

FIFTH EUROPEAN CONFERENCE ON

Travel Medicine & Global Health

(ECTM5)

(www.ectm5.org)



Organized by:

The World Health Organization Collaborating Centre for Travel Medicine

With the Patronage of



Presidency of the Italian Government

and

Ministry of Health

Ministry of Foreign Affairs



Regione Veneto



Republic of San Marino

Welcome to ECTM5 in Venice, Italy

It is a great pleasure to invite you to attend the 5th European Conference on Travel Medicine (ECTM5) which will take place in Venice, Italy, at the Scuola Grande of San Giovanni Evangelista. The economical globalization has increased global movements of people and commerce. This brings both risks-such as importation of infectious agents or other hazardous contaminant and benefits such as the global movement of information, ideas and cooperation. With globalization, health problems are almost never limited a single country, but take on instead a global dimension, becoming increasingly of general interest. Increased population movements, whether through tourism or migration or a disaster; growth in international trade in food and biological products; social and environmental changes linked with urbanization, and changes in methods of food processing, distribution and consumer habits have reaffirmed that infectious diseases events in one country are potentially a concern for the entire world. Epidemics may become urgent events of international public health importance, but global health includes many others health problems like non-communicable diseases, environmental health, diseases related to lifestyles, injuries and accidents. The globalization of problems can be accompanied by the globalization of solutions if countries meet, if they exchange ideas and proposals, if they unite in facing these problems. The Conference will discuss the main aspects of globalization and health and will try to have conclusions and recommendations for the countries, but also information to enhance your day-to-day practice of travel medicine.



Walter Pasini
World Health Organization
Collaborating Centre for Travel Medicine

Scientific Committee

David J. Bradley (UK)
Bernardus Ganter (Denmark)
Zsuzsanna Jakab (Sweden)
Ali Khan (USA)
Jahja Kisjanto (Indonesia)
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THE FIFTH EUROPEAN CONFERENCE ON TRAVEL MEDICINE
Venice 23-25 March 2006
SCIENTIFIC PROGRAM

Thursday 23 March 2006

Session I :h. 9.00- 10.00

Global Health:

Chairman: Erio Ziglio(WHO)

- Walter Pasini, Italy : Globalization and Health
- Max Hardiman (WHO) : The International Health Regulations
- Barbara Hatcher (APHA): Globalization and Public Health: Challenges and Opportunities

h.10.00-10.30 Coffee-break

Session II : h. 10.30- 12.30

Avian and Pandemic Influenza

Chairmen: Pietro Crovari (Italy) - Bernardus Ganter (WHO)

- Bernardus Ganter: The WHO preparedness plan
- Zsuzsanna Jakab(ECDC): Avian and pandemica influenza: the ECDC role
- Christianne Bruschke(OIE): Avian influenza: the OIE task
- Ali Khan (CDC): Global preparedness for public health crises
- Albert Osterhaus (The Netherlands) :Vaccines and antiviral drugs

h.12.30- 14.00 Lunch

Session III: h. 14.00-15.30

Cardiovascular Health

Chairmen: Jahja Kisjanto (Indonesia)- Barry Franklin (USA)

- Alan Mendelsohn (USA): Prevention of cardiovascular diseases in travellers
- Pamela Allweiss (CDC): Dealing with Diabetes while traveling
- Barry A. Franklin (American College for Sports Medicine) Physical activity for cardiovascular health
- Michael Dickson (USA) Trends in drug therapy for cardiovascular disease in 12 countries

h. 15.30- 16.15 coffee break

Session IV : h. 16.15-18.00

Air Travel and Health:

Chairmen: Lindsay Martinez (WHO)- Karl Neumann (USA)

- Lindsay Martinez, Figueroa-Munoz J, Blanc L, Raviglione M., Jun-Wook K. (WHO): Tuberculosis and air travel
- Farrol Kahn (UK): Travel stress
- Karl Neumann (USA) Travelling with children
- Walter Gaber (Germany): Health control of passengers at airports
- M.Simons (Netherlands):Fainting airline passengers: Hypoxic Syncope

Session V: 16.15- 18.00

Migration Health in Europe

Chairman: Istvan Szilard (IOM)

- Zsuzsanna Jakab (ECDC): key note address
- Istvan Szilard (IOM): Health/ Public Health Aspects of Current Migration Trends in Europe
- Charles Watters (University of Kent): Refugees, Mental Health and Social Care
- Ruth Gilbert (Centre for Infectious Health Protection Agency, London): Assessing the burden of infectious diseases on migrants in the UK
- David Bradley(U.K.) :Migration and its consequences for travel .
- Gabriele Bagnasco (Servizio di Igiene Pubblica, Vercelli): Vaccination of foreign children living in Vercelli province against Hepatitis A.

Session VI 16.15-17.15

Global Surveillance

Chairmen: Francesco Castelli (Italy)- Hans Nothdurft (Germany)

- Bernardus Ganter (WHO) Global surveillance in Europe
- Stephen Berger (Israel): A web-based program for decision support and informatics in geographic medicine
- Lawrence J. Jones J (UK): International outbreak surveillance: key outbreaks in 2004/05 and effects on pre-travel health advice

Friday 24 March 2006

Session VII : h. 9.00- 13.00

Safe food and water

Chairmen: Sen. Cesare Cursi, Deputy Minister of Health (Italy)- Romano Marabelli, Director General MOH (Italy)

- Peter Karim Ben Embarek (WHO) Food safety and globalization
- Piero Cravedi(University of Piacenza) - Maria Lodovica Gullino (University of Turin): Safe food production starts in the field
- Gianfranco Piva, Paola Battilani (Piacenza University), Marina Miraglia (ISS, Rome), Angelo Visconti (CNR, Bari) Mycotoxins and human health
- Corrado Ludovico Galli - Marina Marinovich (, University of Milan, Italy): Critical evaluation of the safety of pesticides
- Romano Marabelli (Ministry of Health,Italy) : food safety in Italy

10.45-11.15 Coffee- Break

- Robert Tauxe (CDC) The Global Challenge o Emerging Foodborne Pathogens
- Eric Mintz (CDC) Safe drinking water: a global challenge
- Massimo Casella (Nestlé, France): Water catchments and water treatment in developing countries
- Pilar Rodriguez-Iglesias (EFSA): the EFSA policy
- Renata Clarke (FAO): Food safety and FAO policy

h. 13.00- 14.30 *Lunch*

Session VIII -h: 14.30-16.15

Vaccinations

Chairman: Gaetano M. Fara (Rome, Italy)

