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COMMENTARIES

CONTRIBUTIONS

Special Issue : Medical Education
Guest Editor: Philip A. Gruppuso, MD

COLUMNS

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Commentaries

Cowboy Medicine or Good Clinical Judgment? Testing Minimalism

When I was in medical school, computed tomography (CT) had not been developed. When I was an intern, it was first introduced for brain scanning, so that when I started my neurology residency, I had not seen a CT scan. I started my residency at Harlem Hospital, which then had no CT scanner, and which didn't seem like a problem, since I had never known their merit. However, after several months it became clear that not having access to a CT was a major hindrance to good neurological care. In the same vein, no pun intended, angiography was only available during the workday, on weekdays, at Harlem Hospital. If a carotid angiogram was required as an emergency, a non-English speaking radiology resident would perform a single picture angiogram and the needle injecting the dye had to be inserted directly into the carotid artery, a "carotid stick." In those days, the only reason for obtaining an angiogram was to check for a subdural hematoma. It was important to decide which side to inject on, because, as unsafe as it was to inject dye directly into the carotid, it was much worse to inject dye into both carotids. (since ruptured aneurysms were operated on at least 7 days, usually 10-14 after a subarachnoid hemorrhage, the angiogram was always a non-emergent test). Therefore choosing the side was a crucial decision, based, of course, completely on clinical criteria.

I don't think it was that experience alone that pushed me along the path of testing- minimalism. Perhaps it was the prevailing gestalt of my training program, a stubborn, and possibly dangerous egotism that is part of my personality or congenital parsimony that makes me try to order the minimum number of tests.

I don't know if my choice of neurology niche reflects this tendency or vice versa. There are few tests of value in movement disorders. There is no test for Parkinson's disease, most causes of tremors, most gait disorders, most ataxias, etc. I read a wonderful paper recently comparing two different experts' opinions of myoclonus in a series of patients, with each other, and with computerized EMG testing, as to whether the myoclonus was organic or psychogenic. The bottom line was that they could not reliably distinguish between the two. Testing was of no value.

Many years ago, a friend, who was chief of a division at a prestigious medical school, told me that when he attended on the ward one month each year he was always amazed by the number of excessive tests. Each year he promised to buy a case of beer for whichever intern could reduce testing by 50%; after 10 years he had never had to pay off.

I saw a patient in the intensive care unit with a clinical picture indicative of a metabolic encephalopathy, with sufficient metabolic abnormalities to explain it. She did, unfortunately have a fixed, dilated pupil on one side, which one usually interprets as a sign of a neurological disaster, something pressing on the third nerve. I thought the pupil was probably the result of old trauma and I felt comfortable enough with my diagnosis that I suppressed the knee-jerk reaction of ordering an emergency CT or MRI to exclude tentorial herniation or an aneurysm as the cause of the pupilary abnormality. I felt uncomfortable enough, however, that I felt compelled to check on her the next day, something I didn't routinely do, and now found her comatose. I was devastatingly humbled until her extensive evaluation revealed no structural brain abnormality and a worsened metabolic picture. She then recovered. I can't recall whether I ever found an explanation for her pupil. I promised myself I would never again let my "clinical judgment" prevent testing. When her tests came back unrevealing, confirming my original assessment, I backtracked. I don't know if I learned anything other than when I make a clinical decision to NOT test, I should be pretty sure of what I'm doing. But I think I knew that before.

My next case was a true teaching case. An 80-year old man who had suffered with Parkinson's disease for over 30 years, now almost completely mute and wheelchair bound, but with only mild cognitive impairment, suddenly became short of breath, with a look of terror. He could not explain what was happening. I thought he may have had a pulmonary embolus. His son reported that his father had been better than baseline for the past few days, had no symptoms to suggest an illness and was quite well until he had been in the office for five minutes seeing the nurse practitioner. His heart and lung exams were normal (as best a neurologist with a cheap stethoscope can judge) and his legs showed no signs of thrombophlebitis. The tachypnea persisted for about 5 minutes and I wondered aloud about sending him to the emergency room, which his son did not want. He calmed down for a minute and then started up again. I was as stumped as I was worried that he was about to die. I could not relate this to his PD, although I suspected it was, and I asked the son to stay with his father and I parked them in an exam room next to the one I was using while I examined another patient. When I checked on him a few minutes later he was back to his baseline, breathing easily, comfortable, with his usual severe parkinsonism. His son explained that his father's underpants had become too tight and that when he could move himself sufficiently to relieve the discomfort he was back to "normal."

I don't know how many hours and thousands of dollars we saved, and the decision was certainly made easier by the patient and son's advance-directives, which excluded emergency room visits, but I wonder how much my 30 years of experience with PD determined the decision to watch

and wait. It could easily have gone the other way. Tight underpants had not entered my differential diagnostic list.

– Joseph H. Friedman, MD

Disclosure of Financial Interests

Joseph Friedman, MD, and spouse/significant other. Consultant: Acadia Pharmacy, Ovation, Transoral; Grant Research Support: Cephalon, Teva, Novartis, Boehringer-Ingelheim, Sepracor, Glaxo; Speakers' Bureau: Astra Zeneca, Teva, Novartis, Boehringer-Ingelheim, GlaxoAcadia, Sepracor, Glaxo Smith Kline, Neurogen, and EMD Serono.

Conflicts: In addition to the potential conflicts posed by my ties to industry that are listed, during the years 2001-2009 I was a paid consultant for: Eli Lilly, Bristol Myers Squibb, Janssen, Ovation, Pfizer, makers of each of the atypicals in use or being tested.

The Games Our Children Play

Children know it by a variety of street names: the blackout game, the pass-out game, space-monkey and particularly, the choking game. This bizarre form of adolescent entertainment consists of strangulation by one's own hands or with a noose in order "to achieve a brief euphoric state caused by cerebral hypoxia (reduced oxygen supply to the brain)." Thus in a nation that provides its youth with an abundance of enteraining sources of diversion, some of our children will nonetheless seek out unconventional, and occasionally lethal, contrivances, perhaps autoerotic, to achieve momentary feelings of rapture.

The United States Public Health Service took official notice of this potentially dangerous practice in 2008, and solely by surveying the American newspapers, identified 106 deaths in youths 6 – 19 years of age during the years 1995 – 2007, thus justifying a more serious, prospective inquiry into self-induced asphyxia.

What was known in examining the limited information derived, initially, from anecdotal newspaper accounts? First, it was largely a male preoccupation (87 %) with an average age of 13.3 years. Of critical importance was the fact that such deaths, as judged by newspaper reports, were increasing in number, with but two or three case-reports in 1995 – 97, increasing to over 20 cases annually beyond the year 2000. In general, interviewed parents were unaware that their child had been engaged in "the choking game." Interviews with classmates, however, provided abundant evidence that such involvement was well-known amongst the peers of these dead children.

In 2008, public health agencies in Oregon, Ohio and Ontario distributed questionnaires to 8th graders to assess the extent and gravity of this aberrant behavior. The Oregon survey, with 10,642 respondents, represented the first systematic study of the problem. Amongst these 8th graders, 36.2% heard of the "choking game", 30.4% knew a classmate who had participated, and 5.7% had participated themselves. Children of Hispanic heritage were more likely to participate while children of Asiatic parents, strikingly less so than the other ethnic groups. The independently gathered data in Ohio and Ontario provided similar statistics to those from Oregon.

The following generalizations were offered: Boys much more than girls undertake this activity; and rural youth significantly more than urban youths participate. Choking game participants are more likely to have a self-admitted history of substance abuse, other unhealthy behaviors and self-identified mental health problems. And when asked a bland question such as how they would measure their "well-being", those youngsters admitting to self-choking exercises also described their well-being as average or poor. And those who admitted to self-choking experiences also declared a higher measure of peer rejection or other disruptive happenings, including being bullied as a child.

Are there any physical signs visible to parents or teachers that might hint that the child had voluntarily undergone episodes of self-choking? Certainly bloodshot eyes, small hemorrhages in the coverings of the eye, neck-marks, severe headaches and global disorientation after spending time alone.

Does informing the general public about a threat to children lessen its peril? Or, by widely disseminating such information, might it actually increase the hazard? Two serious threats to the lives of youngsters come to mind: About 20 children between the ages of 6 and 19 kill themselves each year in this nation. And this number is surely less than the real number since many families view such tragedies with shame and accordingly hide the cause of death. Establishing suicide prevention programs, educating both parents and teachers to recognize the early risk factors which may culminate in a child killing himself, has measurably lessened the frequency of suicide in youth. Childhood abuse was yet another socially hidden subject until some New York pediatricians in 1965 publicized this abomination; and society, through the preventive actions of relatives, teachers, and health workers, took measures to lessen it.

The Public Health Service cautions that educational messages designed to prevent these self-strangulation tragedies should be carefully tested before being widely distributed "to minimize unintended consequences such as increased participation" in such activities.

Awareness, ultimately, is better than ignorance. In the last century, public health agencies have learned that sharing verifiable information with the general public has always helped to diminish the human burden of venereal disease, smoking, teenage pregnancy and AIDS infection. And if but one parent, by virtue of reading about self-strangulation and its visible signs, can thereby prevent a tragedy in a single child, then the 750 words invested in this commentary become justified.

– Stanley M. Aronson, MD

Stanley M. Aronson, MD is dean of medicine emeritus, Brown University.

Disclosure of Financial Interests

Stanley M. Aronson, MD, and spouse/significant other have no financial interests to disclose.

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The Warren Alpert Medical School of Brown University Class of 2010

Philip A. Gruppuso, MD, Eileen Palenchar and Janice Viticonte

On May 30, 2010, 97 men and women received the Doctor of Medicine degree from **Alpert Medical School** (AMS), representing the 36th class of physicians graduated from our institution since 1975. Over the past 35 years, AMS has made a substantial contribution to the health care workforce in Rhode Island. In fact, of the over 2,600 physician graduates to date, approximately 13% are licensed to practice in Rhode Island. Thus, by introducing the graduates of the M.D. Class of 2010 to the physician community in our state, this article is intended to apprise Rhode Island's physician community of the medical school's ongoing contribution to health care in Rhode Island.

A Portrait of the Class of 2010

Of the 97 graduates in this year's class, 45 are women (46%) and 52 are men (54%). Ten are residents of Rhode Island. The Rhode Island students in this year's graduating class came from eight communities: two from Middletown, two from Pawtucket, and one student each from Lincoln, North Providence, Barrington, South Kingstown, Wakefield and Providence. The remaining 87 students came from all corners of the US.

This is one of the most experientially diverse classes in the young history of the medical school. For the first time since

	2010		2009		2008		2007		2006		2005		2004	
Specialty Choice	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Primary Care, Total	**47**	**48%**	**39**	**46%**	**35**	**50%**	**47**	**50%**	**34**	**38%**	**32**	**44%**	**44**	**59%**
Internal Medicine, Total	17	18%	18	21%	13	19%	19	20%	17	19%	16	21%	28%	23%
Categorical	14	14%	11	13%	13	19%	16	17%		0%	16	21%	15	17%
Primary Care	3	3%	7	8%	0	0%	3	3%		0%	5	7%	5	6%
Pediatrics	13	13%	9	11%	9	13%	13	14%	9	10%	4	13%	17%	7%
Family Medicine	5	5%	4	5%	6	9%	8	9%	5	6%	7	8%	11%	10%
Medicine/Pediatrics	4	4%	2	2%	3	4%	4	4%	1	1%	2	2%	3%	5%
Obstetrics & Gynecology	8	8%	6	7%	4	6%	3	3%	2	2%	3	1%	1%	2%
Surgery	**7**	**8%**	**7**	**8%**	**5**	**7%**	**6**	**6%**	**9**	**10%**	**3**	**4%**	**4**	**5%**
Surgical Subspecialties, Total	**7**	**7%**	**10**	**12%**	**8**	**11%**	**8**	**9%**	**10**	**11%**	**6**	**8%**	**6**	**8%**
Ophthalmology	0	0%	3	4%	2	3%	0	0%	2	2%	3	2%	3%	6%
Orthopedics	1	1%	3	4%	2	3%	3	3%	4	4%	2	1%	1%	3%
Neurosurgery	2	2%	1	1%	1	1%	0	0%	1	1%	0	0%	0%	0%
Urology	0	0%	2	2%	2	3%	2	2%	1	1%	1	2%	3%	1%
Plastic Surgery	1	1%	0	0%	1	1%	1	1%	0	**0**	1	1%	1%	1%
Otorhinolaryngology	3	3%	1	1%	0	0%	2	2%	2	2%	0	0%	0%	26%
Dermatology	**3**	**3%**	**2**	**2%**	**1**	**1%**	**4**	**4%**	**5**	**6%**	5	**7%**	**1**	**1%**
Emergency Medicine	**8**	**8%**	**6**	**7%**	**5**	**7%**	**3**	**3%**	**7**	**8%**	**3**	**4%**	**3**	**4%**
Psychiatry	**6**	**6%**	**5**	**6%**	**3**	**4%**	**8**	**9%**	**5**	**6%**	**4**	**5%**	**5**	**7%**
Neurology	**2**	**2%**	**3**	**4%**	**1**	**1%**	**1**	**1%**	**1**	**1%**	**1**	**1%**	**1**	**1%**
Transitional & Preliminary Medicine	**4**	**4%**	**1**	**1%**	**1**	**1%**	**7**	**8%**	**0**	**0%**	**1**	**1%**	**2**	**3%**
Institutional Specialties, Total	**11**	**11%**	**7**	**8%**	**9**	**13%**	**7**	**8%**	**9**	**10%**	**9**	**12%**	**4**	**5%**
Anesthesiology	3	3%	1	1%	1	1%	3	3%	2	2%		1	1%	3%
Pathology	2	2%	0	0%	3	4%	0	0%	1	1%		0	0%	0%
Rehabilitation Medicine	0	0%	0	0%	0	0%	0	0%	0	**0**		0	0%	1%
Radiology & Rad Onc	6	6%	6	7%	5	7%	4	4%	6	7%	9	3	4%	7%
Delaying Residency	**1**	**1%**	**5**	**6%**	**1**	**1%**	**2**	**2%**	**9**	**10%**	**9**	**12%**	**4**	**5%**
Not Entering Medicine	**1**	**1%**	**0**	**0%**	**1**	**1%**	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**	**0%**
Totals	**97**	**100%**	**85**	**100%**	**70**	**100%**	**93**	**100%**	**89**	**100%**	**73**	**100%**	**75**	**100%**

Table 1. Specialty Choices for Alpert Medical School Classes of 2004 – 2010.

the establishment of the **Program in Liberal Medical Education (PLME)** in 1985, this year's graduating class included a large proportion of students who came to AMS through the standard premed route of admission. The breakdown of the graduating class by admissions route is 49% PLME, 26% standard pre-med and 5% students from post-baccalaureate programs (3 from Goucher, 1 from Columbia, and 1 from Bryn Mawr). This year represents the last cohort of Brown-Dartmouth students (13%), who took their first 2 years at Dartmouth and their clinical years at Brown. The remaining six students came to AMS via the advanced transfer, Early Identification Program, and MD-PhD routes.

