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# Medicine & Health RHODE ISLAND

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## Immigrant and Refugee Medicine In Rhode Island



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# Medicine & Health RHODE ISLAND

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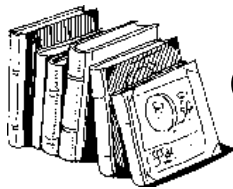
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## Commentaries

### Warning On Treating Depression

**I am a paid consultant to a law firm** representing patients who took metoclopramide (Reglan) for long periods of time and developed **tardive dyskinesia (TD)**. Many doctors who prescribe this drug have considered it a very benign, very helpful drug for treating gastrointestinal (GI) problems. It is particularly helpful for gastroparesis, but also for nausea, and a wide variety of non-specific GI complaints that seem to disappear magically with the drug, and re-appear when it is removed. In most cases the drug may be used safely for months, or even years, but a small percentage of patients develop TD.

Although many doctors think of TD as a disorder in which people have involuntary movements of their tongue, lips and jaw, so that they appear to be chewing gum when they are not, TD is actually a collection of syndromes that include choreic movements, choreoathetoid movements, dystonia, akathisia (inability to remain still due to uncomfortable restlessness) and tics. The problems are usually small, often not even noticed by a patient, but by the time they reach a neurologist, they are not. TD can be permanent, and the treatments are of variable efficacy, with real side effects.

The package insert for metoclopramide states that the drug should not be used for more than 12 weeks at a time. In the last year the FDA added a black box warning for the package insert; and about three years ago I attended an FDA meeting where they were judging a combination drug to be used for migraine, which included metoclopramide and a non-steroidal anti-inflammatory drug, which is approved in the UK, and they deemed it too unsafe, despite the restriction that the drug be used no more than six times per month. Thus the FDA allows the drug to be used qid for 3 months, but not six times/month.

Since metoclopramide is a generic drug, few doctors know about the black box warning. So, in the real world, Dr X sees a patient who has been complaining about some peculiar GI-type discomfort for the past few years, has had innumerable negative scans,

endoscopies and GI consults, gets placed on metoclopramide and suddenly experiences his first relief in years and feels like a new person; and every attempt to stop it, results in symptom recurrence. At this point, our crazy medico-legal system strikes. It is a requirement that the doctor note in the chart that the patient was counseled about the possibility of TD, and that the patient was examined for it as well. But this doesn't happen very often: hence the lawsuits on behalf of some very damaged patients who took the drug for too long.

However, I'm actually not concerned about metoclopramide in this column. My real interest is in aripiprazole, because I see this train now just leaving the station. Aripiprazole (Abilify) is an antipsychotic drug recently approved for treating depression, and advertised heavily on television. In the "old days" depression was treated by psychiatrists, but with the development of the **selective serotonin reuptake inhibitors (SSRI)s**, which were quite safe and easy to use because they usually do not require titration, **primary care providers (PCP)s** took over the treatment of most patients with depression. In recent years, some companies have launched campaigns to involve PCPs in treating **bipolar disease (BPD)** with antipsychotic drugs as well, which are easier to use, and probably safer than lithium. I am not sure how successful this effort has been, with BPD being a bit more complex to understand than depression, but I am sure, based on the extensive lists of medications my patients are taking by the time they see me, that PCPs treat depression.

Aripiprazole is a so-called "atypical" antipsychotic drug. These are thought to have a much lower propensity to induce movement disorder side effects than the "typical" neuroleptics. While I do believe that this is true, the best studies, involving thousands of subjects, designed and performed by the world's leading experts, have shown that this is not the case. No one understands why in practice these drugs seem to be "relatively" free of movement disorder side effects,

but not in large studies. In any case, they are not completely free of them.

In the case of aripiprazole, I have an article in press describing only the third case of a tardive syndrome induced by the drug in a neuroleptic-naïve patient. That is, the patient had never been on any antipsychotic drug before aripiprazole, so that no other antipsychotic could be implicated. In addition, she was taking the same very low dose that is recommended for depression. Most PCPs are not aware of this risk and because it is a "new" antidepressant, they will think it is like the SSRIs.

I fear that five years from now we are going to see the media ads we now see soliciting for metoclopramide-induced TD cases, substituting aripiprazole for metoclopramide, and the PCPs are the ones who will be sued. The psychiatrists generally are aware of movement disorder side effects, mention it to their patients, and chart their warning and then the absence of TD in follow-ups. They don't always do this, unfortunately, putting themselves at risk for the lawsuits that are going to come. PCPs almost never do this.

I hope that my concerns for the TD risk are overblown. I hope that only three TD cases in neuroleptic-naïve patients have been reported because it is so rare for this drug to cause TD, but I doubt it. I suspect that no one has reported it because the doctors who use the drug have been psychiatrists and they don't think it's such an unusual observation that it deserves reporting. I suspect that the doctor doesn't generally recognize TD, and the patient doesn't generally complain. I think that having PCPs start to use aripiprazole as they use the SSRIs is an invitation to malpractice pig heaven.

— JOSEPH H. FRIEDMAN, MD

#### Disclosure of Financial Interests

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

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

# Dracunculiasis: A Candidate for Eradication

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**“And the Lord sent fiery serpents among the people, and they bit the people; and much people of Israel died.”** This brief Scriptural passage (Numbers 21:6) tells of an ancient ailment, with no further elaboration, afflicting those led by Moses; nor did these serpents appear elsewhere in the Bible.

Historians have wondered whether these fiery serpents were mere metaphoric expressions and whether they bore any resemblance to documented human disease. Agatharchides, in 140 BCE, described a helminthic affliction associated with intense burning limb pain; and both Aeginus and Avicenna noted such parasitisms, calling them the disease of little dragons (in Greek, dracunculiasis). The first comprehensive clinical description of those figurative serpents appeared in a scientific paper written by the Bulgarian patriot Christo Stambolski (1843 – 1932). He had trained as a physician in Istanbul but had then been exiled to Yemen in 1877 because of his alliance with Christian nationalists who struggled to achieve Bulgaria’s independence from the Ottoman Empire. While in Yemen, at the southwest corner of the Arabian peninsula, Stambolski encountered, and then described, a strange ailment called fiery serpent’s disease, detailing a human affliction with worms exiting from blisters, typically on the leg, associated with intense, burning pain.

Dracunculiasis is caused by the invasion of a filarial worm called *Dracunculus medinensis*. Its common name is Medina worm (named for the Arabian city) or Guinea worm (named after the Guinea coast of sub-Saharan West Africa.)

Dracunculiasis is confined mainly to rural areas of abject poverty burdened by episodic drought and lacking any safe drinking water supply. The disease, in the 20<sup>th</sup> Century, was endemic to many Indian districts, particularly Gujarat and Andhra Pradesh, Arabia and Central and West Africa. As of 1960, about 40 million persons were afflicted, globally.

The infectious cycle consists of the following: A person already afflicted with the disease, burdened by intense, burning pain in his leg – and with the worm having pierced the blister – will typically seek relief by bathing his leg in water. In so doing, he inadvertently allows the *Dracuncula* worm to shed its thousands of larvae into the surrounding water. Barely visible water fleas (species of *Cyclops*), found in virtually all bodies of still water in the tropics, avidly absorb the larvae. And when people drink that water, the *Dracuncula* larvae enter the new victim’s body.

The larvae then burrow through the wall of the digestive tract, emerging in the peritoneal cavity. Males and female larvae mate; the males die and the females migrate to the muscles of the victim’s leg, often reaching as much as a meter in length. The worm finally reaches the skin-surface of the leg, causing an intense, reactive blister; and when the blister bursts and the worm is exposed to water, it sheds its many millions of larvae to infest the bathing water. The cycle begins anew when people drink this water.

Preventing the widespread disease called dracunculiasis is quite easy when the problem is confined to a blackboard in an air-conditioned classroom: Provide safe drinking water and the disease will disappear within a generation.

In the field, however, such problems are not readily fixed. The US Centers for Disease Control, in association with the World Health Organization, confronted the problem aggressively in the 1960s, and by the 1980s had enlisted the help of the Carter Center and, more recently, the Gates Foundation in a coordinated effort to eradicate the disease by the year 2009.

Currently, there are neither medications nor vaccines to cure dracunculiasis. Yet the comprehensive campaign to eradicate the disease is gaining traction. Prior to 1960, when the first anti-dracunculiasis campaigns had commenced, there were an estimated 40 million sufferers. By 2008, only 4,613 new cases were documented. How was this achieved? As with so many communicable diseases, the goal was reached through intense education at the local, village level. Many village-based workers were required to teach several fundamental lessons: (1) Provide safe water from a well; but if stagnant pond water is the sole source for drinking, then filter the water through a finely woven fabric such as nylon. (2) Treat potentially contaminated water with a larvicide such as temephos. And (3) educate sufferers to avoid entering, and thus contaminating, stagnant sources of still surface water. The filters and supplies of larvicide were widely distributed.

The goal of total eradication, planned for 2009, was not reached largely because of the disrupting effects of civil wars and involuntary migrations. Nonetheless dracunculiasis has now been confined to only six African nations (Ethiopia, Ghana, Mali, Niger, Nigeria and Sudan) with every hope of global eradication by 2011.

Eradication, the total rooting out of a disease throughout the planet, has yet to be achieved except for one pestilence, smallpox. But polio and measles are close to planetary-wide extinction; and disorders such as dracunculiasis are close to this wondrous goal of global eradication, the dream of those who practice preventive medicine.

– STANLEY M. ARONSON, MD

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

## Disclosure of Financial Interests

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

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# Demographic Characteristics of Rhode Island Immigrants

*Lawrence Proano, MD, DTMH, Anand Shah, MD, Robert Partridge, MD, MPH*

**The United States (US)** is a nation of immigrants. The number of people who were born outside of the US has risen during the past 30 years. Eleven percent [33 million people] of the US population are foreign born.<sup>1</sup> **Rhode Island (RI)** is both a home and a destination for immigrants from all over the world.

Refugees and other immigrants present to the practitioner with clinical problems as varied as their experiences. Clinical presentations may range from unusual infectious diseases to problems with transition. Understanding the demographic characteristics of Rhode Island immigrants and the challenges they face after resettlement provides the practitioner with a crucial foundation for serving this population.

## CLASSIFICATION OF IMMIGRANTS

Individuals arriving in the US can be divided into three categories: legal immigrants, official refugees and undocumented residents. Legal immigrants include children placed for adoption, persons granted asylum and permanent residents. Lawful Permanent Residents are non-citizens with permission to permanently live and work in the US. Other types of lawful immigrants include those coming to live with family members residing in the US or temporary workers who arrive with limited visas. Naturalized citizens are born outside the US, and granted citizenship through the naturalization process.<sup>2</sup>

Refugees and Asylum Seekers (asylees) are non-citizens who are granted permission to live in the US because of a well-founded fear of persecution in their country of origin. Refugees are granted such permission before coming to the US, whereas asylum-seekers request asylum status after coming to this country.<sup>3</sup>

A refugee is defined as "Any person who is outside any country of such person's nationality or, in the case of a person having no nationality, is outside any country in which such person last habitually resided, and who is unable or

unwilling to return to, and is unable or unwilling to avail himself or herself of the protection of that country because of persecution or a well founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion." People with no nationality must generally be outside their country of last habitual residence to qualify as a refugee. Refugees are subject to geographic ceilings set annually by the President in consultation with Congress and are eligible to adjust to permanent resident status after one year of continuous presence in the United States."<sup>4</sup>

An asylee is an alien in the US or at a port of entry who is found to be unable or unwilling to return to his or her country of nationality, or to seek protection of that country because of persecution or a well-founded fear of persecution. Permission to reside in the US for these immigrants is limited to 10,000 adjustments per fiscal year.<sup>5</sup>

Illegal immigrants have no legal documents to support residence or work here. Undocumented Immigrants have either entered the US illegally, stayed past a visa expiration date, or engaged in activities outside their visa status.<sup>6</sup>

## UNITED STATES AND RHODE ISLAND IMMIGRATION

Historically, RI's largest ancestry groups have come from Italy (19%), Ireland (19%), French-speaking Canada (17.3%), Britain (12%), Hispanic and Latin America (11%) and Portugal (8.7%).<sup>7</sup> RI has a higher percentage of Americans with Portuguese ancestry than any other US state. The Census Bureau data show that Rhode Island's population increased only slightly from 2000 to 2007. During this same period there was a net immigration gain of 3,270 foreign-born residents and a net population loss of 4,145 residents from net domestic migration. Factoring in births, the state showed a net population increase of less than 1% (9,513 residents) during this

period. This rate is significantly below the national average of 9.9%.<sup>7</sup>

The patterns of immigration into RI have changed. As of 2006, the estimated immigrant population of RI was 137,980, which equates to approximately 13% of the state's population. Approximately 23% of these individuals entered the state after 2000. The majority of immigrants are from Portugal (17.6%), Dominican Republic (13.7%) and Guatemala (7.6%). Persons from Columbia, Italy, Canada, Cambodia, UK, China and Laos account for another 22.7% of the immigrants to Rhode Island. The City of Providence census for 2000 recorded 43,947 foreign born residents, roughly 25.3% of the total population. This suggests that Providence is a major destination for immigrants and refugees alike.<sup>8</sup> RI's naturalization rate of 47.1% is significantly higher than the national average of 40.1% based upon data recorded during the 2000 Census. This may indicate a more assimilated and older immigrant population.<sup>8,9</sup>

In 2008, the US resettled just over 48,000 official refugees, and over 1.8 million have been resettled in the last 25 years. RI has resettled over 4500 refugees since the Refugee Act passed in 1980 with approximately 139 resettled in 2007. The number of arrivals fluctuates according to international affairs and US political policies. The numbers of refugees has varied from 663 to 84 in a given year depending on these parameters.<sup>10</sup>

## APPROACH TO IMMIGRANT RESETTLEMENT IN RHODE ISLAND

The Department of State (DOS) coordinates refugee resettlement among states. Initially refugees are screened in their home countries and applications are filed for resettlement. Refugees enter the US from one of eight coastal ports and are cleared for entry. The federal government attempts to disperse refugees evenly among the states. Ethnic and cultural groups tend to resettle within the same regions. In RI, the Department of

Health's Refugee Health Program receives notification of refugees to be resettled into the area. It then redirects cases to two community agencies, International Institute of Rhode Island and the Diocese of Providence, which help the refugees to settle here.

