GRAND RAPIDS MEDICAL EDUCATION PARTNERS
IN AFFILIATION WITH MICHIGAN STATE UNIVERSITY COLLEGE OF HUMAN MEDICINE

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Updates and Resources for Teachers and Learners

Spring 2010

Scholarship and Research: A Broader Definition

Peter G. Coggan MD, MS Ed

The phrase "scholarly activity and research" comes up quite often when discussing residency education and faculty development. However, for some, research evokes intimidating images of test tubes, bubbling fluids and statistics-heavy publications in *Science* and *The New England Journal of Medicine.* Research is held in the highest regard by colleges and universities, and the currency for success in academia is well known to be the acquisition of grant funding for research projects, followed by the presentation and publication of the results. The term "pure research", generally associated with bench research in the laboratory, is often used in a context that implies a hierarchy in which the search for new knowledge for its own sake has a higher value than the application of new knowledge in, for example, translational research or, for that matter, teaching.

In his 1991 treatise, *"Scholarship Reconsidered: The Priorities of the Professoriate",* Ernest Boyer, who was President of the Carnegie Foundation at the time of its publication, argued that a narrow definition of scholarship undermined the role of colleges and universities in meeting society's need for the application and integration of new knowledge. His view is consistent with the role of Land Grant Universities, such as Michigan State University (MSU), which were established on the principle that the gift of land from each supporting state should result in expertise applied for the benefit of society. The best example is the Farm Agent program pioneered by MSU in the 1920s.

Boyer redefined scholarship into four categories:

The Scholarship of Discovery: He defined this as "the commitment to knowledge for its own sake, to freedom of inquiry and to following, in a disciplined fashion, an investigation wherever it may lead."

The Scholarship of Integration: Integration involves "making connections across the disciplines" and, "interpretation, fitting one's own research - or the research of others - into larger intellectual patterns."

The Scholarship of Application: Application involves the use of knowledge or creative activities for development and change. Application allows groups, organizations, community, government, or emergent societal issues to define the agenda for scholarship.

The Scholarship of Teaching: Teaching "means not only transmitting knowledge, but transforming and extending it as well." Teaching stimulates "active, not passive, learning and encourages students to be critical, creative thinkers, with the capacity to go on learning…It is a dynamic endeavor involving all the analogies, metaphors, and images that build bridges between the teacher's understanding and the student's learning. Pedagogical procedures must be carefully planned, continuously examined, and relate directly to the subject taught." ***Continued on page 2***

Event Calendar

For more info click CME Conferences or visit www.grmep.org

New Resident Orientation
June 14-30, 2010

New MSU/CHM Student Orientation
June 28-July 1, 2009

"Excellence in Clinical Teaching" (ECT) Faculty Recognition Dinner
September 22, 2010

2 ECT City-wide Grand Rounds:
September 22 & 23, 2010
8:00-9:00 am
East Auditorium
Butterworth
Simulcast Yaw-Blodgett

MSU/CHM: Update

Peg Thompson MD

The College of Human Medicine Grand Rapids Campus is looking forward to our move into the Secchia Center in early June. We are in the process of hiring basic science professors and instructors to teach our first year students in anatomy, physiology, biochemistry, and microbiology. Our most recent faculty addition is Deb Blue, M.D., a pathologist who will be teaching pathology, histology, and some microbiology and immunology. We are also hiring a director of simulation, who will help outfit and manage the simulation arcade on the fifth floor of the new building. Watch for announcements of tours of the Secchia Center sometime this summer!

Our fourth year students graduated on May 9. They enjoyed a very successful match; more than half of our Grand Rapids graduates will stay in the state of Michigan, and many of those will be in GRMEP residency programs. Other graduates will go south (Florida, Virginia), east (Massachusetts, New York), and west (California). Click here for Grand Rapids Match results by specialty. Our 45 third year students are busy planning schedules for next year and trying to decide which specialty is the best match for them. On June 28, we will begin orientation for about 54 third year students who are wrapping up their second year curriculum in early May. The cycle never stops!

Campus Director for Clinical Education, Christina Stavros, and I, along with our clerkship directors, plan to work closely this summer with the residency program directors to help the new GRMEP residents understand the important role that they play in teaching our medical students. The College of Human Medicine is rolling out a new Clinical Performance Evaluation for our students starting in July. This new tool should be an improvement over the old one; it aligns student performance along the ACGME competencies and has a particular focus on professionalism. ***Continued on page 5***

Scholarship and Research *(continued)*

So what does this have to do with Grand Rapids Medical Education Partners (GRMEP)? The ACGME is emphasizing research for program accreditation and MSU College of Human Medicine faculty appointments carry with them a requirement for the demonstration of scholarship. The prospect of having to do research to meet these requirements is daunting to many of us who are clinician teachers but have very little grounding in research. Boyer's definition of scholarship should provide some comfort. What we do every day as clinicians and teachers, whether it be applying what we read in the literature to patient care, teaching about cutting edge techniques, or participation in lively Journal Club discussions, constitutes highly valued scholarly activity.