Name	Hospital	Affiliation	Specialty	State
Geraldine Abbey-Mensah	Einstein/Montefiore Medical Center	Albert Einstein College of Medicine	Medicine-Prelim	NY
	SUNY Health Science Center Brooklyn	SUNY Health Science Center	Radiology	NY
Gil Abramovici	Cambridge Health Alliance	Harvard Medical School	Transitional	MA
	Yale-New Haven Hospital	Yale Medical School	Radiology	CT
Saira Alimohamed	Emory University School of Medicine	Emory University School of Medicine	Pediatrics	GA
Andrew Allegretti	Massachusetts General Hospital	Harvard Medical School	Medicine	MA
April Atiba	Beth Israel Deaconess Medical Center	Harvard Medical School	Medicine	MA
Sara Baird	Swedish Medical Center – First Hill	University of Washington	Family Medicine	WA
Sadic Barchini	Yale-New Haven Hospital	Yale Medical School	Medicine-Primary	CT
David Bercovici	Exempla St. Joseph Hospital, CO	University of Colorado School of Medicine	Medicine	CO
Cheryl Bline	Loyola University Medical Center	Stritch School of Medicine	Medicine-Prelim	IL
	Massachusetts General Hospital	Harvard Medical School	Anesthesiology	MA
Matthew Brown	NYU School of Medicine	NYU School of Medicine	Medicine	NY
Andrew Brunner	Massachusetts General Hospital	Harvard Medical School	Medicine	MA
Ilias Caralopoulos	Tulane University School of Medicine	Tulane University School of Medicine	Neurosurgery	LA
Peter Chai	Rhode Island Hospital	Alpert Medical School	Emergency Medicine	RI
Margret Chang	Rhode Island Hospital	Alpert Medical School	Medicine/Pediatrics	RI
Catherine Cleland	George Washington University	George Washington School of Medicine	Anesthesiology	DC
Jonah Cohen	Brigham & Women's Hospital	Harvard Medical School	Surgery	MA
Vincent Criscione	Roger Williams Medical Center	Tufts University School of Medicine	Medicine-Prelim	MA
	University of Massachusetts Medical School	University of Massachusetts Medical School	Dermatology	MA
Sharon David	UC Davis Medical Center	University of California-Davis	Pediatrics	CA
Peter Davis	Einstein/Montefiore Medical Center	Albert Einstein College of Medicine	Pediatrics	NY
	Children's Hospital Boston	Harvard Medical School	Pediatric Neurology	MA
Lauren de Leon	Rhode Island Hospital	Alpert Medical School	Medicine	RI
Dylan Dean	Oregon Health & Science University	Oregon Health & Science University	Emergency Medicine	OR
Tarra Evans	Pennsylvania Hospital	University of Pennsylvania School of Medicine	Obstetrics/Gynecology	PA
Diana Feldstein	University of North Carolina Hospital	University of North Carolina	Medicine	NC

Table 2. Alpert Medical School MD Class of 2010 Match List.

Joshua Fischer	Rhode Island Hospital	Alpert Medical School	Medicine	RI
Shawn Fu	Rhode Island Hospital	Alpert Medical School	Surgery-Prelim	RI
Christopher Furey	Memorial Hospital	Alpert Medical School	Family Medicine	RI
Michael Gart	McGaw Medical Center	Northwestern University	Plastic Surgery	IL
JP Giliberto	University Hospital-Cincinnati	University of Cincinnati College of Medicine	Otolaryngology	OH
Zachary Ginsberg	North Shore University Hospital-Manhasset	NYU School of Medicine	Emergency Medicine	NY
Scott Grant	UMDNJ-RWJ	Robert Wood Johnson Medical School	Surgery	NJ
Lindsey Gurin	NYU School of Medicine	NYU School of Medicine	Psychiatry-Neurology	NY
Scott Harada	UC San Francisco – Fresno	University of California San Francisco	Medicine-Prelim	CA
	Baylor College of Medicine	Baylor College of Medicine	Radiology	TX
Ashlynne Harris	University of Hawaii	University of Hawaii	Transitional	HI
	University of Iowa Hospitals & Clinics	University of Iowa Hospitals & Clinics	Dermatology	IA
Robert Haskell	New York Presbyterian Hospital	Weill Cornell Medical Center	Psychiatry	NY
Jacquelyn Hatch	University Hospitals/Case Medical Center	Case Western Reserve University	Pediatrics	OH
Isaac Howley	Johns Hopkins Hospital	Johns Hopkins University School of Medicine	Surgery	MD
Amy Hsu	Yale-New Haven Hospital	Yale Medical School	Medicine-Primary	CT
Brian Huang	Cedars-Sinai Medical Center	David Geffen School of Medicine	Medicine	CA
Steven Kassakian	Rhode Island Hospital	Alpert Medical School	Medicine	RI
Joshua Keegan	Yale-New Haven Hospital	Yale Medical School	Emergency Medicine	CT
Jason Lambrese	Cambridge Health Alliance	Harvard Medical School	Psychiatry	MA
Austin Larson	University of Colorado School of Medicine	University of Colorado School of Medicine	Pediatrics	CO
Khoi Le	Harbor-UCLA Medical Center	David Geffen School of Medicine	Psychiatry	CA
Connie Lee	University of Massachusetts	University of Massachusetts Medical School	Surgery	MA
Erryn Leinbaugh	University of Massachusetts	University of Massachusetts Medical School	Emergency Medicine	MA
Judy Lin	Washington Hospital Center	Georgetown University	Emergency Medicine	DC
Victor Long	University of California San Francisco	University of California San Francisco School of Medicine	Obstetrics/Gynecology	CA
Joanna MacLean	Cambridge Health Alliance	Harvard Medical School	Psychiatry	MA
Emily McElveen	National Capital Consortium	Naval Medical Center	Pediatrics	MD
David Merino	New York Presbyterian Hospital	Columbia & Cornell	Emergency Medicine	NY
Clifford Meyers	Strong Memorial Hospital	University of Rochester	Neurology	NY
James Miller	Mt. Sinai Hospital	Mt. Sinai School of Medicine, NY	Obstetrics/Gynecology	NY
Charles Mitchell	Rhode Island Hospital	Alpert Medical School	Medicine-Prelim	
	Johns Hopkins Hospital	Johns Hopkins University	Radiology	MD

Table 2. Alpert Medical School MD Class of 2010 Match List. (cont.)

Nicholas Monu	St. Vincent's Medical Center	University of Connecticut School of Medicine	Transitional	CT
	Rhode Island Hospital	Alpert Medical School	Radiology	RI
Andrew Moraco	Rhode Island Hospital	Alpert Medical School	Medicine	RI
Ayana Morales	Boston University Medical Center	Boston University School of Medicine	Medicine	MA
Leslie Morris	University of Massachusetts Medical School	University of Massachusetts Medical School	Pediatrics	MA
Cristina Mota	University of Massachusetts Medical School	University of Massachusetts Medical School	Family Medicine	MA
Melissa Much	Yale-New Haven Hospital	Yale Medical School	Pathology	CT
Brian Nguyen	Oregon Health & Science University	Oregon Health & Science University	Obstetrics/Gynecology	OR
Marie Nguyen	University of Hawaii	University of Hawaii	Surgery	HI
Elizabeth Niemiec	Rhode Island Hospital	Alpert Medical School	Medicine-Prelim	RI
Natalie Nokoff	University of Colorado School of Medicine	University of Colorado School of Medicine	Pediatrics	CO
Anthony Okobi	University of North Carolina Hospitals	University of North Carolina	Otolaryngology	NC
Courtney Olson	Strong Memorial Hospital	University of Rochester	Obstetrics/Gynecology	NY
Mary Ottinger	Rhode Island Hospital	Alpert Medical School	Surgery	RI
Eric Palecek	Hospital of the University of Pennsylvania	University of Pennsylvania	Medicine	PA
Kathryn Ponder	University of California Davis Medical Center	University of California Davis School of Medicine	Pediatrics	CA
Roman Portnoy	Caritas Carney Hospital	Tufts University School of Medicine	Transitional	MA
	Brigham & Women's Hospital	Harvard Medical School	Anesthesiology	MA
Christopher Prendergast	Christiana Care	Jefferson Medical College	Medicine-Pediatrics	DE
Abigail Rao	Oregon Health & Science University	Oregon Health & Science University	Neurosurgery	OR
Lloydia Reynolds	University of Connecticut Health Center	University of Connecticut	Obstetrics/Gynecology	CT
Jack Rusley	Maine Medical Center	Tufts University School of Medicine	Medicine-Pediatrics	ME
Sandra Rutigliano	Abington Memorial Hospital	Temple University School of Medicine	Medicine-Prelim	PA
	Thomas Jefferson University	Jefferson Medical College	Radiology	PA
Christina Saldivar	Caritas Carney Hospital	Tufts University School of Medicine	Medicine-Prelim	MA
	St. Joseph's Hospital, AZ	Barrow Neurological Institute	Neurology	AZ
Matthew Schutzer	University of Maryland	University of Maryland Medical Center	Medicine-Prelim	MD
Emily Shaw	Sutter Medical Center of Santa Rosa	University of California San Francisco	Family Medicine	CA
Terence Sio	University of California San Francisco-Fresno	University of California San Francisco-Fresno	Medicine-Prelim	CA
Ronen Stein	Case Medical Center	University Hospitals	Pediatrics	OH

Table 2. Alpert Medical School MD Class of 2010 Match List. (cont.)

Mary Sutter	Memorial Hospital	Alpert Medical School	Family Medicine	RI
Henry Swoboda	Albert Einstein Medical Center	Jefferson Medical College	Emergency Medicine	PA
Katy Tsai	University of North Carolina Hospitals	University of North Carolina	Medicine	NC
William Tsiaras	Rhode Island Hospital	Alpert Medical School	Medicine-Prelim	RI
	Massachusetts General Hospital	Harvard Medical School	Dermatology	MA
Hans Van Lancker	McGill University Health Centre	McGill University Health Centre	Orthopaedic Surgery	CAN
Juan Vasquez	Rhode Island Hospital	Alpert Medical School	Pediatrics	RI
Robert Velasco	Rhode Island Hospital	Alpert Medical School	Medicine-Primary	RI
Stanley Voigt	Tufts Medical Center	Tufts University School of Medicine	Otolaryngology	MA
Stacey Weinstein	UCLA Medical Center	David Geffen School of Medicine	Medicine-Pediatrics	CA
Leslie Wong	New York Presbyterian Hospital	Columbia University Medical Center	Surgery	NY
Difu Wu	NCC Walter Reed Army Medical Center	Army	Pathology	DC
Lily Wu	Beth Israel Deaconess Medical Center	Harvard Medical School	Obstetrics/Gynecology	MA
Beverly Young	University of California San Francisco	University of California San Francisco	Pediatrics	CA
Lawrence Yu	University of Arizona Affiliated Hospitals	University of Arizona	Psychiatry	AZ
Nusrat Zaman	duPont Children's Hospital	Jefferson Medical College	Pediatrics	PA

Table 2. Alpert Medical School MD Class of 2010 Match List. (cont.)

The most common undergraduate major (53%) among the graduates was biology (including subdisciplines such as biochemistry, neuroscience, and community health).

Taken together, science majors (including math, engineering, chemistry and psychology) accounted for 69% of all majors, while 25% of majors were in the humanities and 5% in the social sciences. Among the humanities majors, history was the most common major.

The Class of 2010 is also the first graduating class to complete the AMS Scholarly Concentrations Program. This elective, established four years ago, provides students with the opportunity to undertake mentored scholarly work in a variety of cross-disciplinary areas. This inaugural group numbered 24. Their areas of focus were: Advocacy and Activism (3 students); Aging (3); Global Health (3); Medical Education (4); Medical Ethics (1); Medical Humanities (4); Medical Technology (2); Women's Reproductive Health (4). Students who completed the Scholarly Concentrations Program were distributed in roughly equal proportions across the various admission routes.

Residency and Career Choices

An examination of this year's graduates' specialty choices (Table 1) shows no significant change in the proportion choosing primary care disciplines. Internal medicine remains the primary career choice among all disciplines. As has been the case for the past eight years, the proportion of students entering family medicine has been low, a trend that has also been seen at AMS's peer institutions. Overall, students' choices did not show any major trends. However, we were pleased to see that there were no significant differences in career choice when comparing students who came to AMS via the PLME and pre-med admission routes.

