

Dear Colleagues:

Welcome to the ninth issue of Public Health Matters. This issue highlights two important topics in Clinical Public Health, including lessons learned from a hospital case of rabies and an article on the role of VA providers in state and federal HIV prevention efforts.

Our first article describes the unusual case of a Veteran who died from raccoon variant rabies at a VA medical center 18 months after receiving a renal transplant from a donor who succumbed to the same infection. This story offers an intriguing look not only at the laboratory testing and analysis that occurred during the patient’s 23-day hospital stay, but at what took place once rabies was subsequently confirmed. The rabies diagnosis initiated a rapid occupational health response to identify and assess all potentially exposed health care workers and provide post-exposure prophylaxis to those staff with high risk exposure. In addition to the local VA medical center rapid occupational health response, VA assisted the Centers for Disease Control and Prevention (CDC) in a multi-state public health investigation to pinpoint the source of infection and locate others with potential rabies exposure.

Our second article focuses on the important role VA plays in national HIV prevention. VA is the largest provider of care in the country to those living with HIV and is one of the lead federal agencies implementing the National HIV/AIDS Strategy (NHAS). VA routinely reports key laboratory indicators to local and state health departments. The HIV case data reported by VA and other sources is compiled and summarized by CDC to guide its public health policy decisions. By reporting HIV laboratory indicators VA supports national efforts that ultimately contribute to a more accurate overall assessment of HIV in the U.S.

Finally, I would like to take this opportunity during “flu season” to thank everyone who has been vaccinated against the flu. Flu vaccination is an effective and safe method for preventing influenza and its potential serious complications. It’s not too late to get your flu shot. Protect yourself, your families, and the Veterans you serve!

Wishing you good health,
Richard Martinello

Richard Martinello, MD
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FEATURED ARTICLES



Lessons Learned from a Hospital Case of Rabies: Infection Control and Public Health



VA Providers Key in State and Federal HIV Prevention Efforts

CONTENTS

- Lessons Learned from a Hospital Case of Rabies 2
- VA Providers Key in State and Federal HIV Prevention Efforts 4
- What’s New in Public Health . 6
- New Clinical Public Health Products 7
- Welcome to CPH 8
- Contact and Comments 8



U.S. Department of Veterans Affairs

Veterans Health Administration
Office of Public Health
Clinical Public Health

Lessons Learned from a Hospital Case of Rabies Infection Control and Public Health

By Virginia Kan, MD



Rabies, a virtually always fatal infection, is extremely rare in the United States with an estimated rate of 1-5 cases/year.¹ A patient diagnosed with rabies at our medical center led to an extensive public health investigation for the source of infection and the need to assess an unexpectedly large number of persons for potential exposure.

A 49-year-old Veteran² was hospitalized with 5 days of right hip pain, fever, and abdominal pain over the area of his cadaveric renal transplant received 18 months prior. This Veteran's post-transplant course had been without complications, and he was compliant with his transplant medications. Broad spectrum empiric antibiotics were started. Soon after hospitalization, the patient developed weakness in both legs and tingling in the right L3-L4

dermatomes; an MRI was consistent with inflammation localized to his lumbar muscles, and laboratory testing was notable only for elevated muscle enzyme. A renal biopsy showed no evidence of rejection. Symptoms rapidly progressed with the patient becoming confused and disoriented on hospital day 5. Brain MRI was unremarkable, but cerebrospinal fluid (CSF) was notable for high white blood cell count and protein but normal glucose. Intravenous acyclovir was added on this basis, but subsequent results returned negative for viral infections. On hospital day 7, the patient had paralysis requiring mechanical ventilation for hypoxia, became hypothermic, and had copious clear oral secretions. Five plasmapheresis treatments³ were performed over hospital days 7-15 for presumed Guillain-Barre Syndrome; however,

there was no immediate response to treatment and by hospital day 8 spontaneous eye movements and cough/gag reflexes were absent, as was any response to painful stimuli. Head CT revealed no abnormalities, but CSF white blood cells and protein were further increased although glucose remained normal. His transplant medications were discontinued. Repeat MRI on hospital day 11 revealed extensive new abnormal signal throughout the brain, but without evidence of hemorrhage. New signal abnormalities were also seen in the cervical and lower thoracic spinal cord. Serum and CSF studies for bacterial, fungal and viral pathogens and autoimmune disorders returned as nonreactive. Rabies, considered in the differential diagnosis earlier but deferred pending complete laboratory workup, was now aggressively pursued. On

hospital day 23, the patient had no voluntary or involuntary responses and expired following withdrawal of ventilator support.