- Patrick Zuber (WHO): New vaccines in the global perspective
- Francesco Castelli (Italy) : The new anti-cholera vaccine
- David Overbosch (Netherlands): The combined vaccine against typhoid and hepatitis A
- Sante Canducci (Italy): The polio eradication program
- Wilder-Smith A. Soh LH, Boudville I, Earnest A. (Singapore): Knowledge, attitude and practise in adult travelers with regards to pertussis

h.16.15-16.45 Coffee-break

Session IX : h.16.45- 18.45

Expedition medicine

Chairman: Marc Shaw (New Zealand)

- Marc Shaw (New Zealand): planning for desert and remote expedition
- Peter Leggat (Australia): preparing medical doctors for expedition
- Jon Dallimore(UK):preparing the expedition team
- Stephen Toovey(South Africa): on Expedition Kilimanjaro: Planning for altitude

Session X: h.16.45-17.45

Travel Medicine in Eastern European Countries

- P. Felkai- E.Kovacs (Hungary): SOS Hungary medical assistance service in Budapest
- Viorica Ungureanu(Romenia) : Travel medicine in Romania
- Rosanda Mulic-Aida Custovic (Croatia): Malaria in the Republic of Croatia ,past ,present and future

SATURDAY 25 MARCH

Session X : h. 9.00- 10.45

Biosafety

Chairman: John Aldis (USA)

- Daniel Lavanchy_(WHO) :Strengthening global health security
- John Aldis (USA) :Managing a Lab for dangerous illnesses
- Philip Bedford (UK) :Investigation on smallpox vaccine (Vero cells) Lyophilised ACAM2000
- Jill Dekker-Bellamy, (Belgium) Understanding the Threat of Bio-Terrorism: Public Health Preparedness and Deliberate Disease
- Lastilla Marco et al.(Italy): Air Evacuation of patients with High infectious Diseases under Biosafety Containment

Coffee-break: h 10.45-11.15

Session XI h. 11.15- 12.30

Natural Disasters

Chairmen: Guido Bertolaso, Italy- A.Hopperus Buma (The Netherlands)

- Jahja Kisjanto (Indonesia) the tsunami aftermath
- Jim Ryan(UK) Pakistan Earthquake Assessment
- Adriaan Hopperus Buma (The Netherlands): Is medical personnel ready? The diploma in the medical care of catastrophes
- Ali Khan (CDC): Hurricaine Katrina

Session XII h.11.00- 12.30

Emergencies

- Vesna Popovic: Alcohol consumption ,driving distances and road accidents
- Douglas W. MacPherson- Brian Gushulak et al.: Death in International Travelers -Canadian experience 1996-2004
- Igor M.Ravnik et al. (Slovenia): Travelling with epilepsy
- Vicente Mera, Spain, Causes of death among European travellers in Spain.
- Gualtiero Ferraroni, Italy, The management of airplane disasters

Session XIII h.11.00-12.30

Infectious Diseases

Chairman: David Bradley

- Annelies Wilder-Smith (Singapore): dengue fever
- David Rollinson (UK): schistosomiasis
- Rosanda Mulic-Aida Custovic (Croatia): occurrence of visceral and cutaneous leishmaniasis in Croatia
- Chris Conlon: The HIV traveller
- Thaddeus Graczyk :Traveler's Diarrhea ,Diagnosis, Prevention and Medication

Session XIV h 14.00-15.30

Travel Medicine Update

Chairman: Christopher Conlon (UK)

- Henry Bagget, Phyllis Kozarsky, Paul Arguin, **Christie Reed**: (CDC, Atlanta) Comparison of health maintenance recommendations for international travellers among three authoritative sources
- Tadashi Shinozuka (Japan): Emergencies and Health Care abroad
- Per Anders Mardh (Sweden): Sexually Transmitted Infections in travel medicine perspective
- Robin Philipp (UK): Well-being and travel

Coffee-break: 15.30-16.00

Session XV: 16.00-17.30

Malaria

Chairman: David Overbosch (The Netherlands)

- David Bradley(UK) .malaria case fatality rate with age in UK travellers
- David Overbosch (The Netherlands):malaria chemoprophylaxis
- Morgan M. (UK) Figueroa-Munoz J I(WHO): Barriers to uptake and adherence with the malaria prophylaxis by the African community in London, England : Focus group study

ABSTRACTS

Globalization and Health

Walter Pasini (WHO CC for Travel Medicine)

The globalization of the world economy has increased global movements of people and commerce. This brings both risks-such as importation of infectious agents or other hazardous contaminants- and benefits-the global movement of information, ideas and cooperation.

With globalization, health problems are almost never limited to single countries, but take on instead a global dimension, becoming increasingly of general interest.

The globalization of infectious diseases is not a new phenomenon. However, increased population movements. Whether through tourism or migration or as result of disaster; growth in international trade in food and biological products; social and environmental changes linked with urbanization, deforestation and alterations in climate; and changes in methods of food processing, distribution and consumer habits have reaffirmed that infectious diseases events in one country are potentially a concern for the entire world.

Another concern is the increasingly possible international use of infectious agents. In addition to epidemics that occur naturally, outbreaks might result from international or accidental release of biological agents. Epidemics may become urgent events of international public health importance, but global health includes many others health problems like non-communicable diseases, environmental health, diseases related to lifestyles, injuries and accidents.

The globalization of problems can be accompanied by the globalization of solutions if countries meet, if they exchange ideas and proposals, if they unite in facing these problems. In order to promote the culture of international health we intend to promote the foundation of a Global Health Center or of an International Organization of Global Health. The sphere of activity of the Center is prevalently European, with the possibility of action in all countries of the world.

The Global Health Center intends to:

- promote the international approach in addressing and solving health problems, stimulating meetings between representatives of different countries sharing similar problems of health and environmental hygiene;
- promote the culture of international health among doctors, nurses, veterinarians, health engineers and other operators by the organization of conferences, working groups and professional training courses;
- create an interactive museum for the students of all European schools that will focus attention on the promotion and protection of health with an international approach;
- create a portal for the public to correctly inform on health themes of global interest;
- assist the press and other media in their activity of health communication and education with an international approach;
- encourage the inclusion of international health in medical and non-medical degree courses, also envisaging the opening of universities with a clear and precise orientation in this field;
- assist ministries, institutions and government agencies in the implementation of appropriate policies, plans and programme in their specific areas of responsibility;

- carry out scientific research in collaboration with European and non-European universities;
- collaborate with the European Union, UN agencies and with the CDC in Atlanta in the pursuit of their world health objectives, spreading their viewpoints and participating in joint activities;
- encourage organisms and institutions not directly involved in health to promote activities in the area of general health (banks, multinationals, etc);
- assist Europe's civic, provincial and regional administrations in the promotion of public health campaigns for towns, rivers, sea and all other aspects of the environment that may have beneficial effects on global health.

Globalization and Public Health: Challenges and Opportunities

Barbara Hatcher (USA)

Public health scientists are in the early stages of determining the impact of globalization on public health. While globalization is not a new phenomenon, in the 21st century there is a rapid and unrestricted flow of ideas, cultural values, capital, goods and services and people not possible in earlier times. As the world is increasingly interconnected and mobility increased as well, there is a significant impact on the public's health and a demand for international cooperation.

