

2013-  
2014

# Scholarly PATHWAYS



## M-2 Scholarship Forum

# POSTER PRESENTATIONS

**Thursday, June 26**  
in the Alumni Center

1:00—2:30 pm —Poster Viewing

At 1:20 pm Commentary from Geoffrey Lamb, MD, Director of QUIPS



8701 Watertown Plank Rd.  
Milwaukee, WI 53226-0509

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# Scholarly PATHWAYS

## M-2 Scholarship Forum

The MCW Scholarly Pathways program is a required component of the medical school curriculum. Students selected one of seven areas of concentration through which they enrich and individualize their medical training, while exploring a career path of interest.

The Scholarly Pathways are:

Bioethics      Clinician Educator      Global Health      Master Clinician  
Physician Scientist      Quality Improvement & Patient Safety  
Urban & Community Health

Each of the Scholarly Pathways features a structured curriculum with core content delivered through monthly didactic and small group sessions, and an experiential component guided by a faculty advisor and Individual Learning Plan (ILP). Students must also complete a project by the end of their M3 year which meets each of Glassick's criteria for scholarship: 1) Clear Goals, 2) Adequate Preparation, 3) Appropriate Methods, 4) Significant Results; 5) Effective Presentation, and 6) Reflective Critique.

Students listed in this book completed their projects at the end of M-2 year. Projects include research in the basic, clinical and social sciences, curricular innovations and teaching, quality improvement initiatives, and community engaged projects to address health disparities in Milwaukee and abroad. This book includes abstracts for each student project who presented today.

**Congratulations to the class of 2016 for the creativity and innovation evidenced by the scholarship presented today!**

### **SPECIAL THANKS**

The Pathway Directors would like to express their sincere gratitude to the Pathway Planning Council members, faculty advisors and project mentors, and community partners who have helped our students succeed. A special thanks also needs to go to the Pathways coordinators, Meaghan Hayes, Hilary Chavez and Jennifer Kraus for their hard work and support.

### **PATHWAY CONTACT INFORMATION**

Clinician Educator, Physician Scientist Meaghan Hayes, mehayes@mcw.edu, 414-955-2812  
Urban & Community Health, Global Health Hilary Chavez, MS, hchavez@mcw.edu, 414-955-2811  
Bioethics, Master Clinician, Quality Improvement & Patient Safety Jennifer Kraus, jkkaus@mcw.edu, 414-955-2284

<http://www.mcw.edu/Scholarly-Pathways.htm>

# Bioethics

Ryan Spelley, PhD &  
Cynthiane Morgenweck, MD, MA

Enables medical students to integrate the knowledge and tools of bioethics as an essential part of his or her career as a physician.

Provides medical students the opportunity to develop their ethics skills in a variety of areas, including but not limited to clinical ethics



consultation, research ethics, and participation and leadership in institutional ethics committees.

Kuemmet, Travis

## Ethical Considerations in the Treatment of Transgender Youth

Authors: Kuemmet T.

Project Mentor: Andrew Petroll, MD, MS

Gender nonconforming adolescents need specialized healthcare and treatment. Medically delaying the development of secondary sex characteristics is a major issue when treating these patients. The decision for a provider to prescribe and manage this treatment is controversial, and has many ethical implications that need to be considered. Provider competency in this area is complicated by cumbersome treatment guidelines that are nonspecific to adolescents. There are also many difficulties for a gender transitioning patient that can negatively affect care, and finding a provider may be challenging. In this paper, I will examine several scenarios, interventions, and outcomes in treating this group of patients.

# Clinician Educator

Karen Marcdante, MD

Students gain skills in teaching in the clinical setting, learn how to apply educational principles to their teaching and develop a scholarly educational product.



- Teaching in various settings
- Adult learning and learning styles
- Developing instruction for health care practitioners
- Advising/mentoring peers and others
- Evaluation tool design
- Educational leadership

Christiansen, Lyle

## Step 1 Study Group Using Concept Mapping of Clinical Vignette Questions

Authors: Christiansen L.

