



**Veterinarians in  
Federal and State Government:  
Making a Difference in Public Health  
Health**

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**And the Federal and State  
Government Workforce Presentation Team**

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# Public Health

**“ is what we, as a society, do do collectively to assure the conditions in which people can be healthy.”**

**Institute of Medicine, *The Future of Public Health*, 1988  
1988**

# 10 Essential Public Health Services

## ◆ Assessment

- Monitor health status to identify community health problems
- Diagnose & investigate health problems & hazards in communities

## ◆ Policy Development

- Inform, educate, empower people about health issues
- Mobilize community partnerships to identify & solve health problems
- Develop policies & plans that support individual & community health efforts

## ◆ Assurance

- Enforce laws and regulations that protect health and ensure safety
- Link people to needed personal health services; assure provision of health care when otherwise not available
- Assure a competent public health & personal health care workforce
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services

## ◆ Serving all functions

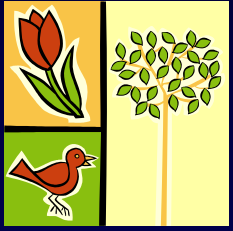
- Research for new insights & innovative solutions to health problems

# One Health One Medicine



Translocation

Encroachment  
Introduction  
"Spill over" &  
"Spill back"



Human encroachment  
Ex situ contact  
Ecological manipulation  
Human behaviors



Wildlife

Domestic  
Animal

Human

Agricultural  
