

Medical Education

American Medical Association. (2007). *Initiative to transform medical education: Recommendations for change in the system of medical education*

Barr, H., & Ross, F. (2006). Student voices. *Journal of Interprofessional Care*, 20(3), 221-221-222. Four winning essays in the JIC Student Competition, sponsored by Health Canada. Requirements for submission included student authorship, representing not less than two health or social care professions and contributing a perspective on interprofessional education and practice.

Baxter, H., Singh, S. P., Standen, P., & Duggan, C. (2001). The attitudes of 'tomorrow's doctors' towards mental illness and psychiatry: Changes during the final undergraduate year. *Medical Education*, 35(4), 381-383.

AIMS: To compare the efficacy of two teaching styles, didactic teaching and problem based learning, in producing enduring change in final-year medical students' attitudes towards psychiatry and mental illness. METHOD: A 1-year follow-up questionnaire survey of two groups of medical students taught psychiatry in their fourth-year training by two different methods. One-year follow-up scores were compared with pre-attachment and post-attachment scores in the fourth year. RESULTS: 70 (68%) students completed both questionnaires at follow-up. The follow-up scores were significantly lower compared with both the fourth-year pre-attachment and post-attachment scores, suggesting that the positive change in attitudes following psychiatric training in the fourth year significantly decayed during the final year. The two teaching methods did not differ in the magnitude of this reduction. CONCLUSIONS: The positive change that occurs in medical students' attitude towards psychiatry, psychiatrists and mental illness after their fourth-year psychiatric training is transient and decays over the final year.

Bleakley, A. (2006). Broadening conceptions of learning in medical education: The message from team working. *Medical Education*, 40, 150-150-157.

This paper addresses the limitations of the current dominant learning theories which inform medical education. It discusses how sociocultural learning theories may offer a best-fit exploration and explanation of learning. Finally, it is emphasized that it will be increasingly important to have a range of theories to draw from when considering medical education.

Brehm, J. G. (2004). Medical education and chronic disease. (comment). *Journal of the American Medical Association*, 292(24), 2975-2975-2976.

Dr. Brehm comments on a commentary by Dr. Holman in JAMA regarding a gap in the current training and practice of physicians. He raises a related problem, the role of the payment system and its subsequent impact on the problem.

Browning, D. M., Solomon, M. Z., & for the Initiative for Pediatric Palliative Care (IPPC) Investigator Team. (2005). The initiative for pediatric palliative care: An interdisciplinary educational approach for healthcare professionals. *Journal of Pediatric Nursing*, 20(5), 326-334.
doi:10.1016/j.pedn.2005.03.004

There is growing empirical evidence that the U.S. healthcare system fails to meet the needs of children with life-threatening conditions and their families. The confluence of several recent developments has created a critical window of opportunity for improving clinical practice and institutional effectiveness in pediatric palliative care. This article presents an innovative, comprehensive approach to pediatric palliative care education that was developed by the Initiative for Pediatric Palliative Care, a consortium of seven academic children's hospitals, Education Development Center, the National Association of Children's Hospitals and Related Institutions, the New York Academy of Medicine, the Society of Pediatric Nursing, and the Association of Medical School Pediatric Department Chairs. The approach is based on needs assessment research with clinicians and parents and reflects a commitment to culturally respectful, family-centered care of

children with life-threatening conditions. The pedagogy combines principles of adult education, includes families as teachers, and integrates affective and cognitive dimensions to enhance learning.

Cooke, M., Irby, D. M., Sullivan, W., & Ludmerer, K. M. (2006). American medical education 100 years after the flexner report. *The New England Journal of Medicine*, 355(13), 1339-1344.
doi:10.1056/NEJMra055445

In this article, which introduces a new series on medical education in the *Journal*, we summarize the changes in medical education over the past century and describe the current challenges, using as a framework the key goals of professional education: to transmit knowledge, to impart skills, and to inculcate the values of the profession.

Darer, J. D., Hwang, W., Pham, H. H., Bass, E. B., & Anderson, G. (2004). More training needed in chronic care: A survey of U.S. physicians. *Journal of the Association of American Medical Colleges*, 79(6), 541-541-548.