Project Mentor: Patricia Lye, MD

This project was based on the work of Dr. John Pelley. He demonstrated a method of group study that uses concept mapping of clinical vignette questions. This project was to implement the method at MCW. The goals were to teach concept mapping, get practice with clinical vignettes and benefit from team based learning. After reviewing Dr. Pelley's online material, I gathered some interested people and setup a demonstration. There were 6 participants. At weekly meetings, we reviewed questions by using concept maps to analyze them. We recorded all the information from the stem. Then, we analyzed the answer options one at a time, adding details and making connections to the stem that could include or exclude them as correct. We mapped about 10 questions per session. The group was analyzed with a pre/posttest. Of the people that continued to the end, all felt more prepared for clinical vignette questions, benefited from team based learning and felt more satisfied with this group than other groups they had studied with.



Gabet, Joelle

### Evaluating the Efficacy of a Peer Taught FAST Exam US Course

Authors: Doxey R, Gabet J, Funk R, Phelan MB, Pace C.

Project Mentor: Caroline Pace, MD

Introduction: Ultrasound is not a component of the medical curriculum. We propose medical students can perform a FAST exam via a peer-taught course. Methods: Participating M2s completed online modules, a didactic session, two sessions with standardized patients, and a simulator session. Participants completed satisfaction and confidence surveys, and quizzes. Evaluation consisted of exams on an SP and simulator. Results: 11 students completed the curriculum. Confidence identifying structures and satisfaction with the course increased significantly. In the SP portion, 6/11 adjusted depth, 11/11 adjusted gain, and students identified 16.9/17 structures. In the simulator portion, 10/11 adjusted depth, 8/11 adjusted gain, and students identified 15.4/17 structures. Average time to completion was 3:56 for the SP and 4:46 for the simulator. Conclusion: After a peer-taught course, M2s can identify anatomy and meet technical criteria for an adequate image. Peer teaching is an effective way to teach with minimal strain on faculty resources.

Palmer, Brandon

### Improving Teaching Effectiveness of Renal Radiology In Medical School

Authors: Palmer BP, Budovec JJ.

Project Mentor: Joseph Budovec, MD

Diagnostic Radiology is a continually growing field of medicine utilized in every specialty. While diagnostic radiology continues to grow, teaching methods used to teach radiology to medical students remains fairly static. We examined data from medical students at the Medical College of Wisconsin to identify areas for improvement in the teaching of renal pathology and radiology throughout medical school. Only 7 of 88 students surveyed agreed they felt thoroughly educated on renal imaging. Also, only 35 of 88 students agreed they learned best by attending lectures, while 55 students thought they learned best in a hands-on environment. Our results indicated MCW students feel there is room for improvement in the teaching of renal anatomy on imaging, and other aspects of renal pathology and care. Students expressed a high regard for shoulder-to-shoulder teaching with faculty, while indicating they do not find lectures as useful. Other options for possibilities of teaching renal pathology and imaging should be considered.

Stevens, Michael

### Auscult and Writing Workshops: Humanities and Writing in Medical School

Authors: Stevens MW, Sprick C.

Project Mentor: Nancy Havas, MD

Physicians who are aware of the humanitarian side of their patient's disease have a better relationship with that patient. Also, physicians who scored high on the Jefferson scale of empathy had diabetic patients with better controlled blood sugar and cholesterol. However, medical education focuses mostly on the science of medicine and students struggle to explore their humanitarian side or develop empathy. We set out to give medical students the opportunity to incorporate humanities into their education by offering creative writing workshops and reintroducing the literary magazine Auscult. There was enough interest and enough submissions were received to publish Auscult which was distributed to medical schools across the country. Also, feedback regarding our workshops indicated the attendees feel more comfortable using writing as a tool to help connect with patients on an empathetic level. There is enough application and student interest to warrant giving students the option of incorporating humanities into medical education at MCW.

Wenzel, Michelle

### The Feasibility of an M2 Completing an M3 Family Medicine Clerkship

Authors: Hall DE, Wenzel MK, Bower D, Patterson L.

Project Mentor: Douglas Bower, MD

See Hall, Derrick (QUIPS), Page 9

# Global Health

Stephen Hargarten,  
MD, MPH

Designed for students seeking to understand the causes and in finding the means to provide solutions, to the



challenges and disparities in health status of people worldwide—from Milwaukee to Moscow to Marrakech.

Examples of topics include:

- Disaster management and injury control
- Clinical tropical medicine, infectious diseases and parasitology
- Healthcare delivery systems, medical anthropology and cultural sensitivity
- Non-communicable diseases and global disease epidemiology

Coogle, Lauren

## A Collaboration to Strengthen Physical Exam Skills in Uganda

Authors: Coogle L, Kaminsky M, Umphrey L, Manzi G, Thomas V, Kacumita V, Frazer T, St Clair N, DaSilvia D, Simpson P, Treat R.

