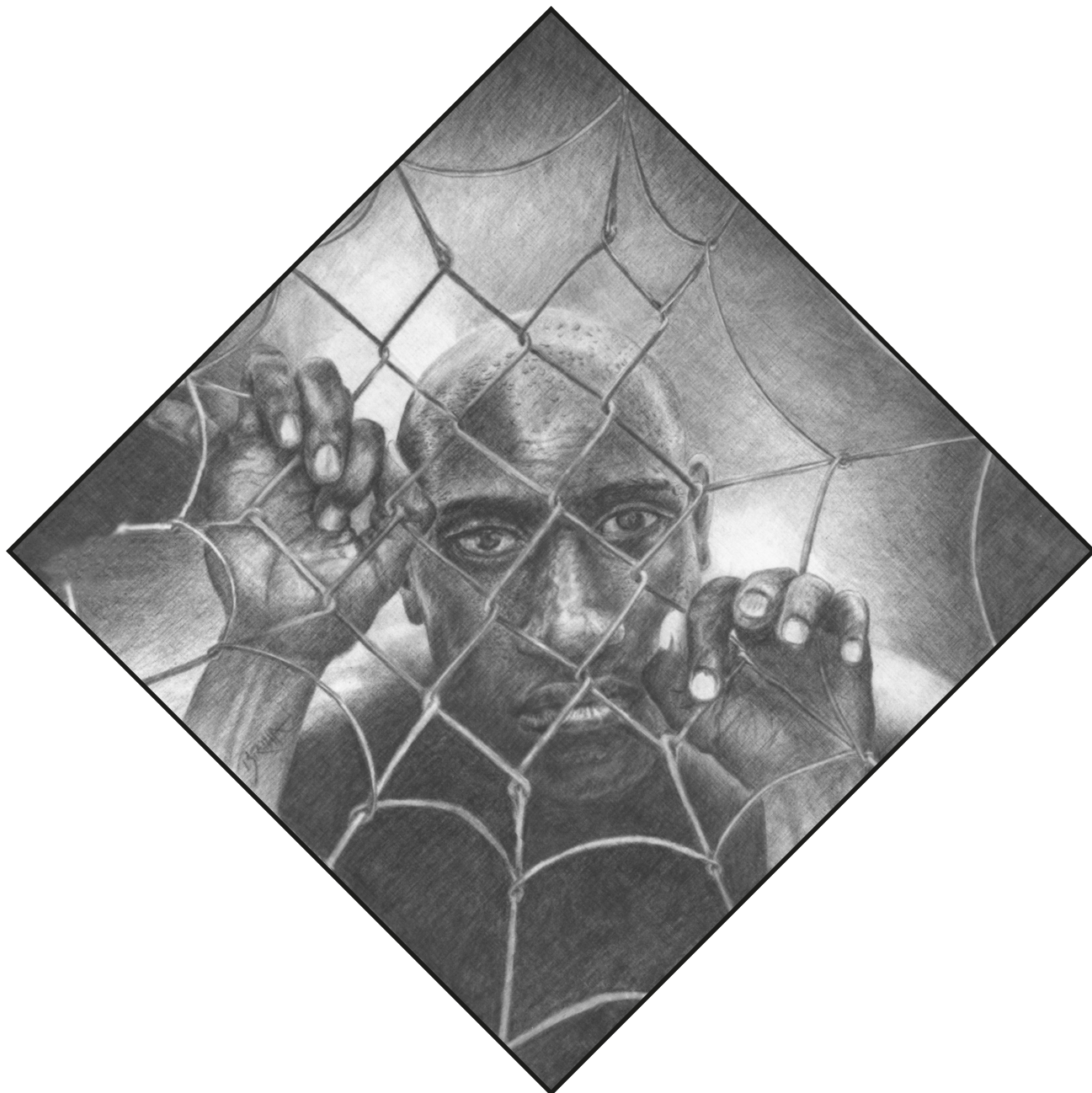


Medicine  Health
RHODE ISLAND

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SPECIAL ISSUE: FORENSIC MEDICINE, PART II

What's in a Name???

GOOD - authentic, honest, just, kind, pleasant, skillful, valid

NEIGHBOR - friend, near

ALLIANCE - affiliation, association, marriage, relationship

CORPORATION - company, business establishment

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Medicine Health RHODE ISLAND

VOLUME 88, No. 12 DECEMBER, 2005

PUBLICATION OF THE RHODE ISLAND MEDICAL SOCIETY

COMMENTARIES

416 DOCTOR SEER

Joseph H. Friedman, MD

417 ELLIS ISLAND: PALACE OF HOPE, ISLAND OF TEARS

Stanley M. Aronson, MD

CONTRIBUTIONS

SPECIAL ISSUE: FORENSIC MEDICINE, PART II

GUEST EDITOR: Barry Wall, MD

418 ETHICAL ISSUES IN FORENSIC MEDICINE IN RHODE ISLAND

Brandon H. Krupp, MD

421 ARRESTED, ADDICTED: HEROIN USERS IN THE RHODE ISLAND CORRECTIONS SYSTEM

Amy E. Boutwell, MD, MPP, and Josiah D. Rich, MD, MPH

424 THE OVERLAPPING EPIDEMICS OF VIRAL HEPATITIS/HIV, ADDICTION AND

INCARCERATION: THE SITUATION IN RHODE ISLAND

Nick Zaller, PhD, Amy Noak, MD, Michael Poshkus, MD, Larry McDonald, and Josiah D. Rich, MD, MPH

428 CORRECTIONAL HEALTH CARE IN RHODE ISLAND: CHALLENGES AND OPPORTUNITIES

Michael Poshkus, MD, and Jennifer G. Clarke, MD, MPH

434 POINT OF VIEW: THE DONATION INMATE ORGAN NETWORK (DION):

GIVING INMATES TIME OFF FOR ORGAN DONATION

Clifford Earle Bartz

437 RESPONSE: PRISONERS AND ORGAN DONATION

Jay Baruch, MD

COLUMNS

439 HOSPITAL CASE: CASE OF INTERNAL CAROTID ARTERY DISSECTION

Mary Hohenhaus, MD

441 ADVANCES IN PHARMACOLOGY: ROUTE OF VITAMIN K ADMINISTRATION

FOR ELEVATED INRS IN THE ACUTE INPATIENT SETTING

Tracey L. Mersfelder, PharmD., BCPS

443 HEALTH BY NUMBERS: PRELIMINARY RESULTS FROM THE RHODE ISLAND

VIOLENT DEATH REPORTING SYSTEM (RIVDRS)

Edward F. Donnelly, RN, MPH, Wendy Verhoek-Ofedahl, PhD,

Jay S. Buechner, PhD, and Jennifer Swartz, DO

445 A PHYSICIAN'S LEXICON: A GUIDE TO ANATOMIC DIRECTIONS

Stanley M. Aronson, MD

445 BOOK REVIEW: PSYCHIATRY FOR NEUROLOGISTS, EDITED BY DILIP V. JESTER, MD, AND

JOSEPH H. FRIEDMAN, MD

Kenneth Rickler, MD

446 VITAL STATISTICS

446 RHODE ISLAND MEDICAL JOURNAL HERITAGE

COMMENTARIES

DOCTOR SEER

I am a fortune teller. This has always been part of my job as a neurologist. It's a common part of many physicians' jobs, although not all. I don't think I considered this when I first started out. Even if I did I doubt that I would have given it too much thought. But as I get older and I've experienced more of the future it's become a greater burden than I could have imagined. As Yogi either said or might have said, "The future ain't what it used to be." It's not easy telling the future. The more I foresee the harder I find it. I used to delight in my expertise. I used to think, "Oh, I know why you're falling down, why you choke on your coffee and why the words are slurred. No, it doesn't show up on your CAT scan or MRI. It's in your brain cells. It's a chemical imbalance. It's a disorder in which a few brain cells deteriorate and die. We call it Somebody's Disease.

Putting a name on a condition is a very helpful action, even if there's no treatment. Patients and doctors like to have a handle to deal with the problem. It's much more reassuring to think to yourself and to tell others that you have Friedman's disease, rather than "the doctor doesn't know what it is, but it's a serious brain disease." Naming the beast puts it into a context. It has an epidemiology. It has a known pathology. Hopefully there are some scientists somewhere working on it. It progresses in a known manner. Or does it? What do I say when I'm asked, "What happens next?"

After years and years of being asked this, I find it increasingly difficult. Half the time I don't know which Somebody to call the disease after. I can't describe the pathology. I can only guess at it. I can't report what percentage of patients reach what milestone at what time. How can I if I can't give the problem a name so I can look it up? But I've learned over many years that it doesn't matter so much. Even when I know the name of the disease the progression is so variable that no

one can predict what will happen to any particular individual. Look at the former Pope, Janet Reno, Michael J. Fox and Muhammed Ali. They all had Parkinson's disease, yet they looked different and progressed quite differently even though they each probably received the best treatment available in the world.

Some things are clear though. The past and present have become a prelude to a very unanticipated denouement. A new future has replaced the old, and I've become an unexpected but invited guest in it.

"When will I need a wheelchair?"

"Will I lose my memory?"

"Am I going to start drooling soon?"

"Will I be able to toilet myself in five years?"

"Will I be able to work until my daughter graduates college?"

Of course I don't know the answers to these questions. And, of course, the patients don't think that I really do know, but they sort of think I do. And I sort of do. But all these disorders, the so-called neurodegenerative disorders, progress at their own rates in each individual. Some progress quickly. Some progress slowly, although it's always too fast if it's you who's progressing. I tell people what I believe is the truth. I say that if they look back over the last 6-12 months and see what sort of changes have taken place, they can guess that a similar decline will take place over the next 6-12 months. These disorders tend to have a fairly stable rate of progression in any particular individual, although they may vary enormously from one person to the next. I often point out that even if the disease was stopped dead in its tracks age alone would take its toll. A lot of the "normal" changes that occur with age are very similar to what occurs in some of the neurological deteriorations, just at a slower pace.

Why is this hard for me and getting harder? I hopefully know more than I used to. I've developed gray hair and wrinkles, a reputation as another "graybeard." I should be more confident, more skilled, perhaps even less sensitive as I meet my three thousandth patient with Parkinson's disease. But medicine, even in this technological age, still involves people. And they're increasingly younger than I. Soon I'll be diagnosing people my children's age.

One of the joys of practicing medicine has been getting to know these people, total strangers, whom I see a few times each year, year in, year out. Will Rogers, the comedian, cowboy, performer and home-spun philosopher (and racist), reportedly said, "I never met a man I didn't like." I'm not quite so unreserved in my enjoyment of my fellow man, but I rarely have met a patient I didn't either like or sympathize with. Knowing that "bad things happen to good people" isn't very reassuring when time after time I have to disappoint by not having solutions to very real problems. Imagine driving a train, knowing there's a problem ahead but not being able to do anything about it, other than issue a warning, "Trouble ahead."

It troubles me because we live in an age where there have been true medical miracles, and where television and movies play up the illnesses where cures exist. We see ads on television that make people think that if only their doctor was a little bit smarter or better educated, and put them on the newest expensive drug they'd feel better and look like the actor on the TV.

As we all know in the abstract, life isn't television. Solving problems isn't always possible. Being there, however, is always possible. Despite it being the hardest part of the job, it turns out to be the most rewarding part as well.

JOSEPH H. FRIEDMAN, MD

ELLIS ISLAND: PALACE OF HOPE, ISLAND OF FEARS

Imagine a sandbar, bereft of vegetation or habitation, some 2.7 acres in area at low tide, barely above sea level at high tide, and yet of critical significance to the lives, welfare and future status of some 12 million Americans.

The local Mohegans called it Kioshk (Gull Island) and the early Dutch settlers, impressed with the abundant beds of shellfish, referred to it as Oyster Island. In the years immediately preceding the Revolutionary War the barren island was used to hang captured pirates. And, accordingly, its name changed to Gibbet Island. Samuel Ellis purchased the island on January 20, 1785, and despite its varied use and successive ownerships during the ensuing centuries, the name Ellis Island has endured.

The army used the island as a defensive site and a place to store ordnance and ammunition during much of the 19th Century. In 1890, the House Committee on Immigration selected the site for the screening of newly arrived immigrants. President Benjamin Harrison proclaimed Ellis Island to be the first federal immigration station. (Until this date the surveillance and admission of immigrants were left to the individual states. Before the opening of the Ellis Island facility, New York had screened its newcomers at Castle Gardens in Battery Park, lower Manhattan.)

The sandy shoal called Ellis Island was substantially enlarged using tons of rock and soil excavated from underground Manhattan as the city constructed its extensive subway network. Thus Irish immigrants of a prior generation had shoveled out the Manhattan soil, employing it to create a welcoming station for a newer generation of Irish, Mediterranean and East European hopefuls seeking admission to the Golden Land.

On the opening day of the new Federal complex, the first immigrant to pass was 15 year old Annie Moore, from the Kerry region of Ireland, described by the *New York Times* as “rosy-cheeked”. Her reward was a shiny ten-dollar gold piece and rapid transit through the impressive and intimidating great reception hall.

The immigrants, each with their names and geographic sites of origin inscribed on a piece of paper attached to their shirts, climbed a flight of stairs before entering the huge inspection hall. During this brief transit, they were carefully observed for visible signs of lameness, excessive physical weakness, pathologic lesions or mental aberration. Medical inspectors wrote appropriate chalk marks on the immigrants’ shoulders (e.g., G for goiter, L for lameness, X for mental deficiency). The immigrants were then channeled into twelve narrow aisles at the head of which was a vigilant uniformed public health physician who conducted what has sometimes been called the six-second inspection. Since twelve examining physicians were expected to certify the health of some 5,000 immigrants per day, the medical inspections were brief. The eyes and scalp were rigorously examined for signs of trachoma, scalp infection or lice.

Imagine, if you will, the anxiety, the inner turmoil, the dread experienced by each immigrant as he or she lined up for the rapid inspection, knowing that any hint of a number of organic illnesses or emotional states, deemed to be unsuitable for a future American resident, might be the basis for disqualification, shipment back to the old country

and disruption of the family.

The 1903 published guidelines for examining physicians stated that certain diseases constituted unequivocal grounds for exclusion and therefore for shipment back to the old country. These dangerous and loathsome illnesses were first, trachoma, a highly contagious eye infection and one of the major causes of blindness today, especially in tropical regions. Early symptoms of trachoma included redness of the eyes with some discharge; and so mothers, fearful that their children might be rejected for admission, blindfolded them for the duration of the ocean voyage, many weeks, in the naïve hope that this would cause their eyes to appear clear and unaffected. The second major ailment was pulmonary tuberculosis. A stethoscope was sometimes employed, but most of the time the diagnosis was reached by the nature of the cough and the degree of weight loss. Other excludable diseases included leprosy and various venereal diseases.

And what of emotional derangements? The immigration authorities referred to these as forms of insanity, and their instructions were: “*In the case of immigrants, particularly the ignorant representatives of emotional races, due allowance should be made for temporary demonstrations of excitement, fear or grief, and reliance chiefly placed upon absolute assurance of the existence of delusions or persistent refusal to talk or continued abstinence from eating.*”

The immigration service considered idiocy as grounds for exclusion: An idiot was defined as a “*person exhibiting such a degree of mental defect, either inherited or developed early in life, as incapacitates the individual for self-maintenance of ability to properly care for himself or his interests.*”

And finally, there was a miscellaneous list of reasons for non-admission including hernias, poor physique, nervous afflictions, visible deformities (such as curved spine), senility, varicose veins, serious defects in vision, excessive scars – and pregnancy in an unmarried woman.