This presentation will address definitions of globalization, a historical perspective of the spread of disease and finally describe globalization contributes to the spread of infectious diseases and identify the drivers, challenges and opportunities to public health and major global diseases.

Prevention of cardiovascular diseases in travelers

Alan Mendelshon (USA)

As air travel becomes more financially and pragmatically accessible to greater numbers of individuals, travel by persons with underlying cardiovascular diseases are increasing in commensurate numbers. Cardiac events represent the major cause of in-flight death and the greatest number of flight diversions regardless of prior medical history (Representative articles: Possick and Barry, 2004a). Theoretical reasons for increased risk of cardiovascular events may include high altitude hypoxia, intravascular and extravascular fluid shifts, microcirculatory effects of travel, dehydration and mental stress, all of which may contribute to increased cardiac stress and increased thrombotic potential in subjects predisposed to thrombogenic events (Stricker, et al, 2003; Zeegelaar, et al, 2002). These issues may be particularly true for the patient with pre-existing cardiovascular disease (coronary insufficiency, myocardial infarction, cardiac dysrhythmias). We will initially examine the most current theories of the pathophysiology of coronary atherosclerosis and myocardial ischemia, which implicate inflammatory mechanisms of coronary occlusion and plaque rupture, and examine other risk factor analyses for myocardial infarction during travel (Kop, et al, 2003). We will next examine how the inherent "risks" of air travel may theoretically increase the risk of coronary events based upon experimental observations during simulated flight (Landgraf, et al 1994). We will evaluate whether these theoretical risk factors have been demonstrated to correlate with ischemic etiologies and whether prophylactic measures (e.g. anticoagulation) have been demonstrated to have significant efficacy (Roby, et al 2002). We will conclude with current clinical recommendations, including Canadian and American College of Cardiology guidelines for maximizing the safety and reducing the risk of travel for the subject with pre-existing cardiac disease (Possick and Barry, 2004b; Ericsson, et al 2003).

Physical activity for the prevention of cardiovascular disease

Barry A. Franklin, Ph.D., William Beaumont Hospital, Royal Oak, Michigan, (USA)

Exercise training/physical activity plays an important role in the prevention of coronary artery disease (CAD). Epidemiologic studies suggest that sedentary individuals, compared with their physically active counterparts, are nearly twice as likely to develop CAD. A low level of aerobic fitness, expressed as metabolic equivalents (METs; 1 MET = 3.5 mL/kg/min), has also been shown to be an independent risk factor for cardiovascular mortality. On the other hand, each 1-MET increase in exercise capacity appears to confer an 8%-17% reduction in mortality.

Regular aerobic exercise can result in moderate losses in body weight, moderate to large losses in body fat, and small to moderate increases in lean body weight. Endurance exercise can promote decreases in blood pressure (particularly in hypertensives), total blood cholesterol, serum triglycerides, and low-density lipoprotein cholesterol, and increases in the “antiatherosclerotic” high-density lipoprotein cholesterol subfraction. Exercise also has favorable effects on glucose and insulin homeostasis, inflammatory markers (e.g., C-reactive protein), coagulability, fibrinolysis, and coronary endothelial function.

In the current obesity-conducive environment, food has become readily accessible and, simultaneously, we have “engineered” physical activity out of our vocational and leisure-time pursuits. Physical education has been reduced or eliminated in many schools. Physical labor has continued to decline. Much of our days involve extended driving time, desk work, sitting on or waiting for airplanes, meetings, teleconferences, and computer interactions. Increasingly, we are paid to think, to provide specific sedentary skills, or to communicate or process information. Our global “hypokinetic environment” has important implications for incorporating structured exercise/increased physical activity in our daily lives, as well as during vacation and holiday periods (to optimize cardiovascular health).

Although the exercise prescription should include at least 30 minutes of continuous or intermittent exercise (e.g., three 10-minute bouts) on most and preferably all days of the week, the regimen should be complemented by resistance/flexibility training and the adoption of a progressively more active lifestyle. A pedometer can be helpful in this regard (i.e., accumulating 8,000-10,000+ steps/day), especially during occupational and leisure-time activities, that is, vacation and holiday periods.

Dealing with Diabetes while travelling

Pamela Allweiss (CDC, Atlanta)

Diabetes is a global epidemic affecting over 21 million people and a major risk factor for cardiovascular disease. Control of diabetes is important on a daily basis but can be challenging as people travel for business and pleasure. Changes in time zones, meal times, types of food and activity are examples of the challenges that travelers with diabetes face. This session will focus on some strategies for pre trip preparation, medication adjustment across time zones, and resources such as the National Diabetes Education Program, a joint Centers for Disease Control and Prevention (CDC), and National Institutes of Health (NIH) program to help the person with diabetes travel successfully.

Trends in drug therapy for cardiovascular disease in 12 countries

Michael Dickson (USA)

Cardiovascular disease (CVD), is among the top three leading causes of death in many countries. Drug therapy is the mainstay of maintenance care for CVD and is likely to increase in importance as populations becomes more elderly. Much is known about the benefits and risks of pharmaceuticals at the individual-level because of clinical trials. However, very few studies have examined pharmaceutical use at the population-level. The purpose of this study is to examine patterns of drug use for CVD in 12 countries over an 11-year period.

METHODS: Descriptive data are used to examine differences in CVD drug use among countries and across time. We study utilization of antihypertensives, diuretics, vasodilators, and serum lipid reducers in 12 countries (Canada, France, Germany, Italy, Japan, The Netherlands, New Zealand, Spain, Sweden, Switzerland, UK, and USA) for 1989, 1991, 1993, 1995, 1997, and 1999. Drugs are classified using the ATC system and utilization is measured using DDDs. Data for the study was extracted from an IMS database.

RESULTS: Over the 11 years of this study, three patterns of use were observed: 1) a group of older drugs for which there was no growth (“traditional” antihypertensives, diuretics, and vasodilators), 2) beta blockers which experienced modest growth, and 3) a third group of newer agents including CCBs, ACEs, and serum lipid reducers for which there was substantial growth. Diuretics had the highest level of use, but the flattest growth curve. ACEs represented 9.8% of CVD drug use in 1989 and 22.0% in 1999. During this same time period, “traditional” antihypertensives experienced a decrease in use from 9.5% in 1989 to 3.1% of the total in 1999. The greatest growth was for serum lipid reducers which were 6.4% in 1989 and 14.0% in 1999. When examined by country, the highest average annual growth rates for CVD drug use were in The Netherlands, New Zealand, and Spain (7.1%, 7.1%, and 6.9% respectively). Utilization declined slightly in France (-1.1%) and Japan (-0.2%). In general use of cardiovascular drugs is rising, reflecting the combined effects of ageing, diffusion of medical knowledge, and new pharmaceutical technology. Whether a particular trend is desirable depends on many local factors including, CVD prevalence, and health care policy. Data for selected cardiovascular diseases as well as country specific data also will be presented to illustrate more specific trends.