Physicians' perceptions with respect to their chronic care training was evaluated through interviews. Most physicians reported inadequate training in chronic disease and believe that proper training has a positive effect on their attitudes towards people with chronic diseases.

Davis, B. E., Nelson, D. B., Sahler, O. J., McCurdy, F. A., Goldberg, R., & Greenberg, L. W. (2001). Do clerkship experiences affect medical students' attitudes toward chronically ill patients? *Academic Medicine : Journal of the Association of American Medical Colleges*, 76(8), 815-820.

PURPOSE: To measure changes in medical students' attitudes toward chronically ill patients, and to identify experiences, specifically during clerkships, that contributed to students' attitudes. METHOD: A cohort of students from five U.S. medical schools voluntarily participated in three surveys longitudinally administered before and after required clinical rotations. The first two questionnaires were identical and asked for demographic information and pre-matriculation experiences with chronically ill patients. The third was modified to include questions about clinical experiences with chronically ill patients. Responses from the first and third questionnaires were linked for analysis. RESULTS: A total of 502 of 695 students (69%) completed both the first and the third questionnaires. Many students (36%) had had pre-matriculation experiences with chronic illness. After clinical training, 25% of the respondents stated that they would seek another career specialty if the incidence of chronically ill patients increased in their chosen field, compared with the 9% who responded so before clinical training ($p < .001$). While 73% of the students had favorable perceptions toward chronically ill patients, and 91% felt involved in care, significantly fewer students ($p < .01$) had had positive patient care experiences when working with residents (57%) and attendings (59%). Gender, age, prior experiences, and school site were not associated with attitudinal changes. CONCLUSION: Students begin medical school with positive attitudes toward caring for chronically ill patients, but this perception depreciates with clinical experience, which may affect specialty decisions. Contributing factors may include adequate role modeling by residents and attendings and a perceived discrepancy in the quality of care patients receive.

Dube, S. (2005). Medical education and chronic disease [letters]. *Canadian Medical Association Journal*, 172(7), 857-857-858.

A letter in response to a commentary about the need to improve health care services for children with chronic health conditions. An interdisciplinary approach might help, but the medical curriculum will also need to be revised. The authors feels that faculty members are not prepared to serve as adequate role models in an interdisciplinary approach.

El-Zubeir, M., Rizk, D., & Al-Khalil, R. (2006). Are senior UAE medical and nursing students ready for interprofessional learning? validating the RIPL scale in a middle eastern context. *Journal of Interprofessional Care*, 20(6), 619-619-632.

Using a self-administered extended 29 item version of the Readiness for Interprofessional Learning Scale (RIPLS), this study examined attitudes and readiness for interprofessional education of senior medical and nursing students' from the United Arab Emirates University and Institute of Nursing. The researchers also tested the validity of the RIPLS in this Middle Eastern context. The extended RIPLS

was validated for use in an undergraduate Middle Eastern community and thus provides program developers and evaluators with a useful tool to assess medical and nursing students' readiness for interprofessional learning in this context.

Feifer, C., Mora, A., White, B., & Barnett, B. P. (2006). Challenges to improving chronic disease care and training in residencies [chronic care]. *Journal of Medical Education, 81*(8), 696-696-701.

This study investigated residency-based experiences with changes in teaching and delivery of chronic disease care. Qualitative cross-sectional in-depth interviews were conducted with directors of grant-funded residency-based chronic care projects. The following challenges were identified: engaging faculty and residents who spend limited time in the practice center, institutional barriers related to authority, competing priorities, process, and resources. Successful innovations for chronic disease care and training are possible in residencies, but their implementation cannot be taken lightly.

Green, S. (2004). Medical education and chronic disease. (comment). *Journal of the American Medical Association, 292*(9), 1057-1057-1059.

This author comments on the lack of medical student education on the topic of chronic disease.

Harward, D. H., Tresolini, C. P., & Davis, W. A. (2006). Can participation in a health affairs interdisciplinary case conference improve medical students' knowledge and attitudes? *Journal of Medical Education, 81*(3), 257-257-261.