Persons applying for permanent residency status are required to have a physical and mental evaluation by a physician who is listed as a civil surgeon by the US Citizenship and Immigration Services (USCIS). The examination includes a standard medical history with questions about disabilities, substance abuse and mental health issues, as well as a physical examination. The USCIS requires testing for tuberculosis and syphilis. Testing for HIV for immigrants was repealed January 4, 2010.

Overseas examinations are conducted to ensure that refugees do not have conditions that would exclude them from entering the United States. These medical exclusions include certain communicable diseases and mental health conditions associated with violence. Refugees with communicable diseases that preclude their entry into the country may be delayed until appropriate treatment is initiated and they are no longer infectious. Following treatment, refugees will be allowed to emigrate to the United States. Waivers of admissibility may also be requested for conditions that are grounds for exclusion. The Division of Quarantine, Centers for Disease Control and Prevention (CDC), is responsible for oversight of all overseas examinations.<sup>11</sup>

Once in the US, the Department of State requires that refugees receive a health screening within 30 days of arrival or within 7 days of arrival for HIV-positive refugees. The purpose of the domestic health screening is to verify the overseas screening results and identify any health condition that poses a threat to the individual's or public's health. Furthermore, this domestic health screening facilitates entry into the primary care system, and informs the refugee surveillance system operated by the Refugee Health Program.

Due to their experiences prior to and during the resettlement process, refugees often require comprehensive medical services upon arrival, including immunizations, treatment of infectious diseases, dental care, and mental health services.

In accordance with the Immigration and Nationality Act, refugees, including Cuban/Haitian entrants and certain Amerasians, are eligible for refugee health services for eight months from the date they entered the US. Asylees and victims of severe forms of human trafficking are also eligible to receive refugee health assessment and reception and placement services.<sup>12</sup>

## Once in the US, the Department of State requires that refugees receive a health screening within 30 days of arrival or within 7 days of arrival for HIV-positive refugees.

Some refugees arrive here because they could not return to their home country, and the country to which they fled will not keep them as refugees. This is termed third country resettlement.<sup>13</sup> All refugees approved for third country resettlement here undergo an overseas medical examination before traveling to Rhode Island. That examination is done by a local panel of physicians, or alternatively by physicians working under contract to the International Organization for Migration, and uses local facilities (laboratory, x-rays, etc).<sup>10</sup> The RI Refugee Health Screening Form is a tool used to screen refugees. Included in the screenings are immunizations, tuberculosis assessment, a women's health check, a physical exam, medical history, and referrals for any other identified needed services.<sup>14</sup>

## CHALLENGES

Although there is debate in the US about immigration policy, immigration has played a pivotal role in US history. The US is largely a

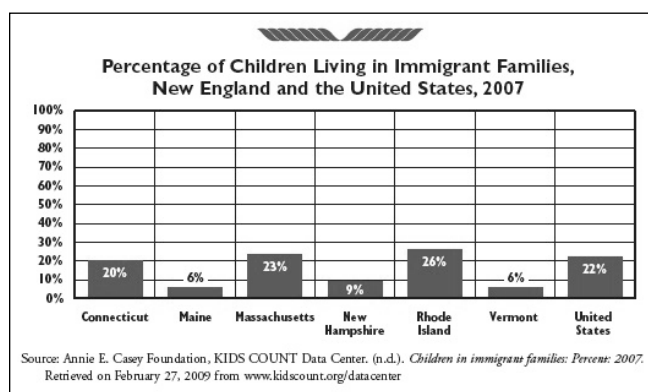
country of immigrants and their descendants. Immigrants add to the labor force, pay taxes, serve in the US Armed Forces, and provide cultural enrichment.

New immigrants face a multiplicity of challenges, including their immediate need for housing, employment and economic security. In a global sense, the most important challenge is to ensure their assimilation here, in accordance with the resettlement goals of Federal and State agencies. They must learn minimal English, as well as understand American social, cultural and legal standards. Otherwise, they may retreat into social isolation with immigrants of their own country of origin.

Throughout New England there is an intense debate over illegal immigration. In Rhode Island, as elsewhere, budget crises have led to cutbacks in services. In 2008, Rhode Island lawmakers proposed a series of measures aimed at illegal immigrants; e.g., expelling illegal immigrant children from RI's healthcare system, and jailing business owners and landlords who harbor illegal workers. These proposals are significant, as RI has long touted itself as a state with a strong immigrant past.<sup>15</sup>

Unfortunately, the economic climate has led to a decrease in economic security for both immigrants and citizens. A special concern is the safety of children of incoming immigrant families. Census data (2007) reveal that 26%<sup>6,11</sup> of RI's child population were living in immigrant families. This is the highest percentage of all New England states and higher than the total average US percentage.<sup>16</sup> (Table)

In 2007 25% of immigrant children lived in families with incomes below the federal poverty level. Almost half (48%) of parents in immigrant families have low levels of education; about a quarter have limited English language skills. On the positive side, almost one third (31%) of





children in immigrant families in RI have at least one parent with a college or graduate level of education.<sup>16</sup> In approximately 21,000 households (5%), no one over the age of 14 speaks English. Forty-six percent of those with limited English skills speak Spanish, 38% speak other Indo-European languages and 18% speak an Asian language.<sup>17</sup> The Latino immigrant population accounts for a large proportion of all RI immigrants. In 2002, the Providence School Department reported that 51% of their students have Spanish as a dominant language despite the fact that 64% of them are US-born.<sup>17</sup>

Adequate housing remains a challenge for immigrants. In Rhode Island 3% of housing units are considered crowded (defined as more than one person living in a room) but the average Latin American immigrant lives in a neighborhood where 10% of all housing is crowded.<sup>17</sup>

Due to immigrants' limited access to employer-based health coverage and restrictions for public coverage, non-citizens (legal and undocumented) are far more likely to be uninsured than citizens (47% vs. 15%).<sup>18</sup>

Other barriers inhibit immigrants' ability to find care within the US health care system. For instance, immigrants often bring with them beliefs and practices that are at odds with Western medicine. Such beliefs can delay immigrants' accessing care and can increase morbidity. Unfamiliarity with access points and processes for health care delivery, in conjunction with language limitations, leads to inadequate health care for many immigrants.



This patient population has a unique burden of disease and health care beliefs. Most RI health care practitioners will not have learned about immigrants' needs during training. Immigrants can suffer from a variety of infectious diseases, malnutrition, and mental health conditions as a result of their experiences. Many people are surprised to learn that the average health care expenditure of immigrants is significantly lower than that of US-born persons,<sup>19</sup> in part because immigrants have difficulty accessing health care resources. As a result, immigrants and minorities tend to use hospital emergency departments for routine health problems and enter the health care system at end-stages of disease.<sup>20</sup> Hospitals, nurses, physician administrators, and medical educators should train healthcare practitioners to recognize, and care for this population.

## CONCLUSION

RI's evolution, development, even its origins have been defined and strongly influenced by immigrants. Immigrants, who represent a significant proportion of the state's population, originate from a wide variety of countries. If health care professionals hope to provide high quality care to this population, they must understand the demographics of this group.

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# Health Care Resources For Rhode Island Immigrants

*Kim Pringle, MD, Siri Daulaire, MD, Robert Partridge, MD, MPH, Lawrence Proano, MD, DTMH*

**Immigrants and refugees who enter Rhode Island (RI)** bring acute needs for medical, social and legal services. The **Department of Homeland Security (DHS)** formally processes refugees and immigrants. This process includes a medical evaluation (Health Screenings) and assistance with housing, legal status, and employment. Often the medical field is a point of entry into a set of social, health, and legal services.

This article will describe some of the health resources that are available to immigrants and refugees in RI.

## **ARRIVAL, SCREENING, AND CARE**

DHS determines a person's refugee status before resettlement in the US. If classified as a refugee, an immigrant will arrive with legal resident status. The Refugee Resettlement program contracts with **voluntary agencies (VOLAGS)**. In RI, the established VOLAGS are the International Institute and the Diocese of Providence, which assist the refugees with reception, placement, employment, **English as a Second Language (ESL)**, and case management.

Refugees who enter the US at one of eighteen ports of entry with quarantine abilities undergo health screening prior to departure from their home country. Once approved to travel to RI, the RI Department of Health accepts refugees into the RI Refugee Health Program. Since its inception in 2004, the Refugee Health Program has monitored and assisted immigrants in almost every aspect of their lives, from facilitating access to healthcare to providing opportunities for education and training.<sup>1</sup>

Refugees are initially covered through RIte Care, made available through Bluecross Bluechip, United Ritecare, or Neighborhood Health. Unless the refugee is disabled or has young children, RIte Care will end after eight months. Within that period refugees are expected to find employment that provides health benefits. Although case workers bring refugees to the Department of Human Ser-

vices shortly after arrival to apply for benefits, many refugees experience a delay of weeks to months to obtain proof of the benefits. This delay results in retrospective payment for many health care providers.

The initial medical screening for incoming refugee immigrants ideally serves as an entrance point into a primary care practice. RIte Care covers in-person or telephone interpreter services for healthcare appointments, but these services must be arranged in advance. The providers who make a commitment to the refugee community and conduct screening visits are Hasbro Children's Hospital, The Miriam Hospital, Saint Joseph's Hospital, and **Providence Community Health Centers (PCHC)**. At the screening exam, the physician makes referrals to specialty services.

Documented immigrants who are not classified as refugees face the same challenges as Americans: some may have employer-provided insurance, but many, particularly those who work at low-wage jobs, will be uninsured. Documented immigrants undergo a screening program prior to arrival in the US, though they are expected to establish their own primary care without the support of agencies that assist refugees. Children of uninsured patients are eligible for Kid Care, a state-funded insurance program, irrespective of citizenship status.

Undocumented immigrants experience a patchy network of social services, long waits, poor access to specialists and expensive pharmaceuticals. However, the **Women, Infants and Children Program (WIC)**, **COBRA Health Insurance**, and **Federal Emergency Management Agency Program (FEMA)** are available to immigrants<sup>3</sup> who meet eligibility requirements.

The **Personal Work and Responsibility Act (PWRA)** applies to immigrants arriving after August 1996. The PWRA rules that documented immigrants are ineligible for federal services until they have legally lived here for five

years. This creates a subset of documented immigrants who require services and do not have access to them. Despite the PWRA's enactment, few immigrants access the services for which they are eligible, after the five years have passed, often due to fear or misinformation.<sup>4</sup>

Many immigrants use hospital **emergency departments (ED)s** for all their healthcare needs. The Emergency Medical Treatment and Active Labor Act requires hospitals to evaluate patients regardless of their legal status or ability to pay, but does not require hospitals to provide care free of charge.<sup>5</sup> This leaves patients with large hospital bills they cannot pay. Many hospitals in RI offer financial assistance and counseling, but access is often through a difficult-to-navigate application process that patients and/or providers may not know about, or understand. Fortunately the state has an extensive although overburdened free clinic system including the Providence Community Health Centers, the Rhode Island Free Clinic, and the Women & Infants Wellness Van.

## **RESOURCE FACILITIES FOR IMMIGRANTS**

### **Lifespan Hospitals**

Lifespan Hospital System's Free Care Program charges uninsured persons fees based on a sliding-scale regardless of citizenship. If income is below a cutoff, which varies between facilities, the care is administered free of charge. In 2008 Lifespan provided just under \$72 million of uncompensated care.<sup>6</sup> The ED serves as the gateway to a sliding-scale program. The program requires the patient to accept responsibility for at least a copay, prior to a referral to the clinic and a Patient Financial Advocate. Not surprisingly, patients with language barriers often do not understand the referral process and the role of the Patient Financial Advocate, and those patients sometimes do not receive the financial benefits and miss scheduled appointments. Immigrants are ultimately referred to the

Medical Primary Care Clinic and the Medical-Pediatrics Clinic. Specialty services include cardiology, gastroenterology, ophthalmology, dermatology and immunology subspecialties. Surgical services include general, orthopedics, trauma, plastic, and neurosurgery.

Memorial Hospital of Rhode Island, Our Lady of Fatima Hospital and Kent County Hospital, have similar, albeit smaller programs.

### **Providence Community Health Centers (PCHC)**

With five locations, the PCHC serve 31,000 patients annually. The PCHC accepts all insurance providers from Rhode Island although most of their patients are uninsured.<sup>7</sup> The clinic is funded with a combination of Federal financing, insurance reimbursement, and patients payments (co-pays for insured payments, sliding scale fees for patients without insurance), and Neighborhood Health Plan funds.

The practices at the PCHC include adult, pediatric, obstetric and gynecologic care with select specialties offered weekly in the evenings. Patients requiring specialties not offered must seek care through one of the local hospital Free Care systems, most often Rhode Island Hospital. Laboratory tests are available at low cost from on-site laboratories, and clinicians preferentially prescribe medications from \$4 prescription programs (offered at Walmart, Stop and Shop, and Target pharmacies) or free samples provided by pharmaceutical companies.<sup>8</sup> Express Care offers urgent care seven days a week with extended hours. In addition, different locations specialize in multiple languages featuring bilingual staff and clinicians.

Crossroads Health Center, a subsidiary of PCHC and attached to the Crossroads RI facility (a multiservice facility for the homeless) offers health care services to the homeless population in Rhode Island, including on-site psychiatric services.

### **Rhode Island Free Clinic**

The Rhode Island Free Clinic (RIFC) offers adult internal medicine and gynecology. There are currently 350 uninsured patients in the practice; approximately 60-70% are immigrants. Medical staff, including on-site specialists in behav-

ioral health, psychiatry, surgery, orthopedics and ophthalmology, provide voluntary services. Funding is through private donations and grants. The RIFC has relationships with the ENT, GI, and Surgery clinics at Rhode Island Hospital and can facilitate appointments and the paperwork for free care.