When rabies was considered, an extensive discussion regarding this diagnosis was made with the local state health department prior to their acceptance of specimens for testing. Serum and tissue specimens were sent to the local health department for rabies testing by the Centers for Disease Control and Prevention (CDC) on hospital day 17, but initial results were not diagnostic for rabies. However, rabies was subsequently confirmed by testing of post-mortem specimens, and viral sequencing demonstrated the infection to be attributable to a raccoon variant virus. Banked tissue samples from the patient's renal transplant donor were sent to CDC for testing and subsequently confirmed to harbor the raccoon variant virus. The three other transplant recipients from this donor were immediately provided rabies post-exposure prophylaxis and remain symptom-free to this date.

Once rabies was confirmed by the CDC for our Veteran, an immense effort was coordinated among staff from all medical centers, the local state health departments for our Veteran, the other transplant recipients and the donor, and the CDC. Daily scheduled conference calls were organized to maintain regular communication regarding the samples needed for testing and numbers of persons with potential rabies exposures. Although nosocomial transmission of rabies to healthcare workers has never been documented, exposures that are considered as potentially high risk for transmission include direct contact of broken skin and/or mucosa with patient saliva, tears, oropharyngeal secretions, CSF or neural tissue.⁴ Potential urine/kidney tissue exposure posed an additional concern in this instance as our patient's renal transplant was identified as the source of infection.

At our VA Medical Center, our risk assessment included 5 steps

1. *Identification of all exposed health care workers*
2. *Notification of health care workers for risk assessment by their service chiefs*
3. *Risk assessment by Infection Control, Infectious Diseases and Occupational Medicine using a tool provided by the local health department*
4. *Supplemental screening for urine/kidney exposure before final CDC guidance*
5. *Post-exposure prophylaxis⁵ when indicated*

A total of 222 healthcare workers⁶ were potentially exposed: 167 were identified via documentation in the patient's electronic medical record, and an additional 55 through discussions with hospital staff. Risk screening was initiated within 2 hours of rabies confirmation by CDC and completed for the vast majority of exposed staff within 5 days of the patient's diagnosis. In addition, 94 HCWs reported possible contact with our patient's urine/kidney and had supplemental screening for these exposures. Nine of the 222 staff screened (4.1%) received post-exposure prophylaxis with both rabies immune globulin and rabies vaccination, and all tolerated prophylaxis well. Counseling was provided for additional employees who did not have contact with the patient but were fearful of possible transmission.

Our case highlights the unusual presentation of raccoon variant rabies in this immunocompromised Veteran 17 months after his renal transplant from a donor who succumbed to the same infection. This discovery led to protective prophylaxis for the three other organ recipients and a large multi-state public health investigation to identify and provide

post-exposure prophylaxis to those with potential rabies exposure. In addition, a rapid occupational health response at our VA Medical Center resulted in prompt and comprehensive counseling, assessment of all employees who were potentially exposed, and provision of rabies post-exposure prophylaxis to staff with high risk exposure.

About the author

Dr. Virginia Kan is an Infectious Diseases physician at the VA Medical Center in Washington, DC where she serves as Associate Chief of the Infectious Diseases Section and Director of the Infectious Diseases Laboratory. She is Professor of Medicine at the George Washington School of Medicine.

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VA Providers Key in State and Federal HIV Prevention Efforts

By Natarsha Thompson, MPH, CHES and Jenny Sewell, JD, MPA

For the first time in history, a record number of Americans know their HIV status, and HIV prevention efforts have helped keep rates of new infection stable in recent years. However, continued growth in the number of people living with HIV creates more opportunities for transmission to occur, meaning there is still much work to be done to reduce new infections. The Centers for Disease Control and Prevention (CDC) estimates more than a million people are living with HIV, and approximately 50,000 become newly infected yearly with around one in six unaware of their status.¹ Because of the potential for new HIV infections, high-impact HIV prevention efforts—including HIV testing, comprehensive prevention and care services for HIV-positive individuals and their partners, condom distribution, and optimized HIV prevention, care, and treatment policies—are needed.²

Why the VA is Integral in HIV Prevention

With the VA being the single largest provider of HIV care in the U.S.,³ VA providers (physicians, medical centers, laboratories) are central to effective HIV prevention efforts. HIV case surveillance data is critical for

monitoring care and treatment, and measuring progress toward the goals of the National HIV/AIDS Strategy for the United States (NHAS):

1. Reduce the number of people who become infected with HIV.
2. Increase access to care and optimize health outcomes for people living with HIV.
3. Reduce HIV-related health disparities.