Project Mentor: Mary Kaminsky, MD

Background. This project emerged from an identified need for physical exam (PE) training in southeastern Uganda, as many practitioners in that area do not routinely use a PE during a patient encounter. Methods. A culturally sensitive educational intervention was developed to teach the PE to Ugandan healthcare workers. A PE curriculum was taught to a Ugandan-trained nurse practitioner equivalent (the Master Trainer) by U.S.-trained pediatricians. The Master Trainer then taught the curriculum to 23 Ugandan healthcare workers. Evaluation of the curriculum included the use of a pre- and post-training test and PE OSCEs which both focused on the trainees' knowledge of the head-to-toe PE. Results. Test-score data was collected from the 23 trainees. Evaluation of the training tests has shown an increase in PE knowledge: median score on the pre-test was 7.0 which increased on the post-test to 12,  $p < 0.001$ . The pre- and post-training OSCE data has not yet been analyzed; we hope that it will also show an increase in the trainees' PE knowledge.

Massoumi, Roxanne

## A Comparison of Healthcare in Iraq and Iran During Political Sanctions

Authors: Massoumi R.

Project Mentor: Sumana Koduri, MD

Iran and Iraq have both been under sanctions implemented by the U.N. and the U.S.A. Sanctions are intended to alter governmental policies while sparing the average citizen's suffering, however, it is observed that sanctions actually can have a severely negative impact on the healthcare of citizens. I spent 6 weeks working and interviewing physicians in Iran. I then performed a literature review on both Iran and Iraq to gather more information and to compare their healthcare systems under sanctioned times. Iraq and Iran both had a shortage of medicines, instrumental supplies, and access to the global medical community. Iraq is used in this paper, to foreshadow what may be the future for a post-sanctioned Iran. In the decade following the lifting of sanctions, Iraq suffered stagnation in their healthcare system; their system was unable to recover. Awareness now of this possibly bleak post-sanctioned future for Iran may allow early prevention.





# Physician Scientist

David Brousseau, MD, MS



Uses a hypothesis driven research project to provide the student an individualized research experience allowing for the development of broad research skills.

- Basic epidemiologic and statistical principles
- Scientific writing and presentations
- Ethics of research
- An individualized, mentored research project

Boehm, Lucas

## A Systematic Review of Hepatic Artery Therapies for Unresectable ICC

Authors: Boehm L, Jayakrishnan T, Miura J, Turaga K, Johnston F, Tsai S, Gamblin TC.

Project Mentor: T Clark Gamblin, MD MS

Introduction: Hepatic artery based therapies (HAT) are offered for patients with unresectable intrahepatic cholangiocarcinoma (ICC). The present study is a systematic review of the comparative effectiveness of hepatic arterial infusion (HAI), transcatheter arterial chemoembolization (TACE), drug-eluting bead TACE (DEB-TACE), and Yttrium90 radioembolization (Y90). Methods: Primary outcome was median overall survival (OS), and secondary outcome was tumor response to therapy (RECIST). PROSPERO protocol - CRD42013004830. Results: Twenty articles met inclusion criteria (n=627). Complete tumor response was reported in two patients. Partial response to therapy was highest with HAI (41.3%, n=63) vs. DEB-TACE (32.4%, n=34) vs. Y90 (26.4%, n=121) vs. TACE (12.6%, n=333). Highest median OS (months) was observed for HAI (21, 11-31) vs. Y90 (14, 9-22) vs. TACE (13, 6-16) vs. DEB-TACE (12, 12-13). Conclusion: For patients with unresectable ICC, hepatic arterial infusion offers best outcomes in terms of tumor response and overall survival.

Deeb, Andrew-Paul

## Blood Transfusion is Associated with Reduced Survival in Colon Cancer

Authors: Deeb AP, Monson JRTM, Khorana AA, Blumberg N, Fleming FJ.