Enrolling as a patient at RIFC involves a monthly lottery. Approximately 70-100 patients apply monthly for 20-30 available spots. Clinic visits are free and the on-site pharmacy has common medicines. When the RIFC is unable to supply the medications necessary, they encourage patients to utilize local \$4 programs.

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## **The Emergency Medical Treatment and Active Labor Act requires hospitals to evaluate patients regardless of their legal status or ability to pay...**

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### **SPECIAL HEALTH CIRCUMSTANCES**

HIV-infected refugees and documented immigrants have access to treatment even after eight months of state-sponsored care because of The Ryan White Act. Sites providing HIV care with case management and housing assistance include: AIDSCare Ocean State, Family Service of RI, AIDS Project RI, Agape, and Family Resources of RI. In addition, antiretrovirals are provided at discounted costs under the AIDS Drug Assistance Program to legal immigrants without insurance coverage. Undocumented immigrants must rely on the sliding-scale payment resources available through places such as Lifespan's Immunology Clinic.

### **Mental Health Services**

Mental health is one of the largest unfulfilled needs facing undocumented immigrants and the uninsured in general. Mental Health needs are mostly filled in the ED, leaving most mental health patients to receive care only in extreme cases. The Allen Berry Clinic, one

of the PCHC centers, provides doctoral candidates in psychology as a free resource to patients for mental health care.

Many refugees, particularly those arriving from hostile, impoverished countries, need mental health services. Access though, proves difficult for refugees due to cultural and language barriers. Family Service, a non-profit mental health center for insured persons, has several sites in the state. Family Service offers interpreting services in several languages.

Most healthcare providers refer uninsured or poorly insured patients to the The Providence Center, although non-crisis appointments may take weeks to be scheduled. Emergency psychiatric care can be found at local hospital EDs. However, this service is less than ideal, given the limited availability for follow-up care once the acute crisis has abated.

### **DENTAL HEALTH SERVICES**

With RItcare benefits, refugees receive dental services from dental professionals who accept Medicaid.<sup>2</sup>

For the uninsured, there is a patchy network of low-cost options. The Samuels Dental Clinic provides care for pediatric, prenatal and adults with special needs.

At Rhode Island Hospital ED, one of the 73 patient care rooms is a dedicated dental workstation with dental chair and dental instruments. The Samuels Dental Clinic Dentists occasionally use this for consults. However, ED clinicians handle the vast majority of emergency dental cases; and especially for daytime consults, Samuels Dental Clinic prefers that we send patients to them for evaluation and consultation.

The PCHC Dentistry Clinic provides care to its medical patients but focuses on prenatal and obstetric patients without attention to insurance status.

Some private dentists offer free services through the Donated Dental Program. The openings are few and generally require personal knowledge of a dentist offering such services as well as a lengthy application process.

The Travelers Aid Dental Clinic provides free care to homeless adults and adolescents living on the streets, in shelters, or in transitional living programs.

A number of other low cost or free dental care sites, such as Thundermist, offer services for domestic and immigrant populations.

## HEALTH EDUCATION

For immigrants, health education is often limited to a basic review of medications and the reaffirmation of the need for primary care. Education on diabetes, sexually transmitted diseases, cancer awareness, and socially complex issues such as domestic violence and substance abuse, are the mainstay of health education.

Resources for basic health education include International Institute, Progreso Latino, Center for Hispanic Policy and Advocacy, Capital City Community Centers, and African Alliance of Rhode Island. Progreso Latino offers public health resources for HIV prevention, cancer awareness, diabetes, domestic violence and substance abuse.

The Women & Infants Wellness Van offers mobile health outreach and education, as well as simple health screening.<sup>9</sup> The van is available state-wide with a schedule accessible online. The primary focus of the Van is to bring health care to the underserved community, including immigrants. Individuals present to the site of the day, at which point they receive health education and personalized advice.

The Wellness Van also offers information on insurance and the availability of primary care. While staff do not provide direct health care, they refer patients to agencies offering care to the uninsured, as well as assist in the application process. They work closely with churches, community centers, and institutions such as the International Institute.

In 1998, Rhode Island Hospital launched its Injury Prevention Center. The Center, based at Rhode Island Hospital and Hasbro Children's Hospital, has developed more than 20 programs in alcohol and injury, motor vehicle safety, medical student and resident education, bicycle safety, fire safety, and home safety. The immigrant and refugee population in RI have been included in a number of these initiatives.<sup>10</sup>

## CONCLUSION

Immigrants often arrive with limited English skills or financial resources and may have acute or chronic medical needs.

Rhode Island has agencies and organizations that can provide care for this population. Primary care clinicians, who are often the entry point into the health care system, should be aware of the resources available for this population.

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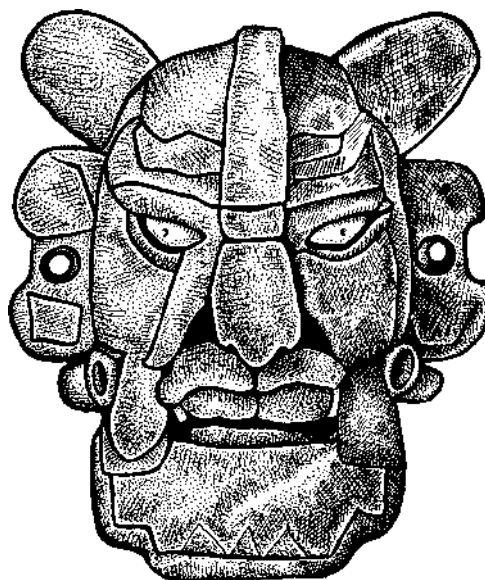
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# Legal and Cultural Resources For Rhode Island Immigrants

Siri Daulaire, MD, Kim Pringle, MD, Lawrence Proano, MD, DTMH, Robert Partridge, MD, MPH

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**The needs of immigrants and refugees** are complex. Providing medical care for this population is paramount, but the global needs of the immigrant population also encompass legal, cultural, translation and social services.

This article will focus on the non-medical and legal issues facing Rhode Island immigrants and the resources in RI. To help his/her patients, the health care provider should understand these issues.

## LEGAL NEEDS AND RESOURCES

Immigrants are classified as refugees, asylees, documented immigrants, or undocumented immigrants. The **Department of Homeland Security (DHS)** determines refugee status before a person resettles in the US. Once classified as a refugee, an immigrant has legal resident status. Asylees are a special subcategory of immigrants who apply for refugee status within 90 days of arrival. This application process is difficult and not always granted. Documented immigrants usually have close ties to the US, and have access to our social support and healthcare system. Refugees and immigrants who are highly skilled professionals or closely related to a US citizen can apply for **Legal Permanent Resident (LPR)** status. If ineligible for LPR status, they must apply through the “green card” lottery system, which grants 50,000 immigrants LPR status annually.<sup>1</sup>

## CITIZENSHIP PROCESS

By virtue of refugee status, an immigrant faces a simpler process of citizen applications, avoiding many of the challenges faced by other legal categories of immigrants. Refugees arrive with legal documentation of their status and are eligible to apply for **Legal Permanent Resident status (LPR)** after one year, from within the US. LPRs are commonly known as “green card” holders. Refugees, arriving with legal resident status, and are entitled to all of the rights and responsibilities of legal US residents.

After being granted LPR status, legal aliens are eligible for citizenship after residing in the US for five years. Obtaining citizenship costs approximately \$1000 per person, and requires that the immigrant submit application materials including photographs, fingerprints, and pass a US Citizenship and Immigration Services written exam. Many factors can make green card holders ineligible for citizenship, including felony convictions, leaving the country for greater than 30 months in any five year period, and an inability to speak or write basic English. This last requirement may be waived if the immigrant is older than 55 and has held a green card for longer than 15 years.<sup>2</sup>

Undocumented immigrants face a more complicated path to LPR status.<sup>3</sup> The most difficult requirement is that they cannot apply for a green card from within the US. They must return to their country of origin and submit their application through a US embassy. Immigrants who have been in the US without documentation for 6 months or greater are not eligible to return to the US for three years; if they are undocumented for more than one year, they cannot return to the US for ten years. This presents an often insurmountable obstacle for many undocumented immigrants.

LPR status is not guaranteed, even if immigrants meet all the requirements and apply from their own countries. There are some exceptions to these rules. Close family members (e.g. a spouse or child under 21 years of age) of a US citizen can be forgiven their undocumented time and apply for LPR status from within the US. Additionally, any immigrant who had started the legal proceeding for LPR status prior to April 30, 2001, is eligible to restart that process by paying an additional fee. Changing this date to a later one allows tens of thousands of illegal immigrants in the US to begin applying for citizenship, paying taxes, and working in jobs that provides them and their communities with greater income and support.

The fourth category of immigrants are asylees, who often arrive as undocumented immigrants and then make either affirmative or defensive requests for asylum.<sup>4</sup> Affirmative requests are made when an undocumented immigrant comes to an immigration office requesting asylum. Defensive requests are made when these immigrants are brought in front of immigration officials unwillingly, and make the request during deportation procedures. All asylum requests must be made prior to residing in the US for one year; after one year, undocumented immigrants are not allowed to make the claim. The government generally decides all asylum cases within six months. During the time that an asylum seeker awaits this decision she/he is not authorized to work in the US.

Immigrants from certain countries are *de facto* asylees without going through these legal proceedings. Liberian immigrants, who represent a large proportion of the immigrant population, have been offered temporary protection for the last twenty years (with an exception for those who arrived between 1991 and 1996, who were required to apply for asylum). Immigrants from El Salvador have had special protection for the last ten years. Cuban immigrants fall under their own special category. Cubans are eligible for LPR status after one year in the US, though they must be inspected and paroled. All immigrants who reach dry land (under the colloquially known “wet foot, dry foot” policy) are paroled, while those undocumented immigrants who have not reached dry land are returned to Cuba.

Four sites in the state are accredited to offer legal counseling for citizenship and represent their clients in court: the International Institute, the Diocese of Providence, Progreso Latino, and the Roger Williams Law Clinic. These groups collaborate, referring cases to the most appropriate and convenient site for the applicant, and teaching immigration workshops. Scattered private attorneys also practice immigration law.

## International Institute

The International Institute, one of the oldest immigration organizations in Rhode Island,<sup>5</sup> works closely with both refugees and documented and undocumented immigrants. Their broad range of services is free to the refugee community and available to any immigrants who apply. Their seven-person legal department facilitates the immigration process for thousands of immigrants annually. The bulk of their consultations are walk-in visits, comprising between 50 and 100 people daily. They charge nominal fees. A citizenship application with accompaniment to the interview costs an immigrant \$200. Refugees are managed through a different office, and are not charged for processing their LPR or citizenship applications by either the International Institute or the government; applicants often pay only a nominal fee of \$80 for fingerprint processing.

The International Institute also provides community outreach and education in immigration law and social services to which individuals are legally entitled.

## Progreso Latino

Progreso Latino, a non-profit organization working primarily with the Spanish speaking and Hispanic international community,<sup>6</sup> has on-site legal providers and offers free citizenship consultations the last Thursday of every month at 6 pm, seeing people on a first-come first-serve basis. Often the same attorneys and staff who provide assistance at the International Institute work at Progress Latino. Progreso Latino also offers translation and legal representation at citizenship hearings, as well as other resources including a Notary Public and passport photos.

## Roger Williams Law Clinic

The Roger Williams Law Clinic is a new entity affiliated with the Roger Williams University School of Law.<sup>7</sup> Law students represent clients under the direction of a supervising attorney. Much of their work is referred by the International Institute, though they also accept walk-in applicants. They represent immigrants before the Boston Immigration Court in deportation hearings, as well as prepare documentation and applications for citizenship and other benefits. The Law Clinic offers community outreach services,

educating immigrants on their rights in immigration law. The Law Clinic also works with undocumented immigrants who have been detained by **Immigration and Customs Enforcement (ICE)**.

## CRIMINAL AND CIVIL PROCEEDINGS

Immigrants who commit crimes are subject to criminal proceedings as citizens, but face much more serious consequences for their transgressions. ICE has no discretion in prosecuting cases of undocumented immigrants for deportation, so any person who is brought before a court for any reason is at risk of detainment by immigration officials. Even those with LPR status may be stripped of their green card and deported, if they are convicted of a crime of violence or theft (including shoplifting) and sentenced to a term of greater than one year, even if the sentence is suspended. Once convicted, these immigrants are deportable with no hope of release.

In criminal proceedings every person, whether documented or not, has a right to due process and will be defended by the **Public Defender (PD)**. PDs work closely with the International Institute and other groups who specialize in immigration law to ameliorate the risks to LPR status faced by immigrants. In civil proceedings, undocumented immigrants have the right to counsel, but are required to pay out of their own pocket. Traffic violations such as driving without a license are common criminal proceedings often faced by undocumented immigrants. LPRs face the same set of criminal and civil proceedings that apply to US citizens

## CULTURAL NEEDS AND RESOURCES

The needs of refugees and immigrants in Rhode Island originating from different countries may differ between individuals, but the broad categories are similar. For this reason the two groups will be addressed as one, though some services are more easily available to those who arrive here via legal means.

The International Institute serves as an excellent starting point for many immigrants and refugees. It focuses more on the approximately two hundred refugees who arrive annually, but some of its services are open to other immigrants, documented and undocumented.

## Translation

Translators help immigrants interact with government agencies, seek legal services, prepare for job training and interviews, and receive health care. The International Institute reports that the largest portion of their translation work is with medical interpretation.<sup>8</sup> The hospitals that most often require translating services are Miriam Hospital, Memorial Hospital, and Women and Infants Hospital. The languages most often needed are Spanish, Portuguese and the South East Asian languages.

The International Institute provides a significant proportion of the interpreter services in Rhode Island, with translators available in over 50 languages. Their translators undergo a rigorous testing process with only a 30% pass rate. Those who do not pass are referred to a course at the Community College of Rhode Island which trains people in the social and physical setting in which most professional translation occurs.

After completing the testing and training process, translators at the International Institute are contracted to work with refugees and immigrants through the Institute. There is a fee to the immigrant for translating to help cover the Institute's basic operating costs.

