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Commentaries

Analogy

My son, the philosophy major, overheard me talking to a lawyer about case in which a patient had developed painful dystonia, possibly from a car accident. I was trying to explain that some people developed what we thought was bona fide torticollis, but many had psychogenic disorders and experts couldn't tell them apart. I then expounded a bit about conversion-disorders versus organic disorders versus malingering and then on the difficulty I had understanding psychogenic disorders. My son suggested a wonderful analogy for understanding the differences between organic and psychogenic disorders but suggested that relying on analogies was dangerous, at least in philosophy. I didn't think this was true in medicine.

In politics we hear that our government is like a household and can't keep borrowing money, although governments seem to be able to do it just fine for years and years. We were told a few decades ago that if Viet Nam "fell" a "domino effect" would cause all the countries in the region to fall, one after another. We hear that Haiti is a "sinking ship," and that donations are a waste of money because it is going to sink anyway; changing attitudes (foreign affairs, economics, social compacts) are "like turning a super tanker;" it takes a lot of time and must occur slowly. The list is endless. We like analogies because they make some concept we have trouble understanding more experiential.

Having initially been trained in mathematics, and not having gotten, at least in conceptual terms, beyond understanding integration, for example, as a means to approximate the area under a curve, rather than as a "linear functional" that could be defined in abstract terms, I recall being unable to understand a concept in a graduate level math course and asking the professor to explain. I was looking for something akin to the area concept for integrals (as an aside, I realized, many years later, that if you have difficulty understanding a math concept and need an analogy,

the odds are good that you've picked the wrong field). He, in fact, came up with something, which was quite helpful to me. I had an image of the concept, rather than, as with logic theory, having only a theoretical argument. Some math derives from reality but most does not.

Physics derives from analogies. Mathematical models are developed to explain observed phenomena. These models are analogies. The mathematics is then made "rigorous." Rules are created, and then, following our ordinary, everyday logic, deductions are made which prove theorems, ideas that MUST be true if the hypotheses are true. In physics the derived theorems are back-translated from math into "reality" and tested. When the test confirms the prediction, we get supportive evidence that the hypotheses for the mathematical analogy were correct, but we never obtain "proof" of their correctness.

So, what does this have to do with medicine? I use analogies, and I'm sure all of the readers do too. I don't view them as slippery slopes because I know they are analogies, and, unlike analogies, are not the real thing, just as mathematical theories of reality are used to predict, not to prove. An analogy I developed that I have been particularly proud of is the "hurdler analogy." Families tell me that the Parkinsonian patient could get up from a chair last week but can't this week. Why the sudden decline? I point out that the patient had trouble getting out of the chair before and now he simply can't. The decline, like that of a hurdler, was slowly progressive. The hurdler's coach noted that he'd been clearing the hurdle by less and less each month and one day he hit the hurdle. No big change in physiology, but a big change in function. It's like the straw that broke the camel's back.

My son's analogy was that the difference between a psychogenic neurological problem and an organic one was like the difference between a hardware problem and a software problem. Organic disorders

are "hard wired" or "hardware" while psychogenic disorders are "software" errors. Thus, one can alter a program with another program to affect input or output whereas hardware needs to be modified with some physical intervention. One can also modify the effects of hardware problems by suitably altering programs to cope with missing or altered input/output.

We have data showing that Parkinson's disease patients whose motor function improves with placebo have measurable increases in dopamine secretion in the basal ganglia that account for the benefit. We know that people with psychogenic tremor have metabolic changes that are demonstrable on fMRI when their psychogenic tremor is active but not when they purposefully, that is consciously, mimic the exact same tremor. In other words, the motor program for an "unconscious" but psychogenic tremor differs from the motor program for a consciously voluntary tremor despite the fact that the two appear identical. Thus malingering and conversion-disorder patients may have the same objective signs but different brain mechanisms accountable, although both have no "organic" disease. How can I understand this? Same hardware, different software. How does placebo cause dopamine release in one person and not in another although their brains look the same by all currently available tools? Again, hardware versus software.

I think this a good analogy and plan on using it to explain the problem to my patients with psychogenic disorders. My goal for using analogies is not to plan experiments, but to explain. We all have similar hardware but very different software. A brain "software program" is partly environmental (e.g. our social interactions) and partly genetic and always changing. Perhaps with this explanation more conversion disorder patients may be willing to obtain help by modifying their aberrant "software" with "reprogramming" rather than by tinkering with the hardware with medications or operations.

— JOSEPH H. FRIEDMAN, MD

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Conflicts: In addition to the potential conflicts posed by my ties to industry that are listed, during the years 2001-2009 I was a paid consultant for: Eli Lilly,

Bristol Myers Squibb, Janssen, Ovation, Pfizer, makers of each of the atypicals in use or being tested.

The Irksome Myths of Cancer

Each disease seems to have its own non-biological baggage, its special taboos, its fantasies, its degrees of social acceptance, its myths of origin, its apocryphal tales of inheritance.

Cancer, however, is no quirky myth. Sometime during their lifetimes, about one American in five will be afflicted with systemic cancer. It is conservatively estimated that 460,000 Americans die annually of the disease.

Cancer generally arrives unannounced, entering our body without first knocking. Often, a routine laboratory or X-ray procedure proclaims the sobering presence of an uninvited intruder called cancer. And the news changes us, sometimes irreversibly so.

It is a stealth disease; but surely it is not communicable, and yet some of us treat it as though it were a malevolent contagion. Watch when relatives or friends visit a newly-diagnosed cancer patient in the hospital. They will often place their chairs at a distance from the bedside, if they visit at all.

Cancer, in truth, is more than a tangible disease: it is a state of mind, sadly a cause for societal quarantine; even to some a punitive judgment. It is a disease not to be discussed freely or accepted neutrally. When Aunt Minnie dies of breast cancer the world is told that she succumbed "after a lengthy illness." No disease possesses as many euphemisms as cancer.

Cancer is a humiliating disease, involving intensely private visceral organs such as uterus or prostate or breast. Cancer is a punishing disease since its therapies often deprive us of the very organs that give us our gender-identity, our sense of intactness, wholeness, even corporeal beauty. And, after treatment, we often emerge as less than whole, nor to the world, wholesome.

In the minds of many, cancer is not thought of as an intrinsic disease or even a metabolic failing but as an alien invader, a malignant stranger assaulting the citadel of our bodies, an unwelcome aggressor almost extraterrestrial in character infesting us, consuming us, an obscene predator with neither compassion nor feelings. Most people hear cancer not as a word but as a sentence, a death sentence.

Living with cancer sounds almost like "living with Sylvester" as though the cancer were a separate entity much like a boarder in a small boarding house, perhaps like an interloping stranger with his own identity card. It is astonishing, too, of the frequency with which military metaphors are employed when defining or describing cancer and its therapies: Nixon's war against cancer; it is often called an invasive disease, a malignant ailment requiring a crusade, a killer disease. We don't manage cancer the way we manage psoriasis or asthma; with cancer we attack it, which perhaps justifies heroic interventions. And when someone finally succumbs to cancer the obituary—if it mentions cancer at all—will note with sorrow that Mr. X "lost his battle with cancer" or "succumbed after a lengthy siege."

How pervasive is the mythology of cancer? How, in general, is this disease viewed? Certainly as a "taint" upon the family much as hemophilia and Huntington's disease are construed as genealogical missteps to be assigned to the family attic or closet. Cancer, curiously, is thought of as a middle-class disease although substantive epidemiological data would show that the highest frequencies of most cancers burden the poorest classes of citizens.

Whom do we blame when we fall victim to Lyme disease? At best, to the wandering tick that transmitted the disease to us. Certainly the bizarre thought that Lyme disease is a moral failing never crossed our minds. Most adults ascribe their usual illnesses to random happenstance rather than moral lapse or divine wrath. Indeed, with the great majority of diseases afflicting humans, the thought of blame never materializes, except perhaps with the sexually transmitted infections. But how often does the victim of cancer ask: "What did I do to get this?" or worse, "What did I do to deserve this?" And the ultimate unanswerable question: "Why me?"

Cancer is undeniably a burden partly because our imperfect bodies, unintelligently designed in many ways, react excessively to certain external forces such as solar rays, X-rays or particular toxins abetted by certain inheritable vulnerabilities. In the majority of human cancers, a very secular, mundane cause can be assigned. But fertile human imagination, knowing no statutes of limitation, adds unnecessary impediments transforming cancer from a serious disease into a metaphor for moral inadequacy, deadly astrological influences, urban rot and even alien invasions. This might be amusing to an objective sociologist but the humor of being placed in the same category as a leper is lost upon a person afflicted with that very human disease called cancer. The cancer patient has sufficient, tangible problems to confront without the unwarranted burden of despairing guilt.

Cancer should not be disguised as something morally sinister; it remains resolutely within the domain of abnormal biological activity and is ultimately solvable by rational interventions and simple compassion.

— STANLEY M. ARONSON, MD

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Physician Advocacy and the 2010 Health Care Reform Act

Elaine C. Jones, MD, FAAN

Dramatic changes are being proposed in health care delivery in the United States and the main driver is reducing costs. The 2009 estimates suggest that the United States spent 2.6 trillion dollars (17.3% of GDP) on health care. The average for spending in the rest of the world was around 9% GDP.¹ While the numbers can be debated, everyone understands that the rising cost of health care cannot be maintained. What people can't agree on is how to make changes that will contain cost while maintaining quality.

Over the past eighteen months as the health care reform debate has raged in Congress, many physician organizations have ramped up their efforts to get and stay involved. Advocacy efforts have become a priority so that physician's voices can be heard in the debate. While many complain about the final bill that passed, without these efforts things would have been worse. As the famous saying goes, "if you aren't at the table you are on the menu." As physicians, we have a responsibility to our patients and ourselves to be actively involved in the process. Fortunately it is easier now than it has ever been before. Organizations such as the Rhode Island Medical Society and the American Medical Association have priorities for legislative efforts that are being proposed. They are monitoring bills that affect physicians and practices and proposing ones that are necessary to improving health care. They offer training programs for physicians who want to run for office and programs for how to become an advocate. They alert physicians to important votes taking place and provide simple means for letting congress know how they should vote. It has become easier than ever to get involved.

As physicians in the trenches providing health care, no one is better placed to advise those making decisions on what is best. We know what works and what doesn't work. Because we know what our patients need and want, we must get involved in the process.

While there is still debate about what exactly is in HR3962 Affordable Health

Care for America Act, the official summary lists a variety of improvements.² Approximately 32 million currently uninsured Americans will be covered. Insurance companies will not be able to deny insurance based on pre-existing conditions or limit coverage with annual or lifetime caps. They cannot discriminate based on gender. The age for children to remain on their parent's insurance is raised to 26 years old. It develops insurance exchanges and tax credits to assist lower income families and individuals in obtaining insurance coverage. It supplies tax credits to small businesses to incentivize them to offer health insurance to their employees. It expands Medicaid and maintains funding for SCHIP programs. It provides a 10% incentive to primary care providers through Medicare payments. Starting this year it provides refunds to Medicare patients affected by the Part D "donut hole" and completely closes this hole by 2020. It supports and expands payment incentives for quality measures (PQRI programs) to try to shift the focus of physician payments from volume to value. It establishes pathways for FDA approvals for biosimilar medications in the hopes of bringing more treatments to the field faster. It provides for standardization and simplification of paper work for insurance companies. While it does not include meaningful medical malpractice reform, it provides for pilot programs to explore options in this area. It also did not include a permanent fix to the physician payment calculation that depends on SGR calculations. It established a non-partisan regulatory board (Independent Payment Advisory Board or IPAB) to make recommendations to control health care costs. It establishes new imaging requirements that mean patients must be informed in writing that they can obtain their test anywhere they want and that they be given a list of available locations. Because the regulatory language now has to be written by congress for this bill, the details of how all of these measures will take place and what impact they will actually have has yet to be determined.

