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DARTMOUTH MEDICAL SCHOOL

January/February 2001

Envoy to Egypt

Urologist Marc Cendron, MD, shares his medical experience and techniques generously and globally to help youngsters in need. The DMS associate professor traveled to Egypt last November as a volunteer with Physicians For Peace. He and five other medical specialists from the United States donated their expertise to treat children suffering from urological problems and teach those who care for them.

It's probably the "most rewarding work I do," he says of his mission which involved updating colleagues on the latest procedures as well as operating on children, many of whom could not otherwise afford surgery. The team saw youngsters ranging in age from a few months to 18 years and some required fairly complicated reconstructive surgery. An important aspect was instruction on follow-up care for patients.

Worldwide, about 25 % of all birth defects involve the genital-urinary tract and can lead to serious kidney and bladder damage if untreated, according to Cendron. And in countries like Egypt, the children usually presented chal-

lenges because their problems were in later stages than commonly seen in the US.

It is "archeological urology," Cendron says. "Patients came to us there the way they used to come here 30 to 40 years ago and we were doing things doctors did half a century ago."

Cendron is no stranger to global medicine. He volunteered twice for medical missions to Vietnam through another organization, Friendship Bridge, and this was



Marc Cendron, MD, (above) holds a young patient he treated while in Egypt.

Cendron (at far right) and colleagues operate in Egypt.

Cendron's second trip to Egypt with PFP, an all-volunteer US organization "established to further world peace and international goodwill by providing quality med-

ical education and health care to those in need." The team worked with physicians in Cairo and lectured on state-of-the-art treatment at a major urology meeting.

The benefits flow two ways. "I learn just as much by seeing how people adapt and work with less," Cendron says, even, "how to make my own practice more efficient." Certainly fewer resources make for differences. For instance, instead of four sutures that are the US standard for a urology technique, Cendron's counterparts overseas who need to conserve suture materials use two, just as successfully. Moreover, the camaraderie of the volunteer specialists who are also colleagues enhances interactions for consultation and gives fresh insight on problems.

The goal of PFP is to offer long-term solutions beyond immediate and acute care

situations, and to foster close working relations with the professionals of the host country. In the last few years, Cendron has noticed the increasing prevalence of English by physicians worldwide. Now, thanks to the Internet, he can maintain links with his international colleagues to continue to offer consultation and help keep them updated.

Psychiatry to Serve State Inmates

In a unique collaboration between the mental health and criminal justice systems, Dartmouth Medical School will provide psychiatric services for prisoners in New Hampshire.

The Department of Psychiatry and the state of New Hampshire have expanded their joint effort for mental health care at the New Hampshire Hospital to cover prison services through the Department of Corrections. The agreement took effect in October.

"Dartmouth extends a successful partnership of more than a decade to serve an area that has become a national crisis as the ranks of mentally ill prisoners swell," notes DMS Dean John C. Baldwin, MD. "The reality is compelling and alarming: we are jailing so many of our country's mentally ill as an alternative to providing care through a failing health delivery system.

"Prisons have become the mental hospitals for a large segment of society and the de facto custodial institutions for the last decade. Psychiatric services in the prisons are inadequate and our nation's medical schools can help," he continues.

Three to four times as many mentally ill nationwide are estimated to be in correctional facilities as in psychiatric hospitals and estimates of diagnosable substance abuse or mental illness disorders among prisoners are as high as 25 % nationally, according to Peter Silberfarb, MD, professor and chair of psychiatry.

"The criminal justice system is the largest referrer to the mental health system; it's a national disgrace. This is a wonderful opportunity to do the right thing and develop a model system for the country and the state, similar to what we have accomplished at the New Hampshire Hospital," he says.

DMS entered into a contract to run the clinical services of the state hospital more than 12 years ago when New Hampshire overhauled its psychiatric services system. Under an amendment to the contract, Dartmouth will offer psychiatric care for New Hampshire's estimated 2,000 prisoners, including inpatient psychiatric services at the secure psychiatric unit in Concord, as well as services to inmates at correctional facilities in Lacoia, Goffstown and Berlin. An array of comprehensive psychiatric services can lead to recovery and help save money for the state and for society.

Silberfarb cites figures that underscore the magnitude of the challenges: •Up to 25% of inmates have a severe psychiatric disorder and had a stay overnight in a hospital. They are twice as likely to report living on the street in the year prior to their arrest. •Mentally ill inmates serve an average of 15 months longer than non-mentally ill. •Up to 40% of incarcerated white women under 25 are identified as having mental illness.

The Surgeon General's 1999 report on mental health documented considerable barriers for those who need treatment, the majority of whom neither seek nor receive it. Many are neglected in the juvenile and adult justice systems because staff are overburdened and facilities scarce.