Project Mentor: Patrick Foy, MD

Purpose: Perioperative transfusion rates among the colon cancer population are traditionally very high. Transfusions are reported to induce immunomodulatory effects that contribute to postoperative infectious morbidity and adverse oncological outcomes. Methods: In a retrospective study, patients with stage I-III adenocarcinoma of the colon were evaluated. Study endpoints were factors associated with infectious complications and the effect of leukocyte-depleted RBCs on disease-free and overall survival. Chi-square, multivariate logistic regression, Kaplan-Meier, and Cox regression analyses were performed. Results: Of 294 patients, 22% were transfused. After adjustment, transfusion remained an independent predictor of infectious complications and diminished survival. Conclusion: Transfusions remain associated with deleterious effects in colon cancer patients, regardless of leukocyte depletion. Preoperative identification of anemia and correction with iron supplementation may reduce the need for transfusions.

Dietrich, Peter

## The Relationship between mTBI and PTSD in Civilian Trauma Survivors

Authors: Dietrich, PN.

Project Mentor: Terri deRoos-Cassini, PhD, Karen Brasel, MD, MPH

INTRODUCTION: Posttraumatic stress disorder (PTSD) in civilian trauma survivors significantly affects quality of life. In these patients, mild traumatic brain injury (mTBI) is often overlooked. The goals of the present study were to establish the missed rate of mTBI and determine the relationship between mTBI and PTSD. METHODS: Trauma patient's PTSD Checklist-Civilian version (PCL-C) score 6 months post injury were reviewed. A score of >44 is highly correlated with PTSD. mTBI was defined using WHO criteria of loss of consciousness or neurological symptoms and a Glasgow Coma score  $\geq 13$ . RESULTS: Of 347 trauma patients, 31 had clinically recognized mTBI and 48 had a missed mTBI. Patients with a clinical and missed mTBI (n=79) reported significantly higher PCL-C scores (p=.001) and significantly higher incidence of PCL-C score >44 (p=.019, RR=1.58) than those without an mTBI. CONCLUSION: mTBI is under diagnosed and diagnosis predicted clinically significant PTSD scores and increased the relative risk of screening positive for PTSD symptoms.

## Outcomes of a FastTrack Pathway for Urgent Laparoscopic Cholecystectomy

**Authors:** Trevino C, Katchko K, Verhaalen A, Bruce M, Webb T.

**Project Mentor:** Travis Webb MD

Acute Care Surgery has increased interest in management of emergent surgeries. We hypothesized that a fast-track protocol for urgent laparoscopic cholecystectomy would reduce length of stay (LOS), maintain patient satisfaction, complication and readmission rates. We reviewed urgent laparoscopic cholecystectomy cases comparing historical (PRE) and post-implementation (POST) cohorts. POST was divided into fast-track patients who achieved (FTC) and failed (FTF) pathway completion. Average LOS, readmission, post-op complications, and satisfaction scores were compared. Age, day of surgery, and medication were evaluated for prediction of completion. Readmissions and post-op complications were similar. LOS was reduced 1.95 to 1.5 days ( $p=0.06$ ). Within the POST cohort, the LOS difference between FTC and FTF was significantly reduced 1.01 to .42 days. Use of Tylenol/NSAIDS predicted completion of protocol. Urgent laparoscopic cholecystectomy patients can be managed with a fast-track protocol for shorter LOS, similar outcomes, and satisfaction.

Parker-McGill, Katelyn

## Increasing Incidence of Cystic Fibrosis in WI

**Authors:** Parker-McGill KL, Nugent M, Bersie R, Hoffman G, Rock MJ, Farrell PM, Baker M, Simpson P, Levy H.

**Project Mentor:** Hara Levy, MD

Although cystic fibrosis (CF) is the most common life-limiting autosomal recessive disorder in the non-Hispanic White population (1:2,500), it is also prevalent in other racial groups. The large heterogeneity in mutations among racial populations has presented challenges in optimizing the sensitivity of testing within newborn screening programs to encompass minority populations. We evaluated the incidence of CF as reported by WI's newborn screening program for 1994-2011 ( $n=285$ ), and compared these race-related data to previously reported incidence studies. We detected a trending increase in CF cases, homozygous p.Phe508del cases, heterozygous p.Phe508del cases, and cases with no p.Phe508del mutation per 10,000 births. Both the number of cases with no p.Phe508del mutation per year and the number of no p.Phe508del cases per 10,000 births significantly increased ( $p=0.05$ ) from 1994 to 2011. These trends suggest that the racial composition of the CF cohort is changing in WI, possibly influencing disease detection, care, and outcome.

