

REPORT OF THE COMMITTEE ON PUBLIC HEALTH AND RABIES

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The Committee met on October 27, 2008 in Auditorium II at the Sheraton Greensboro Hotel, Greensboro, North Carolina, from 1:10 to 5:00 p.m. There were 17 members and 16 guests present.

The meeting was called to order by Chair John Sanders and he asked for presentations to be brought forward. Sign in sheets were in the back of the room and attendees were asked to check if they are members or list their desire to become members. Those wanting to be members will have their names submitted for approval. They also should indicate if they would be willing to be a Chair or Co-chair in the future as this is my last year as Chair. Resolutions proposed last year were all approved and we received responses from requested agencies.

Dr. Richard Barnes, Food and Drug Administration (FDA), gave a presentation on the 50 state FDA meeting held in St. Louis, Missouri in August, 2008 on food protection. Long term Food Protection Plan was created to deal with food safety in the United States (U.S.) in November, 2007. Global food safety is now more important than just national food safety. Many food stuffs come from outside the U.S., especially if we want food out of season. Most people do not cook more than five days a week. We do a lot of reheating and not much cooking. Population is also becoming more high-risk in that by the year 2025, 25 percent of population will be over 60. A graph of import and export lines showed 16.3 million product import lines. FDA looks at all of them by computer-physically, the staff can only look at one percent at the point of import. All the staff of all the federal agencies could only look at three percent. Dr. Barnes highlighted the list of recent food contamination events. Changes and challenges include bioterrorism, melamine contamination and regulation of other countries. It is impossible to test for everything. Data handling systems are outdated and it is difficult to deliver the proper information to the consumer and retail level. We need to find better ways to recall products. We need to get out of the reactive mode and move to a proactive system. In May 2007, the Secretary of Health and Human Services asked FDA to put together food safety and food defense into one program. The November report was the result of that effort. Some of the conclusions of that report include:

- focus on risks over product life cycle
- target resources to achieve maximum risk reduction
- integration of food safety and food defense
- use science and modern technology systems.

Prevention was covered, which includes promoting increased corporate responsibility, identify food vulnerabilities and assess the risk and expand understanding and use of effective mitigation measures

Other points include preventative controls against intentional introduction, preventative controls for high risk foods, and registration of all food facilities every two years. Increased risk based inspections and improvement of the detection of food system signals that indicate contamination-for example, how could we about melamine before it happened?

Intervention activities include accredit third parties to do inspections overseas, electronic import certificates for certain high risk products and refusal of admission if inspection access is denied.

Response recommendations include improve immediate response and improve risk communications to public, industry and other stakeholders. FDA cannot make recall of foods mandatory and they need this authority.

Opening three offices in China to increase food safety oversight-working with Chinese government and will have personnel on sight next year.

Three things to start with from the 50 state meeting use of state data for FDA regulatory action, sharing the registration database with states and automation of recall forms and notifications. Confidentiality agreements with states-need to be able to keep some info confidential and work with states to adjust their records laws.

- The 50 State meeting involved 246 federal, state, local, tribal, and territorial attendees.
- Outbreak investigations-define minimal standards and best practices and give money to states for food safety.
- PET NET-tracks animals and feed and there is mandatory traceability in 10 years.

Interrelated risk intervention system should be done, that involved both federal, state and industry. International food protection training center is being planned that combines training at FDA, states, industry all do and certify people in their jobs. Partner with states by state contracts and grants/cooperative agreements and manufactured food regulatory program standards need to be developed.

Plans now are to develop implementation programs initiating 2008-09 deliverables but degree of response will be resource dependent. This is a long-term activity. We need to look at this project as a team event. Changes in food supply necessitate changes in how the system operates and works. There is a need to push out food protection plan to other countries, industry and all other partners.

Dr Chuck Massengill gave a presentation on human exposure to canine brucellosis. Having an increased population of immunocompromised people makes human exposure more likely. The organism may be transmitted by fomites and people working in infected kennels-needs high level of biosecurity. There are high numbers of organisms per milliliter (10000 infective doses per ml of fluid). Mandatory quarantine has driven the disease underground. Heavy exposure to humans occurs in infected kennels. Treatment is only 80 percent successful and leaves infected dogs in the kennel. Missouri has developed a voluntary certification program for kennels and breeders and it appears to be successful. Four levels- unknown, high-all dogs every year tested, medium-all dogs tested, test only males annual, low-kennel tests and affidavit not to test to outside dogs. All dogs introduced into kennel should be tested before and 30 days later tested negative again.

Canine brucellosis is commonly found in feral dogs and street dogs in other countries. Testing causes disease in many cases. No vaccines are available and research for the vaccine companies is prime territory.

Dr. Dennis Slate gave a presentation on the rabies barrier program. The Animal Rabies Management Team meets every year to plan the barrier program along with other rabies control programs nationwide. Enhanced rabies surveillance has enhanced the efforts of public health at all levels. Decisions to put rabies barrier in place cost more money, but increased surveillance will help with less investment of money. Rapid immunohistochemical **test** (RIT) testing has enhanced rabies diagnostics and increased surveillance. Enhanced surveillance found 20 terrestrial rabies cases not found by public health surveillance. Use data to determine oral rabies vaccine distribution. Different samples provide different data, but odd acting animals provide the best return on investment to complement public health investment. Great strides have been made to get good samples, challenging in Texas in order to make good decisions on bait distribution. As far as baiting, the United States Department of Agriculture (USDA) made some adjustments to the program to lessen fuel costs by consolidating airports and conserving costs therefore lessening the number of days in the field.