Working with the Department of Corrections, DMS will also expand training and research on meeting needs and augmenting resources. "In addition to providing care, there are opportunities for epidemiological research, such as dealing with an aging population and assessing different needs of psychiatric patients, including folks who go untreated for lack of resources," says Silberfarb.

Adds Baldwin, "As we seek to redress a funda-

mental failure, we also seek, through prospective clinical studies that only our nation's medical research institutions can provide, to develop paradigms for delivery of mental health care in these, perhaps the most inauspicious of settings for achieving recovery."

Dartmouth's goal is to facilitate effective mental health services for those who come in contact with the judicial system. "Many folks with serious and persistent mental illness have been excluded from the mental health system and have ended up in the criminal justice system. Many... have a mental illness with co-occurring substance abuse," notes Benjamin Lewis, EdD, Department of Psychiatry director of administration. He estimates that 15% of New Hampshire prisoners have diagnosable mental illness and a substance abuse problem.

Through an amendment to the state contract, DMS will provide psychiatric services consistent with the mission of the Department of Corrections medical and forensic services. The contract aims "to offer offenders/patients opportunities to attain and maintain a functional level of wellness and to promote staff development for (providing) health services in a safe environment, while providing for the public's safety." The premise "is that a continuum of mental health and substance abuse treatment options within the correctional system can lay the foundation for behavior change, improved self-management of feelings and impulses, recovery and successful reintegration into society or, if necessary, more restrictive environments."

Dartmouth is recruiting a medical director and faculty for the program and has already established a forensic fellowship for training psychiatrists to work with this population.

VA Research Open House Debuts

The first annual Veterans Affairs Medical Center research open house sponsored by Dartmouth Medical School and Dean John Baldwin, MD, on January 10 showcased basic science initiatives. In his welcoming remarks, William Hickey, MD, associate dean, introduced Leo Zacharski, MD, professor of medicine, who provided an overview of research and funding at the VAMC. During fiscal year 2000, the \$321 million national VA budget supported programs such as the Medical Research Service, similar to the NIH and its study sections; Health Services Research and Development for outcomes research; Rehabilitation Research and Development; the Career Development Program that provides salaries of physicians, research fellows and assistant professors, and the VA Cooperative Studies Program that provides biostatistical support and data management, DNA banking facilities, and logistical support for multi-institutional clinical trials.

Through the national Merit Review Program, as of fall 2000 up to 31% of entry programs and career development applications at White River Junction, VT were funded, ranking its funding level 30th out of 112 VAs with research services. With current revenues of \$4.7 million for research, the VAMC is also headquarters for the National Center for Post Traumatic Stress Disorder (PTSD) and the National Center for Clinical Ethics. Two national VA



From left, Sherry Bursztajn, PhD, Leo Zacharski, MD, and attendee, Jeffrey Dunn, PhD.

cooperative clinical trials have chairmen's offices based at White River Junction: the iron and atherosclerosis study, testing whether body iron stores contribute to vascular disease, and a study of cognitive-behavioral treatment for PTSD in women. Other clinical trials the VA participates in include those sponsored by the Cancer and Leukemia Group B (CALGB) and the Radiation Therapy Oncology Group, various DHMC-based protocols, and a study on mental health for the elderly in primary care.

VA-based basic scientists discussed their research briefly and addressed questions from the audience of faculty and students. Two categories of topics were covered: Macrophage Biology, Inflammation and Immunity, then Biological Oxidation and Drug Metabolism. The first speaker, Nora Ratcliffe, MD, discussed chronic autoimmune inflammation in a rat model; next Herbert Yohe, PhD,

spoke about glycolipids and their ability to function as membrane signal modulators that appear to be important for several diseases, such as infections. Roy Fava, PhD, described his work on VEGF (vascular endothelial growth factor) in endochondral bone formation which may be important for promoting fracture healing. William Rigby, MD, talked about abnormalities in glucose transport in tumors; his studies are based on insights from genetic mutations in von Hippel-Lindau (VHL) disease in which cells act as though they are constantly exposed to low levels of oxygen. Peter Morganelli, PhD, gave detailed information on the role of Fc-gamma receptors in foam cell formation and on the metabolism of lipoprotein immune complexes that affect cholesterol plaque formation; his long-term



Herbert Yohe, PhD, addresses a question

goal is to develop a vaccine to control atherosclerosis. Alexandra Howell, PhD, discussed enhancing immunity to an HIV vaccine; she is studying a GP120 fusion protein in an animal vaccine model and its potential for

developing vaccines to combat HIV infection.

