

#### **EDITORIAL**

It is hard to believe that another year is almost over! In looking back over the past 11 months, the progress in the field of rabies prevention and control is impressive. Three new pilot projects to prevent human deaths by focusing on canine rabies control have been funded in Asia and Africa this year. We also had our most successful World RabiesDay Campaign yet, with at least 100 countries participating. The photographs in this issue tell a very powerful story of how our united approach is making a difference, and we thank everyone who took part for your continued support and motivation.

This month, I was fortunate to be able to travel to Bohol to visit the rabies control project on the island of Bohol, Philippines. The Bohol project, now in its second year is supported by the Alliance for Rabies Control and a private Swiss foundation in collaboration with the Philippine government. The progress in preventing human rabies through educational programs and canine vaccination initiatives has been remarkable. Dr Betsy Miranda, the Asian Coordinator for the Alliance, Dr Stella Marie Lapiz, the Bohol Provincial Veterinarian and their colleagues have worked tirelessly and their efforts are paying off. As a result of this program, 71% of the dog population on the island has been vaccinated against rabies and the population of free roaming dogs has been significantly reduced. The program has successfully educated thousands of children through classroom-based lesson plans and has captured the enthusiastic support of the entire island population of 1.4 million people. The results of the integrated approach to rabies prevention are evident as the number of human rabies deaths has dropped from 10 in 2007 (prior to the project) to 0 so far in 2009 and the reduced number of free roaming dogs has dramatically reduced traffic deaths caused by collisions between motorcycles and animals living in the streets. Further, an increasing number of visitors are making their way to Bohol to review the program and experience firsthand how a successfully run integrated approach to rabies prevention and control can make a dramatic difference in the lives of those living at daily risk of exposure to this deadly disease. Graduate students working under the direction of Dr Kristy Murray at the University of Houston were able to participate in the program and have come away with a new perspective about what can be achieved in the area of global public health. More details on the project can be found on our website.

The Alliance for Rabies Control is also proud to be collaborating with the family of the late Dr George Baer to build a scholarship fund to help support a graduate student working toward a degree in public health. We also have the latest information about the ongoing, critical situation of rabies on the island of Bali, Indonesia and are pleased to host an article by the eminent public health expert, Dr Jim Steele. As always, we invite you to submit a written article to us about your personal efforts and/or research in the field of rabies, and to donate to the work of the Alliance through our website, www.rabiescontrol.net. As always, thanks for your support and best wishes,

Debbie.

Dr. Deborah Briggs, Executive Director of the Alliance

## AN AUSTRALIAN-CONGOLESE PARTNERSHIP FOR WORLD RABIES DAY.

For the past two years World Rabies Day events have been held in the town of Kananga in the East Kasai region of the Democratic Republic of the Congo (DRC). The events are the result of a partnership between Dr Jean Paul Beya, a vet in Kananga and myself, an Australian education researcher who works at Northwestern University in the USA. How did this unlikely partnership form? I met Dr Beya in 2007 when I was visiting Presbyterian Church Schools and colleges in the Congo to work on an education development program. Dr Beya and I, an animal-lover and field spaniel devotee, met very briefly and struck up a conversation about animal health concerns in the Congo. He identified rabies as his number one animal health concern because of the number of human deaths from rabies in Kananga, particularly among young children. Congo is rebuilding after years of civil war and resources for rabies prevention and animal health programs are extremely scarce. (continued on page 2)



WRD 2009, with Dr Beya on the right.

**p1** 

# THE MARWAR TRUST IN JODHPUR, INDIA

Jodhpur is a city of about 1 million inhabitants in the arid West of Rajasthan, India. In many aspects Jodhpur resembles numerous other Indian cities, there is an old crowded city center, and a less dense, but sprawling periphery. The old part of the city is packed with minute stores, small workshops, residences, temples and shrines. At day break there are cattle and dogs, but not too many people on the streets. These dogs are mostly ownerless, but they are well tolerated, and to some degree cared for. Later in the morning the roads become hectic. While there are very few automobiles, there are plenty of other vehicles: carts moved by oxen, horses, camel and people, bicycles and motorbikes. Dogs were more visible early morning, but they are still around. They are resting in small groups at the side of the road, some under parked vehicles. Most of them have a clearly visible notch in their left ear, signifying that they had made a visit to the Marwar Trust shelter.

