the initial implementation and subsequent scale-up of Statin Choice Decision Aid usage within the Mayo Clinic Care Network. We are currently in the first phase of this study, which involves integration of the Statin Choice Decision Aid into the EMRs of 3 index health systems. In mid-2015 the 3 index health systems will take their experience and share it with the rest of the Mayo Clinic Care Network. We are studying the implementation process and observing changes in the tool's usage, clinician and system leadership beliefs and priorities, and patient experience over time. This is the largest study of its kind.



**Anticoagulation choice:** In 2014 we started this challenging but exciting project. The Anticoagulation choice is an encounter-based communication tool that aims to facilitate the conversation about the available options for anticoagulation therapy during the decision making process between patients with atrial fibrillation and physicians. We are currently testing prototypes of the decision aid in real practice. We expect to complete this phase and test the final version of the tool in an electronic format during the 2015.

**MDM:** The MDM workshop development is still going forward. The plan is to host it in Rochester before the end of May 2015. Currently, the planned participants are leadership from each of the MMoC 3 (Mayo Model of Care) Alpha Sites. Further information will come forward hopefully within the next month.

## Social Media

**Twitter**  
@KerUnit

**Facebook**  
Diabetes Advisory Group

**Youtube Channels**  
KER Unit or Mayo Clinic

## Websites

### SDM

<http://shareddecisions.mayoclinic.org/>

### MDM

<http://minimallydisruptivemedicine.org/>

## KER Alumni

**J. P. Brito**  
**Oscar Morey-Vargas**  
**Qusay Haydour**  
**Tarig Elraiyah**  
**Maria Sarigianni**  
**Jorge Zuniga**

## Research Trainees



Fares Alahdab has been here for over a year, and is a postdoctoral research fellow since March 2013. He finished medical school in Damascus University Faculty of Medicine and then spent some time in Kansas University Medical Center for clinical rotations before coming here. His research interests include research synthesis, evidence based medicine, internal medicine, and cardiology.



Wigdan Farah, MBBS comes from Khartoum City, Sudan and has worked in the public health field with special interest in preventative medicine and disaster management.



Ana Castaneda-Guarderas joined the unit from Peru. After graduating from medical school she worked for CONEVID, a nonprofit organization aimed at giving young investigators the opportunity to design and conduct projects under the mentorship of prestigious outside researchers. She will be pursuing further education in emergency medicine.



Jihad Almasri, M.D. graduated from medical school (Damascus University, Faculty of Medicine) in March 2014. He is originally from Damascus, Syria and is married with a 5-month boy. His interests are helping people, socializing with friends and family, managing and putting plans for everything. Dr. Almasri is working in the hematology/oncology field, and is interested in stem cells and its application.



Pavithra Bora has been associated with the KER unit since Feb 2014 and started her research traineeship in July 2014. She has taken her Master's in Business Administration (Health Services) from University of South Australia, Australia and has passion for the science of health care delivery, quality management and health care administration.



Mouaz Alsawas is a Syrian doctor who graduated from University of Damascus. His ultimate career goal is to become a successful physician scientist. He has been attending a clinical research training certificate program at Harvard Medical School since December 2014, and he joined KER unit in January 2015. His interest is both clinical research and clinical informatics.



Ahmed Ahmed, is an international medical graduate from Egypt, who completed his radiology residency and business. During his time here, he has worked with Neuroradiology, Vascular and Interventional Radiology and a few other departments. Since being here, he has changed his vision and future goals, as well as modifying his passion towards research especially knowledge synthesis and systematic review and meta-analysis. He would like to pursue a career in this type of research and be one of the main players.

## Promotions

Jon Inselman began working for Mayo Clinic, and subsequently the KER Unit, in January of 2012 as a statistical programmer analyst. Jon graduated from Winona State University in May of 2011 with a degree in Mathematics and minors in Statistics and Economics and is currently furthering his education in statistics through an online program offered by Penn State. He has worked with the KER unit on several trials including TRICEP, iADAPT, PCI Choice and is working on several current trials. He works on several other projects in the Center for the Science of Healthcare Delivery and recently was promoted to an Assistant Supervisor role in Clinical Statistics within the division of Biostatistics and Informatics. He is excited for the leadership and learning opportunities that he'll be afforded through this position, and glad that he will maintain 75% of his project work as well.