Shariat-Madar, Bahbak

## Surgical Management of Obstructive Peritoneal Carcinomatosis

**Authors:** Shariat-Madar B, Jayakrishnan TJ, Gamblin TC, Turaga KK.

**Project Mentor:** Kiran Turaga, MD, MPH

**Background** Due to poor prognosis, treatment for malignant bowel obstruction (MBO) due to peritoneal carcinomatosis (PC) emphasizes improved quality of life and symptom relief. Currently, the value of surgery to treat obstructive PC is unclear.

**Methods** A prospectively registered search strategy (PROSPERO) utilized specific key words to find peer-reviewed, English language articles published in PubMed (2003-2013). Primary outcomes of interest were median overall survival (OS) and complications. **Results** Of 730 articles screened, 64 were selected for full-text review and 5 were analyzed quantitatively. This comprised 338 patients with MBO, of which 324 (95.8%) presented with PC. OS for all patients was 6.8 months (2.8-19.6,  $n=180$ ). OS for patients that underwent bypass, resection, and colostomy was 8.7 months (2.8-9.5,  $n=78$ ), 5.5 months (4.9-19.6,  $n=95$ ), and 3.4 months ( $n=7$ ), respectively. **Conclusions** This study supports surgical bypass over resection to treat obstructive PC, as it offered better overall survival with fewer complications.



# Quality Improvement & Patient Safety

Geoffrey Lamb, MD & Catherine Ferguson, MD



Provides students with the core principles and skills necessary to understand and analyze the systems-based aspects of patient care, to actively engage in quality improvement work, and to enhance patient safety with the goal of achieving the best possible health outcomes for patients.

- Optimization of systems of care.
- Functioning as a member of the healthcare team.
- Principles of safety and medical error.
- A mentored quality improvement project.

Benson, Kristine

## Decreasing the Use of Filshie Clips for Postpartum Sterilization

Authors: Benson K, Klatt T.

Project Mentor: Timothy Klatt, MD

**INTRODUCTION:** We learned that a few of our patients became pregnant after postpartum sterilization performed with Filshie clips. Recent literature shows a higher failure rate with this method (2). **METHODS:** We collected baseline data on our Filshie clip usage. A letter was drafted to send to faculty members who used Filshie clips after the intervention's start, 12/1/13. This letter summarized the recent literature and asked why they chose this method. Details of this project, including plans to publicly present only group data, were announced at a faculty meeting. We monitored progress monthly by reviewing billing data. **RESULTS:** Between 8/1/13 and 11/30/13, 20% (8/40) of postpartum sterilizations were performed with Filshie clips. The rate fell to 0% (0/31) between 12/1/13 and 3/31/14 ( $p=0.008$ ). This 0% rate has been maintained to date. **DISCUSSION:** Our project decreased the use of Filshie clips for postpartum sterilization at Froedtert Hospital: a meaningful improvement in the quality of care we deliver.

Bozeman, Jared

## Controlling Clostridium Difficile at Froedtert: a Multifaceted Project

Authors: Bozeman J, Graham MB

Project Mentor: Mary Beth Graham MD

Nosocomial infection with *Clostridium difficile* presents a clear and present challenge for Quality and Infection Control Departments around the world. The flourishes with conditions common in hospitals, including high antibiotic use, immunosuppression, and lax compliance with correct hand hygiene protocols. Froedtert Memorial Lutheran Hospital (Froedtert) has not been exempt from this challenge. Over the past year, I have worked with Froedtert's Infection Control team to evaluate measures to decrease the transmission of this pathogen. These studies reinforce the importance of sanitation for controlling *C. diff*. Thus, future work to limit *C. diff* will focus on cleanliness of patient rooms and the hands of healthcare providers. This will include both high tech sterilization tools as well as low tech measures to increase staff compliance with best practices.

Doers, Matthew

## Feedback to Achieve Improved Sign-out Technique

Authors: Doers ME, Beniwal-Patel P, Kuester J, Fletcher KE.