The Marwar Trust, located in Jodhpur, is an Indian public registered Trust and is recognized by the Animal Welfare Board of India. It is dedicated to the control of stray dog populations and canine rabies in Jodhpur in order to reduce rabies mortality and improve animal welfare. Since 2004, the Trust has undertaken a high-intensity Animal Birth Control and rabies vaccination

program. Teams of dog catchers capture street dogs and bring them to the Marwar Trust shelter, located on the outskirts of the city. Here they are spayed or neutered, vaccinated against rabies, and then receive a distinctive notch in the left ear. After a few days of recovery after surgery, they are released in the location where they were captured. To date over 48,000 dogs have passed through the Shelter. Alongside this program, the Trust organizes dog-bite prevention and rabies awareness lessons in the local schools. For children that do not go to school, the information is provided on the streets through puppet shows. An external team works with the Trust's staff to evaluate the impact of its activities, with progress monitored in six selected study areas distributed throughout the city. Between 62% and 87% of the street dogs show ear notches. In all study areas the dog population density has declined. Dr. Sarah Totton, a veterinarian and PhD Student from the University of Guelph quantified the health impacts of the ABC program and found that the average body condition of the animals has improved.

Though the Trust's activities have almost reached the projected goals there remain challenges. In spite of the high vaccination coverage, there is still rabies in dogs in the city. Where does it come from? There is also human rabies, though its true incidence



Street dogs receive chapati bread from a Jodhpur citizen. The temporary purple paint is used by the Marwar research team for dog population studies. Photo: Ursula Wandeler

is hardly known. Why don't all people receive proper post-exposure prophylaxis? Jodhpur is growing at a tremendous pace, and the trust needs to work in more and more areas.

Contributed by Dr Alex Wandeler of the WHO Collaborating Centre of CFIA's Centre of Expertise for Rabies in Ottawa, Canada. Futher details of the MarwarTrust's work can be found at www.marwartrust.org

## AN AUSTRALIAN-CONGOLESE PARTNERSHIP (continued from page 1)

Following that visit, I made a commitment to search for resources on rabies prevention and came across the World Rabies Day website. In 2008, with the assistance of Peter Costa and the Alliance and a small amount of funding that I was able to provide, Dr Beya launched the first World Rabies Day event in Kananga. Public meetings were held and educational materials on rabies were distributed. This year, Dr Beya was able to expand World Rabies Day activities . Radio stations in Kananga made announcements from September 20th to October 20th about how to prevent rabies, Dr Beya and his team distributed 1500 leaflets on rabies prevention to churches and schools and visited almost 200 children in Sunday School classes to teach them about how to prevent rabies. Free vaccination clinics were held, with 133 animals vaccinated to date and 120 more animal vaccinations planned.

Rabies is a serious problem in Kananga, a city of 1.3 million people. Maybe half of the population are at risk of rabies, but not all bite victims seek treatment and cases are under-reported. Dr Beya's statistics show that from January to September 2009, 236 people were bitten by animals. Of those bitten, 157 (62.5%) were able to pay for treatment and 17 of those who were not able to pay for treatment died. Lack of resources to pay for rabies prevention programs, rabies vaccine and rabies treatment present major challenges as does transportation of veterinary staff to the places where they are needed. Dr Beya will continue to lead efforts in Kananga to prevent rabies. A goal for the coming year is to write grants to expand World Rabies Day activities in Kananga and to host a mini-summit on prevention of Rabies in the Congo.

Although Dr Beya and I come from such different backgrounds and life experience, we share a common belief that no child or adult should ever have to die from rabies.

A personal account of an international partnership by Dr Denise Drane.