Our students' residency placements (Table 2) again showed many students matching at highly regarded programs within their chosen specialties. This was reflected in part by the number of students matching at programs affiliated with Ivy League medical schools, including Harvard (12) and Yale (5), and other outstanding medical schools such as UCSF (4) and Johns Hopkins (2). Students' residency placements again showed considerable geographic diversity. (Table 3) Fourteen of our graduates will be staying on in AMS-affiliated programs in Rhode Island. This number is exceeded only by the number of students who will enter programs in Massachusetts.

Perhaps most important as an indicator of this class's success is the sentiment that was apparent at Match Day. A very high proportion of students received their top choice for residency placement. This bodes well for the future success of this class.

Philip A. Gruppuso, MD, is Associate Dean for Medical Education and Professor of Pediatrics.

Janice Viticonte is Medical Residency Program Coordinator.

State	Number	Percentage
Arizona	2	2%
California	9	9%
Colorado	3	3%
Connecticut	6	6%
District of Columbia	3	3%
Delaware	1	1%
Georgia	1	1%
Hawaii	1	1%
Illinois	1	1%
Iowa	1	1%
Louisiana	1	1%
Maine	1	1%
Maryland	4	4%
Massachusetts	18	19%
New Jersey	1	1%
New York	10	11%
North Carolina	3	3%
Ohio	3	3%
Oregon	3	3%
Pennsylvania	6	6%
Rhode Island	14	15%
Texas	1	1%
Washington	1	1%
Canada	1	1%
Total	**95**	**100%**

Table 3. Geographic destination for all MD Class of 2010 graduates moving on to PGY-1 positions.

Eileen Palenchar is Records and Registration Systems Manager. All are with The Warren Alpert Medical School of Brown University.

Disclosure of Financial Interests of Authors and/or Spouses/Significant Others

The authors have no financial interests to disclose.

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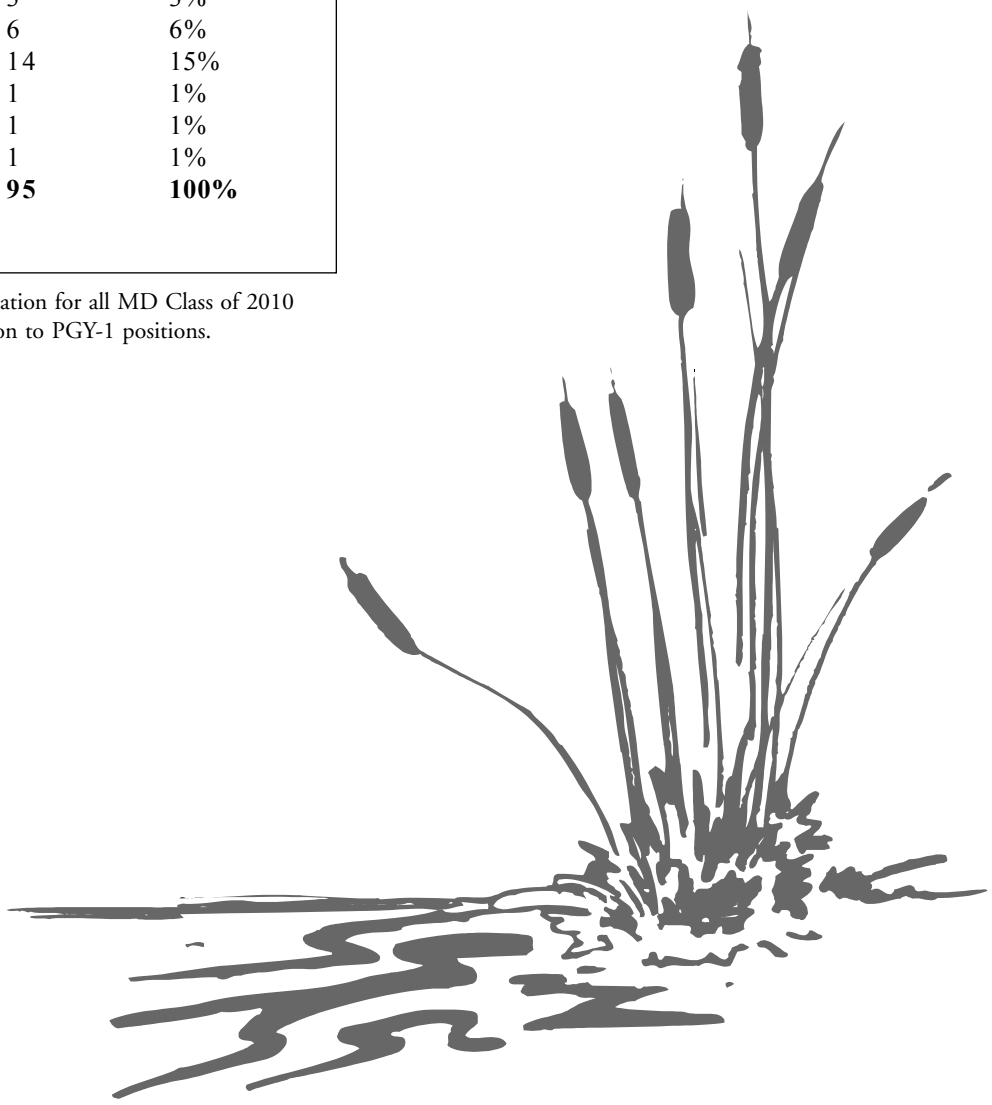

A New Home for Alpert Medical School

Philip A. Gruppuso, MD, and Peter Holden

On April 26, 2010, a "groundbreaking" ceremony celebrated the start of construction that will culminate in the opening of a new Alpert Medical School building in August 2011. This project will represent the first dedicated space for Brown's medical school since its founding thirty-five years ago. The facility is being constructed within an existing building at 222 Richmond Street in Providence's Jewelry District. Thus, the project offers the potential not only to benefit the medical school but also the city and state by contributing to the revitalization of downtown Providence.

Figure 1. This satellite photo (courtesy of Google Maps) shows the relative locations of the new medical school, College Hill, downtown Providence and the Rhode Island Hospital/Women & Infants' Hospital Campus. The bar at the lower left represents approximately one quarter mile.

History of the Project

In 2004, the Brown University Corporation approved a proposal to increase the size of the medical school. With the advent of a $100 million gift provided by the Warren Alpert Foundation and the renaming of the medical school in January 2007, the stage was set for a new facility. However, the financial crisis of 2007 led to a change in plans. Fortunately, the University already owned a property at 222 Richmond Street that could meet the needs of the medical school.

The building is located in the northeast corner of the Jewelry District. (Figure 1) It is bordered to the east by Eddy Street, a main thoroughfare leading from College Hill and downtown Providence to the hospital campus. It is one block from Brown's Laboratory for Molecular Medicine and from Women & Infants' Hospital's Kilguss research building. From the Richmond Street side of the building to the hospital campus is a ten to fifteen-minute walk and a short shuttle ride.

The structure was built in 1928 as a factory. Four decades later, it was converted into offices. It most recently housed the offices, among others, of the Big East Athletic Conference. When Brown agreed to purchase the property in 2006, the University was uncertain how they would use the building.

The building's 135,000 gross square feet are more than adequate to meet the

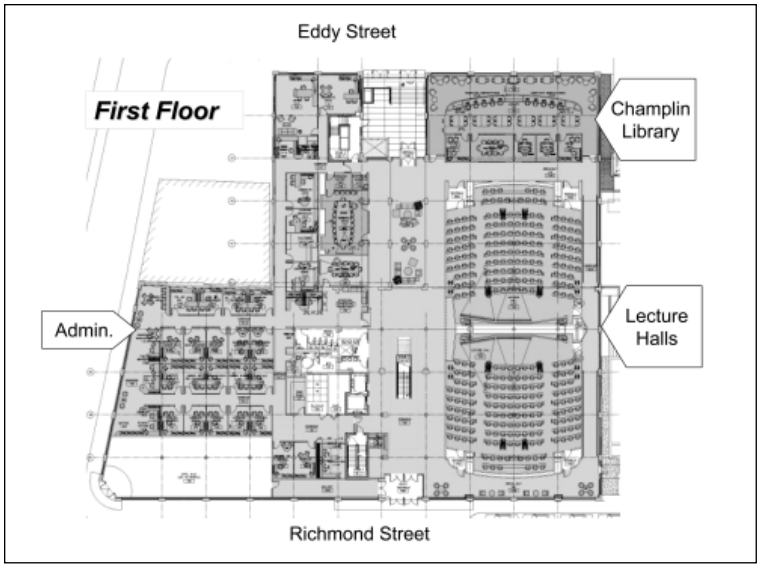

Figure 2. The floor plan for the first floor of the new facility. Note that a central atrium connects the Richmond Street and Eddy Street entrances.

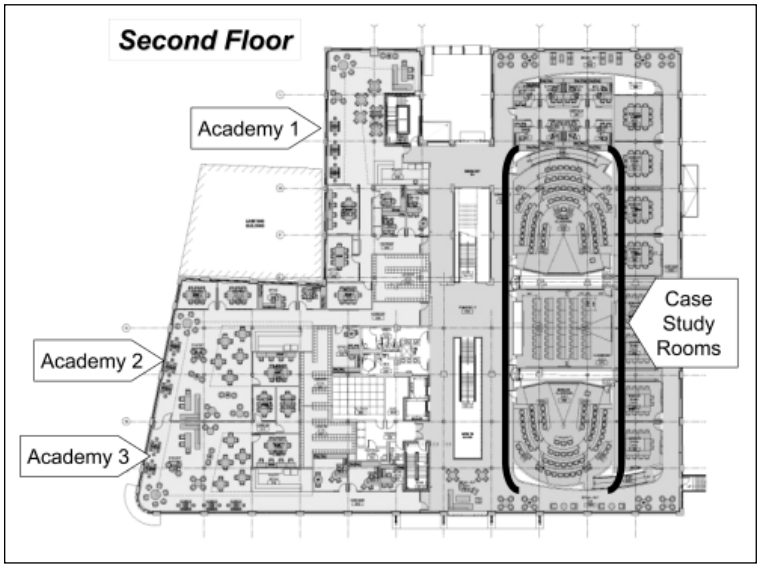

Figure 3. The floor plan for the second floor of the new facility. The atrium continues from the first floor to the second floor.

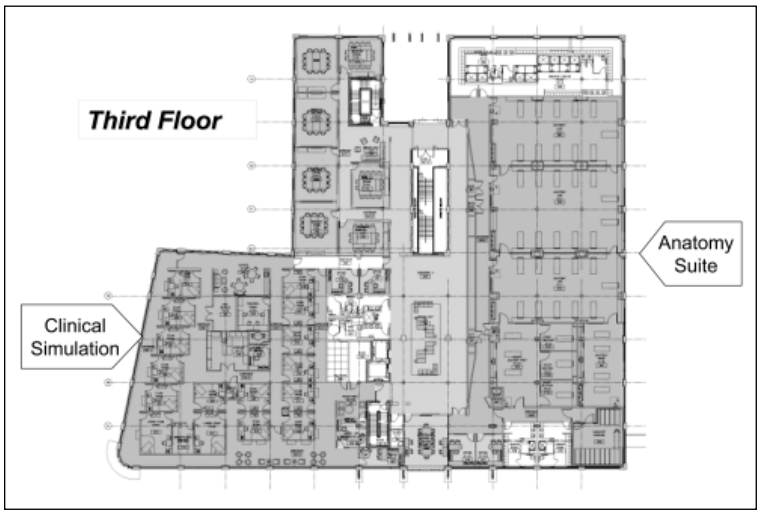

Figure 4. The floor plan for the third floor of the new facility.

needs of the AMS educational program and administration. A prominent feature of the building is its windows, which occupy nearly two thirds of its exterior. While in its present form, there is little common space and few open spaces, the original use as a factory meant that the original concrete floor and ceiling structures could make for large, open areas without needing major structural renovation.

Planning the New Medical School

The first step in the design process was to determine how the space in the new building would be allocated. A group of medical education staff, faculty and students was convened under the leadership of Peter Holden, Director of Facilities Planning and Operations for Brown's BioMed Division. Several decisions followed. The first was that AMS would expand to a class size of 120 students after occupying the new building. Second, AMS would continue to have a traditional, dissection-based gross anatomy course. Space would be dedicated for a clinical simulation suite that could meet the needs of both educating and assessing students in the basic clinical skills. However, high fidelity medical simulation, something the hospital affiliates were developing to meet their own needs, would not be a top priority for the medical school. While the facility would clearly have to provide for small group teaching, dedicated rooms for forty to sixty students to take part in case study sessions would be an important component of the space allocation. Finally, the increase in the size of the student body necessitated a new approach to advising. This led to the decision to commit one half of one floor in the new 3-story facility to student academies (see accompanying article).

Once 222 Richmond Street was designated as the location of the project, it was decided that its development would follow a "design-build" process. In practice, this means that development of the initial design is quickly followed by a partnership between the architects and the builders such that design work continues even as construction has begun. Brown and AMS have had the good fortune to be working with two firms experienced in the design and construction of medical and science educational space. Ellenzweig Associates (http://www.ellenzweig.com/) has served as the architect for the project, which will be constructed by Suffolk Construction Co, Inc. (http://www.suffolkconstruction.com/).

The Design

The building is best viewed in terms of its three floors and the north and south areas on either side of a central common area, the atrium. The north side of the first floor (Figure 2) will be occupied by administrative offices, including a suite for the Dean and Associate Deans. This area also features a board

room with video-conferencing capability. The south end of the first floor contains two 150-seat lecture halls and the Champlin Library, the focus of a recent naming gift made by the Champlin Foundation. The lecture halls will have full video-conferencing capability, and each of the 150 seats is approximately one and a half standard seats in width. The library will serve as an electronic information technology center and reading room for both students and faculty.

The three student academies are located on the north side of the second floor. (Figure 3) Each of these areas includes study/lounge space, three meeting rooms, a pantry, locker rooms, and offices for a director, administrative assistant and faculty advisors. The south side of the second floor is home to three case study rooms, eight seminar rooms and student affairs administrative space. Two of the case study rooms will have a horseshoe shaped, tiered configuration that is optimal for interactive case discussions.