By 1917, the list of diseases mandating exclusions had lengthened considerably and embraced all forms of feeble-mindedness, all loathsome contagions, epilepsy, and any tropical malady. Pregnancy (“without a male guardian”) was still listed as a “Diseased Condition”.

How many, in truth, were excluded for medical reasons? In 1911, a typical year, 749,642 aliens passed through Ellis Island; 16,910 (2.3% or one out of every 43) were rejected and required to return to their country of origin. The great majority, filled with both aspirations and apprehensions, passed through America’s flagship immigration facility to enter the mainstream of American life.

And thus did this nation abide by instructions once given to Moses: “And if a stranger sojourn with thee in your land, you shall not vex him. But the stranger that dwelleth with you shall be unto you as one born among you, and thou shalt love him as thyself; for you were strangers in the land of Egypt.” (Leviticus 19:33-34)

STANLEY M. ARONSON, MD

ETHICAL ISSUES IN FORENSIC MEDICINE IN RHODE ISLAND

BRANDON H. KRUPP, MD

Case 1: Mr. S is a 35-year-old man arrested for alleged assault on a person over the age of 60. At the time of arrest and detainment at the Adult Correctional Institutions, Mr. S was behaving in a bizarre manner, mumbling incoherently to himself and, at times, turning to others around him and shouting “get thee behind me Satan.” After a request for an evaluation for Competency to Stand Trial, a psychiatrist from the Department of Mental Health, Retardation and Hospitals evaluated Mr. S. The psychiatrist found him incompetent to stand to trial, and he was transferred to the Forensic Unit of the Eleanor Slater Hospital for restoration of his competence. Should the evaluating psychiatrist, who found Mr. S incompetent, also be allowed to provide his treatment to restore him to competency on the Forensic Unit?

Case 2: Dr. P, a 50-year-old general surgeon, has been reported to the Board of Medical Licensure and Discipline by a former patient who accused him of touching her inappropriately during examinations in the office and in the hospital. He denies the accusation, has hired an attorney and intends to fight any finding of unprofessional conduct by the Board. At one meeting with the Board, Dr. P became angry, shouting at Board members. His attorney ultimately escorted him from the room. He refused a referral to the Physician’s Health Committee of the Medical Society for an evaluation. There is the possibility that the Attorney General may bring charges against him. Dr. P’s personal physician has been treating him for mild depression and anxiety for about a year, largely because Dr. P refuses to see a psychiatrist. Dr. P’s attorney has asked the physician to sign a document saying that Dr. P suffers from a mental disorder and should not be held accountable for his actions. He has also asked the physician to provide documentation to Dr. P’s disability insurance company, stating that Dr. P is totally disabled and cannot work because of depression and stress. The Board of licensure has also requested information regarding Dr. P’s treatment from the physician. Which, if any, of the requests should Dr. P’s physician honor? What, if any, other action should Dr. P’s physician pursue?

These two fictitious cases represent scenarios confronting physicians who work within the judicial system. Those physicians must grapple with bias, confidentiality and professional boundaries. Surveys have shown that physicians are concerned about the potential ethical problems inherent in their work in the criminal justice system.¹ In fact, the ethical issues in forensic medicine may be more complex than in the nonforensic practice of

medicine.²

SETTING THE STAGE MEDICAL ETHICS

To a large extent, our ethical principles are derived from the evolving “considered moral judgments” of society, judgments that represent the shared beliefs of a society formed in the crucible where philosophical deliberation meets empiric data.³ This evolution of underlying moral views and shared beliefs leads to ethical codes, which may proscribe behavior that society once tolerated.⁴ The emergence of the field of medical ethics and bioethics was driven, in large part, by the same broad social and political changes that were seen in the struggles of women and African-Americans for civil rights.⁵

**“...IN FORENSIC
MEDICINE, THE
CONFLICT IS
BETWEEN TWO
PROFESSIONAL
ROLES.”**

The evolution of professional ethics in medicine has yielded a set of principles: patient autonomy, beneficence, non-maleficence and justice are held as central to the practice of medicine. Physicians are expected, whenever possible, to apply these principles simultaneously,⁶ and to do so in a fair and balanced way with regard to resources and risks.⁷ Of course, sometimes a physician cannot achieve all these principles simultaneously. Resolving ethical dilemmas involves reasoning about what the “good” physician “should” do.⁸

The development of guidelines in medicine addresses the similarly evolving landscape in which the physician practices. Professional organizations have provided forums to consider medicine’s historical and cultural context while at the same time bringing to bear philosophical principles and moral theory. The resulting ongoing process creates, recreates and affirms the ethical underpinnings of medicine. The American College of Physicians’ 5th edition of its Ethics Manual, discusses professionalism, third-party evaluations, confidentiality, boundaries and privacy and consultation and shared care.⁹

Physicians are expected to negotiate ethical conflicts by balancing these principles or by looking to other principles to justify the violation of a principle or to establish the use of one over against another.⁶

Arguably, the practice of forensic medicine or medicine in a legal context presents complexities to the physician not seen in other aspects of medicine, specifically because of the relationship of medicine with the justice system. As noted above, the basic tenets of medical ethics evolved in the context of the physician-patient treatment relationship. Here, the standard encompasses beneficence and non-maleficence and is seen in the primacy of the interest of the individual patient in the provision of care.¹⁰ Outside of this context, however, physicians often are subject to rules that do not spring from the physician-patient treatment relationship. Such rules may place the interest of the patient behind the interest of another

entity or principle. For example, a medical researcher, in almost every case, will give an individual patient's interest in benefiting from an experimental treatment less weight than the creation of generalizable scientific knowledge.¹¹ Thus, a subject must give valid informed consent before participating in a scientific study.¹² Nevertheless, society lauds this "deviation" from the medical ethical principle of putting the patient's interest first; this deviation ensures that all persons benefit in the long run from the creation of new, more effective treatments.

ETHICS AND THE RULE OF LAW

The ethical positions guiding physicians are developed by a process that takes into account legal boundaries and proscriptions, but also defines an "extra-legal" professional code of conduct. In some cases the law is silent with respect to the physician's duty; in others, a physician may feel that the ethical course of behavior goes beyond the dictates of the law or even contradicts it. The professionalism inherent in medicine often requires physicians to consider all relevant information while being informed by the ethical and philosophical foundation of the profession.⁹

In some cases, a court may mandate that a physician carry out a particular treatment or intervention. It is important to remember that physicians are bound by the dictates of professional ethics and the community standard of care. As noted in the AMA's Principles of Medical Ethics, physicians treat patients "based on sound medical diagnoses, not court-defined behaviors." Further, "physicians can ethically participate in court-initiated medical treatments only if the procedure being mandated is therapeutically efficacious and is therefore undoubtedly not a form of punishment or solely a mechanism of social control."²¹

The legal profession too has developed its own institutions, procedures, values, and vocabulary.¹² Yet the ethical dictates of the legal and medical professions are not identical. Allowing attorneys' ethics to guide the behavior of physicians in forensic settings has the potential to not only minimize the ethical positions of physicians but also to reduce the physician's position merely to the perilous and unacceptable one of advocacy for the side that retains them.¹³ As a consequence, the practice of medicine in legal settings entails the inherent potential for confusion and conflict.

MAJOR ETHICAL CONCERNS

BOUNDARY AND AGENCY ISSUES

Boundary guidelines in medicine are generally understood.¹⁴ These have been adapted for the practice of some specialty and subspecialty areas of medicine and may include maintaining examiner objectivity and neutrality, protecting confidentiality, obtaining informed consent, avoiding improper contact or personal relationship with examinees and establishing clear expectations with regard to fees, examination settings and time and length of evaluations.¹³

One of the common dilemmas in the area of boundary confusion is the conflict between the roles of treater or therapist and independent forensic examiner.

The therapeutic relationship puts the physician in the role of advocate, a role that differs from the more neutral

role of the independent forensic examiner who acts as the legal system's "neutral party."¹⁵ The therapeutic relationship, based upon empathy and framed by advocacy, is unlikely to benefit from the public, intrusive questioning in an independent medical or forensic evaluation.¹⁶ Physicians working in the justice system address the law's requirements and therefore work in a very unique ethical framework.¹⁷ The duties of the independent medical expert may include reviewing information about the person whom they are evaluating, even if such information does not provide for the ultimate well being of the evaluatee. The combining of clinical and independent forensic duties, while in a treatment relationship, will likely not enhance either role.¹⁸ Avoiding such a dual role may be impossible (being the only physician in a very large and relatively unpopulated region). The problems that surround it argue for its avoidance.^{16,18} This kind of dual relationship (treater and expert) differs from the problem relationship that many non-medical professional organizations seek to avoid (the assumption of both professional and non-professional roles);¹⁹ in forensic medicine, the conflict is between two professional roles.¹⁶ A number of professional guidelines address this boundary confusion.^{9,12} For example, the American Academy of Psychiatry and the Law Ethical Guidelines require that "treating psychiatrists should generally avoid agreeing to be an expert witness or to perform evaluations of their patients for legal purposes because a forensic evaluation usually requires that other people be interviewed and testimony may adversely affect the therapeutic relationship."¹²

In Case #1, should the psychiatrist who examined the patient for the court and found him to be incompetent be the one to treat him to restore him to competency? If the examining psychiatrist became the treating psychiatrist, he would enter into a dual agency role. He would have already offered an independent opinion, which could impair the necessary therapeutic alliance with the patient. Also, the psychiatrist could be called to testify later about his opinion or to reassess the patient with regard to competence, a fact which could be threatening to the patient. Furthermore, the psychiatrist's new treatment relationship with the patient could color his future evaluation of the patient and lead to a compromised expert opinion, one that is less useful to the court system. Keeping the role of physician/treater separate from the role of independent forensic evaluator (as is the case in Rhode Island) helps ensure that neither the treatment suffers because of the forensic evaluation nor the evaluation suffers because of the treatment.

Another difficult area is disability certification. Many states require a treating physician to provide information about the patient to a government office before benefits can be dispersed. In some cases this information amounts to a treatment summary; in others it may require an opinion as to the kind and extent of the patient's disability and whether or not they may ever be expected to recover.

Many persons may suffer dramatic or even catastrophic illness or injury and be unable to work for an extended period of time. The physician is given a societal role to provide justification for a person's absence from work and to ensure other forms of financial support.²⁰ It is certainly consistent with the physician's role as patient advocate to do those things

that require his or her expertise to obtain an appropriate disability classification for the patient. The honest, factual and timely completion of documentation is expected of the physician in this role.⁹

On the other hand, the situation of some patients may not be so straightforward. Their illnesses or injuries may be difficult to diagnose. The physician may not believe that a patient is disabled, even though the patient pushes the physician for support. The physician may also believe that he does not have the expertise to render an authoritative opinion or that rendering an opinion may jeopardize his treatment relationship with the patient.²⁰

In Case #2, the treating physician faces a number of problems. First, the entry of the legal issues into the already existing treatment relationship threatens to undermine the treatment. Prior to this accusation, the physician was focused only on Dr P and his symptoms of depression and anxiety. Providing information to the attorney or the Board will likely make it more not less difficult to engage Dr. P in treatment. Second, Dr. P's physician may not have an opinion about Dr. P's disability, may not feel qualified to render an opinion or may have an opinion that Dr. P would not support. Offering any opinion may anger Dr. P and jeopardize the treatment alliance.

On the other hand, Dr. P's physician may feel a duty to share information and opinion that he believes may be helpful to Dr. P. Any information shared with persons outside of the treatment relationship should be done with caution and only after consideration of the potential ramifications to Dr. P.

CONFIDENTIALITY

Generally the physician assures the patient that the information shared during treatment will be kept confidential, except where there is a threat of harm to the patient, to another person or to society. A central argument for patient confidentiality is consequentialist: the patient's belief in the primacy of confidentiality in the therapeutic relationship is necessary to ensure that the physician obtains accurate information, as well as to allow the patient to share unflattering and/or unpleasant information.

A second argument for confidentiality centers on the so-called right of the patient to control his or her own information. While this "right" is not absolute, physicians must support the patient's control of his/her own medical and historical information unless there is an overriding reason against confidentiality.

In Case #1, the physician should address confidentiality at the outset of the competence evaluation. The psychiatrist should tell the evaluatee that information gained in the evaluation will be shared with the court and that they do not have a treatment relationship. Providing treatment later would violate that understanding.

In Case #2, Dr. P's physician need not share information, but if he does, he cannot do it without Dr. P's consent. Even if Dr. P and his attorney hire an independent expert to offer the opinions he seeks, Dr. P's physician can share information only with Dr. P's consent.

CONCLUSION

The interface between medicine and the legal system presents the physician with challenging issues. It is possible to negotiate these issues while maintaining a high ethical and professional standard by using thoughtful deliberation, reaffirming the ethical principles that undergird the practice of medicine, and obtaining legal consultation,

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ARRESTED, ADDICTED: HEROIN USERS IN THE RHODE ISLAND CORRECTIONS SYSTEM

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The Northeast Region of the United States contains the largest heroin-consuming population in the country.¹ In recent years, every New England state has experienced an increase in heroin-related treatment admissions and emergency department overdoses and deaths.¹ In Rhode Island, the number of heroin treatment admissions to publicly funded facilities increased from 3745 in 1997 to 5040 in 2001; the rate of treatment admissions in Rhode Island (568 per 100,000) was significantly higher than the rate nationwide (108 per 100,000).² In 2001, 44 of the 52 overdose deaths in Providence³ and 45 of 92 drug overdose deaths statewide² were due to opiates, and likely involved heroin.

Local law enforcement agencies identify heroin as the most significant drug threat. (Figure 1)¹ In 2000, the national average of arrests for the sale/manufacturing of heroin or cocaine was 9.3% of the total for drug violations; New England's average was nearly double at 18.1%.¹ Similarly, in 2001, heroin-related federal sentences in Rhode Island (15%) were double the national average (7.2%).² Much of this can be attributed to the ready availability, low price and high purity of heroin in the region. In fact, an emerging group of heroin users are switching from oxycontin, which is increasingly less available and more expensive, to heroin.⁴

Heroin users are at high risk for drug-associated morbidity including HIV and viral hepatitis, mental illness, and addiction, yet this population often is difficult to engage in medical care other than in emergency settings. Opportunities to provide diagnostic, preventive, and therapeutic services for heroin-related illnesses exist in the incarcerated setting. However, no estimate of heroin users among the incarcerated population exists. To determine the potential impact of targeting this hard to reach and high risk

population, we attempted to estimate the number and proportion of heroin users who encounter the corrections system each year in Rhode Island.

METHODS

To construct this estimate, we utilized data from the **Arrestee Drug Abuse Monitoring Network (ADAM)**, which reports drug-testing data from a national sample of arrestees. In 2002, the national median percentage of arrestees testing positive for opiates was 5.8% for men.⁵ In Boston, the nearest ADAM site, the percent-

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age was 17.3%. Given that the data from the National Drug Information Center document a similar heroin use profile for Rhode Island as for Massachusetts,^{6,1} incorporating the ADAM data for Boston into our estimate for Rhode Island was reasonable.