#### PRE-EXPOSURE RABIES VACCINATION AND CAVE EXPLORATION

Because underground travel frequently brings cavers into close association—and sometimes direct physical contact—with bats, public health authorities consider them to be at relatively higher risk than the general public of exposure to rabies.

Hardly any rabies cases have actually been documented among cavers, despite untold man-hours spent underground by members of the National Speleological Society (NSS) every year. Moreover, there is an almost complete lack of published information regarding either physical encounters between bats and cavers or cavers seeking post-exposure prophylaxis (PEP). As such, it is hardly surprising that marginal risk assessments by cavers and recommendations for pre-exposure rabies vaccination by public health authorities are often difficult for members of the caving community to reconcile.

In spite of considerable discussion of bats and rabies by NSS members every year, many cavers still remain a bit bewildered by it all. Cavers familiar with public health recommendations typically base their decision on whether or not to obtain pre- How often do such events occur exposure vaccination on a variety of factors. Certainly, serious consideration is given to recommendations of public health authorities. However, this is often tempered by individual experience and judgment, taking into account the expense of vaccination,



and might they be associated with unrecognized bites or scratches? Photo: Dean Snyder, Greater Allentown Grotto

the nature of one's interaction with bats, the prevalence of rabies infection in bat populations, the perceived likelihood of sustaining an exposure and, indeed, the entire spectrum of one's caving activity. Such reflection provides cavers with a subjective assessment of their own risk of exposure to rabies while underground and serves as the primary basis for making decisions regarding individual need for pre-exposure vaccination. Nevertheless, however low the likelihood of sustaining an exposure to rabies virus—and especially an unrecognized exposure—while caving may be, this must always be carefully balanced against the virtually certain outcome of clinical disease.



The common vampire bat is a wellrecognized reservoir of rabies virus. Photo: Randall D. Babb, Arizona Game and Fish Department

Cavers concerned about the potential risk of exposure and the likely outcome of clinical disease will probably obtain a pre-exposure vaccine series. The default position of most undecided cavers will likely fall on the side of declining vaccination.

Regardless of pre-exposure vaccination status, it is most important that cavers always give serious consideration to any physical encounter with a bat...especially if no heavy clothing barrier intervened. It is imperative that cavers not fall victim to the small vector hypothesis (the mistaken belief that small animals like bats are of only limited significance as disease vectors) and simply ignore a potential exposure to virus following a physical encounter with a bat. It should be emphasized that

human deaths from bat-origin rabies virus are typically not associated with a failure of PEP, but with a failure to seek medical attention in the first place (either because an exposure was not recognized or because it was not considered significant).

A special case exists among cavers who routinely mount expeditions to Latin America. As home range of the common vampire bat, *Desmodus rotundus*, this region should be one of particular concern to cavers. Possibly within caves, but particularly in the rustic setting of primitive campsites, cavers are exposed to vampire bats. Because these bats seek blood meals, they are almost ideal vectors of rabies. Accordingly, persons embarking on extended expeditions to this region should take adequate precautions to ensure safety.

In the case of an unrecognized exposure to rabies virus, pre-exposure vaccination alone may be lifesaving. However, it is important for all wilderness travelers who have received a vaccine series to understand exactly what this means in practical terms and be familiar with recommendations for PEP in the event of a possible or confirmed exposure to rabies virus.

Contributed by Danny A. Brass, DVM. A more detailed article was published in the NSS publication PRS (2009) 109: 6 and is available via the Alliance website, via the scientific literature page.