Because of the political wrangling that had

to take place for the bill to get passed, it is generally understood that additional amendments will be added to change some of the current language. Over the next months to years the health care reform act will continue to be a work in progress.

In this edition of *Medicine & Health/Rhode Island* there are articles detailing different aspects of advocacy and the legislative process. Dr. Nicholas Tsiongas served in the RI House for four terms from 1985-1993. He details what it is like to run and serve in office. Dr. Vera Depalo is the current president of the RI Medical Society and will review the priorities of RIMS and the efforts they are making. Dr. Michael Migliori will discuss the priorities of the AMA and his experiences with lobbying for the AMA and RIMS including testifying before congress. Finally, I have worked with the American Academy of Neurology on developing advocacy programs and the AAN's legislative priorities and will discuss some of the basics of dealing with congress and how to be a better advocate.

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The Elected Physician

Nick Tsiongas, MD, MPH

Doctors, it would appear, love their love-hate relationship with our political system. They are notoriously miserly when making contributions to political campaigns; they are generally too busy (read “difficult”) to mobilize; yet at the same time they find it hard to understand why government is not sufficiently responsive to their wants and needs. In addition, they can be looked upon by the public (at least in the Northeast) somewhat anxiously when the doctor’s political views are seen as outside the mainstream.

At the same time there is a long and important history of physicians holding public office—in the US as governors and congress-people; but in Europe, South America, Asia, and Africa, as heads of state. In recent memory at least two physicians have run for president: Ron Paul of Texas and Howard Dean of Vermont. In the 111th Congress at this writing there are fourteen doctor-legislators, all but two or three hailing from the Old South—which may speak to the political culture of both doctor and voter in that region.

That is not to say that doctors in public office legislate as doctors. As with all elected officials, the system tends to “scrub” one of one’s prior occupational identity after election—our general disdain for titles allows that “Congressman” or “Governor” or “Representative” should suffice, rarely is it “The Honorable Doctor”. So the public often remembers that the congressman is a doctor only on the occasion of her or his running for higher office or when asked to offer an opinion on health matters.

On the other hand, a legislator’s identity as a doctor is often quite important to one’s colleagues. Great importance is attached to the physician-legislator’s opinion on an array of health-related issues, for good or ill, even or especially regarding issues that the doctor may admittedly know little about. (Of course, another reason fellow legislators tend to be more responsive to the physician-legislator is the ready access to medical advice!)

RHODE ISLAND DOCTORS AND ELECTIVE OFFICE

A look at recent Rhode Island political affairs finds that our state has a speckled history of physicians running and winning elective office. In many respects our state’s physician electoral culture is far behind a number of other states where doctors have often inhabited state legislatures for years and have attempted the occasional foray into the state Executive or to Washington.

Public service by Rhode Island physicians has been rudimentary by comparison to some other regions of the country—our doctors have been elected and are serving admirably on school committees and town councils, but only one doctor has been elected to the legislature in close to 40 years. While a physician has run and is running for mayor of the capital city [Daniel Harrop, MD, running as a Republican], one must observe with some dismay that Rhode Island political history is strewn with the failed first attempts of doctors who may have mistakenly regarded Congress as an entry-level position.

But this history for all its frustrations also holds the seed for future success. Appearing and testifying before one’s town functions, serving on the school board or the city or town council, being active on one’s town or state party committees all serve as the training ground for higher office. We may not have had many franchise players yet, but we are developing a good farm team and docs have shown increasing interest in running for the Assembly. In the last couple of election cycles three or four doctors ran for Assembly seats and at least an equal number came close to doing so.

It is often the case that one has to run for office a few times before one can successfully serve—and having served then helps to establish the public’s trust for even higher office. Those with the desire for public office need to prove they can get a few hundred votes before trying to get a few thousand.

GETTING BACK TO THE ASSEMBLY: A PRIMER

Because the General Assembly could be the next important level for the electorally-mined physician let’s review some lessons learned.

Firstly the doctor who wishes to run for office needs the time. The perceived time commitment in serving in the Assembly often gives the potential candidate pause. In reality serving in the Assembly has actually become less time-consuming over the years. Sessions start no earlier than 4 PM and early in the year the sessions tend to be short and meet only three times weekly.

The real time commitment, however, is in the running for office not the serving. Because the state is small, Rhode Islanders expect to see their candidate personally. When running, there is little alternative to appearing in frequent forums and knocking on people’s doors—and that takes time—often weeks.

Having a past public persona helps—like coming from the neighborhood where you are known—as do the funds to put on a respectable campaign. And the physician-candidate needs to articulate at least a small political platform (even if it’s “I’d be better than the other guy”) that makes sense to the general public, not a platform that only makes sense to doctors.

What to expect when you get there.

It is often more important to one’s legislative colleagues that you are a doctor than it is to your constituents. On a whole spectrum of health-related matters, you can expect your opinion to be given deference. Although not as much as decades ago, this remains a General Assembly that has a scarcity of policy experts, and members appreciate the opinion of someone who has experience in the topic. This may get the physician legislator far—but only so far. The minute another legislator suspects that your opinion is colored by individual or professional self-interest or that your opinion is at odds with the perceived need of their constituency, your opinion has lost its strength.

Employ your knowledge

On the other hand the doctor should feel free to calmly employ her or his knowledge where it is helpful in clarifying an issue and especially when it helps a colleague better make an argument. Not only can better legislation be made that way, but strong allies are built that way.

Reform on a state level can be effective.

It's possible that more doctors have not run for the legislature because it may be perceived as insufficient to the problems we face, even as being "small potatoes". On the contrary, one legislator introducing a timely issue can garner quick allies and start an effort that can educate a whole generation of legislators who themselves will carry that message to higher office. In the same vein, when in the 1980s, the passage of environmental legislation on a federal level was stymied, it was the passage of a wide array of environmental laws in the states that forced federal action—if for no other reason than the fact that uniform language was needed throughout the country. A single office holder with some knowledge can move an issue with greater ease and more effect in a state than can a Federal effort. The old saw is true because examples abound: one person in the right place *has* made a difference.

Knowledge is power, votes are more powerful

One of the first lessons a new legislator must learn is that knowledge and merit are often necessary but insufficient in determining the outcome of an issue. It is the polar opposite of the "one person can make a difference" adage. There are other colleagues' votes to consider, as are the political and financial influence of others, legislative "culture", and the not infrequent testimony from those who represent "opposing science" (even if crackpot and *unscientific*). There is the story of the physician-legislator who one day made an airtight epidemiological argument about a piece of health-related legislation but because the opposition had more votes, it was the housing developer-legislator who was the epidemiologist that day.

Legislatures are slow, legislatures are too fast

At times a legislature will take years to do the right thing while it can take an hour to do the wrong thing. Regardless of your faith, the Biblical passage helps: Legislatures often "strain at gnats (while) swallowing camels." One of the reasons there are two houses in the Assembly is so the one house can slow or stop the mistakes of the other.

But don't despair. There's always the pure elation of those rare times—after spending years avoiding doing the right thing—when the right thing gets done in a lightning flash, leaving everyone aghast.

There is no disgrace in getting what you can this year.

Legislatures are by their nature conservative organizations. Incremental change more often wins out over radical change. This can be infuriating. However, although at first glance, compromise may look like defeat, it can often be the first step to coming back and winning for good later. Often the most revolutionary act is to out-live the opposition.

Even when you win, look over your shoulder.

The flipside of winning the big win without having to compromise is the admonition to watch out for next year. The opposition will have a year to muster their forces. A related note: Beware of out-of-state experts that suddenly show up in Year Two anxious to reopen the debate.

An informed media is your friend.

A lesson to learn early is to be open, accessible, and patient with the members of the news media. The good ones aren't supposed to take sides but they will gravitate to the office holder who's always been truthful.

The spring is the season when the community-minded physician's thoughts turn to elective office. It's a good time to take a personal inventory—what do you believe, who are your friends (make a list!), how important to you is taking the electoral plunge. And if the answer is that it's *very* important, then the personal and financial details will often work themselves out later.

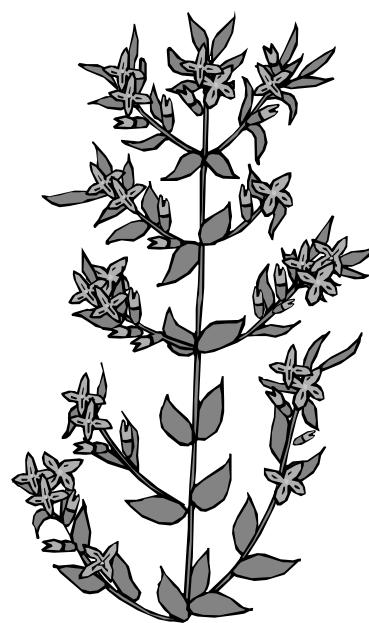
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Advocacy Efforts of the Rhode Island Medical Society and Its Legislative Priorities in 2010

Vera A. DePalo, MD, FCCP

Physicians have always advocated for their patients' well-being, beginning with the simple phrases like, "you need to lose some weight" or "you must stop smoking". They have interceded with government agencies to obtain special consideration for parking, utilities, and disability benefits. More recently, physicians and their staffs advocate with insurers for imaging studies and medications that patients require.

Legislation and regulation have become important elements of the world of medicine. Long ago, physicians realized the importance of participating in the process of advocacy for health interests, in addition to the activities of examining and treating patients, fostering medical education and advancing medical science through research. Through the vehicle of organized medicine, advocacy becomes an easier activity. The Rhode Island Medical Society (RIMS) has participated in advocacy on a local and national level since our founding in 1812. RIMS has a Public Laws committee, comprised of physicians from every specialty, and a Director of Government Relations and Public Affairs. In general, the advocacy priorities of the RIMS have always included access to affordable health care for all, medical liability reform and physician practice issues such as reimbursement reform. Each year, the Medical Society advocates at the State House and before Congress for bills of interest to our members and their patients. We also work diligently during the promulgation of regulations to ensure that the regulations reflect the intent of the law.

Advocacy for health care is all about support and partnering. The Medical Society has many partners in its advocacy efforts. Those partners may include local specialty societies, nursing and physician assistant colleagues, other health care professional groups, public health advocacy organizations, the Department of Health and other State of Rhode Island regulatory agencies involved in health care policy, payment, and service delivery. Our RIMS Public Laws committee meets regularly to determine which pieces of legislation we will support, oppose, or sometimes simply monitor. Leg-

islation is evaluated according to the principles of the RIMS, the American Medical Association, and the impact on the practice of medicine in Rhode Island and Rhode Island's patients and physicians. There may be times when the Medical Society finds itself opposed to a group that may be a partner on other legislation.

Additionally, the RIMS partners with legislators to draft and introduce legislation of interest to the Medical Society members. RIMS' legislative agenda covers several broad categories with bills relating to business and professions, to health and safety, to courts and civil procedure, to insurance, to taxation, to food and drugs, and also issues relating to state affairs and government.

Testifying is story-telling... Our patients' conditions provide the best stories.