One way to accomplish the three NHAS goals is to have a more coordinated national response to the HIV epidemic. VA providers reporting cases of HIV and key HIV laboratory indicators including CD4+ T-lymphocyte (CD4) and viral load test results to their State and local health departments will help the nation achieve the NHAS goals.

Routinely, HIV case data (including laboratory test results) are reported to State and local health departments who in turn send the HIV case data to CDC after removing personally identifying information. CDC compiles and summarizes the data nationally to better understand the national HIV disease burden and to guide public health decisions at the federal, state, and local levels.

All States mandate reporting of HIV infection and many require reporting of some level of CD4 and viral load test results. While not legally obligated to comply with States' mandatory reporting requirements, VHA Directive 2013-008 states that "it is VHA policy that VHA health care facilities will report diseases designated as reportable to the local, district, State, or territorial entities legally authorized to receive such reports."⁴ Reporting helps ensure an accurate picture of HIV burden in the U.S., minimizes missed opportunities for early treatment, and increases opportunities for partner testing. Early treatment is especially important for newly infected individuals who are generally more infectious.

HIV testing is also important. Historically, Section 124 of Public Law 100-322 restricted HIV testing in the VA and required written informed consent and scripted pre- and post-test counseling for HIV testing. It prohibited widespread HIV testing in VA facilities. In August 2009 VA policy changed to make HIV testing routine, rather than risk-based, and to remove the previous requirement for written informed consent and



CDC Resources

CDC HIV/AIDS
<http://www.cdc.gov/hiv/>

CDC HIV/AIDS Testing Resources
<http://www.cdc.gov/hiv/testing/index.html>

CDC HIV/AIDS Statistics and Surveillance
<http://www.cdc.gov/hiv/topics/surveillance/index.htm>

prescribed pre- and post-test counseling for HIV testing. Current policy requires that verbal consent be documented and written information be provided to patients.⁵

What VA Providers Should Do

State and local health departments are great sources of information, and all VA providers should contact their State or local department about their specific case reporting efforts. Electronic methods for reporting data are increasingly being used by a variety of health systems and provide efficient and timely data.

What Assistance is Available to VA Providers

Staff in CDC's Division of HIV/AIDS Prevention are available to provide technical assistance in working with a State or local health department, resources for VA providers and for patients, and to partner with the VA on their initiative to continuously improve HIV testing rates.

About the authors

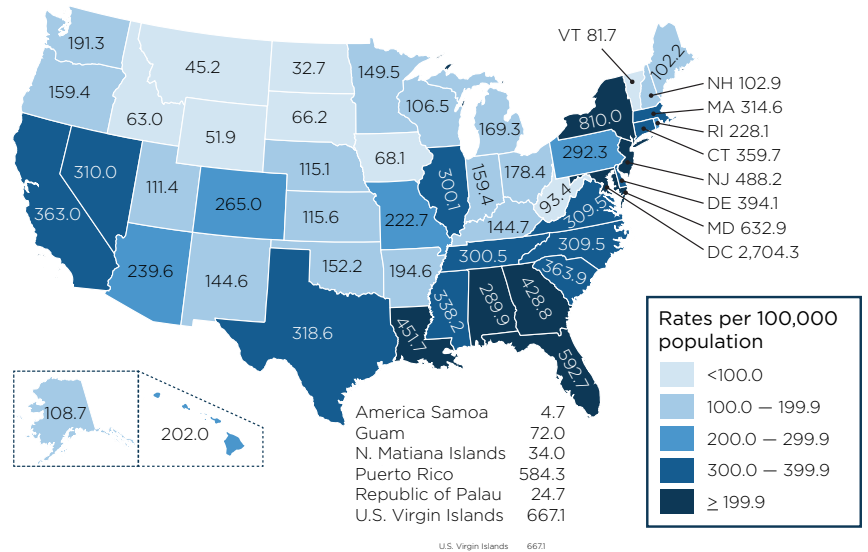
Ms. Natarsha Thompson is a Health Communications Specialist and Ms. Jenny Sewell is a Public Health Analyst with the Office of Policy and Planning, Office of the Director, Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention (CDC).