## **CDC RABIES LABORATORY DEDICATION**

On September 28, 2009, CDC held its 3rd world rabies day symposium in honor of Dr. George Baer. At the end of the symposium CDC director, Dr. Thomas Frieden, dedicated the CDC rabies laboratory as the George M. Baer memorial rabies laboratory. In attendance were Dr. Baer's family and staff of the rabies program. This dedication stands as a lasting memorial to Dr. Baer's legacy and his contributions to the study and prevention of rabies both in the U.S. and abroad. From Jesse Banton of the CDC



**Rabies Lab Re-dedication** 

The Alliance is a registered charity in the UK and a 501(c)(3) organization in the US

### DR. GEORGE M. BAER SCHOLARSHIP

The Baer Family, in conjunction with the Alliance for Rabies Control, is planning to establish a Dr. George M Baer Scholarship for furthering the education of an individual interested in an MPH (Masters in Public Health) degree. Our father, Dr. Baer, was able to get his Public Health degree after his DVM from Cornell University, which lead him to a lifelong dedication to combating communicable diseases. We would like to give this opportunity to a student who is interested in obtaining an advanced degree but is hesitant due to financial constraints. Our hopes are that our father's friends, colleagues, business partners, and associates are inspired by the basis for this scholarship and are able to contribute yearly to make it a success. Now more than ever we feel that there is a need for educated and passionate doctors in the fields of public health and disease prevention.

When our father made the choice to begin a life in public health he did so, I think, without the foresight that it would save millions of lives and would also give him the understanding of many different peoples and cultures. We, as his family, shared in his enthusiasm, stories, disappointments, and successes and remember those moments as if they were before us today: rabies research in Mexico, labs in CDC, travels to countries battling rabies outbreaks and those celebrating eradication gains. We especially recall long discussions on how the way people think and the opportunities that they are given shape the vision of our world today. Our hopes are that the Dr. George M Baer Scholarship will do exactly what my father lived for, allow a student to make this world a better place for all of us to live in. As the details of the scholarship are finalized and the web site www.DrGeorgeMBaer.com is established we will work with the Alliance for Rabies Control to encourage support in the community for our idea.

Contributed by Dr Baer's daughter, Alexandra Baer, on behalf of herself, her sister Katherine Baer and their mother, Mrs. Maria Olga Baer.

## THE EARLY HISTORY OF RABIES

The early concept of rabies was probably known by ancient civilizations of the Nile, Euphrates, Baghdad and Hindus River Valleys of India. The physicians and priests attributed the cause to meteorological conditions, mythological punishment or the ingestion of a forbidden substance. The concept of contagion devolved from all these causes which were the consequence of violation of certain religious or spiritual taboos. Aristotle stated that mad dogs could infect all creatures except man, an exception that is difficult to understand. The association of bite wounds with rabies was known before Hippocrates called attention to the spread of rabies by mad dogs that destroyed themselves as well as all life they encountered. Pliny, the Roman historian, recognized rabies as a contagious disease of dogs that was transmitted to man. The innumerable cures cited by Pliny indicated the disease must be common in the Roman Empire.



Siptahin, a temple priest in Egypt shows clinical signs of rabies and other infections. Around 1400BC

Hippiatrika in his collection of veterinary writings of Byzantine of the ninth and tenth centuries discussed the disease in detail. Most surprising was the thought that the disease was curable. Among the cures was the excision of the lyssa, the septum linguase, which is the ventral tip under the tongue. This surgery was also considered a preventative measure in the dog. The fable of the worm under the tongue was abetted by Pliny and later historians and remained more than a myth for a thousand years. In the 19th century, veterinarians described the operation because sportsmen and hunters demanded the service. Blain, the author of Canine Pathology (1817) stated many educated sportsmen believed the removal of the worm under the tongue was essential in the prevention of acute rabies, and after this lyssa operation, only dumb rabies could occur in the animals. As late as 1874, Fleming in his work on rabies stated the practice was still common; although Blaine had pointed out more than 50 years earlier that the surgical cutting of the lyssa was of no value and did harm by interfering with the normal movement of the tongue.

Both furious and dumb rabies were probably known to both medical veterinarians and physicians. Tuberville, a French scientist was the first to differentiate between the types in 1576. He described the signs including the strained howling and stated the disease killed the animals in 3 or 4 days. He further stated the disease may last 9 months.