The 2010 agenda of the RIMS includes legislation that would grant immunity from liability for gratuitous emergency assistance provided by credentialed physician assistants thus allowing them to participate in disaster and emergency care with or without physician supervision. We partnered with our physician assistant colleagues on this legislation.^{1,2} Under the category "related to business and professions," given advances in technology, we are advocating for repeal of the radiologic technology licensing act and for adopting a revised act. This revised act would allow the Director of Health to appropriately license radiologic technologists on updated imaging modalites in accordance with current standards of practice established by national professional associations. This would examine, register, certify or approve individuals and education programs relating to operators of sources of radiation.^{3,4}

Partnering with our colleagues in dermatology, the RIMS introduced an act that would require the Director of the Department of Health to include, as minimum safety standards for tanning facilities, a pro-

hibition on the use of such facilities by persons younger than 18 years of age without a physician referral.^{5,6}

Of late, much attention has been paid to the merits of "the apology" as a tool in settling liability claims. In Rhode Island this year, the power of the apology was aptly demonstrated in the recently settled Woods case. Reportedly, the apology was one of the deciding elements which led to settlement.

We are partnering with the Hospital Association of RI, Kent Hospital, Norcal Mutual and other liability carriers to support legislation which provides that expressions of sympathy shall be inadmissible as evidence of an admission of guilt or wrong doing. This would include statements by a health care provider to a patient or to the patient's family regarding the outcome of such patient's medical care and treatment. It would include reports of medical/health care errors or unanticipated outcomes as well as any offers to undertake corrective action.^{7,8} Our legislation is based on a program at the University of Michigan Health System that has seen a dramatic decrease in the frequency of malpractice claims under their program.

RIMS continues to monitor and support other legislation. The RIMS supports an act that provides parity of reimbursement for treatment of mental illness and substance abuse with the reimbursement for medical services provided. This would be accomplished by determining reimbursement using the same methodology for all treatments and in no case would reimbursement for mental health services be at non-comparable levels.^{9,10}

At the request of the Medical Society, legislators introduced a bill that would prohibit the granting of a license under chapter 44-20, the "Cigarette Tax," to applicants who are licensed as a health care facility.^{11,12} Using the example of the cigarette tax as a behavioral change agent for better health, we have partnered with the Department of Health and others to support legislation which outlines a similar strategy to reduce the consumption of sugar-containing soft drinks.^{13,14}

The RIMS supports legislation that would permit physicians, physician assistants and nurse practitioners to prescribe prescription drugs to a patient's sexual partner or partners for the treatment of sexually transmitted disease without a physician examination.¹⁵ Such a bill would protect the public's health.

The RI Medical Society supports a proposed "Good Samaritan Overdose Prevention Act," which would exempt from liability any person who administers an opioid antagonist to another person to prevent a drug overdose.^{16,17} To continue to facilitate ease of practice for physicians, the Medical Society advocates for health insurance oversight. One act would require the professional provider-health plan work group (the "group") to develop a method whereby health plans shall disclose their prescription drug formularies to providers. It would require that a report on the work of the group be submitted by the Health Insurance Commissioner to the Joint Legislative Committee on Health Care Oversight by December 1, 2010.^{18,19}

Lastly, as has always been a priority for the Medical Society, we continue to support affordable health insurance for all Rhode Islanders.²⁰

Legislation needs Senate and House champions to introduce bills. If a Senate or House champion cannot be found, the leg-

islation doesn't get introduced and goes no further in the process. Once bill numbers are assigned, committee hearings are scheduled. It is at this time that the legislation needs supporters. Early in the legislative session, the leadership of the RIMS and our staff meet with the leaders of the House and the Senate to inform them of the Medical Society's legislative agenda.

Testimony is crucial to advocacy. Interested parties must provide information and context to legislators to make the case for the legislation. The more broad-based the support for the legislation, the greater the opportunity that it will succeed.

Many of the bills supported by the RI Medical Society do become law. If not, legislation is reevaluated, perhaps refined, and additional support is sought. Sometimes that means bringing other legislators on board; sometimes that means adding new partners. The legislation may be reintroduced in the next legislative session. Testimony at committee hearings remains crucial.

There are times when the Rhode Island Medical Society advocates and supports on a national level or with federal agencies. It has supported the interest of national organized medicine partners, like the American Medical Association, and contacts Rhode Island's congressional delegation or signs on to letters supporting or opposing federal legislation and regulation. Health care reform, payment system reform and medical liability are examples of such issues.

RIMS often partners with other public health advocacy organizations, such as the American Lung Association of Rhode Island, on many aspects of their anti-smoking initiatives. We have written letters of support for Rhode Island's quality organizations, such as Rhode Island Quality Institute and Quality Partners of Rhode Island, as they have applied for federal grant awards, and for Rhode Island's hospitals as they have applied for medical liability reform demonstration project monies.

Specifically regarding health care reform, as the national discussion unfolded throughout the year, the Medical Society's leadership and Government Relations staff reviewed the House and Senate bills and met with Rhode Island's Senators and Representatives to

provide comment. We have worked with AMA colleagues to continue to try to advocate for meaningful health care reform.

As medicine changes, advocacy has become increasingly important to the practice of medicine. Legislative and regulatory actions touch every physician's professional life whether in private practice or in hospital-based practice. Physicians need to be more involved. Testifying is story-telling. This gives legislators a context for their decision making. Our patients' conditions provide the best stories. The broader our support and the more individuals we have testify, the more successful our advocacy efforts will be to shape public policy.

The RIMS provides the support and education to help each physician become part of this process. An annual RIM-sponsored program, "House Calls," introduces Rhode Island's physicians and medical students to the legislative process. This gives them the opportunity to provide input to the legislators at the RI State House on bills of interest to medicine. All are welcome to participate.

The Society's website www.rimed.org includes information, resources, and links that make it easy for physicians to inform themselves and weigh in on legislation. We also have a grassroots advocacy list serve by which we alert members of the need to act on current legislation. This powerful tool helps members make contact with their legislators.

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How a Bill Becomes a Law and How Physicians Can Influence the Process

Michael E. Migliori, MD, FACS

The American Medical Association Code of Medical Ethics includes twelve Principles of Medical Ethics. Principle III states, "A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient." Principle VII states, "A physician shall recognize a responsibility to participate in activities contributing to the improvement of the community and the betterment of public health."¹ Together these principles call physicians to advocate for their patients when existing laws or regulations do not serve their best interest. As physicians, we are uniquely qualified to fulfill this responsibility since we see first hand the good and the bad of our health care system.

Organized medicine's role in this process is mainly in two areas, legislative advocacy and political action. On the legislative side, we lobby the state legislature on bills that affect physicians and patients, and we lobby the Health Department, Governor's office, and other state and local agencies about regulations they promulgate. We have bills introduced to improve health care delivery and oppose bills that harm patients and physicians. On the political action side, we support and try to help elect those political candidates that are friendly to medicine.

LOBBYING

As physicians we have been taught how to assess and treat disease. We ask the right questions and assimilate the information we get from the physical examination and ancillary studies to diagnose the condition. Once we make a diagnosis, we come up with a treatment plan. Simply put, we identify a problem, get the information we need to figure out how to deal with it, and then formulate a plan of action.

The legislative process is nothing like this. What seems like a simple solution to a straightforward problem is hardly ever the way lawmakers resolve an issue. In the legislative arena, a problem is either brought to the attention of a legislator by a constituent, or by some event that raises public

awareness of an issue. More often, a special interest group asks to have a bill put in for them. The legislative sponsor may or may not have first hand knowledge of the topic, but the group that brought the issue forward typically educates them. The bill is assigned to a committee where hearings are held on the merits of the bill. Amendments are made based on testimony in the hearings, and the committee votes whether to send the bill to the full chamber for a vote. On the floor, the members can amend a bill again, but once it passes both houses, it goes to the Governor for signature. If he signs it, it becomes law.

Sometimes the winner is not necessarily the side with the "right" or "moral" argument, but the side with the most persistent and visible supporters.

While this sounds like a reasonable process, it can get bogged down in so many places. While legislators are charged with making law, they rely on lobbyists to educate them so they understand the issue more fully.

Just as one physician may seek advice from another physician consultant, a legislator may ask for clarification on a health-related bill from the Medical Society. Our lobbyists use time spent with legislators to explain the goals of the Medical Society, and to educate legislators on the merits of our bills. We also point out the shortcomings of our opponents' bills.

Lobbying is the process of trying to influence the votes of a legislative body. The term "lobby" in its political context refers to the lobbies in the House of Commons. For centuries, the lobby of the Parliament was the place where the public could go to speak to their members of the

House of Commons. An American legend holds that the term lobbying originated at the Willard Hotel in Washington, DC, a block from the White House, where those seeking favors would wait in the hotel's lobby in order speak to Ulysses S. Grant, who was frequented the lobby for a cigar and brandy. The association between the Willard Hotel and lobbying probably arose because of the intense lobbying of government after the Civil War.²

There is always an outcry about the influence of special interest groups on legislation. While there are abuses by well-funded self-interested organizations, special interest groups are not all bad. The Rhode Island Medical Society is a special interest group. We not only advocate for physicians, but we also advocate for patients. Each year we ask to have between eight to fifteen bills introduced for us, and we follow about 200 more that could affect physicians or health care delivery. The other bills we follow deal with such things as insurance regulations, scope of practice, liability reform, and public health.

Getting a bill introduced is only the first step in the process. Bills are debated in committees that then decide whether the bill should go to the full chamber for a vote. It is in committee that the fate of the bill is chiefly decided. This is where proponents of the bill have to defend it, and opponents have the opportunity to amend or kill it.

The problem physicians face in the legislative process is that many feel that legislators will do the right thing if you can just explain to them why they should vote for or against a bill. Unfortunately, it does not work that way. There are several competing interest groups with different perspectives that will argue why you are wrong and they are right. Since legislators are not experts in all things, they rely on lobbyists and their constituents to educate them. Sometimes the winner is not necessarily the side with the "right" or "moral" argument, but the side with the most persistent and visible supporters. Our lobbyists work with bill sponsors and committee members to fine-tune language. Sometimes small dif-

ferences can be worked out this way, but often, controversial bills require testimony during committee hearings where all interested parties have a chance to present their support or opposition.

Lobbying legislators is an important part of any legislative strategy, but one of the most powerful actions is having a physician testify before a legislative committee. This is an opportunity not only for RIMS to present to the committee our perspective, but also for the committee to ask questions. No physicians currently serve in the Rhode Island state legislature, so there are no "in-house" experts. Since we are small businesses, we know all about the cost of insurance premiums for our employees. We also know about the tragedy of the uninsured and underinsured, about abuses by insurers, and the burden of state and federal regulations. That gives us credibility in committee and that carries considerable weight in the legislature's eyes.

POLITICAL ACTION COMMITTEES

As far as having access to legislators, lawmakers must be willing to meet with you and be, if not sympathetic to our opinion, at least willing to listen. This access comes not only from being available to discuss issues with them, but comes from friendships made through supporting their candidacy.

Individuals may contribute to political campaigns, but a special interest group, union, or corporation cannot do so directly. They may only contribute through a **political action committee (PAC)**. PACs receive and raise money from a "restricted class." AMPAC, the federal PAC for the AMA, can solicit or receive contributions only from AMA members, member spouses, and AMA staff, or from members of state medical associations, their spouses, and association staff.

RIMPAC IS THE STATE PAC FOR THE RHODE ISLAND MEDICAL SOCIETY.