The south end of the third floor (Figure 4) will be home to the anatomy suite. The anatomy laboratory is divided into three bays, each with adequate space to accommodate ten stations of four students each. The north end of the third floor is the location for a clinical simulation suite that includes sixteen examination rooms and space for standardized patients. Each examination room will have two video cameras connected to a control room. This will permit student interactions with standardized patients to be recorded and reviewed by students and faculty. Completing the space allocation on the third floor are an additional 8 seminar rooms.

Impact of the New Medical School

The opening of the new Alpert Medical School will have a profound impact on the quality of education of our students. Aside from the energizing effect that a new building will have on students and faculty, the academies, case study rooms and clinical simulation suite will make possible advising and educational approaches that are not feasible in the school's current facilities. The building will be an attractive venue for educational outreach. In addition to Continuing Medical Education for physicians, the AMS administration sees the building as an educational facility for allied health professionals and the public. The activities in the building will help to invigorate the Jewelry District, contributing to the development of an educational and intellectual environment that will help this historic part of Providence develop into a knowledge district for what is envisioned as the new economy.

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2010 Diabetes Numbers-At-a-Glance: Your pocket-sized resource to diagnose and manage pre-diabetes and diabetes

The National Diabetes Education Program's (NDEP) latest resource for health care professionals is the 2010 Diabetes Numbers At-a-Glance card. This convenient, pocket-sized guide provides a list of current recommendations for diagnosis and management of pre-diabetes and diabetes based on the American Diabetes Association's Standards of Medical Care. This resource is one of several clinical practice tools for health care professionals that are available to order or download FREE from the NDEP website, http://www.ndep.nih.gov/publications/index.aspx.

Development of Student Academies at Alpert Medical School

Emily P. Green, MA

The design of the new Alpert Medical School (AMS) building provides an opportunity to address issues that have arisen as a result of recent changes in the institution. These changes, including the establishment of a "standard" admissions route, changes in administrative structure and leadership, curriculum reform, and the on-going increase in class size, require us to reexamine our medical school identity and the way in which we define ourselves as a community. An additional change, the move of the medical school away from College Hill will have a profound impact on the environment and culture in which our students are educated.

Many medical schools in the United States divide their students into smaller groupings upon matriculation. Harvard established their society structure in the 1980s, the University of Iowa in 1999, UCLA in 2002, Case in 2003, and Johns Hopkins in 2006, to name a few. While there are many potential models for student communities, the shared purpose is to create smaller networks of faculty and students within the larger institution. These networks are thought to provide a more supportive educational experience through increased contact with a reduced number of peers and a small number of involved faculty and staff.

A system of student communities serves to model teamwork and team learning. It can foster habits of mind that are essential for the training of physicians, and yet are not explicitly taught. It provides an administrative structure through which the institution can provide individualized personal, academic and career advising. Finally, such a system potentially provides the medical school with a formal means by which to bring much that we value about the current Brown community along with us to the new building.

A Brown Academy Model

In order for an academy system to function here at AMS, it will need to be tailored to the particular needs and educational goals of our institution. One such need is for an increased focus on student wellness.

Student Wellness as a Professionalism Issue

The current medical curriculum brings our students into contact with patients much earlier than was traditionally the case. The "third year" of medical school now actually begins in May of Year II. And the new Doctoring course brings students into regular contact with patients early in Year I. While these changes help bridge the emotional and intellectual gap between the preclinical and clinical years, they also require high degree of professionalism and wellness on the part of students. "Professionalism" requires students to be emotionally and physically healthy enough to put patient wellbeing first and foremost. In the current system students must make the transition from an undergraduate to a professional mindset at a very early stage.

Student wellness should not be an after-thought in our educational system. Self-care is a professionalism issue in so much as it affects a student's ability to appropriately provide for patients. As such, student wellness is an integral part of our mission to send responsible and compassionate physicians out into the world. Additionally, there is some evidence that a focus on student wellness in medical school can foster a focus on prevention and health promotion for patients once those students become clinicians.[1] The Still-Well Wellness Program at the Kirksville College of Osteopathic Medicine makes that link in its program philosophy, "I am my own first patient."[2] When viewed through this lens, student wellness becomes a central curricular issue—we need to educate students about caring for themselves in order to appropriately prepare them to practice preventative care with their patients.

Creation of Community

Formal groupings of students and faculty can help alleviate some of the emotional and academic issues experienced by medical students. A Brown academy system could provide a safety net of connections and attention that would not otherwise exist.

A variety of programs have been put in place to increase longitudinal learning and mentorship opportunities for students. The Doctoring course is a prime example of the administration's commitment to longitudinal relationships between students and faculty. Doctoring has as its core a two-year curriculum in which students are taught increasingly complex skills and ideas by a core group of faculty. Additionally, Doctoring provides students with year-long experiences with community mentors. **The Scholarly Concentrations (SC)** Program also emphasizes multi-year inquiry and longitudinal faculty mentorship, and the new **Careers in Medicine (CIM)** Program brings career advising, and potential mentorship opportunities, to the preclinical years. However, a consolidation of student services (general advising, career advising, mentorship, counseling, etc.) is still needed to reduce the physical and mental distance between students and faculty, and between students and the administration. Such a consolidation could be implemented through a system of student academies.

> "There is an 'activation barrier' to approaching faculty members. If you already have an established relationship with a professor, it lowers that initial barrier and makes it easier to come to them with a question or problem. Right now, I think students feel like they need to have a really good reason in order to reach out to a faculty member. And in an environment where it seems like everyone has it together, it's a big step to admit having problems at all. It seems a lot easier to minimize or hide any problems as much as possible. "
>
> – Year I Medical Student

A sense of "community" at Brown is important to our dedicated faculty as well as to medical students, and could be an incentive to the recruitment of like-minded colleagues to become more involved in medical education. Education is a relational process- our students learn through the formal and informal communication with faculty, and with their peers, on a daily basis. It is through these relationships that students learn not only the biomedical content necessary to practice medicine, but the curiosity, analytical skills and critical habits of mind that physicians use every day.

Planning Overview

A committee consisting of the Associate Dean for Medical Education, faculty, staff and medical students has been meeting to plan for AMS' student communities. A system of three communities called "academies" will be implemented concurrently with the move into the new medical school building at 222 Richmond Street.

The goals of the academy system will be to deliver personal, academic and career advising, to ensure that student progress is adequately monitored, and to create a sense of community for students and faculty across the four years of medical school. The academies will increase the amount of student contact with faculty, foster peer mentoring, and promote student wellness. Additionally, the academies will strive to provide students in the clinical years with a physical and emotional home-base.

Students will be assigned to an academy upon matriculation in a random manner with subsequent modification that assures consistent diversity among academies with regard to gender, ethnicity and route of admission. Students will have the option of switching academies only under extraordinary circumstances. These situations will be addressed by the administration on a case-by-case basis. Upon moving into the new medical school building, all students then in Years I-IV will be assigned to an academy.

The administrative structure of the academies will include one Director and one administrative assistant. The Director of each academy will be the primary individual responsible for personal and academic advising. This individual will be charged with understanding and implementing school policies, counseling students experiencing personal or academic difficulties (often experienced in tandem), and monitoring student academic progress. Together, the Director and assistant will be responsible for managing the day to day functions of the academy including the implementation of programming to promote student wellness, facilitate peer mentoring and create a sense of community within the academy.

Four to five faculty members will be involved in each academy. The primary role of faculty will be general (non-specialty specific) career advising, using the AAMC's CIM program as a model. CIM has an extremely well developed web site,[3] advisor training sessions and materials, and is widely used by medical schools across the country to provide medical students with the tools and resources they need to make informed specialty area choices. General career advising will include individualized review of CIM self-assessment tool results, career decision making consultations, and specialty area choice guidance. CIM Faculty will also refer students to faculty in specialty areas of particular interest to the student for more specific career advising. CIM Faculty will not be responsible for Dean's Letter writing.

The nature and organization of student involvement in the administration of academies will be determined through a process for which the Student Senate will have responsibility. Planning for the student governance component of the academies is on-going.

A Home for AMS' Academies

Our Academies will be on the second floor of our new medical school building (see accompanying article). Each academy will have its own lounge/study space, meeting rooms (3 per academy), student lockers, kitchen/pantry area and offices for the Director, administrative assistant and faculty. A single faculty office will be utilized as "hotel" space to provide for the four to five faculty members involved in each academy. The kitchen space will include a counter that will be open to the lounge area. The lounge/study space will include a variety of furniture types providing for comfortable seating, use of laptops and mealtimes. In designing the space, the overall goal was to create a sense of home for students so as to bring students back to the building during their clinical years.

Naming the Academies

At other institutions, student communities are often named after famous physicians, scientists or alums, local landmarks, or some other category meaningful to the particular medical school. The AMS Student Senate will be asked for nominations for naming categories or specific naming ideas. Once nominations have been made, the planning committee will undertake a (TBD) process by which choices are narrowed down by medical school leadership and faculty. If the readers of this article would like to suggest names, or naming categories, for the three student academies please email Emily_Green@Brown.edu.

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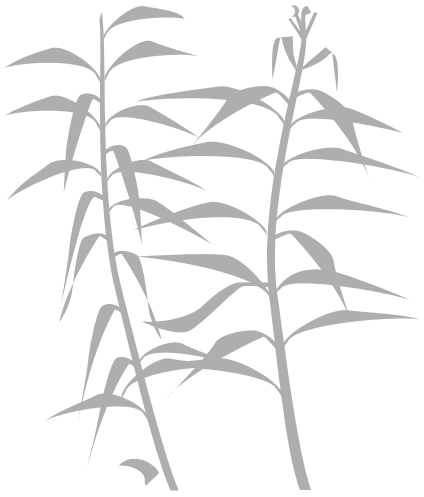

Effectiveness of a Medical Student-Organized Community Vision Screening Initiative

Natalie C. Cheung, MS, Paul B. Greenberg, MD, Kent L. Anderson, MD, PhD, Edward R. Feller, MD

Undetected eye diseases and visual loss are significant problems in the **United States (US)**. Collected data indicate that as many as 14 million Americans (6.4%) aged 12 years or older and 3.3 million Americans (2.8%) aged 40 years or older are visually impaired.[1,2] **Rhode Island (RI)** has one of the highest rates of visual impairment in those 40 years or older at 3.3%. [3] Because visual impairment increases with age, estimates are projected to double by 2020 as the US population ages.[2]

Common etiologies of visual impairment include refractive errors in younger persons and cataracts, macular degeneration, diabetic retinopathy and glaucoma in older persons. Since many conditions causing visual impairment are amenable to treatment, vision screenings are an important tool for detecting individuals at risk. However, in order for screening programs to be successful, referral to and follow-up for appropriate eye care are essential.

Herein we present the one-year results of a community-based free vision screening program in Providence, RI, with particular attention to follow-up rates and the barriers to further eye care. Our hypothesis was that trained, nonphysician screeners could identify undetected visual problems and enhance referral for eye care.

Methods

This study was approved by the **Rhode Island Hospital (RIH)** Institutional Review Board. Free vision screenings were held at the **Rhode Island Free Clinic (RIFC),** twice a month, from January 2008 to January 2009. Screenings were performed by volunteer medical students from the Warren Alpert Medical School of Brown University and college students from Brown University. All volunteers initially received a 5-hour training session by an ophthalmologist to perform vision screenings and were given detailed instructions by the study investigators (NCC, PGB, KLA) about the study protocol. A designated medical student was assigned to each screening and continued to oversee and provide feedback to all volunteers as necessary to ensure consistency of screening technique.

Participants were receiving medical care at RIFC and were referred for screening by medical personnel at the clinic or by patient request. Participants were 18 years or older, uninsured and residents of RI. Participants were asked for information about their age, race and level of education. We used a validated questionnaire of eight risk factors for eye disease, adapted from the Hoffberger Program for the Prevention of Eye Disease,[4] including information about age, family history of glaucoma, personal diagnoses of glaucoma or diabetes, past medical history of prescription eye drops use or previous eye surgeries and date of last eye exam. (Table 1) Distance visual acuity was tested using a 10 ft Snellen chart in each eye separately with habitual eyeglasses. Pinhole correction was performed with distance visual acuity worse than 10 out of 15 in either eye. Near visual acuity was tested using a 14 inch acuity card with habitual glasses. Macular disease was tested in each eye separately using an Amsler grid. Extraocular muscles were tested using a confrontational H pattern. Visual fields were tested in each eye separately using confrontational testing.

Referral for further eye examination to the RIH ophthalmology clinic was recommended if any of the following criteria were met: (1) two or more positive answers to risk factor questions; (2) worse than 10 out of 15 distance acuity despite pinhole improvement or worse than 20 out of 40 near acuity; (3) any abnormalities such as distortions, blind spots or irregularities with the Amsler grid; (4) any deviation with movements of eyes in the H pattern; and (5) any abnormalities with visual fields. Referred participants were given the phone number, directions, map and parking information to the RIH ophthalmology clinic. Referred participants were also instructed to call the RIH ophthalmology clinic to make an appointment as soon as possible. In addition, a referral form on behalf of the participant was faxed to the RIH ophthalmology clinic. Upon receipt of the referral form, the RIH ophthalmology clinic attempted to contact the participant to make an appointment. Referred participants were given information and instructions on how to sign up for the Community Free Services program at RIH in order to receive free or low cost care at the RIH ophthalmology clinic, depending on income.

Telephone interviews were conducted 2 to 4 months after the vision screening for all referred participants, who were asked if they had completed their appointment at the RIH ophthalmology clinic. Participants who had completed their appointments were not asked any further questions. Participants who failed to complete appointments were asked to state their primary reason for failure to pursue care. A total of five attempts were made to contact participants to inquire about follow-up status.