For clients who cannot pay, an attempt is made to find a cost-free alternative through local churches and temples or by using Brown University foreign students and volunteers. The Ronald McDonald House frequently has Spanish-speaking staff who can serve as interpreters. Family members are often used in the medical setting, though this is ethically and medically questionable, violating patient confidentiality and risking misinterpretation or misinformation.

Lifespan, the Rhode Island Free Clinic, Care New England and other health care systems offer interpreter services for every patient in their system, via a contract with a professional translating service for on-site interpreting, most often Spanish and Portuguese, with access to telephone interpreting services for almost any other language. Under Federal law, all hospitals are required to provide interpreter services for non-English speaking patients. For those without interpreter services on site, telephone interpreter services are frequently used.

### English Language Training

To help immigrants assimilate to life in Rhode Island and become self-sufficient, several places in the community offer **English as a Second Language (ESL)** classes. Teachers ideally know the immigrant's language of origin, so immigrants from different origins must go to different sites where their language is known. Some of the sites include the International Institute, Progreso Latino, the Center for Hispanic Policy and Advocacy, Capital City Community Centers, and the African Alliance of Rhode Island.

### Housing Needs

Refugees and immigrants often arrive unaccustomed to the objects and daily activities that US residents take for granted—such as hot water heaters, refrigerators and stoves. Such new devices can be dangerous (e.g., high settings on a water heater may lead to burns; improper use of stoves and heating units can result in carbon monoxide poisoning). Refugees and immigrants often need instruction in the basics of life in the US.

The International Institute manages the refugees who are resettled in Rhode Island. They receive approximately \$400 per person for housing costs in the eight month resettlement period. For large families this may cover adequate housing, but it is more difficult for single individu-

als to find placement with this stipend. The International Institute works with certain landlords and communities with whom they have developed relationships, and attempts to place the bulk of their clients in those sites.

### Immigrants

Immigrants often settle without the assistance that refugees may be provided. Initial housing often occurs without any education in the basics, and people rely on other immigrants to teach them. This often leads to misinformation and both short and long term problems. Immigrants, documented and undocumented, often must live with friends and family while searching for work. Apartments catering to these populations are often overcrowded with poor oversight for repairs, safety, and basic needs like heat.

There are few resources to assist this community in finding sustainable housing, though community centers and the larger organizations of the International Institute and Progreso Latino attempt to help.

### CONCLUSION

Immigrants in Rhode Island are presented with a range of helpful services though established organizations. While access to these services is rarely simple, the barriers can be overcome if providers and those who have access to information make a commitment to advocate for this population.

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# Communicating With Immigrants: Medical Interpreters In Health Care

Robert Partridge, MD, MPH, and Lawrence Proano, MD, DTMH

**Effective communication between health care providers and immigrants who may speak little or no English is the foundation of evaluation and treatment and the most important component of the doctor-patient relationship.** An immigrant in Rhode Island may speak any one of a number of languages; Spanish, Portuguese, Cambodian and Italian are the most widely spoken. Although many physicians and other health care providers are fluent in a second language, the majority use only English for verbal communication with patients. Because of the large percentage of immigrants to Rhode Island who speak **English as a second language (ESL)**, or no English at all, health care practitioners must rely on medical interpretation services.

## IMPACT OF MEDICAL INTERPRETATION

The Civil Rights Act of 1964 prohibits discrimination against national origin as it affects people with **Limited English Proficiency (LEP)**. Since 2000, hospital and private practices receiving federal funds have been required to provide interpretation services, and uniform training requirements for all interpreters must be established. Since 2000, hospitals and private practices receiving Federal funds have been required to provide interpretation services.<sup>1</sup> Due to the large number of immigrants and number of different languages, hospitals have struggled to comply with this requirement, and often resort to the use of patients' family members, friends or ancillary staff without formal training in medical interpreting. Communication through untrained interpreters may omit physicians' questions, give shortened or biased patient responses, and provide an inadequate information exchange to permit accurate diagnosis and treatment. In fact, even professional, trained interpreters may not have received training in medical terminology.

Research in interpretation error is limited. In one pediatric study, interpreting errors were common, with an average of

31 errors in each of 13 recorded doctor visits. Patients with untrained interpreters were much more likely to have interpretation errors that could result in serious medical consequence during the visit, compared with those with a staff interpreter.<sup>2</sup> Other published studies report positive benefits of professional interpreters on communication, utilization, clinical outcomes and satisfaction with care.<sup>3</sup>

## Hospitals and private practices that receive federal funds are required to provide interpreter services.

Utilization of interpreter services in health care settings is variable. The **emergency department (ED)** serves as the entry point into the US health care system for immigrants and patients with LEP. Although professional interpretation has been associated with improvements in patient satisfaction, communication, and health care access, these services are largely under-utilized in EDs. The barriers to implementation include a facility's reliance on untrained *ad hoc* interpreters, the perceived time and labor associated with obtaining and working with interpreters, and the costs of professional interpreter services.<sup>4</sup>

## TRANSLATION OPTIONS IN RHODE ISLAND

In Rhode Island the impact of various interpretation methods has been measured. In the clinic setting, telephone and patient supplied interpreters were associated with longer visit times in an academic medical clinic, but the use of hospital-based interpreters was not.<sup>5</sup> Patients and physicians have been found to have the highest satisfaction with professional interpreters. However, when this service is not

available, patients have higher satisfaction than physicians, using family members and friends as interpreters.<sup>6</sup> An effective service learning program has been developed to train undergraduate and medical students in medical interpreting, as well as to develop cross-cultural skills.<sup>7</sup>

Access to interpreter services for immigrants in Rhode Island is achieved thorough several means. Hospitals and health care systems offer interpreter services for patients via a contract with a professional translating service for on-site interpreting, most often Spanish and Portuguese, and with access to telephone interpreting services for almost any other language needed. Clinics, private practices and other settings may also have on-site or per diem interpreter services, but telephone interpreting services are also used. Family and friends continue to be used in all health care settings.

## CONCLUSION

Inadequate medical interpretation services hinder the delivery of optimal health care to persons with LEP. Professional trained interpreters result in improved communication, health care access, patient satisfaction and clinical outcomes for limited English-speaking populations.

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## **Common Illnesses In Rhode Island Immigrants: A Primer For Health Care Practitioners**

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**Between 2000 and 2006, Rhode Island's** foreign-born population increased by 12.7%.<sup>1</sup> [The figure includes some, but not all undocumented residents, depending on how many do not report to the census.] During this period the state gained over 18,000 immigrants, bringing the number of foreign-born residents to over 137,000, or greater than 10% of the total population. The majority of immigrants are from Portugal (17.6%), Dominican Republic (13.7%) and Guatemala (7.6%). Columbia, Italy, Canada, Cambodia, United Kingdom, China and Laos account for another 22.7% of the immigrants to Rhode Island. Over 10% of immigrants originated from Africa: the state has growing communities of Liberians, Nigerians and Ghanaians.

These immigrants may be at risk for diseases not commonly seen in the native-born Rhode Island population, especially immigrants from tropical regions of Africa and Asia. Newly arrived immigrants may bring with them illnesses native to their region, although many will have had some disease screening performed prior to their initial arrival. Immigrants to the United States through legal channels are required to be screened for communicable diseases of a public health significance, and present documentation of having received vaccination against vaccine-preventable diseases, including mumps, measles, rubella, polio, tetanus and diphtheria toxoids, pertussis, influenza type B and hepatitis B.<sup>2</sup>

Undocumented immigrants require special consideration because they may not have had any prescreening or previous immunizations.

First or second generation immigrants who have lived in the US for some time but who have **visited friends and relatives (VFRs)** in their homeland may also be at risk for tropical or travel related diseases. In 2002 VFRs represented 40% of US international air travelers. VFRs have a higher risk of acquiring malaria, typhoid fever, cholera, and hepatitis A, compared with the traveling population overall. In 1999, 39% of imported malaria cases in US were in VFRs, making them 8 times more likely to acquire malaria than US-born traveler. In addition, 77% of imported typhoid cases and 78% of imported cholera cases in US are in VFRs.<sup>3</sup> VFRs are at increased risk for disease, because 1) adherence to pre-travel advice, including vaccines and prophylaxis, may be low;<sup>4</sup> 2) they may stay abroad for prolonged periods; 3) they may eat in less sanitary settings than other travelers; and 4) they may have closer proximity to local populations with various infectious diseases.

Using traveling populations as a guide to immigrant illnesses, surveillance data from 30 geo-sentinel sites from 6 continents have shown that malaria, dengue fever, rickettsial infection and parasite-induced diarrhea are common causes of fever and illness.<sup>5</sup>

The objective of this manuscript is to give the practitioner an understand-

ing of the common febrile diseases of travelers, to provide an approach to use in evaluating and treating recent immigrants, and to identify and treat immigrants with life-threatening febrile illnesses.

#### **APPROACH TO IMMIGRANT/IMPORTED DISEASE**

Immigrants may present to a primary care provider or specialist with a variety of symptoms. Respiratory problems, abdominal pain, bone-joint-muscle pain, and non-specific symptoms are generally the most frequent symptoms reported by immigrants at the primary care level.<sup>6</sup> Fever may also be reported. When considering infectious diseases imported by immigrants, the health care provider can limit the differential diagnosis by considering the geographic location the patient has traveled from, the length of the incubation period and the immunizations they were previously given. Other initial considerations for the health care provider are what illnesses are common, and whether the immigrant's illness could be life-threatening or a public health emergency.

Infectious diseases imported by immigrants can be divided into three 3 groups.<sup>6</sup> The first includes common illnesses such as upper respiratory infections, urinary and skin infections. Of the disease entities that an immigrant might import to RI, communicable diseases, such as tuberculosis, viral hepatitis, STDs, HIV, are the most serious in terms of public health. The third group includes

tropical diseases, such as malaria, filariasis, and parasitic infections. These are not easily transmitted in temperate, developed areas such as RI.

The practitioner should ask the patient how long he stayed in the host country, and how long he has been in the United States, before he felt symptoms of illness. Intestinal parasites are more frequently found in newly arrived individuals, but usually decrease as the length of time in the host country increases.<sup>6</sup> Therefore, examination for intestinal parasites might be considered a routine screening study for newly arrived immigrants. Conversely, filarial parasites can persist for years, so tests for these should arguably be conducted in immigrants from endemic areas regardless of their arrival date.

The practitioner who suspects an infectious disease should know the incubation period of various disease entities, to rule out possible etiologies.<sup>7</sup> For example, fever beginning 3 or more weeks after return greatly reduces the probability that the cause is dengue fever, rickettsial infections, or a viral hemorrhagic fever. Sexually transmitted diseases, specifically syphilis, are a frequent diagnosis in immigrants, especially sub-Saharan Africans. Similarly, infection with HIV is observed more frequently in this group.<sup>6</sup>

The rate of tuberculosis (TB) among foreign-born individuals is reported to be nearly nine times that of US-born persons.<sup>7</sup> Although legal immigrants to the US are screened for TB, immigrants reportedly accounted for over 53% of all new TB cases in the US in 2003, up from less than 30% in 1993. This makes TB the most important infectious disease to consider and screen for in immigrants to RI. Most cases of TB in immigrants are reactivated during the first five years after arrival.<sup>8</sup> Thus, immigrants to RI, especially undocumented immigrants whose access to health care is poor, should be screened for both latent and active TB.

Malaria must always be considered in immigrants who have spent any time in tropical or malaria endemic regions. Published data on frequency of imported malaria in immigrants varies with the origin and destination of the immigrant, as well as the sophistication of the

medical facilities doing the evaluation and screening. In the US over 1,000 annual cases of malaria are reported each year.<sup>9</sup> In 2002, there were 1,337 cases reported, even though malaria has been essentially eradicated in this country since the early 1950s.<sup>10</sup> During the period from 1990-1998, 38 cases of malaria were identified in RI, and more than 80% of these patients were foreign-born.<sup>11</sup> Malaria may present with the classic cyclical fevers, but will commonly present without non-specific symptoms, such as vomiting and diarrhea, and may even present without fever. Appropriate laboratory tests, including a malaria smear should be done expeditiously, and testing should be repeated if the initial result is negative. *P. falciparum* malaria often presents with very nonspecific symptoms, without the classic periodic fevers taught to clinicians in medical school.<sup>10</sup>

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### **RI IMMIGRANTS PRESENTING WITH FEVER**

Immigrants may present acutely ill with fever. With the growth of immigration and international travel, some patients who present with febrile illness may have symptoms relating to exposure during travel to foreign countries. Approximately 3% of people traveling to international destinations report developing fever requiring medical attention. Diseases may become evident weeks, months, even years later.<sup>12</sup> Obtaining a travel history is crucial when evaluating any ill patient and it is particularly important to obtain an exact itinerary and details of pre-travel immunizations, whether malaria chemoprophylaxis was taken, and

any exposures the traveler encountered during the trip. Some studies show that only about half of primary care clinicians inquire about a travel history when encountering a patient who presents with fever.<sup>13</sup>

Most immigrants and travelers who develop infections overseas will become ill within 12 weeks after returning to the United States. However, diseases such as malaria may not cause symptoms for as long as 6-12 months or more after exposure, consequently, practitioners can easily miss the link between their patients' presenting symptoms and their travel some months ago.<sup>15</sup>

About 90% of malaria infections from *P. falciparum* manifest symptoms within 4 weeks of returning to the US. However, only about 50% of infections caused by *P. vivax* develop symptoms by 4 weeks. In addition, about 2% do not develop symptoms until one year or greater, illustrating the difficulty of having this diagnosis come to mind for most clinicians.<sup>15</sup> Tourism to malaria endemic areas is a major reason for acquisition of this disease, but VFRs account for almost 40% of cases.<sup>15</sup> Clinicians should remember that malaria does not always present with a classic picture of recurring high fevers and diaphoresis. Between 10 and 40 % of patients with malaria are afebrile on first presentation.<sup>16</sup>

Dengue fever is another consideration in travelers returning with fever. Considered one of the important emerging infectious diseases, dengue is now pandemic, with prevalence in over one hundred countries.<sup>17</sup> Dengue has a short incubation period of less than a week, and presents as an influenza like illness, with fever, intense myalgias, and headache. About half of patients develop lymphadenopathy and a maculopapular or petichial rash. The two serious variants of the illness, dengue shock syndrome and dengue hemorrhagic fever, are rare in travelers; these develop only in persons who have had a prior infection with a different one of the four known serotypes of the virus. The diagnosis is clinical, although acute and convalescent titers can be performed as confirmation.

