

# MEDICAL EDUCATION DIGEST



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## Benefits and Obstacles to Research by Students and Residents

Among the benefits of research are the promotion of evidence-based medicine and quality patient care, the provision of skills for lifelong learning, enhancement of analytic skills, and the development of critical thinking. It has been reported that residents who participate in research have a higher satisfaction of their residency training program. Research during residency, however, is challenging, and the lack of scholarly activity is often cited by accrediting bodies. Among the barriers to research are

- insufficient interest
- limited time
- paucity of mentors
- limited faculty time
- lack of skills
- absence of research curriculum
- inadequate funding

To address this, it is suggested that there be a constant focus on evidence-based medicine from which research is a natural outgrowth. The program should publicize articles written by residents or that have received national awards so other residents note this. Providing a list of important and reasonable projects can save time. Using existing data sets, collecting data electronically, and having someone assist in reviewing charts also may help, as does statistical analysis assistance. Community



hospitals may have few active researchers, but assistance can sometimes be provided by universities.

Since faculty mentors often have limited time, they can be rewarded by their department heads if they work with residents until they publish a paper. Residents usually have no research background and require instruction in the basics of study design and interpretation. In addition, if the program does not have the availability of a research curriculum, the National Institutes of Health offers online research training. If there is success in developing a research culture, residents then can learn from each other.

Research in residencies requires a commitment to changing the underlying culture so there is an atmosphere of inquiry and financial investment that facilitates rapid turnover of small projects. (Rothberg RB. *Overcoming the obstacles to research during residency. what does it take?* *Journal of the American Medical Association*. 38 (21)2191-2192; December 5, 2012.)



## Medical School Surgery Department Records Breached Due to Laptop Theft

A laptop from a Washington University School of Medicine Surgery Department faculty member was stolen containing the records of 1,100 surgery patients. The laptop was password-protected but unencrypted. It was revealed that it exposed patients' names, birth dates, medical record numbers, diagnoses, type and dates of surgery, and—in 39 cases—the patients' Social Security numbers.

A statement from the university indicated that to prevent this kind of incident, it was going to expand the use of encryption on portable devices. Since a

federal breach notification law became effective in 2009, as many as 80,000 breaches were reported. Forty-two percent of larger breaches involved some sort of unencrypted mobile devices. While the Health Insurance Portability Act (HIPA) currently does not require encryption, it is likely to do so if such incidents continue.

*(Conn J. Med school reports laptop stolen in Argentina. ModernHealthcare.com. January 24, 2013.)*

## RESIDENTS AS TEACHERS

### Before and After Clinical Teaching Instruction



After receiving instruction in teaching skills, emergency medicine residents in a suburban hospital felt more prepared to train residents and medical students and teach patients. Those residents who received teaching instruction had better teaching skills and provided higher-quality education than those residents who did not have such instruction. Residents were in an American Osteopathic Association and Accreditation Council for Graduate Medical Education accredited four-year emergency medicine residency located in a 980-bed hospital system.

The hospital system had two emergency departments—one a facility in a suburban area with a Level 1 trauma center (75,000) emergency visits/annum) and the other a suburban community

hospital (54,000 emergency visits/annum). A pre-session survey determined the amount of time residents believed they spent teaching, their comfort levels, and perceived proficiencies as teachers as well as the amount and types of training they received in teaching as residents. Also asked were the barriers they perceived to teaching and their interest in a program to improve teaching skills.

Suggestions as to how teaching skill could be improved were also part of the survey. Another survey was done after a two-hour educational session to determine if the residents felt more prepared to teach in the emergency department and if they were more likely to teach students after receiving training.

It was found that after the two-hour clinical teaching module, residents felt better prepared and were more likely to teach. They also indicated they had an increased understanding of how to give effective feedback, also indicating how valuable the session was to their residency. The study resulted in enhanced residency training in teaching skills, including a dedicated teaching shift of senior residents.

*(Wachtel JK, Greenberg MR, Smith AB, Weaver KR, and Kane BG. Residents as teachers: residents' perceptions before and after receiving instruction in clinical teaching. Journal of the American Osteopathic Association. 113(1) 123-33; January 1, 2013.)*

## Impact of Medical Schools and Teaching Hospitals: 3.5 Million Jobs and \$587 Billion

The financial impact on the economy in 2011 by medical schools and teaching hospitals was \$587 billion. In addition, there were 3.5 million jobs directly or indirectly supported. In all regions of the country, communities rely on these institutions for job creation, medical care, advanced research, business development, and educating health professionals. The \$587 billion does not include another \$45 billion added to the economy due to publicly funded research. Since the study was previously performed in 2008, the employment impact of these institutions increased the number of jobs by 136,831.

*(Ward L. Medical schools, teaching hospitals infuse billions into the economy. News Release. AAMC; December 19, 2012.)*

# Teaching Geriatric Competencies

The fastest growing and most vulnerable population in the United States is those older than age 85 years. A list of 26 geriatric competencies required for medical students was developed in 2009 by the American Association of Medical Colleges. Third-year medical students at the State University of New York at Stony Brook Medical School provide instruction for 15 of these competencies in a third-year ambulatory care clerkship using small-group, case-based classroom instruction.

This is accomplished by using three-hour sessions on comprehensive geriatric assessment. These include medication management, cognitive and behavioral disorders, health care planning, falls, balance and gait disorders, self-care capacity, and palliative care. However, clinical exposure to reinforce these skills varies according to the students' clinical assignment. While 37 students saw more than 60 percent geriatric patients, 33 saw 41-60 percent, 23 saw 21-40 percent, and 22 saw 10-21 percent.

