



# MED • VET • NET NEWS

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Med-Vet-Net Communications Unit

*This month's Med-Vet-Net News begins with an overview of Workpackage 31 – ZOOVIR-NET, which focuses on food-producing animals as a potential source of emerging viral zoonoses.*

*Claire Cassar and Sonia Téllez report on the risk of salmonellosis from keeping exotic pets.*

*Pawel Stefanoff, Anne Thebault and Annemarie Käsbohrer discuss the success of the Workpackages 23 and 28 kick-off meeting at the EU-US conference on Priority Setting of Foodborne and Zoonotic Pathogens.*

*Kumar Sivam alerts us to a re-emerging zoonotic pathogen, Streptococcus suis. And Diane Newell keeps us up-to-date with Project Management News.*

## ZOOVIR-NET overview

### Workpackage 31 – Food producing animals as a potential source of emerging viral zoonoses – ZOOVIR-NET

Humans and animals are infected by a wide variety of viruses belonging to the same families and genera. However, within the same genus, viral strains infecting humans are generally different from those infecting animal species. In some cases, host restriction is so strict that strains pathogenic for animals do not replicate at all in man or vice versa. On the whole, evolution appears to direct differentiation of viruses towards forms more and more distant from their shared ancestor to improve adaptation to the different host cells and tissues.

Nonetheless, in a minority of cases viruses maintain or regain the ability to break the species barriers and can move efficiently between animals and humans. This creates a risk for novel routes of transmission, reservoirs and generation of new and possibly more aggressive forms of an otherwise known pathogen.

The change in habits of modern populations including increased travel, large-scale animal farming and

international food export is producing conditions for the emergence or re-emergence of unconventional human pathogens transmitted via zoonotic routes and/or foods. Among domestic animals, swine appear to be particularly suited for transmitting viral infections to man, among which hepatitis E (HEV) might become a best candidate for an emerging food-borne zoonotic disease.

#### Hepatitis E

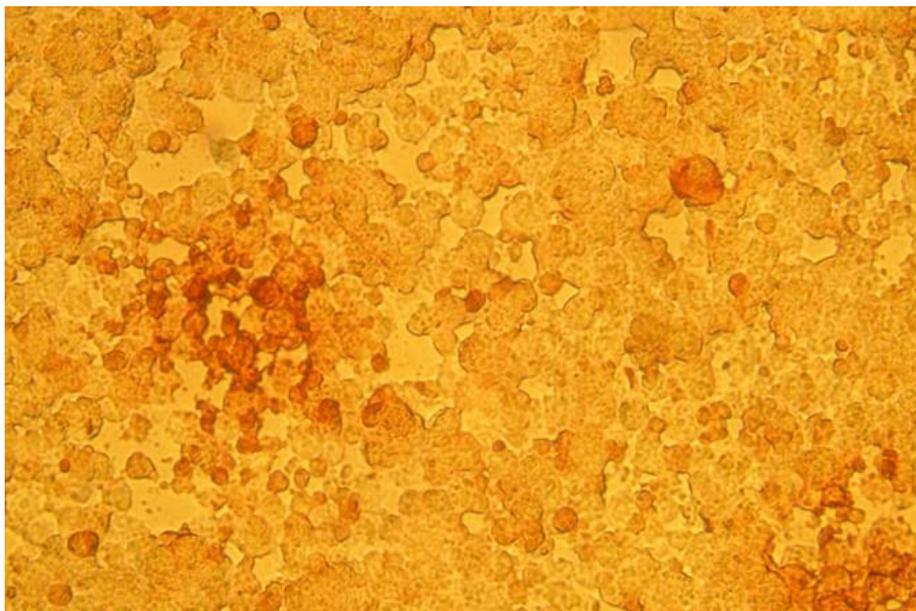
HEV is a small RNA virus, previously included in the Caliciviridae family, with which it shares a similar genome organization, the presence of a single capsid protein, and a great genetic diversity, which makes it hard to detect and characterize. The disease induced by HEV in humans is an acute hepatitis with a relatively low mortality except in pregnant women where it can reach 25% of cases. High prevalence of disease is recorded in developing areas of North Africa and Asia, whereas most human

cases in industrialized regions are acquired by travel to endemic areas. HEV has a global distribution also in pigs, for which it is hardly pathogenic, and antibodies to HEV or a closely related virus have been detected in a range of other mammals.