Extensive Production

Global travel  
Urbanization  
Biomedical  
manipulation

Food processing/distribution  
Technology and  
Industry



After Daszak P. et.al.  
Science 2000 287:443

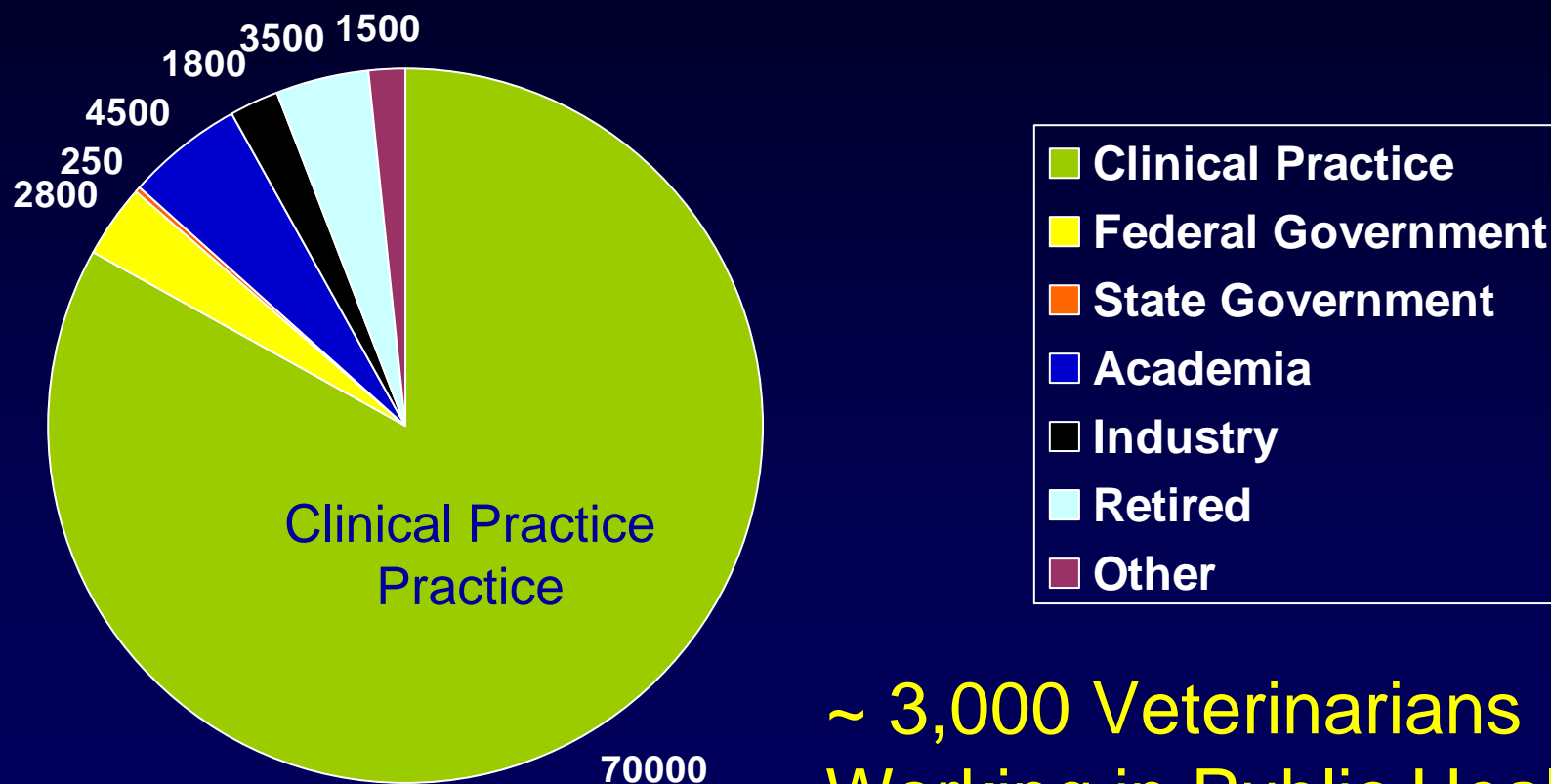
# Current “Hot” Issues

- ◆ One Health/One Medicine
- ◆ Threat of Pandemic Influenza
- ◆ Avian Influenza
- ◆ Transmissible Spongiform Encephalopathy (e.g., BSE)
- ◆ Natural / Intentional Emergencies
- ◆ Counter-terrorism; biologic, agricultural, nuclear
- ◆ Foodborne illness reduction
- ◆ Antimicrobial resistance
- ◆ Pet food contamination
- ◆ Shortage of food supply veterinarians
- ◆ Animal welfare, human slaughter and handling enforcement
- ◆ National Veterinary Medical Service Act
- ◆ Veterinary Workforce Expansion Act

# Public Health Workforce

- ◆ Nurses
- ◆ Public health advisors
- ◆ Physicians
- ◆ Dentists
- ◆ PhDs
- ◆ MPHs
- ◆ Veterinarians
- ◆ Sanitary Engineers
- ◆ Industrial Hygienists
- ◆ Environmental Specialists
- ◆ Epidemiologists
- ◆ Laboratory Scientists
- ◆ Social Workers
- ◆ Health Educators
- ◆ Statisticians
- ◆ Information Technology
- ◆ Entomologists
- ◆ Lawyers
- ◆ Other

# Current Professional Activity of U.S. Veterinarians



~ 3,000 Veterinarians Working in Public Health Health at the Federal and and State Levels

# **Veterinarians Working in Federal Government**

**Legislative Branch**

**Executive Branch**

# Legislative Branch

## ✦ Veterinarians who are Legislators

- Senator Wayne Allard, Colorado (current, retirement announced)
- Senator John Ensign, Nevada (current)
- Senator John Melcher, Montana (Retired)