Federal election laws consider AMPAC and state medical association PACs one and the same, so federal contribution limits apply to the aggregate contributions to AMPAC and the state medical association PAC. AMPAC contributes to federal Congressional campaigns, while RIMPAC contributes to

state and local campaigns. RIMPAC is not a federally registered PAC so it cannot contribute to federal campaigns.

At least as far as AMPAC and RIMPAC are concerned, political contributions do not buy votes. Contributions are used to support and help elect those legislators who are friendly to medicine. Medicine-friendly lawmakers are more willing to discuss with physicians issues important to physicians, and are more receptive to supporting physician-initiated legislation. Well-funded special interest groups are well-funded because their constituents contribute to their PAC.

If you are in medicine, you are in politics.

Physicians as a group have not had the kind of high PAC participation rates as other groups, and that has meant there are fewer dollars available to support candidates who support us. It takes a lot of time to testify in person or campaign for a candidate, but it takes very little time to write a check. Contributing to AMPAC and RIMPAC are both ways RIMS members can live up to the AMA's Principles of Medical Ethics.

CONCLUSION

Lobbying, testifying, and PACs are critical components of physicians' advocacy. All of these things take time and money. Your Rhode Island Medical Society and AMA dues help support lobbying efforts, and your PAC contributions help support medicine-friendly candidates. Physicians as a rule have been stingy with association dues and with political contributions. Meanwhile, the trial bar, the hospital association, insurance and pharmaceutical industries have all been very active. Without physician support, fighting those interests that conflict with ours is more and more difficult.

If you don't like where things are or where things are going, you **have** to get involved in order to effect change. If you are members of RIMS or the AMA, your dues dollars are hard at work. If you are not a member because you don't think RIMS or the AMA represents you, you are wrong. These groups have to repre-

sent a variety of opinions and positions and in order for them to represent yours you have to be involved and let them know. You cannot complain if you sit back and let others do the work. Not everyone has the time or proclivity to testify in committee, but being active in organized medicine helps define our policy, and your dues dollars support our lobbying efforts. PAC contributions do not buy votes but do help with access and this is how things work. Physicians can no longer be above the political process. If you are in medicine, you are in politics. You just need to decide if you are going to be part of the process or a helpless bystander.

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A Call To Arms: Getting Involved In Advocacy

Elaine C. Jones, MD, FAAN

I first became formally involved in advocacy efforts in 2003 when I participated in a new training program offered by the American Academy of Neurology. Through the legacy of Dr. Donald Palatucci, the Academy started the **Palatucci Advocacy and Leadership Forum (PALF)** to encourage and train members to become more involved in advocating for our patients and our profession. In fact, many physician societies are getting involved in advocacy and offering these types of programs to their members. When I attended the four-day training session, I didn't know what I was in for or where it would lead. I wasn't really sure what it meant to advocate for my patients.

Over the past seven years I have remained involved in PALF, which has evolved into an award-winning program for the AAN. I have visited with legislators on Capitol Hill in Washington, DC, and on Smith Hill in Providence. I have testified before committee hearings on bills. I have been interviewed for and written articles about legislative issues. I have been appointed as co-chair of the Academy's newly developed Government Relations Committee and have helped the Academy develop legislative policy and further the advocacy efforts started in 2003. It has been exciting and very rewarding and is a vital part of our profession.

Now with dramatic changes happening in health care it is more important than ever that physicians get involved in the process. The pendulum is swinging towards a focus on cost-cutting. We can bring to the table the focus on quality and on patient-centered processes and assure that the pendulum doesn't swing too far away.

So how can physicians get involved? The easiest and most common way is to belong to an organization—AMA, RIMS, ACP, AAFP, AAN, ACOG, etc. Just as the AAN did with PALF, most of these organizations have developed their advocacy efforts and have become involved in legislative affairs in order to have their members voices heard. These organiza-

tions represent a special interest group and advocate for their members as a whole. What do Family Physicians want with regard to tort reform, or coding, or licensure? The larger the group, the more clout it will carry among legislative bodies. A group that represents 35,000 physician interests may mean more than a group that represent 3,500 or 500. In politics, legislators always worry about numbers because that is how they get elected. If they take a position on an issue and 51% of the voters agree with them, they are more likely to get re-elected. If 51% are against them, the other candidate might win. They are not usually there to do "the right thing". This is how lobbying works. Special interest groups meet with legislators and tell them what they (or their organization's members) think they should do. If they hear enough about the issue from their constituents then they will usually vote the way the voters want. Legislators who don't risk defeat at the polls.

The down side to Societies is that they have to represent all of their member's viewpoints. While there are things that everyone would agree on—better reimbursement for services—there are issues where agreement may be less solid. The AMA came across this in 2009 when lobbying congress regarding the recent health care reform bills. Members had differing opinions on some of the specifics of the bills being introduced. Questions arose as to whether a bill should be supported if it didn't contain any meaningful malpractice reform ("tort reform"). Some members thought it shouldn't ever be supported and others felt equally strongly that it should be supported as long as it had other meaningful fixes in it.

So what can you do if your organization isn't working on the issue you want or doesn't represent your viewpoint on an issue? The wonderful thing about our government is that even as individuals we have access to our legislators and have the ability to get our opinions heard. There are many ways that individuals can get involved. We can walk into our legislator's office and tell them what we think. We can host "house parties" or

educational meetings for friends, colleagues, and family and educate them on an issue and then provide supplies or web access to write letters to congress members. We can post information in our offices to educate patients on the issues that we face and supply them with contact information for their legislators. We can attend public forums or "town hall meetings" hosted by politicians and share our point of view. We can write a letter to the editor in response to recent issues or topics or write an Op-Ed piece to express an opinion. Many Society websites offer resources on how to write editorials and get them published. I had a colleague in Louisiana who wrote an article regarding the primary care bonus in the current health care legislation and then sent it out via email to the local and regional newspapers and got it published. Try pitching your story to the media – TV or radio. They are always interested in stories with personal interest or that have a local angle on national stories. Be sure your facts are correct and think about "why this is news" and "why should they care". Be familiar with the arguments against your issue and address those as well. The worst thing that can happen is that they will say no or not be interested.

If you haven't ever done anything like this, how do you start? First think about the issue you are concerned with. Develop an argument and talking points so you know what you are going to say. It may be easiest to start with an issue that your organization is already working on. Most organizations have an Advocacy or Legislative Issues section on their websites. Often they will already have developed talking points or letters you might need. Then you can contact your legislators. Contacting State and Federal legislators is simple. You can find your State legislators on www.rilin.state.ri.us. This website gives you contacts for legislators as well as bills they are working on. Federal legislators can be found online at www.usa.gov and look at the top for "Contact Elected Officials" or you can call the US Capitol Switchboard at 202-

224-3121 and ask for your senator's or representative's office.

When you call an office you will get a staff person and are not likely to speak with the member. Let the person answering the phone know the general issue you are calling about (i.e. health care reform, Medicare reimbursements, etc) and s/he will transfer you to the appropriate staffer. Usually this is a legislative aide who knows as much about the issues as the member of congress (perhaps more). Be sure to identify yourself with your name and title, but they will also want to know that you are a constituent (you can vote for or against them!). Tell them where you live. If you are calling about a specific bill you can give that information as well. Remember that bills are referred to by a number and either HR# (House) or S# (Senate). Ask if they have a position on the issue/bill and if they will support you. Offer to send them more information if they are unfamiliar with the issue or topic or express interest in what you are telling them.

You can also contact members through letters. These days e-mail is probably more effective than letters through "snail-mail". This is due to security measures which most routine mail goes through before it reaches the offices. Security measures often include scanning and irradiation. This process can delay mail for some time. It can also mean that the letters are quite brittle or even hard to read by the time they get to the offices. E-mail is faster, easier, and just as important as routine letters through the mail. A comment through e-mail is weighed the same as a comment through a letter. Many organizations are using e-mail alert systems sent out to members or set up on their websites. The AMA and other organizations frequently have Action Alert systems where they e-mail their members on an issue and provide links for them to write their member of Congress. There is nothing wrong with using pre-formed e-letters. The importance of contacting members is not necessarily the details of what is said, but how many constituents contacted them. The correspondence is received and logged in as for or against an issue and not necessarily read for details.

It is important to show respect for the member of congress by addressing them correctly. Both Senators and Representatives are always addressed in writing as "The Honorable (full name)". In person a member of the Senate is referred to as "Senator" and a member of the House as "Representative". Committee chairs can be addressed as "Mr. Chairman" or "Madam Chairwoman" and the Speaker of the House as "Mr./Madam Speaker". It is important to always be respectful even if you disagree on an issue. There will be another issue in the future that perhaps you will agree on.

All members of congress have staff and it is important to know whom you are talking to. Depending on how senior the member is they may have a large or small staff. Many offices have Legislative Assistants (LA) who deal with a particular area such as a Health LA who will deal with all health care issues. These people will make recommendations to the member on the pros and cons of the issue and give feedback on what voters have been saying. While it is exciting to speak directly with members of congress they are often very busy. The LAs generally handle phone calls and meetings. In my meetings on Capitol Hill, I have found that the more productive ones are often those where the member is not present. Members don't usually like conflict so they will keep the discussion on generalities or small talk, whereas the LA will ask specific questions and sometimes offer insight into what is going on legislatively and what the member's position is on the issue.

Politics is a long-term proposition. Things don't move quickly in the legislative realm. It is often useful to build relationships with members of congress so that you can continue to work together on future issues. The more contact you have with the office the easier it will be in the future to be heard. You may also become a resource for that office so that if an issue comes up they may reach out to you for information.

When talking to others about our issues, it is important to keep in mind how it affects the population at large. It will carry more weight to argue that you will be improving patient care, improving quality, or saving the system money rather than arguing that your salary has been declining. The perception is that physicians are handsomely paid; to go in and complain about decreasing profits won't carry much weight. If you can show them how things will affect your patients (and their constituents) you will have a much stronger argument and be more successful.

It is very important for physicians to get more involved in the legislative process. We are the experts on patient care and needs. While legislation and politics are complex processes they are the system our country has for governing. It is exciting to have a voice in that process. I encourage health care providers to jump in and get involved.

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Disparities by Race/Ethnicity and Sex: Asthma Hospitalizations and Emergency Department Visit Rates In Rhode Island and Healthy People 2010 Goals

Nicholas J. Everage, ScM, Deborah N. Pearlman, PhD, Nancy Sutton, MS, RD, Dona Goldman, MPH, RN

In this issue **Health by Numbers** explores asthma hospitalizations and emergency department (ED) visit rates in relation to Healthy People 2010 (*HP2010*) goals.¹

Two *HP2010* objectives for asthma are specific to hospitalizations and ED visits. Objective 24-2 sets the following targets for asthma hospitalizations by age group: (1) an age-specific rate of 25 per 10,000 children under age 5 years, (2) an age-standardized* rate of 7.7 per 10,000 children and adults aged 5-64 years, and (3) an age-standardized rate of 11 per 10,000 adults ages 65 years and older. Objective 24-3 seeks to lower asthma-related ED visits from an age-specific rate of 150.0 per 10,000 in 1998 to 80 per 10,000 among children under the age of 5 in 2010; from an age-standardized rate of 71.1 per 10,000 in 1998 to 50 per 10,000 for children and adults aged 5-64 years in 2010; and from an age-standardized rate of 29.5 per 10,000 in 1998 to 15 per 10,000 among adults aged 65 and older in 2010.