Recently, an increasing number of developed countries have reported indigenous cases of hepatitis E, related to infection with viral strains showing a high degree of homology to porcine strains of HEV detected in the same geographic areas. Serological evidence shows an association between antibodies to HEV in the human population and contact with pigs involving, in particular, subjects occupationally exposed, who also seem to present an increased risk of disease.

More recently, in Japan it was reported that consumption of raw or undercooked pig liver, and in one case deer meat, was closely linked to cases of hepatitis E. In addition, approximately 2% of pork

products sampled from retail outlets in Japan had detectable HEV RNA by reverse transcriptase polymerase chain reaction (RT-PCR). Although detection of viral genome sequences in food is *not per se* proof of the presence of infectious viral particles, these observations uphold the need for investigating the swine production chain as a possible risk factor for human hepatitis E. The contribution of other mammals as a reservoir of HEV is unknown.



**Armyworm (*Spodoptera frugiperda* (Sf9)) cell monolayers transfected with a baculovirus recombinant DNA clone expressing hepatitis E (HEV) capsid protein, stained with a mouse immune serum.**

## Anellovirus

*Anellovirus* is a recently designated genus of viruses with a circular DNA genome infecting humans and many domestic and wild mammalian species. The type species, *Torque teno virus* (TTV), was identified in a Japanese patient with hepatitis, and subsequently these viruses have been found to be present with remarkably high prevalence in human populations. *Anelloviruses* also exhibit high genetic diversity, which may be at least partially correlated with the frequent occurrence of mixed infections. Although the liver and bone marrow have been shown to be main sites of TTV replication, the role of *Anellovirus* as a direct cause or cofactor in human liver pathologies and afflictions of the immune system is still controversial, and pathogenesis studies suffer from the absence of an efficient experimental model. A group of specific *Anelloviruses* has been recently reported in swine, but again no conclusive data were presented in order to assess their pathogenic potential on either swine or alternate hosts.

As with human strains, in swine herds *Anelloviruses* show very high genetic diversity and prevalence worldwide. It can be affirmed that most pigs are carriers, which implicates a massive and incessant viral load excretion into the environment and entry into the food chain. Both professionals and consumers are submitted to an exposure of unknown impact. Further investigations are therefore needed, including implementation of diagnostic tools and *in vitro* models. The present case of pig *Anelloviruses* brings to mind the epidemiological situation of *Porcine circovirus* type 2 that went undisclosed until the 1990s, after which it rapidly became associated with the devastating swine disease PMWS (post-weaning multisystemic wasting syndrome). The hazard of swine *Anelloviruses* is possibly greater because of their high genetic diversity and genetic correlation

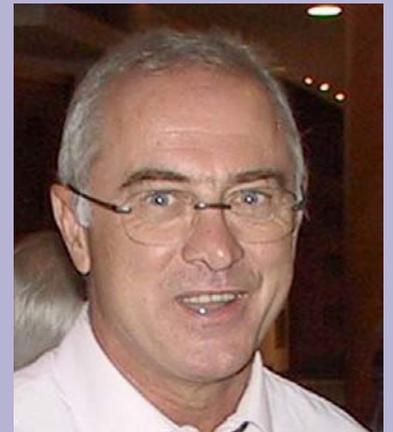


The Workpackage 31 representative group met at AFSSA, Paris, in May [see also next page].

## Med-Vet-Net People

### Franco Ruggeri leader of Workpackage 31

Franco is Research Director at the Istituto Superiore di Sanità in Rome, Italy, where he leads a group working on enteric viral pathogens of humans and animals. His activity primarily focuses on the study of rotavirus, norovirus and HEV antigens, using *in vitro* and *in vivo* models, but he is also involved in molecular epidemiology studies of these infections. Franco is a member of the Executive Committee of the Italian Society of Virology, and is responsible for several research projects of the European Community, the Ministry of Health, and the Istituto Superiore di Sanità.



Dr Franco M. Ruggeri

with strains infecting humans. Finally, it is remarkable that simian TTV was detectable in 10% of human subjects suffering from liver disease, corroborating the supposition that an animal *Anellovirus* may persist in man and possibly play a pathogenic role.