Data were recorded on a Microsoft Excel file and evaluated using chi-squared and imputated regression analysis. For referred subjects who were unavailable for inquiry, regression imputation was used to estimate the probability that they attended a follow-up visit. Probabilities were generated using logistic regression

Table 1. Screening Questionnaire

1. Are you over the age of 65?
2. Was your last eye exam greater than 1 year ago?
3. Are you receiving regular eye care now?
4. Have you ever been diagnosed with diabetes?
5. Have you ever been diagnosed with glaucoma?
6. Do you have a family history (blood relative) of glaucoma?
7. Have you ever had eye surgery?
8. Have you ever used prescription eye drops?

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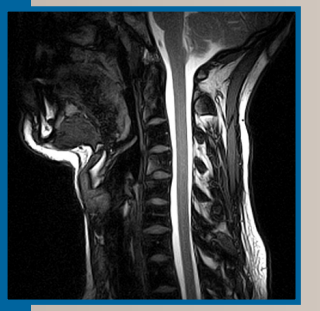

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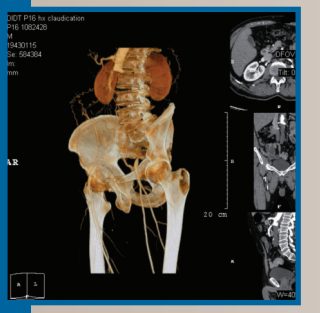

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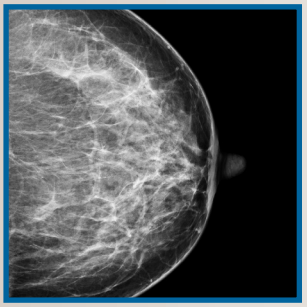

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Table 2. Demographic Information

	Screened		Referred		Completed Follow-up	
Number	111		80		31	
Mean age (SD)	47.2 (11.9)		49.7 (11.7)		53.2 (9.6)	
Median age	49		50		52.5	
Gender	n	%	n	%	n	%
Male	49	44%	36	45%	14	45%
Female	62	56%	44	55%	17	55%
Race						
White	27	24%	20	25%	7	23%
Black	8	8%	8	10%	3	10%
Hispanic	64	58%	43	54%	19	61%
Other/Not Given	12	11%	9	11%	2	6%
Education						
College and Above	36	32%	27	34%	15	48%
HIgh School	47	42%	32	40%	7	23%
Below HIgh School	17	15%	12	15%	5	16%
Other/Not Given	11	10%	9	11%	4	13%

with age, gender, education, number of problems of whom each person was referred for, and number of attempted phone calls as predictor variables. For those with missing follow-up attendance data and who had a predicted probability for attendance greater than 0.5, we imputed that they attended a follow-up visit while we imputed non-attendance for those with a probability less than 0.5.

Results

In the study period, 111 persons were screened. Of these, 80 (72%) met referral criteria and were instructed to schedule a definitive ophthalmic examination at the RIH ophthalmology clinic. Of those referred, 31 completed follow-up appointments, 25 did not complete follow-up appointments and 24 were not reachable for inquiry about their follow-up status. Of those persons whom we were able to contact and inquire about their status, our follow-up rate was 31 of 56 (55%).

Demographic data for those screened, referred and completed follow-up are shown in Table 2. No statistically significant differences were found in age, gender, race or education among those screened and referred, in addition to those who completed follow-up and did not complete follow-up. However, study participants who were referred and completed follow-up tended to be older and of higher educational status than those who did not seek follow-up care.

Of those study subjects referred and reachable for inquiry, 25 of 56 did not pursue further care. Each person was asked for the primary reason why they did not complete the follow-up appointment at RIH ophthalmology clinic. (Figure 1) The most common reasons were no appointment was given (28%), cost (28%) and no convenient appointment times (20%). The fourth reason we grouped as personal reasons (16%). These included finding an appointment elsewhere (n=2), too busy (n=1), and did not want to pursue further (n=1). Other reasons cited were difficulty with filling out forms for the Community Free Services at RIH (4%) and lack of transportation to the RIH ophthalmology clinic (4%).

This study suggests that student-organized community vision screenings have success rates comparable to larger, funded programs.

Discussion

Visual impairment is common and highest among those who are Hispanic, poor, lack health insurance, are less educated or have diabetes.[1] High prevalence among the underserved population suggests that health care access and resources are important barriers. By screening and providing referrals for a definitive ophthalmic evaluation at a free clinic, our initiative hopes to provide the underserved and uninsured population with access to the health care system in an effort to improve vision outcomes and quality of life. Almost three-quarters (72%) of our sample required follow-up for eye care, underscoring the burden of undetected eye disease in this underserved population.

In this community vision initiative, about half of those persons screened and referred for a definitive ophthalmic examination completed follow-up. This is comparable to the 41% completion rate reported from the Hoffberger Program, which screened over 5000 participants in Baltimore for eye disease.[4] The Hoffberger program also offered multiple incentives including free ophthalmic exams, transportation and inexpensive glasses if needed.

The major barriers to follow-up care for participants at risk for vision loss in our study were problems with appointments and cost. Although screenings are free, referral for a definitive eye examination often requires an application to a community program similar to one offered by the RIH, which offers free or reduced cost care dependent on income. The top two barriers cited in the Hoffberger Program were no appointment given (26%) and failure to remember the appointment (20%).[4] Our protocol strategy placed the responsibility of making referral appointments on both the participant and the RIH ophthalmology clinic. Thus, failure to give an appointment in our study stemmed from two sources: failure of the person to make the appointment or the failure of the ophthalmology clinic to reach the person to make the appointment. Several factors may contribute to the prevalence of non-referrals including ineffective explanation by the provider of the importance of follow-up eye care, patient trivialization of their problem, lack of motivation of the participant, perceived difficulty to make an appointment at the ophthalmology clinic and inconvenient clinic hours.

Our study has several limitations. Our sample size is small and only one site was accessed. There may have been statistically significant differences in the demographic data that were undetected due to the

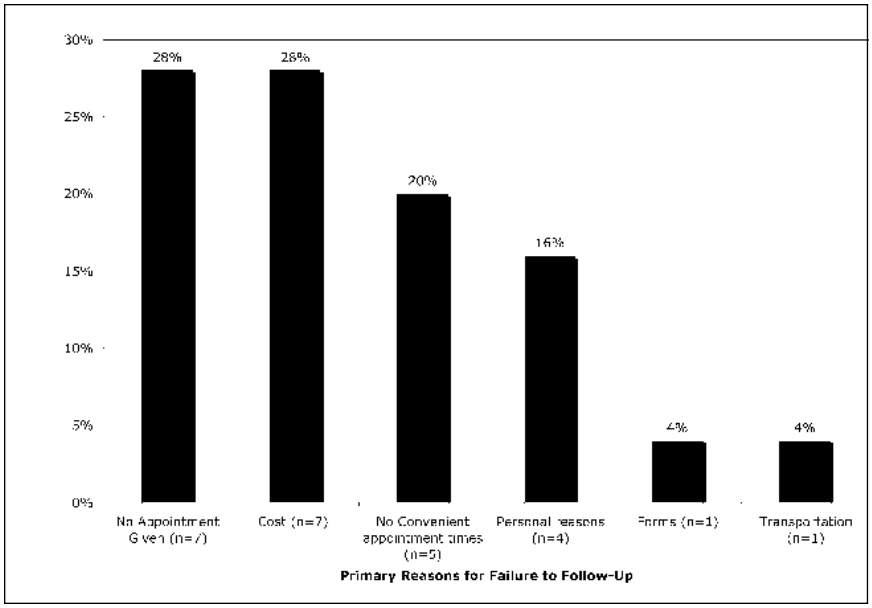

Figure 1. Primary reasons in persons who were referred for a definitive eye exam but did not pursue further care. A total of 25 persons were available for inquiry by telephone interview.

sample size. Another limitation is data missing for 24 persons (30%) of those referred and unable to be contacted. Consequently, the observed percent attending a follow-up may not be representative of all persons referred from RIFC. Imputated regression analysis was used to account for the missing data. Combining the observed and imputed data, we estimate that the follow-up visit attendance among those referred was 53%. The consistency between the observed and imputed estimates gives us some confidence that this accurately reflects the true follow-up attendance rate of referred persons from RIFC. However, we cannot rule out the possibility that those we were not able to contact were systematically different from those we were able to contact.

This study suggests that student-organized community vision screenings have success rates comparable to larger, funded programs. We believe that medical students make good screening persons given that they are highly motivated, knowledgeable about undetected eye diseases and their potential treatments and understand the importance of screening and referrals. Patients may also accept advice from a medical student to obtain further examination with more weight. We speculate that offering scheduled appointment times for a definitive ophthalmic exam at time of screening, after work appointment times and assistance with cost of the exam may improve the effectiveness of referrals for further eye care. Further research with a more robust sample size is needed to determine the effectiveness of these measures on follow-up rates and determine the individual characteristics of subjects who do and do not follow up.

Conclusion

Since many causes of vision loss are amenable to treatment, screenings are an important tool in identifying those at risk. However, screening initiatives are successful only if referred persons obtain the appropriate eye care. Our student-organized vision screening initiative found that greater than 50% of persons referred for further ophthalmic care kept their follow-up appointments. This study suggests that the success of community vision screenings can be improved by addressing problems with appointments and costs. Utilizing trained, non-physician screeners may increase the number and proportion of individuals receiving appropriate eye care.

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Karlis Adamsons: A Brief Gedenkschrift for a Brief Tenure at Providence Lying-In Hospital, 1975–1979

Marguerite Vigliani, MD

It was my privilege on February 6, 1978 to accompany Dr. Karlis Adamsons to the New England Primate Research Center in Southborough, Massachusetts, to assist him in implanting insulin containing micropumps into rhesus monkey fetuses to simulate the effects of maternal hyperglycemia on the fetus. This was part of research he was doing at Brown University in association with Bob Schwartz, Don Singer and others at the new Brown University Medical School, which awarded its first medical degrees in 1975.

The fetal surgery we were doing was groundbreaking. Dr. Adamsons had been a pioneer since 1963, when he performed the first open fetal exchange transfusion in the world with Vincent Freda at Columbia Presbyterian Medical Center in New York. His work established that the fetus could tolerate surgical intervention. In 1967 he organized and chaired the first International Symposium, sponsored by the National Institutes of Health, on the fetus as patient. His work with rhesus monkey fetuses broke ground for others who went on to develop open fetal surgery in humans for correction of various congenital anomalies.

Unfortunately, February 6 was a poor day for a sojourn to Southborough. The return trip was less than 50 miles, but took over 4 hours in Dr. Adamsons' Volkswagon Beetle because of the "Great Blizzard of 1978." Visibility was limited to a few feet, and the little Bug, without snow tires, was buffeted by powerful gusts of wind. I was terrified as we careened on the slippery road and considered the possibility that a larger vehicle that we couldn't see might smash us. I imagined myself stranded on route 95, freezing to death, buried under a snowdrift. Dr. Adamsons was optimistic, perseverant, talkative, instructive, a mentor and a role-model, ignoring the obstacles. When we finally returned to the Providence Lying-In there was no way to leave the hospital for days, as the roads were all blocked. Dr. Adamsons and I, along with a number of others, lived in the hospital for 4 days, delivered babies, made rounds, did surgery, and talked.

Needless to say we became good friends during that shared experience, and my friendship with Dr. Adamsons has been a lifelong source of strength and inspiration. One of Dr. Adamsons' favorite stories was of Dr. Walter Essex Wynter, who is credited with inventing the lumbar puncture. Dr. Wynter's first three patients died following the procedure. Dr. Adamsons asked me "So, what do you think he did next?" "He gave up," I answered. "No," replied my mentor, "he did the procedure again." And so I learned the art of resilience in the face of adversity.

In 1982, I went to Puerto Rico to give Grand Rounds for Dr. Adamsons, reporting on the results of various clinical studies we had done at Women & Infants in the hope of stimulating his residents, medical students, and voluntary faculty to participate in clinical research. Dr. Adamsons had gone to Puerto Rico hoping to access a very large primate colony for research, but his hopes did not materialize because the Primate Center there was involved in studying arthritis and AIDS rather than reproductive biology.

After 25 years as Program Director at the University of Puerto Rico, Dr. Adamsons' pride and joy was that despite minimal funding, a tiny faculty, and only six residents/year, his students and residents were able to present abstracts at local, national and international meetings. He bragged about his residents as if they were his children. He bragged about a 97.4% passage rate in Board Examinations. He boasted that five of his former fellows and two of his former residents became Chairs of Obstetrics and Gynecology at universities in Europe and in the USA. And one, Valerie Parisi from Lying-In Hospital, went on to become a Dean. He was honored as Outstanding Residency Program Director by ACOG District IV in 1984, and he received a Distinguished Service Award from ACOG in 2004. At the closing session of the 4th World Congress of Perinatal Medicine in Buenos Aires in 1999, he was presented with a prize for being the most active program participant, being the one with the most active faculty among the more than 100 universities represented.

Over the years, he would write or call when he came stateside to give a lecture or to testify. During these visits we shared personal and professional challenges and achievements and provided one another with mutual support. What amazed me most was his incredible energetic pace which didn't stop no matter the obstacle. He was still operating with his left hand after a stroke, despite the enormous commotion this caused among the faculty at University of Puerto Rico. Ironically, he had always taught us residents that we needed to learn to be ambidextrous because one could never anticipate a stroke. For Dr. Adamsons, operating left-handed was just another interesting and fun challenge, a minor obstacle to overcome with optimism, perseverance, and mental agility, like playing chess blindfolded simultaneously against eight opponents, which he claimed to have done at the 1947 Lithuanian Chess Championship in Exile.