National hospitalization and ED visit rates for asthma vary by population subgroups. Asthma-related hospitalizations are 2 times greater in the 65+ age group compared to those aged 18 to 44.² Hispanic adults have asthma hospitalization rates twice that of non-Hispanic white adults³ and African Americans are three times more likely to be hospitalized for asthma than their non-Hispanic white peers.⁴ There are also sex disparities in asthma prevalence by age, as reflected in national hospitalization and ED visit rates.⁵

This article examines whether progress toward RI's *HP2010* targets for asthma-related hospitalizations and ED visit varied by patients' age, sex, race/ethnicity, and neighborhood-level poverty.

METHODS

For hospitalization analyses, all in-patient hospitalizations were selected from the 2000 to 2008 Rhode Island Hospitalization Discharge Data. ED visit

data came from the 2005 to 2008 Rhode Island Emergency Department Data. Contained within these two datasets are de-identified health record level details on patient demographics, diagnoses, procedures, discharge status, residence location by census tract, and charges for every ED visit and hospitalization in Rhode Island to a non-federal hospital facility. These data sets represent the number of in-patient hospitalizations and ED visits for asthma, not the number of individual people hospitalized for asthma.

Asthma hospitalizations and ED visits were defined as a principal diagnosis using ICD-9-CM diagnosis code 493 (ICD-9-CM codes 493.XX). Only data on hospital discharges and ED visits for Rhode Island residents receiving treatment in one of Rhode Island's 11 acute care hospitals were included; out-of-state patients hospitalized for asthma in a Rhode Island hospital were excluded. This paper followed the *HP2010* convention of calculating age-specific rates for children aged 0-4 and age-adjusted rates for those aged 5-64 and 65+ in order to compare

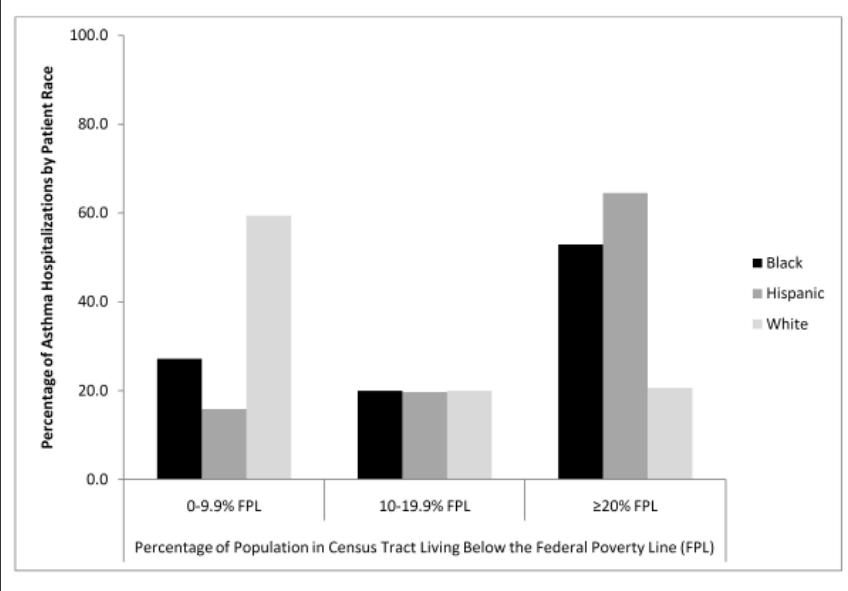
Rhode Island data with *HP2010* targets. The age-specific rates of hospitalization and ED visits were multiplied by age-specific weights to calculate the age-adjusted rates. The proportion of the 2000 US population within each age group (e.g., ages 5-64 and ages 65+) were the weights used in the age-adjustment of asthma data. The weighted rates were then summed across the age groups to give the age-adjusted rate.⁶ Because of small number issues, three-year aggregated data are presented for asthma hospitalizations and two-year aggregated data for ED visits for asthma when rates were stratified by sex and race/ethnicity within age groups. Rates based on 30 to 50 events in the numerator are considered statistically unreliable and are shown as shaded numbers. Rates based on < 30 events in the numerator are not presented.

RESULTS

Asthma Hospitalizations (2000-2008)

Over a nine-year period (2000 – 2008), women had consistently higher

Figure 1. Percentage of Hospitalizations by Neighborhood-Level Poverty and Race/Ethnicity, RI Hospital Discharge Data, 2008



hospitalization rates compared to men. (Table 1) However, when stratifying data by sex and age, the highest asthma hospitalization rates were found for boys aged 0-4. For boys younger than age 5, the asthma hospitalization rate ranged from an average 52.6 per 10,000 population between 2000-2002 to 57.7 per 10,000 population in 2006-2008. This sex and age disparity was reversed in the oldest

age group. Between 2000 and 2008, women 65 and older had two to three times greater age-adjusted hospitalization rates compared to men 65 and older. In this same time period, the age-adjusted rate for men 65+ was at or below the *HP2010* target.

Asthma hospitalization rates indicate persistent disparities among racial and ethnic groups. Across all time periods, non-

Hispanic blacks under age 65 had hospitalization rates two to more than three times that of non-Hispanic whites younger than age 65. In 2006-2008, for example, the asthma hospitalization rate for non-Hispanic black children aged 0-4 was 89.5 per 10,000 population, but only 38.4 for non-Hispanic white children under age 5. For the population aged 5-64, the asthma hospitalization rate for non-Hispanic blacks was 30.4 per 10,000 population, but was only 8.3 per 10,000 population for non-Hispanic whites. (Table 1) Between 2000 and 2008, asthma hospitalization rates for Hispanics were approximately 1.5 to 2.0 times the rate of non-Hispanic whites. In fact, Hispanics 65 and older had the highest age-adjusted asthma hospitalization rates among their white and black peers (2006-2008: Hispanics—55.9 per 10,000; non-Hispanic blacks—36.6 per 10,000; non-Hispanic whites—18.9 per 10,000). Only hospital discharges for asthma among non-Hispanic whites aged 5-64 were close to *HP2010* targets as measured in the period from 2006-2008.

Emergency Department (ED) Visits for Asthma (2005-2008)

Over the four-year period from 2005-2008, ED visit rates for asthma were four to five times and nearly three times greater for non-Hispanic blacks and Hispanics, respectively, than those for non-Hispanic whites, in which there were only 38.2 ED visits for asthma per 10,000 population.

Within age groups, the asthma ED visit rates for non-Hispanic whites aged 5-64 and aged 65+ were below *HP2010* targets for all time periods. In 2005-2006 and 2007-2008, the asthma ED visit rate for non-Hispanic white children under aged 0-4 was only slightly higher than the *HP2010* target of 80 per 10,000 population (84.6 and 94.5 per 10,000 population, respectively).

The asthma ED visit rates from 2005-2008 for non-Hispanic blacks and Hispanics aged 0-4 and 5-64 far exceeded the *HP2010* goals. In particular, from 2007-2008, non-Hispanic black children aged 0-4 had 324.3 asthma ED visits rates per 10,000 children (*HP2010* Goal: 80), with Hispanic children having 149.7 asthma ED visits per 10,000 children.

Table 1. Rhode Island Hospital Discharge Rates per 10,000 population, 2000-2008 by Age, Sex, and Race/Ethnicity

Hospital Discharge Year											Healthy People 2010 Goal
Sex	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Male	8.30	9.83	10.37	10.58	9.51	10.60	9.63	10.31	12.64	N/A	
Female	13.21	14.99	15.05	16.84	15.81	17.61	17.26	16.93	17.64	N/A	
Race/Ethnicity											
White	9.08	10.45	10.67	11.31	11.26	12.43	11.76	11.59	12.29	N/A	
Black	23.62	30.60	31.36	37.34	28.94	32.98	32.70	34.30	40.67	N/A	
Hispanic	14.18	15.51	19.17	19.25	16.37	17.02	16.99	19.90	23.98	N/A	
Race/Ethnicity by Age											
White		2000-2002		2003-2005		2006-2008					Healthy People 2010 Goal
0-4		33.97		41.26		38.38					25
5-64*		7.93		8.35		8.30					7.7
65+*		12.35		17.23		18.88					11
Black											Healthy People 2010 Goal
0-4		61.93		70.16		89.45					25
5-64*		25.28		29.13		30.37					7.7
65+*		32.05		36.29		36.64					11
Hispanic											Healthy People 2010 Goal
0-4		49.65		59.31		58.50					25
5-64*		12.34		12.03		15.24					7.7
65+*		40.48		42.55		55.85					11
Sex by Age											
Male		2000-2002		2003-2005		2006-2008					Healthy People 2010 Goal
0-4		52.58		58.55		57.65					25
5-64*		6.60		6.47		7.24					7.7
65+*		6.53		10.92		11.87					11
Females											Healthy People 2010 Goal
0-4		27.08		37.33		35.68					25
5-64*		12.34		13.19		12.93					7.7
65+*		18.97		24.54		27.81					11

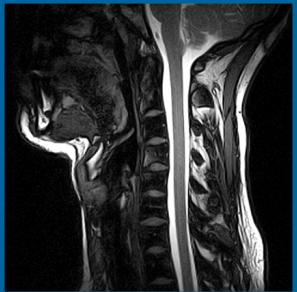
* Age-Specific Rate = cells values between 30 and 50 events
† Age-Adjusted Rate

Data Source: 2000-2008 Rhode Island Hospital Discharge Data, Rhode Island Department of Health, Center for Health Data and Analysis.

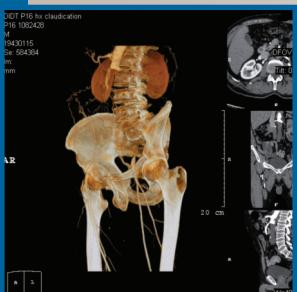


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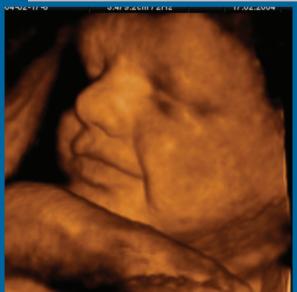
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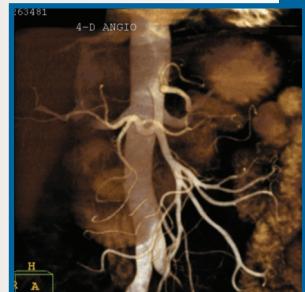


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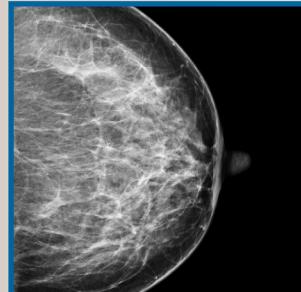
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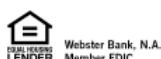


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Overall, women had higher rates of ED visits than men, but the difference was relatively small. However, when broken down by age group, boys aged 0-4 had a much higher two-year average age-specific ED visit rate (181.0 per 10,000 in 2007-2008) compared to girls aged 0-4 (98.8 per 10,000 in 2007-2008). In 2007-2008, males aged 5-64 and 65+ had age-adjusted asthma ED visit rates that were well below the *HP2010* goals of 50 per 10,000 population for ages 5-64 and 15 per 10,000 population, respectively (males

ages 5-64: 41.5 per 10,000 population; males ages 65+: 8.4 per 10,000 population). Females aged 5-64 and 65+ had age-adjusted ED visit rates that were slightly above the *HP2010* goals (females ages 5-64: 60.0; females ages 65+: 16.1).