It is thought he meant the incubation period, in that he stated the animals lived only 3 or 4 days once they showed serious signs. Rabies was known among other domestic animals from the time of Aristotle. The earliest description of rabies in wild animals was by Greek agriculturists although the Roman agriculturists were the first to mention the disease in their essays. Throughout the Middle Ages, there were many descriptions of rabid animals that destroyed farm animals and invaded cities. The dog continued to be the main source of the disease according to all historical records.

Contributed by Dr. James Steele, a founder and advocate of 'One World, One Health, One Medicine' approach to Veterinary Public Health. He established the Veterinary division of CDC and was a US Assistant Surgeon General and a Professor at the University of Texas School of Public Health

p4

### **RITA XX MEETING IN QUEBEC**

The twentieth Rabies in the Americas (RITA) meeting was held in Quebec City, Canada from 18th to 23rd October, expertly hosted by an organising committee from the University of Montreal and the Ministry of Agriculture of Quebec. It was a great opportunity for the Alliance to meet many of our colleagues and friends we so often only communicate with by email.



Dr George Baer, who passed away in June this year was honoured in a memorial presentation at the very start of the conference attended by his wife Olga and two of their daughters, Alexandra and Katherine. The Latin American Investigator award (this year won by M. Roberto Carrasco-Hernández) was renamed in Dr Baer's honor and many speakers throughout the week added their personal reflections on his achievements and the influence that he had in their own careers.



Roberto Carrasco-Hernández and Deborah Briggs with Charles Rupprecht pontificating.

All aspects of current rabies research and management were presented with sessions on pathogenesis, human rabies and treatment strategies, laboratory diagnosis, control of canine rabies, epidemiology and surveillance, ecology, bat rabies, economics, modelling and for the second year, a session on communication. The final day included two specialist workshops on canine rabies control and the modelling of disease spread and control. The busy schedule of talks and posters was supplemented by associated rabies control meetings including REDIPRA (Directors of National Programs for Rabies Control in Latin America), North American Rabies Management Plan, the 4th meeting of the Partners for Rabies Prevention and at the end of the conference, the signing of a Canadian Rabies Management Plan.

A lively social programme made the week more special. Participants were treated to a walking tour of beautiful Old Quebec City, a RITA 20th anniversary lunch with birthday cake, a breakfast with a panoramic view of the whole city from the top of

the conference hotel and a fantastic Gala dinner at Le Capitole de Quebec. The Gala featured 18th century French Canadian costumes, drama, weddings-a-plenty and the traditional auction to raise funds for the George Baer award. A very enjoyable evening was had by all even before we hit the dance floor.

Written by Louise Taylor of the Alliance

#### **TWO OF ALLIANCE'S BOARD MEMBERS RECEIVE AWARDS**

Ray Butcher, MA VetMB MRCVS was presented with the British Veterinary Association's prestigious Chiron Award at their Annual Congress in Cardiff, UK in September. The award marks outstanding contributions to the veterinary profession commanding international or interprofessional recognition. Ray Butcher has dedicated his career to improving animal welfare, through work in his clinic, advisory and board roles in the World Society for the Protection of Animals, and promoting humane methods of stray dog control internationally. His work in the rabies field includes serving on a World Health Organization working group dedicated to reducing the burden of rabies in Asia and he is a founding Board Member of the Alliance for Rabies Control.

At the same meeting, Dr Abdul Rahman from India, who became a board member of the Alliance for Rabies Control in 2008, was given an Honorary Membership of the British Veterinary Association. The Alliance would like to congratulate both of these outstanding individuals on their awards and to thank them for their work in the fight against rabies.



#### PEP ADVICE GOES MOBILE

Talecris Biotherapeutics have developed an application for the iPhone giving doctors and health professionals up to date information on correct Post-Exposure Prophylaxis (PEP) for several diseases, including rabies. Advice for rabies includes wound washing recommendations, the PEP vaccination protocol and a simple to use dosage calculator for rabies immunoglobulin. The application can be download free by visiting the applications store from your iPhone and searching using "PEP".