We then calculated the number of arrestees testing positive for opiates. Our data were restricted to Providence and Kent counties in a later part of our model, and we applied the above percentage (17.3%) to the total number of arrests in Providence and Kent counties in 2002 (24 899).⁷

Since an individual can be arrested more than once per year, the

1 *NDIC Massachusetts and RI Drug Threat Assessment Updates report the percentage of heroin-related federal sentences in Massachusetts is 16.5 %, in RI is 15%. Both are more than twice the national average, 7.2%.

number of opiate-positive arrests must be modified to estimate the number of individuals who were arrested. Applying methodology employed by Hammett et al,⁸ the number of arrestees was divided by a modifier based on survey data of the mean number of arrests in a drug using population per year. This calculation generated the estimated number of individuals who were arrested and tested positive for opiates in 2002.

Finally, we estimated the number of heroin users in Rhode Island using a current estimate of the number of **injection drug users (IDUs)** in Providence and Kent counties.⁹ Given that there are an estimated 1.5 million IDUs and an estimated 1 million heroin addicts in the US,¹⁰ we calculated that 66% of IDUs inject heroin. Reports of local trends in drug use reveal that 65% of heroin addicts entering treatment report injecting as their primary route of heroin administration.¹¹ We used this information to calculate an estimate of the number of heroin users in Providence and Kent counties from the estimated number of IDUs in the area.

RESULTS

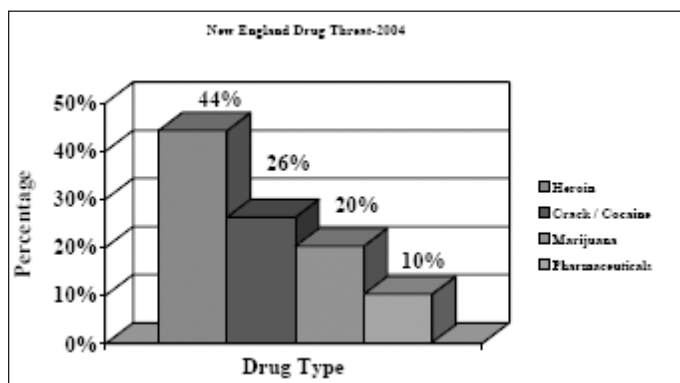
We estimate that 59% of heroin users in Providence and Kent counties are arrested each year. (Table 1)

DISCUSSION

This is the first estimate of the percentage of heroin users who are arrested each year in urban centers of Rhode Island. Using a conservative estimate, based on the best available data resulting from law enforcement, medical, and government agency reports, we found that over half of all heroin users, at a minimum, enter the corrections system each year.

Given that only 20% of heroin addicts access treatment¹² and that 22% of heroin addicts entering treatment are actively involved with the criminal justice system at admission,¹¹

Figure 1



Source: *New England HIDTA* (with permission)

it is likely that a higher percentage of heroin users in the community are involved with the criminal justice system, as we estimate. Of note, we did not adjust our estimate of arrestees who tested positive for synthetic opioids because they accounted for only 2% of opioid-related arrests in Rhode Island in 2002.⁷

Over two decades into the “war on drugs,”¹³ the costs associated with law enforcement, incarceration, medical care, continued disease transmission in the community, and lost productivity attributed to heroin addiction in the United States are substantial.¹² Our findings confirm that that this strategy does indeed result in arresting a large proportion of heroin users. However, as evidenced by the drug use trends in the Northeast and in Rhode Island, this approach is not decreasing

heroin use, is costly, and is ineffective in achieving public health and public safety goals.

We propose that the encounter with the corrections system should be viewed as an opportunity to link addicted individuals with treatment, because the immediate post-release period presents a high risk for relapse to drug use. For heroin-addicted individuals who are sentenced, linkage to methadone treatment programs upon release as part of discharge planning may be feasible. Methadone and other addiction treatments have been shown to be effective in decreasing criminality, reducing recidivism, achieving superior health outcomes, and improving social functioning.¹² This is especially true at the time of release from incarceration.^{15,16} Critical to the feasibility of implementing this policy is increas-

ing funding for treatment. Additionally, an effective office-based opiate treatment option with buprenorphine is now available.¹⁴ Increased physician training in the use of buprenorphine would also expand access to opiate addiction treatment.

Viewed as a public health opportunity, linkage to addiction treatment could ultimately reduce the costs associated with poor health, disease transmission, criminality and recidivism that heroin use exacts on communities in Rhode Island.

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Table 1: Estimate of heroin users who are arrested annually in Providence and Kent Counties

	Data	Calculation
Total arrests in Providence and Kent counties 2002 ^a	24 899	
Percentage of arrestees testing positive for opiates ^b	17.3%*	4307
Adjustment to derive number of individuals positive for opiates at arrest ^c	1.38	3121
Number of IDUs in Providence and Kent counties ^d	5234	
Number of heroin users in Providence and Kent counties [^]		5314
Percentage of heroin users arrested annually in Providence and Kent counties		59%

a: RI State Police 2002.

b: Arrestee Drug Abuse Monitoring (ADAM) Program 2003.

c: Hammett et al 2001.

d: Friedman et al 2004.

[^]: calculation based on NIDA estimate of 1.5 million injection drug users nationally and 1 million heroin addicts and NIDA estimate of 65% heroin addicts inject.

* rate is for Boston, the nearest ADAM monitoring site

Determination of Prognosis in Patients After Cardiac Arrest

Presentation	Cardiopulmonary stabilization Minimize sedation, paralytics and pain medication Correct underlying metabolic abnormalities NO ELECTROPHYSIOLOGIC EXAMS unless suspect status epilepticus or cerebral structural abnormality Document initial clinical exam
24 Hours	Assess pupillary light reflex Corneal reflex Withdrawal response to pain ABSENT = POOR prognosis
24-48 Hours	If patient still comatose and confounding factors (ie. use of sedation, paralytics, pain meds or unable to correct underlying metabolic abnormalities) may consider SEP If Cortical SEP absent bilaterally · < 1% chance of awakening If GCS < 8 + absent cortical responses · 97% predictive for POOR prognosis
72 Hours	No motor response · POOR prognosis

**No clinical findings strongly predict good outcomes

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THE OVERLAPPING EPIDEMICS OF VIRAL HEPATITIS/HIV, ADDICTION AND INCARCERATION: THE SITUATION IN RHODE ISLAND

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Of the more than 2 million Americans serving time in prison and jails, nearly one quarter are incarcerated for a non-violent drug offense.¹ Of people incarcerated in Rhode Island, 39% of men and 80% of women are nonviolent or drug offenders.² The incarceration rate per 100,000 people incarcerated in Rhode Island for drug offenses is nearly 300 times greater for blacks than whites and nearly 150 times greater for Hispanics than whites.³ Over the last twenty years, the “war on drugs” has essentially institutionalized and concentrated, a population at risk for two interconnected health issues – addiction and infectious diseases.

For many prisoners, incarceration presents the first opportunity for access to health care and the diagnosis, treatment and prevention of disease. This is a challenge not only for disease management and infection control within correctional facilities, but also for the prisoners’ home communities. Inmates tend to return to familiar areas, which are often urban, economically depressed areas. In Rhode Island, out of the over 10,000 prisoners released each year from the Department of Corrections, 36% will return to Providence, where they will need health care, drug and alcohol rehabilitation services, housing and employment.³

HIV AND VIRAL HEPATITIS AMONG INMATES

Because federal guidelines mandate that medical care of inmates be comparable to that provided in the community, incarceration can provide many inmates with better health care than they have received at other points in their lives.^{4,5} Conversely, incarceration affords medical providers access to a vulnerable population, and an avenue to improve both the health of the inmates, and to implement interventions which can decrease infectious disease transmission in the inmates’ post-release communities.

HIV

An estimated 25% of persons in the United States who are infected with HIV spend time behind bars each year.⁶ In a retrospective study of stored sera from sentenced inmates passing through the intake center at the Rhode Island Department of Corrections, we found an overall prevalence of HIV infection in 1.8%.⁷ In another study, we found a HIV prevalence of 3.3% among all incarcerated women between 1989 and 1997.⁸ In this study, injection drug use was reported as the primary risk factor (Odds Ratio 3.7, 95% CI: 1.3-10.1).⁸ It has been reported that 75% of inmates begin treatment for HIV while incarcerated.⁵ For over 15 years HIV care at the Department of Corrections has been provided through a collaboration with

“THE NATIONAL EPIDEMICS OF VIRAL HEPATITIS AND HIV, ADDICTION AND INCARCERATION OVERLAP.”

The Miriam Hospital and Brown University. Inmates passing through the intake service center are encouraged to undergo routine voluntary testing and counseling; however, by law testing becomes mandatory upon sentencing. Since 1989, when this testing policy began, one-third of all newly diagnosed HIV infections in the state have been identified at the Rhode Island Department of Corrections.⁵ Persons testing positive are offered HIV education and linked with state-of-the-art HIV services by a team of HIV specialists. Providers hold twice-weekly clinics at the Department of Corrections to address primary care and urgent care needs. Critical to the success of this collaboration is the continuity of care. Inmates have the opportunity to form strong patient-provider bonds

while incarcerated, and often see the same provider after discharge.

VIRAL HEPATITIS

We found an overall prevalence of hepatitis C (HCV) infection in 23%, and hepatitis B (HBV) infection in 20%.⁷ HIV-infected inmates are often co-infected with either HBV, HCV or both.⁹ However, HIV positivity is not a contraindication for viral hepatitis treatment.⁹ Incarceration serves as an opportunity to link inmates to treatment. The primary tool for the prevention of HBV in incarcerated populations is vaccination: 93% of inmates surveyed said that they would agree to be vaccinated against HBV.¹⁰ A recent attempt to implement routine HBV vaccination at the RIDOC resulted in a 58% acceptance rate among women and a 93% acceptance rate among men.¹¹ Thus, routine HBV vaccination among inmates in Rhode Island represents an opportunity to prevent 30% of new HBV cases.¹¹

With regard to HCV, the recommended treatment is combination therapy with interferon-alpha and ribavirin. Although the regimen is expensive, the incarcerated population can be effectively treated for HCV infection using interferon and ribavirin-based combination therapy.¹² A recent study among Rhode Island inmates demonstrated a viral clearance rate of 63% of inmates treated with interferon-alpha and ribavirin.¹²

SUBSTANCE ABUSE AND MENTAL HEALTH TREATMENT WHILE INCARCERATED

An estimated 60%-83% of all inmates have used drugs at some point in their lives.¹³ In recognition of the enormity of the substance abuse epidemic in correctional facilities, the federal Violent Crime Control and Law Enforcement Act of 1994 requires drug treatment be available to “all eligible prisoners prior to their release”.¹³ Drug treatment within correctional

facilities encompasses several modalities, including "Therapeutic Communities," in which inmates are housed separately from the general population, and participate in several months of intensive rehabilitation, self-help and peer groups, drug abuse education classes and professional counseling.¹³

A number of pharmacological maintenance programs, which involve long-term administration of medications such as methadone, naltrexone, buprenorphine and long-acting opioid maintenance compounds, **including levo-alpha-acetylmethadol (LAAM)**, exist as well. Project **KEEP (The Key Extended Entry Program)** in New York is a methadone treatment program for opiate-addicted inmates. Project KEEP provides both a jail-based treatment component and a community-based placement component. During an 11-year follow-up of recidivism among Project KEEP participants, nearly 80% of participants were incarcerated again only once or twice.¹⁴ [Most studies involving inmates, including this one, do not enroll participants who have sentences longer than 1 year.] One key lesson from the Project KEEP experience is the importance of dedicated methadone slots in the community for released inmates.¹⁴

In Rhode Island, offenders in need of substance abuse services are identified through a variety of mechanisms, including the intake screening or other medical visit, random drug screening, request for treatment by persons involved with the prisoner, such as a family member or lawyer or request for treatment from prisoners themselves. Rhode Island substance abuse treatment services are organized into three tiers: 1) an in-house residential "modified therapeutic community," with 148 slots, divided between men's medium and minimum, and the women's facility; 2) a three to six-month intensive day treatment program, with 48 slots, divided between men's maximum and medium security, and the women's facility; and 3) weekly outpatient groups, which exists in men's maximum, medium, minimum and work release, as well

as the women's facility. At any given time, approximately 10% of the incarcerated population (total of 3,500) is involved in some form of addiction treatment. A significant under-served group are inmates with short sentences, normally less than a year for non-violent crimes. They are medically stabilized while in prison, yet return to an unstable environment after release and a lack of medical and/or substance abuse treatment follow-up. The cycle of in-prison stabilization followed by in community high-risk behavior is extremely difficult to break.

Finally, methadone treatment is available to inmates as they are released from the Department of Corrections. Recently, through "Linkage to methadone upon release from incarceration: Project MOD", (discussed below), linkage to methadone maintenance treatment has been provided for more than 200 inmates.¹⁵

LINKAGES TO TREATMENT ONCE RELEASED

Continuity of care is critical for ensuring the maintenance of interventions begun during incarceration. Particularly effective are collaborations between community-based organizations and correctional facilities which involve service provision within the correctional setting and follow-up care post-release.¹⁶ The formation of strong health care provider-patient relationship prior to release can facilitate continuity of care on the outside. And prior familiarity with service providers can ease the transition into seamless medical care once inmates are released back into the community.

OVERVIEW OF DISCHARGE PLANNING

Prisoners struggling with addiction need discharge planning; indeed, the aftercare component is crucial to re-integrating the offender into the community.¹⁷ Slots in residential substance use treatment services, though, are notoriously lacking for just about every vulnerable population, and post-release aftercare can be difficult to access depending on the offense committed, and co-morbid mental health

issues. Furthermore, only a minority of inmates voluntarily enter residential treatment post-release.¹⁸ However, over the last fifty years, a body of research suggests that court-ordered treatment and legal pressure to remain in treatment have been associated with successful outcomes.¹⁹

The discharge planning has developed largely from a **Centers for Disease Control and Prevention (CDC)**-funded demonstration project focused on providing comprehensive discharge planning for HIV positive inmates. Originally funded in 1991, the program began as a collaboration between the Department of Corrections, The Miriam Hospital, and the Department of Health, to provide supportive case management and increase access to the medical and social services so desperately needed by the new releasees.

HIV/STD/HEPATITIS PREVENTION FOR YOUNG MEN BEING RELEASED FROM PRISON: PROJECT START (2001-2003)

Project START was a multi-site project which included Rhode Island, funded by the CDC, to develop an HIV/STD/hepatitis prevention program for young men aged 18-29 leaving prison. The intervention consisted of both single session and enhanced interventions and was conceptually based on harm reduction, problem solving, motivational enhancement and enhancing access to services.²⁰ The Project had an 83% retention rate and participants who received the enhanced intervention were less likely to report unprotected vaginal or anal intercourse.²⁰ Project START demonstrated that it is possible to maintain contact with men post-incarceration and emphasized the importance of making facilitated referrals for treatment.

