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Vital Statistics

COLLEEN A. FONTANA, STATE REGISTRAR
I read an article about neurologists in developing countries. The points were that there weren’t enough neurologists in the third world and that volunteers from wealthier countries were greatly needed. The author asked the rhetorical questions, “What can neurologists do in the third world?” They can’t treat anything, so why bother?” The answer is quite clear, once one thinks about this, especially if one has some knowledge of the practice of medicine in the poorest parts of the world. Many medical problems cannot be successfully treated there, neurological or not, but understanding what the problem is, beginning by determining where it is, is crucial to our discipline. Neurology centers on localization. Our modus operandi is to first localize and then diagnose. Indeed, all of medicine starts with localization, beginning with identification of the affected organ systems. Teaching how to recognize neurological symptoms and signs, and then how to localize within the nervous system may not provide a treatment, but it might. It also might provide a prognosis as well as help to avoid useless or even counterproductive tests and treatments. It’s like shining a flashlight in a dark place. You need to first decide where to look.

The above seems straightforward. But what got me thinking, and provided the title for this commentary, was the apparent confidence the author had in the superiority of medicine in more wealthy countries. While this may be true, I am uncertain of the magnitude of the difference. We neurologists hear about the tremendous strides we’ve taken in our discipline over the past few decades. We’ve had the decades of the brain and then the spinal cord and we’ll soon probably have the decade of the synapse, but aside from some impressive gains in our understanding of the genetics of many diseases and the development of extremely helpful and expensive treatments for some uncommon or rare disorders, we’ve not made that much progress. To be sure, our treatments for migraines have advanced tremendously with the introduction of the triptans 20 years ago. The immune therapies for multiple sclerosis have altered the course of this disease considerably, but not stopped it and not prevented the enormous disabilities it causes. Non-relapsing-remitting multiple sclerosis (MS) is still not treatable, and most MS ultimately evolves into that category. Deep brain stimulation was introduced 20 years ago for Parkinson’s disease (PD) and continues to provide great improvement for about 1% of PD patients. New medications for PD are modified old drugs. Our stroke advances consist of prevention with anti-platelet drugs which reduce incidence by 20–30%, which is substantial, and incredibly sophisticated interventional radiology techniques which are available to a fraction of a percent of the affected population. An Alzheimer specialist recently stated that the major clinical advances in Alzheimer’s disease (AD) research had been in showing that previous hypotheses were incorrect. Another, who has been a leader in the development of the drugs now used routinely to treat dementia in AD, praised the wonderfully effective treatments we had for PD, and when I told him they weren’t so wonderful, he stated, “well, at least you have treatments.” In the third world, diseases of the elderly, AD, PD and atherosclerotic stroke aren’t such major concerns, as there aren’t so many elderly. There have been no advances in treating neuromuscular diseases or epilepsy, other than the development of newer drugs with somewhat improved side effect profiles.

The major difference between neurology in developed and third world countries is the availability of diagnostic testing, which is now at such a level of sophistication that the ordering neurologist frequently doesn’t know what test to order, when to order it, or exactly what the results mean. I see many patients with rare and undiagnosed disorders, occasionally with diagnoses not found at autopsy. Sophisticated tests often do not yield an answer, yet, I am more
confident in not knowing a diagnosis when I work in Rhode Island than I am in Rwanda or Zambia. My treatments, however, aren’t much different.

The question, “What use is a neurologist?” in the third world may therefore also be asked in the wealthy world. As a biased observer, being an old neurologist, I do think we have value, and our referral networks and long queues suggest that patients and other doctors agree. But we should be careful to understand what our limits are. We clearly should not think ourselves, as I heard one patient advocate declaim, “Medical Deities” [MD]. We should not, “Diagnose and adios,” as some old joke used to describe neurologists.

The practice of medicine has its limits everywhere. These limits are greater than many of us would like to think they are. Despite these limits, we do have value, whether or not we have an MRI or a PCR result.

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Contributions report on an issue of interest to clinicians in Rhode Island. Topics include original research, treatment options, literature reviews, collaborative studies and case reports.

Maximum length: 2000 words and 20 references.

PDFs or JPEGs (300 dpi) of photographs, charts and figures may accompany the case, and must be submitted in a separate document from the text.

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POINT OF VIEW
The writer shares a perspective on any issue facing clinicians (eg, ethics, health care policy, patient issues, or personal perspectives). Maximum length: 600 words.

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Authors discuss new treatments. Maximum length: 1000 words.

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Authors discuss a new laboratory technique. Maximum length: 1000 words.

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Authors submit an interesting image or series of images (up to 4), with an explanation of no more than 500 words, not including legends for the images.

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The primary purpose of medicine is to comfort and sometimes cure the ills of individual patients. The science of medicine also studies communities of humans, to clarify the causes – the etiologies – of prevailing diseases, and then to wonder why certain persons rather than others have fallen victim to a particular malady. Why, in other words, does vulnerability to illness appear to be so non-randomly selective? Are there risk factors that impinge on some but not on others?

The pursuit of epidemiological understanding therefore begins with some very fundamental inquiries. Beyond the obvious search for biologic causes, might there be non-biological factors, social or environmental, which influence such important measures as susceptibility to disease and even relative survival?

Physicians, social workers and clergy have long recognized that the well-being of medically-threatened adults is dependent upon a complex tapestry of extrinsic and intrinsic factors, some of which are readily measurable such as nutrition and genomic heredity. Certainly the concept that interpersonal support may be medically beneficial, particularly in the elderly, is intuitively appealing. There is now more than sufficient evidence that loneliness, the absence of interpersonal support, has a negative impact upon human longevity.

But beyond the obvious elements such as the quality of the diet and hygienic protections, there are the poorly measured attributes of life which are collectively subsumed by such imprecise phrases as social environment, degrees of acculturation and psychosocial resources.

One of the first formal studies to equate diminished survival with social isolation was undertaken by a group of social scientists, in 1965, studying patterns of mortality in the citizens of Alameda County, California. Does social support, they asked, allow people to live longer?

How did they measure the intensity of social support? Their initial “index” of intimate contacts consisted of whether the person was/wasn’t married; the number of friends/relatives living close by; and the extent of participation in church groups.

And their findings, using mortality as an outcome? In general, increased social contact was associated statistically with a reduced risk of mortality. But their careful analyses also disclosed that this beneficial effect of increased socialization was not uniformly experienced by the sexes or by all ethnic groups. The close interdependency between social contacts and increased survival was evident particularly with white males, and only equivocally so with white females. This is consonant with the oft-made observation that male widowers survive fewer months after the death of their spouse than do female widows; and that males, in relative isolation, are significantly more vulnerable to the vicissitudes of life.

A group of epidemiologists and social workers undertook a similar but even more extensive study in 1980, using the citizenry of Evans County, Georgia, to explore whether social isolation/social ties are related to increased mortality risk. Their published findings reinforced the earlier observations in the Alameda County study and again demonstrated that male survival was more strongly linked to social networking. Indeed, the only very dramatic finding in this demographic study, was the inescapable conclusion that white male survival is dramatically more dependent on social interplay. This relationship is less evident with black males; and still less evident with females, either black or white. Furthermore the relationship between social isolation and diminished life expectancy was equivocal in populations of Asiatic ethnicity. In the words of one sociologist, “Social ties and relationships are not as important for nonwhites and women as they are for white men.”

An informal survey of Rhode Island elderly residing in assisted living facilities during 1975–1985 revealed a similar
Some six decades ago, a military commission, with the author as a member, had studied the social ties of army personnel who had committed suicide. The commission concluded that no one could possibly know the inner thoughts and collective experiences of those who elected to terminate their lives; and accordingly, that judgment of these soldiers was at best inappropriate; yet it was inescapably evident that willful social isolation and a paucity of memberships in interactive groups – whether they be secular, athletic or religious – was a common thread in the lives of those distressed soldiers who chose suicide.

We humans are obligate social creatures and by nature part of a complex, interdependent organic society. The ties that bind us provide spiritual sustenance particularly when our inner faith falters; and when all else fails, a circle of friends can, at the least, provide a date for Saturday night.

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Disclosures
The author has no financial interests to disclose.
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Re-thinking the ‘Two-Midnight’ Rule: The Challenge of Regulating Hospital Admission

BENJAMIN C. SILVER, BA

ABSTRACT
Hospital observation services are meant to care for hospitalized patients with less severe conditions and the expectation of a short length of stay. In recent years, use of these services has increased and been highly variable, but it is often unclear whether they’re appropriate for a particular patient. The Centers for Medicare & Medicaid Services’ (CMS) most recent attempt to address this was a policy known as the “Two Midnight” Rule which states that observation care should be provided to patients expected to be in the hospital for fewer than two midnights. Nearly one year after its passage, the rule has yet to be implemented and criticism is abundant. As CMS begins to reform these policies, factors such as clinical needs, cost, and post-acute care needs should be considered to maximize the utility and quality of care while also minimizing the costs incurred by CMS, patients, and providers.

KEYWORDS: Two-Midnight Rule, CMS, Observation Care, Medicare, Elderly, Observation Status

INTRODUCTION
Hospital observation services are meant to care for hospitalized patients with less severe conditions and the expectation of a short length-of-stay. Medicare covers these services as a less costly form of hospitalization for those who do not need the full array of hospital services. Often observation stays last less than 48 hours before discharge; though observation may also be used temporarily while determining whether the patient’s condition warrants an inpatient admission. Over the past several years use of these services has increased and been highly variable across the country, but it is not always clear if they are being used appropriately. The Centers for Medicare & Medicaid Services’ (CMS) most recent attempt to address this was a policy known as the “Two Midnight” Rule which states that observation care should be provided to patients expected to be in the hospital for fewer than two midnights. Nearly one year after its passage the policy has yet to be enforced (delayed until March, 2015); criticism is abundant, and CMS has begun to explore new alternatives.

In July, 2014 the Office of the Inspector General (OIG) at the US Department of Health and Human Services (HHS) testified before the Senate Special Committee on Aging, including committee member Sen. Sheldon Whitehouse of Rhode Island, about the issues of observation care, the “Two Midnight” rule, and future reforms. Three key takeaways were presented: “1) significant issues exist with observation and short inpatient stays, 2) policymakers must ensure that beneficiaries with similar post-hospital care needs have the same access to and cost-sharing for skilled nursing facility (SNF) services, and 3) careful evaluation of the two-midnight policy and possible alternatives is essential.”

Observation Care and the “Two Midnight” rule
Under the Medicare benefit, patients in observation care are considered outpatients. That is, their services are covered by Part B of the Medicare program and are subject to its reimbursement mechanisms and cost-sharing requirements (e.g., Part B deductible, 20% coinsurance, etc.). Hospitals on average receive lower reimbursement for an observation stay than a full inpatient admission; though it is important to note that part of the hospital outpatient billing mechanism is fee-for-service which can lead to higher charges for some patients. Yet use of observation care has increased in recent years. In 2009, there were approximately 1.02 million observation stays; up from 815,000 in 2007. By 2012, that number had risen to 1.5 million, and 37% of the cases were in the hospital for two or more nights. Simultaneously, Medicare was billed for 1.1 million short inpatient stays (lasting 1 night or less); which may have been more appropriately billed as observation. It is estimated that at the hospital level, the proportion of short-stay cases admitted as inpatients ranges from 10–70%. At the state level, utilization ranged from 0.76 to 5.87 observation stays per 1,000 beneficiaries; and Rhode Island ranked among the highest states (between 3.69-5.89 per 1,000). Some of the recent trends may be due to unclear regulations from CMS. Until recently, Medicare’s official guidance described an observation stay as being resolvable “within 48 hours,” and “typically within 24 hours.” A second possibility is that recent policies penalizing hospitals for readmissions are incentivizing use of observation care; since a
readmission is only recognized if both hospitalizations are inpatient. 10 Some also argue that retrospective audits by CMS and review contractors have left hospitals wary of admitting when there is a borderline need. 4, 11 If a claim is denied, the hospital must begin an extensive appeals process and risks losing revenue for the stay.

CMS clarified its policy with the “Two Midnight” rule in 2013. 5 The rule was intended to reduce the number of short inpatient stays and extended observation stays. 2 Yet several problems remain unaddressed. First, the rule conceptually bases the decision to admit on projected length-of-stay but time of day can have an impact on the likelihood of exceeding two midnights. 12 Second, the rule fails to address concerns that a retrospective review of billing claims could leave hospitals at risk in unclear cases. Third, the rule is not sensitive to potentially important clinical factors (e.g., diagnosis, comorbidities, etc.) that may indicate a need for intensive services even for a short period of time. 12

The rule also fails to address the impact of observation care on access to Post-Acute Care (PAC) services. An inpatient must spend 3 or more nights in the hospital to qualify for rehabilitation in a Skilled Nursing Facility (SNF). 13 Patients in observation stays are not entitled to these services; and if any are needed they must also be obtained on an outpatient basis. This is likely an infrequent occurrence if the admitting hospital is anticipating a need for PAC. A similar issue arises, however, if observation is used initially while the need for inpatient care is determined. In 2012, there were approximately 618,000 patients with hospital stays lasting 3 or more nights that, due to initial observation days, did not include 3 inpatient nights and were therefore not entitled to SNF services, 25,000 of these patients then went on to seek care from a SNF, and CMS actually inappropriately paid for most of those SNF stays. 2 It is unclear how many additional patients sought rehabilitation on an outpatient basis. Though this constitutes a small proportion of total Medicare hospitalizations, increased use of observation care may increase the frequency of these cases in future years.

**Moving Forward**

Successful reform is contingent on several factors, some of which are not yet well understood. First, Medicare must possess and employ a better understanding of the nature of patients with short hospital stays. Current policy bases the decision to admit to inpatient solely on the projected length-of-stay, with no consideration of other clinical factors. The OIG stated in its testimony that Medicare paid an average of $5,142 per short inpatient stay, while only paying an average of $1,714 per observation stay; and that when stratifying by “common reasons for admission,” short inpatient stays were consistently more expensive to Medicare than observation stays. 2, 3 Further, beneficiaries on average paid several hundred dollars less in cost-sharing under observation than they “would have” in an inpatient stay. 2, 3 Yet it is unclear how exchangeable these two patient groups are. One study of a Midwestern hospital found significant differences in the diagnoses of inpatients and outpatients who were in the hospital fewer than two midnights. 12 Another study found that among hospitals that provide observation care, the amount of observation care provided depended largely on clinical factors such as primary diagnoses and the proportion of outpatient visits occurring in the emergency department. 8 Policies guiding the use of observation care should attempt to be sensitive to these factors in addition to length-of-stay to ensure that patients are receiving necessary services.

The need for post-acute care should be considered in any reform. As noted by the OIG, an inpatient who spent the initial part of the hospital stay in observation status should not be penalized while attempting to seek post-acute care; 3 and in the event that a patient with PAC needs is only admitted to outpatient, these services should be available as well.

Hospitals should also feel comfortable exercising their judgment as it complies with the regulations without risk of unwarranted retrospective claim denial. That is not to say that billing should not be subject to scrutiny; but coupled with clear regulations, there should be a more efficient mechanism for justifying decisions so that the only incentive is clinical appropriateness.

Observation status is an important level on the continuum of care. Providing a specified subset of hospital services catered toward less severe or complex patients at a lower cost and intensity is an efficient concept and should be encouraged. But these services should also be delivered in a just and equitable manner, without ambiguity or misaligned incentives. As CMS begins to reform their policies regulating the use of observation stays, factors such as clinical needs, cost, and post-acute care needs should be considered to maximize the utility and quality of care while also minimizing the costs incurred by CMS, patients, and providers.

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Misclassification of Emergency Department Visits Distracts from the Real Issue

To the Editor:

In their article on ED utilization, Jiang et al classify 20.4% of ED visits “non-emergent.” The calculation is based on the NYU ED classification algorithm, a flawed measure of visit urgency that overestimates non-emergent visits and correlates poorly with patients’ treatment needs. The algorithm is applied to discharge diagnoses, ignoring ex-ante measures of urgency such as chief complaint or triage acuity. For example, a patient with crushing chest pain who requires an emergent cardiac workup but is ultimately diagnosed with esophageal reflux would be classified “non-emergent” or “primary-care-treatable.”

Indeed, ED visits classified by the NYU algorithm as “primary care treatable” have the same chief complaint as 88.7% of “non-primary-care-treatable” patients (many of whom require immediate care or hospital admission). When triage acuity is used to measure urgency, only 10% of Medicaid patients’ ED visits are “non-urgent.” Billings, the NYU algorithm’s developer, acknowledges these limitations, cautioning that it is “not intended…to assess appropriateness of ED utilization.”

A recent report on ED utilization by the Medicaid and CHIP Payment and Access Commission [MACPAC] came to a similar conclusion. They found little evidence that Medicaid enrollees used the ED for non-emergent conditions and commented that algorithms such as NYU’s “do not capture the experience of care in real time...problems classified as avoidable may in fact be urgent in nature and require prompt medical attention.”

We agree that our state needs to expand primary care access for low-income residents. But this must be based on accurate data.

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Disclosures
Dr. Ranney is supported by the National Institute of Health (K23 MH095866). The authors report no conflicts of interest.