John McBain, PhD, began the second part of the program, discussing his work on apoptosis (programmed cell death) in cultured adenocarcinoma cells, and the role of P-21 in the growth and differentiation of prostate cancer cells. Jacqueline Sinclair, PhD, presented data linking a form of cytochrome P450, known as CYP3A, to liver damage from acetaminophen following alcohol consumption. Peter Sinclair, PhD, discussed his findings on the roles of CYP1A2 (another cytochrome protein), iron and polychlorinated biphenyls in experimental models of porphyria cutanea tarda, a skin disease. Via teleconference, Glenn Gerhard, MD, provided information on quantitative genetic analysis of oxidative stress and aging. Then, Barney Dwyer, PhD, spoke about tin-mesoporphyrin, a potent heme oxygenase inhibitor, which appears to have potential for the treatment of hemorrhage into brain tissue. Finally, Sherry Bursztajn, PhD, reviewed her work on excitotoxicity and apoptosis in the central nervous system, and the role of glutamate receptors and transmitters in signal transduction that mediate neuronal damage and cell death.

While this first session focused on basic science, Zacharski expects future sessions to include clinical research at the VAMC. The goal is to highlight projects and spark new collaborative research among medical and scientific professionals in the Dartmouth community.

Journal Looks at Medical Errors Report Fallout

The medical error movement is fraught with pitfalls, said Dartmouth Medical School physicians in the November/December 2000 *Effective Clinical Practice*. The issue was devoted to medical errors and the ramifications of the Institute of Medicine (IOM) report, "To Err is Human: Building a Safer Health System." It also featured a critique by DMS overseer and journalist Susan Dentzer of how the media covered the story.

In an editorial, "Is This Issue a Mistake?" journal editor H. Gilbert Welch, MD, and Elliott S. Fisher, MD, both of the White River Junction VAMC, wrote, "We hope that papers in this issue help highlight both the opportunities and the

complexities involved in reviewing medical errors." They said loose language, such as equating errors with adverse events, has muddied the debate. The medical error movement, triggered anew by the November 1999 IOM report, may be missing the mark by focusing on errors of execution without also attending to errors in decision making such as when to test and treat.

Two DMS physicians examined the validity of numbers used to calculate medical errors risk and called for more credible estimates in, "How Many Deaths Are Due to Medical Error? Getting the Number Right." The IOM report cited studies that substantiate that adverse events occur in 2.9 to 3.7 %

of hospital admissions. Harold Sox, MD, and Steven Woloshin, MD, questioned the claim that about half of these adverse events are preventable, and cast doubt on the estimate that up to 98,000 hospitalized Americans die each year because of preventable medical errors.

In "Developing a Culture of Safety in the Veterans Health Administration (VHA)," William Weeks, MD, of DMS, and James Bagian, MD, of the National Center for Patient Safety, detailed initiatives that might guide other health care organizations. The VHA is establishing one mandatory and one voluntary system to report adverse events and plans to bar code medications and computerize medical records.

John Birkmeyer, MD, of DMS

and Michael Young, MD, of Fletcher Allen Health Center, VT reported that staffing hospitals with physicians trained in critical care could save almost 54,000 lives annually. (See also *Leapfrog*).

Press coverage, examined in a public policy article, "Media Mistakes in Coverage of the Institute of Medicine's Errors Report," also offers lessons, said Dentzer, health correspondent for PBS's *The News Hour* with Jim Lehrer. "...Although the news coverage was widespread, little of it went deeply into the reports analysis of the sources of medical errors or some of the reports highly controversial recommendations," she wrote. While media "misjudgments" may have misled the public, the saga illustrates the struggle reporters face as they seek to convey the nuances and complexity of findings in meaningful yet interesting stories.

LEAPFROG GROUP

John D. Birkmeyer, MD, surgery and community and family medicine, helped launch the Leapfrog Group hospital safety initiative in November 2000, based on his research for better outcomes. The program, sponsored by the Business Roundtable, strives to improve the quality of health care and reduce medical errors by using its purchasing power to leverage patient safety.

The group was unveiled in conjunction with Birkmeyer's research indicating that three measures could save up to 58,300 lives and prevent up to 522,000 medication errors each year. Consortium members will steer employees to hospitals that have the following: Computerized prescription systems, critical care specialists in ICUs and high volume performance of specialized procedures. If implemented by all non-rural hospitals in the United States, these three stan-

dards will improve safety and save lives, Birkmeyer found.

- **Computer Physician Order Entry:** Systems where physicians enter medication orders via computer linked to prescribing error-prevention software have been shown to reduce serious prescribing errors in hospitals by more than 50%.
- **Evidence-Based Hospital Referral:** Research indicates that a patient's risk of dying could be reduced by more than 30% by referring patients needing certain complex medical procedures to hospitals offering the best survival odds based on scientifically valid criteria – such as the number of times a hospital performs these procedures each year.
- **ICU Physician Staffing:** Intensive care units (ICU) staffed by physicians trained in critical care medicine have been shown to reduce the risk of patients dying in the ICU by more than 10%.

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Published bimonthly by
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