To understand the potential relationship between neighborhood factors and asthma-related hospitalizations or ED visits, 2000 US census data were linked to the RI hospital discharge and ED files at the census-tract level. The analysis defined poverty as the percentage of residents living below the

Federal Poverty Level (FPL), which depends on family size and income and was categorized as 0%-9.9%, 10.0%-19.9%, and $\geq 20.0\%$.⁷ In 2008, 20.6% of hospitalizations among non-Hispanic whites were from census tracts with $\geq 20\%$ of residents living below the FPL, while 52.9% of non-Hispanic blacks and 64.5% of Hispanics hospitalized for asthma came from impoverished census tracts. (Figure 2)

Similarly, in 2008, 22.2% of non-Hispanic whites with ED visits came from census tracts that had greater than or equal to 20% of residents living below the FPL. (Figure 2) However, in 2008, 52.0% of asthma ED visits for non-Hispanic blacks and 61.3% of Hispanics came from impoverished census tracts.

DISCUSSION

Rhode Island has reached some *HP2010* goals. For hospitalizations in the 5-64-year age group, non-Hispanic whites and males met or were near *HP2010*

goals for hospitalization rates (*HP2010* target: 7.7 hospitalizations per 10,000). Among those aged 65 and older, only males met the *HP2010* target of 11.0 hospitalizations per 10,000.

Rhode Island met the *HP2010* ED visit rates goals for five population groups: (1) males in the 5-64 year age group, (2) females aged 5-64, (3) males aged 65 and older, (4) females over age 65, and (5) whites aged 65 and older.

Despite these encouraging results, Rhode Island's asthma hospitalization and ED visit rates for non-Hispanic Blacks and Hispanics are moving away from *HP2010* goals. Equally disturbing, asthma hospitalization rates among children in the 0-4 age category far exceeded the rates of other age groups. Boys aged 0-4 with asthma seem to be particularly at risk for severe asthma exacerbations that require either an ED visit or an in-patient hospitalization. The asthma hospitalization rate for boys aged 0-4 years was 2.3 times higher than the *HP2010* target of 25 per 10,000. For girls in this age group the hospital discharge rate was 1.4 times higher than the target. In the 5-64 year old age group and the 65 and older age group, RI data show that females have asthma-related ED visit or hospitalization rates that exceed those of men.

Men and women may experience asthma differently.^{8,9} The risk of developing asthma in childhood is significantly higher in boys than girls, with a reversal of the sex ratio after puberty.⁸ Not surprisingly, in other studies boys under age 10 have asthma hospitalization rates nearly twice that of girls the same age, but hospital discharge rates for asthma are nearly equal in women and men.^{8,10,11} While no clear explanation has been found for sex differences in asthma-related ED visit and hospitalization rates, several hypotheses have been proposed; e.g., differences in symptom perception, sex differences in immune responses, hormonal changes, and increased bronchial hyperresponsiveness among women.⁸

Our findings confirm persistent disparities in pediatric and adult asthma hospitalizations and ED visits across racial and ethnic groups.¹²⁻¹⁷ Black-white hospitalization and ED visit rate ratios continue to broaden both on a national level¹⁸ as well as here in Rhode Island.

Table 2. Rhode Island Emergency Department Rates per 10,000 population, 2005-2008, by Age, Sex, and Race/Ethnicity

	Emergency Department Year				Healthy People 2010 Goal
	2005	2006	2007	2008	
Sex					
Male	44.41	43.33	42.81	47.10	N/A
Female	54.40	54.17	53.16	55.38	N/A
Race/Ethnicity					
White	39.17	37.04	36.54	38.24	N/A
Black	133.27	139.72	149.73	151.50	N/A
Hispanic	78.97	88.17	82.22	92.55	N/A
Race/Ethnicity by Age	2005-2006	2007 – 2008			
White					Healthy People 2010 Goal
0-4	84.63		94.50		80
5-64*	41.90		41.24		50
65+*	13.21		10.61		15
Black					Healthy People 2010 Goal
0-4	261.99		324.27		80
5-64*	127.95		140.71		50
65+*	39.23		34.96		15
Hispanic					Healthy People 2010 Goal
0-4	133.27		149.73		80
5-64*	167.13		174.77		50
65+*	84.63		84.50		15
Sex by Age					
Male					Healthy People 2010 Goal
0-4	164.02		180.99		80
5-64*	40.57		41.50		50
65+*	11.82		8.42		15
Female					Healthy People 2010 Goal
0-4	90.95		98.75		80
5-64*	59.74		59.97		50
65+*	18.86		16.14		15

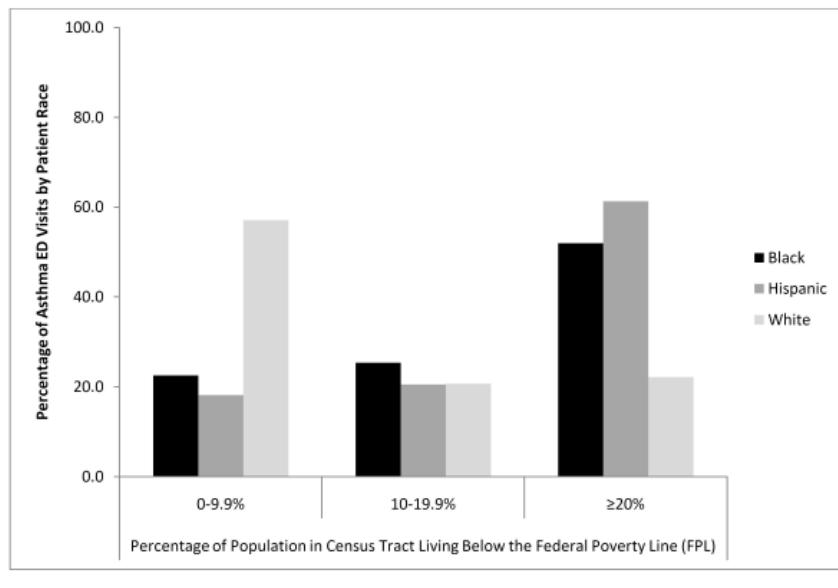
= cells values between 30 and 50 events

* Age-Specific Rate

† Age-Adjusted Rate

Data Source: 2005-2008 Rhode Island Emergency Department Data. Rhode Island Department of Health, Center for Health Data and Analysis.

Figure 2. Percentage of Emergency Department Visits by Neighborhood-Level Poverty and Race/Ethnicity, RI Emergency Department Data, 2008



Similar increases and disparities in hospitalization and ED visit rates have been found in Hispanic children and adults nationally³ as well as Rhode Island.

Racial and ethnic disparities in asthma hospitalizations and ED visits are unlikely to be affected only by health-care access factors. Neighborhood characteristics frequently associated with the development of asthma and its severity include poverty, lower-quality and more-crowded housing, elevated levels of community violence, residential racial segregation, and greater exposure to indoor and outdoor asthma-related allergens.¹⁹ In our own data, those living in neighborhoods with a high percentage of families living below the FPL have much higher ED visit and hospitalization rates. Effective long-term interventions for reducing asthma hospitalizations and ED visits will require: 1. policies that reduce neighborhood-level disparities associated with poor asthma outcomes; and 2. strengthened community resiliency and social cohesion, shown to decrease asthma-inducing risk factors, such as social isolation and stress.^{20,21}

Programs that take into account neighborhood factors to lower asthma hospitalizations and ED visits are needed. The Guide to Community Preventive Services' Task Force found that multi-component interventions that link asthma management in primary care with strategies to eliminate asthma triggers in the

indoor home environment may result in improvement in symptom-free asthma days in addition to savings from averted costs of asthma care in the hospital.²² Therefore, integrating these environmental changes, along with the use of evidenced-based asthma standards of care,²³ should be utilized in tandem to lower Rhode Island's asthma hospitalization and ED visit rates. A tool for implementing these changes may be the use of home-based education and home assessment provided by Certified Asthma Educators or trained providers who specialize in asthma care.

There are limitations to our study. While hospitals must report all ED and hospitalization data to the Rhode Island Department of Health, some data may not be complete and/or may be incorrect. Hospital staff enter racial/ethnic data: little is known about the accuracy of that data. Disease ascertainment and correct coding of asthma may prove difficult, especially in younger children. Finally, it is not possible to compare Rhode Island hospital and ED rates for asthma with national rates given that Rhode Island rates were calculated using *HP2010* methodology for age-specific and age adjusted-rates. The most recent national data on asthma hospitalization rates show that in 2005 there were 10.3 hospitalizations per 10,000 adults¹¹ and in 2006 there were 19.0 hospitalizations per 10,000 children.¹⁰

Most of our efforts have focused on the clinical management of this disease. The challenge now is to understand what affects the development and severity of asthma beyond the health care system. Addressing neighborhood-level factors external to the health care system may be critical to reducing the burden of asthma in Rhode Island.

*All age-standardized rates were standardized to the year 2000 standard population.

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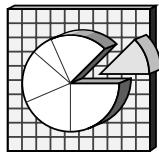
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Health By Numbers

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

EDITED BY SAMARA VIMER-BROWN, MS

Asthma Hospitalization and Emergency Department Visit Rates: Rhode Island's Progress In Meeting Healthy People 2010 Goals

Nicholas J. Everage, ScM, Deborah N. Pearlman, PhD, Nancy Sutton, MS, RD, Dona Goldman, MPH, RN

Building off decades-long work, Healthy People 2010

(HP2010) is the national agenda-setting framework for the United States' public health authorities at all levels of government for the first decade of the third millennium. HP2010 has two primary goals: 1. to improve quality and years of healthy life; and 2. to eliminate health disparities.¹ Within these broad goals are 28 disease/condition-specific objectives based on best-available, evidence-based knowledge and surveillance.¹

For respiratory diseases, HP2010 specifies eight asthma-specific objectives. Specifically, Objective 24-2 sets the following target rates for asthma hospitalization: (1) an age-specific rate of 25 per 10,000 children ages 0-4 years (2) an age-standardized* rate of 7.7 per 10,000 children and adults ages 5-64 years, and (3) an age-standardized rate of 11 per 10,000 adults ages 65+.

Similarly, there are well-defined targets for the reduction of hospital emergency department (ED) visits for asthma: from an age-specific rate of 150.0 per 10,000 in 1998 to 80 per 10,000 among children aged 0-4 in 2010; from an age-standardized rate of 71.1 per 10,000 in 1998 to 50 per 10,000 for children and adults 5-64 in 2010; and from an age-standardized rate of 29.5 per 10,000 in 1998 to 15 per 10,000 among adults ages 65+ in 2010.

Health departments charged with monitoring the burden of asthma in their state must track asthma-related hospitalization and ED visits. Hospitalization rates are an important population-level marker of asthma severity.² Indeed, hospitalizations account for the single largest portion of the direct health care costs for asthma, estimated at nearly \$18 billion a year.^{3,4} Large variations in the asthma-specific hospital discharge and ED visit rates across age groups may indicate differences in co-morbidities and/or the efficacy of asthma management in younger versus older age groups.

This brief assesses Rhode Island's progress in meeting HP2010 goals for decreasing inpatient hospitalizations and ED visits for asthma. The information will help guide Rhode Island's Asthma Control Program as it continues to develop infrastructure and interventions to improve the health of people with asthma. A more in-depth analysis of these hospitalization and ED visit rates for asthma by measures of disparity can be found elsewhere in this issue.