## MORE RABIES CASES IN US CATS THAN DOGS

The US rabies surveillance data for 2008 has recently been published in the Journal of the American Veterinary Medical Association (Vol 235, No. 6, September 15, 2009). In total, 49 states and Puerto Rico reported 6,841 cases of rabies in animals and 2 cases in humans to the CDC. The two human rabies cases reported in 2008 were one from California (imported from Mexico) and the other one originating from Missouri. Both cases were linked to bat rabies virus variants.

Approximately 93% of the animal cases in the USA occurred in wildlife, and 7% were reported in domestic animals. Major wildlife reservoirs were raccoons (34.9%), bats (26.4%), skunks (23.2%) and foxes (6.6%). Amongst domestic animals, there were 4 times as many cases in cats than dogs (294 cases or 4.3% compared to 75 or 1.1% of total cases), a pattern that has held since the early 1990s. Most (82.3%) of the 294 cases of rabies in cats were reported from states in which the raccoon rabies virus variant was present. Compared to 2007, in 2008 there was an increase in confirmed cases in cats and a decrease in cases confirmed in dogs. Domestic animal infections were primarily attributable to "spillover" from local terrestrial reservoirs. Only one dog was reported to be infected with a canine



virus strain, and that dog was imported from, and infected in Iraq. The US has been free from dog-to-dog transmission of canine rabies virus variants since 2004. Cats are therefore the leading domestic animal source for human exposures and stricter observance and enforcement of vaccination in cats may be necessary. Not all states currently have laws requiring vaccination of cats.

Summarised by Louise Taylor from Journal of the American Veterinary Medicine Association, Vol 235, No. 6, September 15, 2009.

#### **RABIES: 120 YEARS AFTER PASTEUR DOCUMENTARY**



A short documentary film on rabies has been made by Norbert Domy, supported by Sanofi Pasteur. Shot in Asia (Thailand) and Africa (Burkina Faso and Senegal) the intention was to show the daily life of school-age children in close contact with potentially rabid animals. It is interspersed with interviews with rabies specialists facing the disease in endemic areas and internationally, who describe the disease, its burden, post-exposure measures, vaccination, rabies initiatives and perspectives.

Its main aim is to raise global awareness about rabies and to educate the lay public about rabies risk and its prevention, and the movie is accessible for people with no scientific knowledge.

It can be seen and downloaded from the You Tube site

## **RECIFE PROTOCOL FOR HUMAN RABIES TREATMENT**

The Brazilian Ministry of Health has recently established the first Brazilian protocol of treatment for rabies following the first cure of human rabies in Brazil, a 15-year-old bitten by a vampire bat. He was treated in the Intensive Care Unit of University Hospital Oswaldo Cruz, Universidade de Pernambuco, in Recife, Brazil, using antivirals and deep sedation, a variant of the 3rd Milwaukee protocol first employed successfully in the US in 2004. The patient was cleared of virus and made a clinical recovery. The Brazilian Ministry of Health sees this breakthrough, along with the Milwaukee Protocol, as "opening up new perspectives on the treatment of the disease which had, until now, been considered fatal."

The Recife Protocol, as it is known, is intended to guide clinical management of patients suspected of rabies in an attempt to reduce mortality from the disease. It is recommended for all patients with clinical suspicion of rabies, where there is strong epidemiological support for the diagnosis and where prophylaxis has been inadequate. It also stipulates that informed consent should be obtained. The Protocol provides guidelines for suspecting and confirming Human Rabies, differential diagnoses, protocols for sample collection and reporting mechanisms, patient monitoring, brain imaging and recommended lab tests, treatment protocols and recommendations for when to lift the sedation.

Deep sedation is achieved with Midazolam and Ketamine, and the antiviral Amantadine (not Ribavirin) is recommended. Rabies vaccine and immunoglobulin are not recommended. Constant monitoring of serum and CSF antibody levels is recommended with a level above 3-5UI/mL in the CSF regarded as sufficient for the lifting of sedation. Recognised complications include imbalances in sodium levels, dysautonomia and increased intracranial pressure. It is also pointed out that clinical rabies itself can mimic brain death.