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‘Profiling algorithm flawed’

To the Editor:

This letter was approved by all ED directors in the state and is based on the consensus opinion of our group. We would like to make a few points regarding the article, “Non-emergency Hospital Emergency Department Use and Neighborhood Poverty in Rhode Island, 2008-2012,” which appeared in the July 2014 edition of the Rhode Island Medical Journal.

Our main concern is that the New York University [NYU] profiling algorithm used by the authors relies on the discharge diagnosis to retrospectively determine the urgency of the ED visit. This is fundamentally flawed. In accordance with the “prudent layperson” standard, patients present to the ED with complaints and symptoms they believe might represent an emergent condition. Only after the ED evaluation is complete, does the patient receive a discharge diagnosis.

A recent article from JAMA [Comparison of the Presenting Complaint vs. Discharge Diagnosis for Identifying “Nonemergency” Emergency Department Visits. 2013;309(11):1145-1153] illustrates this point. The authors applied the NYU algorithm to 34,492 ED records data from the 2009 National Hospital Ambulatory Medical Care Survey [NHAMCS]. Next, the authors identified the presenting complaints and symptoms that corresponded to each of the non-emergent visits and generated a list of “non-emergency complaints.” They found that the presenting complaints associated with visits that where determined to be non-emergent, according to discharge diagnosis, were also the presenting complaints for 88.7% of all ED visits. Their conclusion was that “the limited concordance between presenting complaints and ED discharge diagnoses suggests that these discharge diagnoses are unable to accurately identify nonemergency ED visits.”

While we support efforts to reduce ED overcrowding statewide and improve access to primary care, especially in economically depressed areas, we do not agree with the conclusion that 20.3% of ED visits are non-emergent. The premise that discharge diagnosis predicts the urgency, and therefore appropriateness of an ED visit, is a mistake.

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See Authors’ Reply on page 18
The Authors’ Reply

We thank Drs. Lee, Ranney, Zink, and Girard for their interest in our recent article1 and insightful letters.2,3 We appreciate the points made by them,2,3 which meaningfully add to the discussion on the New York University (NYU) Emergency Department (ED) classification algorithm. Below are a few additional points for this debate.

We agree there are limitations of the NYU algorithm and that diagnosis code-based classification of non-emergent vs. emergent use is crude. For example, for the same ICD-9-CM code, asthma can be non-emergent or emergent depending on the severity of the condition.4 Similarly, patients with chest pain do not all have an acute coronary syndrome.5 In addition, given the NYU algorithm reliance on probability sums, the developer hopes that the population-based tool would be used to assess the performance of primary care systems and evaluate intervention programs for access to healthcare improvement instead of being used to judge individual decisions to seek healthcare.6,7 Billings (NYU) has cautioned that the algorithm would not be appropriate for making individual reimbursement-based decisions,2,3 and Raven et al article also illustrated this point.9

Studies provide some validation of the NYU algorithm’s classification of ED use.5,7 In order to generalize to the US population, Gandhi et al used several years of a nationally representative sample of hospital-based ED visits to evaluate the NYU algorithm.7 They found that classifying ED visits as emergent was significantly related to mortality and subsequent need for hospitalizations.7 Ballard et al also found a strong relationship between severity of ED visits and death or ED-associated hospitalization.5

Comprehensive medical chart review is the gold standard to determine emergency status, but it is costly and usually is not feasible.4 Despite the NYU algorithm’s limitations, it is a useful tool for understanding ED visit patterns and assessing the effects of intervention programs on reducing non-emergent ED use.5,7 Given the lack of alternative approaches, the NYU algorithm can be used to categorize ED visits as non-emergent and emergent when a full chart review is not possible, claims data are not available, and diagnosis information is available.7 Therefore, several states and local entities have utilized the NYU diagnosis codes-based algorithm as a crude approach to track ED visit patterns, and the Centers for Disease Control and Prevention (CDC) has also adapted the algorithm to describe the characteristics of high-safety-net burden ED use.10-18

The NYU algorithm is publicly available on the Internet.19 Given its widespread use in research studies,4,5,7 and its acknowledged limitations, further refinement of the methodology or the development of a more accurate algorithm is needed. ED use often is the only choice for low-income Americans8 and we should give a higher weight for Medicaid patients. With the implementation of the Affordable Care Act, there will be uninsured, which might affect the patterns of ED utilization.

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Disclosures
The authors have no financial interests to disclose.

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Germany – RIMS Executive Director Newell Warde, PhD, accessed the August issue of the Rhode Island Medical Journal from the gardens of Sanssouci Palace in Potsdam, Germany.
If differences in health outcomes are seen between populations, a disparity exists. However, there have been disagreements on the exact definition of a health disparity. The National Institutes of Health’s definition in 2000 was: “differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States.” The Institute of Medicine’s 2002 definition included “racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences and appropriateness of intervention.” In an updated definition, Healthy People 2020 defines a health disparity as “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group, gender, socioeconomic status, age, mental health, cognitive, sensory, or physical disability, sexual orientation or gender identity, geographic location, or other characteristics historically linked to discrimination or exclusion.”

Despite these differences in definitions, medical schools have a responsibility to work towards reducing health disparities by graduating culturally competent students who receive appropriate education around health disparities and social determinants of health, and are involved in community-based programs that stress an understanding of these principles and include training in a setting that truly affects outcomes. It is, therefore, imperative for medical schools to develop curricula to improve students’ understanding of health disparities and provide the tools to help them engender change.

In this issue of the Rhode Island Medical Journal focused on medical education, we have devoted the entire section to highlight curricular innovations and future directions at the Warren Alpert Medical School around health disparities, and to elucidate selected initiatives at the Brown University School of Public Health. These innovative curricular approaches have exposed our medical students to the societal implications of health disparities, especially for patient populations that lack access to health care or encounter barriers that prevent them from taking advantage of existing opportunities. However, there is a need for additional student experiences with vulnerable patient populations that may also include those patients for whom there may be a lack of regional expertise to provide appropriate care. Further efforts are needed to foster these ideals in our students. This will include initiatives to further promote inter-professional education and engage students in field experiences with patient populations in whom positive outcomes can be assessed and challenges can be overcome. Physicians must assume a role as champions of social justice, which must begin during medical school and be maintained throughout their careers.

References

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ABSTRACT

There is increasing recognition that, in addition to acquiring knowledge of basic sciences and clinical skills, medical students must also gain an understanding of health disparities, and develop a defined skill set to address these inequalities. There are few descriptions in the literature of a systematic, longitudinal curriculum in health disparities. Using Kern’s six-step approach to curriculum development along with principles of experiential and active learning, student champions and the Office of Medical Education developed a multimodal health disparities curriculum. This curriculum includes required experiences for medical students in the 1st, 2nd and 3rd year, along with elective experiences throughout medical school. Students are examined on their knowledge, skills and attitudes towards health disparities prior to graduation. It is our hope this curriculum empowers students with the knowledge, skills and attitudes to care for patients while helping patients navigate the socioeconomic and cultural issues that may affect their health.

KEYWORDS: Education, medical, undergraduate; Students, medical; Curriculum; health disparities; social determinants of health

INTRODUCTION

There is increasing recognition that, in addition to acquiring knowledge of basic sciences and clinical skills, medical students must also gain an understanding of health disparities, and develop a defined skill set to address these inequalities. There are broad efforts nationally to incorporate curricular components that focus on health disparities, but, to our knowledge, the only longitudinal systematic health disparities curriculum in undergraduate medical education exists at the University of Michigan. During their four-year medical school experience, students at the University of Michigan visit community sites, are involved in longitudinal case discussions that incorporate social determinants of health, enroll in electives on the effect of poverty on health and work in a family-centered care program. Additional curricular efforts at other institutions include integrating a public health curriculum (including health disparities) into clinical teaching; teaching medical students how to use interpreters; and even development of a board game on the social determinants of health.

At the Warren Alpert Medical School of Brown University (AMS), there is increasing momentum to introduce a cohesive, longitudinal curriculum around health disparities. Faculty, students and other key stakeholders at AMS have initiated and developed core elements of a health disparities curriculum in order to empower students with the knowledge and skills to practice effective clinical medicine. At the same time, it is envisioned that this curriculum will help patients navigate the health care delivery system and mitigate the socioeconomic and cultural issues affecting their health. In light of the growing national impetus to address health disparities, as evidenced by a recent publication ranking the social mission scores of undergraduate medical schools, we describe the current health disparities curriculum at AMS.

SHADES OF PROVIDENCE

Using Kern’s six-step approach to curriculum development for medical education along with principles of experiential and active learning, student champions and the Office of Medical Education developed a multimodality health disparities curriculum. AMS students in the MD Class of 2015 took the lead in developing the first curricular component, entitled “Shades of Providence”, which was initiated in the fall of 2012 and was modified the following year based upon student feedback. All members of the MD Class of 2017 participated in the “Shades of Providence” experience during their first two weeks of medical school. This included an early introductory lecture on health disparities by the President of Brown University, a required reading assignment, a community experience, a brief assignment, and two small group sessions in which community experiences, readings and assignments were discussed.

The goals of the early “Shades of Providence” curriculum were as follows:

• To introduce students to the social and structural factors that shape and influence health outcomes using a didactic curriculum.
• To enhance medical students’ knowledge of the demographics of the community in which they will live and work through direct exposure to Providence’s diverse neighborhoods.

Health Disparity Curriculum at The Warren Alpert Medical School of Brown University

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• To demonstrate community-based and collaborative approaches to addressing health inequities that can serve as opportunities and models for student engagement in the community.

Specific components of the curriculum included the following:

• **Introduction to Health Disparities:** A lecture delivered by the President of Brown University, Christina Paxson, PhD, whose background is in the economics of public health. During her lecture, she discussed quantitative measures of health disparities in the United States.

• **Reading Assignment:** Students were asked to read an eight-page handout that was prepared by one of the authors (M.E.) and reviewed and edited by three faculty members [L.D., R.D., and P.G.], summarizing important findings from the literature in health disparities. It was designed to provide an introduction to the topic and a framework for group discussions. The reading provided basic definitions of terms such as health disparity, race and health literacy, and reviewed major categorical factors that drive health disparities such as race, housing and income. Survey data on Providence were incorporated to illustrate ways in which these issues manifest locally.

• **Community Exploration:** In order to contextualize the health disparities issues addressed in readings and in the introductory lecture, all 120 students in the MD 2017 class spent an afternoon at one of eight different community agencies in greater Providence during their first week of classes. The decision to position this community experience so early in the curriculum was deliberate. For many students, an early exposure to community agencies allows them to begin to understand the communities in which they will be engaged during their four years of medical school.

The agencies represented a diversity of services, such as nonviolence outreach and refugee settlement, whose core missions address one or several social determinants of health. We intentionally chose organizations that were not directly involved in health care delivery. Instead, the goal was to find organizations that might provide students with a broader perspective on the factors that influence health and how health disparities are addressed, as well as orient students to the Providence community.

• **Mapping Exercise:** We divided students into groups of ten. Using a map of Providence neighborhoods and census data, each student in the small group had a different assignment related to a specific social determinant of health. Students were asked to highlight neighborhoods on the map that demonstrated extremes of the given social determinant. For example, one assignment entailed highlighting the neighborhoods with the highest and lowest family incomes. Each assignment was related to the specific community experience site.

• **Small Group Discussions:** The following week, students were divided into groups of ten with at least one student who had visited each of the different community sites. Second-year students, who were trained as facilitators and provided with a discussion guide, served as the small group leaders. During this time students debriefed the community exploration experiences and mapping exercises. Subsequently, students watched a video clip from the documentary “Unnatural Causes” on the importance of physical environment in shaping health. The second-year facilitators then led a discussion that incorporated the documentary data, the assignments, and the community experience.

• **Examination Questions:** We added several questions to the first examination of the year for the first-year class in order to evaluate student knowledge and skills gained from completion of the health disparities sessions.

• **Survey Assessment:** Before the introduction of the curriculum, the students were given a survey to assess preexisting knowledge and attitudes with regards to health disparities. After the completion of the “Shades of Providence” community exploration and small-group sessions, the students repeated the survey to assess any changes. The survey results indicated that the curriculum was successful in teaching the students specific facts regarding health disparities and also gave students more confidence in their knowledge and skills. However, results did not demonstrate any significant changes in attitudes.

**HEALTH DISPARITIES SYMPOSIUM**

The first annual Warren Alpert Medical School Symposium on Health Disparities held in January 2014 was designed to offer members of the Brown University and greater Rhode Island communities the opportunity to share research, curricular initiatives and grant information, and learn about community programs that address health disparities in Rhode Island. The list of nearly 100 attendees included physicians and other healthcare personnel, medical and graduate students, community organizers, and researchers. The event began with an introduction given by Elizabeth Tobin Tyler, JD, MA, director of Rhode Island Hospital’s Medical Legal Partnership. In breakout groups, participants were encouraged to identify and discuss current initiatives related to health disparities in Rhode Island, outline the gaps within these strategies, and explore opportunities for collaboration and partnership both within Brown and in collaboration with the greater Rhode Island community. The symposium culminated in a keynote address by Brown University’s President Christina Paxson, an expert in the economics of disparities in health, who outlined the ways in which Brown University plays a central role in providing sustainable programs and collaborations to address healthcare disparities in Rhode Island.
INTER-PROFESSIONAL WORKSHOP

Each year, second- and third-year medical students participate in two inter-professional workshops. These workshops, which include nursing, pharmacy and physical therapy students from the University of Rhode Island, and social work and nursing students from Rhode Island College, focus on various issues pertaining to health disparities. In inter-professional health-care teams, students are asked to brainstorm methods for providing the best possible care to patients during particular clinical scenarios by overcoming socioeconomic factors that affect health. For example, students are introduced to a non-English speaking Cape Verdean patient with a terminal illness, who is the victim of elder abuse and cannot afford his medications. Students must devise a plan of care for this patient and then present it to their peers and faculty. Finally, students participate in an Objective Structured Clinical Examination (OSCE) in which they interview a standardized patient who presents with an illness, but also has family or social problems. The students formulate a diagnosis and a management plan that addresses both the illness and the social or economic factors affecting the patient. Through participation in these inter-professional workshops, students begin to develop team-building skills essential in holistically addressing health-care needs as well as learn about the roles of each prospective health care provider.

FAMILY MEDICINE CLERKSHIP

During the Family Medicine clerkship, which is part of the required third-year clinical curriculum, students are exposed to health disparities at many clinical sites, and in addition have two structured exercises in health disparity education. During weekly small group sessions, students discuss clinical scenarios based upon a virtual, multi-generational, Cape Verdean family who lives in Pawtucket. In addition to the biomedical health issues faced by this family, the cases raise social issues such as teenage pregnancy, alcoholism, and poverty, and encourage the students to consider these factors when discussing their management and care of the family members.

Additionally, each student is assigned a Social and Community Context of Care (SACC) project that accounts for 15% of the clerkship grade. The project is paired with a half-day session early in the rotation during which students explore one of two communities in Rhode Island and learn about agencies that address the social influences on the health of that community. For their projects, students perform a similar exploration of the community surrounding their preceptor site, speak with key informants regarding a health issue that they have identified as affecting the population served, investigate the existing community resources that have an impact on this health issue, and propose a community-level intervention that is relevant to the needs and resources of their preceptor site community.10 |See “Building a workforce of physicians to care for underserved patients” in this issue for further details).

FOURTH-YEAR OBJECTIVE STRUCTURED CLINICAL EXAMINATION

To ensure students are graduating with the knowledge, skills and attitudes necessary to practice effective clinical medicine while at the same time addressing health disparities, students must successfully navigate cases addressing health disparities in their fourth-year Objective Structured Clinical Examination (OSCE). For example, in one of the OSCE cases, students must counsel a non-English speaking patient, who has inadequate resources, about leaving the hospital against medical advice during an exacerbation of congestive heart failure. In another case, students must counsel a non-English speaking patient on resources to obtain medications not covered by her insurance.

ELECTIVES

In addition to the required curriculum that has been developed as a part of the mission to provide AMS students with a comprehensive health disparities education, there are a number of electives offered to students that allow them to further explore these interests. For example, the “Healthcare for the Underserved” elective aims to provide students with the knowledge, skills and support to care for underserved populations. Over the course of the semester, each of the evening class sessions deals with a topic on health and healthcare challenges that face underserved populations. Additional preclinical electives include “Race, Health Disparities and Biomedical Interpretations,” “Poverty, Health and Law,” “Science and Power,” “Gender and Sexuality in Healthcare,” “Refugee Health and Advocacy,” and “Healthcare for the Underserved.” Each of these electives is a cooperative effort of faculty and student leaders and has significant participation among the AMS student body. In addition, AMS offers scholarly concentrations, or elective opportunities, for students to gain formal curricular exposure to topics related to medicine but not usually included in the curriculum. These include areas such as Caring for the Underserved, Global Health and Advocacy and Activism – all with significant curriculum on health disparities.