While at Providence Lying-In from 1975-1979, he did amazing and unheard of things. In addition to introducing fetal monitoring, fetal scalp sampling, fetal blood sampling, and intra-amniotic fetal treatments into clinical practice, he also started the GYN Tumor Board, the Cancer Registry, and the Journal Club. He taught us residents that the fetus was a patient who might need antibiotics for infection, beta blockers for arrhythmia, or thyroxine to mature the fetal lungs. He invited us to assist him on surgeries like Schauta radical hysterectomy, pelvic exenteration, and pubourethral slings.

Although he loved operating, he felt that it was mundane. "I can teach a monkey to operate," he would say, arguing

that surgery was not an appropriate activity for an intelligent person with a terminal degree. He felt guilty about enjoying surgery, as if it were a bad habit like chewing tobacco or spitting on the sidewalk. He said the OR nurses should be doing the surgery because they had much more collective experience than any one physician, and furthermore they were less egotistical. On the other hand, he loved teaching, and surgery provided him with the opportunity to teach his beloved residents one-on-one.

The community-based faculty was appalled. They had hired this scientist, this international expert in fetal physiology, an MD/PhD who had done pharmacological and bench research with rhesus monkeys. They never expected him to be teaching complex gynecologic surgery to the residents, operations that they themselves would never dare attempt. They never expected him to have an office, competing with them for private patients. Professional jealousy fueled their outrage at his iconoclastic and bombastic style, his enormous ego. He was socially awkward and at the same time uninhibited, completely unaware of the effect his words had on listeners. One time, he told a reporter from the *Providence Journal* that "the uterus is just a muscle." This statement made headlines. He incurred the wrath of Rhode Island feminists, and the media demonized him as the archetypal male chauvinist gynecologist who didn't respect women.

His faculty did not defend him. He was completely misunderstood by the faculty, in part or in whole because of his attempts to finance the Department of OB/GYN through his surgeries. The attendings didn't understand the audacity of his billing third party payors for clinic deliveries and surgeries. They thought he was pocketing the money for himself. This too ended up in the newspaper, under the rubric of "double-dipping" as he was paid a salary by the hospital.

Even those who did not attack him for his presumed financial inproprieties were not prepared to deal with his contempt for the traditional way of doing things. His teaching style was based on questioning all conventional wisdom and traditional standards of care. The attendings were proud to have always taken care of clinic patients for free, considering this to be their community service, their professional duty, part of the monastic way of life doctors accepted along with the necessity of living on Smith Street across the street from the hospital and being on call 24/7.

Dr. Adamsons' presence was especially painful for senior physicians, who considered the teaching of residents in the Labor Room, the Delivery Room, and the Operating Room their prerogative. To them a university professor was hired to give a lecture, not to get in scrubs and bill for services. To make matters worse, he lived in Barrington in a fancy house with a third wife, traveled extensively, and was an ostentatious name-dropper and an intellectual show-off. He peppered his didactic presentations to the residents with heavy doses of sarcasm in order to change entrenched traditions like spinal anesthesia, forceps, and episiotomy, which were the bread-and-butter of the attending staff.

As intolerable as that was, it became outright war when he ridiculed as iconic the use of magnesium sulfate for pre-eclampsia. He argued that seizures were benign phenomena. He taught his residents that cerebral edema was the real enemy, and ultimately the cause of death for patients with eclampsia. Magnesium, he argued, was a cosmetic which blocked the neuromuscular junction. Using magnesium, he argued, was treating the patients' symptoms, not the underlying cause. He said that the underlying cause of pre-eclampsia had to be related to some malfunction of the trophoblast because a simple intervention like a supracervical hysterectomy would rescue a completely moribund patient in the Medical ICU. He argued that there had to be some yet to be identified substance, probably a polypeptide, which was released by the trophoblast when the pO2 of the trophoblast fell below 30 torr. He subsequently felt that he had proved this by analyzing blood samples from the umbilical vein of fetuses of mothers with severe pre-eclampsia.

He encouraged us to replace the patients' intravascular volume with multiple doses of albumin rather than with electrolytes in order to increase the oncotic pressure of plasma. He decried the use of electrolyte solutions because he felt that the extra fluid would be rapidly extruded, increasing pulmonary congestion and possibly causing more brain swelling. He discouraged the use vasodilators and of magnesium because of its vasodilator properties, which he thought were contraindicated in pre-eclampsia. He was totally opposed to the use of magnesium in pre-eclampsia because he thought it impeded fetal lung maturation by paralyzing fetal breathing, because he thought it interfered with induction of labor and increased postpartum blood loss, and because it blocked the neuromuscular junction and might result in respiratory and cardiac depression, thus hastening the patients' death.

He was like a magician pulling rabbits out of hats, challenging traditional authority, and spinning a web of reasoning which was based on rapid, virtually nonstop, emphatic speech and unparalleled fluency in the difficult-to-understand language of physiology, all of which was punctuated with emphatic grunting, which was involuntary, like a nervous tic. Some thought he was a genius with an unbelievably creative mind. Others thought his reasoning was unintelligible, his writing a word salad. His fluency with the languages of physics, biochemistry, pharmacology, and physiology was mesmerizing. To us residents, he was Spock, a half-alien, half-human antisocial personality whose logic was incontrovertible, if only you could understand what he was saying.

He told us that he spoke six other languages fluently, which might have been true. He reported that both his parents were physicians, and all four of his siblings became physicians, including his twin sister. He was aware that he lacked social skills, especially after 3 failed marriages, but he blamed his mother for his cold and distant personality because she allegedly went back to the office on Monday morning after delivering the twins over the weekend. He thought that perhaps he might have had a more socially malleable personality if his mother had breastfed him instead of entrusting his care to a nanny.

Although the attendings at WIH were appalled at what they called his "arrogance," we residents were mesmerized by his creativity, his intellect, and his bubbling enthusiasm for challenging and contradicting common knowledge. He chose issues he thought would directly relate to patient care. For example, he was very proud of his ability to actually reproduce the clinical con-

dition of "amniotic fluid embolism" in pregnant rhesus monkeys by infusing cell-free placental extracts into the maternal circulation. He could not reproduce the condition with an infusion of amniotic fluid. To him the evidence was incontrovertible. Ten years later he was still frustrated by the fact that the academic community ignored his work and still spoke of "amniotic fluid embolism" as if it were a real phenomenon.

He felt the same way about surfactant. He claimed to have "discovered" that because of the specific density of the inflated lung, the alveolus of the lung could not be spherical, and therefore it could not depend on surface tension reducing substances to facilitate an increase of its volume. He could not understand why the scientific community would not accept the obviousness of his discovery.

His was a 19th century type of mind and he resisted contemporary restraints on clinical research. After 1974 his "scientific" contributions were universally rejected for publication in United States journals because he did not follow or believe in the same ethical guidelines and research standards that had became axiomatic in the academic community; namely that all clinical research be approved by an **Institutional Review Board (IRB)** to protect human subjects. To him, the IRB was an intimidator of research, rather than a facilitator. He felt that the medical community had been stripped of its autonomy by the changing perception of society that it had the right to monitor medical education, research and medical practice. Regarding the use of drugs in clinical trials, he felt that not treating a treatable condition for which a pharmacologically safe compound was available, but not FDA-approved for that purpose, violated his morality. He felt particularly outraged that drug manufacturers would assiduously avoid developing compounds that were used to improve the outcome of a pregnancy at risk because performing the FDA-mandated studies was too expensive. Moreover, inordinately large numbers of patients would be required to reach statistical significance, and there was an absolute certainty that plaintiff's lawyers would file claims for what they would call undisclosed harmful effects of the drug.

Dr. Adamsons' clinical interests were innumerable, but in his latter years he focused on the few areas where he felt that his interventions produced a better outcome than that achieved by interventions promulgated by our standard textbooks and "The Compendium": (1) the acceleration of fetal maturation with intra-amniotic injection of thyroid hormones, (2) the elimination of hyperinsulinemic fetal macrosomia of mother with gestational diabetes mellitus, (3) changing the prognosis of pre-eclampsia/eclampsia by continuing the work he had done at Women and Infants, and (4) normalizing the progression of labor by eliminating interference by epinephrine.

With respect to thyroid hormone, Dr. Adamsons' interest originated with clinical observations made by his father as a medical student in Switzerland, where the professor of Surgery was the 1909 Nobel Prize winner Theodor Kocher, famous for dealing with tumors of the thyroid. Kocher's reputation attracted many patients with Grave's Disease, some of whom were pregnant. Since the operative treatment of Grave's Disease was delayed until delivery, the Department of Obstetrics had an unusually rich experience with hyperthyroid newborns. At 28 weeks, they were as active as other newborns at term. Dr. Adamsons' efforts to apply thyroxine to accelerate fetal maturation at Women and Infants were hampered by the IRB, and the concern of risk management at having to face litigation in the case of an unfavorable outcome.

The first patient he treated at Women and Infants was in her 26th week of gestation, awaiting chemotherapy for a rapidly progressing leukemia. The patient had been referred for a therapeutic abortion, but Dr. Adamsons presented the patient with the idea for intra-amniotic thyroxin injection. The patient agreed to the plan, and at the patient's request, the IRB agreed for a delay in her leukemia treatments for one week, during which time she received two injections of 500 mcg of T4 intra-amniotically during the next six days, and was delivered by cesarean section at 27.5 weeks. The newborn was in room air breathing spontaneously in 24 hours. Encouraged by this experience, Dr. Adamsons couldn't wait to get to the University of Puerto Rico where he could pursue this treatment unfettered by the IRB.

Perhaps I was an enabler, enticed by his defiance toward authority and his ironic sense of humor, but he would call me from time to time to report the positive results he was achieving with intra-amniotic administration of thyroxin for maturation of the lung in premature fetuses, particularly in fetuses over 26 weeks. In all, he and his collaborators from the University of Puerto Rico treated more than 1000 patients. His group presented reports at two international meetings and published a review article of their experience in *Seminars in Perinatology* in 1993. Nevertheless he was enormously frustrated by his inability to get the American obstetrician/gynecologist community to pay attention to this work with thyroxine. He felt personally rebuked because he was unable to present even a single abstract on the subject, even at the SGI, without moving the meeting to Europe.

To me the most interesting work he did in Puerto Rico was with propranolol in primiparous, induced, and dysfunctional labors. This work started with the observation among caged primate colonies that births never occurred in the presence of an observer. He noticed that in a regular hospital setting the mean duration of labor was only 5.8 hours among primiparas who were less than 3 years postmenarche. He postulated that it took approximately 2-3 years for adrenergic beta receptors in the myometrium to be present in sufficient density to prevent delivery in a hostile environment like a hospital. He started using propranolol to treat dysfunctional labor and arrests of labor with encouraging results. He reported in 1991 to the Society of Gynecologic Investigation that 67% of his patients scheduled for cesarean section because of arrest of labor, and not responsive to oxytocin augmentation, had uneventful vaginal deliveries after receiving 1 mg propranolol intravenously. Propranolol administration for spontaneous labor became the standard of care at his institution after finding that it not only shortened the duration of spontaneous and induced labor, but it also virtually eliminated postpartum blood loss. He claimed that for primagravidas in established labor 1-2 mg of propranolol given intravenously, or 20-40 mg given orally, resulted in a spontaneous delivery in less than two hours. Again, he could not understand why the mainland enforced a complete blackout of his findings.

In his latter years he mellowed a bit and became increasingly retrospective. He was feverishly proud of his curriculum vitae, which included over 150 publications, of which he was the senior author of over one third. However, as he became more physically frail, he more and more treasured his relationship with his beautiful wife Annabel, and with his children and grandchildren. He was thrilled that his two grown children, Eric and Lara, his six step-children, Ana Isabel, Jorge Juan, Debra, James, Barbara, Terri, Dieter and Susanna, and his grandson Sebastian all came to Puerto Rico to celebrate his 80th birthday.

In a reflective and apologetic tone, two years ago he sent me a 'tongue-in-cheek" research proposal to be submitted to the IRB at Women & Infants Hospital. He hypothesized that prolonged gestation adversely affected the intellectual development of male fetuses, making them more confrontational and oppositional, and less intelligent than females due to prolonged exposure to testosterone *in utero*. Although his body experienced an inexorable, predictable decline with age, his ironical sense of humor never failed him. Just before he died he sent me a note on his personal stationery, announcing that he was dedicating the rest of his professional life to publishing information that would contradict US standards of care.

Marguerite Vigliani, MD, is an obstetrician/gynecologist.

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Information for Contributors, *Medicine & Health/Rhode Island*

Medicine & Health/Rhode Island is peer-reviewed, and listed in the *Index Medicus*. We welcome submissions in the following categories.

Contributions

Contributions report on an issue of interest to clinicians in Rhode Island: new research, treatment options, collaborative interventions, review of controversies. Maximum length: 2500 words. Maximum number of references: 15. Tables, charts and figures should be submitted as separate electronic files (jpeg, tif, or pdf).

Creative Clinician

Clinicians are invited to describe cases that defy textbook analysis. Maximum length: 1200 words. Maximum number of references: 6. Photographs, charts and figures may accompany the case.

Point of View

Readers share their perspective on any issue facing clinicians (e.g., ethics, health care policy, relationships with patients). Maximum length: 1200 words.

Advances in Pharmacology

Authors discuss new treatments. Maximum length: 1200 words.

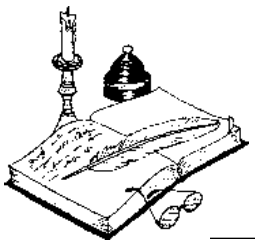
Advances in Laboratory Medicine

Authors discuss a new laboratory technique. Maximum length: 1200 words.

Images in Medicine

Authors submit an interesting Image, with a 300-400 word explanation.

For the above articles: Please submit an electronic version (Microsoft Word or Text) with the author's name, mailing address, phone, fax, e-mail address, and clinical and/or academic positions to the managing editor, Joan Retsinas, PhD, e-mail: joan.retsinas@gmail.com For additional information, phone: (401) 272-0422.



