

# MEDICAL EDUCATION DIGEST



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MEDICAL EDUCATION HIGHLIGHTS FOR PRIMARY HEALTH CARE

## INTEGRATING BASIC SCIENCE INTO THE MEDICAL CURRICULUM

The segregation of basic science from the medical curriculum and clinical medicine as articulated by Flexner 100 years ago is under challenge. Bringing together clinical medicine and basic science will improve the transfer of fundamental knowledge to the clinical setting and allow students to see the relevance of basic science to clinical practice. Case Western Reserve University School of Medicine implemented the first integrated curriculum in the early 1950s followed in 1969 by McMaster University providing integration by employing problem-based learning. This included integrating the basic and clinical sciences in the context of clinical problems. In the early 1960s, the University of Calgary Faculty of Medicine provided this integration by using clinical presentations that described the different ways patients presented to physicians (e.g., headache, abdominal pain, or fever).

Curricular integration, however, is not fully actualized in spite of recommendations that it be reformed. This includes the recommendation by *The Future of Medical*



*Education in Canada: A Collective Vision, Educating Physicians: A Call for Reform of Medical School and Residency* and a Robert Wood Johnson Foundation recommendation that medical schools should ensure that the sciences of medical practice be integrated throughout the entire course of study. Similarly, the editor of *Academic Medicine* has made such a recommendation. In spite of these frequent recommendations from medical educators, however, the teaching and learning experience of medical students has remained remarkably similar.

Comparable reports about problems with medical education have gone unheeded even though reform is essential and urgent. The author questions why, after years of reiterating the need for and working toward the goal of integration, are we as a medical education community still trying to find traction on implementing change?

*(Hopknis R, Pratt D, Bowen JL, Regehr G. Integrating basic science without integrating basic scientists: reconsidering the place of individual teachers in curriculum reform. Academic Medicine. 90:149-153; 2015.)*

## STRENGTHENING THE SECOND SESSION OF THE PROBLEM-BASED LEARNING PROCESS



Compared to the first session of a medical school problem-based learning (PBL) small-group meeting, students spend most of the time throughout the second session in a passive mode. During the second session, students spend considerable time listening to research reports, which are often tedious and sometimes have little connection to the patient. In these types of PBL return sessions, students function more like reporters than interpreters, diluting the impact of the session and increasing the level of abstraction rather than focusing on learning issues.

The David Geffen School of Medicine at the University of California Los Angeles and the George Washington University School of Medicine and Health Sciences introduced both patient- and team-centered innovations for return-session PBL involving first- and second-year medical students. Among those included in the patient-centered innovations are multiple short clinical vignettes, students choosing from multiple treatment plans and wit-

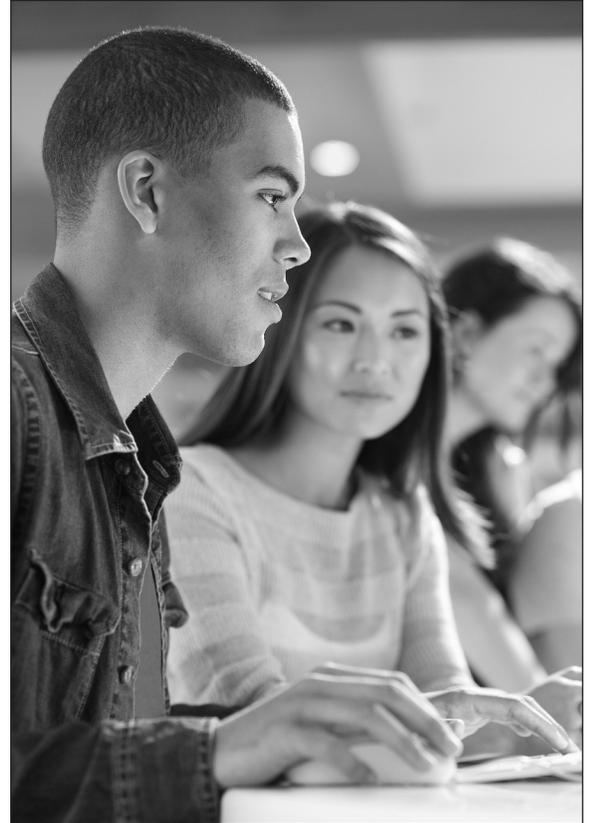
nessing the consequences of their choices, students interviewing, diagnosing, and presenting to faculty members, and roundtables during which students come together and role-play as professionals in regard to making patient decisions.

Team-centered innovations include debate on both sides of health issues, mapping patients with similar presentations to discover differences, comparing different manifestations of the same disease, and interacting electronically in preparation for return sessions. Adding video also may increase realism and provide a three-dimensional patient-centered experience.