On the other hand, when the time comes to apply scientific methodology to answer a research question, the GRMEP Research Department is ready, willing and able to assist with project development, IRB paperwork preparation, and data analysis. Expertise in the editing of abstracts, manuscripts, posters and oral presentations is also available. Embrace the change, don't fear it. It is both necessary and deeply satisfying. It is part of the journey from being clinician teachers in community based programs to being the heart and soul of a new medical school.

ACGME Core Competencies

PATIENT CARE
What we do

MEDICAL KNOWLEDGE
What we know

PRACTICE BASED LEARNING & IMPROVEMENT
How we get better

INTERPERSONAL & COMMUNICATION SKILLS
How we interact

PROFESSIONALISM
How we behave

SYSTEMS BASED PRACTICE
How we work in the healthcare system

Overcoming Barriers to Clinical Research
Part 5: Lies, Damned Lies, and Statistics

Jeff Jones, MD

"There are three kinds of lies: lies, damned lies, and statistics."
Benjamin Disraeli (1804-1881)

The vast majority of errors in statistics - and, not incidentally, in most research endeavors - arise from a reluctance to plan. Some inner demon seems to be urging us to cross the street before we've had the opportunity to look both ways. In clinical trial design, we seem more obsessed with the mechanics than with the concepts that underlie it.

Sources of error in applying statistical procedures are legion and include all of the following:

- Throwing all your data into a computer and reporting as significant any relation where "P <0.05."
- Not testing your data to see if they are normally distributed (if you do, you might get stuck with non-parametric tests, which aren't as much fun).
- Ignoring all withdrawals and non-responders so the analysis concerns only subjects who fully complied with treatment.
- Assuming that you can plot one set of data against another and calculate an "r value" (Pearson correlation coefficient) and that a "significant" r value proves causation.
- If the difference between two groups becomes significant four and a half months into a six month trial, stop the trial and start writing up. Alternatively if at six months the results are "nearly significant" extend the trial for another three weeks.
- Ignoring the difference between "statistical significance" and "real life" significance.
- If your results prove uninteresting, ask the computer technician to go back and see if any particular subgroups behaved differently. You might find that your intervention worked after all in Asian women aged 55 to 61.
- Not adjusting for baseline differences between study groups, especially if the differences favor the intervention group.

But perhaps the most serious source of error lies in letting statistical procedures make decisions for you.

The first step in statistical analysis is to have a well-formulated hypothesis and have some idea of the risks you will incur should your analysis of the collected data prove to be erroneous. You will need to decide what you wish to observe and measure and how you will go about observing it. Good practice is to draft the analysis section of your research protocol based on the conclusions you would like to make. What information do you need to justify these conclusions? Know what you want to measure and the best way to measure it.

Next is the part that many investigators hate! What to do with the mass of numbers to be collected? What statistical manipulations to apply? High-speed computer and prepackaged statistical routines would seem to take much of the guesswork out of statistical analysis and lend its applications readily available to all. However, statistical software no more makes one a statistician than a scalpel makes one a surgeon. Choosing the proper technique and understanding the analytic context is of paramount importance to the proper application of statistics. In plain words, fancy statistical methods will not rescue garbage data. ***Continued on page 4***

Match Day 2010

The MSU/CHM Class of 2010 and GRMEP residency programs had another outstanding Match year. Join us in welcoming our new residents and saying goodbye to an excellent group of medical students!

Want to be more involved?

Call or email us!

MSU/CHM Block II (2nd year)
John.ODonnell@hc.msu.edu
616.234-2621

Research
research@grmep.org
616.732.6223

MSU/CHM Clinical Experiences
Margaret.Thompson@hc.msu.edu
616.234.2653

GME
gme@grmep.org
616.732.6204

Simulation
IES.Department@grmep.org
616.732.6222

Interprofessional Education: *Will this be on the Boards?*

Gayla Jewell, PhD, RNC, NP

Whoa! Interprofessional Education. What is this bird? Do we really have to discuss this?

Yes, so let's break "this" down:

Inter: between, among, mutual – and let us not forget: to bury the remains of a corpse in a grave or a tomb

Professional: engaged in a learned profession, conforming to ethical standards, specialized, qualified, skilled, masterful

So, are we talking about skillful burial or mutual conforming? Neither.

Interprofessional education (IPE) occurs when students from various professions learn from and about each other to improve collaboration and the quality of care. (Clark, P.G., 1993)

But, does an interprofessional movement exist?