Tuberculosis and Air Travel

Lindsay Martinez, Figueroa-Munoz J, Blanc L, Raviglionone M., Jun-Wook K. (WHO)

With air travel now widely accessible to increasing numbers of international air travellers, there is a consequent increased risk of the spread of infectious diseases carried by infected passengers. In the early 1990s, there were reports of the transmission during long flights of tuberculosis (TB) infection, including multidrug-resistant TB (MDR-TB), from contagious travellers to other passengers and crew. These episodes caused widespread anxiety among travellers, public health officials and airline companies. The World Health Organization published guidelines in 1998 defining the extent of the problem and the potential risks, and providing recommendations for travellers, physicians and health authorities, and airline companies. Since then, other airborne diseases have caused major international public health emergencies, in some cases involving the actual or potential of transmission of infection during international flights. In addition, the emergence of MDR-TB in recent years raises special concerns in relation to the international spread of particularly dangerous strains of *Mycobacterium tuberculosis*.

The revised International Health Regulations (IHR), adopted in 2005, provide a legal framework for a more effective coordinated international response to emergencies due to outbreaks of infectious diseases. A number of provisions are relevant to the detection and control of TB during air travel.

Because of these important recent developments, WHO has now prepared a revised version to take account of current public health risks that may arise during air travel and new approaches to international collaboration in dealing with them. The guidelines, to be published in early 2006, were developed with the collaboration of ICAO, IATA, and international experts in air travel medicine and public health. They provide: 1) information on transmission of TB on aircraft; 2) a summary of the practices adopted for the management of patients with infectious TB associated with air travel, and of commonly encountered difficulties; 3) suggestions on practical ways to reduce the risk of exposure to *M. tuberculosis* on board commercial aircraft, and 4) guidance on procedures to follow and responsibilities when infectious TB is diagnosed in a patient who has a history of recent air travel. The guidelines include specific recommendations for passengers, air crews, physicians, health authorities and airline companies.

Travel stress

Farrol Khan (UK)

Stress is the adverse reaction people have to excessive pressure or demands placed on them. The initial response is the alarm reaction referred to as the fight or flight syndrome.

As a result of the recent security arrangements installed at airports, air travel stress counts for the highest among any other forms of travel.

It is the flight itself which presents numerous physiological challenges unique to aviation. These include oxygen deficiency, dehydration, gas expansion, time zone changes and prolonged sitting in cramped conditions. There is also the availability of alcohol (which increases oxygen lack and the likelihood of jetlag) and the anxiety some passengers feel about air travel.

Irrespective of whether it is caused by anxiety or aggression, stress increases the total concentration in the blood stream of stress hormones, adrenaline and noradrenalin. The adrenaline level is raised more by anxiety-stress such as when we are anxious about flying or what awaits us at our destination; the adrenaline level is elevated more by aggressive circumstances such as when we have to cope with crowds, queues or traffic.

Modern man, unlike primitive man, is unlikely to exercise under a stress situation. Therefore, the fuel concentrations remain high for prolonged periods.

Such a failure to oxidise the glucose and fatty acids can in the long term (and particularly in obese or unfit individuals), lead to the development of a degenerative disease of the arteries called arteriosclerosis. This condition is characterised by deposits of fatty acids on the lining of the arteries.

In the UK alone, work related stress costs to society about £4 billion a year.

Children at Altitude: Air Travel and in the Mountains

Karl Neuman (USA)

In spite of airline regulations, there are no medical contraindications for healthy infants to travel by air. Arterial blood oxygen concentrations remain at safe levels at the cruising altitudes of commercial jet aircraft. Moreover, many recommendations for caring for infants aboard aircraft, frequent feedings, for example, are counterproductive. Frequent feedings supposedly avoids dehydration and prevents ear pain. In fact, in-flight dehydration is an oft repeated myth, and our surveys show that ear pain in infants is an unusual event, if it happens at all. Frequent feedings adds more volume to the intestinal tract, already 25% bloated by lower atmospheric pressure, making infants uncomfortable.

Children with ear infections may travel by air – and are less likely to have ear pain than children with non-infected ears. In fact children with most physical ailments can fly safely.

Fainting airline passengers: hypoxic syncope

M.Simons (The Netherlands)

Introduction: It is anticipated that the incidence of onboard medical incidents will increase, due to an increasing number of aged and/or diseased passengers, who fly over increasing non-stop distances. Reported percentages of in-flight incidents caused by syncope vary between 9% and 26%, subject to airline's diagnostic and administrative criteria, and type of aircraft. Syncope may cause in-flight panic and fear of flying, particularly in patients who have experienced recurrent syncope on repeated flights. Incorrectly diagnosed vaso-vagal syncope may lead to unscheduled flight diversions with consequent extra costs for airlines (50-150 kEuro per unscheduled diversion). In this context, relationships between syncope and factors related to air travel were studied. Method: ECG, respiration rate, arterial BP, oxygen saturation, and sympathetic nervous activity were studied in healthy volunteers exposed to hypobaric environments causing severe hypoxia (n=30) and moderate hypoxia (n=5). Moreover HbO₂-saturation in healthy volunteers exposed to minimum airliner cabin pressure (75.8 kPa) was measured (n=8). Results: 11 cases of syncope or near-syncope occurred. Cases were characterised by a sudden fall of blood pressure, severe bradycardia (asystole in 2 cases), and increased epinephrine levels. All recovered spontaneously when placed in supine position and supplemental oxygen was administered. When dozing or sleeping, subjects exposed to airliner cabin pressure showed significantly lower HbO₂-saturation (80-84%) than

what is considered normal in airline passengers (90-94%). Conclusion: Hypoxia is a sufficient cause for syncope in a sub-set of healthy airline passengers. It is hypothesized that the sub-set of susceptible individuals is defined by genetic polymorphism of α -adrenoceptors. Hypoxia in airline passengers is facilitated by reduced ventilation due to immobility, cramped seating conditions, drowsiness, and gastro-intestinal distension and may reach levels sufficient to cause a Bezold-Jarisch!

A policy for management and prevention of cases is discussed.

Public Health Aspects of Current Migration Trends in Europe

Istvan Szilard (*International Organization for Migration*)

As an enlarged Europe faces increased, complex migration flows - internal and external, regular and irregular - governments will need to give special attention to the health impacts of this phenomenon. The estimated 36-39 million migrants in Western and Central Europe alone would warrant such attention, particularly as a large proportion of them are engaged in the European labour market, which brings occupational health concerns into play. The health implications of irregular migration are even more complex.