CONCLUSION

To our knowledge, this initiative to longitudinally introduce health disparities education at AMS is unique among medical schools. The effort to grow and develop a Health Disparities medical school curriculum is not without limitations or challenges. Although members of the student body provided a great deal of the motivation behind the curricular changes at AMS, not all students share the same fundamental knowledge or concern about these issues or have an interest
in participating in these initiatives. While all students entering medical school are expected to have a baseline level of knowledge in biological and physical sciences from their pre-medical studies, there is no such universal curriculum requirement for topics that inform health disparities. The attempt to design a curriculum that effectively and adequately addresses the complexities of health disparities while accommodating the wide range of student familiarity with these topics resulted in some disparate feedback; some students described the curriculum as oversimplified, and others suggested that it was too broad and ambitious.

This challenge is exacerbated by curricular time and resource constraints. By necessity, medical school curricula place high demands on students as well as faculty, who must dedicate tremendous resources to preparing students for the United States Medical Licensing Exam and residency in four years of undergraduate medical education. Although many argue that a rigorous understanding of health disparities is critical to quality patient care, medical education has historically focused on the more traditional biomedical approaches to patient care. With finite time and resources, education pertaining to health disparities and social determinants of health is all too often given much lower priority within the realm of medical education.

The challenge moving forward is to strike the appropriate balance between providing students with a strong biomedical fund of knowledge and gaining a deep understanding of the social influences that often drive health outcomes. Equipping students to address these determinants in their communities and in their future practices is one of the goals of a robust health disparities medical curriculum. At AMS, student leaders, faculty and community members are working together to ensure that these efforts continue through the implementation of our evolving student-initiated health disparities curriculum, the development of a new Primary Care-Population Medicine Program and the introduction of a full semester, first-year course on health disparities for all medical students [see Rappaport et al in this issue for further details]. It is our hope this curriculum empowers students with the knowledge, skills and attitudes to enable them to care for patients and allows them to help navigate patients through the disparities that may affect their health.

References


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Disclosures

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Teaching and Addressing Health Disparities Through the Family Medicine Social and Community Context of Care Project

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ABSTRACT

By training future physicians to care for patients with backgrounds different from their own, medical schools can help reduce health disparities. To address the need for education in this area, the leaders of the Family Medicine Clerkship at the Warren Alpert Medical School of Brown University developed the Social and Community Context of Care project, required of all medical students rotating through this clerkship. Students develop a hypothetical intervention addressing a health issue seen at their preceptor site, and are assessed on their grasp of the social and contextual issues affecting that health issue in their particular community. Some interventions are actualized in later clerkships or independent study projects; one example, a health class for pregnant and parenting teens at Central Falls High School, is described here. If made a routine part of medical education, projects such as these may help medical students address the health disparities they will encounter in future practice.

KEYWORDS: Education, medical, undergraduate; Students, medical; Curriculum; Peer mentoring

INTRODUCTION

Medical education has an important role in addressing health disparities. Patient outcomes, for example, can be affected by sociocultural differences between patients and their providers; when these differences are not understood or addressed, disparities in care may be exacerbated.1 Education that improves future physicians’ abilities to care for patients with backgrounds different from their own could reduce the health disparities we see in the United States, by helping physicians understand sociocultural factors that may impact their patients’ health decisions.1

At the Alpert Medical School (AMS) of Brown University, the undergraduate medical curriculum is organized into nine abilities which represent competencies expected of each graduate.2,3 Ability VII, Community Health Promotion and Advocacy, is defined as follows:

“The competent graduate practices medicine in a broader context by understanding the many factors that influence health, disease and disability. The graduate advocates for the patient’s well-being and works with community partners to identify and address environmental, social and behavioral factors and health system policies which alter the opportunities to be healthy.”4

Family Medicine, a specialty providing “continuing, comprehensive health care for the individual and family,”5 has incorporated into its national clerkship curriculum the idea that contextual care is important.6 This curriculum highlights objectives that consider patients in the context of their communities and cultures, and asks students to discuss the role that these factors might have on health outcomes. At AMS, the Family Medicine Clerkship has long embraced teaching the concepts of Ability VII,7 and this teaching has had an impact on both our students and the communities in which they learn.

THE SOCIAL AND COMMUNITY CONTEXT OF CARE (SACC) PROJECT

To address Ability VII, and to help students achieve the contextual care learning objectives for Family Medicine, the Social and Community Context of Health (SACC) project was developed in 2006. This project, completed by every student on the required, six-week Family Medicine Clerkship, serves as an opportunity for students to consider the social and community context of a particular health issue affecting patients at their preceptor sites and to propose a hypothetical intervention to address that issue. The project is paired with a half-day session and one-hour group discussion during which students explore one of two communities in Rhode Island and learn about the agencies that address the social issues affecting the health of the populations living in those communities.

In completing their individual projects, students first perform a similar exploration of the communities surrounding their individual preceptor sites by walking or driving around the area to investigate key resources such as service organizations. Students also use internet resources to explore the demographics and health statistics relevant to that community and to further understand the health issue chosen for the project. They conduct a literature review to inform their intervention design, and compile information about the status, content and quality of existing community resources related to their target health problem. Students next conduct key informant interviews with patients/caregivers affected by the health problem and with non-physician
patients they saw for prenatal appointments at the Family Hospital of Rhode Island. In 2011, two students (JH, CD) noticed that many of the patients they saw during the first weeks they spent seeing patients in their preceptor’s practice. Students are encouraged to broadly define the health problem they are addressing, while adequately explaining the contextual relevance of the problem and designing an intervention that is community-based rather than office- or hospital-based. For example, one student might intervene to improve transportation access to reduce social isolation among rural, community dwelling older adults, while another might choose to address inadequate dietary adherence to foster better disease control among urban, low-income patients with diabetes. For further examples of student SACC projects, see Table 1.

During the final week of the clerkship, each student gives an eight-minute presentation which counts for 15% of the final clerkship grade. Students are evaluated on their grasp of 1) the social context of the health issue addressed by their proposed intervention, and 2) the extent to which their intervention is appropriate for that particular social context. Due to the clinical demands of the clerkship, SACC projects are hypothetical in nature; however, some students choose to fully implement their proposed interventions as independent study projects or as assignments for another course. One student’s SACC project, for example, proposed a digital mindfulness-based intervention to address stress in residents of Central Falls. A year later, he actualized this project during his fourth-year Clerkship in Community Health. Another project, described in detail below, has grown from the SACC project of two medical students into an eight-minute presentation that would provide knowledge, support and course credit, something many teen mothers were lacking due to the time off required by their pregnancies.

In response to excitement at the school about this hypothetical project, the students then turned the class into a reality during their fourth-year Community Health Clerkship. The ELO program at CFHS, which supports students in crafting academically rigorous experiences in a particular field of interest, became the setting for this class. After advertising widely throughout the school, JH and CD designed and taught a weekly health class to teen mothers and mothers-to-be. Classes opened with journaling, included didactic and peer-to-peer teaching on a particular topic [e.g., “how is a baby made?” and “what do I do to calm a fussy child?”], and ended with teaching about nutrition through preparing a healthy snack as a group. Overall, nine students ranging in age from 14-18 years participated in the course, and about half were pregnant with their first child. Though individual attendance varied throughout the semester, students overall voiced that they had had a positive experience, with one student stating that the class “was worth my time because

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<th>Health Issue</th>
<th>Community</th>
<th>Proposed Intervention</th>
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<tbody>
<tr>
<td>Obesity</td>
<td>South County, RI</td>
<td>Improve reporting of sidewalk problems and encourage community involvement for sidewalk repairs</td>
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<tr>
<td>Body Image</td>
<td>Plainville, MA</td>
<td>Implement middle school curriculum addressing healthy relationships with bodies</td>
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<td>Melanoma</td>
<td>Newport, RI</td>
<td>Increase sun safety among visitors to Newport beaches</td>
</tr>
<tr>
<td>Depression</td>
<td>East Greenwich, RI</td>
<td>Develop a mindfulness meditation program to prevent and treat depression</td>
</tr>
<tr>
<td>Homelessness</td>
<td>Danielson, CT</td>
<td>Provide sliding-scale transportation from homeless shelters to job interviews, trainings, and newly obtained jobs</td>
</tr>
<tr>
<td>Falls</td>
<td>Pawtucket, RI</td>
<td>Offer Tai Chi classes to seniors at the senior center and in Pawtucket parks</td>
</tr>
</tbody>
</table>

Evolution of a SACC Project

In 2011, two students (JH, CD) noticed that many of the patients they saw for prenatal appointments at the Family Care Center at Memorial Hospital of Rhode Island in Pawtucket were adolescents, and they sought to better understand teen pregnancy in the clinic’s catchment population. Their initial research brought them to neighboring Central Falls, which, at the time, had a teen pregnancy rate more than three times the state average (nearly one in 10) and a child poverty rate of 41.5%. To better understand the young women behind these statistics, the students interviewed the following key informants at Central Falls High School (CFHS): several high school students who were pregnant or parenting, a gym/health teacher, a guidance counselor, an English teacher, and the school’s Expanded Learning Opportunities (ELO) coordinator. Their interviews demonstrated that pregnant and/or parenting female teens felt as though pregnancy itself was relatively easy, but that they were underprepared for the realities of parenthood. Faculty members at the school also expressed feeling underprepared – in their case, for helping guide their pregnant students through this life-changing event. Taking this information into account, the students’ SACC project proposal was to create a health class that would combine medical information related to conception, birth, and parenting with a peer support group. The class would provide knowledge, support and course credit, something many teen mothers were lacking due to the time off required by their pregnancies.

In response to excitement at the school about this hypothetical project, the students then turned the class into a reality during their fourth-year Community Health Clerkship. The ELO program at CFHS, which supports students in crafting academically rigorous experiences in a particular field of interest, became the setting for this class. After advertising widely throughout the school, JH and CD designed and taught a weekly health class to teen mothers and mothers-to-be. Classes opened with journaling, included didactic and peer-to-peer teaching on a particular topic [e.g., “how is a baby made?” and “what do I do to calm a fussy child?”], and ended with teaching about nutrition through preparing a healthy snack as a group. Overall, nine students ranging in age from 14-18 years participated in the course, and about half were pregnant with their first child. Though individual attendance varied throughout the semester, students overall voiced that they had had a positive experience, with one student stating that the class “was worth my time because
I got to express how I felt and ask questions if I wanted to.”

Upon the graduation of JH and CD from AMS, two other medical students (AY and RK), each with interest in primary care and underserved communities, continued to work with CFHs on this project. As before, it was designed to serve as both a source of useful information for adolescent mothers and as a peer support group with medical students serving as mentors and facilitators/teachers. In the second year, the CFHs students in the class all had at least one child and, as such, the curriculum was adapted to already-parenting adolescents (see Figures 1 and 2). Overall, eight students ranging in age from 18-20 years participated; classes focused on learning about prenatal care, parenting, and contraception, to name a few. Input from students often determined the material for future classes; for example, questions and concerns about child development led to two sessions focused on how to best engage with a child according to his/her stage of growth.

This second group of high school students collectively decided to create a workshop in which they would share personal stories about pregnancy and teen motherhood with younger students at the Dr. Earl F. Calcutt Middle School, also in Central Falls. With this goal in mind, the majority of spring semester class sessions focused on “Storytelling,” guiding these young mothers in reflecting upon their own life experiences in order to facilitate their role as peer educators for the middle school students. Students listened to a teenage mother’s story on National Public Radio, discussed how they viewed themselves and their relationships, and talked about what makes a story powerful. Each student chose a specific message she wanted to convey to the younger girls. For example, one student discussed the financial burden of having a child, another spoke about her birthing experience and being pregnant. This process resulted in the development of a video that was shown at the beginning of the middle school workshop, conveying the powerful impact that motherhood has had on these adolescent women, and allowing them to share this experience in a productive way with younger girls. High school students’ thoughts about the value of this class can be seen in Table 2. (If interested in viewing the video, please contact cfhsteenmomsams@gmail.com).

Table 2. Quotations from High School Students Describing the Impact of the CFHS Project

<table>
<thead>
<tr>
<th>High School Student</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.</td>
<td>“I enjoyed being a part of the Teen Parenting ELO because it gave me ideas of ways to have my son express himself. It was great working with Brown Medical Students because we found what we had in common.”</td>
</tr>
<tr>
<td>C.</td>
<td>“I loved it … it was a lot of fun. Especially knowing the other girls’ experiences… It’s interesting knowing other people’s stories because you know you are not alone – that you’re not the only young mother out there…people by your side, know how you feel, the struggle you have.”</td>
</tr>
<tr>
<td></td>
<td>“A lot of people think they [teenage mothers] are into this because they had sex. It’s not just that. There’s so much more to it that a lot of people don’t understand…”</td>
</tr>
<tr>
<td></td>
<td>“I learned I’m a strong person.”</td>
</tr>
<tr>
<td>Y.</td>
<td>“At first, I didn’t want to talk about my life, my personal life. But after, I got closer to you [medical student], and you got closer to me, I actually started to get more open and not shy…help other people. Now I can actually say this class helped me realize a lot of things I didn’t know so I’d like for this class to keep going.”</td>
</tr>
</tbody>
</table>
Impact of the CFHS SACC project on Medical Students’ Education

For the medical students involved in this project, working with the young mothers at CFHS has had a long-lasting impact on their perspectives about community work in general, and teen pregnancy more specifically. For quotations detailing the influence this work has had on the medical students involved, see Table 3.

CONCLUSION

The SACC project provides medical students with the opportunity to address a specific health issue affected by contextual issues in a systematic fashion. Through the work required for this project, students developed a deeper understanding of the societal issues that affect the health of the populations for whom they are caring during their clinical training. It is this type of education that may provide future physicians with the training they need to better understand their patients and deepen their abilities to care for diverse communities.

As exemplified by the CFHS partnership, SACC projects can demonstrate the possibilities that exist when health professionals dig beneath the surface of disheartening data and build relationships outside of the physician’s office. As Elizabeth Ochs, the CFHS ELO coordinator, stated, “The partnership...is a prime example of the power of mentorship and community connection. The medical students developed relationships with the students that extended far beyond sharing medical knowledge and health guidelines. They created a learning community in which everyone felt safe enough to express themselves, share their hopes and fears, and develop a sense of agency around their own health and the health of their children.” And as the medical students saw, the impact on their own education and career paths was equally powerful. If partnerships such as this continue to be cultivated as a routine part of medical education, perhaps our future physicians truly will begin to break down the disparities that continue to challenge our healthcare system.

Acknowledgment

Support from Brown University predoctoral training grant #D56HP2068. Special thanks to the students, teachers, and administrators of CFHS, as well as Rye-Ji Kim, MD, for their dedication to and support of this project.

References


Table 3. Quotations from Medical Students Describing the Impact of the CFHS Project

<table>
<thead>
<tr>
<th>Medical Student</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>JH</td>
<td>“The work that I did with the wonderful students and staff of CFHS...is exactly the type of community-based work that I hope to engage in once I graduate from residency. To be able to see disparities in clinic and then carefully design interventions based on community needs and in conjunction with community members reinforces my decision to pursue a career in family medicine centered around caring for and serving the underserved.”</td>
</tr>
<tr>
<td>RK</td>
<td>“Just as starting clinical rotations adds a whole different dimension to the medical school experience that students cannot get in their preclinical years, working out in the community adds something that physicians and physicians-in-training can’t get from working just in the hospital or office. Seeing people in their community allows the physician to see their patients in context and compels him/her to collaborate with their patients from a place of true respect and love. (And with regard to teen pregnancy), what I’ve gained greater appreciation for is that raising a baby is difficult for anyone and everyone regardless of age and background, and having children can be a powerful motivator for many people who may have had little hope for or confidence in themselves. If they are given the right tools and resources, the contact with the right people, the opportunities to prove their abilities and determination to themselves and others who have doubted their worth, they want to improve.”</td>
</tr>
<tr>
<td>AY</td>
<td>“When we think of teenage mothers or encounter them as patients in the clinical setting, it is tempting to group them into a challenging and needy population for which we think ‘sex education and access to contraception-related resources’ is the answer. Yet in getting to know the teen mothers in our class – hear their stories, meet their children, learn of their struggles and witness some of their achievements and efforts – I have been profoundly struck by themes of social and economic hardships, painful familial and relational brokenness, and cycles of social immobility. It compels me to believe that in our responsibility to care for them, we must advocate for mentorship and peer support with good role models, creative educational opportunities, and a committed presence in the community to help but also to learn and adapt.”</td>
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Building A Workforce of Physicians to Care for Underserved Patients
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ABSTRACT
There is a shortage of physicians to care for underserved populations. Medical educators at The Warren Alpert Medical School of Brown University have used five years of Health Resources and Services Administration funding to train medical students to provide outstanding primary care for underserved populations. The grant has two major goals: 1) to increase the number of graduating medical students who practice primary care in underserved communities (“Professional Development”); and 2) to prepare all medical school graduates to care for underserved patients, regardless of specialty choice (“Curriculum Development”). Professional Development, including a new scholarly concentration and an eight-year primary care pipeline, has been achieved in partnership with the Program in Liberal Medical Education, the medical school’s Admissions Committee, and an Area Health Education Center. Curriculum Development has involved systematic recruitment of clinical training sites and disease-specific curricula including tools for providing care to vulnerable populations. A comprehensive, longitudinal evaluation is ongoing.