Project Mentor: Kathlyn Fletcher, MD, MA

To maximize the quality of sign-out documents within our internal medicine residency, we developed and implemented a quality improvement intervention. We collected written sign-outs from general medicine ward teams and graded them using an 11-point checklist. We then gave in person feedback directly to the teams. Documentation of many of the 11 elements improved: mental status (22% to 66%,  $p<0.0001$ ), decisionality (40% to 66%,  $p<0.0001$ ), lab/test results (63% to 69%,  $p<0.0001$ ), level of acuity (34% to 50%,  $p<0.0001$ ), anticipatory guidance (69% to 82%,  $p<0.0001$ ), future plans (35% to 38%,  $p<0.0005$ ). The use of vague language declined (41% to 26%,  $p<0.0001$ ). The mean total scores improved from 7.0 to 8.2 out of a possible 11 ( $p<0.0001$ ). As new housestaff rotated onto the services, improvement over time was sustained with one feedback session per team per month. Similar interventions could be made in other programs and other institutions.



Hillen, Louise

### Improving Physician Documentation of Pressure Ulcers in the ICU

**Authors:** Hillen L, Scanlon M.

**Project Mentor:** Matthew Scanlon, MD, CPPS

Pressure Ulcers (PUs) are a serious, expensive and preventable injury that commonly occurs in the Pediatric Intensive Care Unit (PICU). Physician decisions regarding medications, nutrition and patient activity influence the development of PUs. Prior data shows a <10% rate of physician PU documentation and major discrepancies with nurse documentation. The aim of this study was to evaluate a Patient Safety Assessment Tool (PSAT) in the electronic health record (EHR) as a way to improve physician awareness of PUs as measured by physician documentation. Results of this study show that use of the PSAT in the EHR can improve physician documentation of patient skin status to 80%. Of 20 patients with known pressure ulcers, 100% were screened. Of those screens, 75% had accurate pressure ulcer status documented, and 70% had a correct assessment. Therefore, this tool leads to improved documentation of patient skin status, which may lead to improved patient care.

Hall, Derrick

### The Feasibility of an M2 Completing an M3 Family Medicine Clerkship

**Authors:** Hall DE, Wenzel MK, Bower D, Patterson L.

**Project Mentor:** Douglas Bower, MD

To address primary care physician shortages, the Medical College of Wisconsin Department of Family and Community Medicine is developing an accelerated MD program for Family Medicine (FM). The goal of this project was to determine if medical students could successfully complete the FM clerkship after only one year of medical school. Two rising M2 students piloted an early FM clerkship. Their success was evaluated using reflection essays, clinical field notes, exam scores, OSCE scores, and team-based learning session scores. The student fellows successfully completed all coursework and passed all examinations. Based on these results, we were able to conclude that it is feasible to complete the FM clerkship after only one year of medical school as part of an accelerated curriculum. To ensure the success of accelerated students, a preparatory course on the top 20 diagnoses in FM, as well as a clinical skills workshop should be implemented as part of the accelerated curriculum.

Lofgran, Jeffrey

### Preventing Infant Abusive Head Trauma: Assessing Compliance with Act 165

**Authors:** Lofgran J, Bretl D, Rabbitt, A.

**Project Mentor:** Angela Rabbitt, DO

**BACKGROUND:** Abusive head trauma (AHT) in infants (Shaken Baby Syndrome) carries a mortality rate of up to 30%, with the majority of surviving infants suffering permanent neurological impairment. Prevention through parent education has been shown to reduce rates of AHT by 47%. Wisconsin's Prevent Violence Against Children Act (Act 165) requires all caretakers of children to receive education on the effects of AHT. **AIM:** Evaluate Children's Hospital of Wisconsin (CHW) compliance with Act 165 with documentation of AHT education for parents of all hospitalized infants 7 days of age or younger from September 2009 to August 2010. **METHODS:** Data collected from interdisciplinary teaching sheets and analyzed for documentation of AHT education (offering Health Facts written material and Period of PURPLE Crying® DVD). **RESULTS:** Of 237 eligible infants, 54% of parents received written materials and 54% were offered a DVD in the hospital. 43% took the DVD home. **CONCLUSION:** Compliance with Act 165 at CHW has improved from previously documented rates.