Arthropods are a risk factor for infectious disease transmission in many

third world countries. Of the various arthropods, rickettsia are one of the most common sources for infections presenting as fever in travelers. Depending on the area of travel, someone presenting with fever, headache, and myalgias should be considered for rickettsial infections, such as African tick typhus, Mediterranean tick typhus, and scrub typhus. The finding of a painless dark eschar at the inoculation site is a clue, as well as the historical note of the patient being in high risk areas, such as brushy grassy areas, especially if they have been camping or hiking in these regions.<sup>12</sup>

The triad of fever, headache and myalgias can also be seen in early cases of leptospirosis. A classic diagnostic sign is conjunctival suffusion, but it is seen in less than half of cases.<sup>12</sup> The increase in adventure travel, and outdoor activities has shifted the demographic of typical patients with this disease from occupational to recreational. Suspicion for this disease should be raised as a possibility in patients with a history of exposure to fresh water through camping, swimming, rafting, etc. The disease is usually biphasic, with liver and renal involvement. Leptospirosis is treated with tetracycline or penicillin plus supportive care.

Typhoid fever presents with fever, often in VFRs. Gastrointestinal symptoms are often present, including abdominal pain, and constipation (notwithstanding the common misconception that diarrhea is a frequent finding). Other clues can be a cough, lymphadenopathy, and leucopenia or thrombocytopenia. For this disease, serologic tests are unreliable, and the agent, *Salmonella typhi*, must be isolated by culture from blood, stool, or bone marrow. Quinolones and third generation cephalosporins are generally the drugs of choice for treatment. Travelers can reduce their risk with pre-travel vaccinations against typhoid fever. The patient should be cautioned that the vaccine is only partially protective and that surveillance for fever is still important during travel and after return.

Fever accompanied by hemorrhage is an important observation in a returned traveler, as these often represent serious forms of illness, including meningococ-

cemia, viral hemorrhagic fever, Lassa fever, and yellow fever.<sup>12</sup> However, travelers rarely acquire the more serious infections in this category.<sup>18</sup>

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## Most cases of TB in immigrants are reactivated during the first five years after arrival.

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Fever accompanied by eosinophilia should raise the consideration for an infection caused by a helminth, and results from the worms passing through tissues resulting in inflammatory response from the host. Among the myriad infections from exposure to worms and their larvae, the most common to consider are hookworm, ascariasis, strongyloides, shistosomiasis, visceral larva migrans (toxocariasis), trichinosis, and filariasis.<sup>15</sup> In these patients, it is important to perform one or more examinations of stools for the presence of ova or parasites. Serologic tests, blood smears, and skin snips may assist in the diagnosis of the various diseases, depending on the geographic area where the travel occurred, as well as the details of the clinical findings.<sup>19</sup>

Diarrhea is a common complaint in international travelers.<sup>20</sup> Most causes are benign and self limited, but as the duration of illness increases, the likelihood that the disease is caused by a parasitic infection increases. *Giardia lamblia*, *Cryptosporidium parvum*, *Entamoeba histolytica*, and *Cyclospora cayetanensis* are the most common parasites found although they are detected in fewer than one third of travelers presenting with chronic diarrhea after international travel.<sup>21</sup> Since most parasitic infections have relatively short incubation periods, diarrhea beginning more than one month after returning from travel, is likely not related to the international venue.<sup>15</sup> The sensitivity of laboratory examination of stool specimens varies, but in general is at least 80%.<sup>22</sup> Patients with noninflammatory diarrhea can be treated empirically with an antibiotic such as a quinolone or macrolide, and an antimotility agent. However, if the diar-

rhea appears inflammatory, an antimotility agent should not be used.

Dermatologic lesions can be perplexing entities for clinicians to diagnose, especially when they present in returned international travelers. The most common etiologies to consider are cutaneous larva migrans (anclystoma braziliense), larva currens (*Strongyloides stercoralis*), the various rickettsioses, as well as Tungiasis (sand fleas-*Tunga penetrans*), myiasis (tumbu flies, botflies), and loiasis (eyeworms (*Loa loa*)).

## CONCLUSION

Providing care to Rhode Island's growing immigrant population presents unique challenges to the health care practitioner. Illnesses, cultural issues, recent travel and access to services may be significantly different than those encountered in the native-born Rhode Island population. Maintaining a high index of suspicion for malaria and tuberculosis is paramount. Using an organized, systematic approach in evaluating and treating immigrants can only improve early identification of life threatening illnesses, reduce missed diagnoses, improve individual treatment and enhance public health.

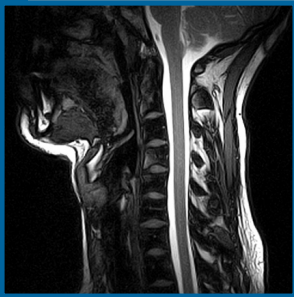
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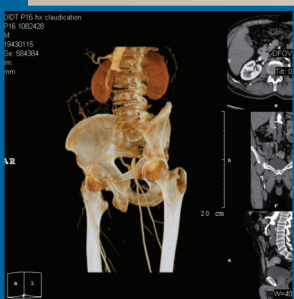


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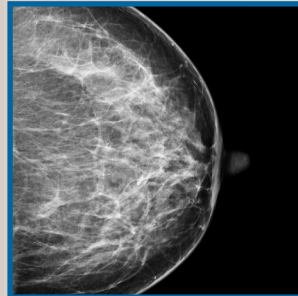
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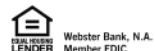
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# Global Health Medical Education In Rhode Island: A Review and Look To the Future

*Elizabeth Dufort, MD, Michael Waxman, MD, Robert Partridge, MD, MPH, Lawrence Proano, MD, DTMH*

The need for medical training in global health has increased dramatically, because of an increasing proportion of immigrants in the Rhode Island population, increasing international travel, migration of populations, spread of diseases, and the rapid exchange of information through technology. This article reviews some national trends in global health medical education, as well as some established and novel global health medical education programs in Rhode Island.

## GLOBAL HEALTH – AN EMERGING MEDICAL CONSTRUCT

Recently Kaplan et al. in the *Lancet* defined global health as “an area for study, research and practice that places a priority on improving health and achieving equity in health for all people worldwide. Global health emphasizes transnational health issues, determinants, and solutions; involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration; and is a synthesis of population-based prevention with individual-level of clinical care.”<sup>1</sup>

This definition includes important aspects of global health, viewed by many as essential, including its interdisciplinary nature and the goal for health equity. In contrast to the term “International Health,” which highlights the differences in diseases in countries other than one’s own, “Global Health” emphasizes the commonality of our health concerns and

the need to approach solutions in a collaborative fashion.<sup>2</sup>

Due to the marked increase in need and interest, the field of global health medical education has rapidly expanded. In 1978, 6% of medical students participated in an international health elective during medical school.<sup>3</sup> By 2009, the percentage rose to 30%.<sup>4</sup> In response, global health activities have been increasingly incorporated into medical training. A recent study found that 52% of pediatric residency programs in 2006-2007 offered global health electives, up from 25% in 1996.<sup>5,6</sup>

Global health medical education benefits the local communities. Training in global health may improve clinical care for refugees, travelers and immigrants in our local medical centers. Many feel that training in global health augments trainees’ knowledge of diseases not commonly found in the United States. Communication skills and cultural competency are often improved, and studies have suggested that global health experiences sustain idealism and humanism in medical students and physicians in training.<sup>3,7</sup> Many physicians realize early in training that entering medicine requires knowledge and participation in the larger global health issues of the world. For example, the global health community has spearheaded the fight against the HIV/AIDS pandemic and the newly emerging concept of global health equity.<sup>8</sup>

During medical training and practice, exposure to global health is increasingly common. This occurs not only through clinical care teaching and research in the international setting but also through care of immigrants, travelers and refugees in the Rhode Island population. Many feel that global health medical education consists of a combination of strong medical exchange programs, didactics, local or international global health educational experiences and mentorship from those experienced in global health settings. However, there are few standardized guidelines outlining a formal approach to global health education.

The Global Health Education Consortium (GHEC) is devoted to furthering these goals and has grown over the past two decades.<sup>2</sup> The American Academy of Pediatrics Section on International Child Health has developed clinical competencies for global health education in pediatrics residency training. Overall, however, best practices in global health medical education are still in development stages and further research is needed in curriculum development and evaluation.

## GLOBAL HEALTH EDUCATION AT BROWN UNIVERSITY

As global health interest has grown, the global health medical education efforts in Rhode Island have expanded. Some of the key programs at Brown University were

reviewed in the November 2007 *Medicine & Health/Rhode Island*.<sup>9</sup> Since that time, new programs have emerged, many of which emphasize medical education in global health, curriculum development, and medical and academic exchange programs.

Brown University has had a rich history of global health work, including activities at the undergraduate, medical school, public health program, and resident education level. Brown offers over thirty global health-related courses that span multiple disciplines. In the last few years, Brown developed a medical student “global health scholarly concentration” and a “global health track” in the public health program.

Medical students in the “global health scholarly concentration” participate in a series of courses, seminars, and mentoring. They are required to complete a mentored global health project and are evaluated on predetermined competencies. The public health students similarly attend didactic courses and complete a global health-related thesis. The University of Rhode Island Department of Women’s Studies and College of Nursing are also engaged in global health-related activities, ranging from research in the trafficking of women and children, to primary care experiences in rural Latin America.

International academic exchange programs are often considered the cornerstone of global health medical education. For example, the Brown-Kenya program was established in 1996 as a collaboration with Moi University School of Medicine in Eldoret, Kenya, and the **Academic Model Providing Access To Healthcare (AMPATH)** consortium. The Brown-Kenya program focuses on the improvement of patient care, sustained through medical education, and strengthened by medical research. The program emphasizes bilateral exchange, mutual benefit, and long-term commitment. Brown faculty and residents in training from the Departments of Medicine, Pediatrics, Emergency Medicine, and Psychiatry have participated in the program by traveling to Eldoret for clinical rotations. In turn, the program has hosted Kenyan medical professionals and medical students in the United States. Clinical program development and collaborative research in tuberculosis, HIV testing, HIV diversity and resistance, dia-

betes, and oncology, among others have been developed through this partnership and continue to expand.<sup>10</sup>

The Brown University Internal Medicine Exchange Program in the Dominican Republic started in 2004 as a collaborative effort with the Hospital Cabral y Baez in Santiago. The program focuses on a bilateral academic exchange, an HIV treatment and prevention initiative, and an associated HIV/AIDS research collaboration. Residents in training who have participated in the program have cited the opportunity to learn Spanish during their elective rotation as an additional benefit of the program.<sup>11</sup>

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## **Brown offers over thirty global health-related courses that span multiple disciplines.**

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There is a well-established global health collaboration between Hasbro Children’s Hospital, the Warren Alpert Medical school of Brown University, and **Angkor Hospital for Children (AHC)** in Siem Reap, Cambodia. Many medical students, pediatric residents and faculty have participated in this academic exchange program. AHC is a pediatric teaching hospital which developed after civil war and genocide destroyed Cambodia’s medical infrastructure and workforce. The primary focus of the program is to improve the health of all children in the Siem Reap region through care provided at the AHC and outreach in the communities. These efforts are supported by and strengthened through the ongoing collaboration and academic exchange.<sup>12</sup>

The Department of Emergency Medicine at Brown University participates in an initiative with **John F. Kennedy (JFK)** Hospital in Monrovia, Liberia. This is part of a consortium of academic medical centers coordinated by a non-profit organization known as **Health Education Through Research and Teaching (HEARTT)**. At JFK Hospital, Emergency Medicine residents, fellows, and faculty participate in clinical care, research, community outreach and program development.

Other global health-related programs based in Rhode Island include The Memorial Hospital of Rhode Island’s partnership with the “Shoulder to Shoulder” program in Honduras, and at Rhode Island Hospital, the Department of Surgery’s collaboration with Tenwek Hospital in Kenya.

## **EVOLUTION OF GLOBAL HEALTH OM THE MEDICAL CURRICULUM**

Resident global health medical education in Rhode Island has traditionally been fostered through these and other international medical exchange programs. Previously, established residency curricula provided inadequate training in global health to prepare residents for international electives, to foster leaders in the field, or to launch careers in global health. To address this educational void, a number of residency training programs at Brown began to design global health curriculum development projects.

The residency training programs in the Departments of Pediatrics, Combined Medicine/Pediatrics, and Internal Medicine have developed a novel global health training pathway which will begin in July 2010. The **Brown Residency International/Global Health Training (BRIGHT)** Pathway will train residents to become leaders in the field of global health. By participating in this pathway, residents will partake in global health electives (local or international), didactics in global health, faculty mentorship, and a global health scholarly activity. Residents who complete the BRIGHT pathway will receive a certificate at graduation.

The Department of **Emergency Medicine (EM)** has pioneered a new approach to global health medical education within the residency curriculum. At Rhode Island Hospital’s Medical Simulation Center, the EM faculty use SIM and standardized patient encounters to teach emergency medicine residents select topics in tropical medicine, public health, and decision-making in varied-resource settings. (See related article in this issue) The Department of EM at Brown has also expanded global health training through its fellowship in International EM, one of less than 20 available in the US. (See “The Use of Medical Simulation to Train Health Care Providers for Practice in International Settings” by Proano, Foggie, and Partridge in this issue.)



Local clinical activities in RI focus on diseases and healthcare issues which transcend boundaries. Examples are the Hasbro Pediatric Refugee Health Clinic, The RISE Tuberculosis clinic, and The Miriam Hospital Travel Medicine Clinic.