### Encephalomyocarditis virus

The *Cardiovirus Encephalomyocarditis virus* (EMCV) is another agent active in many animal species from rodents to primates. Among domestic animals, EMCV has been associated with endemic infections in pig herds worldwide which can result in acute fatal myocarditis, reproductive failure or asymptomatic infections. EMCV seems able to cause interspecies infections, as shown during outbreaks in zoos in Australia and the United States where multiple animal species were involved including lemurs, squirrels, macaques, mandrills, chimpanzees, hippopotami and kangaroos. The importance of EMCV as a cause of disease in humans is not clearly understood. The relatively few documented cases of EMCV infection in man have been associated with fever,

neck stiffness, lethargy, delirium, headaches and vomiting.

In Germany, strains of the virus have been isolated from children suffering from meningitis and encephalitis. Serological studies have shown the presence of antibodies

against EMCV among selected human populations in various regions of the world, at rates ranging from a few percent to as high as 50%, in both children and adults.

In Australia, cases of human EMCV infection have been reported in New South Wales, an area with a high incidence of the pig disease, and recently an EMCV strain isolated from an aborted swine foetus was shown to replicate efficiently in *in vitro* cultures of human cardiomyocytes. *In vivo* infection of macaques with a porcine isolate of EMCV yielded severe pathologic lesions, primarily in the heart and brain. Altogether, these observations address the zoonotic potential of EMCV, and a possible role of pigs as a reservoir for human disease is to be considered for this agent too.

In Europe, outbreaks of EMCV in pig herds have been reported in Greece, Italy, Cyprus and Belgium, and antibodies to EMCV were detected in 15% of sera from hunters and 5% of sera from personnel of a zoo in Austria.

### Tickborne encephalitis

Tickborne encephalitis (TBE) is another viral zoonosis of growing importance. Presently, the TBEV virus is endemic in Central Europe and seems to be expanding especially towards the North. TBE has a fatality rate of 1%, and induces serious neurologic sequelae (pathological conditions following infection) in 30% of patients. Human infection mainly results from bites by infected ticks, but studies on outbreaks in Poland and Slovakia indicate quite clearly that TBEV transmission may also occur via unpasteurized dairy products from infected cows, goats or sheep. Recently, in Estonia, 27 laboratory confirmed cases of TBE have been associated with consumption of raw

goat milk. No tick bites were involved in any of these cases, where milk appeared to be the only risk factor. One of the goats producing the milk in fact had serological evidence of TBEV infection. The role of food in TBEV transmission deserves further investigation, and studies on TBEV diffusion should be implemented in areas that are not usually considered at high risk.

The Workpackage 31 team are facing questions as to whether swine are an important reservoir for zoonotic viral infections, what is the evolutionary potential of these viruses, and whether and to what extent the food chain involves a virus risk. The Workpackage team is focused to conduct a coordinated effort to provide tools for epidemiological assessments, viral detection and typing including *in vitro* cultivation

### Workplan

The planned activity of the Workpackage was revised and agreed during the first meeting of the group, which was held at AFSSA, Paris, 17 May 2006. The Workpackage encompasses a series of tasks (T1–T13), starting with a survey and comparison of the methods, reference materials, samples and data already available in the different countries and laboratories of the network. This (T1 and 2) will provide both guidelines and a database aimed at



making available to all members harmonized and updated protocols. The construction of a strain and genomic database (T5), which will be created with assistance from the Med-Vet-Net Communications Unit, will allow development of sensitive quantitative (Q-)PCR and PCR assays (T8) and *in situ* hybridization tests (T10) for detecting viruses in animals, foods and milk, and cell cultures. Task 3 is specifically designed to establish cell culture methods for HEV, EMCV and Anellovirus replication and/or expression of viral proteins and virus-like particles, and the antigens generated will be beneficial to the production of immune sera and monoclonal antibodies (T9) and the development of immunological assays (T10) for viral antigen detection and characterization. Established and newly developed methods will

be adopted to evaluate prevalence of emerging viruses in swine herds (T4), and serological ELISA (enzyme-linked immunosorbent assay) tests will be adapted to viral detection in animals to investigate the presence and carriage of TBEV along the milk production chain and to assess milk-borne transmission of this pathogen (T6). Detection and characterization of HEV, in particular the datasets on genome detection and typing, will be shared and integrated with knowledge from other EU-supported networks (T7). Finally, T11 will consist of coordinated dissemination of results at both scientific and population levels.