A three-hour health affairs interdisciplinary case conference was conducted with 2,005 health professions students. Following participation in the conference, there were significant increases in students' knowledge about the training and skills of all ten professions, the advantages of working in an interdisciplinary team, and the importance of care provided by these professions. In general, there were significant improvements in students' attitudes toward the value of interdisciplinary team work and leadership by all health professionals.

Hean, S., & Dickinson, C. (2005). The contact hypothesis: An exploration of its further potential in interprofessional education. *Journal of Interprofessional Care, 19*(5), 480-480-491.

The Contact Hypothesis is a useful theoretical framework to address challenges that face researchers who wish to build the evidence base around interprofessional education (IPE). This article briefly describes the theory and closely-related theories of social identity and categorization. The application of the Contact Hypothesis to interprofessional education is also described.

Holman, H. (2004). Chronic disease -- the need for a new clinical education. *The Journal of the American Medical Association, 292*(9), 1057-1057-1059.

Medical schools currently do not adequately prepare their students for care of chronically ill patients. The author of this article suggests creating a chronic care model which includes a practice team, information system, decision supports for practice, and patient self-management supports. It is suggested that students should be assigned to a supervised longitudinal case study upon enrollment in these programs. Providing these new learning experiences requires new understandings and new behaviors.

Horsburgh, M., Perkins, R., Coyle, B., & Degeling, P. (2006). The professional subcultures of students entering medicine, nursing and pharmacy programmes. *Journal of Interprofessional Care, 20*(4)

This study sought to determine the attitudes, beliefs and values towards clinical work organization of students entering undergraduate medicine, nursing and pharmacy programs in order to frame questions for a wider study.

Kirkegaard, M. (2004). Medical education and chronic disease. (comment). *Journal of the American Medical Association, 292*(9), 1057-1057-1059.

Dr. Kirkegaard comments on Dr. Holman's article "Chronic disease—the need for a new clinical education" and the seven areas which Holman identifies as necessary for medical students to gain

proficiency to manage patients with chronic disease. To this list, he adds two more proficiencies, inspiring students to become advocates for underserved patients and teaching students how to be culturally competent.

Lorenz, R. A., & Pichert, J. W. (1986). Impact of interprofessional training on medical students' willingness to accept clinical responsibility. *Medical Education*, 20(3), 195-200.

Interprofessional training has been suggested as a means of preparing medical students for team health care, but the effects of such training have not been carefully studied. A multidisciplinary training programme in ambulatory diabetes care was developed to promote positive attitudes towards team care. Programme effects were assessed by a questionnaire which asked medical students to indicate their willingness to delegate or share 25 specific clinical tasks with a nurse. Following programme participation, students' willingness to share responsibility increased significantly for seven of the 25 tasks. To test the hypothesis that this effect resulted from the assignment of a teaching role to nurses, selected seminar content was taught by doctors or nurses on a random basis. No differences in willingness to share responsibility were related to which professional taught the seminar content. However, students were more willing to share responsibility with a nurse when they thought they had learned that topic from a nurse, suggesting that their experience in observing nurses at work may have been important in influencing attitudes towards team care.

Morioka-Douglas, N. (2004). Medical education and chronic disease. (comment). *Journal of the American Medical Association*, 292(9), 1057-1057-1059.

Dr. Morioka-Douglas comments that part of the lack of medical education in addressing chronic illness involves the lack of reimbursement for activities essential to management of chronic disease, such as telephone and email consultation.

Moskowitz, D., Glasco, J., Johnson, B., & Wang, G. (2006). Students in the community: An interprofessional student-run free clinic. *Journal of Interprofessional Care*, 20(3), 254-254-259.

Students in the Community (SITC) is an interprofessional collaboration of health science students at the University of Washington. SITC runs a weekly free clinic at the Aloha Inn, a transitional housing facility for 70 homeless men and women in downtown Seattle. The focus of this clinic is on health education, chronic disease management, and re-integration of patients into the healthcare infrastructure. SITC serves as a valuable service learning opportunity for students. In addition to direct clinical services, students gain experience in planning health education strategies, community collaboration, and evaluating intervention outcomes. SITC also oversees a lecture and discussion-based elective course at the University of Washington focused on health issues of the homeless community and provides formal teaching which complements the service-learning component of the endeavor.