Several multidisciplinary global health research centers at Brown University offer global health research training. The NIH Fogarty AIDS International Training and Research Program, The Brown/Tufts Center for AIDS Research, and the NIH HIV Research Training Fellowship within the Division of Infectious Diseases at Brown focus on HIV/AIDS. The Center for International Health Research at Lifespan, and the Population Studies Training Center at Brown University, focus on clinical and basic science global health research, and population health, respectively. Areas of research at these centers include schistosomiasis, malaria, the study of fertility, and HIV/AIDS.

To disseminate information and encourage collaboration among the many individuals involved in these endeavors, in September, 2009, Brown University launched the **Global Health Initiative (GHI)**. The GHI is a "multidisciplinary university-wide effort to reduce health inequalities among underserved populations locally and worldwide through education, research, service, and development of partnerships." It offers funding opportunities to undergraduates, medical trainees and faculty for global health related academic pursuits as well as training through the Framework for Global Health grant mechanism. The GHI encourages interdisciplinary collaboration within the Departments of Medicine, Public Health, Sociology, Anthropology, Economics, Engineering, International Studies, and Environmental Global Health.

## CONCLUSION

As clinicians and medical educators in Rhode Island move forward with the shared goal of improving health and achieving equity in health for all people globally, we must evaluate our educational strategies and develop new methodologies to incorporate global health teaching into medical education.

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# The Use of Medical Simulation To Train Health Care Providers To Practice In International Settings

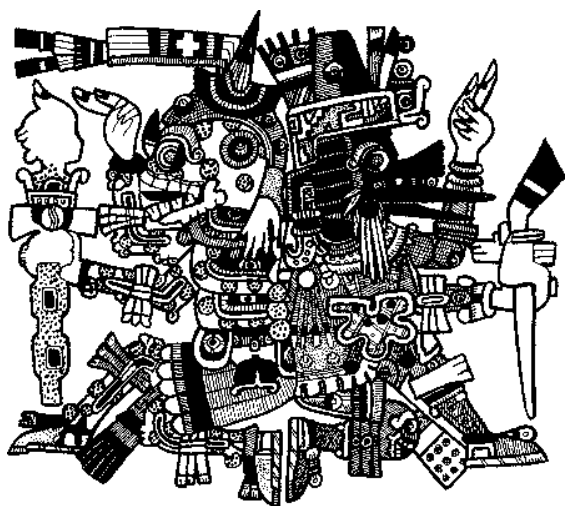
Lawrence Proano, MD, DTMH, John Foggie, MD, and Robert Partridge, MD, MPH

**Increasing numbers of immigrants and** returned travelers use emergency departments for health care. Many physicians-in-training and other health care providers are interested in participating in health electives abroad, yet residency curricula inadequately address concepts in global health. **Advanced medical simulation (SIM)** artificially re-creates clinical experiences to prepare health care providers for actual clinical situations.<sup>1</sup>

At Rhode Island Hospital's Medical Simulation Center, the Emergency Medicine Faculty use SIM and standardized patient encounters to teach emergency medicine residents how to respond to various emergency conditions. The computer programming and high-fidelity manikins create very realistic clinical conditions, and allow residents in training to experience these situations in a controlled setting. Much like flight simulation in aviation, this technology enhances the performance of medical professionals and promotes patient safety.<sup>2</sup>

In addition to presenting core concepts in emergency medicine, the Emergency Medicine Faculty use SIM and standardized patient encounters to teach emergency medicine residents select topics in tropical medicine, public health, and decision-making in varied-resource settings.

Several Emergency Medicine faculty have interest and expertise in international health. These **International Emergency Medicine (IEM)** faculty have created numerous case scenarios based on global or tropical health topics, interspersed into the routine monthly residency simulation curriculum. Moulaged manikins and standardized "actor-patients" in immersive IEM clinical settings provide history and physical exam cues to learners during the clinical encounters. The immersive settings are made to be as realistic as possible. For example, we have set up a field tent, and engaged the services of a native born Kenyan to play the part of a pregnant patient who through an "interpreter" presented with a chief complaint of dizziness.



In all the simulations, at the outset of the case the learner does not know the nature of the diagnosis, clinical problems and procedures that may be required. Students approach simulated patients as actual clinical cases. Working with a "team" of providers, each student performs an evaluation, creates a working diagnosis, and develops a management plan for simulated patients. The underlying diagnoses of the actor-patients generally involve diseases uncommon in US emergency department settings, such as infectious disease in newly arrived immigrants.

Examples of recent simulations have included:

- "Tent-side" mobile clinic, East Africa: "Dizzy" pregnant patient [Hookworm].
- Rural health clinic, Southeast Asia: Infant with "altered mental status" [Dengue].
- Emergency Department, North America: Central American immigrant with "dyspnea" [Chagas].
- Emergency Department, North America: Returned traveler from East Africa with "fever" [Typhoid].

The non-Emergency Department limited-resource international settings are achieved with tent setups, rustic settings and props, and through the use of actors as patients from appropriate geographic settings. As might be expected in a real setting, the actor-patients in these scenarios will give more limited responses to history taking. The resources available to the learners are similarly limited. Post-scenario videotaped debriefings address unique elements of IEM, including resource limitations, language barriers, and cultural differences.

Emergency Medicine Residents regularly report that IEM SIM cases fill a deficit in the standard emergency medicine curricula. Students appreciate the sessions' emphasis on comprehensive travel histories, and widening differential diagnoses. Students learn how to approach language barriers, cultural differences and other issues unique to the immigrant patient. These simulations also encourage interest in international electives.

Simulation appears promising in preparing residents and other health care providers to incorporate global health topics during their careers in the United States and abroad.

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# **UEMF's Fellowship In International Emergency Medicine**

*Lawrence Proano, MD, DTMH, and Robert Partridge, MD, MPH*

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**Part of the Department of Emergency Medicine** at the Warren Alpert Medical School at Brown University, the **University Emergency Medicine Foundation (UEMF)** is comprised of almost 80 faculty members who provide care to the Emergency Departments at Rhode Island Hospital, The Miriam Hospital, and Hasbro Children's Hospital.

In addition to their clinical role, the faculty serve as teachers for the Emergency Medicine Residency Program and the Pediatric Emergency Medicine Fellowship. There is considerable depth of expertise in the group in various emergency medicine subspecialties, including pediatric emergency medicine, toxicology, ultrasound, prehospital care, disaster, geriatrics, and **international emergency medicine (IEM)**.

The Foundation sponsors and conducts several subspecialty post graduate fellowships in these areas. Among these is a two-year Fellowship in International Emergency Medicine. The Foundation accepted its initial fellow in 2005. Applicants are selected from accredited emergency medicine residencies in the US and Canada. The program requires all entering Fellows to complete a **Master's Degree in Public Health (MPH)** at Brown University.

The goal of the Fellowship is to produce an individual who possesses the skills to pursue a several potential career pathways within the broad field of IEM. After completion of the Fellowship, the individual should be competent in prac-

ticing clinical emergency medicine in international settings with variable medical resources, teaching IEM, performing research involving IEM, and familiar with administrative issues in the field. Fellows accomplish these goals over 24 months, with some portion of their time spent in hospital emergency departments affiliated with Brown University.

## **CORE CONTENT OBJECTIVES FOR THE IEM FELLOWSHIP**

During training, the Fellows learn the principles of IEM, and the options for a career in this field. Training includes:

- ❖ Acquisition of an MPH degree from Brown University, with a focus on some aspect of international studies relating to IEM
- ❖ Opportunity for diploma certification in tropical medicine from the Royal College of Surgeons in Ireland. Successful candidates receive a **Diploma in Tropical Medicine (DTM)**, an internationally recognized certificate.
- ❖ Opportunity for a one-month course in **Humanitarian Emergencies in Large Populations (HELP)**, offered by Johns Hopkins University.

## **Areas of study during the IEM Fellowship**

As part of the MPH, Fellows pursue at least one major academic project for

each of two years out of the country, involving one of the following:

- Research
- Quality improvement
- Injury Prevention
- Subspecialty areas within emergency medicine
- Development of trauma systems, protocols and policies
- Education and training of emergency physicians, residents, medical students, medical officers in various countries, mid-level providers, nurses, and prehospital personnel
- Development of emergency medical service systems

During both Fellowship years, the Fellow spends approximately 16 hours weekly in one of the UEMF Emergency Departments providing clinical care. Fellows begin a two-year Masters of Public Health degree program at Brown Medical School in which they focus on acquiring public health concepts that are specifically applicable to international studies. First-year Fellows participate in a seminar series on research design, epidemiology and biostatistics. They begin participating in an ongoing research project that is in-keeping with the goals of the Fellowship and MPH Programs. Submission of a report or pilot study for publication is the desired goal for the first year.

During the second Fellowship year, Fellows complete research

projects to meet the requirements of the Fellowship as well as his or her MPH degree.

Fellows are encouraged to seek funding for research interests from outside sources, in close collaboration with the Fellowship Director. Fellows are strongly encouraged to submit research results for presentations at national meetings and to complete manuscripts for publication in peer-reviewed journals.

During the Fellowship program, the training and educational opportunities encompass multiple areas within IEM, including:

- **Emergency Medical System development**

Fellows have the opportunity to work in developing emergency medical systems (EMS) in foreign countries. This could involve work in countries in early stages of EMS development as well as countries who have already formed an EMS system.

- **Research**

Through the year Fellows engage in one or more research projects related to international emergency medicine, with resultant manuscripts suitable for publication.

- **Travel medicine**

Fellows learn the basics of providing travel counseling and have the opportunity to consult with patients presenting to travel medicine clinics.

- **Disaster medicine**

Fellows can become involved in international disaster medicine opportunities as they present. Locally, they will have the opportunity to serve as a member of the Rhode Island disaster medical assistance team (DMAT).

- **Infectious disease**

Fellows learn the concepts of tropical medicine and imported tropical illnesses for patients seen in the emergency department or admitted with internationally acquired infectious diseases.

- **Disaster relief and humanitarian assistance**

Fellows can become involved in international disaster medicine opportunities as they present throughout the year and serve as a member of DMAT. Opportunities for humanitarian assistance and international relief are also available.

- **Education in IEM**

Fellows can become involved in IEM education locally, by providing lectures on IEM for the UEMF residency program, and through international educational programs conducted in foreign countries.

The IEM Fellowship accepts up to 2 candidates each year. Current fellows are engaged in clinical care, teaching and research projects in Liberia and Ghana. Previous graduates continue to focus their work in Central America and Samoan Islands in the Pacific.

## **CONCLUSION**

IEM is a rapidly expanding subspecialty within the discipline of emergency medicine, in part because emergency medicine training provides a strong foundation for providing clinical care and improving the delivery of health care in other countries. As the Warren Alpert Medical School at Brown University expands its international activities, UEMF's Fellowship in IEM within the Department of Emergency Medicine is structured to play an integral role.

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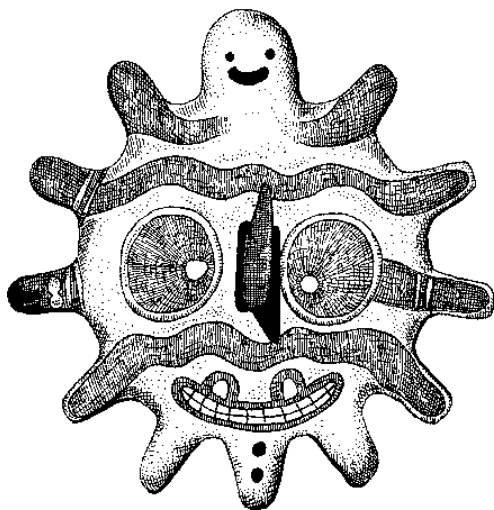
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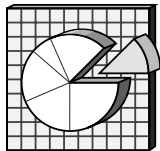
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## The Adoption and Use of Health Information Technology (HIT) by Rhode Island Physicians, 2009

*Rosa Baier, MPH, Jay Buechner, PhD, Deirdre Gifford, MD, Yael Harris, PhD, MS, and Rebekah Gardner, MD*

**Electronic medical record (EMR) systems and e-prescribing** by physicians have the potential to reduce the incidence of medical errors and to improve the provision of care to patients through better compliance with recommended standards, improved coordination of care, and ready access to current information.<sup>1,2</sup> In 2008, after a national survey, the **Centers for Disease Control and Prevention (CDC)**<sup>3</sup> reported that 41.5% of office-based physicians were using a medical record that was partly or fully electronic. About half of these, or 21% of all respondents, were using at least a “basic EMR” that included the following: electronic documentation of patient demographics, patient problem lists, and clinical notes; computerized orders for prescriptions; computerized receipt of imaging reports; and computerized receipt of and lab results.

Because of the expected impact of **health information technology (HIT)** on quality of care and the President’s goal that all Americans will be able to benefit from an electronic health record by 2014, the Rhode Island Department of Health’s legislatively-mandated public reporting program, the **Health Care Quality Performance (HCQP) Program**, performs an annual survey of physicians on their adoption and use of EMRs and e-prescribing. The survey results are reported both at an aggregate statewide level and for individual physicians.<sup>4</sup> This report summarizes the statewide results for the 2009 Physician HIT Survey. (The 2010 Physician HIT Survey is underway.)