Physician's Lexicon

A Palette of Palliative Terms

A modest knowledge of Greek etymol-ogy can be a dangerous thing. A brief appraisal of the numberless words – both medical and non-medical – beginning with the prefix, *pal-*, for example, can result in utter etymological confusion unless one is aided by a reliable Greek dictionary.

Beginning with words employing the *pale/paleo-* prefix: such terms are derived from the Greek root meaning ancient or primitive, and from a still older prefix signifying something that is backward or long ago. And thus, it gives rise to words such as paleobotany (botany of fossil plants), paleography (study of ancient writings), Paleolithic (pertaining to the Stone Age) and paleopathology (pathology of fossil remains).

The prefix, *pali-*, on the other hand, is Greek meaning repetition, renewal or the sense of returning again, as is words such as palindrome (a sentence reading the same backwards or forwards; and the *drome* root meaning course, appearing in words such as hippodrome and aerodrome). Other cognate words include palilalia (pathologic repetition of sounds) and palikinesia (involuntary repetition of movements). The sense of repetition appears in the word palimpsest (a parchment which has been scrapped clean to make way for a new document, text or painting.) Palingenesis, meaning a rebirth or regeneration, again relies upon the sense of repetition.

The prefix, *pall-*, is similarly Greek and generally means to quiver as in medical words such as pallesthesia (vibratory sense). But words such as palliate are etymologically distinguishable and are derived from the Latin, *pallium*, meaning a cloak. Thus the clinical act of palliation means to cloak, or mitigate, symptoms such as pain. But then there are words such as pallidum and globus pallidus which stem from the Latin, *pallidus*, meaning pale or without color, as seen also in English words such as pallor or pale.

Other words beginning with the *pal-* prefix include Palestine, descended, through the Greek, and thence from the Hebrew, *Pelesheth*, meaning land of the Philistines.

A palette, a painter's working board, derives from the Latin, *pala*, meaning a shovel, a stake or a piece of wood. A palisade, then, defines a fence made of many stakes.

Finally, a handful of words are derived from the name, Palladio, (such as palladian, defining certain renaissance architectural features) after the famous architect, Andrea Palladio (1518-1580), and Pallas, the goddess Athene's surname, which stem from earlier Persian words defining maidens.

– Stanley M. Aronson, MD

Rhode Island Department of Health
David Gifford, MD, MPH
Director of Health

Vital Statistics

Edited by Colleen Fontana, State Registrar

Rhode Island Monthly Vital Statistics Report Provisional Occurrence Data from the Division of Vital Records

Underlying Cause of Death	Reporting Period			
	August 2009	12 Months Ending with August 2009		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	180	2,390	227.4	3,092.6
Malignant Neoplasms	203	2,265	215.6	6,212.5
Cerebrovascular Diseases	31	417	39.7	852.0
Injuries (Accidents/Suicide/Homicde)	54	577	54.9	9,701.0
COPD	38	501	47.7	337.0

Vital Events	Reporting Period		
	February 2010	12 Months Ending with February 2010	
	Number	Number	Rates
Live Births	854	12,229	11.5*
Deaths	750	9,134	8.6*
Infant Deaths	(4)	(83)	6.8#
Neonatal Deaths	(1)	(70)	5.7#
Marriages	240	6,154	5.8*
Divorces	248	3,186	3.0*
Induced Terminations	433	4,170	341.0#
Spontaneous Fetal Deaths	48	687	56.2#
Under 20 weeks gestation	(42)	(607)	49.6#
20+ weeks gestation	(6)	(80)	6.5#

(a) Cause of death statistics were derived from the underlying cause of death reported by physicians on death certificates.

(b) Rates per 100,000 estimated population of 1,050,788

(c) Years of Potential Life Lost (YPLL)

Note: *Totals represent vital events which occurred in Rhode Island for the reporting periods listed above. Monthly provisional totals should be analyzed with caution because the numbers may be small and subject to seasonal variation.*

* Rates per 1,000 estimated population
\# Rates per 1,000 live births

Tar Wars Rhode Island Holds Its Annual Poster Contest

At Wakefield Hills Elementary School on Saturday, May 8, 36 fifth-grade students and their families gathered for the 17th Annual Tar Wars Statewide Poster Contest. Arthur Frazzano, MD, chairman of the Tar Wars program and emcee for the day, announced the winners: first-place – Alexandria Nogueras from Marieville Elementary School in North Providence.; second-place – Maria Spagnolo from George Peters School in Cranston; third-place – Keia DePina from Kingston Hill Academy in Saunderstown.

The 2010 Tar Wars Rhode Island sponsors included the Rhode Island Academy of Family Physicians, the Rhode Island Chapter of the American Academy of Pediatrics, the Rhode Island Medical Society Foundation, and the West Warwick School Department. The judges were Barbara Morse, Reporter Channel 10 News; Gary Bubly, MD, President-Elect of the Medical Society; Nitin Damle, MD, Vice President of the Medical Society; Larry Lamothe, Director of Human Resources & Compliance, West Warwick Public Schools; and Priya Gupta, MD, of the Rhode Island Academy of Family Physicians.

A special acknowledgement goes to the 2010 Tar Wars Rhode Island presenters for volunteering their time to visit schools to talk with students about the dangers of tobacco use. Owned and operated by the American Academy of Family Physicians (AAFP), Tar Wars nationally reaches approximately 400,000 students annually. In Rhode Island, Tar Wars involves more than 2800 students each year.

If you would like to become a Tar Wars presenter or would like more information about the program, contact Catherine Norton, 528-3286 or cnorton@rimed.org. Volunteer presenters are always needed and no experience is necessary. RIMS provides all program material, including "How To Present" guidelines and PowerPoint presentation.

Winner: 2010 Tar Wars Rhode Island Poster Contest.

Images In Medicine

Clostridium difficile in a Nursing Home Patient

Ralph N. Sams, MD, and Ronald A. DeLellis, MD

A 75-year old woman with a complex past medical history was found unresponsive in her nursing home room. She was transported to the Emergency Department where attempts at life support were unsuccessful. She had been admitted to the hospital two weeks earlier because of abdominal pain. According to the history, she had been experiencing diarrhea for the week prior to that admission. Her physician had initiated metronidazole for empiric treatment of *Clostridium difficile*, and her medication list also included a proton pump inhibitor and a probiotic. During that hospital stay, metronidazole was discontinued following one week of treatment after a negative *C. difficile* toxin assay was obtained. She was started on ciprofloxacin for a urinary tract infection for an unknown time period and was discharged to her nursing home.

Figure 1A.

Autopsy revealed bilateral upper lobe thrombo-emboli, mild coronary atherosclerosis and extensive pseudomembranous colitis involving the entire colon and rectum. Grossly, the colonic mucosa was covered with yellow-white plaques measuring up to 0.4 cm in thickness with areas of confluence. (Figure 1A) Microscopically, volcano-like eruptions of pseudomembranes were present over the mucosa (Figure 1B: MM, muscularis mucosae; SM, submucosa; MP, muscularis propria). The pseudomembranes contained mucus, fibrin, epithelial debris and neutrophils. (Figure 1C)

Clostridium difficile colitis

C. difficile is an anaerobic, gram-positive, spore-forming and highly toxigenic bacterium that has unfortunately become a daily part of medical practice. It is the leading cause of hospi-

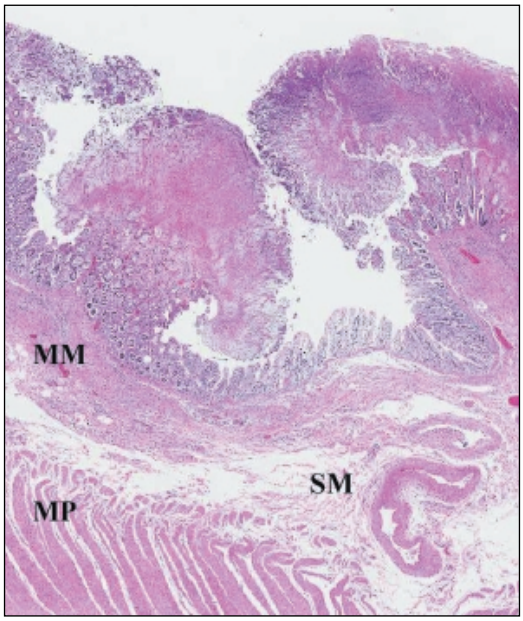


Figure 1B.

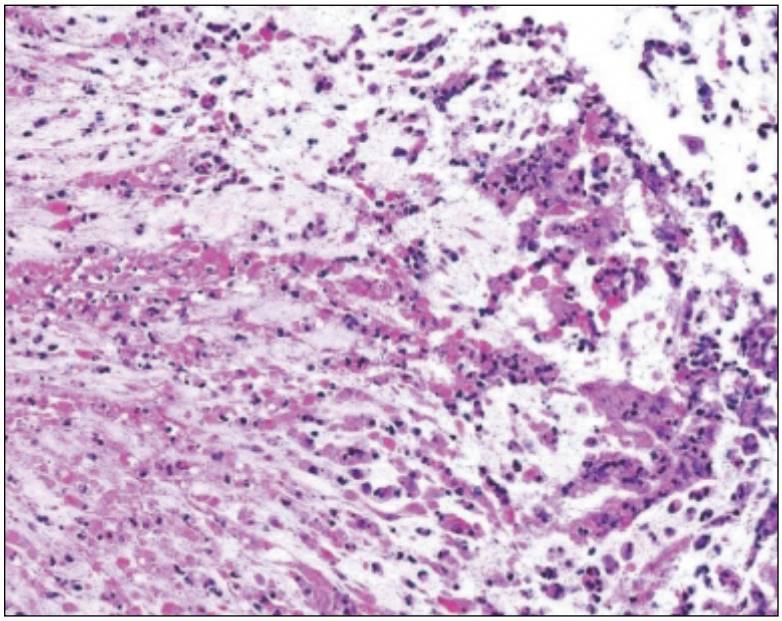


Figure 1C.

tal-associated diarrhea in patients taking antibiotics. Risk factors for this infection include age over 65, the presence of significant co-morbidities, immunocompromised states, inflammatory bowel disease, recent gastrointestinal procedures and the use of gastric-acid suppressants. Management of recurrent *C. difficile* infections is controversial. Even with appropriate treatment, 20-25% of patients will have a relapsing infection. The infection is diagnosed by detecting components of the organism with the most common testing modality being **enzyme immunoassays (EIA).** Real-time **polymerase chain reaction (PCR)** for the *C. difficile* toxin B gene is becoming the method of choice because of its rapidity and high levels of sensitivity and specificity. Toxin B is necessary and sufficient for virulence. The increased severity of *C. difficile* infections is related to the ribotype 027 strain which has an attributable mortality of 16.7% and now causes 30-40% of *C. difficile*– infections in North America. This strain has a mutation of the *tcdC* gene that can lead to 10-20 times more toxin production in *in vitro* studies than other strains.

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EDITED BY ANA TUYA FULTON, MD

HIV In the Older Adult

Dennis Onentia Oyieng'o, MBChB, and Joanna Bradley, MD

A 74-year old man, with a medical history of hypertension and marijuana abuse, presented with a non-productive cough, chills and progressive dyspnea on exertion for one week. On physical examination, his temperature was 100.6, oxygen saturation was 92% on room air. Lung examination revealed right posterior basal rales. Chest x-ray demonstrated a right lower lobe infiltrate with a small pleural effusion. He was started empirically on piperacillin/tazobactam for the likely diagnosis of community-acquired pneumonia. On the third day, oxygen saturation fell to 86% while on 2L of oxygen. Despite mild symptomatic improvement the day prior, a repeat chest x-ray now revealed diffuse bilateral haziness. At this point the patient was questioned further; he acknowledged a history of incarceration and multiple sexual partners. An HIV test result was positive, as were bronchial washings for *pneumocystis;* his CD4 count was 62. He was started on treatment for *pneumocystis* pneumonia.

Introduction

Since the discovery of HIV in 1981, great strides have been made in the understanding and care of patients with HIV/AIDS. With the introduction of antiretroviral therapy, even more so with **highly active antiretroviral therapy** (**HAART**), HIV/AIDS has rapidly evolved to be a chronic condition. HIV prevalence in those persons over 50 is increasing, both because of the survival and thus aging of HIV-infected persons, as well as the diagnosis of new cases in older persons. With optimum viral suppression and subsequent immune recovery, young adults can be expected to live into their later years - well beyond 50. HIV in older adults requires special attention because of the differences in the disease presentation, management and the need for a higher level of suspicion to diagnose infection, compared with younger adults. The frequent coexistence of other diseases and medications with HIV has effects on both HIV epidemiology and immune recovery.

As in this case, older adults are more often diagnosed with HIV at an advanced stage by the time they present, usually for the treatment of an HIV-related illness. Late detection can result from a failure to do routine HIV risk assessment and subsequent screening in persons over age 50.[1] In addition, multiple symptoms of HIV, and the common opportunistic infections accompanying HIV/AIDS, can mimic the presentation of other diseases commonly seen in older persons. Therefore, HIV may be missed unless risk factors are known and screening obtained.

Late detection has prognostic implications. CD4 count lower than 350 at the time diagnosis and initiation of antiretroviral therapy is associated with a poorer outcome, compared with initiation of therapy at higher CD4 counts. This may partially explain why HIV/AIDS progresses more rapidly to active illness and death in older persons. Younger persons are being diagnosed, and treated at earlier stages with higher CD4 counts. However, the more aggressive disease course may also result from concurrent diseases permissive to the progression of AIDS.[2] The provider should make HIV risk factor screening a part of the routine history and physical for all adults, even older patients, to improve early detection and treatment rates to improve outcomes. In addition, detection can eliminate spread and infection of others.