These innovations bring active self-determination learning to PBL. The authors indicate, however, that research is needed to see whether students using them are better prepared.

*(Brumbaugh T, Kakar S, Blatt B. Caffeinating the PBL return session: curriculum innovations to engage students at two medical schools. Academic Medicine. 89:1452-1457; 2014.)*

## A LOOK AT THE SUMMER MEDICAL AND DENTAL EDUCATION PROGRAM



The Summer Medical and Dental Education Program (SMDEP) sponsored by the Robert Wood Johnson Foundation is a free six-week residential science enrichment program offered to rising college sophomores and juniors with minority and socioeconomically disadvantaged (URM) backgrounds who wish to enter medical or dental schools. While such students come from groups that account for about 12 percent of physicians and 9 percent of dentists, they make up about 30 percent of the population. The program's goal is to increase the number of successful applicants from URMs so the medical and dental workforce is more diversified.

The SMDEP, which is offered at 11 U.S. medical schools, grew by 32 percent between 2006 and 2012 in terms of applications received. The program has been successful in reaching the target school population, with students being selected who are more likely to be from URM groups having parents who have not completed college. Another finding was that the majority of the participants earn a bachelor's degree in health or science-related fields, with more than half applying to medical or dental school and more than a third attending medical or dental school.

*(Cosentino C, Seperoni C, Sullivan M, Torres R. Impact evaluation of the RWJF summer education program (SMDEP); January 28, 2015.)*

## EDUCATION IN GERIATRICS IN LATIN AMERICA



With the exception of Mexico, there has been slow development of geriatric medical education in Latin America despite the rapidly aging population. Latin America has about 33 million people age 65 years and older. As a result of data obtained from 16 countries (8 from South America and 8 from Central America), it was found that there are 308 public and private medical schools in these locations. Interestingly, geriatrics was taught in 107 out of 308 at the undergraduate medical school level (34.7 percent).

In Mexico, however, 82 percent of the schools provide instruction in geriatrics. Geriatric medical education was provided in 36 programs (12 percent of the schools). On the other end of the spectrum, Uruguay and Guatemala do not teach geriatrics at all. As a result, there is a lack of geriatric teaching in this region at both the undergraduate and graduate level in spite of current recommendations from well-known international and scientific organizations that have shown great demand for stronger geriatric education.

Because of this, there is an option to *geriatrize* the primary care workforce to prepare it for an aging population. Included in this workforce are family physicians, internists, psychiatrists, medical subspecialists, surgical and related medical specialists, hospitalists, and other health professionals.

*(Lopez JH, Reyes-Ortiz CA. Geriatric education in undergraduate and graduate levels in Latin America. Gerontology & Geriatrics Education. 36:3-13; 2015.)*

## THE HIDDEN CURRICULUM: A VEHICLE FOR ATTRACTING MEDICAL STUDENTS TO GERIATRICS

Despite the worldwide growth in the older population and increased attention to its health care needs, few new physicians are seeking training in this area. In the United States, more than one-third of first-year geriatric fellow positions went unfilled in the 2008-09 academic year. Attitudes of physicians regarding the field of geriatrics have led to decreasing interest in the specialty by medical students.

The hidden curriculum is the transmission of attitudes, implicit beliefs, and norms to medical students through unplanned instruction taking place between faculty members and students. Negative attitudes about geriatrics by residents who serve as role models for medical students influence the development of future physicians and their career choice. As a result, students often are not stimulated to examine problems experienced by older patients. Their involvement was at the initial intake of the patient on admission and not on continuity of care.

It was found that medical students may believe that medical problems of older patients are not challenging, patients were labeled with stereotypes (e.g., jokes, disparaging remarks, generalizations), and were accused of frustrating the system. However, stimulating medical students to follow up on older patients can make for a rewarding experience and possibly reduce this lack of interest and frustration that some residents may express. This could be done by students being assigned to longitudinal clerkships in which they participated in continuity of care that contributed to their learning as well as improved the care the patient received.