METHODS

Data on asthma-related hospital discharges and ED visits were obtained from Rhode Island's public-use Hospital Discharge Data and ED databases. These data contain de-identified health record level details on patient demographics, diagnoses, procedures, discharge status, residence location by census tract, and charges for every ED visit and hospitalization in Rhode Island to a non-federal hospital facility. This report covers hospital discharges beginning January 1, 2000 through December 31, 2008 and ED visits from January 1, 2005 through December 31, 2008. The data are based on the number of ED visits and hospital discharges or "events" and not the number of unique individuals who visited the ED or who were hospitalized. Thus, some of these events may include individuals with repeat admissions.

Asthma hospitalizations and ED visits were defined as a principal diagnosis using ICD-9-CM diagnosis code 493. Since some Rhode Island residents are hospitalized in neighboring states, only data on hospital discharges and ED visits for Rhode Island residents receiving treatment in one of Rhode Island's 11 acute care hospitals were included in the analyses. Also excluded were out-of-state patients hospitalized for asthma in a Rhode Island hospital. We followed the *HP2010* convention of calculating age-specific rates for children aged 0-4 and age-adjusted rates for those ages 5-64 and 65+ in order to compare Rhode Island data with HP2010 targets. Age adjustment was accomplished by first multiplying the age-specific rates of hospitalizations and ED visits by age-specific weights.

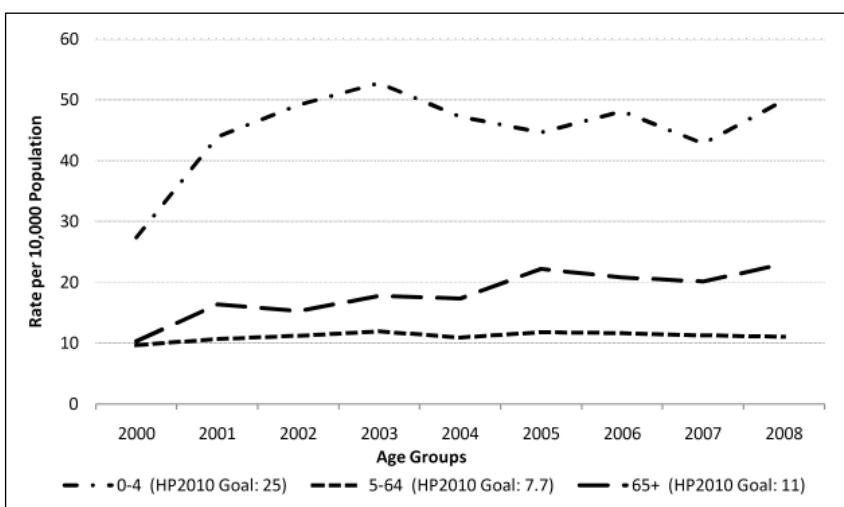


Figure 1. Rhode Island Asthma Hospitalization Rates by Age Groups, 2000-2008.

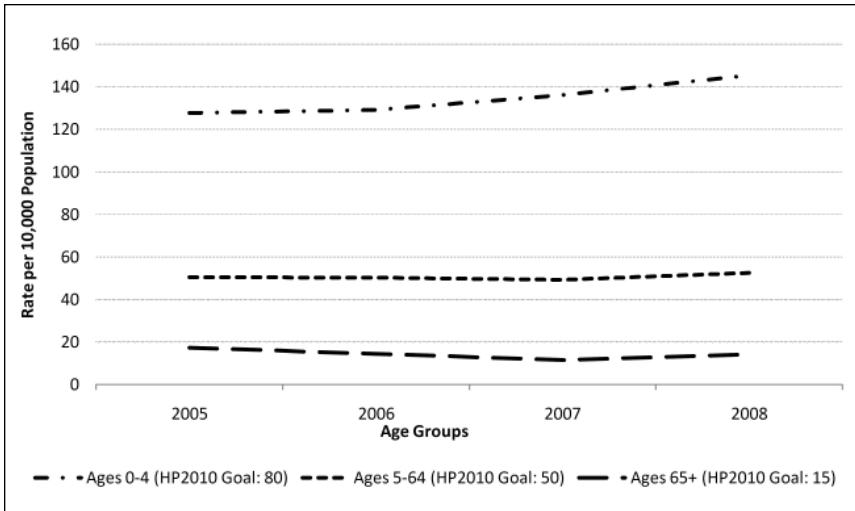


Figure 2. Rhode Island Asthma Emergency Department Visit Rates by Age Groups, 2005-2008.

The weights used in the age-adjustment of asthma data are the proportion of the 2000 US population within each age group (e.g., ages 0-4, ages 5-64, and ages 65+).

Results

Asthma Hospitalizations (2000-2008)

Rhode Island's asthma hospitalization rates for 2000 to 2008 are significantly higher than the HP2010 targets established for all age groups. (Figure 1) In 2008, the most current year with available hospital discharge data, the asthma hospitalization rate was 49.9 per 10,000 for children under age 5, 11 per 10,000 children and adults aged 5-64 years, and 23 per 10,000 adults aged 65+.

Between 2005 and 2008, Rhode Island ED visit rates due to asthma showed modest changes for children and adults aged 5-64 and those over age 65. (Figure 2) For these two groups, the ED visit rates either met or were only slightly higher than the HP2010 targets of 50 per 10,000 children and adults aged 5-64 and 15 per 10,000 among adults aged 65+. In contrast, the asthma ED visit rate for children under age 5 increased from 127.7 per 10,000 children aged 0-4 in 2005 to 145.4 per 10,000 children under age 5 in 2008. The HP2010 target for this age group is 80 per 10,000 children aged 0-4.

CONCLUSION

Rhode Island is making progress in meeting the HP2010 targets for decreasing asthma hospitalizations and ED visits. For hospitalizations, only those aged 5-64 were near HP2010 targets for hospitalization rates set at 7.7 hospitalizations per 10,000. ED visit rates among people 5-64 and 65+ were at or only slightly greater than the HP2010 specified targets. However, asthma hospitalization and ED visit rates were disturbingly high among children under age 5. Indeed, the rate of hospitalizations and ED visits among very young children (aged 0-4 years) exceeded the rates of other age groups as well as HP2010 goals of 25 hospitalizations per 10,000 boys and girls under age 5 and 80 ED visits per 10,000 boys and girls in the 0-4 age group.

While public health researchers have focused on improving clinical management of asthma through widespread implementation of the National Heart, Lung, and Blood Institute Expert Panel Report - 3 guidelines for the management of asthma,⁵ a substantial body of literature points to a strong relationship between asthma and broader physical and social environmental factors. Proximity to outdoor air pollution, poor housing quality, and urban poverty have been shown to greatly increase asthma exacerbations.⁶⁻⁹

There are limitations to our study. While non-federal hospitals must report all ED and hospitalization data to the Rhode Island Department of Health, some data may not be complete and/or

may be incorrect. Furthermore, disease ascertainment and correct coding of asthma may prove difficult, especially in younger children.

Our results indicate that asthma ED visit and hospitalization rates are at or below HP2010 targets for some population groups in Rhode Island. As planners and stakeholders help shape the policies to improve asthma-related health, it will be critical to focus on individual-level interventions as well as community-level issues such as poverty. New asthma epidemiology paradigms point to the separate and joint effects of individual- and neighborhood-level factors that exacerbate asthma and may contribute to disparities in ED visit and hospitalization rates for asthma.^{9,10} By focusing on multilevel interventions, Rhode Island may be able to combat increasing rates of asthma acute care and meet targets for Healthy People 2020 goals.

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*All age-standardized rates were standardized to the year 2000 standard population.

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The authors have no financial interests to disclose.

INFORMATION FOR CONTRIBUTORS, *MEDICINE & HEALTH/RHODE ISLAND*

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

CONTRIBUTIONS

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

CREATIVE CLINICIAN

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

POINT OF VIEW

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

ADVANCES IN PHARMACOLOGY

Authors discuss new treatments. Maximum length: 1200 words.

ADVANCES IN LABORATORY MEDICINE

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

IMAGES IN MEDICINE

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

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



If You Are Over 65—Can You Have Your Cake and Eat It Too?

Ana Tuya Fulton, MD

Two women, in their 70s, are walking on Blackstone Boulevard.

Both are 5 feet 2 inches tall. One weighs 146 pounds; the other, 118 pounds. Corresponding body mass index (BMI) is 26.5 (overweight) for the first and 21.6 (normal) for the second. They are both healthy without any chronic medical conditions. Each takes vitamins and calcium supplementation. Which woman has the lower mortality risk?

Many would choose the woman with the normal BMI. The standard weight recommendations support this decision; these guidelines suggest that a BMI of 25 is the upper limit of ideal weight for all adults.^{1,2} Recent evidence, however, suggests that in spite of the increased risk for diabetes and hypertension in those who are overweight, $\text{BMI} > 25$ may be protective with regard to mortality. (Table 1)

A study published in February 2010 supported the findings of other recent work indicating that older adults who are overweight by BMI calculations are at reduced mortality risk, compared with those who have a lower BMI.³ Flicker et al analyzed a cohort of adults (4,677 men and 4,563 women) aged 70 to 75 years old who were followed for 10 years or until death if sooner.³ With regards to gender differences, the major differences were that more men were married (more than 80% men and 54% women) and more men reported a history of bronchitis or emphysema. The lowest all-cause mortality risk was at a BMI of 26.6 kg/m² in men and 26.26 kg/m² in women and the risk of death increased as BMI decreased.² The degree of medical illness or co-morbidity did not alter the relationship between BMI and mortality risk, even though mortality risk increased with degree of illness. Degree of physical activity also reduced risk for mortality, but again the lowest risk of mortality was seen in those who were classified as overweight, regardless of degree of physical activity.³

The authors identified limitations; e.g., they catalogued height and weight only once during the study period, and they did not record fluctuations in participants' weight.³ However, the results coincided with other recent studies and reviews. One, published in 2007, looked at 32 observational studies.⁴ The systematic review and meta-analysis suggested that a BMI in the overweight range is not associated with increased mortality in elderly men and women. The relative risk (RR) of all-cause mortality was 1.00 (95% confidence intervals, 0.97–1.13).⁴ Only a modest increase in mortality was noted for those in the obese category RR 1.10 (95% confidence intervals, 1.06–1.13).

These results were similar to those reported in an earlier systematic review published in 2001.⁵ Published articles that

examined the relationship between BMI and all-cause mortality and cardiovascular or coronary heart disease mortality in adults over 65 years of age were reviewed. The review included 13 studies and demonstrated several uniform findings. First, most studies failed to show a significant association between higher BMI and increased mortality.⁵ Also, the association tended to be U-shaped: lower BMIs and those on the higher end were more closely associated with higher mortality. However, the higher BMIs that were associated with higher mortality were in the obese category; again implying that being "overweight," in contrast to "obese," is not associated with higher mortality.⁵ The authors did identify limitations that could affect the results, including lack of control for smoking, lack of identification of underlying disease in the underweight participants, and lack of control of some weight-related conditions, such as hypertension, diabetes and dyslipidemia.⁵ They chose studies that controlled for these factors for the review. The review, similar to the others discussed, demonstrated that low BMI is more consistently associated with higher mortality than high BMI in older adults.

A major limitation in the interpretation of these results is that the BMI measurement does not take into account body composition. As people age, the amount of body fat mass increases and fat free mass, mostly muscle, decreases. However, these studies suggest that perhaps having excess body fat in older age is not as dangerous as in young age. The excess body fat may have less of an effect on mortality in older age.⁴ It appears that being underweight is more closely associated with mortality. The other alternative consideration is that the BMI does not take the fat distribution into account, and waist circumference, a better measure of fatness in older persons, would correlate with increased mortality in older adults. Further study using waist circumference and other measures are needed. It has also been hypothesized that there is a selection bias in these patient populations. Perhaps those who were going to die of

Table 1.