At present, there is no Europe-wide health policy addressing this special need, not even for those persons already enjoying permanent or temporary resident status. Yet it is an indispensable part of any sustainable integration strategy, and should be factored into all efforts to harmonize migration policies and establish common denominators of welfare for both hosting and migrant communities.

The need for general health attention to migrants may be best illustrated by examples relating to irregular migration. The number of trafficked women in the EU alone is estimated at 500,000.

When highlighting the need for a Europe-wide, harmonized health policy, it should be considered that health care services for irregular migrants are not only a humanitarian obligation, but also a public health concern for countries of transit and destination. This is not just a problem of spreading 'common' infectious diseases, such as the (re)-emerging problems of TB, HIV/AIDS and Hepatitis B and C, or even sexually transmitted infections (STIs). Where public health systems are under-developed, or have been destroyed, which is often the case in developing countries of origin, otherwise by vaccination preventable diseases might spread to transit and destination countries, where physicians have not been confronted with these pathologies before

Migration and mental health

Charles Watters, Kent University, (UK)

The aims of this presentation are threefold. It will offer an overview of the findings of a European study into good practice in the mental health and social care of refugees addressing salient issues relating to strengths and deficiencies in service provision and the potential for transferring good practice from one country to another. Secondly, it will draw on a recent overview of mental health and social care practice with respect to unaccompanied asylum seeking children highlighting in particular the impact of broader considerations of asylum law and policy. Finally the implications of these studies will be explored in the context of a proposed model for the examination of the interrelationship between socio-political factors and the mental health of refugees.

Assessing the burden of infectious diseases on migrants in the UK

R.Gilbert- J.Jones (UK)

Migration and travel play a key role in determining and changing the epidemiology of infectious diseases. Approximately 7.5% of the UK population was born abroad. In 2003, an estimated 512,600 people migrated to the UK for a period of 12 months or longer, including 125,300 students, 101,800 economic migrants and their

69,300 dependants, and approximately 48,600 asylum seekers. Limited data are available on the specific health needs of these migrants, however, infectious diseases account for 25% of all deaths worldwide and many migrants arrive from countries with a high burden of infection.

Data on the proportion of cases of TB and HIV that occur in migrants to the UK are collected through surveillance programmes which request additional information on cases such as country of birth and time since arrival in the UK. Data on HIV are also obtained from the Unlinked Anonymous testing programme for pregnant women.

In 2003, 6837 cases of tuberculosis were reported in England, Wales & Northern Ireland. Of those with a known place of birth, 70% (4315/6139) were born abroad and their rate of TB was 23 times higher than in the UK born population. Information on region of birth was available for 96% of foreign-born cases: 45% were born in South Asia and 38% in sub-Saharan Africa. Ten countries of birth each accounted for $\geq 2\%$ of foreign-born cases (India, Pakistan, Bangladesh, Sri Lanka, Congo, Kenya, Nigeria, Somalia, Uganda and Zimbabwe). 27% of foreign-born cases had entered the UK less than 2 years prior to developing tuberculosis disease, however, 32% had been in the country ≥ 10 years. Also in 2003, 6789 adults were newly diagnosed with HIV, 73% of whom were born abroad. Only 20% were diagnosed in their year of arrival and 7% were diagnosed ≥ 10 years after arrival. In 2003 in the UK, the HIV prevalence in UK born pregnant women was 0.03% (43/134,208) compared to 2.38% (334/14,022) among women born in sub-Saharan Africa and 0.49% (11/2232) in women who were born in Central America and the Caribbean.

Some migrants to the UK are at higher risk of TB and HIV infection than the UK born population and this increased risk appears to continue long after arrival, partly through maintaining contact with family and friends in their country of origin. Consequently, many migrants have complex health needs, both when they initially arrive in the UK and for many years afterwards, highlighting the need for ongoing surveillance and appropriate targeted public health action.

Migration and its consequences for Travel: Maegraith's *Unde Venis* revisited

David Bradely(UK)

Institution: (1) Department of Zoology, University of Oxford; (2) London School of Hygiene & Tropical Medicine

In 1955 Brian Maegraith's paper insisting that the doctor should ask every patient 'to where have you travelled recently' could be taken as the foundation of Travel Medicine. But the world has changed and become more complex. This paper re-examines the nature of current travel, the spectrum of activities between travel and migration, and, in the context of communicable diseases, the nature of what is transferred with the traveller.

Two decades ago the complex nature of modern travel was clearly recognised, but with an emphasis on the patterns of places visited in a single complicated journey. The combination of migration and travel was recognized but not adequately explored. Now there are large populations settled in places different from the homes of their forefathers, and also substantial communities living in parts of their own country with different cultures, livelihoods and disease transmission from their own original one. In both cases the people may be exposed to new disease risks, but they will see them through eyes accustomed to their places of origin. Their problem may not be ignorance but knowledge appropriate to another situation. Indeed, that situation, in their country of origin, may also have changed since their departure. Moreover the frequency and duration of subsequent travel by settled immigrants may be very high, leading both to infections acquired on previous journeys presenting late, and to a complicated mixture of reactions to that risk, with elements derived from both cultures. These issues are explored. It is clear that much research is needed on the nature of the persistence of these cultural and behavioural issues.

The implications for the physician are (1) that the travel history needs to extend back beyond the most recent trip to the overall travel pattern and migration history, and (2) that to gain compliance with preventive advice needs understanding of the patient's present relevant perceptions.

Vaccination of foreign children against Hepatitis A

Bagnasco G. et al. (Italy)

The number of citizens proceeding from foreign countries is strongly increasing in our region and most of them are natives from areas where Hepatitis A is endemic. Most of immigrants are from Morocco and Albania. Since the children born in Italy are used to return periodically in the parent's country where they are exposed to risk of infection of Hepatitis A, we decided to experiment to introduce the immunization against Hepatitis A in the standard Italian schedule.

Before the vaccination was practiced on demand only to young people (Italian or foreign) in occasion of travel to endemic areas.

For first time in Italy since march 2005 the vaccination is proposed actively to all children born from both or one parent coming from areas of very big, big or medium prevalence for Hepatitis A (Africa, Latin America, Asia except Japan, Eastern and Southern Europe).

So at 15 months of age, in comparison with the vaccination MMR, we offer first dose of vaccine by giving an information and agreement form wrote in the main languages (English, French, Spanish, Arabic, Chinese). The vaccine used is Havrix 720 U. (licensed in Italy for use in children from 6 months).

The second dose is scheduled at 30 months of age, together with the 4^o dose of IPV. Until now 82 children received first dose. The compliance was very big: all the children picked out accepted the treatment. Moreover the information about the disease and the possibility to prevent it has caused a great request for immunization of other young relatives in case of travel to native country. 88 more children were injected for that reason.