*(Meiboom A, Diedrich C, De Vries H, Hertogh C, Scheele F. The hidden curriculum of the medical care for elderly patients in medical education: a qualitative study. Gerontology & Geriatrics Education. 36:30-44; 2015.)*

## SEXUAL AND GENDER MINORITY (SGM) DISCLOSURE DURING MEDICAL SCHOOL

From 2009 to 2010, a survey was made available to all medical students enrolled in the 176 M.D.- and D.O.-granting medical schools in the United States and Canada requesting their sexual and gender identity, whether they publicly disclosed their identity, or reasons for concealing their identity. Of 5,812 completed responses out of 101,473 eligible respondents, the response rate was 5.7 percent. There were 920 (15.8 percent) students from 152 institutions who identified as SGMs. Of 912 sexual minorities, 269 (29.5 percent) concealed their sexual identity in medical school. The most common reasons for concealing one's sexual identity were "nobody's business" (165/269; 61.3 percent), fear of discrimination in medical school (117/269; 43.5 percent), and social or cultural norms (110/269; 40.9 percent). Of the 35 gender minorities, 21 (60 percent) concealed their gender identity, citing fear of discrimination (9/21; 42.9 percent) and lack of support (9/21; 42.9 percent). SGM students continue to conceal their identity during undergraduate medical training. The authors recommended that medical schools adopt policies and programs to better support these individuals.

*(Mansh MM, White WM, Gee-Tong L, Obedin-Maliver J, Stewart L, Goldsmith E, Brenman S, Tran E, Wells M, Fetterman D, Garcia G. Sexual and gender minority identity disclosure during undergraduate medical education: "in the closet" in medical school. Academic Medicine; February 2015.)*

## RESIDENCY EXPANSION NEEDS TO PREVENT PRIMARY CARE PHYSICIAN SHORTAGES BY 2035

According to surveys by the American Osteopathic Association and specialty boards as well as the 2014 master file of the American Medical Association, by 2035 there will be a need for more than 44,000 primary care physicians to meet the demand. However, the current production rate will result in a shortage of more than 33,000. Consequently, it will be necessary to increase the number of primary care residents by 21 percent over and above the current number.

A population that is expanding, aging, and more insured resulting from the Affordable Care Act exacerbates the need for primary care physicians. However, the primary care physician supply projections may change since work hours per physician have steadily decreased and the number of visits made by primary care physicians has diminished. In addition, there is a growing number of women that are primary care physicians, and women have been shown to work fewer hours. Increasing the number of internal medicine residents that choose primary care also would reduce the deficit of primary care physicians—and without cost.

Finally, solely increasing the number of primary care physicians without accommodating for geographic maldistribution exacerbates access issues. Furthermore, while physician assistants and nurse practitioners would alleviate the primary care shortage, only about half of them choose to work in primary care.

*(Pettersen SM, Winston LR, Tran C, Bazemore AW. Estimating the residency shortage expansion required to avoid projected primary care physician shortages by 2035. Annals of Family Medicine. 13(2):107-114; March/April 2015.)*

## DENTAL STUDENTS PROVIDE VITAL ASSISTANCE BY HELPING THE HOMELESS



According to a 2010 National Institutes of Health report, 41 percent of homeless people surveyed said they lacked dental care. Students from the University of Washington's (UW) School of Dentistry volunteered on their day off on Monday at Mary's Place, which offers homeless women and children food, shelter, and other services. The dental students examined the mothers' and children's teeth and were joined by nursing and medical students. The program was completely student run with professors overseeing the students' work.

Homeless people are at a heightened risk for decay and tooth loss, among other dental issues. While Medicaid covers services for all child enrollees, and most states cover emergency care for adults, less than half of the states provide comprehensive dental care for adults. UW students also volunteer with NeighborCare Health's 45<sup>th</sup> Street clinic, which is a primary care clinic that serves homeless youth, among other low-income populations. The program was founded in 2005 by a student who is now a pediatric dentist and UW faculty member.

*(Goldberg E. Dental students volunteer to give homeless top-quality care. Huffington Post; 2-27-15.)*

## TRAINING MEDICAL STUDENTS TO ADDRESS SPIRITUAL NEEDS

Christina Puchalski, M.D., a professor at the George Washington University School of Medicine and Health Sciences, introduced the first elective in spirituality at a U.S. medical school in 1992. Since that time, the course has been integrated into the medical school curriculum and now includes mentored and monitored reflective rounds designed to help students learn how to address patients' emotional and spiritual suffering.

The Association of American Medical Colleges' Medical School Objectives Project (MSOP) published competencies in 2014 related to spirituality in patient care that involve integrating them into clinical practice, establishing compassion and communication with patients, families, and colleagues, as well as incorporating spirituality into professional and personal development. An MSOP report defines spirituality as an essential element of humanity encompassing the individual's search for meaning and purpose. It embraces secular and philosophical as well as religious and cultural beliefs.

Dr. Puchalski says that "reflection rounds not only help students examine better ways to care for the spiritual needs of patients and their families, but they also help students develop their own inner resources to address the suffering of others."

*(Goldberg R. More than a diagnosis: medical schools and teaching hospitals address patients' spiritual needs. AAMC Reporter; March 2014.)*

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