**Franco Ruggeri**

## Short-term Scientific Missions – Update

All Med-Vet-Net member institutes can apply for Short-term Scientific Missions. Applicants do not need to participate in a workpackage, but to work with zoonosis. We support both long and short visits, for longer visits a bench fee to the host institute can be negotiated. The host institute can be another Med-Vet-Net institute, but also visits to non-Med-Vet-Net institutes in Europe can be supported if it results in gaining new knowledge to Med-Vet-Net. Short-term Scientific Missions can also be used to invite a European expert to give a seminar or talk within an area relevant to Med-Vet-Net, in this case the seminar should be

open to people interested in the subject. Med-Vet-Net Short-term Missions cover travel expenses, lodging and subsistence.

### Terms and conditions:

The application should be submitted at least three months prior to the first date of the visit.

The duration of a short-term scientific visit should be between one week and up to two months long.

Med-Vet-Net can cover the costs of travel, and boarding and lodging.

The visit must be relevant to the Med-Vet-Net objectives.

The application will be assessed by the training committee and approved finally by the Co-ordinating Forum.

All financial arrangements have to be made directly with the DFVF.

Applications should be sent by email or ordinary mail to:

Danish Institute for Food and Veterinary Research (DFVF)  
Med-Vet-Net  
Henrik C Wegener /Tine Hald/ Yvonne Agerso  
Morkhøj Bygade 19  
DK-2860 Soborg  
Denmark

E-mail: [tih@dfvf.dk](mailto:tih@dfvf.dk) / [ya@dfvf.dk](mailto:ya@dfvf.dk) / [hcv@dfvf.dk](mailto:hcv@dfvf.dk) (copy)  
Tel: +45 72 34 74 11

Within 30 days after the trip, the fellow must submit to the Med-Vet-Net Training Committee a detailed trip report describing the most important achievements and results of the visit, as well as a financial statement to the DFVF.



## WP23 & 28 kick-off meetings

### EU-US conference on priority setting of foodborne and zoonotic pathogens – the benefits for the Med-Vet-Net scientists

The EU-US conference on priority setting of foodborne and zoonotic pathogens described in *Med-Vet-Net News* August 2006 (issue 3, vol. 8) was an inspiring opportunity to initiate two projects related to food-safety priority setting within Med-Vet-Net. The two-day kick-off meetings of both MVN Workpackages were organized just before the conference. These two days spent on discussions of our preliminary results, experiences with risk assessment and food attribution methods were very helpful in developing fruitful conference discussions with colleagues from the US, Canada, Australia, New Zealand and Hong Kong.

The kick-off meeting of Workpackage 23: 'Prioritising foodborne and zoonotic hazards at the EU level' started with the presentation of the approach of the Dutch National Institute of Public Health and the Environment (RIVM) in prioritizing foodborne zoonoses in the Netherlands. The possible approach modifications were discussed and availability of data across participating countries was presented. The six conference sessions concerning priority setting and burden of illness ascertainment methods were a very interesting extension of our WP23 discussions. We learned a lot on perceptions of risk, integration of disease burden with economic indicators, and different approaches towards risk ranking and priority setting. Several lectures provided useful updates on epidemiology and microbiology of foodborne zoonoses. Final panel discussions on research/data needs and need for international collaboration were interesting opportunities to consider WP23 planned activities as part of a global effort to set priorities and allocate public health resources in fighting the right bugs.

Participants of the kick-off meeting of Workpackage 28: 'Methods of attributing human *Salmonella* and *Campylobacter* infections with different animals, food and environmental sources' discussed the general concepts of food attribution including definitions. During the conference, 3 sessions dealt with attribution methods, 11 presentations covered the full range of methods and



**Workpackage 23 and 28 members at the kick-off meeting in July.**

applications and possible conclusions from the individual approaches. Thus, a comprehensive overview of food attribution methodologies developed in the EU and US was given. This was completed by examples where these methods have been successfully applied to attribute human zoonotic infections to the sources responsible. The presentations also explained the data needs for source attribution and the limitations currently to be faced. By getting such a comprehensive overview on the methods used around the world in the process of priority setting, this assisted the understanding the differences and limitations of these approaches. The participants were

encouraged to collate national data on the different steps of the food chain and to apply some of these methods on their national data. This will help to better understand the appropriate use of the different approaches.