KEYWORDS: Education, medical, undergraduate; Students, medical; Curriculum; Underserved care

BACKGROUND
Rhode Island is becoming a more diverse state: between 2000 and 2010, the percentage of Rhode Islanders from the Latino, Black, and Asian communities increased by 43%, 27%, and 26%, respectively. The Rhode Island Department of Health’s 2011 report on minority health details numerous racial and ethnic disparities in mortality, health behaviors, and access to healthcare. As one example, Black and Latino adults were 32% and 84% more likely than Whites to report having no specific source of ongoing healthcare, respectively. In response to this growing crisis, in 2010, the Division of Medical Student Education in the Department of Family Medicine at the Alpert Medical School (AMS) of Brown University secured federal funding from the Health Resources Services Administration (HRSA) to enhance its training of medical students in care of the underserved.

The overall purpose of this five-year project (2010–2015) is to train medical students at AMS to provide outstanding primary care for underserved populations. The target populations being served are Rhode Island’s underserved communities. Our experienced project team is composed of primary-care educators and administrators who are well positioned in leadership roles at AMS and in the community to carry out the specific objectives that have been identified for each goal. Currently in its final year, the project is affecting every medical student in all four years at AMS as well as another 200 undergraduate students per year in Brown University’s Program in Liberal Medical Education (PLME). Additionally, the project has had a direct positive impact on providers, community leaders, and citizens by supporting innovative local-, state- and region-wide solutions to caring for underserved populations. This manuscript describes the original goals and current progress of our five-year HRSA-funded project (Table 1).

GOAL 1: PROFESSIONAL DEVELOPMENT
The first goal of the grant is to increase the number of graduating medical students who intend to practice primary care in underserved communities. Specific professional development activities have included the development, implementation, and evaluation of a new scholarly concentration and a series of primary-care pipeline activities.

Scholarly Concentration in Caring for Underserved Communities
Many medical students enter training with a desire to care for the underserved; however, this altruism declines throughout medical training. Research suggests that early, positive clinical experiences with primary care in underserved settings, particularly community health centers (CHCs), increase the likelihood that students will continue to work in these settings once they graduate. Several medical schools have designed pre-clinical curricula aimed at helping students develop skills needed to practice in underserved communities. Most of these programs have been limited to a single clinical rotation, but several have a curriculum extending into the third and the fourth years.

The Brown Scholarly Concentration in Caring for Underserved Communities, co-led by Dr. El Rayess, spans four years of training and incorporates a sustained interaction with specific mentors and patients at local commu-
nity health center partners including Thundermist Health Center, Clínica Esperanza, and the Veterans Affairs (VA) Homeless Veteran Program. At the end of their first year, medical student concentrators choose a community site that reflects their own interests and are then matched with a mentor at that site to develop a summer project which serves as foundation for their scholarship.

During the second year, concentrators continue to implement their projects by building on their summer experience. They also attend monthly seminars held at the medical school or in conjunction with the student-run free clinic at Clínica Esperanza. These interactive sessions start with a review of frameworks for understanding health inequity and health disparities and continue to a broad range of topics, including but not limited to the impact of social stressors and resilience on health outcomes, health issues of immigrants and refugees, and the impact of language and culture on health and parenting differences. Concentrators compose

Table 1. HRSA Predoctoral Training Grant: Overall Goals, Targets, and Outcomes, 2010 – present.

<table>
<thead>
<tr>
<th>GOALS</th>
<th>TARGETS</th>
<th>OUTCOMES TO DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1: Professional Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scholarly Concentration</td>
<td>• Successful implementation of a new scholarly concentration</td>
<td>• 10 students enrolled in the concentration</td>
</tr>
<tr>
<td>Primary Care Pipeline</td>
<td>• Established Advisory Group</td>
<td>• Students entering Alpert Medical School (AMS) interested in working with underserved populations</td>
</tr>
<tr>
<td><strong>Goal 2: Curriculum Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve Content Knowledge</td>
<td>• Successful implementation of Chronic Disease Management/HIV workshop and 6 new simulated family paper cases</td>
<td>• Positive student written evaluations of modules and presenter</td>
</tr>
<tr>
<td>Improve Clinical Skills</td>
<td>• Successful recruitment of new community health centers (CHCs) for clinical training of AMS students</td>
<td>• 6 new CHCs taking clerkship students</td>
</tr>
<tr>
<td>Social and Community Context (SACC) Projects</td>
<td>• Successful implementation of SACC/Community Health Projects</td>
<td>• 463 students who completed a SACC project</td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed-method Analysis</td>
<td>• Successful completion of interview-guided focus groups</td>
<td>• 4 focus groups conducted</td>
</tr>
<tr>
<td>Annual Student Surveys</td>
<td>• Successful development and validation of the survey, piloted survey, and administered it yearly</td>
<td>• Creation of valid survey instruments</td>
</tr>
<tr>
<td>OSCEs</td>
<td>• Successful development and implementation of 3 new fourth-year OSCE** stations</td>
<td>• 3 new cases developed</td>
</tr>
</tbody>
</table>

† Program in Liberal Medical Education
‡ Family Medicine Interest Group
* National Health Service Corps
** Objective Structured Clinical Examination
and share reflective narratives during monthly meetings. In the third and fourth years, concentrators are matched with their longitudinal communities for their primary care rotations [when logistically possible] and complete analyses of their longitudinal projects culminating with a capstone presentation in the spring of their fourth year. To date, the concentration has enrolled 10 students, the first two of whom will be graduating in the summer of 2015 (Table 2).

**Primary Care Pipeline Activities**

In addition to the now established scholarly concentration, we continue to develop and enhance our eight-year coordinated primary care pipeline at the university-level in partnership with the undergraduate-graduate PLME, the medical school’s Admissions Committee, the on-campus Rhode Island Area Health Education Center (AHEC), and the Department of Family Medicine’s residency program.

As an example, the HRSA funding has allowed the Department of Family Medicine to increase its faculty representation on the medical school’s Admissions Committee. Over the last four years, Dr. Paul George has reviewed approximately 40 admissions files and interviewed 40 applicants with a goal of identifying and recruiting students interested in working in primary care with underserved populations.

Dr. George is also the faculty mentor to the Brown Family Medicine Interest Group (FMIG), which has grown into a nationally award-winning organization with broad impact. The FMIG has two student co-leaders, a faculty advisor, active members who participate regularly in events on campus, and an active listserv for members to stay informed of local, regional and national primary care initiatives. The FMIG membership increases with each incoming class, reflecting growth in interest in family medicine and primary care among the student body. In four of the last five years, the FMIG has been recognized with a national Program of Excellence Award from the American Academy of Family Physicians (AAFP). We have funded 24 medical students, mostly FMIG members, to attend the annual AAFP National Conference for Family Medicine Residents and Medical Students.

In addition to a very active FMIG, numerous other student initiatives have been developed and supported by the HRSA grant. As one example, three medical students implemented a popular for-credit elective entitled “Health Care in America,” which enrolled 37 first- and second-year medical students in 2013-14 and featured numerous high-profile, nationally known speakers. As a second example, three second-year students organized Brown’s first annual

### Table 2. Specific Examples of Student Initiatives and Projects Funded by the HRSA Family Medicine Predoctoral Training Grant.

<table>
<thead>
<tr>
<th>Types of Funded Student Projects</th>
<th>Project Examples</th>
</tr>
</thead>
</table>
| Scholarly Concentration in Caring for Underserved Populations (10 students over four years) | - Healthcare utilization among homeless veterans  
- Food access survey of patients at Clinica Esperanza  
- In-depth interviews with Cape Verdean patients about their understanding of hypertension  
- In-depth interviews with Dominicans about antibiotic use in both the US and in the Dominican Republic  
- The positive deviance model among incarcerated men who have not returned to smoking after release  
- Family networks and smoking patterns among primary care patients in Pawtucket |
| Completed Projects in the Social and Community Context of Care | - Elective and support group for new mothers attending Central Falls High School  
- Development of digital mindfulness-based interventions for patients at Progresso Latino in Central Falls, RI |
| Funded Projects in Care of the Underserved Patients and Populations | - Creating and strengthening mental health programming for recent refugee teens attending an academic enrichment program in Providence  
- Reproductive health education for RI middle school students to reduce teen pregnancy  
- Health promotion and cost-effective disease prevention in everyday clinical practice for the population of Great Plains Native American Tribes, Rapid City, Iowa  
- Pilot project that explores language barriers in the clinical setting by speakers of other languages with medical providers in Providence, RI  
- Quantification of outcomes from a comprehensive nutrition curriculum implemented at a local high school setting by an Alpert Medical School student group |
| Student Travel and Scholarship | - 24 Students sponsored for the American Academy of Family Physicians National Conference for Family Medicine Residents and Medical Students  
- Membership for all pre-medical and medical students to Rhode Island American Family Physician, including subscription to American Family Physician  
- Student presentations at the Society of Teachers of Family Medicine (STFM) Annual Meeting, the STFM Conference on Medical Student Education, and the First International Congress on Whole Person Care |
| Student Initiatives and Courses | - Health Care in America preclinical elective course  
- First Annual Health Disparities Symposium  
- Asylum Training, Brown Human Rights Asylum Clinic |
Health Disparities Symposium in 2014, attended by 115 physicians and community leaders, to generate collaborative initiatives around health disparities among faculty, students, community partners, and others. The three-hour symposium, featuring a keynote address by Brown University President Christina Paxson, PhD, aimed to 1) describe the current landscape of efforts in the Brown community that address health disparities, 2) identify existing gaps within these efforts, and 3) gather recommendations and ideas for next steps with the ultimate goal of creating a common paradigm for teaching and addressing health disparities in the Rhode Island community. Finally, in 2014, the student-led Brown Human Rights Asylum Clinic (BHRAC) hosted its first training event in which 70 attendees, including physicians, residents, medical students and other allied health professionals from across the country, were trained how to provide pro-bono forensic physical and psychiatric evaluations for individuals seeking asylum in the United States. The Asylum Training and new Brown Human Rights Asylum Clinic were featured in a recent front-page article in the Providence Journal.

GOAL 2: CURRICULUM DEVELOPMENT

The second goal of the grant is to prepare 100% of AMS graduates to care for underserved patients regardless of specialty choice. Through the implementation of new curricula in the Family Medicine Clerkship, the enhancement of an existing curriculum in the social and community context of care, and the development of new and existing community health center (CHC) clinical training sites, the project team has worked to ensure that all students receive thorough didactic and clinical training in the care of underserved patients and populations.

In the required Family Medicine Clerkship, led by Dr. David Anthony, two modules have been developed, implemented, and evaluated, including a skills workshop on chronic disease management using human immunodeficiency virus (HIV) infection as the model disease and a revised series of simulated family paper cases. The latter, taught in six two-hour small group sessions, covers a range of topics relevant to vulnerable and underserved patients, including trust in the healthcare system, language and cultural barriers, teen pregnancy, and domestic violence. The enhanced curriculum in the social and community context of care is described in detail in a separate manuscript in this issue.

In an effort to increase the number of students who have high-quality clinical training at sites providing care to underserved patients, we have actively recruited and developed CHC sites for clerkship students. By making two to three site visits at each of 17 CHCs over the grant period and by hosting annual CHC faculty development and appreciation events, we have successfully increased the number of CHC training sites as well as the number of students trained at each site. Through site visits to CHCs that regularly host students, we have gathered best practices for teaching students at CHCs and have been able to systematically disseminate this key information to newly recruited sites. AMS and the Department of Family Medicine are immensely grateful for all of the clinical teaching provided by our invaluable network of CHC providers.

GOAL 3: EVALUATION

To assess the evolution of medical student attitudes towards working with underserved populations across their four years of medical school, we are in the process of conducting a formal, longitudinal, IRB-approved evaluation of our project with focus groups as well as the annual administration of a validated survey [Medical Students Attitudes Toward the Underserved and Jefferson Scale of Empathy] to every AMS student. Analysis of data from four full classes of medical students is ongoing.

As a check to the efficacy of our curricula, three new objective, structured, clinical examination (OSCE) cases featuring vulnerable patients have been integrated into AMS's required 4th-year OSCE: a patient who speaks English as a second language signing out of the Emergency Room against medical advice; an elderly Latino woman experiencing domestic violence; and a gay male with depression. Senior medical students are required to pass whichever of these stations they encounter in order to pass the summative 4th-year OSCE. For more detailed outcomes of our HRSA grant, see Table 1.

CONCLUSIONS

Despite the ongoing efforts of multiple clinicians, educators, students and trainees, health disparities in Rhode Island persist. The continual nature of such challenges and injustices serves not as a source of discouragement, but as a motivator for us to work harder and do more. We are encouraged by the remarkable projects that have been completed by AMS students, which have already had real and sustained impact on Rhode Island's underserved communities. We are pleased with the recent increase in AMS students matching in Family Medicine, the specialty that produces the most CHC physicians. Further analyses will determine if our efforts have had an impact on all AMS students' attitudes towards caring for the underserved.

Acknowledgment

Support from Brown University Predoctoral Training Grant, Family Medicine #D56HP2068 (Principal Investigator [PI]: Taylor/Subcontract to Memorial Hospital of RI, sub-PI: Anthony).

To two of our valued colleagues: Karen Quinn, who is a Research Administration Financial Manager in Bio Med Administration/Research Administration at Brown University, and Jane Shaw, the Education Coordinator for the Family Medicine Clerkship at Memorial Hospital of Rhode Island.
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Future Health Disparity Initiatives at the Warren Alpert Medical School of Brown University

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ABSTRACT
As the United States embarks on health care reform through the Affordable Care Act (ACA), the knowledge, skills and attitudes necessary to practice medicine will change. Education centered on health disparities and social determinants of health will become increasingly more important as 32 million Americans receive coverage through the ACA. In this paper, we describe future initiatives at the Warren Alpert Medical School of Brown University in training medical students on health disparities and social determinants of health through mechanisms such as the Primary Care-Population Medicine Program, the Rhode Island Area Health Education Center, the Scholarly Concentration program and other mechanisms.

KEYWORDS: Education, medical, undergraduate; Students, medical; Curriculum; health disparities; social determinants of health

INTRODUCTION
As the United States health care system embarks on the task of covering 32 million newly insured Americans through the Affordable Care Act, medical schools must re-examine how and what they teach their students. In addition, the increased complexity and diversity of the population seeking care requires that students understand how social determinants of health will affect their future practices. In 2011, the Association of American Medical Colleges (AAMC) report on Behavioral and Social Sciences for Future Physicians presented a list of recommended core competencies students were expected to reach by the end of medical school, which included understanding and integrating knowledge of social determinants of health into clinical practice.1 At the same time, the AAMC began an Equity of Care campaign, which called for an elimination of health disparities nationally.1 One of the main goals of this campaign was to increase health disparity education and cultural competency in the national medical workforce.

In the literature, there are multiple studies examining the impact of health disparity training on medical students and residents. A recent study examined the impact of a social medicine-oriented curriculum versus a research-oriented curriculum on students’ attitudes toward reducing health disparities; students in the social medicine-oriented curriculum had more positive attitudes toward reducing health disparities.1 Another study demonstrated that students who participated in a longitudinal experience supporting interest in caring for underserved populations were more likely to enter primary care residencies and practice with underserved populations.1 Finally, opportunities for students to engage in service learning with underserved populations improved student ability to comprehend ethical issues as well as develop critical thinking and knowledge around underserved populations.5

While the importance of teaching about health disparities and social determinants of health cannot be understated, there are multiple barriers to implementation in a medical school curriculum. Issues directly related to health disparities, such as patients’ knowledge of social services and patients’ cultural and spiritual values, are not commonly included in medical school, which may be due to an already full curriculum.6 In addition, faculty may have received sparse training on cultural competency, and thus their comfort in teaching health disparities and social determinants of health may be limited.7

At The Warren Alpert Medical School of Brown University (AMS), there is increased momentum from both faculty and students to include curricula that will provide graduates with the knowledge, skills and attitudes necessary to address health disparities and social determinants of health in their practice. In the rapidly evolving health care system, medical students will need to navigate these complex issues on a daily basis to provide quality healthcare to a diverse population. Curriculum centered on health disparities and social determinants is currently in place for first- and third-year medical students through the Integrated Medical Sciences (IMS) Curriculum and Family Medicine clerkship, respectively (see Erlich et al and Anthony et al papers in this edition of the Rhode Island Medical Journal). However, there is recognition that more is needed in order to adequately prepare students for practicing medicine while taking into account health disparities and social determinants of health.

Here, we describe initiatives at AMS to further the health disparities and social determinants of health curriculum for medical students.
The Primary Care–Population Medicine (PC-PM) Program is an innovative, dual-degree program that focuses on preparing students for a career in medicine while providing comprehensive, longitudinal training in population medicine. The program will prepare medical students for leadership roles in health care on the local, state, or national level in areas ranging from primary care clinical service to research, education, and health policy. This four-year program, the first of its kind in the United States, results in the awarding of both a Doctor of Medicine and a Master of Science in Population Medicine.