Ratto, Dominic

### RBC Membrane Damage upon Injury by Washing and Centrifugation of Blood

**Authors:** Larson MC, Ratto DS, Burdge AL, Hillery CA, Punzalan RC, Hogg N.

**Project Mentor:** Neil Hogg, PhD

Washing donor blood removes plasma/hemolysate. However, washing may damage RBCs. In this study, we characterized the effects of washing and centrifugation of blood on membrane integrity. Newly outdated donor units were washed per standard protocols, and morphology, phosphatidylethanolamine (PE) externalization, and cell-free hemoglobin examined as measures of membrane damage and frank hemolysis. The effect of centrifugation or dilution alone was also observed. Washing newly-outdated donor units immediately altered RBC morphology, increased PE exposure, and resulted in increased hemoglobin release by 18 hours after. Centrifugation alone altered cell morphology and caused hemoglobin release. Dilution alone was associated with hemoglobin release after 18 hours. These findings of bilayer derangement and hemoglobin release after washing/centrifugation were confirmed in fresh whole blood. Washing potentially mitigates the benefits of hemolysate removal, with cell-free hemoglobin reaching or exceeding pre-wash levels 4 to 18 hours after wash.

Schwerin, Ashton

Physician Documentation of Central Line Reason for Use

Authors: Schwerin A, Scanlon M.

Project Mentor: Matthew Scanlon, MD

Central venous lines (CVL's) are a necessary part of medicine yet they are associated with risk of infection, thrombolytic and mechanical complications (McGee and Gould 2003; Polderman and Girbes, 2002). A gold standard for reason for use (RFU) of CVL's does not exist, so the aim of this study is to identify reasons for CVL use in a cohort of pediatric patients. This was a retrospective chart review of the 46 most recent patients without blood stream infection (BSI) in addition to the 10 most recent patients with BSI with known CVL use and removal as of July, 2013. In absence of a gold standard, categories for RFU found in literature were selected and searched for in procedure and daily progress notes. We found that 77/363 (21.2%) of line days had no identified RFU, suggesting that these line days may be unnecessary.

Shumpert, Stephen

Intraoperative Antibiotic Redosing Standardization at FMLH

Authors: Shumpert S, Wiedenhoef C, Mann D, Zimmanck R, Kuo C.

Project Mentor: Catherine Kuo, MD

Introduction: The timing of intraoperative antibiotic redosing at FMLH is currently inconsistent among providers. We sought to improve redosing practices by creating standardized resources for anesthesia providers. Appropriate redosing will decrease infection rates and avoid patient exposure to excess medication. Methods: We evaluated current redosing practices by surveying providers and analyzing medical records. We made up-to-date redosing guidelines easily available, encouraged their utilization, and then measured for improvement. Results: Medical record data analysis revealed an improvement of clindamycin redosing rates from 54% to 65% (n=185). Our survey of providers suggests a more unified knowledge of appropriate redosing intervals. The utilization of the resources we created has expanded to include additional important perioperative materials. Conclusions: Our project resulted in the improvement of appropriate antibiotic redosing rates. The reference materials we created are currently being effectively utilized.

## Urban & Community Health

Linda Meurer, MD, MPH

Links education with community needs and assets to prepare students to effectively care for patients in urban communities, promote community health & reduce health disparities.



- The balance between biologic and non-biologic health determinants
- Medical conditions that affect urban, underserved populations
- Disparities in health and healthcare
- Community-based health educational strategies
- Partnership with public health and community agencies

Klotz, Kelly

Foster Care Patients: 30-Day Visit Diagnoses and Referrals

Authors: Klotz K, Zetley L.

Project Mentor: Lisa Zetley, MD

INTRODUCTION: Every child that is newly entering foster care requires a comprehensive health assessment within 30 days of being removed from their home. This project tracks diagnoses and referrals made at the 30-day visit, focusing on behavioral health needs. METHODS: A chart review of 65 foster care patients was conducted at one primary care clinic. Acute issues for each patient were recorded as well as mental health referrals. REDCap was used to enter and analyze the data. RESULTS: Preliminary data shows that 40% of patients had some form of behavior concern documented as an acute issue or diagnosis. However, of the patients where mental health counseling was deemed applicable, 13 charts had no documentation of this issue being addressed. CONCLUSIONS: Youth in foster care have complex medical needs. Mental health counseling, individualized education planning and birth-to-three services must be considered at every 30-day visit. A template should be created to ensure that these topics are being discussed and documented in the chart.