Nair, B. R., & Finucane, P. M. (2003). Reforming medical education to enhance the management of chronic disease. *The Medical Journal of Australia*, 179(5), 257-259.

Medical education must adapt to change if it is to remain relevant to the needs of doctors, patients and society. Ideally, it should anticipate and lead change. Undergraduate education remains rooted in urban medical schools where the focus is on acute disease, while most graduates spend their working lives in the community, dealing mainly with chronic health problems. Medical graduates need to acquire specific knowledge, skills and attitudes if they are to effectively manage people with chronic disease. Strategies that create a better balance between education in acute and chronic disease are being developed. These include a transfer of clinical teaching to community and nursing home settings and the development of interdisciplinary teaching.

Nazem, A. G. (2008). A piece of my mind. teach us how. *JAMA : The Journal of the American Medical Association*, 300(21), 2463-2464. doi:10.1001/jama.2008.767

Commentary by a third-year medical student on medical education and the US healthcare system.

- Norris, T. E., House, P., Schaad, D., Mas, J., & Kelday, J. M. (2003). Student providers aspiring to rural and under served experiences at the university of washington: Promoting team practice among the health care professions. *Journal of Medical Education*, 78(12), 1211-1211-1216.
The University of Washington's Area Health Education Center program and School of Medicine offer a voluntary extracurricular program for students. The Student Providers Aspiring to Rural and Under-served Experiences (SPARX) programs is an interprofessional, student-operated, center/school-supported program consisting of a wide range of activities. SPARX supports students interested in practicing among rural and urban medically under-served patients and in interacting with their peers in other health professions schools.
- O'Neill, B. J., & Wyness, M. A. (2005). Student voices on an interprofessional course. *Medical Teacher*, 27(5), 433-433-438.
This qualitative study examined students' insights regarding the interprofessional component of an elective course offered. Interviews explored perceptions regarding learning, including insights about the effectiveness of teaching-learning strategies, and improvements required. The course contributed to the students' development of their own professional voices and their understanding of those of other professions.
- Pham, H. H., Simonson, L., Elnicki, D. M., Fried, L. P., Goroll, A. H., & Bass, E. B. (2004). Training U.S. medical students to care for the chronically ill. *Academic Medicine*, 79(1), 32-32-40.
The prevalence of chronic illnesses is increasing and therefore it will be increasingly important for physicians and medical students to understand chronic illnesses and appropriate care during their training. A survey of medical school course directors revealed that overall the directors agreed on the need to address the improvement of training students in the care of the chronically ill, however, the directors reported a wide variety of methods for how they would like to address or are currently addressing this in their courses.
- Phelan, H. H., Simonson, L., Elnicki, M. D., Fried, L. P., Goroll, A. H., & Bass, E. B. (2004). Training U.S. medical students to care for the chronically ill. *Journal of the Association of American Medical Colleges*, 79(1), 32-32-41.
The authors assessed the inclusion of competencies in the curriculum in relation to chronically ill patients. Directors of medical school courses were interviewed about the use of chronic care competencies and their opinion of importance of these competencies in their course. The course directors agreed about the important of chronic care competencies, but there was much variation found in the execution of these competencies in their courses.
- Phipps, L. L., & Cuthill, J. D. (2002). Breaking bad news: A clinician's view of the literature. *Annals (Royal College of Physicians and Surgeons of Canada)*, 35(5), 287-293.
In daily practice, a clinician may have to break bad news to patients and their families. How the patient responds depends largely on the manner in which the messenger conveys the news. The clinician may harbour fears of the patient's unpredictable emotional reactions, his or her own display of emotions, and a revival of bad news that he or she may have received. He or she may also feel ineffectual about an inability to deal with the patient's expectations for cure. He or she may use distancing tactics in discussing emotionally charged topics. The ensuing anxiety fosters an uneasy alliance in such situations. Moreover, the patient may question the information. This should be seen as a need for more information, and not as a challenge to the messenger's integrity or the validity of the news. Denial on the part of patients and families may indicate their inability to accept the news. The paucity of medical education in this area dictates more emphasis in teaching communication skills to medical students and postgraduate trainees. Receiving the news is the start of an adaptation process for a patient. He or she must know that there will be difficulties ahead. The patient and family will face them together with the clinician. The doctor will be available as necessary throughout the process to answer questions and provide support. This entails spending time to listen, hear, acknowledge the patient's emotions, and advocate on the patient's behalf. It is always possible to help the patient frame his or her fears. When the shadow of death approaches, life and time become more precious. Deeper meanings and clearer priorities often emerge for the dying person. He or she

is forced to examine what makes a life meaningful. By sharing burdens, insight, and support, patients and professionals can pursue these discoveries together.