Hopefully the successful start of both above-mentioned projects will be continued during 36 months of productive collaboration. Let's hope some intercontinental collaboration will flourish as well.

**Pawel Stefanoff,  
Anne Thebault  
and Annemarie Käsbohrer**

## Presentation folders

The Communications Unit have available some Med-Vet-Net folders which you might find useful for meetings and conferences or other events that promote the Network. They have two pockets inside to fit documents up to A4 size.

If you would like some please email the Communication Unit ([communications@medvetnet.org](mailto:communications@medvetnet.org)) with your mailing address and the approximate number you require.

**Communications Unit**



## Salmonella in exotic pets

### Welcome to the world of exotica!

I was offered a pair of pet mice the other day by a friend who is leaving UK to take up a post overseas. After my initial negative response (I have two cats and I don't think the mice would consider them appropriate long-term playmates). I started to think seriously about the zoonotic impact of keeping rodents and exotic species as companion animals. Further conversation in this vein with my colleague Sonia Téllez at UCM, who has a background in exotic pet *Salmonella* (and an avid interest in all things reptilian), has led to further exotic musings!

From Madagascan cockroaches to snow leopards, what has now become abundantly clear is that people will keep anything and everything as pets these days! A UK survey in 1972 undertook 500 post-mortem examinations of non-domesticated pets. The conclusions of this survey suggested strongly that non-domesticated animals are unsuitable as pets (Keymer, 1972). Whilst we could wax lyrical regarding the ethical and safety issues and motivations of keeping some of these exotic animal species as pets, I was rather more interested to look at the reported potential for transmission of certain Enterobacteraceae in the domestic environment. With a personal interest in *Salmonella* the most obvious question that sprang to mind for me was to look at whether indeed more common exotic-domestic pets such as snakes, chameleons, geckos, iguanas, turtles and tropical fish actually have a recognized role to play as vectors in human *Salmonella* infection.



The association of human *Salmonella* infection with companion animals has been documented from the early 1940s (Hinshaw & McNeil, 1945) but the nature of the vehicle is constantly changing with changing trends. What appears clear is that children and pregnant women constitute more susceptible groups to infection. A recent Promed report of salmonellosis in the US outlines an outbreak in schoolchildren confirmed with *Salmonella* infection potentially associated with contaminated water from turtles kept as pets in a school classroom (Anon, 2006) It is estimated that approximately 90% of reptiles such as snakes chameleons, lizards, iguanas and turtles, commonly carry and intermittently shed *Salmonella* spp. in their faeces (Woodward et al. 1997), possibly over long time periods (Burnham et al. 1998). To complicate matters, these reptiles do not demonstrate any symptoms of salmonellosis. Additionally, these species may support a 'stable mixture' of

*Salmonella* serotypes in their intestinal tracts (Burnham et al. 1998).

Information from CDC Atlanta suggests that 74,000 human *Salmonella* infections per annum (6 %) are traceable to reptile and amphibian contact in the US, with 11% of cases occurring in young patients under 21 years (Mermin et al. 2004). A Canadian study (Woodward et al. 1997) indicated that over a two year study period, between 3 and 5% of human *Salmonella* cases were associated with handling exotic companion species. Of greater importance is the particular *Salmonella* serotype species-specificity attributed to these exotic pets, with a concurrent increase in reporting of human infection due to uncommon *Salmonella* serotypes, such as serotypes Poona, Java and some serotypes that belonged to subspecies arizonae and diarizonae historically associated preferentially with reptiles and other cold-blooded species.

Several studies (de Jong et al. 2005; Briones et al. 2004, Geue & Löschner, 2002) have shown that the potential problem of *Salmonella* transmission from both pet and free-living exotic species to humans is equally recognized. In Europe, as it is in the US and Canada. Analysis of Swedish data (de Jong et al. 2005) has demonstrated that import restrictions and proactive education of the general public have a positive effect on the numbers of reptile associated *Salmonella* infection in humans. The findings conclude that it may be possible to extrapolate these trends to other western countries.