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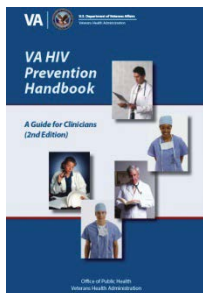
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Rate of Adults and Adolescents Living with Diagnosed HIV Infection

Year-End 2010—United States and 6 Dependent Areas



What's New in Public Health



HIV Handbook

VA HIV Prevention Handbook, A Guide for Clinicians (2nd Edition; May 2013)

This second edition of the VA HIV Prevention Handbook:

A Guide for Clinicians reflects the dramatic prevention advances of the past 10 years. It provides guidance on implementing long-standing and more recently developed evidence-based interventions including routine HIV testing, patient counseling on high risk transmission behaviors and prevention strategies (e.g., condom use), expeditious referrals of HIV infected individuals to care and treatment, and support of patients' adherence to antiretroviral therapy (ART). These interventions are for use in VHA settings such as primary care facilities, mental health programs, substance use disorder (SUD) treatment programs, community based outpatient clinics (CBOCs) and Vet Centers.

<http://www.hiv.va.gov/products/manual-HIV-prevention.asp>

Tobacco Cessation Resources

Quit VET: VA's Telephone Smoking Quitline for Veterans

Veterans now have a new tool to help them with quitting tobacco use. **Quit VET**, a national, proactive, toll-free smoking cessation quitline, is now available at **1-855-QUIT VET (1-855-784-8838)**, Monday-Friday, 8 am-8 pm ET. **Quit VET** provides individual counseling targeted to Veterans' tobacco cessation needs and is a collaboration between VA and the National Cancer Institute.

http://www.publichealth.va.gov/smoking/quit_smoking.asp#002

Tobacco Cessation Resources (continued)

A Text Messaging Program to Help Veterans Stop Smoking



SmokefreeVET is a mobile text messaging service available to Veterans quitting smoking. This text messaging program is designed to provide 24/7 support, tips, and encouragement to Veterans interested in quitting smoking. SmokefreeVET is collaboration between VHA Tobacco & Health and the National Cancer Institute's Tobacco Control Research Branch. SmokefreeVET is based on NCI's text message smoking cessation program, which has a proven track record of success: after one month, 17% of NCI's text program users reported that they had quit smoking and 11% were able to stay quit through 6 months.

Veterans can sign up for the program by:

1. Texting **VET** to **47848** from their mobile phone
2. Visiting <http://www.smokefree.gov/VET>

After signing up for the program, Veterans will begin receiving between 1 and 5 text messages per day, tailored to their quit date. Messages are sent beginning two weeks prior to the quit date and end six weeks afterwards. Veterans can receive additional supportive messages by texting the keywords **URGE**, **STRESS**, or **SMOKED** at any time to 47848.

Tobacco Use Cessation Treatment Guidance

Patient education materials on tobacco cessation medications are now available to all VHA clinicians. These one page guides utilize the "Three Prime Questions" for patient counseling (What is this for? How do I use it? What can I expect?) and explain the purpose of each medication, how it should be used, and possible side effects of each tobacco cessation medication available on the VA Formulary. Guides are also available for patients using combination therapy with specific instructions for the use of two medications together (e.g., nicotine patch and gum). Consider providing the appropriate medication guide to your patients when prescribing smoking cessation medication. This set of resources was developed by the VHA San Diego Tobacco Cessation Clinical Resource Center (TCCRC). These resources are available on an internal VA website.

- Nicotine patch
- Nicotine gum
- Nicotine lozenge
- Nicotine patch + gum
- Nicotine patch + lozenge
- Bupropion
- Bupropion + patch
- Bupropion + gum
- Bupropion + lozenge
- Varenicline*

*Within VA, varenicline is a second-line agent for smoking cessation and must be prescribed according to Pharmacy Benefit Management criteria.



I Quit!

TOP Interventions to Improve

HAND HYGIENE: Results From a National Survey



New Clinical Public Health Products

Hand Hygiene in VHA

Veterans Health Administration (VHA) conducted a national survey of its 141 VHA medical centers and health care system. The survey covered three content areas of hand hygiene: 1) methods of measuring healthcare worker hand hygiene compliance, 2) interventions to improve hand hygiene compliance, and 3) site-specific targets for hand hygiene compliance. A majority (98.6%) of the medical centers conduct direct observations to measure hand hygiene compliance rates with 22.7% tracking product usage and 2.8% using automated systems. Room entry (69.1%) and exit (71.9%) were the most commonly monitored hand hygiene opportunities. The most common interventions to improve hand hygiene compliance included posters (97.2%), feedback to leadership (98.6%) and units (93.5%), and improved access to hand hygiene products (e.g., 90.6% provide individual hand sanitizers to staff). Mandatory education programs for clinical staff are conducted in 88.5% of the medical centers. Findings from the national survey will assist decision making regarding standardizing surveillance, recommendations of interventions, and next steps in hand hygiene policy in VHA. For more details on the survey, please read:

Reisinger, H.S., Yin, J., Radonovich, L., Knighton, V.T., Martinello, R.A., Hodgson, M.J., & Perencevich, E.N. (2013). Comprehensive Survey of Hand Hygiene Measurement and Improvement Practices in the Veterans Health Administration. *American Journal of Infection Control*. (ePub ahead of print).