## ✦ Veterinarians working on staff of representatives and senators

- AVMA and AAAS Congressional Science Fellows

# U.S. Executive Branch Departments

## Veterinarians Working in Public Health in Departments with Aqua Background

Health and  
Human Services

State  
USAID

Defense

Agriculture

Homeland Security

Interior

Justice

Energy

Environmental  
Protection Agency

Labor

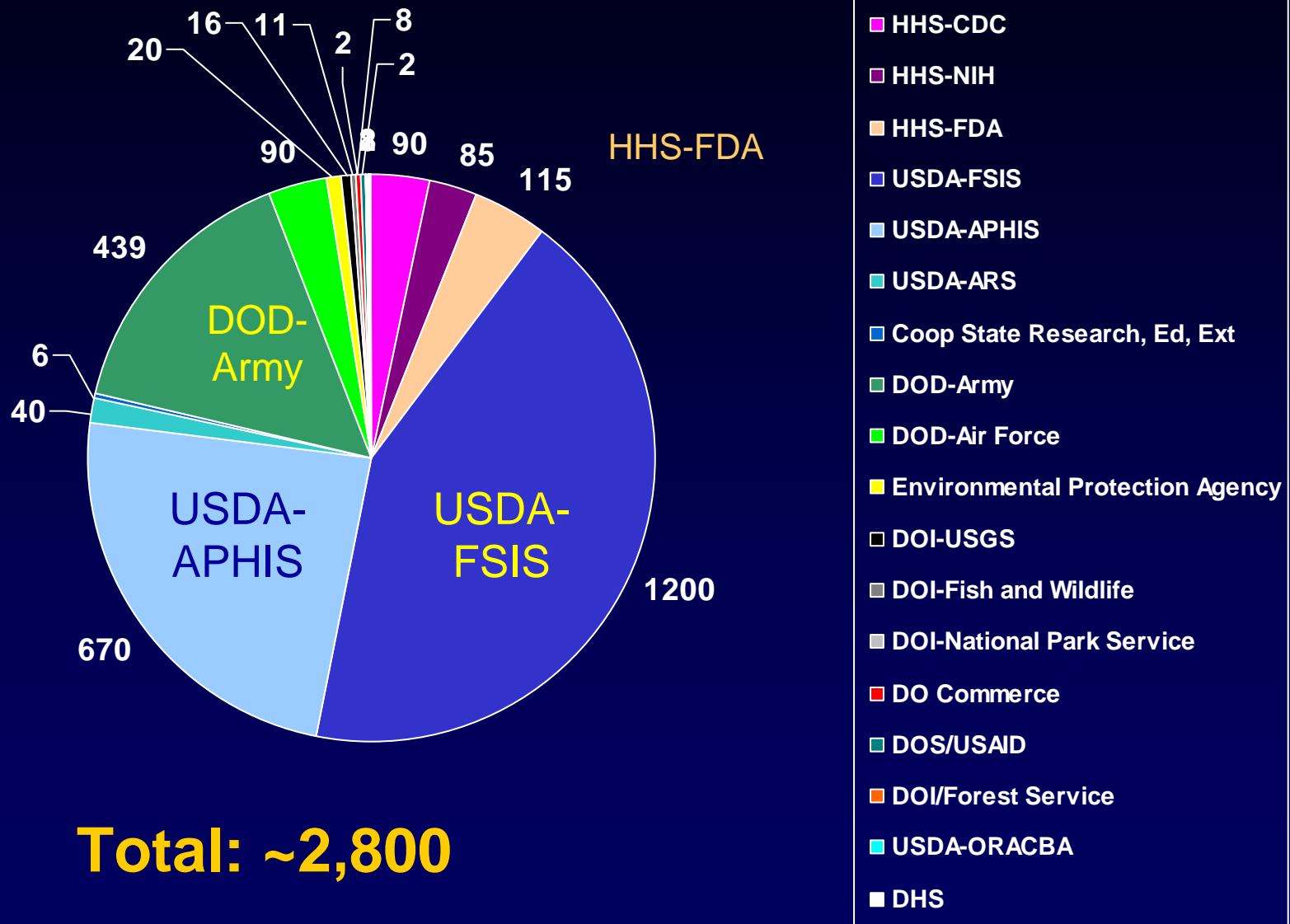
Transportation

Housing and Urban  
Development

Commerce

Veterans Affairs

# Public Health Veterinarians in the Federal Government



# **Roles and Responsibilities of Veterinarians Working in Public Health at Federal and State Levels**

- ◆ **Elected Officials and Other Policymakers**
- ◆ **Program managers**
  - Disease surveillance, disease and injury prevention and control, research, outbreak investigation, emergency preparedness, response, etc.
- ◆ **Researchers, Research Coordinators**
- ◆ **Scientific advisors**
- ◆ **Epidemiologists**
- ◆ **Laboratory scientists (Microbiologists, pathologists, etc.)**
- ◆ **Risk assessment analysts**
- ◆ **Toxicologists, Biologists**
- ◆ **Foreign animal disease diagnosticians, response**
- ◆ **Other**

# Areas of Responsibility for Veterinarians Working in Public Health at Federal and State Levels

- ◆ Food safety and defense
- ◆ Food animal disease control
- ◆ Emerging diseases/zoonoses prevention and control
  - Human health programs
  - Environment, Wildlife health, Domestic animal health, Human Interface
- ◆ Immunization programs
- ◆ Environmental/ecosystem health
  - Toxicology, Contaminants, Wildlife Health
- ◆ Emergency response (human and animal)
- ◆ Bio and Agro Terrorism
- ◆ Outbreak Investigation
- ◆ Health promotion
- ◆ Injuries
- ◆ Occupational Health
- ◆ Drug effectiveness and safety
- ◆ Research and research animal care
- ◆ Domestic and global health
- ◆ More