Yes. After causing great concern with "Crossing the Quality Chasm" (IOM, 2001) and "To Err is Human" (IOM, 2003), the Institute of Medicine produced "Redesigning Continuing Education in the Health Professions" (2009). This document validated the quintessential value of interprofessional continuing education to advance evidence-based, interprofessional, team-based learning; engender coordination and collaboration among the professions; provide higher quality for a given amount of resources; and lead to improvements in patient health and safety.

Big job. Where should we begin?

Interestingly, we have begun, right here in West Michigan. In 2008 the West Michigan IPE Initiative (WMIPEI) was formed at Grand Valley State University (GVSU) with Grand Rapids Medical Education Partners (GRMEP) and the MSU College of Human Medicine as collaborators. Its fundamental purpose is to change the culture of health professional education and care delivery.

Big job. Is it relevant to us Residency program folks?

Yes, it really is. While IPE is alluded to in the ACGME Competencies of Practice-Based Learning and Interpersonal & Communication Skills, it is stated specifically in Systems-Based Practice: "Residents are expected to … work in interprofessional teams to enhance patient safety and improve patient care quality". This is why GRMEP is an active partner.

In January 2010, the 2nd annual WMIPEI conference was held, entitled "Translating Interprofessional Education Principles into Practice". One hundred twenty-two individuals from 22 supporting organizations listened to noted speakers and IPE experts from the University of Toronto, the University of Missouri and the Bureau of Health Professions, Health Resources and Services Administration. Remarkable crew.

Continued on page 5

GRMEP Research Department Update

Ahh Spring, time for another award winning update from the GRMEP Research Department! Our 43rd Annual Research Day was held on Wednesday, April 21st in DeVos Place on the banks of the beautiful Grand River, with about 180 presentations and over 400 attendees. The Founders Bank and Trust Award for the best resident clinical study presentation was awarded to Drs. I. Rekha Meesa and Leena Mammen for their project, "MR Imaging of Pregnant Women with Abdominal Pain: Diagnostic Accuracy and Outcomes."

The keynote address was delivered by Joseph Jaeger, the Associate Vice President for Academic Affairs for Monmouth Medical Center in New Jersey. Mr. Jaeger's talk was entitled "Scholarship Reconsidered, Assessed & Accredited: Research in the Independent Academic Medical Center." The talk focused on an ongoing theme of ours concerning scholarly activity. It is worth repeating that the phrase "scholarly activity" does not necessarily always imply research, but in fact encompasses a much wider range of possibilities, including participation in journal clubs, engagement in quality improvement, teaching, and curriculum development, just to name a few. In many cases, it is not so much a question as to whether or not you are doing scholarly activity, but whether or not all of these activities are being appropriately documented. Click here for a more detailed listing of scholarly activities.

Mr. Jaeger also spoke at our city-wide Grand Rounds the following day on "Research Mentoring: Einstein and the Size, Pitfalls & Value of Stupidity." The talk was greatly appreciated, particularly in light of the increasing emphasis on research activities for residents, not to mention the expanding number of medical students in town who are looking to join research projects. One of the first and very legitimate questions we receive from faculty is "What are the expectations", for both the attending and the resident or student. A concern for faculty is whether they will have support for the efforts they put into research, and that is where the Research Department is ready to assist. We've said on many occasions that as long as you have a good research idea, we can help you develop it into a protocol. We look to the attending to provide leadership and research ideas for the project, while we stand ready to assist with protocol development, statistical support, and IRB paperwork preparation. Once the project is completed, we provide editing for abstracts, manuscripts, posters, and oral presentations, and can also lend a hand with image manipulation. We know that research mentorship is a great responsibility for our faculty...we just want you to know that you've got support from the GRMEP Research Department!

The Teaching Moment

"The range of what we think and do is limited by what we fail to notice. And because we fail to notice that we fail to notice, there is little we can do to change, until we notice how failing to notice shapes our thoughts and deeds."

R. Laing

Lies, Damned Lies & Statistics (*continued)*

Consequently, the best time to consult a statistician is during the design stage of the project, while you are still deciding on the actual measurements to be used. The statistician understands how the data will be analyzed and may have some advice concerning the format in which the data are to collected. For example, knowing how the data will be entered on a computer, the statistician may advise that this will be more easily accomplished if numbers are arranged linearly with a separate line for each subject.

More often, some crucial piece of information concerning subjects has been omitted from a database or survey tool (e.g., comorbidity, current medications, disease severity). Although the investigator obviously has the ability to spot this type of error, it sometimes takes an objective reader who is accustomed to studying data to notice it.