We think that the vaccination against Hepatitis A, already used for preventing the risk of infection in people from developed countries travelling to endemic areas for job or leisure, could represent an important preventive agent for a large part of new population now living in European countries. The prevention of infection in young foreign people could better protect against the danger of re-importation of virus in our children communities, where the natural immunity is progressively decreasing .

A web-based program for decision support and informatics in geographic medicine

Stephen Berger (Israel)

Over 300 generic infectious diseases occur haphazardly in time and space; and are challenged by over 250 drugs and vaccines. 2,000 species of pathogenic bacteria, viruses, parasites and fungi have been described. Printed media can no longer follow the dynamics of diseases, outbreaks and epidemics. Although the advent of electronic media has given us unlimited information access, the search for meaningful data is confusing and time-consuming. A computer software program (GIDEON - Global Infectious Diseases and Epidemiology Online) was developed for disease simulation and informatics in the field of Geographic Medicine. The first of four modules generates a Bayesian ranked differential diagnosis based on signs, symptoms, laboratory tests, country of origin and incubation period - and can be used for diagnosis support and simulation of All infectious diseases in All countries. This module is also adapted to disease and Bioterror surveillance.

The second module follows the clinical features and epidemiology of every individual disease in each country and region. All past and current outbreaks are described in detail. The user may also list diseases compatible with any combination of agent, vector, vehicle, reservoir and country (i.e., all mosquito-borne flaviviruses of Brazil which have an avian reservoir). Over 25,000 maps and graphs display are updated "in real time". These graphs can be used for preparation of PowerPoint displays, pamphlets, lecture notes, etc. The third module is an interactive encyclopedia of the pharmacology, usage, testing standards and global trade names of all anti-infective drugs and vaccines. The fourth module is designed to identify or characterize all species of bacteria, mycobacteria and yeasts; and includes 50 to 100 taxa which may not appear in standard texts and laboratory data bases for several months. Additional options allow users to add data (in their own font / language) relevant to their own institution, electronic patient charts, material from the internet, important telephone numbers, drug prices, antimicrobial resistance patterns, etc. This form of custom data is particularly useful when running GIDEON on institutional networks. Further details regarding the program are available at

<http://www.GideonOnline.com>

International outbreak surveillance: key outbreaks in 2004/05 and effects on pre-travel health advice

Lawrence J. Jones J (UK) Travel and Migrant Health Section, Centre for Infections, Health Protection Agency

The National Travel Health Network and Centre (NaTHNaC), an English Department of Health funded initiative, was set up at the beginning of 2003 with the overarching aim of '*Protecting the Health of British travellers*'. One of its main functions is to provide expert guidance and pre-travel advice to health professionals in England and Wales who are advising travellers. The Travel and Migrant Health Section (TMHS) of the Health Protection Agency Centre for Infections, as one of the network partners, contributes to the evidence base for this advice by providing daily information to NaTHNaC about disease outbreaks occurring abroad. If an outbreak identified by the TMHS is deemed to be of possible significance to British travellers a clinical update will be generated, which summarises the outbreak and outlines the appropriate travel health advice.

Outbreak events were identified from defined sources, using defined criteria and entered into a Microsoft Access database. In 2004, there were 270 new outbreak events identified from 90 different countries worldwide. This number looks set to increase for 2005. The highest number of new outbreaks in 2004, was identified from sub-Saharan and southern Africa (70), followed by south east Asia and the far east and Europe (47 each), and North America, Australia, and New Zealand (37). Of the sources used, ProMED-mail was found to be the most useful, with 62% of all new outbreak events in 2004 identified through ProMED-mail. In 2004, 36 clinical updates were generated by NaTHNaC of which, eight were of a direct result of new events identified through the outbreak database and one as a result of an updated event.

Outbreaks occurring abroad can be of significance to UK travellers and therefore have implications for changes to pre-travel advice. The international outbreak database is an essential tool for monitoring international disease incidence and has proved to be a vital resource for NaTHNaC in order to continuously improve and develop up-to-date and relevant travel health advice.

Food safety and globalization

Peter Karim Ben Embarek (WHO)

Foodborne disease takes a major toll on human health. Millions of people are suffering or die as a result of eating unsafe food. Trends in global food production and increased travels present new challenges to food safety. People are increasingly exposed to new products and hazards and eat more and more away from home in particular when travelling. For travellers, the most common health problem encountered is diarrhoea caused by contaminated food and water. The paper outlines the WHO global strategy for food safety and presents the recommendations travellers should follow to prevent exposure to unsafe food and drinks. The on-going avian influenza outbreaks have highlighted concerns of travellers to outbreak areas about the risk of exposure through food products of poultry origin. Travellers need to be informed about high risk practices and how to avoid exposure in outbreak areas.

The paper also present the increasingly important role of travel related foodborne diseases in countries where domestic cases are brought under control. These situations illustrate the need for a global approach to addressing food safety issues. WHO and its Member States have recognized that protecting food safety is an essential public health function. Food safety must be addressed along the entire food chain by measures based on sound scientific information at both national and international levels. For example, in some countries where specific foodborne diseases such as Salmonellosis infection have been addressed, effectively reducing the domestic sources of these infections has not eliminated the problems. These countries have now recognized that up to 80% of the Salmonellosis cases now encountered are imported cases, mostly by travellers.

Another recent concern in relation to travels is the growing number of outbreaks of gastrointestinal diseases on ships. Environmental factors such as shared sanitary facilities and common food and water sources can contribute to the spread of an on-board food outbreak. A review of outbreaks of foodborne diseases associated with passenger ships will be presented in this paper. Finally, the paper will briefly present recent travel related WHO projects such as setting guidelines for ship sanitation, collaborating with the airline catering industry on developing food safety guidelines, and The WHO Guide to Hygiene and Sanitation in Aviation.

Food production starts in the field

Piero Cravedi(University of Piacenza)* - Maria Lodovica Gullino (University of Turin)**

* Istituto di Entomologia e Patologia Vegetale – Università Cattolica del Sacro Cuore – Piacenza

** Centro di Competenza per l'Innovazione in Campo Agro-ambientale – Università degli Studi di Torino

World population growth evolves in a particular way as the population grows: the population of the countryside decreases as people move to the cities. The number of agricultural workers progressively declines and higher food demand necessitates an increase in agricultural productivity, with a greater yield on the same surface using the same work force.

Quantity is not the only requirement of the 3rd millennium, but quality and safety are the key words for food production. Many aspects of crop management must be considered to meet these needs which can be seriously threatened by biotic diseases. There are various insects and fungi which can attack cultivated plants resulting in yield losses, in terms of fewer tons produced per hectare, lower quality of products, caused by, for example, necrotic spots, rots or colour and shape variations, and health risks, due to the presence of compounds with toxic effects on humans and animals - mycotoxins.