# Studies and Decision Aid Updates

## R24 Share EBM Study

R24 Share EBM study was launched in 2014. Mayo Clinic, in collaboration with members from the Institute for Clinical Systems Improvement (ICSI), engaged 12 health care systems across Minnesota and Wisconsin. The main outcome is understanding the uptake in use of the four decision aids; CV risk prevention, osteoporosis choice, depression medication choice and diabetes medication choice issue cards. Six sites are active implementation sites, so are receiving cultural mapping and support from ICSI to implement the decision aids. The other six sites are passive implementation sites, so are using the decision aids and implementing them into their practice as it works from them without the support of ICSI. The decision aids and other material including journal clubs, testimonials, presentations, cultural mapping tools and other resources are available on the electronic toolkit created for this study. One site is primarily using the Spanish version of the depression medication choice issue card. This study will occur for a year and includes qualitative components including interviews, observations and focus groups.

## TRICEP

TRICEP (R18) is in data analysis phase. Patient recruitment was completed in 2013. Fidelity and OPTION scoring is ongoing.

## PCI

PCI Choice finished enrollment in March of 2014. The manuscript is in its final stages. A few other outcomes include the analysis of the qualitative interviews with participating clinicians, and a piece written by invested cath lab nurses to describe their role and advocate for nurses in SDM to submit as an abstract/presentation. Dr. Coylewright was also one of the finalists for the Young Investigator's Award through QCOR, of which she presented the abstract and study last May.

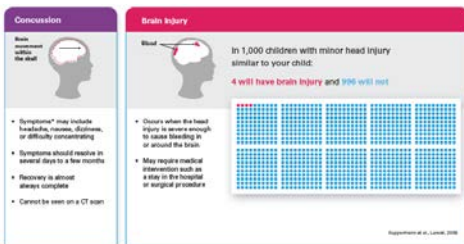
## Decision Aid Update

New printing for the Issue Cards without the lamination to help reduce the cost.

- Electronic Depression Medication Choice DA- In process; Ian and KER staff will be connecting with the graphic design class from Georgia Tech to move this forward.
- Spanish Depression Medication Choice DA-Now available in printed format and electronically.
- Afib- In prototype phase

## CPC and Head CT

The Mayo Clinic Acute Care Research Team in the Emergency Department at St. Mary's Hospital currently has 2 active multicenter Decision Aid trials. The Chest Pain Choice Trial and the Pediatric Head CT Trial since its inception have completed enrollment of 618 (66% of its goal) and 310 (31%) participants respectively.



The Pediatric Head CT Trial focuses on pediatric patients with minor head trauma undergoing unnecessary head CT scans; this has led to over utilization of CT, increased exposure to radiation, cost and healthcare delivery burden.

The Chest Pain Choice Trial looks into factors that influence decision making by examining patient-physician interaction during decision making for further cardiac testing after presentation to the Emergency Department with Chest Pain.

These trials aim to promote patient/parent involvement in the decision making process for further testing. By fully informing patients/parents using visual aids we aim to safely decrease unnecessary testing and healthcare costs. Our objective is to identify patient participation in clinical communication by analyzing video-graphic data of patient-clinician encounters collected from the Chest Pain Choice Trial and the Pediatric Head CT Trial in the Emergency Department.

We intend to achieve this by secondary data analysis of video-taped patient-clinician encounters recorded during counseling. Health Service Analysts from the Center for the Science of Health Care Delivery trained in the OPTION scale instrument will code the video encounters for the extent to which clinicians involve patients in decision making within consultations. By identifying the interactional factors and communication behavior that influence decision making and addressing them, our long term goal is to promote evidence based, patient centered evaluation in the acute care setting.