### METHODS

In January and February 2009, the Rhode Island Department of Health electronically administered a survey to all physicians who were licensed in Rhode Island and who indicated they were in active practice and providing

**Table 1. Definitions of Measures Used in 2009 Physician HIT Survey**

Measure	Definition
Physicians with EMRs	Percent of responding physicians who indicate that they have “EMR components” in their main practice or another practice.  [EMR Components: An integrated electronic clinical information system that tracks patient health data, and may include such functions as visit notes, prescriptions, lab orders, etc.]
Physicians with ‘qualified’ EMRs	Percent of responding physicians who indicate that they have an EMR with <b>all</b> of the following: <ul style="list-style-type: none"><li>• One or more clinical documentation functionalities</li><li>• One or more reporting functionalities</li><li>• One or more results management functionalities</li><li>• One or more decision support functionalities</li><li>• The ability to e-prescribe</li><li>• Certification Commission on Health Information Technology (CCHIT) certification</li></ul>
Basic EMR functionality use	For physicians with EMRs, scale score (0-100) based on weighted frequency of use of the following six EMR functionalities: <ul style="list-style-type: none"><li>• Electronic visit notes</li><li>• Electronic lists of each patient’s medications</li><li>• Electronic problem lists</li><li>• Patient clinical summaries for referral purposes</li><li>• Lab test results via electronic interface and/or scanned paper lab test results</li><li>• Radiology test results via electronic interface and/or scanned paper radiology test results</li></ul>
Advanced EMR functionality use	For physicians with EMRs, scale score (0-100) based on weighted freq. of use of the following ten EMR functionalities: <ul style="list-style-type: none"><li>• Drug interaction warnings</li><li>• Letters or other reminders directed at patients regarding indicated or overdue care</li><li>• Prompts to providers at the point of care</li><li>• Electronic referrals</li><li>• Secure emailing with providers outside the physician’s office</li><li>• Laboratory order entry</li><li>• Radiology order entry</li><li>• Reports clinical quality measures</li><li>• Reports patients out of compliance with clinical guidelines</li><li>• Reports patients with a condition, characteristic, or risk factor</li></ul>
Physicians who are e-prescribing	Percent of responding physicians who indicate that they transmit some or all of their prescriptions or medication orders electronically to the pharmacy

\* For detailed specifications, see the Health Care Quality Performance Program website: [www.health.ri.gov/chic/performance](http://www.health.ri.gov/chic/performance).

**Table 2. 2009 Physician HIT Survey Summary Results**

Measure <sup>1</sup>	Score
Physicians with EMRs <sup>2</sup>	67.6%
Physicians with 'qualified' EMRs <sup>2</sup>	12.5%
Basic EMR functionality use, mean <sup>3</sup>	63.6
Advanced EMR functionality use, mean <sup>3</sup>	44.1
Physicians who are e-prescribing <sup>2</sup>	41.2%

<sup>1</sup>See Table 1 for definitions of measures

<sup>2</sup>Based on 1,888 responding physicians

<sup>3</sup>Based on 1,277 responding physicians with EMRs

direct patient care (or had missing responses to these questions). Of the 3,248 physicians included in the survey, 1,888 (58.1%) responded.

The 2009 survey, developed in collaboration with healthcare stakeholders in Rhode Island, reported five measures of HIT implementation and use: (1) Physicians with EMRs, (2) Physicians with "Qualified" EMRs, (3) Use of Basic EMR Functionality, (4) Use of Advanced EMR Functionality, and (5) Physicians Who are e-Prescribing.<sup>2</sup> (Table 1) The basic and advanced functionality scales were each calculated by giving equal weight to physicians' self-reported use of various EMR functions (six for the basic measure; 10 for the advanced measure), with points proportional to the frequency of use by the physician. (The functionality measure definitions were adjusted for hospital-based physicians to reflect the specific nature of their clinical practice.) Demographic, practice, and EMR information were also collected.

## RESULTS

Of the 1,888 respondents, 1,277 (67.6%) reported having EMRs in their main practice or another practice location. However, only 236 (12.5%) reported having EMRs that met the standards adopted by the survey for 'qualified' systems. (Table 2)

Physicians who had access to EMRs (N=1,277) reported high rates of use for both basic and advanced features, with 731 (57.6%) of them using all six basic functions at least 60% of the time and 577 (45.2%) of them using all 10 advanced functions at least 60% of the time.

Among all 1,888 respondents, fewer than half (n=777, 41.2%) reported e-prescribing at all, and less than one-quarter (n=427, 22.6%) reported using an EMR, specifically, to e-prescribe at least 60% of the time.

## DISCUSSION

Among respondents, more than two-thirds reported having EMRs in one or more of their practice locations. This high level of performance may be inflated if physicians with EMRs were more likely to respond to the survey than those without EMRs. However, a lower bound estimate (calculated by assuming all non-respondents lack EMRs) places the EMR adoption rate in Rhode Island at 39.3%, which is still substantial. The true figure likely lies somewhere between those two esti-

mates so is likely to be higher than national rates reported for 2008.<sup>3</sup> (The statewide rate includes hospital-based physicians, whereas the national rate excludes them, so the figures are not exactly comparable.)

Unique local policies and incentives may have contributed to these high rates. For example, Rhode Island not only reports statewide performance on EMR adoption, it is the only state to publicly report individual physicians' use of HIT as a structural quality measure.<sup>4</sup> Despite high penetration of EMRs in Rhode Island, the full use of EMR functionality is less widespread. Although public reporting of physician adoption is underway and expected to foster increasing rates of adoption in the state, several challenges remain, including defining "real" EMRs and capturing the actual use of available EMR functionality.

With national initiatives poised to stimulate HIT adoption, it is important to establish reliable baseline data and metrics upon which to measure change. This survey enables Rhode Island to do so and sets an important precedent for other states embarking on measurement strategies.

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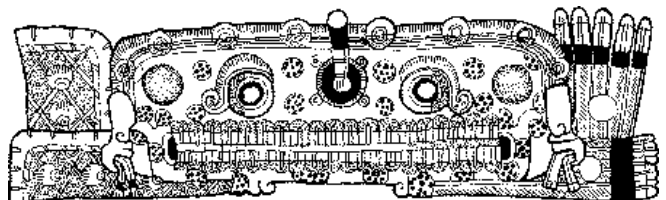
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# Research Brief

## Ice Cream Preference In Parkinson's Disease

Clifford Meyers, Melissa A. Amick, PhD, and Joseph H. Friedman, MD

**Although olfaction is impaired early in the vast majority of people with idiopathic Parkinson's disease (PD),<sup>1</sup> we have been struck by how infrequently patients complain about loss of taste, an unavoidable result of olfactory disturbance. Taste and dietary intake may be altered in PD for a number of reasons, including, but not limited to chewing and swallowing dysfunction, slowness, decreased saliva production, and flexed posture that interfere with eating. In addition, patients with PD frequently lose weight,<sup>2</sup> most likely also for many different physical and emotional reasons. We observed that when PD patients complained of weight loss and were counseled to eat more ice cream, often they reported already eating large amounts of it. We therefore performed a pilot study to determine if ice cream preference was actually increased in PD.**

### METHODS

A six-question survey was distributed at meetings of PD support associations, one in RI and the other in CT. The surveys were given to all attendees over the age of 50. Non-PD subjects served as **normal controls (NC)**. Attendees were asked to volunteer to fill out the anonymous questionnaires. The questionnaires asked the same six questions of patients and controls, as to whether there had been changes in desire for, or consumption of, sweets or ice cream since the patient had developed PD. The data were analyzed with T-tests or chi-square analyses, utilizing  $p=0.05$  as the significance threshold, and comparisons were made across gender and disease duration.

### RESULTS

Twenty-nine female PD patients and 42 female NC, along with 30 male PD patients and 15 male NC filled out questionnaires anonymously. Female PD and NC did not differ in age (PD=68.9, controls 65.4;  $p=.23$ ). Male NC were too few to use for comparative analysis. Female PD patients had a significant increase in their desire for ice cream compared to the NC group (60.7% vs 19.0%,  $p<.001$ , respectively) although the increase in ice cream consumption was not different in the two groups. In the female PD group, there were positive correlations between use of dopaminergic drug use and sweets consumption ( $p<.01$ ), illness duration and ice cream preference ( $p=.05$ ), and illness duration and ice cream intake ( $p=.02$ ). When groups were collapsed across gender, individuals with PD compared to the NC group reported greater increase in sweets preference (41.5% in the PD vs 23.8%, respectively,  $p<.03$ ), increased sweets consumption (43.1% vs 26.2%, respectively,  $p<.05$ ), and increased ice cream preference with (52.4% vs 22.2%, respectively,  $p<.001$ ), although the reported increase in ice cream consumption was not statistically different.

### DISCUSSION

Our results confirmed our observation that people with PD develop an increased desire for ice cream. While the cause was not evaluated in this pilot study, it could be due to the ease of swallowing, a change in taste or an innate attraction to a high calorie, sweet food.

Increased consumption of animal fat<sup>3,4</sup> and saturated fat<sup>5</sup> has been associated with an increased risk of developing PD as has an increase in consumption of dairy products.<sup>6</sup> PD patients losing weight have been found to increase their intake of fat.<sup>7</sup>

Our observations are limited to those who already have PD. However, the increase in ice cream preference and consumption could conceivably begin early in the disease course, and increase with disease progression. This could explain the observed association between developing PD and increased fat and dairy consumption. Published studies did not distinguish ice cream from other food groups, limiting our ability to speculate on how supportive our findings are of these other reports. We also found that there was a general increase in sweets preference, within the PD group.

Our results are very preliminary. Limitations to our findings include small sample size, particularly with respect to healthy male control participants. Nevertheless our results did support our clinical impression of an increased desire to eat ice cream among PD patients compared to a healthy comparison group.

Ice cream is an easy to swallow, high energy food that PD patients seem to gravitate to. We see no reason, without further data, to discourage this tendency.

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This work was performed when Clifford Meyers was a Brown medical student, and Melissa A. Amick, PhD, was in the Department of Human Behavior and Psychiatry, Memorial Hospital of Rhode Island.



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#### Disclosure of Financial Interests

Clifford Meyers and spouse/significant other have no financial interests to disclose.

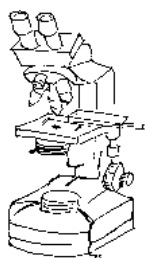
Melissa A. Amick, PhD, and spouse/significant other: Michael J. Fox Foundation, Ingelheim Boehringer, Ortho-McNeil Pharmaceutical, Inc.

Joseph H. Friedman, MD, and spouse/significant other: Teva, Ingelheim Boehringer, GlaxoSmithKline, Valeant, Novartis, Cephalon, Pfizer, EMD Serono, Astra Zeneca, Acadia.

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## The Creative Clinician

### Eosinophilia Secondary To Strongyloides In Rhode Island

Samir Dalia, MD, and Gerald A. Colvin, DO

**With an increase in travel and an influx of immigrants and refugees from the tropics over the last few decades, clinicians in Rhode Island are more commonly encountering tropical diseases. The Federation for American Immigration Reform estimated that the average annual rate of increase in the foreign-born population in Rhode Island to be 2400 persons, with the Dominican Republic and Guatemala two of the largest countries from which people emigrate.<sup>1</sup> As a result, hematologic abnormalities such as eosinophilia can arise without any other symptoms, perplexing clinicians as to the proper workup. Hematologists at The Rhode Island Hospital have noticed a significant increase in referrals of eosinophilia with mild leukocytosis or anemia, making it important to discuss major causes in immigrant populations. Infections such as hookworm and *Strongyloides stercoralis* (*Strongyloides*) are the most common parasitic nematodes to cause eosinophilia in tropical and subtropical areas.<sup>2</sup> We present a case to illustrate the workup of eosinophilia and to describe the diagnosis and treatment of *Strongyloides*.**

#### CASE

A 42 year-old man with a history of diabetes and hypercholesterolemia who emigrated four years prior from Columbia was referred to the hematology clinic after his primary care physician found a leukocytosis with increased eosinophils. The patient had several stool cultures for ova and parasites over the last two years that were positive for *Blastocystis hominis* which was treated with nitazoxanide. The patient's eosinophilia persisted post-treatment. The patient denied any diarrhea, rashes, itching, allergies, nausea, vomiting, cough, fevers, chills, night sweats, weight changes, or any other symptoms.

The patient's family medical history was relevant for an unknown anemia disorder and diabetes. The patient did not smoke, drink or use any illicit drugs or herbal medications. His medications included metformin, fenofibrate, olmesartan, pravastatin and aspirin. He denied any new medication changes or allergies to any medications.

On exam he was afebrile, with a blood pressure of 143/80 and a pulse of 75 beats per minute. He was well nourished and comfortable. Cardiopulmonary exam showed no abnormalities. Abdominal exam showed a soft abdomen without any masses or organomegaly. Extremity, lymph node exam and skin exam were all negative.

Laboratory data showed a BUN of 8 mg/dL (normal [nl] 7-25 mg/dL) and creatinine of 0.7g/dl (nl 0.4-1.3 mg/dL). Liver function tests and electrolytes were normal. White blood cell count was  $12 \times 10^3/\text{mm}^3$  (nl  $3.5\text{--}11 \times 10^3/\text{mm}^3$ ) with 10% (nl 1-3%) eosinophils present. Peripheral blood flow cytometry was negative for any lymphocyte abnormality. Hemoglobin and platelet count was within normal limits.

The patient had further workup with stool ova and parasites, *Strongyloides* IgG antibody, hemoglobin electrophoresis, IgE level, and serum protein electrophoresis. Results showed an IgE level of 1381 mIU/ML (nl 3-209) and a *Strongyloides* IgG antibody of 8.37 (nl <1) indicating an underlying infection of *Strongyloides*. The patient was treated with two courses of albendazole therapy with improvement of his eosinophilia.

#### DISCUSSION

Peripheral blood eosinophilia can occur from a variety of causes including parasitic infections. From primary blood disorders to systematic diseases to infectious processes, eosinophilia is sometimes

the only clue of an underlying problem. Some causes include mastocytosis, malignancy, Churg-Strauss, asthma, adrenal insufficiency, allergic reactions, drugs, and an array of invasive parasites.<sup>3</sup>

## WORKUP

Initially, clinicians need to take a full history and perform a physical exam to uncover potential causes of eosinophilia. History includes history of allergic symptoms, international travel (especially tropical areas), recent and current medications, and any constitutional symptoms including fever, weight loss and night sweats.<sup>4,5</sup> Physical exam should focus on skin lesions, rashes, nasal erythema and organomegaly. If the history reveals international travel or foreign birth, as in our patient, work up of parasitic causes should be done. Work-up includes three stool ova and parasite samples and work-up of any endemic parasitic infections to the area. It is important to remember that even if the stool ova and parasite examination is negative that *Strongyloides* could still be present. Because *Strongyloides* have low larval densities in the feces, stool exam can be insensitive. An IgG antibody ELISA to *Strongyloides* is the test of choice in those individuals in which there is a suspicion of *Strongyloides*.<sup>6</sup> A study in 1981 showed that the ELISA test was 84% sensitive in diagnosing *Strongyloides*.<sup>7</sup> False negative results can occur in patients who are immunocompromised.