# Skill Sets Required

- ◆ **Leadership, management skills**
- ◆ **Working successfully as part of a team**
- ◆ **Technical competence – subjects vary with topic/agency**
  - **Epidemiology, public health, (risk) assessment, evaluation, toxicology, environmental health, food safety, emerging infectious infectious diseases and zoonoses, animal emergency response, clinical experience, pathology, biological and chemical preparedness and defense, laboratory animal medicine, information technology, research methods, more**
- ◆ **Additional degrees and/or board certification**
  - **MPH, MS, MPVM, PhD, Dr.PH, other**
  - **Preventive Medicine, Laboratory Animal Medicine, Toxicology**
- ◆ **Public speaking and writing**
- ◆ **Interpersonal skills**
- ◆ **Getting the job done**

# Personnel Systems

- ◆ **Civil Service**
- ◆ **Commissioned Corps of US Public Health Service**
- ◆ **Military Services**
- ◆ **Fellows**
- ◆ **Contractors**

Special Issue: Low pay that undervalues veterinarian knowledge and expertise

# **Veterinarians Working at the State Level**

**Governor**

**State Public Health Veterinarians**

**State Veterinarians**

**State Wildlife Veterinarians**

**Laboratory Animal Veterinarians**

# State Public Health Veterinarians Veterinarians



- ✦ 37 designated state public health veterinarians
  - Many more working in state health departments
- ✦ Main link between human, agriculture, wildlife health
- ✦ Surveillance, prevention, control of zoonotic diseases
- ✦ Disease outbreak investigation
- ✦ Bioterrorism, emergency response

# Guidelines and Publications: National Association of State Public Health Veterinarians (see at [www.nasphv.org](http://www.nasphv.org))

- ◆ *Compendium of Animal Rabies Prevention and Control, Control, 2007*
- ◆ *Compendium of Veterinary Standard Precautions: Zoonotic Disease Prevention in Veterinary Personnel, Personnel, 2006*
- ◆ *Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2006*
- ◆ *Compendium of Measures To Control Chlamydophila Chlamydophila psittaci Infection Among Humans (Psittacosis) and Pet Birds (Avian Chlamydiosis), 2006*  
2006

# State Veterinarians (Chief state agricultural animal health officer)

## ✦ Provide leadership on animal health issues

- Disease eradication
- Animal health
- Emergency preparedness, response and recovery
- Emerging diseases
- Food safety
- Public health
- Animal welfare
- International trade

## ✦ Coordinate with USDA APHIS Veterinary Services to implement national animal health programs

## ✦ Communicate to public & others on animal health issues

## ✦ Establish and maintain relationships with key legislators

# Wildlife Veterinarians

## ◆ 17 States with Wildlife Veterinarian

- 27 Full-time State Employees
- 20-25 contract veterinarians
- ~100 total working for both State and Federal government (More if (More if count academia)

## ◆ Provide leadership on wildlife health issues

## ◆ Conduct disease surveillance at livestock-wildlife-human interface

- CWD, vector borne diseases, bacterial, viral and parasitic diseases, and nutritional deficiencies, etc.