PROJECT BRIDGE

The CDC-funded demonstration project developed into Project Bridge, which provides not only discharge planning but also community-based case management for HIV-positive inmates released into the community

for a period of 18 months post-discharge.²¹ Project Bridge, a HSRA Special Project of National Significance, is responsive to the fact that while many HIV-seropositive offenders receive medical care while incarcerated, many of these offenders face significant barriers upon their release. Project Bridge focuses on a harm reduction model in its approach to substance abuse. It has established a network with both the Rhode Island Department of Corrections and other community agencies to support the ex-offenders. Ninety-eight percent of Project Bridge clients receive medical care within a month after their release from prison; 95% have been referred to mental health treatment during the course of enrollment.²¹ While active substance abuse continues to be a primary barrier, the project, through intensive case management, links clients with a variety of services, including substance abuse treatment.

LINKAGE TO METHADONE UPON RELEASE FROM INCARCERATION: PROJECT MOD

Project MOD, a **Center for Substance Abuse Treatment (CSAT)**-funded project through The Miriam Hospital, recruits participants from prisons, community agencies and word-of-mouth. It covers 100% of weekly methadone costs for three months and 50% of costs for three additional months.¹⁵ Project MOD works with participants to secure funding for continued methadone maintenance after participants exhaust their MOD financial assistance. Among the Project's participants, 66% are still in methadone treatment at 6 months; of these, 63% have paid up to half of the costs of methadone treatment themselves. The remainder have obtained state-subsidized assistance.²²

THE FAMILY LIFE CENTER

The non-profit Rhode Island **Family Life Center (FLC)**, located in Providence, works with clients while they are incarcerated and after release. The Center provides a holistic, family-based approach for the reintegration of ex-offenders.²³ The FLC drop-in

center provides on-site case management, support services and referrals for medical care and substance abuse and/or mental health treatment. To date, the FLC has identified more than 250 potential clients.²³ Through its community partnerships, the FLC also engages in advocacy on behalf of clients.

LESSONS LEARNED AND FUTURE DIRECTIONS

Despite the successes, numerous challenges exist with regard to viral hepatitis, HIV and substance abuse among inmates. One such challenge is universal screening of HCV among inmates, a measure that others have deemed too costly because of the resultant evaluation and therapy.²⁴ Clearly more resources are needed. With regard to HIV, continuity of care is of paramount importance. After release from incarceration, social support and case management services are essential to maintaining continued follow-up with HIV medical care.

The success of Project Bridge encouraged other initiatives. Currently more than 14 community agencies are involved in discharge planning for inmates at the ACI, offering services including substance abuse treatment and mental health treatment. In 2001, funding from the Serious and Violent Offender Release Initiative enabled the establishment of a community agency dedicated to discharge planning and community follow-up for offenders returning to Providence e.g., The Family Life Center, mentioned above. In addition, the success of Project MOD has demonstrated that methadone treatment is a promising HIV prevention and substance abuse treatment strategy for recently released inmates with opiate addiction.

Once released, some inmates cannot readily find programs that accept prisoners who have been convicted of violent and/or sexual offenses. In addition, there is an overall lack of psychiatric follow-up with the incarcerated population. While in the Department of Corrections, psychiatric medications and follow-up are provided routinely. However, persons re-

leased from the DOC often return to chaotic living situations with neither the social supports to remain on medication nor the ability to easily access medication and psychiatric follow-up. This population is at risk for relapse back into addiction.

These projects and programs emphasize the need for more comprehensive, integrated approaches to dealing with viral hepatitis/HIV and substance abuse among inmates. This is particularly important for the first few weeks post-release. Case management under-girds effective treatment, and too few agencies provide case management specifically to the incarcerated population. Project Bridge provides intensive case management but only for HIV-infected individuals. No similar program exists for HIV-negative individuals in Rhode Island. The Family Life Center provides on-site case management which may not fully address the complex needs of many releasees. More community partnerships between local agencies, federally funded projects and local treatment providers must be forged in order to better facilitate access to treatment services for this vulnerable population.

The national epidemics of viral hepatitis and HIV, addiction and incarceration overlap. The war on drugs has swelled the incarcerated population: between the years 1980 and 1997, the number of people entering prison for drug offences increased 11 fold or 1040%.¹ Little evidence suggest that this trend will be reversed soon. In addition, the incarcerated population has a high burden of disease: many drug offenders are at high-risk for, or have already been infected with, viral hepatitis and/or HIV. One in four people with HIV pass through incarceration facilities each year.⁶

Prisons and jails represent an opportunity to provide healthcare and linkages to care upon release to a high-risk population, many of whom have not had adequate healthcare previously and most of whom will return to their home communities. The proportion of the 10 million incarcerated individuals in the United States and more than 10,000 incarcerated in-

dividuals in Rhode Island helped by the model programs mentioned here is small and insufficient. These and similar programs should be expanded and replicated.

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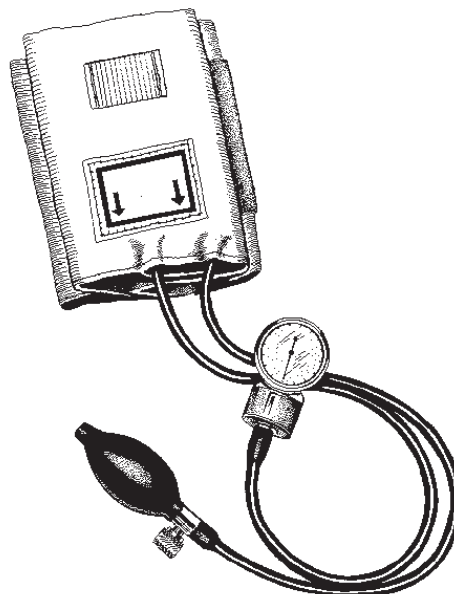
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CORRECTIONAL HEALTH CARE IN RHODE ISLAND: CHALLENGES AND OPPORTUNITIES

MICHAEL POSHKUS, MD, AND JENNIFER G. CLARKE, MD, MPH

Rhode Island's **Adult Correctional Institution (ACI)** provides for the health care of approximately 3500 individuals each day. The population is transient: approximately 50% of sentenced inmates serve less than 6 months.¹ Approximately 50% of people released from prison will be re-incarcerated within 3 years.² Over 17,000 inmates enter the system every year. Many have not received health care regularly within the community. Once in prison, all receive an initial nursing evaluation (vital signs, medical history and screening for several infectious diseases) and mental health screening.³

The transient nature of prison highlights the need for communication between healthcare providers who work at the **Rhode Island Department of Corrections (RIDOC)** and community healthcare providers regarding their incarcerated patients. This paper aims to inform Rhode Island's physicians about the care that their patients receive while incarcerated and to encourage an exchange of information to better serve all Rhode Islanders. At the ACI, we strive to meet community standards of health care for our patients in cost-effective ways to be accountable to the taxpayers of Rhode Island.

HISTORY OF HEALTH CARE IN PRISON

Access to health care is deemed a constitutional right for inmates. In 1976, the Supreme Court [*Estelle v. Gamble*] determined that "deliberate indifference to serious medical needs" constitutes cruel and unusual punishment and violates an inmate's Eighth Amendment Rights. This ruling spurred lawsuits that have led to improved health care for inmates.⁴

In 1977, the Rhode Island Federal District Court [*Palmigiano v. Garraby*] found that Rhode Island's prisons "do not provide [a] tolerable living environment" and ordered

improvements under court decree that persisted for eighteen years. With the court involvement and with the growing inmate population in the 1980s, primarily due to the "war on drugs," the ACI nearly doubled the number of full time physicians and nurses in the 1990s.⁵

The ACI has a Medical Program Director and 5 full time physician positions. Five physicians are board-certified in internal medicine, and several have additional training, including fellowships in Infectious Diseases, Geriatrics, Women's Health and Masters of Public Health. A continuous quality improvement program reviews medical care, including Morbidity and Mortality

"PATIENTS CANNOT BE REFUSED MEDICAL CARE BECAUSE OF ANY DISCIPLINARY ACTION."

conferences and chart reviews. Two physicians have faculty positions at Brown Medical School. A director of nursing services supervises 50 nursing positions, which include RNs and LPNs. Advanced practice nurses perform physical examinations and mental health evaluations. There are three full time dentists and one part time dentist on staff. The clinical director of Mental Health services oversees the work of psychologists, social workers and contract psychiatrists.

SECURITY, REHABILITATION AND MEDICAL ETHICS

The mission statement of the DOC is: "To contribute to *public safety* by maintaining a balanced correctional system of institutional and community programs which provide a range of control and *rehabilitation* options for criminal offenders." While initially

this may seem at odds with optimal medical care, we have found substantial administrative and correctional officer support in implementing health care programs. At the DOC medical services are considered part of rehabilitative services and the medical staff views the public health programs as a contribution to public safety.

While medical care is the primary function of medical staff, security remains a central concern. Correctional officers assist in supervising inmates who come to the clinics; however, officers enter examining rooms only when deemed necessary for security (i.e. removal of sutures with a scalpel in a patient who has used deadly force with a weapon). These situations are rare and are made at the joint discretion of the correctional officer and physician. All inmates' medical records are confidential and not shared with security staff. Officers are expected to keep all medical information they may hear/encounter confidential.

To maintain a therapeutic relationship with patients, medical staff separates its role as health care provider from the role of security and discipline. The medical staff does not gather forensic evidence, including samples for drug screening or DNA collection nor do we participate in determining competency to stand trial (outside court appointed consultants are utilized). The **Department of Health (DOH)** gathers and maintains a DNA database of all convicted felons.

Patients cannot be refused medical care because of any disciplinary action. Many patients have been convicted of heinous crimes, however, the medical staff understands that punishment is decided by the judicial system.

Given that the ACI is both a prison and a jail, with some patients under our care for a matter of hours and others for life, staff make choices vis a vis elective care, weighing the

necessity of treatment and the length of sentence (pertaining to the ability to complete a therapy).

THE STRUCTURE OF ACI HEALTH CARE

A. INTAKE EVALUATION

The **Intake Service Center (ISC)** functions as Rhode Island's jail for men. Upon arrest, men are brought to the intake facility, where many remain as they await trials or sentencing. A registered nurse conducts a screening exam (a brief medical history, list of medications, and information about the individual's primary care physician). S/he records vital signs, assesses for acute psychiatric issues and intoxication by or withdrawal from substances of abuse. Routine testing includes a PPD, RPR, and ELISA for HIV. If the individual is released prior to the availability of test results (approximately 50% of people are released from Intake within 48 hours),⁶ the DOH tracks inmates with positive findings.

Medical issues identified during this initial encounter are referred to a physician. Patients displaying signs or symptoms of alcohol or benzodiazepine withdrawal are generally kept in the infirmary ward for observation and placed on a benzodiazepine taper. Those with more advanced withdrawal require hospitalization and are sent to a local emergency department.

For those who received methadone maintenance in the community, the ACI has a contract with CODAC to supply methadone. Except for pregnant women, individuals are maintained on their methadone dose for seven days and slowly tapered off.

If during this initial screening process, a patient is identified as having a mental illness, he is referred to a psychiatrist or social worker. If a patient is considered a threat to himself or others, he is placed on "Psychiatric Observation" or "**Crisis Management Status**" (CMS) and receives close observation until deemed safe by a psychiatrist.

We aim to provide each inmate with a full history and physical exam

within two weeks of incarceration. This encounter allows us to screen for **sexually transmitted diseases (STD)**, assess medically risky behavior and offer education and testing. Hepatitis B vaccination, available through the DOH and grant-funding, is offered to all inmates at their intake exam. Ninety-six percent of inmates accepted the hepatitis B vaccine when offered at prison.^{7,8} Since the intake evaluation is the first time or only place that many inmates interact with the health care system, new diagnoses, including diabetes mellitus, hypertension, and even end-stage renal or hepatic disease, are often made upon incarceration.

"SINCE THE INTAKE EVALUATION IS THE FIRST TIME OR ONLY PLACE THAT MANY INMATES INTERACT WITH THE HEALTH CARE SYSTEM, NEW DIAGNOSES, INCLUDING DIABETES MELLITUS, HYPERTENSION, AND EVEN END-STAGE RENAL OR HEPATIC DISEASE, ARE OFTEN MADE UPON INCARCERATION."

B. MALE SENTENCED FACILITIES

After sentencing, male inmates are placed in one of five facilities ranging from minimum to maximum and high security. Approximately 2000 inmates are housed in these facilities. Each facility is assigned at least one physician and ancillary medical staff, including nurses and nurse practitioners.

Inmates with chronic medical problems are provided regular follow-up visits at their individual facilities. Any inmate may seek urgent medical attention by notifying a correctional officer, who can contact a nurse,

available on campus 24 hours a day. A physician, if not in the facility, is also available on call 24 hours a day. "Sick slips," or notes written by the inmates describing their particular complaint, communicate less urgent problems. The nursing staff reviews and triages these slips, calling inmates to the infirmary in order of the urgency of the complaint. Less urgent requests are sometimes not seen for several weeks, but every "sick slip" is addressed at some point. [Admittedly, some inmates are discharged before being seen.] In addition, nurses dispense medications four times a day and inmates have access to the medical staff at these times if necessary.

Acute and chronic infectious diseases are more prevalent in the inmate community than the general population. In Rhode Island, HIV infection is four times more common among inmates than the overall community. Hepatitis B has a prevalence of approximately 20% in the ACI.⁹ Hepatitis C, with a prevalence of approximately 25% in the ACI, is evaluated and treated by physicians on site with similar rates of success compared to the community.¹⁰ Several physicians from The Miriam Hospital Immunology Center visit the ACI regularly to provide care for inmates with HIV infection and AIDS. In fact, many patients with HIV improve clinically while they are incarcerated, partly due to increased medication adherence. Successful continuity of care exists after release for these patients at the The Miriam Immunology Clinic.¹¹

Consultations with visiting ophthalmologists, podiatrists, otolaryngologists, and general, orthopedic, and oral surgeons are available on site. If an inmate requires non-emergent medical or surgical care that cannot be provided at the ACI, the physician writes a "furlough," an interagency form describing the problem and treatment. The medical director reviews each furlough prior to patient transfer. Per DOC policy, cosmetic procedures are generally not allowed and elective procedures (e.g. reducible hernia repair) are approved on a case-by-case basis.

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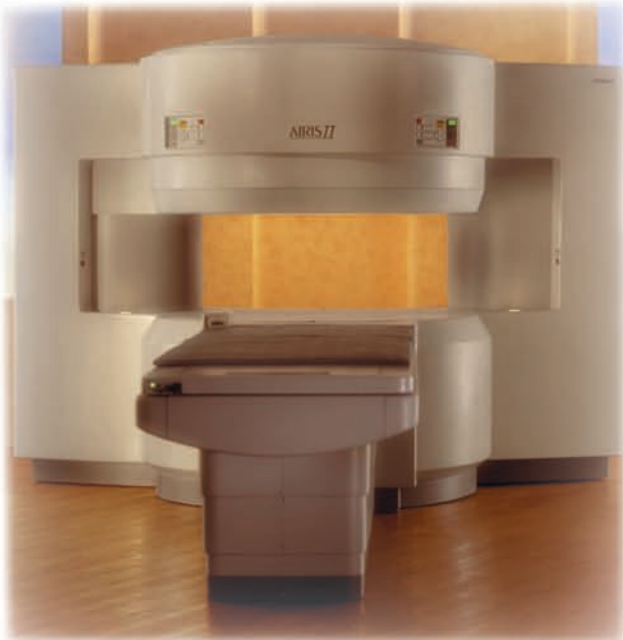
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Scheduling transfers can be difficult: a limited number of officers are available for transfers; some clinics will see ACI patients only during set hours; a test's delay may interfere with the next patient's transfer. Finally, for security reasons, patients are not allowed to know the dates and times of their medical appointments, so these times sometimes conflict with unexpected court dates or attorney visits.