Finally, a statistician can recommend which statistical test is best suited to achieve the analysis you wish to make and can determine an ideal sample size. Recently, I was involved in a research project where we estimated a study size of about 100 subjects. Statistical consultation determined that we needed closer to 1000 subjects in order to adequately test our hypothesis. Needless to say, this resulted in considerable angst among the investigators. However, we were glad to get this information early in the planning stages of our project rather than after the protocol had been written and the budget approved!

It may not be easy to find a statistician with whom one is compatible and with whom one can communicate easily, but it is definitely worth the search and the cost. If you are not sure where to go for help, ask colleagues who have participated in research, your program director, or the faculty at GRMEP.

Fortunately, complicated statistical methods are rarely necessary for the analysis of medical problems. If the research is planned carefully, so that truly comparable, complete and random samples are obtained, then the statistical analysis can be kept as simple as possible. In fact, data that fail to yield a significant result when subjected to simple tests but do so after a refined and complex analysis need to be examined very critically.

Education Services Department Update

And now, from deep within the heart of the Grand Rapids Medical Education Partners, it's time for an update from the Education Services Department, larger than life, and twice as natural! We're the folks who bring you certification, simulation, and skills labs for residents and students. It's very exciting to see an increase in simulation throughout our programs. We continue to work with the Emergency Medicine residency program to further develop and implement its high fidelity simulation program. Thanks to Dr. Dave Lock for his commitment, hard work, and expertise. The Pediatric residency program continues to develop its high fidelity simulation curriculum. We are appreciative of Drs. Chelsea Coston, Leslie Jurecko, Martina Keeler, Jeri Kessenich, and Bea Zepeda for their dedication and involvement. We are also interacting with the General Surgery, Vascular, and Plastic Surgery programs for assistance in developing and defining additional curriculum. Hey, muchos kudos to the Internal Medicine and Med-Peds programs for expanding their already successful skills labs. We'd also like to mention that we've noticed a marked improvement in resident response to the mock codes, so good job! With regards to medical students, we continue to coordinate and teach MSU Block II & III skills labs.

That's all well and good, but what about us? Glad you asked! We're anticipating the purchase of video recording equipment and software for high fidelity simulation to enhance the quality of our feedback sessions. We are also looking forward to having a presence on GRMEP's trés cool new website. One last important note. We will begin the transition to have Sue Ybarra coordinate course and instructor scheduling. Sue will be the contact person for the department. All requests and scheduling concerns should flow through her by using the email address of ies.department@grmep.org. All correspondence sent to this address will also be received by Ed Scheidel and Pam Jager, as well as Sue. This will still allow the educators to be involved in any subject matters and decisions that require their input. Sue can also be reached by telephone at (616)732-6222. So remember, if you're looking to expand or refine your education or simulation skills sessions, or have questions about certification classes, email or call Education Services. We're here to help!

Interprofessional Education (*continued*)

Just as remarkable are the Champion Work Groups of the WMIPEI. Our own Peter Coggan co-leads the Clinical Setting Champion Group which has set its sights on creating an interprofessional model clinical unit. The Curriculum Champion Group is hard at work as are the Scholarship group and the Service group. The highlight of the conference (no bias by the writer, here) was an afternoon session created by the Simulation Work Group, co-led by Dianne Wagner (MSU-CHM), and the Cross-Professional Competency Work Group, co-led by me, your General Surgery Educator & Special Projects person. Two simulation videos about a post-op hip replacement patient with pulmonary embolism symptoms were debuted - the first showed poor interprofessional interaction that resulted in a patient death. The second showed a much better patient outcome due to more constructive interaction. Conference participants critiqued the videos by discussing communication techniques and noting interprofessional attitudes. What brought the conference participants' hands together at the end of the discussion was the "Down-Doo-Be-Doo-Down Down, Patient Going Down-Doo-Be-Doo-Down Down" song, featuring the basso stylings of Mark Spoolstra.

So, the IPE work continues through the WMIPEI and here in our Residency programs as we clarify expectations for interprofessional knowledge, attitudes, and behavior. Consider how faculty can serve as a role model for and can document interprofessionalism in our residents. Rather than interring the idea, recognize that you *are* skillful and engaging in your mutual efforts at interprofessionalism. Now we are making a bigger deal about it.

Clark, P. G. (1993), Journal of Interprofessional Care, 7(3), p. 219-220.

MSU/CHM Update (*continued*)

In anticipation of having more than 60 students in the third year in 2011-2012, Christina and I have been on the faculty recruitment trail. We have made contacts in Holland, Zeeland, Fremont, Muskegon, and Greenville, and all of those communities offer exciting opportunities for our students. In some cases, other Grand Rapids institutions have made inroads in student placement, so we are exercising care in making sure that we can integrate medical students into appropriate inter-professional learning situations instead of displacing the current students.

This certainly promises to be a busy summer in medical student education!

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