Epidemiology

The **Centers for Disease Control and Prevention** (**CDC**) estimates that approximately 1.1 million persons are living with HIV in the United States. The number of persons aged 50 years and older living with HIV/AIDS has been increasing. In 2006, persons aged 50 and older accounted for 10% of new HIV/AIDS diagnoses, and for 26% of persons living with HIV/AIDS.[3] The prevalence is increasing at an even faster rate among older age groups, 60 and 70 year olds. As the population ages, and with the advent of HAART therapy, it is estimated that in 2015, over 50% of those with HIV will be over 50 years old. Similarly, new diagnoses of HIV are increasing at a faster rate in this population, compared with younger age groups.[4]

While our patient had identifiable risk factors, including history of incarceration, multiple sexual partners and African descent, in many older adults clinicians fail to elicit these risk factors in the history. Physicians need to improve screening for risk factors for HIV in elderly patients. In a study of over 300 primary care physicians in Texas, 40% of doctors rarely or never asked patients over fifty years old about HIV risk factors.[5] Similarly, in the 2006 National Health Interview Survey, adults 65 and older had the lowest rates of HIV testing of any age group (11.4%).[6]

As a result of insufficient screening in this population, it is likely that the number of cases of HIV may be higher than current estimate. In one study in a high prevalence area, including 257 patients older than 60 years old and without any known HIV or AIDS, 6.2% of men and 8.9% of women admitted to the hospital were found to be HIV positive.[7] It is estimated that these numbers are much higher now.

In the older adult population, men who have sex with men and intravenous drug users make up approximately 50% of the cases of HIV.[4] Older gay men tend to be overlooked, both in the gay community and in prevention efforts in the larger society. Among the HIV risk factors identified for older gay men are homophobia, denial of risk, alcohol and other sub-

stance use, and anonymous sexual encounters.[8] In the past, the most powerful risk factor was blood transfusion, which now comprises the smallest risk group.[4] The fastest growing risk factor is heterosexual activity, which is also the primary risk factor among women. The percentage of women with HIV is higher among older adults when compared to younger age groups; (22.2% of persons over age 60 were women in one study, compared to 12.6% in the 30-49 age group).[9]

Host Defenses and Aging

The thymus is an important organ involved in the development and maintenance of the human immune system, and serves as the primary locus for T lymphocyte maturation. T lymphocytes are genetically diverse, and function as naïve T cells responding to new antigenic exposures, or as memory T cells responding to antigens the body has previously encountered. In particular, the activation of $CD4^+$ T-helper cells triggers an immune response through a) T cell differentiation and proliferation; b) activation of B cells resulting in antibody development and secretion; and c) stimulation of other effector cells, such as $CD8^+$ cytotoxic T cells and macrophages, through cytokine release and/or delayed-type hypersensitivity.

Immune senescence is characterized by decreased humoral response to immunizations that evoke T-dependent responses, such as influenza and shingles vaccines, anergy to skin tests and increased vulnerability to opportunistic infections. With aging comes involution of the thymus and subsequent reduction in thymic volumes and function. The production of naïve T cells declines with increasing age, and thymic hormone output is minimal after age 55.[10] In addition, thymic function and production of naïve T cells may be inhibited by HIV infection.[11] HIV infection may therefore, act in concert with aging senescence to produce rapid and pronounced immune suppression, and likewise delayed recovery after initiation of HAART.

Chemokine co-receptors on T cells have been shown to play an important role in the pathogenesis of HIV. Drugs blocking these co-receptors have been developed, and have shown promising results in the treatment of HIV. Aging changes in T-cell receptor expression, such as increased expression of the CCR5 co-receptor, have been noted and have the potential to accelerate disease progression.[12] Additionally, normal aging changes, such as decreased vaginal lubrication and thinning of the vaginal mucosa, put older women at higher risk for HIV infection during intercourse.[13]

Conclusion

HIV in the older adult is of growing concern both because the number of HIV-positive persons over age 50 will continue to increase and because older adults have a poorer prognosis. Earlier detection to initiate treatment as well as to reduce transmissibility is vital. The number of new cases can be reduced by increasing preventive measures targeting the older adult, as well as early diagnosis and treatment to reduce the infection rate. Physicians should embrace routine screening of older adults, consistent with CDC recommendations, which advise routine screening up to age 64, rather than relying on testing only when there is clinical suspicion. At the same time, physicians should routinely counsel older adults on safe sex practices. Finally, more research needs to be done on the immune system changes that occur with age and how they may be ameliorated with an aim to improve treatment options for older adults.

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Blood Levels In Refugee Children in Rhode Island

Sunil Hebbar, Robert Vanderslice PhD, Peter Simon, MD, MPH, and María-Luisa Vallejo, MA, MEd, MPH

In 2004, the Rhode Island Department of Health set a goal of eliminating lead poisoning by 2010, which included the removal of environmental lead hazards and universal screening of children.[1] The objective is to prevent blood lead levels of greater than 10 micrograms per deciliter (µg/dl).[2] This is not a threshold for health effects, but a programmatic action level set by the CDC Advisory Committee for Childhood Lead Poisoning Prevention.

While progress has been made, this goal will not be reached. If lead poisoning cases are to be eradicated entirely, interventions must be targeted towards vulnerable populations. Refugees, for instance, comprise less than 0.2% of children screened, yet account for greater than 1% of lead poisoning cases in Rhode Island.

In this report, we aimed to identify the prevalence of lead poisoning among refugee children in Rhode Island, and compare these rates to the non-refugee population in Providence. Although children in Rhode Island are required to be screened through age 6, the CDC recommends refugee children be screened through 16 years of age.[3]

Findings of elevated blood lead levels in children have historically been more frequent in Rhode Island than elsewhere, attributable to lead paint from older housing stock. Nevertheless, there has been a significant trend towards lower rates of lead poisoning in the state during the last decade.

Among children younger than age six, the statewide incidence of lead poisoning decreased from 6.9% in 1999 to 1.1% in 2008, indicating that the number of new cases is diminishing. Prevalence of childhood lead poisoning was likewise reduced in the past decade, dropping from 9.8% to 1.6% between 1999 and 2008. Lead poisoning remains a greater concern in the state's core cities (Central Falls, Newport, Providence, Pawtucket, West Warwick, and Woonsocket), defined as cities where the child poverty level is 15% or greater. Incidence of childhood lead poisoning in 2008 was 1.8% in these cities combined and 2.4% in Providence.[1]

The death of a 2 year-old Sudanese refugee in Manchester, New Hampshire, in 2000 from lead poisoning, the first such recorded fatality nationally in ten years, suggested an increased susceptibility to lead poisoning among refugee children.[4] Several recent studies conducted in New England have shown this link, including a study examining a cohort of refugee children in Massachusetts. The prevalence of elevated blood lead levels among recent refugees was found to be 11.3%, more than twice that of US-born children. Significant risk factors for lead poisoning included resettlement from a developing country, as well as the presence of concurrent anemia.[5]

A more recent case series of refugee children of predominantly African origin was performed in New Hampshire. Of the 242 children included in the study, 210 were screened for elevated blood lead levels within 3 months of arrival, and 92 were tested again within 3 to 6 months after their initial screening. Among those tested twice, 14% had elevated blood lead levels at both their initial and follow-up visits, while 11% had elevated levels only at their initial screening and 29% were not elevated at their initial screening but elevated at a follow-up test. This data demonstrate not only the increased prevalence of lead poisoning among refugee children upon arrival, but also the possibility for acquiring elevated blood levels from exposures subsequent to resettlement. Further investigations revealed several risk factors among the sample studied, including living in older homes, the presence of lead hazards, and evidence of chronic and acute malnutrition.[6]

Rhode Island settles over one hundred refugees, including a large proportion of children, each year. During a 21-month period between 2004 and 2006, 352 refugees arrived in the state; the majority were from sub-Saharan Africa.[7] Refugees from this region have often suffered from malnutrition. A 2003 survey of a Kenyan refugee camp inhabited mainly by Somalis found that 95% of the children below age 6 were iron deficient, predisposing them to absorbing lead even at minimal exposures.[8] In addition, most of the refugees arriving in Rhode Island are resettled in Providence neighborhoods where lead levels are markedly elevated compared to the rest of the state.

Methods

This report compares the prevalence of lead poisoning among refugee children in Rhode Island to prevalence rates in the non-refugee population of children in Providence. Data for all refugee children 16 years or younger and non-refugee Providence children 6 years or younger were gathered from the **Childhood Lead Poisoning Prevention Program (CLPPP)**, which records all lead test results for children in the state.

A number of refugees in Department of Health records were not found in the CLPPP database, indicating possible change in state residence or lack of testing compliance, and a number of refugees in CLPPP did not have settlement records at the Department of Health, signifying data entry error or arrival from another state. Moreover, while Rhode Island requires screening of all children and endorses CDC guidelines mandating screening of refugee arrivals, compliance has likely not reached 100%. Data from 2001-2005 collected by the Department of Health indicates that compliance never surpassed 75% during that period.[1]

Elevated Blood Lead Levels in Refugee and Non-Refugee Children, Rhode Island, 2004-2008

	Refugee Children	Non-Refugee Children
2004	39.4%	8.9%
2005	40.3%	7.0%
2006	24.7%	5.8%
2007	24.6%	4.6%
2008	14.1%	3.8%

A positive test for elevated blood lead was defined as a screening result (venous or capillary) greater than or equal to 10 µg/dl.[1] Data for refugee children though the age of 16 were used to ensure a more robust sample size from the refugee population. While this does not offer an identical comparison to non-refugees through the age of 6, prevalence of lead poisoning among refugees was found to be elevated across birth year cohorts. In addition, non-refugee children living solely in Providence were considered because it was initially believed that all refugees with screening records resided in Providence, though this proved to be incorrect in a few instances.

Results

We determined the annual prevalence of lead poisoning among refugee children and non-refugee children in Providence by ascertaining the number of children screened in that year as well as the number of children who had at least one positive test in that period. Data were collected from the years 2004 to 2008, and demonstrated some distinguishable patterns in childhood lead poisoning during that time. As is evident in the table, the prevalence of elevated blood levels in refugee children is markedly higher, reaching a peak of 40.3% in 2005, over fivefold greater than the non-refugee population. Also the prevalence of lead poisoning in both populations diminished over time, mirroring similar trends in the rest of the state and nation.

Conclusion

As noted in other studies in New England, the refugee population is particularly vulnerable to childhood lead poisoning. It will be crucial for future studies to investigate the onset of lead poisoning in refugee children, to determine whether exposure to lead is occurring predominantly prior to or following resettlement. The possibility of lead poisoning occurring after arrival would necessitate future precautions when resettling refugees, as well as increased vigilance among healthcare providers treating this population.

The Rhode Island Department of Health's goal of eliminating lead poisoning by 2010 has not been met. Screening rates must be improved, as well as housing inspections and the removal of environmental lead hazards, if lead poisoning among vulnerable populations and in the state as a whole is to be permanently abated.

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Ninety Years Ago, August 1920

Allen G. Rice, MD, from Springfield, MA, submitted the Fiske Fund Prize Dissertation, No. LIX, "Surgical Lessons of the Great War, 'Motto: Pecowsic.'" The Journal devoted the entire issue to the essay. Dr. Rice reported that initially "…the Medical departments functioned smoothly." The wounds were from "small sharp pointed high velocity bullets;" 20% of wounds were infected; and casualties were quickly evacuated, to be treated in base hospitals. That changed with the German advance and trench warfare. Physicians saw tetanus, gas gangrene, compound fractures, septic joints, face and jaw wounds, trench foot. Crucially, the wounded could not be quickly evacuated to base hospitals. Dr. Rice, however, reported progress: "…it is in the violently infected wounds which for the time being seemed hopeless that the greatest contribution to surgery is found." He cited the contributions of Drs. Carrel (technique) and Dakin (sodium hypochlorite).

Fifty Years Ago, August 1960

Maxwell Finland, MD, Associate Professor of Medicine, Harvard Medical School, and Physician-in-Chief, Boston City Hospital, contributed the 19th Charles C. Chapin Oration: "Antibacterial Agents. Uses and Abuses in Treatment and Prophylaxis." Dr. Finland praised the efficacy of antibiotics, but cautioned: "The physician must, like the man whose name we honor tonight, maintain a critical attitude towards claims of panaceas."

Dean F. Smiley, MD, Evanston, IL, Executive Director, Educational Council for Foreign Medical Graduates, presented "The Challenge Presented by the FMGs" at the 149th Annual Meeting of the RI Medical Society. In 1960, 2300 interns and 6000 residents were FMGs. Dr. Smiley called for an increased output of medical graduates from US medical schools, and measures to "safeguard FMGs from exploitation by dropping from the approved list, internships and residences that are almost entirely service-oriented rather than teaching-oriented."

William B. Coker, MD, and Arturo Longobardi, MD, presented "Eczema Vaccinatum," a case of eczema, after smallpox vaccination, in a 7-month old boy. He was treated with gamma globulin, stayed 6 weeks in the hospital.

Twenty-Five Years Ago, August 1985

Seebert Goldowsky, MD, contributed an editorial, "New Horizons in Cancer Research."

John K. Triedman, MD, Gary B. Witman, MD, Darwin O. Chee, ScD, and Leonard J. Triedman, MD, in "The Human Tumor Colony Forming Assay: Review and Clinical Applications," noted: "The method promises to provide significant laboratory information in determining appropriate chemotherapy."

Leo Uzych, JD, MPH, in "Disclosure of Information Concerning Chemical Hazards in RHI," noted that the RI law ("Hazardous Substances Right-To-Know Act, passed in 1983) may be affected adversely by new federal regulations.

A.A. Savastano, MD, in "Surgical Neurectomy for the Treatment of Resistant Painful Heel," declared: "The experimental procedure promises excellent results."

Kenneth W. Burchard, MD, and Kenneth E. Liffmann, MD, in "Hemoperitoneum associated with Gallbladder Rupture," thought that it "should be considered as a possibility in patients with acute cholecystitis whose conditions suddenly deteriorated."

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