Consequently crop protection is vital. The history of synthetic chemical compound usage in crop protection started in the '60s, when it was discovered that certain molecules could kill insects or fungi. As enthusiasm for these new compounds grew so did awareness of the related risks. The concept of crop protection evolved at the same time as consumers needs increased as synthetic chemicals were developed.

The objective of crop protection evolved from that of total elimination towards the management of parasites, to maintain their level below an acceptable threshold. In practice, crop protection moved away from the exclusive use of pesticides to control pests and diseases, towards integrated production, where the whole cropping system is designed to reduce the incidence of parasites and all possible control measures are applied before chemicals are used.

Consumers wanted perfect fruit, not visibly damaged, while today they also demand fruit which is safe, produced in an environmentally friendly way. The evolution of chemicals, arising from intensive research, moved away from ingredients which have an effect on a wide range of organisms and with chronic toxicity, towards specific products which are effective at low dosage, safe for animals, humans and useful organisms, and do not leave residues at harvesting, when correctly applied.

Integrated production, based on well defined protocols that regulate admissible chemicals, their dosage and time of application, is the most balanced way to satisfy the needs of consumers, the environment and farmers. Following this approach, thanks to the evolution of consumers needs, the approach of farmers and available tools, both natural and artificial contaminants have been minimized.

Mycotoxins and human health

Gianfranco Piva*, Marina Miraglia**, Angelo Visconti *** and Paola Battilani****

* Istituto di Scienze degli Alimenti e della Nutrizione - Università Cattolica del Sacro Cuore – Piacenza

** Centro Nazionale per la Qualità degli Alimenti e per i Rischi Alimentari – Istituto Superiore di Sanità – Roma

*** Istituto di Scienze delle Produzioni Alimentari – CNR - Bari

**** Istituto di Entomologia e Patologia Vegetale – Università Cattolica del Sacro Cuore – Piacenza

Mycotoxins are natural compounds produced by some phytopathogenic fungi. They are considered secondary metabolites because their role in the fungal attack to plants is actually not known. The main genus of fungi that include toxin-producers are *Fusarium*, *Aspergillus* and *Penicillium*, with 3- 4 relevant species each. Host crops of these fungi include cereals, the basic food for populations all over the world, but also high value fruits, like coffee, cocoa, nuts and grapes, part of the human diet of richer countries. Besides, the carry over of mycotoxins through animals and their consequent presence in animal products like milk, increases the human exposure.

All the world is involved in mycotoxin problems, because of the wide range of host crops, with differences in key toxins related to meteorological conditions of different geographic areas and years. Africa is the continent most conducive for mycotoxins, surely for weather conditions but also for the limited knowledge and technology available for the population, that is strongly exposed to health risks due to mycotoxins. Toxic effects of mycotoxins vary from immunosuppression to carcinogenicity, with chronic effects much more relevant than acute. Historical reports of health problems could be frequently related to mycotoxins, but scientific studies on this issue are dated back 1960, when the first mycotoxins (aflatoxin) was characterised.

After that, many researches were managed to identify the molecules, characterise their toxic effect and define conditions favourable for their synthesis. Knowledge available is far to be exhaustive, but a good job was done to manage problems following 2 main lines: 1) development of guidelines for crop management to minimise toxins content in raw products and possible decontamination post-harvest; 2) definition of legal limits for toxins content in raw and processed products to safeguard human and animal health. In the future, interdisciplinary studies would be necessary to improve the knowledge, bringing to an upgrade in the 2 lines: 1) the development of a Decision Support System (DSS) with predictive models able to forecast risk areas and years and evaluate the effect of cropping system and products processing; 2) the harmonisation of legal limits to guarantee consumers health in a global vision, with third countries involved. Micotoxins are the challenge of the third millennium

Critical evaluation of the safety of pesticides

Corrado Ludovico Galli - Marina Marinovich (*University of Milan, Italy*):

Research Center on Risk Assessment, University of Milan

For centuries, pesticides (including insecticides, fungicides and herbicides) have been employed usefully to control insects, pathogens and to provide weed control. The issues of the safety of these xenobiotics have raised many concerns in relation to the environment, the exposure to workers and the presence of their residues in the food chain. During the last decades, at regulatory level, several efforts have been made to preserve the wild life and to allocate safe levels of pesticide residues in the diet. An extensive toxicological protocol has been set up to reveal the toxic properties of a new molecule candidate to enter the pesticide market. The hazard assessment, or the evaluation of the toxicological intrinsic properties of a new chemical, is performed through the execution of a series of experiments carried out to explain the capacity of the active principle and/or its metabolites to produce fundamental modifications on genetic material, on reproduction and development, and to evaluate the possible increase in the frequency of tumours.

In addition, the mechanism of action of the pesticides has been studied to differentiate the toxic effects in the target organisms and in humans. At the same time, field trials have been carried out to allocate Maximum Residue Levels (MRL) and Pre-Harvest Interval (PHI) values to every crop proposed. The results of long-term studies provide the basis for calculating the No Observed Adverse Effect Level (NOAEL) and through the use of a Safety Factor (SF), the Admissible Daily Intake (ADI) is calculated. The ADI is then compared with the sum of the MRL's to calculate the Theoretical Maximum Daily Intake (TMDI) which should represent a small percentage of the ADI.

Although this standard procedure is very well established and accepted by most major international and national regulatory agencies, the use of pesticides continues to be under criticism due to the intrinsic toxicological properties of these chemicals. The accurate knowledge of the exposure levels and the Margin of Exposure can definitely improve the risk assessment process.

Furthermore, in the risk-benefit analysis, the need to use pesticides (i.e. fungicides) must be weighted against the potential harm caused by natural toxicants (mycotoxins) produced by fungi that grows naturally on field plants or in stored feeds.

The Global Challenge of Emerging Foodborne Pathogens

Robert Tauxe (CDC)

Chief, Foodborne and Diarrheal Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, Centers for Diseases Control and Prevention, Atlanta, Georgia, USA

The broad spectrum of foodborne infections has changed dramatically over time, as well -established pathogens have been controlled or eliminated, and new ones have emerged. The burden of foodborne illness remains substantial; in the United States, one in four is estimated to have a significant foodborne illness each year, and 323,000 are hospitalized. Trade and travel can rapidly bring a foodborne pathogen around the world. Recent pandemics of foodborne disease include the spread of *Yersinia enterocolitica* O:3, *Salmonella Typhimurium* DT104, and *Vibrio parahaemolyticus* O3:K6. Recently identified foodborne challenges include *Yersinia pseudotuberculosis* from fresh produce in Finland, multi-resistant invasive *Salmonella Cholerasuis* in Taiwan, and Hepatitis E from swine in Japan . New pathogens can emerge because of changing ecology, or changing

technology, that connects a potential pathogens with the food chain. They can also emerge de novo by transfer of mobile virulence factors, often through a bacteriophage or of resistance genes via plasmids. International networks to improve surveillance of foodborne disease, such as WHO Global Salm-Surv, and PulseNet International are now increasing capacity to detect and investigate international outbreaks of foodborne illness in many countries. Increasingly, the traveler who returns home ill may herald a correctable public health problem in the country they just visited. The successes of the 20th century and the new challenges we face mean that public health vigilance, careful investigation of new problems as they emerge, and responsible attention to food safety from farm to table, and international partnerships to bring about new foodborne disease control measures will be needed for the foreseeable future.