## ◆ Institute population-based wildlife disease interventions

## ◆ Design and conduct wildlife health studies

## ◆ Provide science-based recommendations on wildlife and disease issues and policies to agency decision-

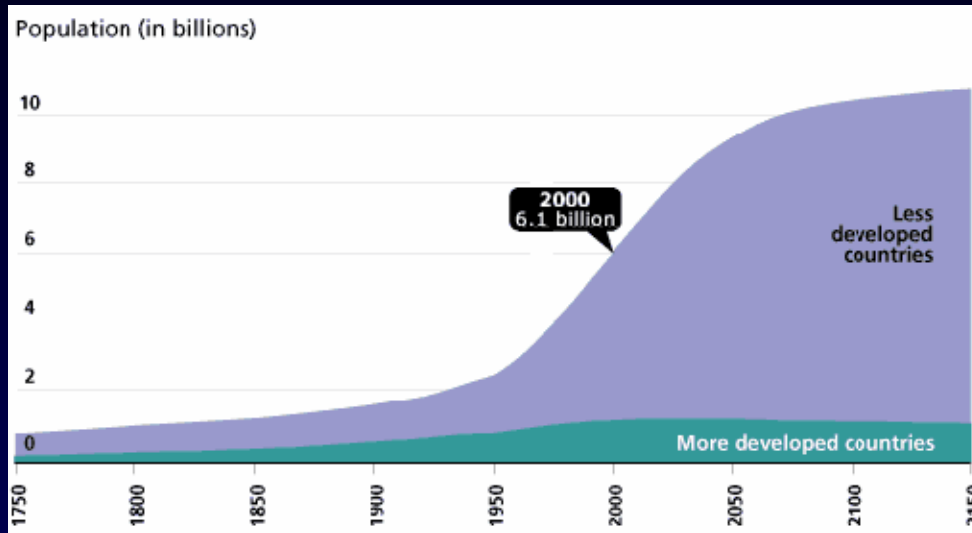
# **Veterinarians working in public health at the Local Level**

## **✦ Practitioners**

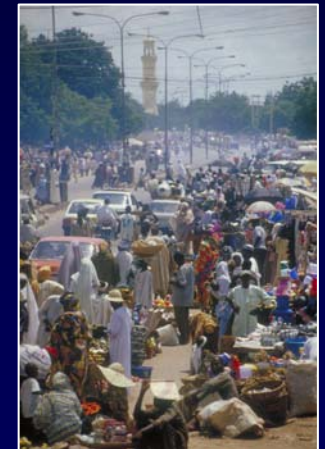
- Zoonotic disease and animal bite prevention, diagnosis, treatment, counseling**
- Early detection of unusual disease events (natural occurrence, bioterrorism, agroterrorism)**
- Disease surveillance**
- Animal health emergency readiness, response**
- Surge capacity for human emergency response (expertise, facilities, laboratory)**
- Client education**
- Risk communication**

**What About the Future  
for One Health??**

# Increasing and Urbanizing Human Population



Source: United Nations, *World Population Prospects, The 1998 Revision*; and estimates by the Population Reference Bureau



- ◆ 6.1 Billion people in 2000
- ◆ ~9.4 to 11.2 Billion in 2050
- ◆ Urbanization: 47% 2000; 60% 2003

# A Strong Future for One Health

- ✦ Changing climates and ecosystems, with increasing vector populations
- ✦ Encroachment on animal habitat
- ✦ Changing human lifestyles with animals
  - Human behaviors
- ✦ Globalization of the food supply; threat of agro-terrorism
- ✦ More and faster global travel
- ✦ Civil unrest/war – displaced people and animals
- ✦ Microbial adaptation and change (Influenza!)
- ✦ >80% of bio-threat agents of concern are zoonotic

# Summary

- ◆ Shortages in veterinarians working in public health exist at all levels (State, Federal, International) across all areas
- ◆ Exciting career opportunities exist across the health spectrum at Federal, State, Local levels
- ◆ Veterinarians currently comprise ~ 0.5% of U.S. public health workforce
- ◆ Veterinarians working in public health surpass the number labeled “public health veterinarians”
- ◆ Veterinarians work in public health positions not exclusively designated for veterinarians
- ◆ The shortage of veterinarians in the public health workforce is acute and growing given trends
- ◆ More veterinarians are needed!
  - Replace gaps left by retirements
  - New opportunities

# Summary, Continued

- ✦ Training of veterinarians must emphasize leadership, communication, the spectrum of public health and the roles of veterinary medicine and other disciplines, working on teams, interpersonal skills, *in addition to technical competencies*
- ✦ Entry to or advancement in the workforce often requires advanced education (i.e., MPH, MPVM) and/or board certification in a specialty
- ✦ FSIS, USDA, CDC offer training programs that are important entry points
  - New Hire Training at FSIS
  - Veterinary Services Career Program at VS/APHIS
  - EIS Program at CDC
- ✦ **Low pay that undervalues veterinarians working in public health must be addressed**

# The ASPH – AAVMC Partnership

**“ Public health is what we, as a society, do collectively to assure the conditions in which people can be healthy.”**

*Institute of Medicine, The Future of Public Health, 1988*

**“Human health provides the most logical unifying or apical cause in veterinary medicine’s hierarchy of values”**

*Dr. Calvin Schwabe, Veterinary Medicine and Human Health, 1984, Visionary and Proponent of One Medicine*