Students in the PC-PM program will participate in a longitudinal integrated clerkship (LIC). In this clerkship model, students spend one half-day per week with a mentor in family medicine, internal medicine, obstetrics and gynecology, pediatrics, psychiatry/neurology, and surgery over the course of one year. This clerkship model is currently being used in approximately 30 medical schools nationally and has outcomes similar to that of traditional clerkships. Students will also spend time in the emergency department, where they will be the first provider to see, diagnose, and propose treatment plans for patients. In addition, students will be assigned their own panel of approximately 75–100 patients. Students will follow these patients to health care settings such as the operating room, labor and delivery floor, primary care office visits, rehabilitation, and home care. It is our hope that students will serve as navigators, helping these patients through the health care system and, as a result, reduce disparities by advocating for them through a complicated health care system.

As an additional component of the LIC, students will take two courses in population medicine. These courses, led by a physician board certified in both Family Medicine and Preventive Medicine, will focus on the intersection of clinical medicine and population health. Students will learn about topics such as the medical care of homeless patients, incarcerated patients and vulnerable adolescents, focusing not only on medical care, but on the health care policies that affect the health of these individuals.

HEALTH SYSTEMS AND POLICY
AMS is introducing a new Health Systems and Policy course for all first-year medical students. This course, led by a lawyer with significant experience teaching in a medical school setting, will be integrated into both the Integrated Medical Sciences (IMS) and Doctoring (Introduction to Clinical Medicine) curriculum.

Through active learning opportunities, including case-based learning, team-based problem-solving exercises and small- and large-group discussions, this course will explore how multiple social determinants influence individual and population health; the laws and policies that shape the social environments in which patients live; and the role of physicians in advocating for systems and policy changes that will reduce health disparities and improve population health outcomes. Students will learn from experts from the health care system, as well as from state and local government community-based organizations and academics, who are working to address health disparities and social determinants.

Specific topics to be covered in the course include:

- Introduction to the United States Health Care System
- The American Health Care Paradox
• Introduction to Health Disparities
• The Role of Law and Policy in Health Disparities and Social Determinants
• Health, Poverty and Safety Net
• Immigrants: Language and Access Barriers
• Education as a Social Determinant of Health
• Food, Nutrition and Policy Responses to Obesity
• Aging Patients, Physicians and Caregivers: Roles, Responsibilities, and Decision-Making
• Limited English Proficient Patients: Civil Rights and Policies
• Health Housing Laws and Policy
• Asthma, Environmental and Social Risk Factors
• Racial and Socioeconomic Cancer Disparities
• Cancer – Insurance and Employment Issues
• Ethical and Legal Aspects of Genetic Counseling
• Occupational Health: Legal and Policy Protection for Workers

AREA HEALTH EDUCATION CENTER
The Rhode Island Area Health Education Center (RI AHEC) has been in existence since 2004, and has the following objectives:

1. Recruit under-represented minority and disadvantaged students into the health professions through a broad range of programs.
2. Develop and support community-based interdisciplinary training of health profession students in underserved areas.
3. Facilitate and support practitioners, facilities and community-based organizations in effectively addressing critical local health care issues.
4. Provide continuing education and other services to improve the quality of community-based care.

AMS will implement these objectives through several strategies. For example, as part of the implementation of the PC-PM program, faculty met with premedical advisors from the University of Rhode Island (URI) and Rhode Island College (RIC) to promote the PC-PM program to underrepresented minority students from these two institutions. Second, we continue to develop and expand interdisciplinary and interprofessional training. Health professions students from the Schools of Nursing and Pharmacy at URI and the Colleges of Nursing and Social Work at RIC, along with medical students from AMS, bi-annually meet for workshops to promote interprofessional teamwork. In the future, these workshops will incorporate a greater emphasis on health disparities and social determinants of health. Finally, the AHEC will, in part, support the development of the PC-PM program as a whole and the aforementioned Health Systems and Policy course to provide opportunities for faculty and students to address critical local health care issues.

SCHOLARLY CONCENTRATIONS
As part of the Scholarly Concentration program at AMS, which enables students to gain knowledge and experience through research and project-based work, students are increasingly focusing on issues related to health disparities and social determinants of health. Related scholarly concentrations include Advocacy and Activism, Caring for Underserved Communities, Health Policy, Medical Education, and Women’s Reproductive Health. For example, a student in the Medical Education concentration is designing a health disparities workshop for second-year medical students in which students can integrate their knowledge of organ system pathophysiology with health disparities that may be contributing to the pathophysiology. A student, also in the Medical Education concentration, is working to set up a business plan framework to design free medical clinics in which individuals without insurance can get the health care they need at the social service agencies they frequent.

HEALTH DISPARITIES SYMPOSIUM
To further broaden health disparities education at AMS, students initiated the first Health Disparities Symposium in January 2014. Key stakeholders from across the Brown University campus and the greater Rhode Island community were invited to come together to identify and assess current efforts focused on health disparities. The goals of the symposium were as follows: [1] to describe the current landscape of curricular programs at Brown [many are mentioned above and in the accompanying Erlich et al article in this issue] focused on health disparities; [2] to identify gaps within existing educational, research and community-oriented health disparities programs; and [3] to solicit recommendations and ideas to create a more coordinated and comprehensive paradigm for teaching and addressing health disparities in our community. Christina H. Paxson, PhD, President of Brown University, served as the keynote speaker at the symposium. The health disparities symposium at AMS will now be an annual event intended to continue this dialogue.

CONCLUSION
The aforementioned AMS educational initiatives focused on health disparities and the social determinants of health are designed to augment a strong basic and clinical science curriculum. They are planned in order to train future physicians who are not only skilled in high-quality patient care, but also in identifying and advocating for systems and policy changes that will reduce health disparities and address social determinants at the population level. It is our hope that these initiatives, along with other AMS efforts described in this issue such as reforms to medical school admissions and the development of informal learning opportunities focused on underserved populations, will lead to improved health and health equity in Rhode Island and elsewhere.
References


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Disclosures

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ABSTRACT
Health disparities are a public health concern in Rhode Island and around the world. Faculty members and students in the Brown University School of Public Health are working to understand, address, and ultimately eliminate disparities in health and health care affecting diverse populations. Our educational offerings and research efforts are directed toward understanding and addressing the social, cultural, and environmental factors that contribute to these health disparities. Research methods to carry out this work include implementing interdisciplinary, community-based, quantitative and qualitative research with the goal of preventing, reducing, and eliminating health disparities. This article focuses on some of the School’s work with vulnerable communities confronting issues around the following: HIV/AIDS, obesity, nutrition, physical activity and delivery of health services.

KEYWORDS: Brown, Public Health, Disparities, Populations, HIV/AIDS, Obesity, Nutrition, Physical Activity, Aging

INTRODUCTION
The academic departments and research centers of Brown’s School of Public Health are influential voices in the national dialogue on health issues affecting vulnerable populations. Their work makes important contributions to shaping public policy and practice. A major focus of public health research and education is to improve the health of at-risk communities, and addressing health disparities is part of the school’s core mission. A few examples illustrate how faculty and students of Brown’s School of Public Health work to promote population health and reduce health disparities.

HIV/AIDS
Disadvantaged and minority populations carry a disproportional burden of the HIV/AIDS epidemic. HIV Research has a long history at Brown, and, in the School of Public Health, includes many investigators, multiple topic areas, and diverse and innovative research methodologies. The history of HIV research goes back to the mid-1980s, when Vincent Mor, PhD; Ken Mayer MD, PhD and others, with funding from the Robert Wood Johnson Foundation, conducted a national survey of the relationship between immune status and health services utilization. This early effort has evolved into a vibrant interdisciplinary community of researchers focused on HIV prevention, treatment, and policy in domestic and international contexts. Another collaboration across Brown that includes the Alpert Medical School and its affiliated hospitals and partner institutions, is the Lifespan/Tufts/Brown Center for AIDS Research (CFAR), one of 19 national CFAR sites for the National Institutes of Health. This project led by the Alpert Medical School has been continuously funded since 1998 and has stimulated growth of HIV research at Brown.

Several new initiatives in the School of Public Health are informed by the work of CFAR. In 2010, Brown’s Center for Alcohol and Addiction Studies (CAAS) received a Center Grant from the National Institute for Alcohol and Addiction to support a Brown Alcohol Research Center on HIV (ARCH). This project, led by Peter Monti, PhD, seeks to reduce the impact of alcohol on the HIV epidemic by studying the multiple pathways that alcohol impacts HIV morbidity, mortality and transmission. ARCH research projects range from basic science using MRI-based structural and metabolite neuroimaging to determine whether alcohol and its effects on liver function increase effects of HIV on the brain, to clinical trials aimed at reducing alcohol use.1

Another innovative approach to HIV/AIDS research is the work being done by Amy Nunn, ScD, assistant professor of behavioral and social sciences, in the Institute for Community Health Promotion. She uses community partnerships to address health disparities, by engaging clergy and community leaders in HIV testing, treatment and social marketing campaigns. In 2012, she established a comprehensive, neighborhood-based HIV and hepatitis C (HCV) prevention and treatment program called Do One Thing. This program addresses unmet needs for testing and treatment in a Philadelphia neighborhood with high rates of HIV and HCV infection. In 2011, she founded Philly Faith in Action, a coalition of clergy in Philadelphia who work collaboratively to reduce racial disparities in HIV infection. In 2013, Dr. Nunn expanded her work with clergy by establishing Mississippi Faith in Action, a similar coalition based in the heart of the Bible belt in Jackson, Mississippi. Dr. Nunn has shown that these innovative, community-based approaches to HIV
prevention have enhanced linkage and retention in care in some of the most heavily affected communities and neighborhoods in the nation, including inner-city neighborhoods and the Deep South.2,3,4,5

There are currently more than twenty investigators from all four Departments in the School of Public Health who have significant funding for work on HIV/AIDS and related topics.

**OBESITY, NUTRITION, AND PHYSICAL ACTIVITY**

The obesity epidemic is a major public health concern. The areas of obesity, nutrition, and physical activity span the work of many investigators in several of the School of Public Health's research centers. Faculty and students in The Institute for Community Health Promotion (ICHP) seek to improve health, especially among underserved populations. The ICHP conducts interdisciplinary, community-based participatory research and education to empower individuals, providers, organizations, and communities to practice and promote healthier behaviors, increase resilience, and achieve healthier neighborhood environments.

Akilah Keita, PhD, assistant professor of behavioral and social sciences, investigates neighborhood contexts of diet, physical activity, obesity and obesity-related comorbidities, and neighborhood dynamics resulting from urban revitalization and public health interventions. She is currently funded by a 24-month Robert Wood Johnson Foundation (RWJF) grant through the New Connections program, a national program designed to introduce new scholars to the RWJF and expand the diversity of perspectives that inform the Foundation’s programming. The grant will allow Dr. Keita to examine the risk and protective factors for childhood obesity among Southeast Asians. She is working with community leaders to identify how best to address their health concerns.6,7,8

The ICHP also leads research funded by the National Cancer Institute, which asks whether providing convenient access to affordable fresh fruits and vegetables — along with educational campaigns, recipes and chef-led demonstrations — will increase produce consumption and improve health. Live Well Viva Bien, is a research project that uses multi-level approaches in low-income housing to increase the consumption of fruits and vegetables. This research is a randomized, controlled trial at subsidized housing complexes to study the effectiveness of a multi-component intervention, including fruit and vegetable markets and nutrition education, for residents of low-income, subsidized housing complexes. This initiative has brought the mobile fruit and vegetable markets to eight Rhode Island subsidized housing projects over the last three years and, in a companion study called Good to Go, has brought mobile Fresh to You markets to 16 worksites.9,10

There is growing recognition among researchers, public health practitioners and policymakers that location and the design of neighborhoods influence health behaviors and health outcomes. Dr. Keita teaches a course that explores the features of community environments and their associations with health behaviors (e.g., physical activity, preventive care, alcohol, and sexual behaviors) and health outcomes (e.g., obesity, cardiovascular disease and mental health). Her expertise is informing a collaboration between the School of Public Health and the Rhode Island School of Design on a project entitled “Place Matters.” This collaboration is focused on the question of how design of neighborhoods can improve population health by promoting healthier behaviors.

**DISPARITIES IN HEALTH CARE**

Disparities in health screenings, treatment and health outcomes, particularly among aging populations has been one focus of work conducted in the Center for Gerontology and Health Care Research. Several research projects have examined how race, neighborhood, or socio-economic status is associated with disparities in quality of care and health outcomes.

Amal Trivedi, MD, PhD, associate professor of health services, policy and practice and associate professor of medicine, studies quality of care and health care disparities, with particular emphasis on the impact of patient and provider incentives on quality and equity of care. In a recent study with recent doctoral graduate, Danya Qato, they observed that of 6 million seniors in Medicare Advantage plans in 2009, 21 percent received a prescription for at least one potentially harmful “high-risk medication.” Nearly 5 percent received at least two such prescriptions. Moreover, they observed that questionable prescriptions were more common in the South and among people who lived in economically disadvantaged areas. Dr. Trivedi has also studied the differential impact of higher copayments for health screening among different populations.11,12,13

Hispanic and African American senior citizens are living in nursing homes in ever-increasing numbers, but many face a gap in quality of care compared to white residents. A team led by Mary Fennell, PhD, professor of sociology and professor of health services, policy and practice, found that Hispanic elderly are more likely than whites to live in nursing homes of poor quality. These residences are often faced with structural problems, staffing issues and financial trouble.14,15,16

Vince Mor, PhD, professor of health services, policy and practice, has led a team of researchers examining the provision and quality of long-term care. His team created the nation’s first large scale database aimed at providing information to be used in improving long-term care across the US. This database, available on line, is called LTC-Focus, and it is intended for policy makers, insurers, and service providers. Other research by this team examines how factors such as state policies, regional differences, market factors, and racial segregation affect quality of care. This work
will help policymakers craft guidelines that promote high-quality, cost-effective, equitable care for older Americans. The American Health Care Association and the National Center for Assisted Living have provided support to Brown to launch a new Center for Long Term Care Quality and Innovation in the School of Public Health. The center will work to improve the quality of long-term and post-acute care by studying best practices, conducting implementation research, and developing training and leadership programs in the field.17-21

TEACHING THE NEXT GENERATION
The research conducted in the Centers and Institutes of the School of Public Health informs and enhances curricular content for undergraduate and graduate students. Many of the courses, taught by public health faculty, address the contributors to health disparities and effective strategies to improve population health. Students also learn about the conduct of research that is culturally aware and the design of interventions and programs that are culturally appropriate. For example, Steve McGarvey, PhD, teaches a course on the Burden of Disease in Developing Countries, which defines and critically examines environmental, epidemiologic, demographic, biomedical, and anthropological perspectives on health and disease in developing countries. By studying changes in the underlying causes of morbidity and mortality during economic development, students are helped to understand the complex issues associated with health disparities. Dr. McGarvey also involves undergraduate and graduate students in his own research, offering opportunities to study health in American Samoa and other locations.22

A majority of public health students gain experience in research relevant to health disparities, including work in local communities, at the Department of Health, and in international projects. Their work contributes to improvements in population health here and abroad.

References


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Pulmonary Zygomycesis in a Diabetic Patient: Treated with Pneumonectomy and Antifungal Agents

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A 47-year-old woman with diabetes type II, asthma, managed with albuterol and inhaled steroids, and a history of laparoscopic gastric bypass six years ago, presented to her primary care provider with cough and gray-colored sputum for one week, and was initiated on azithromycin and prednisone. One week later she presented to the Emergency Department with progressive cough, shortness of breath, thirst, increased urinary frequency, and altered mental status. She was found to be in a hyperglycemic, hyperosmolar state. A chest radiograph showed left upper-lobe opacity and computed tomography of her chest revealed a large left upper-lobe cavitary lesion. Sputum cultures were positive for Rhizopus species. Treatment with AmBisome was initiated and the patient underwent left-sided pneumonectomy.

Pathological evaluation of the lobe revealed a 7.5 x 6.8 x 3.3 cm sharply demarcated necrotic cavity involving the majority of the left upper lobe with little surrounding uninvolved lung parenchyma (Figure 1). The cavity was surrounded by an erythematous rim, and within contained discohesive black-brown necrotic debris. Microscopic examination was significant for necrosis and acute inflammation, both surrounding and within the cavitation. Innumerable broad hyphae with rare septations were identified. The hyphae were irregularly branched at 90-degree angles, consistent with Rhizopus species. (Figure 2). A Periodic acid-Schiff stain confirmed the presence of these organisms. The patient tolerated pneumonectomy well, and her clinical condition improved. Eventually she was discharged and scheduled for routine follow-up.