## STRONGYLOIDES STERCORALIS SYMPTOMS AND TREATMENT

*Strongyloides* is endemic in tropical and subtropical regions and occurs most often in the United States in immigrants, refugees, and in those who travel to endemic areas. *Strongyloides* infects humans when human skin comes in contact with larvae of *Strongyloides* which are found in soil or other material which was in contact with human feces. The larvae travel from the skin to the lungs, duodenum and jejunum. In the mucosa of the duodenum and jejunum the larvae mature into adult worms which can live for up to five years. The larvae then can penetrate to the perianal skin or colonic mucosa to start another life cycle.<sup>8</sup> This is why infections with *Strongyloides* can persist for decades.

Patients with *Strongyloides* usually present with asymptomatic eosinophilia. Other presentations include pruritus, malabsorption, duodenitis, dry cough, pneumonitis, and any symptoms of an infection including fever, diarrhea, abdominal pain, cough or nausea and vomiting.<sup>9</sup>

The mainstay of treatment for *Strongyloides* infection is either single dose ivermectin 200 micrograms/kg or albendazole 400mg twice a day for two to three days. In head to head studies ivermectin was 92% successful while albendazole was only 60% successful in removing the parasite.<sup>10</sup> Sensitivity increases with albendazole if another course of therapy is given for five to seven days after the first course. Side effects are rare from either medication. Patients should be followed up with repeat testing of the ELISA antibody and complete blood counts. Patients who continue to have a positive ELISA or eosinophilia may require repeat or prolonged treatment. In cases where there is pulmonary involvement or there is disseminated disease a seven day course of albendazole is recommended.

## CONCLUSION

As clinicians across the state see more immigrants and refugees, and as more people travel to tropical and subtropical parts of the world, asymptomatic eosinophilia has become more common. In patients who travel from a tropical or sub tropical part of the world workup should include stool ova and parasite examination and also a *Strongyloides* IgG antibody. Patients with *Strongyloides* should be treated promptly and have continued surveillance until the IgG antibody is negative. With prompt recognition, disseminated *Strongyloides*, a potentially fatal condition, can be prevented.

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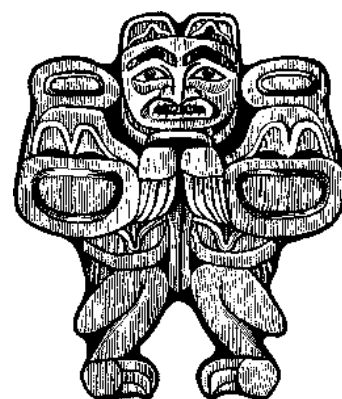
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## Disclosure of Financial Interests

The authors and their spouses/significant others have no financial interests to disclose.

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# Images In Medicine

## Floppy Ear, Premature Myocardial Infarctions, and Severe Arthritis. Are They Related?

*Peter Than and Rami Abumasmah, MD*

**A 53-year-old man awoke one morning to find his left ear** swollen and extremely painful. He could not hear clearly. Notably, he had had a similar episode of rapid onset ear pain six weeks prior, when his ear looked and felt the same. For that episode, he was treated empirically for cellulitis with vancomycin with resolution of symptoms after 4 weeks. He has a history of two myocardial infarctions in his forties though he had no cardiovascular risk factors or family history of myocardial infarction.

Physical examination revealed an edematous, erythematous, tender left ear with effacement of the normal pinna architecture, destruction of the rigid cartilaginous structure, and sparing of the earlobe. There was a large nodule in the left elbow, multiple tender hyperpigmented cutaneous patches in the lower extremities and significant crepitus in the right knee. Laboratory examination revealed leukocytosis, elevated CRP, slightly elevated c3, normal serum uric acid, with no ANF, c-ANCA, p-ANCA, or c4. Echocardiography revealed a dilated aortic root.

He was diagnosed with relapsing polychondritis. Premature coronary artery disease is a documented manifestation of relapsing polychondritis and may, in our patient with a history of early onset cardiovascular events in the absence of known risk factors for MI, have led to early myocardial infarctions. Although relapsing polychondritis typically presents with non-erosive arthritis, our patient's atypical and severe presentation, requiring bilateral knee replacements before the age of 40, is noteworthy as we could not clearly attribute it to any other etiology.

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### Disclosure of Financial Interests

The authors and their spouses/significant others have no financial interests to disclose.

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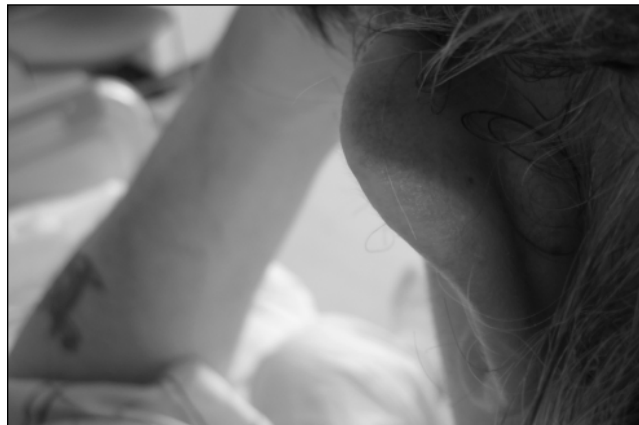


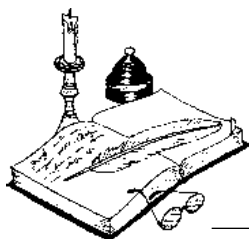
Figure A. Cartilage destruction leading to loss of supportive structure in the pinna.



Figure B. Effacement and loss of the pinna architecture and edematous swelling of the external ear canal. The erythema had subsided as this photograph was taken three days after corticosteroid therapy had been initiated.



Figure C. Hyperpigmented cutaneous lesions on the extensor surfaces of the lower extremities.



# Physician's Lexicon

## Oh, My Sacred, Aching Back

**A mistranslation of a word in Galen's text** has resulted in a curiously inappropriate name given to some of the lower vertebra of humans; and belatedly, provided a battle cry for American paratroopers.

Galen had used the Greek adjective, *ieron*, meaning strong, to define the fused vertebra below the lumbar spine. Some anonymous scribe then wrote the word as *ieroun*, meaning, in Greek, sacred. And thus the phrase was rendered in Latin as *os sacrum*, meaning the sacred bone or, merely, the sacrum, certainly not Galen's intent.

The Latin root, *sacer*, meaning holy or consecrated, became the ancestor of many English words including sacerdotal, sacristy, sanctum, sacrifice, desecrate, sacrament and even cascara sagrada (a widely employed herbal laxative, of

South American origin, literally meaning the sacred bark.)

The Greek word, *ieron*, has also given rise to a multiplicity of English words and eventually—by a circuitous pathway—to the cry of American paratroopers.

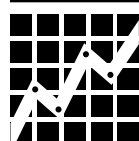
The lexical offspring of *ieron* include the English words, hierarchy, hieratic, hieroglyphics (sacred script), hierolatri (the worship of saints), and amongst medical terms, hialgia (lower back pain), hieromania (religious insanity), and hierotherapy (faith healing.)

*Hieronomos*, the Greek term meaning the sacred name, is translated to English as Jerome, and to Spanish as Gernimo. The 19<sup>th</sup> Century Chiricahua Apache leader, Goyathlay, was named Gernimo—or Geronimo, by the American cavalry seeking to imprison him.

In an American movie depicting the life of Geronimo, circa 1940, there is a scene of the Apache warrior escaping imminent capture by the American military by a breathe-taking leap off a cliff. In this scene, Geronimo shouts in exaltation as he descends. And thus, when the 82<sup>nd</sup> Airborne Division refined its parachuting skills beyond 1940, it became routine to shout "Geronimo" when leaping into thin air.

Amongst civilians, however, the cry continues to be, "Oh, my aching back" when the articulation of their sacrum yields to the stresses of a lengthy bipedal existence.

— STANLEY M. ARONSON, MD



RHODE ISLAND DEPARTMENT OF HEALTH  
DAVID GIFFORD, MD, MPH  
DIRECTOR OF HEALTH

## VITAL STATISTICS

EDITED BY COLLEEN FONTANA, STATE REGISTRAR

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

Underlying Cause of Death	Reporting Period			
	March 2009	12 Months Ending with March 2009		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	207	2,457	233.8	3,130.0
Malignant Neoplasms	191	2,251	214.2	6,177.5
Cerebrovascular Diseases	36	409	38.9	667.0
Injuries (Accidents/Suicide/Homicide)	45	554	52.7	8,726.0
COPD	58	484	46.1	414.6

Vital Events	Reporting Period		
	September 2009	12 Months Ending with September 2009	
	Number	Number	Rates
Live Births	1,021	12,354	11.6*
Deaths	760	9,594	9.0*
Infant Deaths	(8)	(85)	6.9#
Neonatal Deaths	(8)	(68)	5.5#
Marriages	833	6,316	5.9*
Divorces	425	3,090	2.9*
Induced Terminations	254	4,268	345.5#
Spontaneous Fetal Deaths	77	790	63.9#
Under 20 weeks gestation	(74)	(706)	57.1#
20+ weeks gestation	(3)	(84)	6.8#

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

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

(c) Years of Potential Life Lost (YPLL)

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

\* Rates per 1,000 estimated population

# Rates per 1,000 live births

## NINETY YEARS AGO, MARCH 1920

James T. Gwathney, MD, read "Anesthetic Problem in Lung Surgery," at the Joint Meeting of the Providence Medical Association and the Providence Society of Anesthetists. He based his discussion upon 80-100 animal experiments performed in the Central Medical Department Laboratories, AEF, Dijon, France, and upon a large experience with surgical teams in the advanced zone of the American Army. He suggested morphin, nitrous oxide, and oxygen, instead of ether and chloroform, allowing for patients who had been gassed or were bleeding. Dr. P. E. Truesdale, Fall River, who also served at the French front, noted that French physicians considered morphin dangerous. Dr. Albert Muller, Providence, was concerned with shock after anesthesia. Dr. William B. Cutts, Providence, recalled operating on 60 cases of acute empyema after the pneumonia epidemic, at the US Army General Hospital in Baltimore. "...it was found in all of these cases where the operation was done early before the empyema had had time to become localized and before pus had formed that the operation did not give relief, and that the patients all practically died." The patients received no general anesthesia, just novocaine.

Charles Fenner Peckham, MD, in "The Thilerium Hominis," discussed "a preliminary report on a hematozoic parasite found in mucous colitis."

An Editorial, "Federal Aid to Soldiers," noted that the War Risk Insurance Bureau's chain of "reconstruction bases" offered veterans free treatment, with attention to vocational, recreational and social needs. Physicians should be aware of this program.

## FIFTY YEARS AGO, MARCH 1960

Philip D. Wilson, MD, Emeritus Professor of Clinical Surgery (Orthopedics), Cornell University Medical College, delivered the Third Dr. Murray S. Danforth Oration: "Low Back Pain and Sciatica due to Lesions of the Lumbar Discs: A Study of the Results of Surgical Treatment." Dr. Wilson had studied the topic with Dr. Danforth, starting in 1921. The two had presented a paper at 1924 at the American Orthopedics Association; the paper subsequently was published in the *Journal of Bone and Joint Surgery*. Drawing on 1200 patients diagnosed with herniation at the Hospital for Special Surgery in New York, Dr. Wilson discussed the benefits of surgery.

John B. Mitchell, Anne Theinert, George F. Moore, Jr, in "Patients and Proprietary Nursing Homes in Rhode Island, 1954," described the 908 patients who lived in 78 of the state's 79 proprietary homes. The average age of residents was 78; chronic diseases or disabilities were "almost universal;" 384 residents had not been examined by a physician or visited a clinic

within 30 days preceding the survey. The facilities employed 576 persons: 60 graduate nurses, 141 licensed practical nurses, 160 other nursing staff, 142 "others." Half the patients or their families paid the entire bill.

An Editorial, "Emotionalism," described the state's reaction to a newspaper headline: "Vets Hospital Unnecessary, RI Medical Group Reports." The House of Delegates of the RI Medical Society had suggested that veterans with service-connected disabilities at the VA Hospital in Providence could be absorbed at Newport Hospital and Quonset Dispensary. The report drew political ire from city and state officials. "The Society was immediately the target of abuse by veterans organizations and labor groups for its audacity to suggest that the taxpayers of this country take a second look at the costs of the veterans hospital system and that the veteran with a non-service-connected disability be more carefully screened for admission to free care at the expense of the general public." The Editorial added: "Have our leaders...lost contact with the art of reflection which in turn calls for complete understanding of the subject?"

A second Editorial, "Why an Auxiliary?" described this organization for members' wives, asking readers: "Does your wife belong?"

## TWENTY-FIVE YEARS, MARCH 1985

Thomas D. Romeo, Director, Rhode Department of Mental Health, Retardation and Hospitals, contributed "A Revolution in the Management of Alcohol Abuse in Rhode Island." In 1980 the General Assembly mandated third party coverage of treatment. He calculated 54,000-68,000 Rhode Islanders were "alcohol troubled." The Department of Mental Health Retardation and Hospitals distributed \$7.9 million to 28 licensed community providers.

In an Editorial, "The Hazards of Boxing," Seebert J. Goldowsky, MD, noted that the House of Delegates of the RI Medical Society had voted to ask the General Assembly to ban boxing.

Herbert Rakatansky, MD, President-elect of the Rhode Island Medical Society, described "The Committee on Impaired Physicians of the RIMS."

Michael J. Liepman, MD, Ted D. Nirenberg, PhD, William T. White, RN, MSN, in "Family-Oriented Treatment of Alcoholism," noted that family therapy "helps to prevent relapses."

Carol N. Williams, PhD, David C. Lewis, MD, John Femino, MD, Lorraine Hill, RN, CS, Kathy Blackburn-Kilduff, Ruth Rosen, MSW, and Carl Sanella, CAC, contributed "Overcoming Barriers to Identification and Referral of Alcoholics in a General Hospital Setting: One Approach."

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