The document was published (in Portuguese) in Epidemiologia e Serviços de Saúde, Brasília, vol 18 (2009) p385-394

# World Rabies Day 2009 saw events in at least 100 countries



## "ADOPT A VILLAGE" PROGRAMME FOR RABIES CONTROL IN INDIA

Ten villages surrounding Bangalore and Pune, India will benefit from a programme aimed at reducing the incidence of human and animal rabies through improved educational awareness and mass vaccination of dogs. The programme will focus on improving awareness and prevention in the entire community from small children to adults and village leaders and is being supported by a substantial financial and rabies vaccine donation from Intervet/Schering-Plough, with the Alliance for Rabies Control providing guidance. A large number of medical and veterinary partners will work together in the target villages to educate people in their own language with sensitivity to their customs.

"Our company has a commitment to reducing the prevalence of rabies in vulnerable places around the world, and these new initiatives in India demonstrate continuing support of eradication efforts," said Schering-Plough Chairman and CEO Fred Hassan. "As with the Afya Serengeti project that Schering-Plough supports in Africa, educating people about rabies and how to prevent it is the most effective weapon against the disease."

The Alliance for Rabies Control will supervise projects in four villages outside the city of Bangalore, partnering with India-based groups including the Rabies in Asia Foundation (Nodal Agency); the National Institute of Mental Health and Neurosciences; Kempegowda Institute of Medical Sciences and the Veterinary College, Bangalore. The Bombay Veterinary College, Mumbai, will take the lead role for projects in six major villages in Pune district, supported by K.N.P. College of Veterinary Science, Shirval, and Karuna Animal Health Foundation, Narayangaon. Intervet India, the Intervet/Schering-Plough Animal Health business located in the Pune region, will be contributing technical support for the project as an extension of its current rabies prevention efforts.

"Our goal is to provide a sustainable rabies prevention strategy for communities in canine rabies endemic countries that takes into account how people interact with community dogs and other animals in their environment," said Dr Deborah Briggs, executive director of the Alliance. "Rabies remains a neglected disease of the poor and disenfranchised, and we believe projects such as these being developed in India will serve as models that can be replicated in other vulnerable areas."

In India, as in most countries where canine rabies is prevalent, many victims of dog bites lack understanding of the importance of seeking appropriate wound cleansing and medical treatment from qualified health professionals. These new programs in India will begin with surveys developed to understand the extent that communities understand how to prevent rabies. They will continue by assessing the status of rabies in the villages' dogs and other animal populations and will help to track human and animal deaths. The program will also include extensive campaigns of public education that will focus on effective rabies prevention practices for humans and animals as well as ensuring appropriate treatment protocols in the event of an exposure. The final phase will involve a comprehensive evaluation of whether the education and vaccination efforts produced measurable improvements in the incidence of rabies in humans, dogs and other animals.

The full press release is available here

#### **TRAVEL WARNING FOR BALI, INDONESIA.**

The rabies outbreak in Bali is worsening, with local newspapers reporting that hundreds of people have sought post exposure prophylaxis and that island hospitals are also experiencing human vaccine shortages. As of October 2009, the Indonesian Department of Health has reported 15 human deaths since the initial importation of rabies occurred on the island in late 2008.

Historically, Bali has been regarded as rabies free and dogs were not routinely vaccinated. Most human and animal rabies cases have been confirmed near popular tourist destinations on the southern tip of Bali. However, because the situation is evolving, the US Centres for Disease Control is advising travellers to take precaution throughout the entire island. The US embassy in Indonesia is advising avoiding contact with dogs and ensuring that travellers have appropriate medical coverage.

More details are available in The US embassy's Notice to Americans: Rabies Deaths in Bali, Indonesia, and a CDC travel alert dated October 29th.

The editor of the Alliance newsletter is Louise Taylor. If you have news items or information of interest to those working to defeat rabies, please contact her at louise.taylor@rabiescontrol.net. For further information on the Alliance's work see www.rabiescontrol.net.