Rhizopus, Mucor and Rhizomucor

Fungi of the order Mucorales cause most human infection. They can be found on decaying vegetation and in the soil. Risk factors for infection include compromised immune status and include diabetes mellitus, malignancy and organ transplantation. The genera most commonly found in human infections are Rhizopus, Mucor, and Rhizomucor. The hyphae of Mucor are broad (5 to 15 micron diameter), with wide angle branching at approximately 90 degrees and rare septations.
Rhizopus organisms have an enzyme, ketone reductase, which allows them to thrive in high glucose, acidic conditions. Serum from healthy individuals inhibits growth of Rhizopus, whereas serum from individuals in diabetic ketoacidosis stimulates growth.³ Rhino-orbital-cerebral and pulmonary mucormycosis are acquired by the inhalation of spores.⁴ The agents of mucormycosis are angioinvasive; thus, infarction of infected tissues is a hallmark of invasive disease.⁵ Treatment of mucormycosis involves a combination of surgical debridement of involved tissues and antifungal therapy.⁶ Elimination of predisposing factors for infection is also critical. Intravenous amphotericin B is the drug of choice. Therapy should continue until there is clinical resolution of the signs and symptoms of infection, as well as resolution of radiographic signs of active disease.⁷ Despite early diagnosis and aggressive combined surgical and medical therapy, the prognosis for recovery from mucormycosis is poor. Independent risk factors for mortality include disseminated infection, renal failure, and infection with Cunninghamella species, while the use of surgery and administration of antifungal agent were associated with a better outcome.²

References

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The three common tick-borne illnesses in Rhode Island are Lyme disease, babesiosis, and anaplasmosis. All are transmitted to humans from animal hosts by the black-legged tick, *Ixodes scapularis*, commonly called the “deer tick.” The latter has a complex life cycle supported by the blood of various mammalian species, but none more important locally than the white-footed mouse and the white-tailed deer, whose numbers (and therefore the numbers of black-legged ticks hosted by them) have increased dramatically over the past several decades. This trend has been spurred by the expansion of supportive habitats such as second-growth woodlands and suburban developments, both of which provide abundant food and cover for both species. The resultant increase in ticks, absent a vaccine to prevent any of the tick-borne illnesses common in Rhode Island, has led to an increase in the probability of contracting Lyme disease, babesiosis, or anaplasmosis in the state.

Surveillance of newly diagnosed cases of tick-borne diseases is essential to the development, testing, and evaluation of public health programs designed to prevent them. Nonetheless, the nature of these diseases and the tests available to confirm them result in high surveillance costs. For example, there is no definitive laboratory test for confirming new cases of Lyme disease. Thus, although thousands of positive laboratory test results for Lyme disease stream electronically – and therefore cheaply – to the Rhode Island Department of Health (“HEALTH”) each year, new cases cannot be discerned from old cases without obtaining further information on case history and clinical presentation, a costly affair. Lacking resources specifically earmarked for Lyme disease surveillance, HEALTH tracks Lyme disease with near-complete laboratory results and some information from health care providers, using the data from these two sources to construct judicious annual estimates of the number of newly diagnosed Lyme disease cases among residents of Rhode Island.

Fortunately, in 2013 HEALTH received additional resources to enhance surveillance of common tick-borne illnesses, permitting improved case counts, the subject of this report.
optimal reclassification of cases initially classified as “suspect.” The resulting counts of “probable” or “confirmed” cases are considerably higher than in previous years, when supplemental surveillance resources were unavailable.

RESULTS

Lyme disease

Lyme disease incidence appears to have increased in Rhode Island from 2009 through 2013. Case counts in the first four years of the period underestimate true disease burden, for the reasons outlined above, but the 2013 case count, based on enhanced surveillance, is quite robust, providing a unique opportunity to examine the distribution of Lyme disease geographically and demographically.

Statewide, 723 new “confirmed” and “probable” cases of Lyme disease were diagnosed in 2013, yielding an incidence rate of 68.7 cases per 100,000 residents (Figure 1). Of the five Rhode Island counties, Washington and Newport Counties experienced the highest rates of newly diagnosed cases: 151 per 100,000 and 122 per 100,000, respectively, and of the 39 Rhode Island municipalities, New Shoreham had the highest incidence (297 cases per 100,000 – almost 3 percent), followed by Foster (71 cases per 100,000) and Little Compton (57 cases per 100,000) (Figure 2). The majority of new Lyme disease cases in 2013 were diagnosed from June through October, but some new cases were reported each month (Figure 3). With regard to age, children 5–9 years old were at greatest risk of contracting Lyme disease (127 cases per 100,000), followed by people ages 70–79 (97 cases per 100,000). Male cases greatly outnumbered female cases (a count of 441 vs. a count of 281, respectively).

Anaplasmosis

Anaplasmosis is far less common than Lyme disease in Rhode Island. In 2013, for example, the incidence of anaplasmosis, 6.6 cases per 100,000 residents, was only about one-tenth the incidence of Lyme disease, 69 cases per 100,000 residents. Like Lyme disease, anaplasmosis appears to be becoming more common in the state (6.6 cases per 100,000 in 2013, vs. 3.3 cases per 100,000 in 2009), and because case counts for this tick-borne illness have been more complete than case counts for Lyme disease in past years, the observed increase in anaplasmosis is unlikely to be artifactual (to have been caused solely or primarily by the enhanced surveillance program of 2013). Of the five Rhode Island counties, Washington County had the highest incidence of anaplasmosis in 2013 (30 cases per 100,000), and of the 39 Rhode Island municipalities, anaplasmosis incidence was highest in Charlestown (14 cases per 100,000), followed by Little Compton (11 cases per 100,000), and Exeter (10 cases per 100,000). In 2013, over 75 percent of all anaplasmosis cases occurred from May through August (Figure 3). People ages 50 and over accounted for more than 70 percent of anaplasmosis cases, with rates highest among people 60–69 years of age. Male cases outnumbered female cases in 2013 (a count of 42 vs. a count of 26), but previous years do not show such a large differential.
Babesiosis
In Rhode Island the incidence rate of babesiosis is intermediate between the incidence rates of anaplasmosis, on the one hand, and Lyme disease, on the other. In 2013, the observed incidence of babesiosis was 13.5/100,000, double the incidence of anaplasmosis, but only one-fifth the incidence of Lyme disease [Figure 1]. At least some of the increase observed in the incidence rate of babesiosis between 2012 and 2013 is artifactual, having been caused by the surveillance enhancements of 2013.

Among Rhode Island’s five counties, the incidence rate of babesiosis is highest in Washington County, 78/100,000. In fact, over 60 percent of the babesiosis cases reported to HEALTH in 2013 resided in Washington County. Not surprisingly, therefore, the highest babesiosis incidence rates among cities and towns were found in Washington County, in South Kingstown (56/100,000), Hopkinton (37/100,000), and North Kingstown (34/100,000). Although the incidence rate in Rhode Island’s other counties is substantially less than Washington’s, it appears to be climbing faster in neighboring Newport County than anywhere else: from 2.4/100,000 in 2009 to 13.3/100,000 in 2013.

In 2013, nearly 90 percent of all babesiosis cases identified in Rhode Island were diagnosed in the months of June, July, and August [Figure 3]. Persons 50 years of age and over accounted for over 80 percent of babesiosis cases in that year. Persons ages 70-79 had an incidence rate of 45/100,000, higher than any other age group. Similar to other tick-borne illnesses among Rhode Island residents, males outnumber females, with 89 vs. 53 cases, respectively, in 2013.

In Rhode Island in years past, babesia has been transmitted directly from one human to another via blood or organ donation. In 2013, three new cases of babesiosis were found to have been transmitted via blood donation. In all three cases, the donor was diagnosed after donating blood.

DISCUSSION
The burden of tick-borne illness in Rhode Island is high, and presents several challenges of relevance to control and reduction, not the least of which is the cost of surveillance. Thus, it was very fortunate that resources became available to enhance statewide tick-borne disease surveillance in 2013.

The story told by the new, robust statistics of 2013 can go a long way in helping the state control and reduce the burden of tick-borne illnesses in Rhode Island, primarily by identifying population sub-groups at highest risk of infection. Doing so facilitates planning and policy development to reduce the burden of disease.

Clearly, residents of Washington County, Rhode Island are at considerably greater risk for contracting tick-borne illnesses than people who reside elsewhere in the state, as are children ages 5-9 and elders. Males are much more likely than females to be infected. This pattern of higher-than-average risk groups suggests several possible reasons for higher-than-average risks, which, if true, could be used to enhance the selection and targeting of disease control interventions. Nonetheless, additional questions must be asked and answered first.

Consider: Geographic differences in the risk of tick-borne illnesses suggest underlying differences in the density of black-legged ticks proximate to human habitation or activity. What, specifically, are these differences? In Washington County, for example, is the density of ticks greater than elsewhere in the state? The density of supportive mammalian species? Are the predators of these species less dense in Washington County than other counties? Are outdoor occupations like landscaping and farming and the raising of
livestock more common in Washington County? Are outdoor leisure activities like hiking, camping, and golfing more common in this area of the state than other areas? Are settlement patterns different? Are homes more likely to be sited in ideal mouse habitat? Deer habitat? Is settlement density or landscaping more likely to attract and sustain deer? Similarly, gender and age differences suggest basic differences in work or leisure activities, or in personal protective behaviors, or both. Are men more likely to work outdoors than women? Are they more likely to pursue outdoor leisure activities like hunting, fishing, or golfing? Are children ages 5-9 more likely to play in tick-dense areas than children of other ages, or less likely to wear protective clothing, or less likely to recognize ticks, etc.? Are elders more likely to pursue outdoor leisure activities than younger adults? (Are they more likely to be retired?) Are elders less likely than younger individuals to be able to examine themselves for ticks after engaging in outdoor activities? These questions [and others] should be asked and answered before fielding potentially-costly risk-reduction strategies. We need to know where people are exposed to black-legged ticks, what they are doing, and why they could not [or did not] protect themselves from infection.

In the meantime, all Rhode Islanders should understand the risk of tick bites, where and how they are most likely to be exposed to ticks, how to protect themselves from infection, and what to do if they have been bitten. For example, when spending time in wooded or brushy areas, people should wear long sleeves and pants and perform routine tick checks, as well as shower as soon as possible. (Showering helps wash ticks off and helps in finding ticks on the legs and upper body.) Attached ticks should be removed promptly [and properly]. Doing so within 24 hours greatly reduces one’s chance of contracting a tick-borne illness. Appropriate repellents should be applied to skin and/or clothing before going outside. Permethrin – used to treat clothing – is practical for people who are repeatedly exposed to ticks in outdoor jobs or leisure activities, [e.g., landscapers, farmers, hunters, hikers, etc.], but DEET-based repellents – for use on skin and clothing – are usually more suitable for occasional use. Label instructions should be heeded, and adults should assist children when applying repellents. Closely-cropped lawns, reductions in leaf litter, and well-trimmed trees and shrubs [increased sunlight at ground level] discourage ticks which otherwise exist in high-traffic recreational areas like back yards and school yards. Knowing all these things, and acting on the knowledge, will go a long way in protecting Rhode Islanders until such time as we are able to reduce the density of black-legged ticks in the state.

This publication was supported by the Grant or Cooperative Agreement FOA CDC-RFA-C110-101204PPHF13 funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.

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References

1. See: [http://www.cdc.gov/ticks/geographic_distribution.htm](http://www.cdc.gov/ticks/geographic_distribution.htm) [blacklegged]


4. For more information on direct transmission of *Babesia microti*, see:
Rhode Island Monthly Vital Statistics Report
Provisional Occurrence Data from the Division of Vital Records

### Vital Events

<table>
<thead>
<tr>
<th>VITAL EVENTS</th>
<th>MARCH 2014</th>
<th>12 MONTHS ENDING WITH MARCH 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>Live Births</td>
<td>896</td>
<td>11,378</td>
</tr>
<tr>
<td>Deaths</td>
<td>892</td>
<td>9,814</td>
</tr>
<tr>
<td>Infant Deaths</td>
<td>5</td>
<td>73</td>
</tr>
<tr>
<td>Neonatal Deaths</td>
<td>3</td>
<td>56</td>
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<tr>
<td>Marriages</td>
<td>307</td>
<td>6,682</td>
</tr>
<tr>
<td>Divorces</td>
<td>305</td>
<td>3,253</td>
</tr>
<tr>
<td>Induced Terminations</td>
<td>265</td>
<td>3,222</td>
</tr>
<tr>
<td>Spontaneous Fetal Deaths</td>
<td>41</td>
<td>648</td>
</tr>
<tr>
<td>Under 20 weeks gestation</td>
<td>35</td>
<td>525</td>
</tr>
<tr>
<td>20+ weeks gestation</td>
<td>5</td>
<td>75</td>
</tr>
</tbody>
</table>

* Rates per 1,000 estimated population

# Rates per 1,000 live births

### Underlying Cause of Death Category

<table>
<thead>
<tr>
<th>Underlying Cause of Death Category</th>
<th>SEPTEMBER 2013</th>
<th>12 MONTHS ENDING WITH SEPTEMBER 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number (a)</td>
<td>Number (a)</td>
</tr>
<tr>
<td>Diseases of the Heart</td>
<td>187</td>
<td>2,425</td>
</tr>
<tr>
<td>Malignant Neoplasms</td>
<td>198</td>
<td>2,268</td>
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<tr>
<td>Cerebrovascular Disease</td>
<td>31</td>
<td>421</td>
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<tr>
<td>Injuries (Accident/Suicide/Homicide)</td>
<td>40</td>
<td>660</td>
</tr>
<tr>
<td>COPD</td>
<td>31</td>
<td>508</td>
</tr>
</tbody>
</table>

(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 1,051,511 (www.census.gov)
(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.
Working for You: RIMS advocacy activities

July 29–August 2, Tuesday–Saturday
American Association of Medical Society Executives (AAMsE) Annual Conference

August 5, Tuesday
RIMS Physicians Health Committee
(Herbert Rakatansky, MD, Chair)

August 5–9, Tuesday–Saturday
AMA State Advocacy Roundtable Conference; includes AMA Advocacy Resource Center Executive Committee Meeting
(Steve DeToy, Immediate Past Chair)

August 7, Thursday
Brown Alpert Medical School Student Leadership Fair for first-year medical students

August 9–13, Saturday–Wednesday
American Society of Association Executives (AsAE) Annual Meeting

August 20, Wednesday
Senator Sheldon Whitehouse Health Care Leaders Summit, Drs. Jones, Karczmar, and RIMS staff attending
Governor’s Task Force on Drug Use, Dr. Jones and RIMS Staff attending
RIMS Membership Committee; Drs. Jones and Siedlecki, Co-chairs
RIM Pac Executive Committee, Michael Silver, MD, Chair, Elaine Jones, MD, Treasurer, Michael E. Migliori, MD, Public Laws Chair

August 21, Thursday
Meeting with health care lobbyists to discuss upcoming primaries
Meeting with Department of Health, Dr. Jones and RIMS staff

August 22, Friday
Membership email for Department of Health CME Event, REMS for Opioid Prescribing

August 25, Monday
Meeting with Lt. Governor to follow up with Health Care Leaders Summit (August 20)
Meeting with RI Quality Institute to discuss ongoing collaboration on health care issues

August 26, Tuesday
Senator Whitehouse meeting on hospital-acquired infections (HAI)

August 27, Wednesday
Meeting with Neighborhood Health Care of RI and Greater Providence YMCA regarding potential collaboration on disease management

RIMS makes a clean break with tradition on September 27

**NOT YOUR FATHER’S ANNUAL MEETING**

MORNING CME
(9 to noon at the Crowne Plaza)
Dip your toe in the Mindfulness Movement:
Restoring Inspiration and Satisfaction to Medicine

EVENING CONVIVIUM
(6:30–10 pm at the Squantum)
Relax, mingle and graze on the Bay with (almost) no agenda.
Music by the Bebop Docs to inaugurate RIMS’ new leadership team:

**Peter Karczmar, MD President**
**Russell Settipane, MD President-Elect**
**Sarah Fessler, MD Vice President**
**Jose Polanco, MD Treasurer**
**Bradley Collins, MD Secretary**

Members will have received invitations by U.S. mail. Questions? Email Sarah at sstevens@rimed.org

RIMWA EDUCATIONAL EVENT: Dr. Elise M. Coletta Annual Lecture

Blinded by the Light
Lynn E. Iler, MD
*Dermatology Professionals, Inc, E. Greenwich*
Wednesday, October 29, 2014
6:00 pm Reception
6:30 pm Presentation and Dinner
Chapel Grille
3000 Chapel View Boulevard, Cranston
Members and guests welcome

*Invitation/Reservation Form*
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The Rhode Island Medical Society delivers valuable member benefits that help physicians, residents, medical students, physician-assistants, and retired practitioners every single day. As a member, you can take an active role in shaping a better health care future.

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- Powerful advocacy at every level
- Advantages include representation, advocacy, leadership opportunities, and referrals
- Complimentary subscriptions
- Publications include *Rhode Island Medical Journal*, *Rhode Island Medical News*, annual *Directory of Members*;
- RIMS members have library privileges at Brown University

**Member Portal on www.rimed.org**

Password access to pay dues, access contact information for colleagues and RIMS leadership, RSVP to RIMS events, and share your thoughts with colleagues and RIMS

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**SPECIAL NOTICE: 2014 AMA DUES PAYMENTS**

The American Medical Association (AMA) will direct bill its Rhode Island members for their 2014 dues. Beginning August 2013, AMA members will receive a separate dues statement from the AMA instead of paying AMA membership dues through the Rhode Island Medical Society (RIMS) membership invoice. This is simply an operational change so that both RIMS and AMA can concentrate on their respective member satisfaction. There remains no requirement for RIMS members to join the AMA.