- Pollard, K., Miers, M. E., & Gilchrist, M. (2005). Second year skepticism: Pre-qualifying health and social care students' midpoint self-assessment, attitudes and perceptions concerning interprofessional learning and working. *Journal of Interprofessional Care, 19*(3), 251-251-268.
A study in an English Faculty of Health and Social Care explores the effects of a pre-qualifying interprofessional curriculum incorporating interprofessional modules in each year of study. This paper represents results from 723 students at the second data collection point. The emergence of differences in responses based on a professional program suggest that interprofessional education may not necessarily influence professional socialization.
- Pruitt, S. D., & Epping-Jordan, J. E. (2005). Preparing 21st century global healthcare workforce. *British Medical Journal, 330*(7492), 637-637-639.
To meet the growing global demands of caring for the increasing numbers of patients with chronic conditions, we need to develop a new approach to training. Traditional models of acute care are inadequate for training a workforce to manage today' most prevalent health problems: chronic conditions.
- Ramirez-Cacho, W. A., Strickland, L., Beraun, C., Meng, C., & Rayburn, W. F. (2007). Medical students' attitudes toward pregnant women with substance use disorders. *American Journal of Obstetrics and Gynecology, 196*(1), 86.e1-86.e5. doi:10.1016/j.ajog.2006.06.092
OBJECTIVE: The objective of this study was to determine whether medical students' attendance at a clinic designed for pregnant substance users would yield changes in their attitudes toward the special needs of this population. STUDY DESIGN: This prospective study involved 104 consecutive third-year students rotating on our obstetrics-gynecology clerkship. Students were assigned to attend either a half day prenatal clinic designed specifically for women with substance use disorders during the first 4 weeks (study group) or during the second 4 weeks (control group). Each answered a confidential 24-question survey (using a 5-point scale from "strongly agree" to "strongly disagree"), dealing with comfort levels and attitudes, at the beginning and midway points of the 8-week clerkship. Student t tests were used for comparisons of averaged scores. RESULTS: At the beginning of the clerkship, no differences were found between the study (n = 52) and control groups (n = 52) in their responses to the survey. Regardless of gender, students who attended the clinic reported they became more comfortable in talking with patients about their substance use (P < .001) and more nonjudgmental in treating these patients (P < .02). Compared with before the clerkship, the control group became less comfortable in talking with these patients about their habits (P < .01), less aware about the prevalence of substance abuse during pregnancy (P < .02), and less aware about the efficacy of counselors (P < .05). CONCLUSION: Medical students became more comfortable and better informed about pregnant women with substance use disorders after attending a clinic dedicated toward this population's special needs.
- Rudland, J. R., & Mires, G. J. (2005). Characteristics of doctors and nurses as perceived by students entering medical school: Implications for shared teaching. *Medical Education, 39*(5), 448-448-455.
This study examines perceived professional characteristics of doctors and nurses by students entering medical school as a means to understand when interprofessional education should be introduced. Medical students appeared positive about shared teaching, however, these students also had an overall poor perception of the academic ability, status in society, and professional competence of nurses.
- Siegler, E. L., & Capello, C. F. (2005). Creating a teaching geriatric service: Ten important lessons. *Journal of the American Geriatrics Society, 53*(2), 327-330. doi:10.1111/j.1532-5415.2005.53122.x
The restructuring of The Medical Service at the Weill/Cornell campus of the New York Presbyterian Hospital, coupled with funding from the Donald W. Reynolds Foundation to strengthen physicians' training in geriatrics, enabled the creation of a geriatrics inpatient team and a 17-bed Acute Care for Elders unit. It has also allowed a program to be designed that exposes residents to the fundamental

principles of geriatric care, offers them opportunities to follow older patients in multiple venues, and provides a chance to enhance their skills and gain experience in interdisciplinary care. In creating the service, a number of mistakes were made, but a few lessons were also learned in the process. After a brief description of the program, 10 lessons that highlight the pitfalls and potential of an inpatient geriatrics teaching service are shared.

