# Yakima Health District
# BULLETIN

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## ROBERT G. ATWOOD, MD (1937-2006)

**Inside this issue:**



Along with his family, colleagues and the entire community, the YHD Board of Health and staff mourn the recent loss of Dr. Bob Atwood, YHD's health officer from 1974 through 2001. Bob was a dedicated and colorful public health leader who never shied from challenge or controversy. "Dr. Bob," as he was respectfully called by many in recognition of his qualifications and expertise, left an incredible legacy to Yakima County.

Among his most notable accomplishments were his leadership in controlling and ultimately halting a 1989 meningococcal disease outbreak, as well as effective lobbying for the establishment of a cabinet-level state health department and statewide HIV prevention legislation and funding.

Beneath his occasionally gruff exterior, those who knew and worked with him remember him for his kindness, wit, and humor. Perla Benitez, a nurse who worked with Bob, was greeted by a colleague who asked if she was one of "Bob's Girls." Her response was a proud, "Yes I am." That moment was immortalized when they came back to the office and had a picture taken and created a banner that said "Bob's Girls," a label that lives to this day.

Gordon Kelley, the Director of Environmental Health, fondly remembers Dr. Atwood as one the most interested and knowledgeable health officers in the state regarding environmental health. They could always talk in technical terms. While he didn't always make the most popular decisions (such as the time he halted all building at Snoqualmie Pass to force upgrades to the sewage treatment plant), his decisions were always in the best interest of public health.

Still other employees reflect on what a great loss public health has suffered. His integrity was unsurpassed and he cared deeply about public health and his staff. Staff shared that he had a great strength in assessing a situation from all sides, making a swift decision, and acting promptly.

Marianne Patnode remembers Dr. Bob as a tremendous believer in and teacher of public health to everyone around him. He could quote details about almost every disease of public health

significance, but never in a pretentious manner. He believed in a "hands on" approach and frequently came along during an outbreak investigation to learn and to teach by example. The excitement in his voice and that famous twitching of his "stomach muscles" were trademarks of his enthusiasm.

Not a work day goes by that staff don't recall a detailed learned from Dr. Bob. We can't help but think he is still watching over to see that in public health, we "keep people living rather than saving them from dying."

Bob is survived by his wife and former YHD Assistant Administrator, Linda Topel-Atwood, and his two children, David and Gina, and two step-daughters. He has five granddaughters.

# HANTAVIRUS PULMONARY SYNDROME CASE

**Case History**

An otherwise healthy 65 year-old farmer with extensive exposure to hay, farm animals, and rodents presented to an emergency room with a three-day history of severe fatigue, chills , and diarrhea. He denied cough, sputum, fever, chest pain, nausea, and vomiting . He reported that rodents are common in the environment where he works and lives. Initial objective findings included coarse breath sounds, bilateral perihilar pulmonary infiltrates, sinus tachychardia, and 88% oxygen saturation on room air. He also had leukocytosis (WBC 18K/ul) with neutrophilia and thrombocytopenia (56K/ul), as well as hyponatremia (Na 132mg/dl) and mild uremia (BUN 38, Cr 1.6). Over the initial several days of hospitalization, he progressed rapidly to noncardiogenic pulmonary edema with respiratory and renal failure. Standard supportive intensive care measures were instituted (e.g., mechanical ventilation, pressor support, hemodialysis). Bronchoscopic inspection of his airways revealed copious serosanguinous secretions, but was otherwise unremarkable. Serum specimens demonstrated high IgM and IgG titers to hantavirus. The case's residence was reported to be infested with rodents and covered in rodent droppings. Other possible routes of exposure in this case include exposure to a cloud of aerosolized hantavirus-laden particles when moving hay or cleaning a farm outbuilding

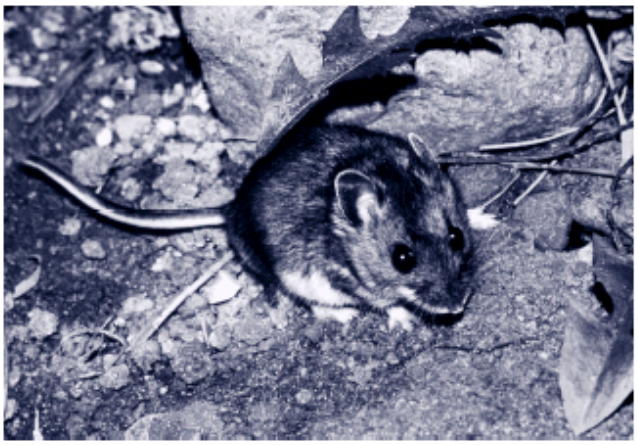
This case's presentation was unusual for its absence of fever and myalgias; however, objective findings and clinical course were typical for hantavirus and his serology is confirmatory. HPS cases typically occur in the fall, when rodent populations are highest. Nonetheless, this case is a reminder that as the weather improves and we move outdoors for work and play, the risk for exposure to vector borne diseases transmitted by animals and inscects increases. Correspondingly, attention to protective measures to limit exposure is recommended for all. Clinicians should consider vector-borne diseases in the differential diagnosis of clinically compatible cases, as well as illnesses of undetermined etiology. For more information on clinical aspects of hantavirus pulmonary syndrome (HPS), see:

- October 2005 YHD Bulletin (http://www.co.yakima.wa.us/Health/documents/bulletin/bulletin4_5.pdf).
- CDC Special Pathogens Branch HPS Website http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/phys/technicalinfoindex.htm

**Rodent Reservoir of Viruses Causing HPS**

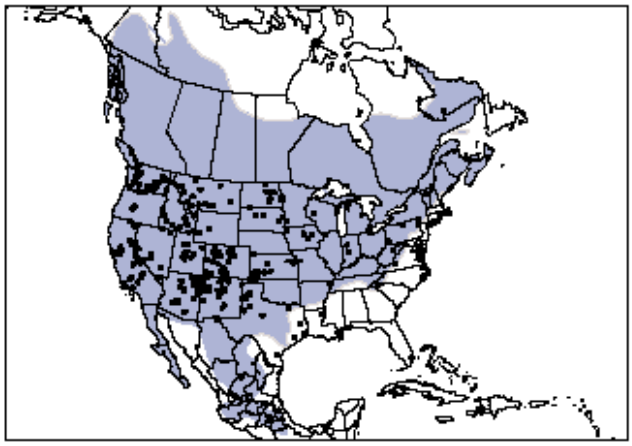
Several hantaviruses that are pathogenic for humans have been identified in the United States. The deer mouse (*Peromyscus maniculatus*) (Figure 1) is the host for Sin Nombre virus (SNV), the primary causative agent of HPS in the United States. The deer mouse is common and widespread in rural areas throughout much of the United States (Figure 2). Field data suggest that transmission in host populations occurs horizontally, more frequently among male rodents, and might be associated with fighting, particularly, but not exclusively, among males. No evidence supports the transmission of

**FIGURE 1. Deer mouse (*Peromyscus maniculatus*), reservoir of Sin Nombre virus**



Photo/L. L. Master, Mammal Image Library of the American Society of Mammalogists

**FIGURE 2. Range of the deer mouse (*Peromyscus maniculatus*) in North America and confirmed cases of hantavirus pulmonary syndrome (HPS) in the United States, as of June 6, 2002**



Source: Carleton MD. Systematics and evolution. In: Kirkland GL Jr, Layne JN, eds. Advances in the study of *Peromyscus* (Rodentia). Lubbock, TX: Texas Tech University Press, 1989:7–141

infection to other animals or to humans from "dead-end" hosts. Arthropod vectors are not known to have a role in the transmission of hantaviruses. Human infection occurs most commonly through the inhalation of infectious, aerosolized saliva or excreta. High risk of exposure has been associated with entering or cleaning rodent-infested structures, as well as the other following situations:

- increasing numbers of host rodents in human dwellings;
- occupying or cleaning previously vacant cabins or other dwellings that are actively infested with rodents;
- cleaning barns and other outbuildings;
- disturbing excreta or rodent nests around the home or workplace;
- residing in or visiting areas where substantial increases have occurred in numbers of host rodents or numbers of hantavirus-infected host rodents;

*Continued on Page 3*

- handling mice without gloves;
- keeping captive wild rodents as pets or research subjects;
- handling equipment or machinery that has been in storage;
- disturbing excreta in rodent-infested areas while hiking or camping;
- sleeping on the ground
- hand plowing or planting

**Occupational Measures**

For workers in settings with high probability of exposure to rodents and their excrement or nesting, respiratory protection programs supervised by an occupational health care provider are recommended. Insufficient information is available to provide general recommendations regarding risks and precautions for persons who work in occupations with unpredictable or incidental contact with rodents or their nesting sites. Determining the level of risk present and implementing appropriate protective measures is the employer's responsibility.

Thanks to Drs. Neil Barg, Philip Menashe, and Michael Maples for diagnosing and reporting this case.

# Palliative Care and Treatment of the Terminally Ill

While YHD's focus is on prevention of disease and premature death, approximately 1600 people do die each year in Yakima County. In 2004, 38% of deaths occurred in a hospital, 32% in a long-term care facility (LTCF), and 27% occurred in the home. This information can be viewed on our website at http://www.co.yakima.wa.us/health/providersonly/bulletin.htm. Only beginning in 2004 were hospice facilities added to death certificate coding, separate from hospitals and LTCFs. Because no hospice care center beds are currently licensed in Yakima County, no deaths in hospice facilities were reported. Statewide, 997 (2%) of 45,000 deaths occurred in hospice centers in 2004. During 2004-2005, one of the three local hospice agencies reported 668 deaths among patients they served (approximately 25% occurring in-hospital, 75% at place of residence). That accounts for about 20% of all deaths in the county during that period. Cancer-related deaths are almost one-half (44%) of referrals to this agency.