In case of a medical emergency, patients are transferred to a local emergency department by correctional staff or rescue. For public safety, correctional officers travel and remain with inmates (other than minimum security and work release) during emergency evaluation and throughout admission to the hospital. Patients discharged from the hospital sometimes require intravenous medications, traction, or other medical services that could be provided at home in the community with the aid of visiting nurses. These inmates, as well as others who may require close medical monitoring, may be transferred to the intake infirmary ward at the ACI, an isolated unit with nursing supervision, hospital beds, and negative pressure rooms.

Sentenced inmates are charged a co-pay for "inmate-initiated" visits, specialty consults, most over-the-counter medications, eyeglasses and prosthetic devices. This is partially used to discourage abuse of the system; however, necessary health care services are not denied to anyone who cannot pay.

C. WOMEN'S FACILITY

Female inmates are housed in a single facility with multiple levels of security, including intake, minimum, medium, and maximum security. Physicians and ancillary medical professionals are assigned to the Women's Facility. At intake, female inmates undergo a similar screening process as males, with the addition of routine pregnancy testing. In addition, a nurse-educator who specializes in reproductive health offers women follow-up for the prevention of STDs and unwanted pregnancies.

We aim to provide a general health maintenance exam to every female inmate within the first two weeks of incarceration, but given acute medical problems, the evaluation exam may take six to eight weeks. The evaluation includes breast and pelvic examinations, Papsmears, screening for STDs, and mammograms. Attention to diagnosis and treatment of STDs is crucial, since a high proportion of female inmates are incarcerated for crimes related to the sex trade. Reversible contraceptive services are made available and are voluntary. If an inmate is considering pregnancy termination, she is referred to Planned Parenthood. Inmates choosing to carry their pregnancies to term receive prenatal care, with referral to high-risk specialists as appropriate.

In addition, consultation with a gynecologist is available on site at the Women's Facility for colposcopy, obstetrics and other services beyond the scope of primary care.

MENTAL AND BEHAVIORAL HEALTH

Psychiatric disorders are more prevalent in the inmate population than in the general community. Approximately 15% of all individuals evaluated at Intake have a history of mental illness (including major depression, anxiety, bipolar disorder and schizophrenia).⁴ The Bureau of Justice Statistics estimates approximately 16% of state inmates are mentally ill.¹³ Psychiatrists, psychologists, social workers and clinical nurse specialists provide behavioral health care at the ACI. Treatment for sexual offenders is provided at the ACI. Those inmates who require inpatient psychiatric hospitalization are transferred to the Forensic Unit at Eleanor Slater Hospital.

Seventy to eighty percent of inmates are estimated to have problems with substance abuse and addiction.¹² The ACI offers both therapeutic communities and specialized day treatment programs to patients with substance abuse histories through contracts with Spectrum and The Providence Center.⁴

ACADEMICS AND RESEARCH

Fellows, residents and medical students from Brown University work with physicians at the ACI as part of their educational experience in the fields of Internal Medicine, Community Health, Psychiatry, Family Practice, and Infectious Diseases.

Several ongoing medical research projects involve the inmate population at the ACI. All research is voluntary and is not tied to inmate privileges or punishments. All research is done in accordance with the rules and regulations set forth by the United States Department of Health and Human Services. These projects aim to better the health of inmates and must be approved by the Internal Review Board of the sponsoring institution and the ACI's research management group.

Research projects include methods for improving HIV screening, several studies on substance abuse treatment, facilitating enrolling appropriate patients to methadone maintenance programs in the community after release from the ACI,¹⁴ and evaluation of methods for improving family planning services.

RELEASE

When inmates are released, they are not guaranteed continuation of the health care they received while incarcerated. Discharge planners at the ACI help inmates apply for insurance and inform them of community resources. Due to the prohibition of tobacco, alcohol, and illicit drugs at the ACI and to the availability of health care, inmates may experience improved general health while incarcerated. Once back in the community, individuals often face the same barriers to health care and exposure to addictive substances and violence they experienced before incarceration.

FUTURE GOALS AND DIRECTIONS

We hope to strengthen collaborations with community organizations and medical clinics, including substance abuse treatment

centers and community mental health agencies. In addition we are modifying one module to accommodate inmates with physical disabilities. We also hope to create a designated behavioral health unit within the ACI.

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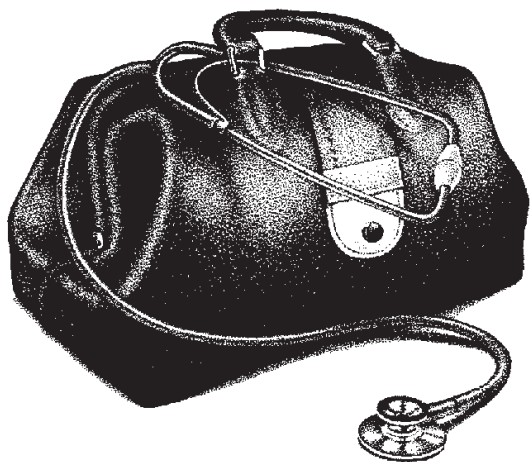
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THE DONATION INMATE ORGAN NETWORK (DION): GIVING INMATES TIME OFF FOR ORGAN DONATION

CLIFFORD EARLE BARTZ

A proposed Miracle Man Amendment (to National Transplant Act of 1984 and Uniform Anatomical Gift Act) would create the The Donation Inmate Organ Network (DION). DION would have two routes for donation.

An inmate could donate an organ for transplant, or for research, upon death. A contract would be drawn up between the inmate, the organ bank, the United Network of Organ Sharing (UNOS), and the Federal Bureau of Prisons. An inmate could pledge up to 3 organs upon death, for 60 days each of time suspended from his/her sentence – a maximum of 180 days. An inmate could pledge his/her entire body, for one year of suspended time.

The inmate could also choose to be a “local living banker (LLB),” a living donor of one kidney, part of the pancreas, a lung, or the liver. A LLB would receive 7 years of reduced time.

An inmate could be an LLB and also pledge to donate organs or his/her body upon death; he would gain both credits. [described in full in Bartz D, The Donation Inmate Organ Network, Kennedy Institute of Ethics Journal March 2003.]

DION can end all organ shortages, if used to its fullest potential.

The concept involves donation by medically checked and approved inmates for organ donation for a one-time extra amount of “good time” for the donor-inmate.

This crusade, now in its 9th year, has not gone unnoticed and has had positive feedback from well-known transplant surgeons and professors of medical ethics. Although ethical and moral considerations favor altruistic donations, it does not meet current demands. People would accept an organ from Dracula, if they want to live.

I have contacted UNOS, the National Kidney Foundation, and the US Department of Health & Human Services. All, including politicians, hide behind the out-dated 1984 National Transplant Act.

US Senator James Jeffords (Vermont) replied in a 1997 letter: “While I share your concerns over the current lack of organ donations to save lives, after thorough consideration, I am afraid that I cannot endorse your proposal to allow federal prison inmates to donate organs in exchange for time off for good behavior.

“While you are correct that the Congress has the authority to change the National Transplant Act provisions that would prohibit such an exchange, I must concur with the Bureau of Health Resources Development that such a program would pose grave risks to public health.”

How could this be so if the inmate(s) and sponsor(s) were medically checked before any kind of donation?

In a May 1999 letter, Senator Jeffords said that the plan would “violate the spirit of our nation’s voluntary system of organ donations and dangerously transform these

life-saving gifts into valued commodities.” But the Senator will not acknowledge that 85% of plasma donors, another life-saving commodity are paid. The out-dated National Transplant Act does not allow organs to be “bought, sold, swapped, or traded” for monetary gains, but plasma can be?

Other “commodities of life” are marketable: a woman can sell include her eggs; a man, his sperm. Both are advertised on the open market.

As for altruism, donor donation creates income for the procurement agency, the organ bank, the recovery team, the transplant surgeon, the OR team. The recipient “foots the bill” in prices ranging from \$100,000 to \$500,000 per operation. It seems that the donors donate for free, and everyone has hands out for payment. Where is the altruistic assistance, and the ethical and moral considerations, for these “life-saving commodities?”

Besides helping more organ donors, DION could also assist research. The sponsor would add numbers to the donor pool and a filing fee of \$1,000, which would assist in the budgets. Also, all sponsors would register to become potential bone marrow donors.

With states fighting over who would receive a donated organ, this issue would be moot if the supply of organs increased. Because of public opinion, no inmate who is incarcerated for murder rape or child molestation or has hurt a child would be allowed to participate in DION.

Many doctors and universities that I have approached have given first a negative reply, until they review this concept further. Then they give positive feedback.

A few states have started to approach inmates as possible donors, but first, only on death row. This has been tried in Missouri and Florida, but both have so far failed. Why would these political leaders introduce such possible legislation if not backed by the public, and of those of their loved ones waiting for an organ for transplantation?

Professor Stewart Cameron and Raymond Hoffenberg¹ hold that “the affront to human dignity is not the removal of organs after execution, but the execution itself.” Professor Ronald B. Miller added: “It could be ethically presumed for prisoners [to be organ donors] as well as for other citizens.” Even medical professionals Michael B. Gill, PhD (University of Arizona, Tucson), and Robert Sade, MD (Medical University of South Carolina) holds that an autonomous individual has a right to be paid for organ donation. “...There is no good reason to think that selling a kidney violates even the robust Kantian sense of autonomy....My kidney is not my humanity. Humanity – what gives us dignity and intrinsic value – is our ability to make rational decisions, and a person can continue to make rational decisions with only one kidney.”¹

In a heated debate (June 2002), the American Medical Association House of Delegates accepted its Council for

Ethical and Judicial Affairs' recommendation that further study of financial incentives for organ donation was warranted. Robert Sade, MD, cited above, is a member of this council.

A few years ago, the 104th US Congress wished to revise and extend the solid organ procurement and transplantation program. Even the Commonwealth of Pennsylvania, in 2000, moved ahead to offer \$300.00 to families of organ donors, but the money can cover only costs such as food, housing and transportation.

In January 2004 Wisconsin passed a bill which would give residents up to \$10,000 in tax breaks if they donated all or part of an organ. Indiana is considering such a bill. In New York a proposed tax break for organ donation has been submitted in the legislature. How close are these measures to "paying for organs"?

Again, in Pennsylvania,² a judge in the Common Court (Pleas) allowed a 41 year-old con-man to donate a kidney to his sister to avoid a 10-20 year prison sentence. It does seem that the court ignored the federal law. [Commonwealth v. Barry Harris, CP 0012-0355,56,64,701/1]. Judge Teresa Sarmina, the Assistant District Attorney Paul Goldman and the Defense Attorney Catherine Henry accepted this plea.

In addition,

1. The US House passed a bill giving federal employees additional paid leave for donating bone marrow or organs. A similar bill is pending in the Senate.³
2. On March 8, 2001, the US House voted unanimously to help pay donors travel and other expenses, to help encourage more Americans to donate organs.
3. The US Department of Justice authorizes Special Leave for Organ Donation: "an employee may use up to 7 days of paid leave each calendar year to serve as a bone-marrow donor, and up to 30 days of paid leave to be an organ donor."⁴

A USA TODAY poll⁵, conducted by Southeaster Institute of Research for the National Kidney Foundation, found that 33% of respondents accepted a cash incentive for donor/family.

If any high ranking official in society needed an organ, and only a medically checked inmate would be the "matched donor," the inmate would be the next best thing since sliced bread.

Under DION, an inmate with a health problem cannot donate, but his/her body may still be used for medical research. One organ bank coordinator believes that this concept opens an ethical can of worms, but I maintain that it is better to open this can of worms, than to close the doors on many coffins. Let the would-be recipients vote: they are the ones who should decide on DION, something the organ banks and UNOS forget. Again, DION would be used as a "secondary list," not a replacement for the current system overseen by UNOS and the US Department of Health and Human Services.

I challenge any medical official or member of Congress to debate the concept of DION. One has to wonder how fast these officials would accept DION if they or a loved one were on a waiting list for transplant and only a medically

checked inmate could assist them? With over two million people incarcerated nationwide, the number of qualified inmate donors should not be ignored.

Ethicists may argue that incarceration constrains inmates' autonomy, but about 90% of all criminal cases plead out. Why? If a person went to federal court, and were offered a plea agreement, it would be for less time. If the defendant does not "take the deal" and goes to trial, and loses, the defendant can receive a higher sentence. This marks intimidation and coercion (on the part of the government) at its best.

The only relief in the federal system is a 500-hour drug program, controlled by the Federal Bureau of Prisons. An inmate who passes that program may receive up to one full year off his/her sentence.

In the federal system of 185,000 inmates, approximately 65-75,000 could be willing to donate under DION. There would be a legal contract. The inmate would donate only once, and of "free-choice" under the US Supreme Court ruling in *Boykin v. Alabama*, 395 US 238 89 SCt (1969). No court can order an inmate to participate. This is a free choice, or redemption. For the fact of "going under the knife" – for a prison to risk his/her life, should they not be given a one-time second chance at their life?

The agreement would exempt all parties from any court action if the inmate suffered injury or death.

As for payment, are the doctors and medical professional paid for their assistance? In this world nothing is truly for free.

As for the donors, most inmate-donors would be of a nefarious nature, and willing to donate only to reduce their sentences. What is gained by this donation? (1) The saving of someone's life; (2) Relieving over-crowding in prisons; and (3) Redeeming the criminal. Would this not slow down recidivism, prodding inmates to rethink their future actions and lives? To save a person's life and thereby to spare a father's agony and a mother's grief is an act of humanity. This is an ethical and moral action, even if a reward is proffered. To let people die when there is a possible avenue of relief is not ethical or moral: why not ask the would-be recipient?

Of course, somewhere, an inmate who got early release because of DION would get into trouble again. Nothing can stop all evils. Many people would benefit under DION, but some politicians would use a possible post-release crime as a reason to decry DION. Kenney was right: "...anyone who believes in fairness in this life has been seriously misinformed."

CONCLUSION

It is a fact that the gap between the supply of solid organs and the rising demands push medical professionals to new avenues to relieve these shortages. The argument for DION falls upon ethics, morals, political and professional "image" – none of which concern the would-be recipients. Meanwhile our fellow Americans are dying.

The "gifts of life" (plasma, sperm, eggs, tissue) are sold on the open market for monetary gain, with no harmful or illegal effects to donor or seller. This is approved by the medical profession. With supervision, control, and

medical tests, why are solid organs different? Why are they considered "black market" and those others are not?

The laws which condemn would-be recipients to death should be brought into new light, and voted upon. Who are the true hypocrites and people of a nefarious nature who allow 12-17 people to die each day waiting for an organ, and who do not allow a secondary strong source of donors to donate?

