in this issue >>>

Issue FIVE

A Quarterly Insight on the Services our Division Offers

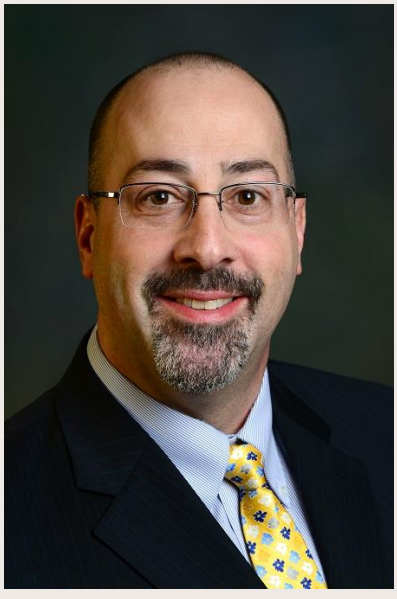
DEB quarterly

2019 RESEARCH DAY
WMED W.E UPJOHN CAMPUS

POSTER PRESENTATIONS: TUESDAY, APRIL 16TH 5PM-8PM
ORAL PRESENTATIONS: WEDNESDAY, APRIL 17TH 8AM-12PM

KEYNOTE SPEAKER:
DR. JAMES DUBOIS, PhD, ScD

Steven J Bander Professor of Medical Ethics and Professionalism, Professor of Psychology, Professor of Medicine, Director of the Center for Clinical and Research Ethics at Washington University School of Medicine



Presents:

Doing good research: Learning from the mistakes and successes of others

coming soon >>>

Important Deadlines for Research Day

Monday, April 1 – Poster submission deadline – MUST submit posters to researchday@med.wmich.edu

Monday, April 15 – Oral PowerPoint presentation deadline – MUST submit by 12:00 p.m. (EST)

Tuesday, April 16, 2019 – 2019 Research Day Poster Presentations

Wednesday, April 17, 2019 – 2019 Research Day Oral Presentations & Keynote Speaker

KALAMAZOO COUNTY FETAL INFANT MORTALITY REVIEW PROCESS

EPI CORNER

By: Leah Bader, BS
Division Administrative Assistant
Kalamazoo County Fetal Infant Mortality Review Co-Coordinator

The Fetal Infant Mortality Review (FIMR) process has been occurring in Kalamazoo County since the mid 1990's. Initially led by Dr. Arthur James and the Kalamazoo County Health and Community Services, the FIMR Program was reinstated in 2015 as part of Cradle-Kalamazoo's efforts to address disparities in infant mortality. FIMR is structured as a partnership between WMed and the public health department; co-led by Dr. Catherine Kothari and Deb Lenz (Deputy Health Officer, Kalamazoo County Health and Community Services).

Data for the FIMR program comes from a variety sources; but starts from cases identified by County administration. Once a case has been identified, medical records are abstracted and information requests are sent to community service agencies, including:

Kalamazoo County Health & Community Services	WMed Pediatrics
Community Health Center, Early Intervention Program	Department of Health & Human Services
Prosecuting Attorney's Office	Kalamazoo County Court House
Borgess Women's Health & Borgess Medical Center	Family Health Center
Bronson Women's services & Bronson Methodist Hospital	Savior's Maternal Infant Health Program
Twenty Hands Maternal Infant Health Program	Caring Network, Maternal Infant Health Program
Pregnancy Testing	Mental Health and Substance Use History

In August of 2016 the program was expanded with the Family Interviewer component. Interviewers bring the family's experiences into the picture, particularly any hurdles the family encountered. These interviews provide an important perspective to the review process that helps identify strengths and gaps in the systems of perinatal care. The gathered information is de-identified (to individual and to agency) and compiled into a case narrative that is provided to the FIMR Case Review Team. This narrative provides details about the sequence of events and circumstances leading to the infant's death, starting from pre-conception, through the postpartum period, and ultimately concluding with the death of the child at each Case Review Meeting, an interdisciplinary team discusses each case, identifies emerging or persistent gaps and potential solutions. Problem trends and recommendations are reported to Cradle-Kalamazoo steering team, who prioritizes and takes action to close system gaps.

Conducting root causes analyses to identify system issues, and get beyond individual actions, is an ongoing challenge. Structural changes to the review meeting have improved this process, including: Adding members with different areas of expertise as well as from the community, utilizing strength and gaps worksheets to help focus the conversation, and breaking into smaller groups helped the team to increase productive conversations. With the help of the CME department at WMed we were able to begin offering credits to our physicians on the team and in 2019 those credits were extended to nurses and social workers, providing additional incentives for healthcare worker participation.

In 2019 the FIMR Program is piloting family follow-up visits by our Family Interviewers. Funding from United Way of Battle Creek and Kalamazoo Region has been critical to the growth and success of Kalamazoo FIMR. A success that includes becoming one of five mentor sites for FIMRs across the nation. The Kalamazoo County FIMR Program provides a data driven solution to problems faced by members of our community, and by including community members in these conversations a better awareness of how we can work together to overcome hurdles for infant health.