This also suggests a general trend toward more deaths occurring in homes and LTCFs with a corresponding decrease in hospital deaths over the past 15 years. These trends appear to have stabilized over the past 5 years or so. Compared to the state as a whole, Yakima County has slightly higher hospital-based death rates and lower home-based death rates, although the gap in hospital death rates has declined (i.e., improved) over the past decade.

While the reasons for site of death are multifactorial and include economic and medical factors, as well as patient and family preferences, a reasonable goal for end of life care is to provide it in the most comfortable and cost-effective setting possible. Toward that end, sustaining or increasing the proportion of deaths which occur at home or in hospice facilities, with all other factors being equal, would be a desirable outcome for the health care system and the community.

The Oxford Text of Palliative Medicine defines palliative care as "the study and management of patients with active, progressive, far-advanced disease for whom the prognosis is limited and the focus of care is the quality of life." The American Academy of Hospice and Palliative Medicine defines palliative care as a set of comprehensive interdisciplinary services whose goal is "to prevent suffering and to support the best possible quality of life for patients and their families, regardless of the stage of the disease or the need for other therapies." Limited access to or lower utilization of hospice care has been observed among racial and ethnic minorities, as well as in rural communities. In addition to health care system barriers, underutilization by some groups may also be affected by cultural and religious beliefs, lack of knowledge about hospice care, insurance and reimbursement issues, language barriers and provider referral patterns. Cited challenges to optimal palliative care and hospice utilization also include a lack of well-trained health care professionals, late referrals for palliative care, and over-optimistic prognosis.

Specific barriers or challenges noted by local hospice care providers include late referrals leading to the need for crisis hospice care, medical provider limitations with respect to accepting inability to cure a patient, and failure understand that death need not be imminent for hospice referral to be appropriate. One local hospice care agency reports a median length of "stay" of 15 days; the reported national average is about 60-80 days. Frequently durations of service are only 12 hours to 2 days, even for deaths from chronic conditions. These findings corroborate the impression of difficulty making accurate prognoses and late referrals being common barriers to hospice care.

From the medical provider's perspective, key elements of palliative care should include: assessment and management of pain, respiratory symptoms, gastrointestinal symptoms, and anxiety and depression; specific management of physiologic phenomena associated with the final days and hours of the dying process; and spiritual issues, grief, mourning, and bereavement. Providers involved with end-of-life care should also be familiar with the unique challenges of palliative care for special populations they serve (e.g., LTCF and other elderly patients, children, HIV infected patients, patients with a history of substance abuse, and patients with acute traumatic injury or undergoing intensive care). Ethical and legal issues to be considered include assessment of decision-making capacity, advance health care directives, and practitioner liability.

Although Washington state physicians are not *required* to have specific training or continuing education in pain management and palliative care, other states (e.g., California) do, and a wide array of on-line or in-person CME offerings from reputable sources are available in this arena. Please check our website at http://www.co.yakima.wa.us/health/providersonly/bulletin.htm for links to training opportunities and charts exploring local and statewide statistics.

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http://www.yakimapublichealth.org



| | Cases | | | Total Cases by Year | |
|---|---|---|---|---|---|
| **Condition** *(includes confirmed and probable cases)* | **Jan-Apr** | **Jan-Apr** | **Jan-Apr** | **Total Cases by Year** | **Total Cases by Year** |
| | **2006** | **2005** | **2004** | **2005** | **2004** |
| Campylobacteriosis | **68** | **19** | **30** | **115** | **99** |
| Cryptosporidiosis | **2** | **0** | **1** | **7** | **2** |
| Enterohemorrhagic E. coli | **0** | **0** | **1** | **3** | **3** |
| Giardiasis | **4** | **6** | **6** | **28** | **30** |
| Salmonellosis | **8** | **14** | **10** | **49** | **36** |
| Shigellosis | **15** | **4** | **2** | **25** | **7** |
| Hepatitis A acute | **1** | **1** | **1** | **3** | **2** |
| Hepatitis B acute | **2** | **0** | **1** | **1** | **3** |
| Hepatitis B chronic | **6** | **5** | **5** | **14** | **22** |
| Hepatitis C acute | **2** | **0** | **2** | **1** | **2** |
| Hepatitis C chronic | **76** | **82** | **69** | **214** | **219** |
| Meningococcal | **0** | **0** | **1** | **2** | **3** |
| Pertussis | **8** | **35** | **20** | **197** | **62** |
| Tuberculosis | **2** | **5** | **7** | **14** | **12** |
| HIV New | **1** | **4** | **6** | **14** | **12** |
| HIV Deaths | **0** | **1** | **0** | **2** | **1** |
| HIV Cumulative Living | **143** | **133** | **125** | **142** | **130** |
| Chlamydia | **367** | **329** | **338** | **973** | **1002** |
| Genital Herpes—Initial | **24** | **27** | **51** | **99** | **125** |
| Gonorrhea | **56** | **43** | **50** | **138** | **198** |
| Primary and Secondary Syphilis | **3** | **0** | **0** | **2** | **0** |

## Notifiable Conditions Summary Jan-April, 2006