Stevens, D. P., & Wagner, E. H. (2006). Transform residency training in chronic illness care -- now [commentary]. *Journal of Medical Education*, 81(8), 685-685-687.

This article describes how the Chronic Care Model was implemented in 22 teaching hospitals. The results of their efforts were tracked by each of the team members, with respect to clinical and educational outcomes. The two most effective drivers of change were organization-wide leadership and the academic culture (competitiveness, the aspiration for excellence, focus on the research mission, comfort with data, and commitment to the education mission).

Turner, J., Pugh, J., & Budiani, D. (2005). "It's always continuing": First-year medical students' perspectives on chronic illness and the care of chronically ill patients. *Academic Medicine : Journal of the Association of American Medical Colleges*, 80(2), 183-188.

PURPOSE: Caring for patients with chronic health conditions is an important component of health care in the 21st century. This study uses qualitative research methods to take an in-depth look at the attitudes of first-year medical students toward chronic illness and the care of chronically ill patients. METHOD: In Spring 2000, 26 first-year medical students at the College of Human Medicine, Michigan State University, were invited to participate in interviews focused on their attitudes toward caring for patients with chronic illness. Transcripts of the interviews were analyzed to identify iterative themes. Concurrently, all 105 first-year students were given a questionnaire that asked about their attitudes toward various aspects of patient care. RESULTS: Nineteen students participated in the interviews. Students viewed chronic illness as incurable, long running, life altering, and often terminal. Most students had firsthand experience with chronic illness in family members; many had premedical work experience with chronically ill patients. Most students described themselves as comfortable with a partnership relationship with patients. Students acknowledged responsibility for caring for those with chronic illness but anticipated sadness and frustration in this work. One hundred and four students completed the questionnaire. Respondents' attitudes were consistent with those expressed in the interviews, suggesting that the interview findings represent the class as a whole. CONCLUSION: Students enter medical school with complex attitudes toward chronic illness, many of which are more negative than previously reported. Qualitative instruments constitute important methods for studying the intricacies of students' attitudes and outlooks.

Whitcomb, M. E. (2007). Who will lead? [from the editor]. *Journal of Medical Education*, 82(2), 115-115-116.

New graduates will be required to provide high-quality patient care to patients with chronic diseases and will treat more racially and ethnically diverse patients. The medical education programs need to address these challenges and prepare the future medical professionals.

Whitcomb, M. E. (2007). Preparing the personal physician for practice (P(4)): Meeting the needs of patients: Redesign of residency training in family medicine. *Journal of the American Board of Family Medicine : JABFM*, 20(4), 356-64; discussion 329-31. doi:10.3122/jabfm.2007.04.070100

Family medicine stands at a critical point in its history. To achieve a place of enhanced prominence within American medicine, the discipline must acknowledge the fundamental changes that have occurred in the country's health care system in recent decades and discard its historical attachment to the fundamental beliefs that led to the establishment of the specialty almost 40 years ago. If the discipline is to serve the most critical needs of the American public, family medicine residency programs must be redesigned to train family physicians who will be experts in the ambulatory care of patients with chronic disease. To accomplish this, family medicine residency programs should provide residents in training with a more concentrated experience in the care of such patients. The enhanced focus of training on education for chronic illness care can be accomplished within a 2-year

training period by eliminating training requirements that are no longer relevant to the practice of family medicine in most communities.

Young, L., Baker, P., Waller, S., Hodgson, L., & Moor, M. (2007). Knowing your allies: Medical education and interprofessional exposure. *Journal of Interprofessional Care*, 21(2), 155-155-163.
This project aimed to develop interprofessional skills among 134 third year medical students that were of clinical educational value to the students, and through activities that directly benefited the rural health professionals in their daily work. The project proved successful in improving medical students' skills, knowledge, and perceptions concerning interprofessional practice.