Why Important Medical Innovations Are Adopted and Spread

In a recent essay in the *New Yorker*, physician writer Dr. Atul Gawande explores how applying the right approaches and tools to global health innovations and practices may promote better implementation and adoption of significant medical initiatives.

The author presents four different cases, two from the 19th Century and two more recent. These case investigations illustrate why some important innovations are adopted and spread quickly, and why equally vital innovations are slow to be embraced.

Although we have immediate access to electronic communications and information portals, technology is not always the best solution when dealing with global health problems. Several factors working in conjunction with one another, bring about the assimilation of a new idea by a social system. Along with navigating bureaucracies, success depends on using appropriate communication channels and incentives to influence the population being targeted.

Gawande's essay merges investigation, behavioral theory, social psychology and economics, into a substantive, non-academic article. It's an informative read for those interested in public health, international public health and the history of medical advancement.

Gawande, A. (2013, July 29). Slow Ideas. Some innovations spread fast. How do you speed the ones that don't? *The New Yorker*. Retrieved from <http://www.newyorker.com>

New Therapies, Programs Affect Hepatitis C Treatment within VA

Chronic infection with hepatitis C virus (HCV) is the most common blood borne infection in the United States, affecting more than three million Americans. HCV-infected patients are much more likely than the general U.S. population to develop life-threatening complications, such as cirrhosis, end-stage liver disease or hepatocellular carcinoma (HCC). Although antiviral treatment can cure HCV infection, these therapies have historically had low efficacy rates and significant toxicities.

Ross, D., & McFarland, L.L. (2013, April). New Therapies, Programs Affect Hepatitis C Treatment within VA. *U.S. Medicine*. Retrieved from <http://www.usmedicine.com/agencies/department-of-veterans-affairs/new-therapies-programs-affect-hepatitis-c-treatment-within-va/>

Welcome to CPH



Dr. Richard Martinello



Dr. Richard Martinello joined Clinical Public Health in February 2012 as the new Chief Consultant.

Dr. Martinello attended Loyola University Chicago for both his undergraduate and medical school education. He then completed a residency in internal medicine and pediatrics at Indiana University, adult and pediatric infectious diseases fellowships at Yale University, and a fellowship in health care epidemiology and infection prevention at Yale-New Haven Hospital. After the fellowships, Dr. Martinello joined the faculty at the Yale School of Medicine and the staff of the VA Connecticut Health Care System as their hospital epidemiologist and served as the chair of the Infection Control Council of the Veteran Integrated Service Network (VISN) 1, which covers New England.

Mr. Gaudencio “Gody” Funtanilla



Gaudencio Funtanilla joined Clinical Public Health in March 2013 as our new Administrative Officer. Mr. Funtanilla is a

Navy Veteran having completed 22 years of active duty where he worked in several hospitals, clinics and at sea attached to a US Marine Corps Unit. Mr. Funtanilla has served in many locales around the world including Japan, Guam, Djibouti, Thailand, Indonesia, Malaysia, Singapore, South Korea, Hong Kong, Australia and the Philippines. After retiring from the military he worked as a Management Analyst with the VA Employee Education System and as an Administrative Officer at the National Institutes of Health. Mr. Funtanilla brings a great deal of talent and experience to Clinical Public Health.

We are excited to have these new additions join the Office of Public Health.

Transitions:

Since our last issue, Thomas Williams (Program Assistant), Ronald Karstetter (Program Specialist) and Maggie Czarnogorski-Roper (Deputy Director, Clinical Public Health Programs) have transitioned from Clinical Public Health. Mr. Williams has retired and Mr. Karstetter has taken on a Management Analyst position with the Office of the Assistant Deputy Under Secretary for Quality, Safety and Value. Dr. Czarnogorski-Roper is now Deputy Director, Comprehensive Womens Health, Women Health Services, Patient Care Services. We wish them all well in their new endeavors.

CPH Leadership

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Contact & Comments



If you have any comments or suggestions, we welcome your feedback. Comments about this newsletter can be addressed to publichealth@va.gov.

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