## McLaren, Hillary Youth Health Service Corps Evaluation

**Authors:** McLaren HE, Lettelier S, McMillan D, Cargile T.

**Community Partner:** Suzanne Lettelier—Milwaukee Area Health Education Center

**Project Mentor:** Linda Meurer, MD, MPH

The Milwaukee Area Health Education Center's Youth Health Service Corps (YHSC) is a pipeline program to increase racial/ethnic minorities in health careers. This project evaluated how well YHSC is meeting its goals of increasing: member and community partner engagement, gender diversity, awareness of/interest in health careers, and preparation for enrollment in post-secondary education. Data included: participant demographics and academic markers; process measures (attendance and volunteer hours); end-of-program attitudes and career plans, and results of a member focus group. In 2012-2013, 37% of 147 members completed the survey. Of all members, 88% are female and 52% are black. Meeting attendance varied widely among schools. Most participants reported that as a result of the program, they feel responsible for helping others, get better grades, and learned about health careers. About 90% plan to pursue a health career in college. The evaluation shows the program is meeting its goals and suggests areas for continued improvement.

Pawlak, Elizabeth

## MCW / FAM Allies Asthma Management Program at La Causa Charter

**Authors:** Quale C, Pawlak E, Grayson M, Lee E, Nitschke J.

**Community:** Erin Lee, MA—Fight Asthma Milwaukee Allies, Jennifer Nitschke, RN, BSN—La Causa Charter School

**Project Mentor:** Mitchell Grayson, MD

**Introduction:** Approximately 17% of students at La Causa Charter School in Milwaukee have asthma, which is nearly double the national average. **Purpose:** The goals of our project are to increase asthma self-efficacy at La Causa and develop lasting community partnerships. **Methods:** MCW students taught the FAM Allies Asthma Smarts curriculum in small groups to a total of 35 third through eighth grade students at La Causa. Four students were chosen to participate in a peer-teaching program, at the end of which they assisted in teaching to a classroom of 23 of their peers. Three students completed a self-efficacy survey before and after our intervention. **Results:** No significant difference was found in the three students' overall pre and post survey data. However, there was a positive trend in their answers to: "How sure are you that you can control your asthma so that you will not have to go to the hospital?" **Discussion:** The programming was well received by all involved. The evaluation is ongoing and will direct the future of the project.

Samlowski, Erika

## Girls on the Run: Community Engagement at the Site and Regional Level

**Authors:** Samlowski, ES.

**Community Partners:** Jody Rhodes—Neulife CLC, Tina Jones—Girls on the Run

**Project Mentor:** Linda Meurer, MD, MPH

Obesity is an epidemic in children, particularly among young girls belonging to minority or low socioeconomic groups. Girls on the Run is a physical activity-based, positive youth development program that aims to reduce obesity in this vulnerable population. The program uses a multi-pronged approach of exercise, nutrition and psychosocial learning modules to encourage healthy habits in elementary school aged girls. The goal of this project was to create a new academic-community partnership with the Girls on the Run program at a local urban site (Neulife Community Resource Center) and assist with program evaluation at a regional level through the Greater Milwaukee Area regional board. Through participant observation, I examined social barriers to a healthy lifestyle that 3rd to 5th grade girls experience, specifically at a minority, low socioeconomic status site, and evaluated the effectiveness of the program in community engagement and cultural competency at the local site and regional level.

Wynne, Brianna

## Implementation of Personal Health Records with Homeless Patients

**Authors:** Wynne B, Hughes P, Diehr S.

**Community Partners:** Cindy Krahenbuhl and Guy Tymorek — The Guest House

**Project Mentor:** Sabina Diehr, MD

**Introduction:** Previous studies have found that when a homeless individual seeks care, that individual likely has an overall complex general health, and lacks available medical records. We aim to implement the use of free, web-based Personal Health Records (PHR) to assist homeless men in managing a current health history. **Methods:** We met individually with 5 residents of the Guest House, a homeless shelter in Milwaukee, and assisted these men in the creation of an online PHR. Each participant received a wallet-sized card with directions about how to access the PHR website. Each participant completed an initial survey after making a PHR and will be given surveys at 3-month intervals up to 1 year. **Results:** 4/5 participants said the setup time for a PHR took less than 30 minutes and they felt comfortable updating the PHR. All participants perceived the PHR as being helpful and reported they would use their card. **Conclusion:** Participants have a thorough, portable health record that will provide some semblance of continuity of care.



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Walkers Point Youth & Family  
Center  
Warrior Partnership  
Walnut Way  
Wheaton Franciscan Family Care  
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