However, some students did not have the opportunity to practice geriatric-assessment skills in the clinical setting. Evaluation of student performance was accomplished through the use of an objective-structured clinical examination (OSCE) using a standardized patient. But proficiency of learned clinical skills using OSCEs was not dependent on the percentage of geriatric patients that students saw.

This surprised investigators since they assumed that clinical medical education is based on clinical exposure and practice of medical knowledge, providing further evidence that case-based sessions enhance learning of clinical skills and improve performance on assessments.

*(Strano-Paul L. Effective teaching methods for geriatric competencies. Gerontology & Geriatric Education. 32:342-349; 2011.)*



## Attributes of a Clinical Trainer as a Role Model

A person considered to demonstrate a standard of excellence to be imitated is defined as a role model. Role modeling is a powerful strategy to instill professional behavior in young doctors through learning by observation. Physicians supervising trainees in clinical practice serve as role models for the trainees. The attributes of what positive role models should be were assessed. They consisted of personal-care qualities, teaching qualities, and personal qualities.

Patient-care qualities include being a competent specialist with up-to-date knowledge, being experienced and committed to excellence and growth, and having effective diagnostic and therapeutic skills as well as sound clinical reasoning. In addition, patient-care qualities include compassion, caring, engaging, and empathy toward patients. This includes centering care on patients rather than illness and communicating with patients and their relatives.

Teaching qualities of a role model should include a humanistic style and establishing a rapport with learners tailored to the learners' needs. The role model should demonstrate enthusiasm for teaching, be available to trainees, and accessible for questions. Personal qualities should include patience, self-confidence, honesty, and integrity. In addition, role models should be easy to work with, display humanism, humility, and leadership ability.

*(Jochemsen-van der Leeuw HGAR, van Dijk N, van Etten-Jamaludin FS, Wieringa-de Waard M. The attributes of the clinical trainer as a role model: a systematic review. Academic Medicine. 88:26-34; 2013.)*

## Employee Health Benefits at an Academic Health Center

A new employee health benefit plan was established at Penn State Hershey Medical Center (PSHMC) to control escalating health care costs for employees and employers. It has five main goals:

- reduce cost of providing health care benefits
- create incentives to use PSHMC providers and clinical services
- encourage preventive care and employee wellness
- begin a long-term employee reeducation process around health risks
- save for future individuals' health care spending

The new program reduced the available plan options from two to one. Another change was to reduce the number of insurance carriers to one by designating a single carrier. Employee-only coverage deductible was \$1,000, and employee-plus-family was \$3,000. PSHMC contributes \$500 to a health reimbursement account (HRA) for employee-only and \$2,050 for employee-plus-family coverage. Employees also receive \$200 added to their HRA if they complete a questionnaire assessing their health risk as well as \$100 in the first year by reading about blood donation, organ donation, advance directives, and medical liability reform.

Accounts are vested in five years except for employees already working for five years who are grandfathered into the plan. There is no deductible for in-network care and \$400 for out-of-network care in the employee-plus-family plan. Employees pay no co-pay for preventive services and the lowest amount of co-insurance and co-pay when seeing PSHMC providers.

Monetary incentives are provided to employees, including reimbursement for fitness club or gym membership, smoking cessation programs, and

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**Greatest Percent of Residency Specialties Filled by D.O.s in ACGME Accredited Programs by Number and Percent of D.O.s, 2011-2012**

<b>Residency</b>	<b>Number of D.O.s</b>	<b>Percent of Program Filled by D.O.s</b>
Physical Medicine and Rehabilitation	342	27.6
Family Medicine	1,639	16.8
Preventive Medicine	29	10.9
Obstetrics and Gynecology	507	10.3
Psychiatry	486	10.0
Pediatrics	803	9.7
Neurology	174	8.7
Anesthesia	466	8.4
Pathology	160	6.9
Internal Medicine	1,510	6.7
Nuclear Medicine	8	6.1
<b>Total ACGME Residency Positions</b>	<b>8,615</b>	<b>7.6</b>

*(Brotherton SE, Etzel SI. Graduate medical education, 2011-2012. Journal of the American Medical Association. 38(21)22642279; December 5, 2012.)*

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weight-management programs. Before implementing the plan, the CEO and dean held over 30 meetings with employees and individualized counseling with employees and their spouses/partners also were conducted, resulting in over 5,000 employees covered by the plan.

Employee health care costs, which had increased by 8-10 percent yearly, were reduced to \$24 million or an average of \$6.3 million per year. Employee-plus-family contributions were \$1,992.17, compared to the national average of \$3,516. Over 50 percent of employees have enough money in their HRAs to fully fund their deductible. Incentives in the form of waiving the co-payment were provided for getting checkups annually, vaccinations, and cancer screenings (i.e., colorectal, mammography, pap smears, and prostate exams). Increased HRA reimbursement was provided for completing a wellness profile reflecting the use of screenings, vaccinations, and checkups.

The PSHMC program reduces or eliminates out-of-pocket costs for preventive care and provides incentives that encourage wellness and regular preventive care, including the provision of contributions to HRAs so as to reduce the cost impact on lower-income employees.

*(Marshall J, Weaver DC, Splaine K, Hefner DS, Kirch DG, Paz HI. Employee health benefit redesign at the academic health center: a case study. Academic Medicine. 88:1-7;2013.)*



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