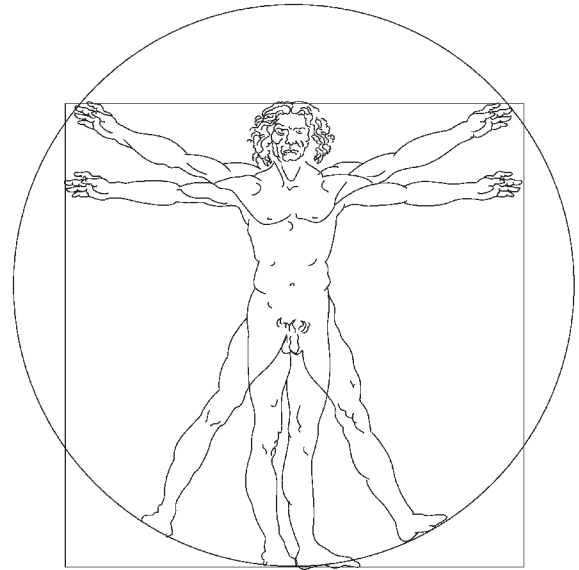
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Clifford Earle Bartz, incarcerated since 1994, is serving a 20-year sentence. Federal inmates must serve at least 85% of their sentences.

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PRISONERS AND ORGAN DONATION

JAY BARUCH, MD

The numbers are daunting. Over 79,000 patients in the United States await organ transplants; nearly 3000 new patients are added to the waiting list each month.¹ Few people would argue that the current system of altruistic organ donation isn't meeting the demand.

There are over 2 million prisoners in US jails and prisons. Mining that community as potential donors might appear to be a goldmine. And there might be added incentive if prisoners are compensated with reduced sentences.

Such a plan sounds attractive but for two questions. 1) Are there ethical reasons why we might not want to consider prisoners as potential donors? 2) Should donors ever be compensated for their organs—turning a donor into a vendor? Sixteen to seventeen people die each day waiting for a vital organ. While we focus on procurement, we shouldn't lose sight of where and who the organs come from, and how they're procured.

The National Transplant Act of 1984 prohibited the use of organs to be "bought, sold, swapped or traded for any kinds of monetary gains."² What is objectionable to the use of prisoner donors? Isn't the moral high road pocked with holes and contradictions? After all, prostitution is illegal but tolerated in the United States, where the body is exchanged for money. People are paid for donating plasma, sperm and ova, so why should we consider kidneys differently? Plasma, sperm and ova replenish themselves, and can be obtained by minimally invasive means. Donating a solid organ is a riskier venture, including severe pain, potential complications, the permanent absence of a body part and potential long-term medical and psychological sequelae. These factors may be relevant when individuals contemplate donating ova or a kidney, but should they, unto themselves, determine policy?

These questions might seem trivial to people who will die without an organ transplant, offensive to people who consider body parts their personal property which should be marketable if desired, and unnecessary to people who point to the laws that prohibit such activity. But a vast illicit black market exists. Supporters of market-exchange for organs claim it's a win-win situation. Recipients who can afford the cost fly to countries with more lenient, or no, regulations on organ procurement and transplantation. And the vendors, largely from impoverished populations, are given a boost out of poverty. In respect to kidneys, the path is usually, "from poorer to more affluent bodies, from black and brown bodies to white ones, and from females to males."³ Most of the time, relief is temporary, and vendors slide back into debt.⁴

Post-operative sequelae, moreover, such as pain, fatigue, and depression, may compromise the donors' ability to do the manual work they did before.⁵ Their poverty might hinder their ability to receive post-operative care. In the end, their situation may become more dire than

before the surgery. Such an outcome runs counter to a basic tenet of medical practice in the United States, which is to do no harm. Even with altruistic donations, a generally healthy person accepts some degree of risk for a procedure that will benefit someone else. But the person has given consent, and accepted those risks.

What about those individuals who sell their organs? It can be argued that they gave their consent by entering the market in the first place. But at least by normative standards in the United States, their decision might not have been a genuinely informed one. They might have been uneducated, and unable to understand the risks. Their economic circumstances might have restricted their options. Saddled with debt, struggling to provide basic needs like food and clothing, they may have had little choice except to sell an organ.⁶

This argument raises the question of whether institutionalized persons can truly give informed consent. Their dependency on others, the pressure to conform, and fear of the consequences when they make decisions contrary to what is expected, exert pressure on the decision-making process. The Nuremberg Code of 1947, drafted as a response to the inhumane medical experiments conducted by the Nazis, opens with the following. "[The] person involved should have legal capacity to give consent, should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, over-reaching or other ulterior form of constraint or coercion."⁷

Despite this code, there have been infamous clinical trials involving abuses of prisoners and other institutionalized persons.⁸ In 1972, the pharmaceutical industry was doing more than 90% of its experimental testing on prisoners.⁹ From the 1940s to the 1970s, incarcerated prisoners were deliberately infected with or exposed to malaria, typhoid fever, cancer cells, cholera in attempts to cure these diseases.^{10,11}

Many criticisms of these studies focus on whether the prisoners willingly gave their informed consent. There were concerns that prisoners were influenced to participate in clinical trials by offers of special privileges, or reduced sentences, or access to better medical care. To consent to treatment, patients must demonstrate decision-making capacity. This element can be problematic amid worries that prisons are replacing hospitals for the mentally ill.^{12,13}

Prisoners are vulnerable. Having lost their liberty, they depend on the penal system for food, clothing, safety and healthcare. (Prisoners are the only Americans who have a constitutional right to healthcare). Despite such a claim on the penal system, there have been reports of serious substandard medical care. Would care be further compromised if prisoners refused to participate in donating an organ, or, would donors be given special privileges

that would entice others to do something they wouldn't ordinarily do?

The notion of payment or compensation is part of a heated and perplexing debate. Though direct payments are illegal in the US, states are developing and/or implementing other incentives. Wisconsin allows "tax deductions up to \$10,000 for expenses such as travel, hotel bills, and lost wages when donating an organ."¹⁴ Similar bills were introduced in other states. Some argue that a treacherous line is being walked. How do you encourage donations without violating the law and making the inducements so attractive that people feel they must find a way to donate an organ? And, just as in clinical trials, the participant-donor undertakes a risk that may, or may not, directly benefit him/her.

Mr. Bartz's provocative article raises these issues. Would prisoners be giving a truly informed and uncoerced consent? Would their extreme circumstances make them do something they wouldn't otherwise do if they were on the outside? Would some prisoners who are a match to a waiting organ recipient, perhaps the governor's son, be coerced into giving an organ? The experience from other countries with organ vendors, and some ethically murky experiences with prisoners in clinical trials in the United States, should serve as a warning. The use of institutionalized or impoverished populations for organs, even if they "consented" to the procedure, is ripe for abuse, especially in an environment where transparency may be difficult to monitor.

Some will argue that prisoners should not be discounted from donating organs solely because they lack liberty. Confinement in institutions doesn't necessarily deprive individuals of their right to consent or refuse medical care. Why should they be denied the opportunity to give the gift of life? I agree to an extent. If prisoners truly made an informed decision, and they would have come to the same decision if they weren't in prison, their status as prisoners might be morally irrelevant. However, if prisoners are offered a reduced sentence in exchange for an organ, the fact that s/he is in prison becomes relevant to the decision.

What would it say about us as a society if we permitted prisoners to offer up an organ? Could regulations be implemented and enforced? Could prisoners be protected from exploitation? Much has been written about practices in China, where the organs of executed prisoners—who may, or may not, have been dead—are sold on the open market.^{15,16} Could we convince the public in the United States and abroad that similar abuses weren't taking place here?

I concur with Mr. Bartz's passionate belief that we need to think more creatively to increase the supply of organs in this country. I admire the work that he has put into the project, and read with fascination the article in this issue as well as a previous article he had written on the Donation Inmate Organ Network.¹⁷ Body parts, I believe, fall outside the marketplace. An organ is priceless, and payment for any organ would be so incommensurate to its worth to the recipient that it would somehow cheapen it.

I acknowledge that using prisoners as donors, and offering compensation for organs, might save some lives. But I believe such a practice would corrupt us as a society. I have concerns about the exploitation of vulnerable populations. I worry that it could fortify preexisting barriers

that impede people's willingness to donate, and in the end, further compromise the procurement process.

As it stands, the reliance on altruism and "the gift of life" hasn't generated the necessary number of organs. There are many reasons given for this shortfall: the role of physicians and nurses, public distrust, and the potential exploitation of populations already marginalized by the healthcare system. But as Mr. Bartz says, people are dying everyday in need of an organ. They'd take an organ from Dracula if it was available. That urgency shouldn't be forgotten, but we need to take cautious steps, being ever mindful of the tenet, "Do no harm."

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HOSPITAL CASE FILES

CASE PRESENTATIONS OF THE BROWN UNIVERSITY

DEPARTMENT OF MEDICINE: MIRIAM HOSPITAL MORBIDITY AND MORTALITY

CONFERENCE: CASE OF INTERNAL CAROTID ARTERY DISSECTION

MARY HOHENHAUS, MD

Chief Complaint: Right arm numbness and weakness

History of Present Illness: A 53-year-old woman with a history of diabetes, hyperlipidemia, and hypertension was in her usual state of health until the evening before admission when she noted the sudden onset of numbness and weakness of her entire right arm while watching television. She could move the arm without difficulty, assumed she had leaned on it, causing it to "fall asleep;" and she went to bed.

The numbness and weakness were present when she awoke the next day, but she went to work. During the morning, she developed the sudden onset of a bilateral frontal pressure headache, unlike her typical migraine symptoms. She also felt disoriented and had difficulty concentrating, particularly when doing simple calculations.

At midday, she felt diffusely weak and lightheaded and fell to the floor without loss of consciousness. She was transported to the Miriam Hospital Emergency Department.

Review of Symptoms: She denied fevers, recent trauma, vision changes, speech or gait difficulty, cough, chest pain, dyspnea, or palpitations.

Prior Medical History: The patient reported a history of hypertension, non-insulin dependent diabetes mellitus, hyperlipidemia, migraine headaches, and irritable bowel syndrome. She had been treated as an outpatient for pneumonia 1 month earlier. Her surgical history included a total abdominal hysterectomy and bilateral oophorectomy, bladder suspension, appendectomy, and tonsillectomy.

Medications: Metformin 1000 mg PO qhs, acetaminophen and ibuprofen prn for headache.

Allergies: Rash with both penicillin and IV dye.

Social History: She worked as a cashier at a sandwich shop. She had no medical insurance and had difficulty paying for antihypertensive and cholesterol-lowering medications. She had a 50 pack-year smoking history, but quit smoking 2 months earlier. She denied alcohol and drug use.

Family History: Positive for coronary artery disease and myocardial infarction, but no history of cancer or stroke.

Physical Exam:

Temp = 36.1C **BP** = 193/83 **HR** 72
RR 18 **SaO₂** 98% room air

General: Mildly lethargic but well appearing.

HEENT: No carotid bruit, jugular venous distension, or lymphadenopathy.

CVS: Regular rate and rhythm, normal S1/S2. II/VI systolic ejection murmur at left upper sternal border.

Lungs: Clear to auscultation bilaterally.

Abdomen: Normoactive bowel sounds, soft, nontender, no organomegaly.

Extremities: Trace lower extremity edema bilaterally, palpable pedal pulses.

Neuro: Normal cognition, speech, and language. Cranial nerves intact. Normal gait and cerebellar function. Sensation to light

touch decreased in the right arm extending from shoulder to fingertips. Sensation to pinprick and temperature intact. Deep tendon reflexes, motor strength, and fine motor movements intact throughout. Toes downgoing bilaterally.

LABS:

CBC:

WBC count: 10,200 per mL
Hemoglobin: 14.7 g/dL
Hematocrit: 41.8%
Platelet count: 203,000 per mL

Chem 7:

Sodium: 134 mmol/L
Potassium: 4.7 mmol/L
Chloride: 101 mmol/L
Bicarbonate: 24 mol/L
BUN: 19 mg/dL
Creatinine: 0.9 mg/dL
Glucose 290 mg/dL

Cardiac enzymes:

Creatine kinase: 151 IU/L
Troponin I: <0.15 mg/mL

Hemoglobin A_{1c}: 10.7%

Fasting lipid panel:

Total cholesterol: 251 mg/dL
Triglycerides: 488 mg/dL
High-density lipoproteins: 34 mg/dL
Low-density lipoproteins: unable to quantify

Urinalysis:

Glucose: 1000
Protein: 100

EKG:

Normal sinus rhythm, rate 61

Noncontrast computed tomography of the brain: no evidence of acute bleeding or mass effect

Hospital Course: While in the emergency department, the patient received 1 liter normal saline, metoprolol 25 mg orally, and ketorolac 15 mg intravenously. Repeat blood

pressure was 179/86 mm Hg. She was admitted to the medicine service and placed on aspirin and metoprolol. Neurology consult was obtained, as were several imaging studies. Carotid Doppler studies showed a defect in the medial wall of the left internal carotid artery, suggesting subintimal hemorrhage, occupying one-third of the vessel lumen and extending 1.5 to 2 cm distally from the bifurcation. Magnetic resonance imaging (MRI) and magnetic resonance angiography (MRA) of the brain showed multiple acute embolic infarcts (left frontal, left parietal, and left posterior temporal in both the white matter and at the gray-white junction), as well as a dissection flap of the left internal carotid artery starting 2 cm from the bifurcation and extending 11 mm. 2-D echocardiography showed mild left ventricular hypertrophy and an ejection fraction of 65%.

Anticoagulation was initiated with heparin as well as warfarin. Vascular surgery consult was obtained, but no surgical intervention was recommended. Renal MRA was obtained to evaluate for fibromuscular dysplasia, but showed no significant stenosis. The right arm paresthesias gradually resolved, and the patient was discharged on hospital day 7 on warfarin.

DISCUSSION:

1. What are the risk factors for cervical artery dissection?

Dissection can occur in both the carotid and vertebral arteries. Carotid artery dissection typically affects the extracranial portion of the vessel. The pharyngeal segment (extending from the carotid bifurcation to its entry at the petrous portion of the temporal bone) is mobile, and therefore susceptible to injury. Precipitating events often involve hyperextension and rotation of neck, such as whiplash injuries, but are also associated with benign events such as coughing or sneezing. The role of chiropractic manipulations is controversial. A precipitating event is often not identified, with spontaneous dissections described in more than half of patients in several case series. The role of common risk factors for

vascular disease, such as smoking and hyperlipidemia, has not been systematically studied. History of recent respiratory tract infection and migraine headaches have also been proposed as risk factors.

At the tissue level, a defect in the structure of the arterial wall seems to be required, but is not well understood. Not surprisingly, connective tissue disorders such as Marfan's syndrome, osteogenesis imperfecta (type I), and Ehler-Danlos syndrome (type IV) carry an increased risk for cervical artery dissection, but only 5% of dissections can be attributed to these disorders. Fibromuscular dysplasia appears to be the precipitant in about 15% of cases.

Cervical artery dissection can occur in patients of any age. Carotid arteries are involved more commonly than vertebral arteries. The overall incidence for carotid artery dissection is estimated at 2.5 to 3 per 100,000. It most commonly affects those in the fifth decade of life and is a significant cause of stroke (10% to 25% of cases) in young and middle-aged adults.