Getting about 29 percent uptake in raccoon population and get 60-70 percent up take in foxes and coyotes. Double and high density baiting will get up take over 40 percent in raccoons in Ohio. They have instituted trap-vaccinate-release (TVR) program. High raccoon density in Cleveland area makes TVR difficult and now considering contraception program with TVR program. Gray fox variant in Texas presents its own problems and additional surveillance needed in Mexico. Additional funding used to expand program

Canine rabies variant has been eliminated in the U.S. with the efforts of public health. Mexico has barrier on border which involves vaccination of dogs in that area. Mass vaccination has been shown by U.S. to help eliminate canine rabies variant. Feral dogs keep the variant alive in Mexico. Native American reservations have challenges with rabies because of low populations of dogs vaccinated, probably 5-15 percent. This puts human population at risk also. Oral baiting in dogs was tried with some success. Integrating rabies and reproduction control will be important in the future with the use of GonaCon.

Stakeholders signed the North American Rabies Management Plan at Rabies in America meeting in September 2008 which is a framework for continental collaboration and cooperation.

Species variants have spilled over into other species and vaccines and strategies must change to accommodate movement of these strains. They are working on types of baits that are best taken up by various species. Also need to adjust strategies to reach target populations. Density of population determines whether baiting is needed in certain corridors. Gates foundation will fund a dog rabies elimination demonstration in a country over seas such as Phillipines, Tanzania or other countries. Remarkable advances have been made in enhanced surveillance.

Contingencies are a fact of life with limited resources and continental framework will be important in continuing rabies control.

Use of Landscape Features in Preventing the Spread of Raccoon Rabies Variant was presented by Dr. Mike Dunbar. A full summary of this presentation is included at the end of this report.

Human Rabies Vaccine Supply in the United States was presented by Dr. Heather Henderson, Centers for Disease Control and Prevention (CDC). A full summary of this presentation is included at the end of this report.

Committee Business:

Having no further presentations, the Committee moved to official business. They considered two resolutions. The first Resolution involved support for the recently signed North American Rabies Management Plan and asked for implementation. After revising language in the Resolution it passed unanimously. The second Resolution called for support into research of the GenCon® vaccine for use in rabies and population control in feral animals. After revision, the Resolution was approved and referred to the Committee on Nominations and Resolutions.

Use of Landscape Features in Preventing the Spread of Raccoon Rabies Variant

Shylo R. Johnson, Mike R. Dunbar*, Dennis Slate, Robert Hale
National Wildlife Research Center

The spread of raccoon rabies variant was documented from Florida in the 1940s to Ohio in 1996. The oral rabies vaccine program began with initial trial in New Jersey in 1992

Goals of the oral rabies vaccination (ORV) program were to prevent spread and keep costs down. ORV zones are connected to landscape features. Rivers reduced crossings as well as mountains are a deterrent to rapid spread of rabies. River deters about 50 percent of raccoons to cross depending on size.

National Wildlife Research Center provided research involving barriers and their use in oral bait distribution. Slow distribution in Alabama and Pennsylvania were aided by natural barriers. Data collection was done to document what led to slower spread. Research was done on both natural barriers and the genetics of different populations.

Alabama showed raccoons had low density in wooded areas plus raccoons only crossed at low river sites. Genetic tests showed raccoons were genetically the same on both sides of the river. River therefore did not serve as a barrier. In Pennsylvania, they looked at valleys and ridges in the southwest part of the state. Only one raccoon went from ridge to valley, none went from valley to ridge. Genetic tests showed that ridge and valley populations are genetically the same although separated by distance. In Alabama, raccoons crossed the river and gene flow occurs across the river. Pennsylvania, the ridges shaped the direction of movement and slowed, but did not stop the spread of rabies. The Appalachian Mountains are higher in Tennessee and this leads to lower density of raccoons and discourages movement because of lower contact rates.

Increasing rabies cases is caused by low intensity residential areas and lack of rivers or lakes and major roads. Decreasing rabies cases are associated with high elevation and increasing wetlands. There is an ongoing study in the Cleveland area to study the movement of the raccoon population by barriers and genetics. In the process of trapping raccoons in downtown Cleveland and tracking those populations in an urban setting. This will help create recommendations for future bating activity.

Human Rabies Vaccine Supply in the United States

Heather Henderson
Centers for Disease Control and Prevention

Rabies can be prevented with post exposure vaccine. Interruption of vaccine supply is not uncommon and this is in part due to complex vaccine production. Use is also determined by numbers of rabies cases and epizootics that occur in different areas. You cannot predict the need for human rabies vaccine and only two manufacturers exist in the world.

In 2007, Sanofi began renovations to its plant that will not be done till 2009. They created supply to fill the gap based on previous use of vaccine. Novartis had difficulties keeping up with needs and had to stop shipment several times. Demand out striped the vaccine being produced by Novartis. Sanofi only shipped for postexposure prophylaxis (PEP) approved by public health veterinarians. Higher than estimated PEP requests kept the supply low.

Working group was created to evaluate the situation of limited supply and how to deal with it. Advisory Committee on Immunization Practices (ACIP) working group may drop 5th dose and intradermal use is being investigated along with other options

Since PEP is not reportable, need to keep better track of PEP use to help minimize use in low risk situations.

Two situations that were completely preventable resulted in high used of PEP. Montana-dead bat brought to school by mother, exposed 90 children. In Malawi, 1000 people ate meat from rabid cow and 800 received PEP, but no rabies can be acquired for cooked meat.

Limited supply produced conflict with public health and medical practice. Limited supply was confused with shortage of vaccine. Messages were mixed and this added to the confusion.

Most exposures can be prevented. PEP can be delayed in many cases and animals should be observed if they are dogs or cats. PEP should be reserved for high risk groups and evaluated on a case by case basis. State and local public health must work with local animal control, medical and veterinary community to deal with exposure situations. There is a good chance that the supply will also be limited in 2009.