BMI	Weight Category
< 18.5	Underweight
18.5 – 24.9	Normal weight
25 – 29.9	Over weight
> 30	Obese

BMI (kg/m²) = weight in kilograms/height in meters²

being overweight or of its co-morbidities have already done so before reaching old age. Surviving older adults may be resistant in some way to the adverse effects of being overweight or have some unidentified protective factors that are at play.^{4,5}

The studies indicate that holding older adults to strict weight standards may not be necessary to minimize mortality. However, it remains important to emphasize to older patients that having extra weight can still affect quality of life by stressing joints, limiting physical conditioning and reducing the control of diseases such as diabetes or hypertension. As with everything in life, balance is important. Being underweight and being obese are of concern, but if older adults fall into the overweight category they may be at lower risk. There does not appear to be evidence to support calorie restriction for individuals who fall in the mild-to-moderate overweight category in order to reduce all-cause mortality or cardiovascular mortality. These analyses and comments are not intended to deny the morbidity associated with sarcopenic obesity, in which obesity and more than 50% loss of muscle mass create a condition fraught with physical function limitation and disability.⁶

These findings are happy ones, given the known pattern of increased weight with age. Maintaining health is more about maintaining physical activity, function and muscle mass with exercise and eating a balanced diet. The absolute number on the scale and the category of BMI appear to be less important for older adults. Therefore, the advice to both women on the boulevard: continue walking, taking calcium and vitamins and maintaining a healthy diet. The one who weighs 146 pounds need not diet to look more like her friend who weighs 118 pounds, unless afflicted with one of the weight-associated diseases; e.g., diabetes, hypertension, sarcopenia.

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Images In Medicine

Tuberous Sclerosis Complex

Sun Ho Ahn, MD, and Ethan Prince, MD

This 45-year old woman with **tuberous sclerosis complex (TSC)** suffers from mental retardation, seizures, facial and subungual angiomas. She also has bilateral renal angiomyolipomas which hemorrhaged, requiring right nephrectomy and left endovascular selective renal embolization. The non-contrast head CT (Figure 1) demonstrates multiple calcified subependymal tubers. The contrast enhanced abdominal CT (Figure 2) shows an enormous left angiomyolipoma (AML) distorting the enhancing left renal parenchyma. Figure 3 is from a selective left renal angiogram, demonstrating an enlarged left kidney with multiple diffuse areas of hypervascularity corresponding to the CT scan.

TSC is an autosomal dominant disease caused by a genetic mutation in the TSC1 or TSC 2 gene, which results in the formation of hamartomas in multiple organ systems.^{1,2} The incidence of TSC is about 1 in 6000 to 1 in 12,000.³ The classic clinical triad in TSC is mental retardation, epilepsy, and adenoma sebaceum (Vogt triad), but up to 50% of TSC patients may have normal intelligence. Most TSC patients demonstrate dermatological, neurological, renal, and/or cardiac manifestations. Skin findings include hypopigmented macules, facial angiofibromas, shagreen patches, and ungular fibromas. Cortical tubers and subependymal tumors are commonly seen. Rarely, subependymal tubers may progress to subependymal giant cell astrocytomas. There is a spectrum of renal abnormalities including AMLs, renal cysts, renal cell carcinoma, and oncocytoma. AMLs are present in 55%-75% of patients and may be complicated by spontaneous hemorrhage, which is a leading cause of mortality.^{4,5} In order to preserve renal function, surgical resection is avoided and endovascular embolization is the treatment of choice. AMLs are embolized for treatment when greater than 3-4 cm in size.



Figure 2.



Figure 1.



Figure 3.

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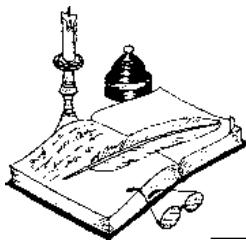
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Physician's Lexicon

A Rhetoric Hank of Hair

Thrix is a Greek combining term meaning hair or hair-like. It appears unaltered in the name given to the genus of bacteria called Clonothrix, the *clono-* prefix from the Greek meaning twig-like. The *thrix* root in Greek transforms into the Latin, *tricho-*, forming a multitude of medical terms pertaining to hair or hair-like appendages.

A hairy tongue is best described by the more discrete Latin term, trichoglossia; *-glossa* being Greek for the tongue (as in words such as glossary, glossolalia – speaking in tongues – and glossitis). Trichomegaly is the medical word for long eyelashes; trichosis is a word for diseases of hair but, confusingly, the adjective, trichotomous means that which is divided into three parts.

A trichobezoar is an ancient word for a mammalian hair-ball. The *bezoar*

root is a Persian word for a medical antidote.

Bezoars (either trichobezoars, hair collections, or phytobezoars, collections of calcifying hair of plant origin following the ingestion of fibers of plant origin such as the rinds of unripened persimmons) were highly prized objects in alchemy, both in medieval Europe and Asia. They were said to counteract various poisons. Trichobezoars, when further along than the stomach, are called enteroliths; and when in the colon, fecoliths. The *lith* root is Greek for stone as in technical terms such as lithotomy, lithography or lithotripsy.

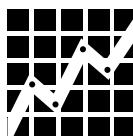
The *tricho-* root may also convey the sense of hairlike. And thus when a nematode worm was encountered in human muscle in 1866, the pathologist Bernhard Rupprecht named it Trichina.

It is now called *Trichinella spiralis* and the disease, trichiniasis.

A genus of intestinal round worm was given the name trichuris, two Greek roots meaning hairlike tail. The Greek root, *uro-*, meaning tail, is seen in words such as urochord and uropod but not urology or urolith.

Then there is yet another pathogen bearing the *tricho-* root, the flagellate protozoan parasite now called *Trichomonas vaginalis* and its associated disease, trichomoniasis. The parasite bears a whip-like extension. In Latin the word *flagellatus* defines a whip as in English words such as flagellation, meaning to scourge or whip oneself generally for a religious purpose.

– STANLEY M. ARONSON, MD



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

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

VITAL STATISTICS

EDITED BY COLLEEN FONTANA, STATE REGISTRAR

Underlying Cause of Death	Reporting Period		
	June 2009	12 Months Ending with June 2009	
Diseases of the Heart	Number (a)	Number (a)	Rates (b)
193	193	2,502	238.1
Malignant Neoplasms		2,261	215.2
Cerebrovascular Diseases	38	375	35.7
Injuries (Accidents/Suicide/Homicide)	49	535	50.9
COPD	37	460	43.8
			YPLL (c)
			3,275.0
			5,912.5
			789.5
			8,793.0
			272.5

Vital Events	Reporting Period		
	December 2009	12 Months Ending with December 2009 (See Special Note)	
Live Births	Number	Number	Rates
1,003	12,369	11.6*	
Deaths	817	9,585	9.0*
Infant Deaths	(4)	(86)	7.0#
Neonatal Deaths	(4)	(72)	5.8#
Marriages	309	6,233	5.8*
Divorces	308	3,180	3.0*
Induced Terminations	283	4,224	341.5#
Spontaneous Fetal Deaths	25	751	60.7#
Under 20 weeks gestation	(20)	(661)	53.4#
20+ weeks gestation	(5)	(90)	7.3#

(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: Since resuming this VITAL EVENTS table in the January 2010 issue, HEALTH posted the number of records available approximately one month before the publication date. The data did not include any late records received after that date, which were considerable in some fields. This month's table—which covers the year 2009—includes any previously uncounted late records in the cumulative number and rate. Beginning with January 2010 data, any late data will be included in the posted month, which was the practice in previous years. Monthly provisional totals in both tables 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

THE RHODE ISLAND MEDICAL JOURNAL

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NINETY YEARS AGO, JUNE 1920

James P. O'Hare, MD, in "Vascular Hypertension," recounted a case from the Medical Clinic of the Peter Bent Brigham Hospital. In 1915, on an insurance exam, a 37-year old man was found to have high blood pressure. "The examiner—and he was associated with one of our big companies—told the patient that he had chronic Bright's disease and would be dead in 6 months...Since 1916 this man has been under our observation many times and has at no time shown any evidence of nephritis. In a year he has been having ...myocardial disturbance and will probably die a cardiac death. But the insurance examiner and practitioners are not the only ones at fault. You will find the records of most of our hospitals show the same error." For treatment, "...we may send [the patient] to one of the numerous spas...I insist on all patients resting for an hour a day." For diet, the author recommended patients restrict "salt, condiments, alcohol and excessive tobacco."

Dennett L. Richardson, MD, submitted a case report. A 10-year old, ill for 5 weeks, was admitted March 2 and discharged April 3 "against advice." Most of the time, the patient was semi-comatose, with pains in the stomach, head, back, and legs. The diagnosis was lethargic encephalitis.

An Editorial, "Health Insurance," reported on the discussion at the AMA meeting: "It was the opinion of the majority of those who discussed the subject intelligently that health insurance would work ...hardships on both the patient and the medical profession."

FIFTY YEARS AGO, JUNE 1960

Alfred L. Potter, MD, President, Rhode Island Medical Society (1959-60), discussed "The Old Order Changeth." The RIMS was 150 years old in 1962, and the author was the Society's 100th president. Dr. Potter reflected on the horsecar era. A patient record from Providence Lying-In noted "Because of the Sunday horsecar delay the doctor was not present at the delivery of the patient, which was done by the matron." At that time, most hospitals were "hospices, houses of refuge for the indigent." Most deliveries, as well as most surgeries, were performed at home. In regard to the notion of a set fee scale, Dr. Potter deplored the "leveling of all doctors to a median payment...pernicious trend leading only to ...mediocrity."

W.C. Sealy, MD, Professor of Thoracic Surgery, Duke, presented "The Selection and Surgical Treatment of Some Types of Congenital Heart Disease," at the 1960 RI Scientific Session on Cardiovascular Disease. The Journal reprinted the talk.

Maurice L. Silver, MD, Carroll M. Silver, MD, and Stanley D. Simon, MD, in "Special Toxic Effects of Prochlorperazine [Compazine] on Cervico-Facial Musculature," reviewed the literature. "Even a single 10 mgm dose is capable of inducing this

reaction in a susceptible patient, and it is further apparent that many patients are susceptible." They continue: "These are not 'Parkinsonian' manifestations, but rather specific involuntary motor reactions in muscles innervated by brain-stem and upper spinal motoneurons." The authors discussed 4 cases.

Morgan Cutts, MD, in "Pneumonia Due to Gram-Negative Bacilli," tabulated data on 22 patients.

TWENTY-FIVE YEARS AGO, JUNE 1985

Wendy J. Smith contributed an editorial: "From Entrepreneur to Employee: The Changing Role of Physicians."

Herbert Rakatansky, MD, on the President's Page, described the "function" of the Medical Society: "...to assist honest and ethical physicians in their pursuit of the relief of pain and suffering." "As the only organization representing all of the doctors in the state, the RIMS should fight regulations established by government and other third party payers when they intrude into the relationship between the patient and his or her doctor."

Elliot J. Lerner, MD, in "Current Concepts in Premenstrual Syndrome," noted: "Neuroendocrine system emerges as a factor in the etiology of PMS."

Sunita B. Sheth and James Crowley, MD, in "Splenectomy for Felty's Syndrome," reviewed 63 reports from the literature, with follow-up of 265 patients: 76% of splenectomies were successful. The pre-operative mortality was 4.2%; each of the 11 deaths was due to infection.

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