Please let us know if you have questions concerning this change by emailing Megan Turcotte or phoning 401-331-3207.
Medical Student Congressional Candidate: Q&A with Stanford Tran

ADAM E. M. ELTORAI, MD’16

Q. You are taking time from away from your studies at the Alpert Medical School to run for the 1st Congressional District of Rhode Island. Can you briefly tell me about your background?
A. I guess I should start with my parents. They are South Vietnamese who fled the Communist regime after Saigon fell and came to American in 1975 as political refugees. Being born in this country is the most fortunate event in my life. I attend Stanford University on scholarship where I graduated with a degree in biology and a minor in physics. I spent the next year teaching high school in rural Arizona, where I saw firsthand many of the problems that bog down our children’s educational success.

In 2011, I started at the Warren Alpert Medical School. Back then, I neither knew nor cared much about politics. I came to medical school because I wanted to help people, but soon I realized that where the most needed to be done wasn’t in scientific advances, but in addressing the systemic social problems that prevent patients from receiving the standard of care. I was president of the student AMA chapter where I tried to further these ideas, but I realized that the audience I should be educating is the general public, not other doctors who are already well aware of the issues.

Q. Why did you decide to run for Congress?
A. I realized that a patient’s health was determined more by their access to care and living conditions than which doctor they saw. The field of medicine is focused more on basic science than on the structural problems in the way in which care is delivered. If a patient cannot afford care or their medication, then it doesn’t matter how well their doctor is trained. I wanted to be a doctor to help people, and the best way for me to do that is by working to change the systemic problems that affect public health. This campaign is about lowering the cost of healthcare and improving the way it is delivered.

Q. What are your thoughts on the current state and future of healthcare?
A. The biggest problem facing the nation’s healthcare system before the Affordable Care Act was that costs were too high. Costs haven’t changed with the ACA. We pay the most of any nation for healthcare, and yet we have some of the worst outcomes. This needs to change. The pharmaceutical industry’s lobbying power has wreaked havoc on our ability to control costs – we are not allowed to import prescription drugs from Canada (many of which are actually made in the US), and when Medicare Part D was passed during the Bush Administration, part of the law stated that Medicare was not allowed to negotiate prescription drug prices with the companies, and must pay whatever they charge.

On the other hand, Veterans Administration hospitals are not subject to this and pay about 50% less for prescription drugs. This is one of countless examples of how the healthcare industry has used its lobbying power to shape our nation’s healthcare system to its liking. Hospitals should publish prices and outcome data in an attempt to bring transparency to hospitals and empower patients. In order to improve healthcare for the future, we need to reassess the way we deliver care and make our goal to lower the cost of care, not to maximize the bottom lines for health insurance and pharmaceutical companies.

Q: If elected, what are your primary goals and the reasons behind them?
A: My primary goal is to lower the cost of healthcare. Allowing patients to import prescription drugs is a simple concept to sell. We also need to mandate interoperability between EHRs – it is absolutely ridiculous that we are still printing, faxing, and scanning. In addition, we need to reform our tort system so doctors practice less-defensive medicine. Doctors should not be liable for the rare poor outcome. This can be accomplished by having an independent panel determine if the doctor performed the standard of care, and if so, then a pool of money will be available for patient’s compensation but the provider is not at fault.

Q: What makes you different from the other candidates?
A: I know I don’t look like or sound like a politician, and I think that’s a good thing – we need fresh faces, fresh ideas, and fresh approaches. The status quo has failed – Congress has an approval rating less than 10% and bills are consistently based on partisan ideology and are brought to the floor with the sole intention of demonstrating ideological purity rather than solving problems and accomplishing things. My campaign is about devising and working to pass serious solutions that actually address the problems that the American people and the people of Rhode Island face. This campaign has consistently been defined by thinking differently. This campaign is about solving problems.

Q: Will you return to medicine?
A: Absolutely. My mother is very unhappy that I stepped out of medical school with only 6 months left, but politics is not a career and medicine is. I am running for Congress because I believe that the reasons I came to medical school, to help people and improve their health, require addressing these issues from a legislative standpoint. I want to practice medicine the way it should be practiced, where decisions are made by doctors and patients, not by pharmaceutical companies and health insurance companies.

Disclosures
The author has no political or financial conflicts of interest.

Correspondence
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Alpert Medical School of Brown University
Box G-9247, Providence, RI 02903
adam_eltorai@brown.edu

Stanford Tran, 26, a medical student at Brown, is a candidate in the 1st Congressional District Republican primary to be held Sept. 9. The seat is now held by Democrat David Cicilline.
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Dr. Wael Asaad awarded $486,000 to study neural transitions in PD

PROVIDENCE – WAELE A SAAAD, MD, PhD, has received a three-year Clinical Scientist Development Award of $486,000 from the Doris Duke Charitable Foundation for his project, “Breaking Beta: Decoding and Manipulating Critical Neural State Transitions in Parkinson’s Disease.”

According to the Foundation, the grants provide funding to young clinician investigators, enabling them to secure 75 percent of their professional time for clinical research as they establish their own labs and research teams.

Dr. Asaad, an assistant professor of neurosurgery at the Alpert Medical School, received his undergraduate degree from Amherst College in 1993, then earned a PhD in systems neuroscience from Massachusetts Institute of Technology in 2001, and his MD from Yale University in 2003. In 2011, he joined the department of neurosurgery at the Alpert Medical School.

His basic science interests focus on the ways in which neuronal circuits in the frontal cortex and basal ganglia underlie visual-motor learning, memory and decision-making, and how a better understanding of these might lead to strategies to alleviate the cognitive aspects of psychiatric and neurological diseases, including traumatic brain injury and stroke.

“I am honored to receive this generous grant from the Doris Duke Charitable Foundation, supporting our research into normal and abnormal brain rhythms in Parkinson’s Disease,” said Dr. Asaad, who is affiliated with Rhode Island Hospital.

“We aim to understand how such rhythms arise with various forms of movement, and how we can apply deep brain stimulation at just the right moments and in just the right amounts to transform bad rhythms into good ones. We hope that our work will result in tangible improvements to this effective but still imperfect therapy, in order to improve the lives of those suffering from this neurological disease.”

Butler, Kent Hospitals providing Narcan to overdose patients

PROVIDENCE – Care New England Health System announced recently that two of its hospitals, Butler and Kent, are distributing naloxone, more commonly referred to as Narcan, to patients who have been treated for a drug overdose or who are at risk for an overdose.

The distribution of Narcan kits at Kent began August 1. The clinical staff in the emergency department follow normal protocol for an overdose patient. After consent, patients will receive the kit before discharge. In addition, through an affiliation with The Providence Center and funding from the Rhode Island Department of Behavioral Health, Developmental Disabilities and Hospitals [BHDDH], Kent Hospital provides weekend access to on-call recovery coaches for patients who are in need of support and counseling. Additionally, trained staff from The Providence Center are available during the week for patient education and outpatient treatment referral.

Butler has been providing kits to patients in its Alcohol and Drug Partial Hospital Program since October 2013 and upon discharge from the Alcohol and Drug Inpatient Unit since April 2014. Since that time, 164 kits have been provided to patients who consented to receive them and also receive education about its use.

At Butler, patients are assessed by a doctor who prescribes Narcan if it is indicated, after informed consent. The patient is shown a brief educational video and receives education on opiate overdose prevention and Narcan use from the physician and from a pharmacist. The patient receives a naloxone kit [syringe and nasal atomizer] when they leave the hospital. Partial hospital patients receive the kits the day it is ordered by the doctor.

“Given the dramatic increase in overdose deaths here in Rhode Island it is critical that the health care community and those facilities that are on the front lines in treating this crisis confront the problem head on,” said JAMES SULLIVAN, MD, senior vice president and chief medical officer at Butler Hospital. “This is an important opportunity to help save lives and provide treatment and education that will hopefully help reverse this alarming trend.”

“This is a collaborative project that has come together through the effort of staff and clinicians across Care New England, including those in our emergency departments, pharmacies and drug and alcohol programs. We see the horrible impact that drugs have on people almost on a daily basis. It ruins lives and it ends lives. We can help change this,” said PETER GRAVES, MD, chief, Department of Emergency Medicine at Kent Hospital.

Butler’s Patient Assessment Services Department [emergency department for those needing urgent psychological evaluation and treatment] is coordinating a distribution program but currently provides information about the availability of kits to patients and families through Walgreens [no prescription needed].

Currently, Memorial Hospital, also a Care New England facility, is developing its program.
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Memorial Physician Co-Authors *New York Times* Op-Ed on alternative approach to treating Ebola

**Pawtucket – Steven M. Opal, MD**, chief of infectious disease at Memorial Hospital of Rhode Island, co-authored an editorial piece published by the *New York Times* in August which proposes using existing inexpensive medication to treat people with the Ebola virus. (http://www.nytimes.com/2014/08/16/opinion/can-statins-help-treat-ebola.html)

“For one of them (a statin), a clinical trial has shown that treatment of sepsis patients reduced the occurrence of multi-organ failure (the complication that kills Ebola patients) by 83%…”

“As an Alternative Approach to Treating Patients with Ebola Virus,” which is also garnering international attention from scientists and the media, was written with Dr. Opal’s colleague, David S. Fedson, MD, director of medical affairs with Aventis Pasteur MSD. It draws on research from more than a decade ago that showed “striking similarities between patients with Ebola and bacterial sepsis.”

Both conditions, the doctors assert, involve severe dysfunction of the endothelial cells that line blood vessels throughout the body. This triggers abnormalities in blood coagulation, and can lead to the failure of internal organs like the liver and kidneys, which can lead to death. Infectious disease specialists have since learned that abnormalities of endothelial function and coagulation can be modified or even reversed by treatment with modern drugs initially developed to treat patients with cardiovascular disease and diabetes, including statins, ACE inhibitors and angiotensin receptor blockers.

“For one of them (a statin), a clinical trial has shown that treatment of sepsis patients reduced the occurrence of multi-organ failure (the complication that kills Ebola patients) by 83%,” the editorial reads in recommending the use of these drugs, available inexpensively in generic form, to treat Ebola patients in Africa.

“The global implications of this approach to patient care in developing countries could be immense. Viewed this way, the challenge of treating Ebola patients also represents an opportunity to transform the way acute critical illness is managed throughout the world. We should not pass it by.”

Publication of the pair’s paper has earned global coverage from such organizations as the American Association for the Advancement of Science and news outlets in Europe.

*Dr. Opal is also a professor of medicine at The Warren Alpert Medical School of Brown University.*

New prescribed food insurance law will allow affordable treatment for rare diseases

**State House –** Legislation requiring insurance coverage for special baby formula and prescribed food is now law.

The new measure, which is now in effect, abolishes the mandated cap on coverage for those suffering from rare diseases and inherited disorders requiring prescribed nutrition mandates. The bills [2014-S 2505A, 2014-H 7903], sponsored by Sen. Ryan W. Pearson [D-Dist. 19, Cumberland, Lincoln] and Rep. Raymond A. Hull [D-Dist. 6, Providence, North Providence], induced passionate testimony from patients and family members of patients who require prescribed diets and formulas during the hearing process.

Senator Pearson said he had introduced the bill because the family of a constituent suffering from a rare disease called phenylketonuria (PKU) asked him for help. PKU is a birth defect that causes an amino acid called phenylalanine to build up in the body. Too much phenylalanine can cause a variety of health problems, and babies, children and adults with PKU need to follow a strict diet that limits this type of protein building block.

Newborns suffering from PKU need special formula that can cost around $1,000 per month, placing a heavy burden on middle class and low-income families. The number of people suffering from PKU in the state is an estimated 40 individuals, but the struggle over cost of care has not been overlooked. The legislation could also be beneficial to much larger populations afflicted with Crohn’s disease, gastroesophageal reflux disease (GERD), and more prevalent conditions that may call for unusual dietary restrictions.

Electric vehicle license plates will protect first responders

**Providence –** Gov. Lincoln D. Chafee signed a bill into law that requires owners of hybrid and electric-powered vehicles to obtain special license plates so that first responders and emergency crew members don’t accidentally electrocute themselves while using jaws of life to extricate passengers from wreckage.

The legislation allows first responders to determine what instrument is appropriate to use for the rescue of those trapped inside electric vehicles quickly simply by looking at the license plate.
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Editorial by Women & Infants surgeon published in Obstetrics & Gynecology

Dr. Charles Rardin contributes to the debate over the techniques used for specimen extraction

PROVIDENCE – This spring, the U.S. Food and Drug Administration (FDA) issued a statement discouraging the use of laparoscopic power morcellation for the removal of the uterus or uterine fibroids, citing that the procedure poses risks of spreading undetected cancerous tissue. Since then, there has been much debate about the risks and benefits of using this technique.

An editorial by CHARLES RARDIN, MD, a urogynecologist in the Division of Urogynecology and Reconstructive Pelvic Surgery and director of the Robotic Surgery Program for Women at Women & Infants Hospital of Rhode Island, director of Minimally Invasive Surgery at Care New England, and associate professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University, entitled “Mitigating Risks of Specimen Extraction – Is In-Bag Power Morcellation an Answer?” is published in the August issue of Obstetrics & Gynecology.

“In use for more than 20 years, the technique of power morcellation has brought minimally invasive surgery to women with gynecologic issues requiring surgery, reducing the incidence of laparotomy, or ‘open’ surgery. This has resulted in reduced postoperative pain and recuperation time, and, by many studies’ estimation, reduced rates of pelvic infection, incisional hernia, thromboembolic disease, and adhesion formation,” said Dr. Rardin.

“Few would argue that tissue morcellation of known cancerous tissue is a poor surgical strategy,” continued Dr. Rardin. “But until there are more effective screening tools to detect unusual or undetected cancers, surgeons and hospitals need to develop appropriate responses that attempt to mitigate the risk of tissue spread during power morcellation procedures.

“Regardless of how surgeons and institutions seek to engage in safer power morcellation techniques, it behooves all surgeons to remember and retain our knowledge and skill in other forms of minimally invasive surgery, including vaginal hysterectomy with extraction techniques,” he said. “Although comparative data are lacking, certain techniques of vaginal tissue extraction should keep any risk of dissemination to a minimum while preserving the patient’s benefits from the original minimally invasive surgery.”

Dr. Anderson publishes letter on embryo transfer policies

PROVIDENCE – BRENNA ANDERSON, MD, of the Division of Maternal-Fetal Medicine at Women & Infants of Rhode Island and an associate professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University, has published a commentary in the current issue of BJOG: An International Journal of Obstetrics and Gynaecology, now available online, entitled “The time has come to consider neonatal outcomes when designing embryo transfer policies.”

Dr. Anderson offers her commentary in response to an article in the same issue by Kamphius et al. in which the authors seek to determine “whether an individual’s preterm birth risk should be incorporated into embryo transfer policy for women undergoing in vitro fertilization.”

Dr. Anderson writes, “Kamphius et al. considered only one risk factor for preterm birth, albeit the most important one: prior preterm birth...While preterm birth is an important factor to consider in subsequent preterm birth risk, one wonders whether a more accurate prediction could be generated using a more complex model, akin to the model developed as part of the Eunice Kennedy Shriver National Institutes of Child Health and Human Development’s Neonatal Research Network’s calculator for outcomes among extremely preterm infants.”

She explains that this model calculates risk of preterm birth using five clinical factors: gestational age at birth, birthweight, gender, receipt of antenatal corticosteroids, and multiple gestations. “This calculator might provide a risk of preterm birth as well as an average anticipated length of gestation,” Dr. Anderson explains. “Such a tool, if reliable and easy to use, would be highly useful for patients and clinicians contemplating embryo transfer.”
Pawtucket – Affinity Internal Medicine recently opened its doors in Pawtucket, offering two new bilingual internal medicine specialists who are accepting new patients. Valeria Fabre, MD, and Carolina Fonseca Valencia, MD, are affiliated with Memorial and Kent hospitals, both members of the Care New England Health System.

Dr. Fabre specializes in primary care, internal medicine and infectious diseases. A native Spanish speaker, she earned her medical degree from the University of Buenos Aires School of Medicine and completed a residency at Memorial Hospital through The Warren Alpert Medical School of Brown University. She also completed a fellowship in infectious diseases at Johns Hopkins University, and earned The Elise M. Coletta, MD Education Leadership Award from the Alpert Medical School’s Department of Family Medicine. She is a clinical instructor in the Department of Medicine at the Alpert Medical School, and a member of the Infectious Diseases Society of America. She has been published in several peer-reviewed journals and in books on topics relating to tuberculosis, staph infections, and sexually transmitted diseases.

Dr. Fonseca Valencia is a board-certified general internist providing primary care for adults. A native Spanish speaker, she earned her medical degree from the Universidad de Antioquia in Colombia and completed her residency at Memorial Hospital through the Alpert Medical School, where she was also chief resident and earned The Elise M. Coletta, MD Education Leadership Award from the Alpert Medical School’s Department of Family Medicine. Dr. Fonseca Valencia is a member of the American College of Physicians, as well as the Multi-Cultural Community Outreach Council at Memorial and Care New England’s Primary Care Council. She has published research in peer-reviewed journals and made presentations on such health topics as diabetes, heart disease, skin cancer, and nutrition in the elderly.
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Appointments

Dr. Ibrahim Eid named Chief of Vascular Surgery at Roger Williams

PROVIDENCE – IBRAHIM G. EID, MD, has been appointed Chief of Vascular Surgery at Roger Williams Medical Center. Dr. Eid most recently held the title of Chairman of the Department of Surgery at Steward Saint Anne’s Hospital in Fall River, Mass. Previously, he was medical director of Vascular Services at Steward Saint Anne’s Vascular Center.