The problem does not just end with the transmission of *Salmonella* from exotic pet to humans with resultant disease outcomes. Recent communications cite the isolation of multi-drug resistant *Salmonella* from Australian fish tanks, with home aquariums considered as



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a significant source of multidrug resistant *Salmonella*. (Levings et al. 2006). In this particular study, *Salmonella* serotype Paratyphi recovered from these fish tanks contained *Salmonella* genomic island 1 (SGI1) which contains an antibiotic resistance gene cluster and has been previously identified in multidrug-resistant *Salmonella enterica* serovars such as Typhimurium DT104. *Salmonella* serotypes possessing this pathogenicity island may cause epidemic infection, leading to severe human disease, particularly in children.

The need to adhere to consistently good hygiene practices when handling exotic pets therefore assumes potentially significant proportions, but how best to endorse these practices and disseminate this information to the general public? National information campaigns are available in some countries such as the United States with an emphasis on veterinarians and petshops for guidelines dissemination to clients (Bradley et al. 1998). Media outlets and internet access can also contribute to reinforcing the necessity of hygiene when handling exotic pets with many reptile specialist websites providing clear safe handling instructions for their audience. The BBC website ran a feature (Anon, 2005) claiming that pet rodents present a *Salmonella* risk and that failing to wash your hands after handling these animals puts individuals at risk of infection. A delightful piece of wisdom advocated by the Texas Department of Health website is to remember that 'the kitchen sink is no place to bathe reptiles or to wash their dishes, cage or aquarium!' (Mahlow, 1999).

Consequently, the next time you fancy cuddling up to a giant pet cockroach or singing to your pet mouse (male mice allegedly can sing back to you! ), just remember to enjoy the contact but wash your hands thoroughly afterwards



– human salmonellosis attributed to contact with exotic species is now recognized as a re-emerging disease!

Claire Cassar & Sonia Téllez

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## New and emerging zoonoses

*Streptococcus suis* is an important swine pathogen, widespread in the pig population worldwide. *S. suis*, is endemic in most pig-rearing countries of the world. The organism is carried in the tonsils and nasal cavities of apparently healthy animals, and mainly spreads between pigs through the respiratory route, but may also enter through wounds and abrasions. Although it is most adapted to domesticated pigs, it can also be occasionally isolated from other animal species such as wild boar, horses, dogs, cats and birds. Infection in pigs is usually asymptomatic and healthy carrier animals may spread infection without showing any symptoms.

*S. suis* is responsible for severe clinical outbreaks in swine raised under 'intensive' conditions usually associated with predisposing factors found in pigs reared in 'suboptimal' conditions, such as overcrowding, poor ventilation or weaning, that can cause stress and subsequent immune suppression. Disease is most common in 4–8-week-old pigs but the disease can occur in any age group.

Disease syndromes caused by *S. suis* include meningitis, septicaemia, arthritis, bronchopneumonia, endocarditis, encephalitis, abortions and abscesses. There are at least 35 different types (serotypes) that can be distinguished serologically. *S. suis* serotype 2 is the serotype most commonly associated with swine disease, being therefore associated with significant losses to the pig industry in most countries. However, the emergence of other serotypes, such as serotype 9, has been reported in some countries.

*S. suis* is also a zoonotic disease, capable of transmission to humans from pigs. Human infection was first described in the 1960s and since then it has been increasingly recognized. Serotype 2, an established zoonotic pathogen, is commonly implicated in human infections, although other serotypes, such as serotype 14, have also occasionally been isolated.

People in direct contact with pigs or pig products, typically farmers, veterinary personnel, abattoir workers, butchers or others in occupational contact with pigs are considered at risk. Patients who are immunosuppressed or have had their spleen removed (asplenic) are known to be at greater risk from

the disease. Human infection usually occurs through close contact with infected pigs or uncooked pig meat products, through wounds or abrasions on the skin when handling infected pig carcasses. Another possible route of infection is through inhalation of droplets or aerosols containing the bacteria, but this has not been reported to cause human disease.