2. How do the signs and symptoms of cervical artery dissection manifest?

Stroke or transient ischemic attack was the most common presenting feature in one series of 126 patients. With carotid artery involvement, the classic symptom triad includes unilateral head, face, or neck pain associated with an incomplete Horner's syndrome, followed by cerebral or retinal ischemia. However, this symptom complex appears in less than a third of cases. Unilateral pain occurs in approximately half of patients; headache is usually unlike prior migraine symptoms. Cranial nerve palsies, typically affecting the lower cranial nerves, arise in roughly 12% of carotid artery dissections. In some case series, neck pain was more frequently associated with vertebral artery dissection. Ischemic symptoms develop in the vast majority of patients, especially if the dissection is not recognized early in its course.

3. What imaging studies are most useful in the diagnosis of cervical artery dissection?

Ultrasound with Doppler color flow imaging is probably the quickest, most available imaging modality for initial evaluation of suspected cervical artery dissection, with abnormal flow visualized in more than 90% of cases. Magnetic resonance angiography, which has largely replaced conventional angiography, has sufficient resolution to show dissection flaps and intramural hematoma. CT angiography can also image the arterial lumen, but is not as well studied.

4. What is the management of cervical artery dissection?

Anticoagulation – typically intravenous heparin followed by warfarin therapy – is essential to prevent thromboembolic complications, although it has never been studied in a randomized trial. Warfarin therapy, with a goal INR of 2 to 3, is continued for 3 to 6 months with repeat imaging at 3-month intervals, until recanalization is evident. Most dissections heal spontaneously within that time, and most patients recover with no or minimal neurologic deficits. Intra-arterial thrombolytics may be indicated for totally occluded vessels, and surgical intervention may be required for patients with continuing ischemia despite optimal medical therapy. Endovascular stenting is also gaining popularity but is not well studied.

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ADVANCES IN PHARMACOLOGY

ROUTE OF VITAMIN K ADMINISTRATION FOR ELEVATED INRS IN THE ACUTE INPATIENT SETTING

TRACEY L. MERSFELDER, PHARMD., BCPS

Vitamin K is commonly used to manage patients who are supra-therapeutic while on anticoagulation therapy such as warfarin. The appropriate route of vitamin K administration for the treatment of supra-therapeutic **international normalized ratios (INRs)** has been addressed in the literature and through the **American College of Chest Physicians (ACCP)** guidelines on antithrombotic and thrombolytic therapy.¹ These guidelines recommend holding one or two doses of warfarin if the INR is above the patients predetermined therapeutic level. Oral vitamin K is recommended if the INR is greater than 5 in patients who are not bleeding. If there are signs of bleeding, the ACCP guidelines recommend administration of intravenous vitamin K. Fresh frozen plasma in addition to intravenous vitamin K is recommended if the bleeding is life-threatening.

While the ACCP guidelines address appropriate route, dose and timeline of vitamin K therapy, these guidelines do not address the role of vitamin K in patients with an elevated INR and the need for an emergent invasive procedure. Clinicians must determine the best route of vitamin K administration based on the urgency of the procedure. This article will review studies evaluating routes of vitamin K administration in conjunction with the time to therapeutic response.

INTRAVENOUS VERSUS SUBCUTANEOUS

In a randomized trial, Raj and colleagues² evaluated the efficacy of 1 mg vitamin K administered **intravenous (IV)** or **subcutaneous (SC)**. Patients in this study had an INR greater than 6 with no signs of active bleeding. Warfarin was held for at least 24 hours. INRs were collected

at 8 and 24 hours after administration. Twenty-two patients were enrolled. The mean baseline INR for the IV group was 8.0 (6.6-15.1) and the SC group INR was 8.5 (6.0-14.3). At 8 hours, the mean INR decreased to 4.6 (2.5-12.1) in the IV group and to 8.0 (4.2-12.5) in the SC group. Eighty-two percent of patients in the IV group achieved an INR of less than 5 at 8 hours compared to only 9% in the SC group. However, at 24 hours the mean INR in the IV group was 3.1 (1.5-6.1) versus 5.0 (2.8-8.9) in the SC group. The percent of patients that achieved an INR less than 5 at 24 hours was not statistically significant between the IV or SC groups. Only one person (in the IV group) had an INR less than 2 at 24 hours.

Nee and colleagues³ also evaluated the efficacy of IV versus SC vitamin K. This was a randomized, double-blind, double-dummy trial consisting of 55 patients. All the patients had an INR of between 6 and 20 at enrollment but did not have any signs of active bleed. Each patient with an INR between 6 and 10 received 0.5 mg of vitamin K and patients with an INR between 10 and 20 received 3 mg. Subsequent warfarin dosing was determined by the primary care provider. INRs were measured at 24 and 72 hours. At 24 hours, 95% of patients in the IV group and 45% of the patients in the SC group had an INR less than 5. Nine percent in each group achieved an INR of less than 2 within 24 hours. At 72 hours there was no difference between the two groups.

INTRAVENOUS VERSUS ORAL

Lubetsky and colleagues⁴ compared oral vitamin K versus IV in a randomized controlled trial. Patients enrolled in the study had an INR greater than 6 with no indication of a major

bleed. Warfarin was held in all cases for 24 hours. Patients with an INR between 6 and 10 received either 0.5 mg IV or 2.5 mg orally of vitamin K. Patients with an INR greater than 10 received 1 mg IV or 5 mg orally. INRs were measured at 6, 12, and 24 hours. There were 66 episodes evaluated. Mean baseline INRs were 9.2 and 9.1 in the IV and oral group, respectively. At 6 hours, the IV group had an average INR less than 5 compared to the oral group who had an INR less than 6. Unfortunately, these exact values were not reported in the study. At 12 and 24 hours the INRs were not different between the two groups. At 24 hours however, only 12.5% of patients in the oral group achieved an INR of less than 2 compared to 20% in the IV group.

In a second study comparing IV to oral vitamin K, Watson and colleagues⁵ evaluated a total of 64 patients. These patients were enrolled if their primary care provider determined that the patient's anticoagulation needed to be corrected and did not have any major bleeding. Fifty-two patients received oral vitamin K at a dose of 1-5 mg; 12 patients received 2 mg IV. INRs were measured at 4 and 24 hours. Baseline INRs ranged between 3.6 and 17.9. At four hours, 9.6% of patients in the oral group compared to 66.6% in the IV group had an INR less than 4. No patients had an INR of less than 2. At 24 hours, 34.6% of patients in the oral group and 50% of patients in the IV group had an INR range between 2 and 4. In addition, 34.6% in the oral group and 50% in the IV group had an INR less than 2 at 24 hours.

SUBCUTANEOUS VERSUS ORAL

Crowther and colleagues⁶ evaluated the efficacy of oral vitamin K versus SC. This randomized controlled

Table 1. Response to Vitamin K, as Percent of INRs below a given value at 24 hours

Study	Route	INR Reported	% Achieved
Ray ²	IV	< 5	82%
	SC	< 5	64%
Nee ³	IV	< 5	95%
	SC	< 5	45%
Lubetsky ⁴	IV	< 4	88%
	Oral	< 4	94%
Watson ⁵	IV	< 4	100%
	Oral	< 4	69%
Crowther ⁶	SC	< 3.2	24%
	Oral	< 3.2	69%
Whitling ⁷	HDIV	< 5	100%
	LDIV	< 5	83%
	SC	< 5	71%
	Oral	< 5	100%

IV = intravenous, SC = subcutaneous, HDIV = high dose IV, LDIV = low dose IV
INR = international normalized ratio

trial evaluated patients with an INR between 4.5 and 10. Patients were excluded if they had a current bleed. Consistent with the other trials, warfarin was held for at least 24 hours. Patients received either 1 mg orally or SC of vitamin K. INRs were drawn the following day. A total of 51 patients were enrolled. The baseline INR was 5.8 (4.5-7.6) and 6.2 (4.8-9.0) in the oral and SC groups, respectively. On day one, 58% of patients in the oral group and 24% of patients in the SC group had an INR of 1.8-3.2. Only three patients (12%) in the oral group versus no patients in the SC group had an INR less than 1.8. Unfortunately, the time from when the dose was administered to the time the INR was drawn was not provided.

COMPARISON OF INTRAVENOUS, SUBCUTANEOUS AND ORAL ROUTES

Whitling and colleagues⁷ evaluated IV, SC, and oral routes of administration of vitamin K in a retrospective review. Patients were included if they received vitamin K. The vitamin K groups were divided by **high dose (1-10mg) IV vitamin K (HDIV)**, **low-dose (0.5mg or less) (LDIV)**, SC at any dose, and oral at any dose.

Thirty-three patients were evaluated. Further warfarin dosing was not discussed. The mean baseline INR in the four groups ranged between 9.4 and 14.9. The INR results at 24 hours or less were reported for 20 patients. All patients in the HDIV and oral group achieved an INR value of less than 5. In the LDIV and SC groups, patients who achieved an INR less than 5 were 83% and 71%, respectively. Only one person in the HDIV group had an INR less than 2 at 24 hours or less.

CONCLUSION

There are limited studies evaluating the appropriate route and dose of vitamin K for reversing warfarin therapy urgently. The major focus of trials discussed was to evaluate the efficacy of vitamin K in returning patients to a safe therapeutic INR. None of the studies focused on an endpoint of an INR less than 1.5 to 2. Evaluating this endpoint is important when determining the appropriate dose and route in inpatients who require invasive procedures. The studies suggest that the IV route of vitamin K will achieve a faster response at 4-8 hours but not at 24-48 hours compared to other routes of administration. However, oral and SC treatments will preserve a therapeutic

INR at 24-48 hours which will help maintain an appropriate anticoagulation for patients. It is important to note that even at 4-8 hours, very few patients achieved an INR of less than 2. In addition, none of the studies evaluated the 10 mg dose recommended in the ACCP guidelines for patients who are bleeding. Clinical studies evaluating the appropriate route and dose of vitamin K for inpatients requiring invasive procedures are needed. Until these studies are available, clinicians will need to determine the urgency of the procedure and select the most appropriate route of administration.

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HEALTH BY NUMBERS

RHODE ISLAND DEPARTMENT OF HEALTH • DAVID GIFFORD, MD, MPH, DIRECTOR OF HEALTH
EDITED BY JAY S. BUECHNER, PHD

PRELIMINARY RESULTS FROM THE RHODE ISLAND VIOLENT DEATH REPORTING SYSTEM (RIVDRS)

EDWARD F. DONNELLY, RN, MPH, WENDY VERHOEK-OFTEDAHL, PHD, JAY S. BUECHNER, PHD, AND JENNIFER SWARTZ, DO

The surveillance and control of morbidity and mortality from unintentional injuries, including injuries from motor vehicle crashes, occupational injuries, sports injuries, injuries from falls, etc., receive a great deal of public health attention. The role of public health in the surveillance and control of intentional injuries due to violence against self or others is less well-developed. However, in 2002, the number of victims of suicide and homicide in the United States, although underreported, exceeded the number who died in motor vehicle crashes.¹ In addition, homicide is the leading cause of death among young black males 15-34 years of age.¹

The National Centers for Disease Control and Prevention (CDC) became involved in injury prevention in the 1970s and established the National Center for Injury Prevention and Control (NCIPC) in 1992.² The National Violent Death Reporting System (NVDRS), a surveillance system for intentional injury deaths, is supported through cooperative agreements between seventeen currently participating states and the NCIPC. The Rhode Island Department of Health was first funded for violent death reporting in August 2003, the second year of the national project. This new system includes homicides, suicides, deaths with undetermined intent, and unintentional firearms deaths.

METHODS

RIVDRS staff abstract and electronically enter data that is routinely collected on deaths under the jurisdiction of the Office of State Medical Examiners (OSME). A contractor to CDC provides NVDRS database software that assures standard formats. Daily review of entries in the Medical Examiner Log is the source of the case list for violent death reporting in Rhode Island. Detailed information for each case becomes available over time. For example, initial police reports are used as available, but more

complete reports are requested for homicides six months *post mortem*. Data collection for most cases is expected to be completed within six months of the death. Additional information on weapons used in homicides is abstracted from the files of the State Crime Laboratory.

Rates of deaths per 100,000 population were calculated using population estimates for Rhode Island as of July 1, 2004, from the US Bureau of the Census.³

RESULTS

Two hundred forty-five violent deaths were reported in Rhode Island in 2004, including 36 homicides (14.7%), 86 suicides (35.1%), and 123 deaths with undetermined intent (50.2%). Male victims (73.1%) of violent death far outnumbered female victims (26.9%), and males made up the majority in each manner of violent death.

Persons aged 35-54 make up the majority of violent deaths (55.3%), as deaths in that age range predominate in the two larger categories, suicides and deaths with undetermined intent. The number of male deaths was highest in the age group 35-44 years while the number of female violent deaths peaked in the age group 45-54 years. (Figure 1) In Rhode Island, crude rates for both homicide (3.3 per 100,000 population) and suicide

(8.0) were lower in 2004 than the comparable rates in the United States for homicide (6.3) and suicide (11.0) in 2002.

For violent deaths as a whole, the distribution by race and Hispanic origin approximated that in the general population but the distribution differed widely by manner of death. (Table 1) White males had the highest rate of suicide (14.9 per 100,000 population) and accounted for the majority of suicides (73.1%), Hispanic males had the highest homicide rate (19.8 per 100,000) in Rhode Island in 2004, and Black males had the highest rate for deaths with undetermined intent (22.9 per 100,000). The patterns were different for females, but female deaths by category were so few that age group- or race-specific rates may not be stable. For violent deaths as a whole, Blacks experienced the highest rates among males, females, and both sexes combined.

Drug overdoses were the cause of most deaths with undetermined intent for both sexes, but the means of suicide varied by sex. (Figure 2) Firearms were used in over 30% of male suicides while only one female suicide victim used a firearm. Most female suicides died by means of poison (drug overdose), but relatively few men did. Similarly, firearms were the weapon in a majority of male (61%) but not female (40%) homicides. (Figure 3)

Figure 1. Violent deaths, by age group, by sex, Rhode Island, 2004.