Dr. Eid is board certified in surgery and vascular surgery. He completed his fellowship training at Temple Hospital University and residencies at Good Samaritan Hospital of Maryland, New York University Medical Center, and State University of New York at Stony Brook. He received his physician training at American University of Beirut.

Dr. Eid is the founder and chief medical officer for Expert Medical Navigation, Inc. and founder and chief of Primacare Center for Vascular Diseases.

Dr. Melissa Simon joins Pediatric Ophthalmology and Strabismus Associates

PROVIDENCE – MELISSA SIMON, MD, has joined Pediatric Ophthalmology and Strabismus Associates, following completion of a fellowship at the Casey Eye Institute in Portland, Oregon.

Born in Brookline, MA, and raised in Columbus, Ohio, Dr. Simon received her BA from Yale University and her MD from the University of Pennsylvania. Her ophthalmology residency training was conducted at UMDNJ-Rutgers in Newark, N.J. She was fortunate to have the opportunity to volunteer abroad during her training in Argentina, India, and Peru.

Dr. Simon will see patients at both the Providence and East Greenwich location of Pediatric Ophthalmology and Strabismus Associates.

VantagePoint Healthcare Advisors welcomes Cristine Vogel

Former OHCA Commissioner adds CON, ACA expertise to portfolio of consulting services

HAMDEN, CT. – VantagePoint Healthcare Advisors (VantagePointconsult.com) has named CRISTINE VOGEL, MPH, as a senior consultant. She will be assisting clients with strategic planning and marketing initiatives in response to the Affordable Care Act (ACA), and with the Certificate of Need (CON) process. Her addition supports the continued expansion of VantagePoint services that support health care clients dealing with mergers and affiliations, compliance and other challenges requiring specialized expertise.

About this new infusion of talent, Susan Prior, VantagePoint President and COO, says: “We are delighted to welcome Cristine to our team. She has a comprehensive understanding of the CON [Certificate Of Need] process. Her work within Connecticut health systems and as the former Commissioner of the Office of Health Care Access, as well as her national work with the Affordable Care Act will bring a tremendous depth of expertise to our firm and to our clients.”

As Commissioner of OHCA for seven years, she ruled on over 300 Certificate of Need decisions, chaired several cabinet-level committees, conducted and published numerous research articles on issues such as inpatient hospital utilization, preventable hospitalizations, and hospital financial challenges. In addition, she developed and testified on behalf of proposed legislation that impacted patient access, provider viability and overall health system quality. As the Governor’s Special Advisor for Health Care Reform, she was appointed as the lead person to implement the federal health care reform strategy and attended meetings organized by the U.S. Department of Health and Human Services (HHS) to initiate the designing of the Health Insurance Exchange for Connecticut. Recently she was providing consulting services related to the implementation of the ACA to state and federal government clients, providers and health plans.

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Hospital Recognition

South County Hospital’s Orthopedics Center earns accreditation from The Joint Commission

WAKEFIELD – South County Hospital’s Orthopedics Center has earned The Joint Commission’s Gold Seal of Approval for its hip and knee replacement program. The certification recognizes the Orthopedic Center’s compliance with national standards for healthcare quality and safety in a disease-specific care.

A team from the Joint Commission recently conducted a rigorous on-site review of the Hospital’s joint replacement program that includes infection prevention and control, leadership, and medication management.

“Having The Joint Commission Gold Seal of Approval for our Orthopedics Center shows our commitment to the highest quality of care for our patients,” said ELAINE DESMAR AIS, RN, CPHQ, assistant vice president of quality and regulatory compliance at South County Hospital. “Every day our Orthopedics team of physicians, nurses, and technicians work to make certain the Commission’s and the Hospital’s high standards are continuously met.”

Certification requirements address three core areas:

• Compliance with consensus-based national standards.
• Effective and consistent use of appropriate, evidence-based clinical practice guidelines for the hip, knee or shoulder replacement patient population.
• Collection and analysis of a minimum of four performance measures specific to the hip, knee or shoulder replacement patient population (a minimum of two performance measures must be clinical in nature).

Newport Hospital redesignated with Magnet nursing recognition

NEWPORT – Newport Hospital has again attained the distinguished Magnet hospital designation by the American Nurses Credentialing Center’s (ANCC) Magnet Recognition Program. Considered the gold standard for nursing excellence, the voluntary hospital credentialing program recognizes nursing excellence and professionalism. It is the top international credential for outstanding nursing care. The unanimous decision to redesignate Newport Hospital was based on the hospital’s continued adherence to rigorous national standards of nursing practice.

“It is a privilege for us to be honored for the third time with health care’s most coveted recognition,” said DENISE SULLI-VAN, RN, vice president of nursing services, chief nursing officer/Magnet coordinator at Newport Hospital, “and to know that our team of talented and dedicated nurses continues to be recognized as among the best in the country for providing the highest quality patient care to the communities we serve.”

The Magnet Model is designed to provide a framework for nursing practice, research and measurement of outcomes through which ANCC can gauge an organization’s nursing excellence. These include the quality of nursing leadership and coordination and collaboration across specialties, as well as processes for measuring and improving the quality and delivery of care.

To achieve the recognition, organizations undergo an extensive and lengthy evaluation every four years that features qualitative and quantitative documentation of the highest level of patient care and rigorous on-site review. Magnet redesignation requires documentation that the hospital sustained and improved on Magnet concepts, performance and quality over the four-year period since the hospital’s last recognition. For Newport Hospital’s most recent recertification, three Magnet appraisers spent three days conducting on-site visits. The hospital’s Magnet application consisted of approximately 3,000 pages.

“There is a great sense of pride here at Newport Hospital in being able to serve our community,” said CRISTA DURAND, president of Newport Hospital, “and receiving this latest redesignation fuels our continued efforts to deliver value and quality care to our patients, their families and our employees.”

Memorial Hospital offers Balloon Sinuplasty™ procedure

PAWTUCKET – JOHN TARRO, MD, an otolaryngologist (ear, nose and throat specialist or ENT) at Memorial Hospital of Rhode Island, has a new treatment option that may help patients diagnosed with chronic sinusitis or have multiple sinus infections per year that are not helped with medications.

Balloon Sinuplasty™ relieves the pain and pressure associated with chronic sinusitis.

The procedure treats chronic sinusitis patients who are not responding well to medications such as antibiotics, nasal steroids, or over-the-counter drugs, and are seeking relief from uncomfortable and painful sinusitis symptoms.

“The procedure is less invasive than traditional sinus surgery so it allows most patients to return to normal activities quickly,” Dr. Tarro said. “Recovery time varies with each patient, but most patients return to work and normal activity within two days.”

Similar to the way angioplasty uses balloons to open blocked arteries, Balloon Sinuplasty uses a system of FDA-cleared, catheter-based instruments to open blocked sinuses.

During the procedure, a specially-designed catheter is inserted into the patient’s nose to reach the inflamed sinus cavity. A small balloon is slowly inflated, widening and restructuring the walls of the sinus passage, draining mucus from the blocked sinus and restoring normal sinus drainage with no cutting and minimal bleeding. This approach also preserves the natural structure of the sinuses.

Most insurance companies and Medicare provide coverage for Balloon Sinuplasty.

SEPTEMBER 2014

John Tarro, MD
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Obituaries

ANTHONY R. AMICARELLI, DMD, MD, 84, of Smithfield, passed away August 16, 2014 at Philip Hulitar Inpatient Center. He was the beloved husband of Ann M. [Fraser] Amicarelli for 62 years. Born in Providence, he was the son of the late Biagio and Assunta [DeAmicis] Amicarelli.

Dr. Amicarelli was a 1948 graduate of Classical High School. He attended Providence College and continued his studies at Tufts University School of Dental Medicine, graduating in 1956. He began his dental career as a Captain in the U.S. Army Dental Corps. After serving two years he opened his own dental practice in Cumberland. Dr. Amicarelli later graduated from the University of Bologna Medical School in Italy with a degree in medicine and went on to practice pediatrics in Pawtucket and Lincoln. He also practiced addiction medicine and was the Medical Director of CODAC, a substance abuse program, for more than 20 years. He was the recipient of the Nyswander-Dole Award in 1984.

Besides his wife he leaves four daughters, Cathy Wayne and her husband Robert, Ellen Amicarelli, Carolyn Ray and Lori McMenemy and her husband Michael. He was the beloved Papa to his seven cherished grandchildren, Vanessa and Jesse Wayne, Christopher and Derrick Ray, Thomas McMenemy, Carolyn McMenemy-Chirico and Anthony McMenemy. He was the brother of the late Rinda Eastman and Dina Cote.

In lieu of flowers, donations in his memory may be made to Home & Hospice Care of RI, 1085 North Main St., Providence, RI 02904.

JOSEPH C. FLYNN, MD, 74, a retired Lieutenant Commander, United States Navy, of North Kingstown, passed away peacefully on August 23, 2014 at the Rhode Island Veterans Home in Bristol. He was the beloved husband of Dianne E. [Rich] Flynn. They were married for 48 years.

Born in Providence, he was a son of the late Dr. Joseph C. and Eveline V. [Lynch] Flynn.

Dr. Flynn was a private practice OB-GYN at Kent County Hospital, retiring in 1998.

He served his country proudly in the United States Navy during the Vietnam War and reserve duty. He was a graduate of the Assumption School, LaSalle Academy, Providence College, and Loyola Medical School. He was a member of ACOG, RIMS, NEOGS and diplomate of the ABOG. He was a member of Potowomut Golf Club, Quindessett Country Club, and Bear Lakes Country Club and served as a president of the Friendly Sons of St. Patrick and was an avid cruciverbalist.

Besides his wife, he leaves his four children, Joseph Flynn, of Brooklyn, NY; Michael Flynn, and his wife Celia, of Tampa, FL; Kathleen Flynn, of Warwick, and Sean Flynn, and his wife, Deanna, of Coventry; two brothers, Gary and Christopher Flynn; and many nieces, nephews, and cousins. He was the dear brother of the late Raymond Flynn and the late Maureen Lawson.

In lieu of flowers, donations can be made to Providence College Angel Fund, Harkins Hall 412, 1 Cunningham Square, Providence, RI 02918 or the Rhode Island Veteran’s Home, 480 Metacom Ave, Bristol, RI 02809 in his memory would be appreciated.

PATRICK R. LEVESQUE, MD, 85, of Old River Road, Lincoln, died Aug. 6, 2014 at Landmark Medical Center, Woonsocket. He was the beloved husband of Andrée [Julien] Levesque. Dr. and Mrs. Levesque were married for 56 years.

Born in Quimby, Maine, a son of the late Louis and Antoinette [Cyr] Levesque, he lived in Cumberland for 34 years before moving to Lincoln 14 years ago. Dr. Levesque was a general practitioner in Cumberland. He was a graduate of Assumption College and received his medical degree from Montreal University. He was a member of the Rhode Island Medical Society. He was a Korean War Army veteran.

Dr. Levesque had two great loves in his life. His love of family and friends, and his love of his chosen profession, internal medicine. He came to Rhode Island in 1966 and joined the medical staff at Woonsocket Hospital, currently known as Landmark Medical Center, where he remained active throughout his career while maintaining a private practice. He retired from practice in 2000, but continued to care for nursing home patients until 2011, when sadly, health issues prevented him from continuing his career.

Besides his wife, he is survived by one daughter, Melanie Madden and her husband, John of Lincoln; two sons, Philip Levesque and his husband, Tre of Los Angeles, CA, and Charles Levesque and his wife, Michelle of Scituate, MA; one sister, Thelma Guerin of Grafton, MA; three brothers, Yvon Levesque of Houlton, ME, Norman Levesque of East Longmeadow, MA and Richard Levesque of Wolfeboro, NH; five grandchildren, Sean and Danielle Madden, and Maddie, Sylvie and Ava Levesque; a sister-in-law Denise Jasmin, several in laws, nieces and nephews; and his very close friends, Fouad and Maureen Yazbak.

In lieu of flowers, contributions in Dr. Levesque’s memory to Mount St. Rita’s Health Centre, 15 Sumner Brown Road, Cumberland, RI 02864, or a charity of your choice, would be appreciated.
Some in practice today will recall the time prior to the 1940s when an active knowledge of the apothecary system of weights and measures was as much a professional requirement as an intimacy with the more simplified metric system. An acquaintance with the minis, drams, scruples, ounces and grains of lore was essential to the daily practice of medicine since prescription writing, now a vanishing art, was a daily chore. Most prescriptions in that era, it must be remembered, required an elaborate formulation of pharmacologically active substances, although the dubious function of those ingredients justified much skepticism. Napoleon is quoted as saying: “Medicine is a collection of uncertain prescriptions, the results of which, taken collectively, are more fatal than useful to mankind.”

The apothecary’s working vocabulary was a bizarre collection of etymologically corrupted Greek, Latin, Arabic and early Romance-language terms such as drams, minims, grains, decoctions, pints, scruples and even ells, stones, sacks, gills, marks, verges and elixirs. This transnational lexicon also served the mercantile needs of jewelers, coinage manufacturers and necromancers.

The history of the word, dram, begins with the Greek word, *drachma*, meaning ‘that which can be grasped.’ A drachma, initially, was the name of a silver coin of designated weight. As a numismatic criterion, it entered the Greek, Roman, Sassanian and Armenian currency systems – and, belatedly, the apothecary-avoirdupois verbiage where it was standardized to 1/16 ounce or 1.77 grams.

A standard measurement for very small volumes of fluids had been the drop, defined loosely as a set fraction of a teaspoon. The Latin, *minimus*, meaning the smallest, the least, became the minum, a widely used unit by pharmacists until supplanted by calibrated pipettes.

The Romans called a sharp fragment of bone *scrupulus*; and then, when seeking a name for 1/24th of an ounce, modified the word to scruple, which since has been variously identified with the smallest amount or, in general conversation, a meticulous care for exactness.

The grain, a measurement of mass equals 64.8 milligrams. Historically it was said to be based upon the weight of a single seed of barley. Few physicians still think in terms of grains as a pharmacological measurement of mass. Yet a 325-milligram aspirin tablet may sometimes be called a 5-grain ASA tab.

Ounce, as a measure of weight and inch as a measure of length, are both derived from the Latin, *uncia*, meaning one-twelfth. The troy system of weights (where a pound equals 12 ounces) is used still by jewelers. Troy is probably derived from the medieval French trading city, Troyes.
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1950: RI Physicians Prepare for the Atomic Age

‘We will now be on the firing lines’

MARY KORR
RMJ MANAGING EDITOR

In the fall of 1950, the Rhode Island Medical Journal’s Editor-in-Chief, PETER PINEO CHASE, MD, published an editorial, “Defense,” alerting its readership to the formation of a Civilian Defense Committee by the state and to the need for the medical community to begin preparations “if an atom bomb or some more hideously destructive weapon of warfare lands on Providence.”

Dr. Chase, a World War I veteran who had worked overseas as a surgeon, had spent time in post-war Europe, in 1949, working for the International Relief Organization. He participated in displaced physicians’ training courses in Germany and visited surgical clinics that saw a large amount of amputee patients.

He imagined the worst-case scenario in Providence. The editorial stated: “The local hospital in the immediate vicinity will have no problems. Everything human in that vicinity will cease to exist. The population a little farther away, badly injured but still alive, will have to be succored by relief parties from other medical centers...We will now be on the firing lines...”

In subsequent pages, he noted, “The medical aspects of atomic damages represent a story with which we are only vaguely familiar,” and Dr. Chase stated physicians must become prepared. The Rhode Island Medical Society subsequently invited several speakers to address the issue at its December meeting.

DRS. ERNEST K. LANDSTEINER of Barrington, a Providence surgeon and urologist, and JOSEPH W. HOWLAND of Rochester, NY, would speak on “Radiation syndrome.”

According to declassified documents from the University of Rochester Atomic Energy Project in 1950, Dr. Landsteiner had attended a one-week course sponsored by the Atomic Energy Commission the previous March, entitled “For Physicians Concerned with Civil Defense Against Atomic Warfare.”

DR. JAMES DEERY, deputy director of the RI Dept. of Public Health, also attended.

Dr. Howland, who taught some of the seminars, brought front-line expertise to the RMS 1950 meeting; he had organized the medical groups that went to Japan to analyze the effects of radiation poisoning, and later was chief internist-pathologist to the Nagasaki group.

According to the Miner Library archives at the University of Rochester, where Dr. Howland was a professor of radiation biology at the University’s School of Medicine & Dentistry from 1947 to 1965, they were the first Americans to investigate the effects of radiation on the casualties at Hiroshima and Nagasaki.

Meanwhile, the civilian population across America began to build fall-out shelters in the event of an attack, and stock up on cans of spam, water, and first aid supplies.

Japanese youth with second degree flash burns in Hiroshima, 1945.
Official U.S. Government booklet, “Survival Under Atomic Attack,” was reprinted in the Rhode Island Medical Journal in late 1950, as well as a directive from President Truman and the Secretary of Defense dated Sept. 7, 1950, on proposed procedures to call reserve medical and dental officers to active duty, in light of the Korean conflict and “Cold War” tensions between the U.S. and the Soviet Union.
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