Human infection may be severe, with meningitis, septicaemia or endocarditis as possible outcomes of infection. Arthritis and pneumonia are also possible complications. Another possible consequence of infection is the occurrence of toxic shock syndrome. This syndrome is also associated with other streptococcal and staphylococcal infections. This may lead to severe damage of many vital organs, including the liver, kidneys and circulatory system.

Human *S. suis* infections usually occur in a sporadic manner, and fatal cases of *S. suis* are uncommon. However, serious human outbreaks can also be detected, like that reported in July 2005 in Sichuan, China, with higher than usual human morbidity and mortality rates. The human outbreak coincided with one in the local pig populations, being diagnosed in a total of 204 human cases with 38 deaths. All of the patients had been in direct contact with pigs, and no evidence of human-to-human transmission was reported. Many of the patients, and almost all of the fatal cases, had typical symptoms of streptococcal toxic shock syndrome.

In conclusion, the current saga of human and animal *S. suis* infections attract the public and scientific interest making important the study of the factors that have contributed to the emergence of this old pathogen.



***Streptococcus suis* can be transmitted from pigs to humans.**

**Kumar Sivam**

## Project management

### Two years on

It is two years from the start of Med-Vet Net. We are now 40% through the life of this network!! This elephant is now almost half way up the mountain. In these two years we have achieved so much both scientifically and socially. The challenge for this coming year is to build on this network to stimulate collaboration for the upcoming FP7 research calls. The drafts of these calls are now available – please remember your Med-Vet-Net colleagues when you are considering generating new networks to submit proposals to FP7.

### Would your family like to join in?

We are now truly an integrated and extended family and it is a pleasure to

meet friendly faces throughout Europe at our many meetings. Many of us willingly share our homes as well as our science with these friends. In a new initiative in this coming year we would like to extend this network opportunity to your families by setting up a webpage on the private website inviting offers of friendship especially between your younger family members. We foresee web-based friendships developing to improve language skills and perhaps exchanges during school/college holidays. Please let us know what you think about this.

### New – Project Management newsletter

Starting this month, specific management information will be distributed in a new newsletter designed for Med-Vet-Net managers only. It is anticipated a similar newsletter will be produced by the Administration Bureau. In the future the Project Management and Administration Bureau Reports will therefore disappear

from Med-Vet-Net News and only relevant information for the general network will be included.

### EC Reviewers meeting

In response to a request from the EC a special Med-Vet-Net meeting

was organized at Afssa, Plougfragan, France, for the EC-appointed reviewers Dr Christain Dalsgaard and Dr Helga Kruse. Presentations were given on the overarching Workpackages and some of the research ones. The Reviewers stated that they were impressed by the level of integration, the scientific content and, in particular, by the dissemination of information aspects of the network.

The reviewers will receive for review the Second Annual Report and the JPA3 plans in early November via the EC liaison officer.

### Annual Report and JPA3 plans

The Second Annual Report and JPA3 plans are now due.

### COST920 presentation

An update of progress in the first two years of Med-Vet-Net was provided to the final meeting of the EU-funded COST920 Action ([www.cost920.com](http://www.cost920.com)) at Plougfragan, France, on 11th September by Diane Newell. There remains a significant interest in the network by external scientists and it is hoped that, should a new COST Action be submitted, Med-Vet-Net could become a partner.

**Diane Newell**



## External congress

### 2nd ASM Conference on *Salmonella*: From PRION2006

Strategies, Advances and Trends Towards Protection of Society  
Centro Congressi Lingotto  
Turin, Italy, 4–6 October 2006

The programme will include state-of-the-art lectures, oral presentations selected from contributed abstracts and poster sessions on the themes of NeuroPrion Network (prevention, control, treatment, management and risk analysis of prion diseases) and discussions focused on basic research. This event will provide a great opportunity for scientists from all over the world to share their findings and progress in an attractive and interesting setting.