## Endocrine Fellows



Dr. Spyridoula Maraka is from Kalamata, where the olives are from. She attended medical school at University of Athens, Greece and worked as a research fellow at Northwestern University, Chicago for 18 months. She completed her Internal Medicine Residency at University of Connecticut, Farmington, CT. Her main research area is on thyroid disease during pregnancy.



Dr. Naykky Singh Ospina graduated from medical school in Panama and is in her second year of Endocrinology Fellowship. Research interests are broad and include evaluation of thyroid nodules and shared-decision making in patients with mild primary hyperparathyroidism.

## Research Associates



Dr. Moain Abu Dabrh finished his clinical training in Tripoli, Libya. He received research training at the clinical microbiology/infectious diseases lab at NYU in New York City, NY. He earned his Master's degree in Clinical and Translational Research from Tufts University, School of Medicine Boston, MA and moved to freezing Rochester, MN to do a research fellowship at the division of Preventive, Occupational, and Aerospace Medicine. Moain is currently a Research Associate at the KER Unit working on and leading several projects in evidence-based medicine, with emphasis on minimally disruptive medicine, and eventually aims to become a clinician-investigator in internal medicine.



In (2014, Dr. Aaron Leppin was promoted to Research Associate in the Knowledge and Evaluation Research Unit. In this role, he oversees the development and conduct of research projects in the Unit's dissemination and implementation science portfolio and within the Late Stage Translational Research Program of the Center for Clinical and Translational Science (CCaTS).

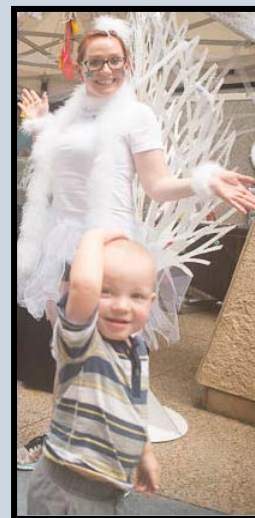
## Visiting Graduate



Heidi McLeod is a PhD candidate from the University of Minnesota who joined the KER Unit as a visiting graduate student in 2014. Heidi is from Barbados and has studied at the University of Edinburgh, where she attained an MA (Hons) in Economics and Politics, at the University of Glasgow where she graduated with an MPhil in Economic Development with Distinction and at the Academia Diplomatica Andres Bello in Santiago, Chile where she was awarded a Diploma in Diplomacy and won the award for the top international student in the program.

After a career in Foreign Affairs and time spent working at the UN, the WTO, the Organization of American States and the Inter-American Development Bank, Heidi met her husband and moved to Rochester, Minnesota. They have three boys and Heidi happily juggles being a mother and PhD student at the same time. Heidi's research interests are improving the quality of the patient experience, respect in the clinical encounter, patient centered care and shared decision making. In her spare time Heidi enjoys playing tennis and traveling to warm countries!

## Teamwork through Service



## In the News:

### Victor:

[Why is thyroid cancer so common here?](#)  
[Ready, Set ... Engage: Mobile technology and engagement Education notebook](#)  
[Prediabetes label unhelpful, experts argue](#)  
[Pre-diabetes diagnosis has little value, say two experts](#)  
[Research Roundup: The Effect Of Expensive Cancer Therap](#)  
[USA Today story shows lack of awareness of debate over](#)  
[Despite controversy, report recommends prediabetes screening](#)  
[Why vitamin D pills are probably worthless for most people](#)  
[A Journal Sentinel Watchdog Report - Benefits of diabetes](#)  
[Benefits of diabetes drugs dubious](#)

### Nilay:

[McCourt School's Massive Data Institute Awards First Re](#)  
[Why Health Care May Finally Be Ready for Big Data](#)  
[Mayo seeks to dominate with data](#)

### Hassan:

[Study: BMI measurement could be missing 25 percent of](#)

### Annie:

[http://newsletters.mayo.edu/newscenter/Article.aspx?contenID=DOCMAN-0000159609;](http://newsletters.mayo.edu/newscenter/Article.aspx?contenID=DOCMAN-0000159609)