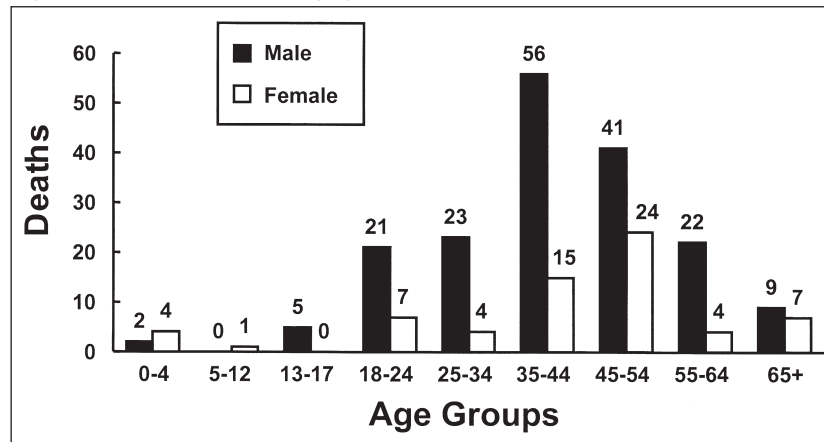


Table 1. Violent deaths per 100,000 population, by manner of death, race/ethnicity, and sex, Rhode Island (2004) and United States (2002)

Manner of Death	Rhode Island					
Homicide	2.9	0.7	11.5	3.8	19.8	1.8
Suicide	14.9	2.6	7.6	3.8	7.2	0
Undetermined intent	14.4	7.1	22.9	7.7	10.8	3.6
All violent deaths	32.1	10.4	42.0	15.4	37.7	5.3
	United States					
Homicide	3.9	1.9	40.1	7.2	13.6	2.7
Suicide	21.9	5.3	9.3	1.6	8.3	1.6
Undetermined intent	2.3	1.3	2.9	1.2	1.2	0.4
All violent deaths	28.1	8.5	62.3	9.9	23.1	4.7

Figure 2. Suicides, by sex, by means or weapon used, Rhode Island, 2004.

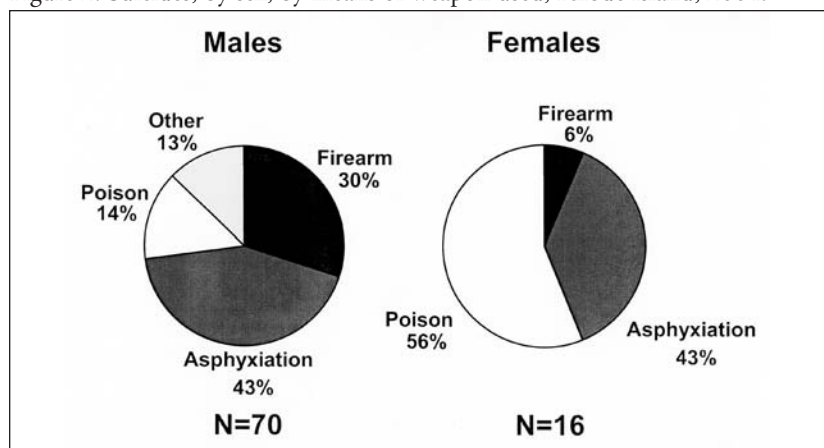
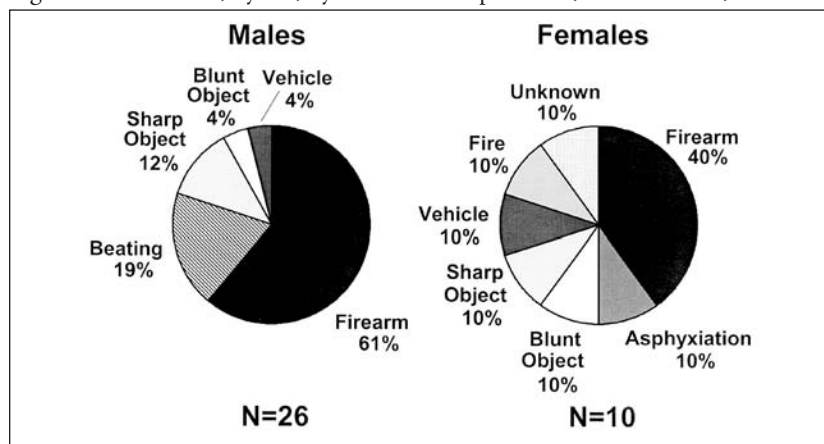


Figure 3. Homicides, by sex, by means or weapon used, Rhode Island, 2004.



DISCUSSION

Rhode Island rates for homicide and suicide generally fall below US rates, but RI rates for deaths with undetermined intent are much higher than nationally. Most deaths with undetermined intent in Rhode Island in 2004 (92%) were due to drug overdoses that usually involved a fatal event at the end of long-term, chronic use of illegal drugs. These deaths are distinguished from suicides by the absence of an expressed intention and a greater

proportion for whom street drugs were the cause of death. The distribution by sex and age for undetermined intent deaths is similar to that for suicides but different from the pattern for homicides. Nationally, the manner of death assigned for drug overdoses is usually unintentional poisoning, but practices at OSME assigns them to undetermined intent. This provides RIVDRS with a unique opportunity to analyze information on drug overdose deaths, a subject for future study.

Results from NVDRS and RIVDRS contribute to the developing national public health effort to prevent violence and will also be used locally to identify specific risk factors and subpopulations at high risk of violent death. These data will also be used to evaluate interventions aimed at reducing violence and resulting mortality. The use of multiple sources of information and the specific focus of RIVDRS promise significant enhancements in completeness and timeliness of the reporting of violent deaths over the existing national system of mortality reporting.

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REFERENCES

1. Web-based Injury Statistics Query and Reporting System (WISQARS) http://webappa.cdc.gov/sasweb/ncipc/mortrate10_sy.html
2. National Center for Injury Prevention and Control <http://www.cdc.gov/ncipc/about/about.htm>
3. Bureau of the Census: Population estimates <http://www.census.gov/popest/datasets.html>



A PHYSICIAN'S LEXICON

A GUIDE TO ANATOMIC DIRECTIONS

STANLEY M. ARONSON, MD

The lexicon of human anatomy requires two operative kinds of words: First, the names of the specific organs and then those words which define the spatial relationships within and between these various anatomic structures.

The adjective, ventral, is derived from the Latin, *venter*, meaning belly. Parallel words include ventricle (from *ventriculus*, a diminutive of *venter*) and ventriloquy, literally, the act of talking from one's belly. But words such as ventilate descend from the Latin, *ventus*, meaning wind. Dorsal comes from the Latin, *dorsus*, meaning back. Derivative English words include dorsum, endorse (literally, to write on the back of), and dossier. Lateral is from the Latin, *lateralis*, pertaining to the side; which, in turn, is from the Latin, *latus*, meaning broad or flat. English derivatives include latifundium, latitude and Latium (the broad, flat land near Rome.)

Medial is from the Latin *medius*, meaning the middle. Related English words include median, mediastinum, mediate, immediate and even mediocre (from the Latin, *medius* and *ocris*, a mountain; and thus it means to climb a mountain halfway or, in street language, to be half-baked.)

Distal, is from the Latin, *distare*, meaning to stand apart, and also produces such English words as distant (but not distaff or distill.) Sagittal is from the Latin, *sagitta*, meaning arrow as in words such as Sagittarius, the southern constellation meaning the archer. And proximal is derived from the Latin, *proximus*, meaning nearest or next. English derivatives include proximity and approximate but not proxy (which descends from the Middle English word, *prokesie*, which in turn is from the Latin, *procuratia*, meaning manager.

Caudal is from the Latin, *cauda*, meaning tail, as in cauda equina and caudate. Derivative English words include coda (the tail-end of a piece of music), code, codicil and even coward. Caudillo, meaning a leader, however, comes from the Latin, *capitellum*. Cephalad, meaning in the direction of the head, is from the Greek meaning head. Encephalitis, mesencephalon and cephalgia are all derivative English terms. Bucephalus, Alexander's favorite horse, literally means bull-headed. Orad, meaning toward the mouth, is from the Latin *os* and *oris*, meaning the mouth. Orifice, meaning mouth-like opening, comes from the Latin *oris* and *facere* (to make).



BOOK REVIEW

PSYCHIATRY FOR NEUROLOGISTS,

EDITED BY DILIP V. JESTER, MD, AND JOSEPH H. FRIEDMAN, MD

BY KENNETH RICKLER, MD

This book fills an important niche that is long overdue in the literature. The textbook reviews for the clinical neurologist those aspects of psychiatry that impact the management of neurological disorders. The editors have assembled an impressive list of contributors, drawn from international experts, several of whom are in our own backyard. Overall, it is an excellent, comprehensive review of the topic and comes together in a readable, integrated format.

The first two chapters review the historical interface between Neurology and Psychiatry, emphasizing the unfortunate divide between the two disciplines which traditionally, sometimes begrudgingly, acknowledge the importance of one another. Although now attempting to reunite along the boundaries of scientific advances in neuroscience, the past divide has produced differences in style and communication which have produced knowledge gaps on both sides. This book addresses a number of those deficits for neurologists with both practical and theoretical considerations.

In "Psychiatric Evaluation of the Neurological Patient," Drs. Stephen Salloway, Colin Harrington, and Sandra Jacobson provide an excellent overview of the topic, detailing the components of the mental status exam, with an emphasis on psychiatric disorders. The writers emphasize that the symptoms of psychosis, unusual behavior, suicidality, and substance abuse should be evaluated in a straightforward manner by the neurologist.

The next section discusses the major psychiatric disorders, including depression, anxiety, schizophrenia, somatoform and dissociative disorders, catatonia, addictions, and personality disorders. Each integrated practical clinical issues with research issues. "Hysteria in Neurological Practice: The Somatoform and Dissociative Disorders" was particularly interesting and highlighted the biases of those who are too quick to categorize someone with hysteria. Although bipolar disorder was discussed in the context of geriatrics, I would have liked further discussion of this disorder in non-geriatric adults.

Another section reviewed the psychiatric aspects of major neurological disorders, including dementia, strokes, neuromuscular disorders, Parkinson's disease, multiple sclerosis, epilepsy, Tourette's syndrome, Huntington's disease, and the cerebellum. In the chap-

ter on Parkinson's disease, Drs. Laura Marsh and Joseph Friedman highlighted the many potential neuropsychiatric symptoms of the illness, including depression, anxiety, apathy, psychosis and cognitive changes. This hallmark neuropsychiatric illness illustrates the essential integration of psychiatry and neurology. The chapter discussed cutting edge treatments and research.

"Epilepsy," by Drs. Curt LaFrance and Andres Kanner, was excellent. It, too, highlighted the need to identify and treat the psychiatric issues potentially associated with seizure disorders, including primary and secondary symptoms. The discussion of nonepileptic seizures (previously known as pseudoseizures) was particularly well done. The chapter on Tourette's syndrome was interesting, but an important topic for the pediatric neurologist - how streptococcal-precipitated tic disorders present, are assessed and treated - was missing. In "Psychiatry of the Cerebellum," Dr. Russell Margolis emphasized that the cerebellum is "forgotten:" it represents 10% of the brain but typically receives about .1% of discussion in most neuropsychiatry textbooks. Actually in this book, it received 13 of 404 pages, or 3.2% of the discussion.

The last section of the book was devoted to special topics, including childhood and geriatric disorders, fatigue, delirium, electroconvulsive therapy, neurosurgery, psychopharmacology, psychotherapy, psychiatric emergencies, and legal issues. In "Childhood Disorders," Dr. Dorothy Stubbe, managed to condense a large and complex topic into 22 coherent and concise pages.

Overall, this is an excellent textbook for neurology trainees and clinical neurologists alike. The experts were internationally recognized and it was a pleasure to find several of them here in Rhode Island.

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and Sidney Thayer of Johns Hopkins about acquiring an electrocardiograph.

A.A. Savastano, MD, in "Experiences with the Intra-Articular Use of Hydrocortisone Acetate," noted that use had a "definite place in the treatment of selected cases of arthritis.

Ralph Colp, MD, Attending Surgeon, Mt Sinai Hospital, New York, delivered The Dr. Isaac Gerber Oration at Miriam Hospital: "Chronic Granulomatous Ileitis and Jejunitis." "The enthusiasm 20 years ago for immediate surgical intervention as a definite cure for this disease has gradually been dispelled by the rising incidence of recurrences following surgery."

NINETY YEARS AGO, DECEMBER 1915

An editorial urged public health authorities to act boldly, even if the courts would not convict. The editorial cited the case of a 10 year-old girl with gonorrhoea. "There is no excuse for failure to stop this carrier from infecting other children, not even the excuse of ignorance, for 3 of these cases were treated by a hospital ..., the police were called into the case, the Society for the Prevention of Cruelty to Children investigated them, the health authorities were notified, but nothing has been done because they could not secure a conviction."

John W. Keefe, MD, in "Appendicitis," recalled the late Dr. Noyes' [of Rhode Island] 1882 paper. "When Dr. John Kenyon was president of the Rhode Island Medical Society, he insisted that Noyes should write a paper on some subject. Although Noyes had seldom written papers, he was anxious to please his preceptor, so he recalled 2 cases of what was then known as perityphlitis." Noyes spent one week at the Library of New York Hospital, where he collected 100 cases. Dr. Keefe reported from 300 hospitals (13,445) cases; the total mortality was 7.4%, with larger hospitals showing the lowest mortality. At Rhode Island, Hospital, of 55 treated cases, there was one death.

John B. McKenna, MD, submitted "A Plea for the Study of Pancreatitis."

FIFTY YEARS AGO, DECEMBER 1955

Frank T. Fulton, MD, in "The Story of the Heart Station at the Rhode Island Hospital," cited personal correspondence from Dr. Rufus Cole of Rockefeller Hospital, and Drs. Theodore Janeway

TWENTY-FIVE YEARS AGO, DECEMBER 1980

Steven A. Wartman, MD, PhD, John P. Fulton, PhD, and Albert F. Wessen, PhD, contributed "Increasing the Yield of Primary Care-oriented Practitioners from Residency Programs in Internal Medicine." They cited "a marked enrichment of the ambulatory experience and a commitment to primary care" as essential.

James B. Gamelin, Radiation Control Specialist, Office of Occupational Health and Radiation Control, Rhode Island Department of Health, contributed "Dental Radiography - A Social Scientist's Perspective Study Indicates Need for Better Performance in Preventing Over-exposure to x-ray in Dental Offices." The Department rated a sample of 50 dental facility supervisors on a 7-point scale of knowledge: 42% of the sample did not understand the importance of correct film processing. But overall most supervisors scored "good or excellent; only 7 scored "poor."

Michael J. Ryvicker, MD, Howard R. Cohen, MD, Allan M. Deutsche, MD, and Sanford L. Schatz, in "Lymphangiography Without Blue Dyes," discussed the case report of an allergic reaction in a 24 year-old woman with a diagnosis of Hodgkin's disease.



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

VITAL STATISTICS

EDITED BY ROBERTA A. CHEVOYA, STATE REGISTRAR

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

Underlying Cause of Death	Reporting Period			
	December 2004	12 Months Ending with December 2004		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	287	2,943	275.1	4,665.5
Malignant Neoplasms	222	2,480	231.8	6,979.0
Cerebrovascular Diseases	58	493	46.1	792.5
Injuries (Accident/Suicide/Homicide)	25	434	40.6	6,991.0
COPD	47	459	42.9	402.5

Vital Events	Reporting Period		
	June 2005	12 Months Ending with June 2005	
	Number	Number	Rates
Live Births	853	13,426	12.6*
Deaths	826	10,246	9.6*
Infant Deaths	(11)	(90)	6.7#
Neonatal deaths	(11)	(75)	5.6#
Marriages	913	7,862	7.3*
Divorces	278	3,202	3.0*
Induced Terminations	450	5,422	403.8#
Spontaneous Fetal Deaths	76	1,033	76.9#
Under 20 weeks gestation	(73)	(955)	71.1#
20+ weeks gestation	(3)	(78)	5.8#

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

(b) Rates per 100,000 estimated population of 1,069,725

(c) Years of Potential Life Lost (YPLL)

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

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

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