See: [www.newteam.it/PRION2006/](http://www.newteam.it/PRION2006/)

### 1st OIE International Conference – Use of GIS in Veterinary Activities

Silvi Marina (TE), Abruzzo (Italy)  
8–11 October 2006

Conference objectives:

- To provide a forum for the exchange of the latest information and application of Geographic Information System (GIS) in veterinary activities
- To identify GIS tools for animal diseases and zoonoses monitoring
- To identify priority needs for the development of GIS tools in animal diseases and zoonoses surveillance
- To discuss a proposal for the implementation of a GIS portal for veterinary activities

For more information see; <http://www.gisconference.it/index.htm>

### Nano and Microtechnology in the Food and Health Food Industries

NH Grand Hotel Krasnapolosky, Amsterdam, Netherlands, 25–26 October 2006

The conference will have sessions on:

- Nano and micro technologies in food processing, monitoring, labelling, storage, distribution and related issues
- Using nano and micro technologies to meet the challenges of food for nutrition and food for health
- New techniques and technologies for rapid safety testing, and prevention of food borne disease
- Safety and regulatory issues related to the use of new technology.

For more information see: [www.nano.org.uk](http://www.nano.org.uk)

### CIAA

Brussels, Belgium, 26 and 27 October 2006

The Confederation of the Food and Drink Industries of the EU bi-annual conference 'Food for life...', meeting consumers' needs' will be held at the Hilton, Brussels.

For more information see:  
[www.ciaacongress.be](http://www.ciaacongress.be)

### Emerging Diseases: Preparedness and Implementation Issues,

ENS Lyon, France, 5–8 November 2006

Organized by the International Association for Biologicals (IABs) in association with WHO, OIE and NIAID. The meeting aims at increasing preparedness against emerging or re-emerging diseases. The problems will be discussed in the framework of recent examples from human and veterinary medicines.

For more information see:  
[www.bcm2006.org/](http://www.bcm2006.org/)

### Society for Applied Microbiology Winter meeting 2007 – Food and Health Royal Society, Carlton House Terrace, London, UK, 11 January 2007

Morning session:

- The Denver Russell Memorial Lecture "Naturally Occurring Microorganisms and their Resistance to Physical and Chemical Agents" Martin Favero, Advanced Sterilization Products, Johnson & Johnson, USA.
- What role can Government play in controlling hospital acquired infection? Prof Brian Duerden
- Food poisoning – what are the real risks? Bob Adak, CDSC, Health Protection Agency.

Afternoon parallel sessions:

- Session A. Hospital Acquired Infections
- Session B. Simmering issues in food safety

For more information see: [www.sfam.org.uk](http://www.sfam.org.uk)  
or email: [Rachel@sfam.org.uk](mailto:Rachel@sfam.org.uk)

### ISAAR 2007

Sixth International Symposium on Antimicrobial Agents and Resistance Raffles City Convention Centre, Singapore, March 7–9, 2007

Since 1997, ISAAR has been contributing to gather the relevant data and information on various issues of antimicrobial resistance and infectious diseases with regard to the updated epidemiology, mechanism of resistance, new diagnostic methods, therapeutic strategies, and preventive measures. ISAAR became the most representative international meeting on infectious diseases and antimicrobial agents/resistance in the Asian-Pacific region. ISAAR 2007 is hosted by the Asian-Pacific Research Foundation for Infectious Diseases (ARFID) and co-organized by Society of Infectious Diseases, Singapore and many international organizations and academic societies will support ISAAR 2007 as in 2005.

Please visit ISAAR 2007 official website [www.isaar.org](http://www.isaar.org) for more information.

## Notices

The American Society for Microbiology (ASM) has launched a new website: Microbiology Careers: <http://www.microbiologycareers.org>. It has been developed to serve as a resource for microbiologists at all levels as they plan their careers and consider new career alternatives.

The Portal's resources include:

- Find a Job/Post a Job - access ASM Career Connections, ASM's online job board and learn more about ASM's onsite placement services at General Meeting and ICAAC
- 'Ask the Experts' - get answers to your career questions from experts including resume/CV, interview and laboratory management advice
- Message Board on Microbiology Careers - share your thoughts and discuss career development and job searching with your peers
- ASM Salary Survey - search the results of the 2005 ASM salary survey using a variety of criteria including job title, region, = industry, and length of professional experience
- Access career-related articles, information about certification and fellowships, and more!

The ASM Career Portal will continue to add new features over the next year: you can sign up for the 'ASM Career Portal Email Alert' so you can take advantage of site upgrades as soon as they are available.



## Contact us

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