MICHIGAN FIMR FETAL-INFANT MORTALITY REVIEW

Western Michigan University Homer Stryker M.D. School of Medicine

Kalamazoo County Government
In the Pursuit of Extraordinary Governance
Health and Community Services Department

AUTHORSHIP: A BADGE OF HONOR WITH GREAT RESPONSIBILITY

By: Laura Bauler, PhD, Medical Editor

Writers Block
By: Dr. Laura Bauler, PhD

Due to the immense pressure to publish in academia, determining authorship and the order of authors on a scholarly product can be a challenging. Publications are the currency of academia, and are used to determine promotion and reward in the academic system. Authorship of a publication shows who should get credit for contributing to a scholarly product and who is accountable for that work. In the medical field most journals follow the International Committee of Medical Journal Editors recommendations for determining who should be an author on a piece of academic scholarship. There are four criteria for authorship:

1. Substantial intellectual contribution to the work in: conception, design, acquisition, analysis or interpretation of the data
2. Drafting or critically revising the manuscript
3. Final approval of the published draft
4. Responsibility and accountability for ensuring the integrity and accuracy of the work.

Any individuals who do not satisfy all four criteria for authorship, but have contributed to the work should be acknowledged.

Author order is an important measure of the amount of work each author contributed to a manuscript. Typically the first author has done the most work on the project, followed by the last author and then the second author. In cases where two authors have contributed equally, this can be noted as a co-first author position (however, one author is listed before the other…). The last author is often the senior/principal investigator or supervisory mentor on a project. The last author is also often the corresponding author, who is responsible for communicating with the journal during the manuscript submission and review process. Author order should be discussed and agreed upon by all authors on a manuscript. Repeated discussions should occur throughout the process if the contribution level of authors changes.

Honorary authorship or ghost authorship is an ethical problem. In order to maintain the integrity and trustworthiness of the literature, authors must adhere to ethical authorship practices. Authors who have contributed to work should get credit while also being held accountable for their work.

For further advice or guidance contact Dr. Laura Bauler, WMed's medical editor laura.bauler@med.wmich.edu.

POWER ANALYSIS

By: Duncan Vos, MS
Biostatistician

Power analysis is an essential aspect of planning a research study. Research studies should have sufficient statistical power to detect differences between groups that are considered to be of clinical importance. The power analysis is needed to determine whether a given sample size is sufficient. If there is not a sufficient sample size, then there are ethical concerns of running a research study that will not be successful.

The total sample size (n) needed is a function of the significance level (alpha), power (1-beta), and the size of difference to be detected or the effect size (delta). For dichotomous or time-to-event outcomes, the size of the difference to be detected may be in terms of the event rate or time frame. For continuous outcomes, the mean (or desired detectable difference) and standard deviation for each group are needed for the computation.

Recall that the significance level (alpha, α) is the probability of a type I error, and the power of the statistical test is the probability of detecting a difference when truly a difference exists. Power is computed as 1-beta where beta is the probability of a type II error. Recall that a type I error is concluding that there is a significant difference when actually, in the population, there is not. And, a type II error is concluding that there is not a significant difference when actually, in the population, there is.

If any of alpha, power, or the effect size are altered then the sample size required will change. Also, as the effect size decreases, the sample size needed to detect a difference increases. That is, as the difference between the two treatment arms that we are hoping to detect decreases, the sample size needed increases.

Power analysis is an essential element in the planning of a research study.

Bulletproof Stats

ANNOUNCEMENTS:

We want to take a moment to congratulate Alyssa Woodwyk, MS, CAPM on receiving her Certified Associate in Project Management!

CONGRATULATIONS ALYSSA ON ALL OF YOUR HARD WORK!

REDCAP SUCCESS STORY - EARLY INTRODUCTION TO HEALTH CAREERS PIPELINE PROGRAM (PART 2)
By: Anita Bell, Data Technician

The REDCap Solution
At the first Saturday Academy session, held in October 2018, students were given a URL to access the first REDCap survey, "Student Contact". The survey captured contact information, including the students' personal email addresses. The email addresses would be used for group communications from the program, as well as for future pre and post-event quizzes and surveys to be administered at the start and end of the educational activities.
After the contact information was collected, students completed two surveys. The first was designed to evaluate student interest in science and health careers; the second provided an opportunity for each student to assess his or her academic abilities and strengths. For the first session, the topic was "Careers in Cardiology", and quizzes were administered via REDCap both before and after subject matter and activities were presented.
Subsequent sessions of the program were conducted in the same manner; students received unique survey links via email for the pre-event quiz, which was meant to measure prior knowledge of the subject for that session. The session was presented, activities were completed, and links to the post-event quizzes were sent to students' email addresses. Students completed the surveys using iPads provided by the EIH program. Quiz scores were calculated automatically and saved in the REDCap database.

The REDCap Advantage
In the past, the EIH team collected data manually, compiling student data and administering quizzes on paper. Quiz scores were graded and tabulated by hand, using the Likert scale. Scores and other data had to be entered into spreadsheets for analysis. It is obvious that using these methods of data management was extremely time-consuming, and possibly prone to error, as well.
The EIH team reports that using REDCap for this program has saved hours of time by eliminating administration and data management tasks. The application has made it much easier to gauge the level of student learning (in real time), a major goal of the program. The collected contact information has potential for future student follow-up. The ability to generate reports, charts and statistics within REDCap is also beneficial for grant-reporting efforts.

"REDCap has been an invaluable tool in our Early Introduction to Health Careers program. It has provided us the ability to capture and analyze data swiftly while gauging student understanding in real time."
- Dawn DeLuca, Coordinator, Health Careers Pathway Program

Data Bytes

Q: *How do we contact you for project assistance?*

A: *That's easy, visit the Divison Webpage and submit a request or just reach out to us at epibio@med.wmich.edu*

1000 Oakland Drive
Kalamazoo, MI 49008

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Contact us at 269-337-4609
Epi & Bio Website
epibio@med.wmich.edu