Safe drinking water: a global challenge

Eric Mintz (CDC)

*Foodborne and Diarrheal Diseases Branch,
Centers for Disease Control and Prevention*

Over 1 billion persons drink water from unimproved surface sources and shallow wells. “Improved”, but unsafe water treatment and distribution systems provide contaminated drinking water to countless hundreds of millions more, and the problem is further compounded by unsafe water storage and handling practices. As a direct result, waterborne diseases account for approximately 4 billion episodes of illness and 2.2 million deaths every year. Young children, immune-compromised persons, and travelers to developing countries are at particularly high risk.

Travelers rely on a variety of point-of-use treatment methods, such as boiling, chlorination, iodination and filtration, to ensure that the water they consume is safe. Recent efforts to promote point-of-use water treatment as a means for indigent populations to protect themselves from waterborne disease have made significant progress. The challenge is to identify water treatment methods that can meet the daily drinking water needs of an entire family in a practical low-cost manner, and are sustainable and easily disseminated.

Fuel costs make boiling prohibitively expensive, but solar disinfection has shown promise as a low-cost alternative. Although iodine is not recommended for long-term use, a variety of point-of-use chlorination strategies have given rise to successful programs. Safe Water System programs market locally-manufactured dilute sodium hypochlorite solution (bleach) and safe water storage containers in 20 countries. The CDC Safe Water System has proven effective at reducing diarrheal diseases in children and in persons with HIV-infection at a cost of less than \$0.01 US per family per day, and has also been used in response to the tsunami and other natural disasters. Nearly 15 million bottles of sodium hypochlorite – enough to treat over 20 billion liters of water - have been sold since the first SWS program’s inception in 1996.

PuR® manufactured by the Procter & Gamble Company, combines point-of-use chlorination with flocculation, and has also proven beneficial in reducing waterborne diseases and in disaster response. A variety of filters, including silver-impregnated ceramic candle filters and slow “biosand” filters have shown promise as low-cost, practical and sustainable approaches for point-of-use water treatment.

While global society continues to strive for the long-term goal of universal access to piped treated water, residents of developing countries can derive immediate benefit from adaptations of methods employed by travellers to prevent waterborne disease and protect health. Governments, NGOs, researchers and the private sector all have a role to play in making these technologies affordable and widely available to the global community.

Water catchments and water treatment in developing countries

Massimo Casella (Nestlé, France):

Nestlé Waters, Paris, France

In developed countries water sources, type of catchments and legislations are defining water standards and allowed water treatments. In other part of the world there is little standardization and very little definition.

At some under-developed countries, water processes, filling conditions, source of water as well as raw water catchments are not always exploited in an optimal manner. Often there is potential surface water contamination, aquifer contamination through private wells, not proper transport of water to factories: all these factors could cause the raw water to be contaminated. Therefore raw water needs very often specific treatments to assure consumer safety.

Treatments are including, beside the well known removal of instable elements such as Manganese and Iron, removal of different type of contaminants of microbiological and chemical nature that need to be eliminated in order to assure food safety to consumers.

Hygiene of filling lines is also a critical point which needs to be put as priority to maintain the safety of the water from the treatment phase all the way to the bottle. For this purpose a sound and well implemented and understood Quality System is necessary to assure a consistent safety of the bottled water on the shelves.

The role of the European Food Safety Authority (EFSA) in food safety

Pilar Rodríguez-Iglesias and Leng Heng - *Unit on Dietetic Products, Nutrition and Allergies - European Food Safety Authority - Parma (Italy)*

Following a series of food scares in the 1990s (e.g. BSE, dioxins) which undermined consumer confidence in the safety of the food chain, the European Union (EU) concluded that it needed to establish a new scientific body charged with providing independent advice on food safety issues associated with the food chain. Its primary objective was to contribute to a high level of consumer health protection in the area of food safety. The result was the European Food Safety Authority (EFSA).

Set up in 2002, EFSA provides independent scientific advice on all matters linked to food and feed safety - including animal health and welfare and plant protection - and provides scientific advice on nutrition in relation to Community legislation. The scientific activities of EFSA can be divided into four themes as follows:

Providing scientific opinions and advice in response to questions related to food and feed safety, nutrition, plant health and animal health and welfare issues formally posed to the Authority by the European Commission, the European Parliament, the Member States or by the Authority itself.

Assessing the risk of, and proposing risk-related factors as appropriate, for specific groups of regulated substances following notification procedures and time schedules defined by legislation. These concern substances such as food additives and flavourings, feed additives including medicinal products, pesticides, GMOs and novel food ingredients.

Monitoring of specific risk factors and animal diseases and provision of scientific opinions on tests and other tools to control these risk factors (e.g. the geographical BSE risk assessment or the monitoring of zoonoses, zoonotic agents and other food-borne hazards).

Investing in food science and applying and promoting new and harmonised scientific approaches and methodologies for hazard and risk assessment of food and feed.

EFSA's risk assessments are carried out by its Scientific Committee and eight Scientific Panels, each composed of external experts and specialised in different aspects of food and feed safety. Appointed for a three-year term which is renewable, it is their role to address scientific questions and provide independent opinions on matters within their respective remits.

EFSA's risk assessments provide risk managers (consisting of EU institutions with political accountability, i.e. European Commission, European Parliament and Council) with a sound scientific basis for defining policy-driven legislative or regulatory measures required to ensure a high level of consumer protection with regards to food safety.

New vaccines in the global perspective

Patrick Zuber (WHO):

Progress in immunization technologies have allowed for more than 20 human vaccines to become available against diseases of global or regional importance. Whilst some national immunization programmes use up to 14 different vaccines in their infant schedules, the global incidence of only a few vaccine preventable disease has been significantly impacted by a systematic use in national programmes. Global travel and migration have resulted in an increased circulation of micro-organisms resulting in the temporary re-emergence of diseases such as poliomyelitis or measles that have been eliminated from many countries. While the ultimate eradication of poliomyelitis is in sight, the use of other vaccines will remain necessary for the foreseeable future.

Vaccine developments have also led to a diversification of vaccine products. Access to those vaccines is variable across countries as well as within most countries through the public and private sectors. Supply of the most recent vaccines remains mostly limited to the wealthiest economies. Specific traveller's vaccines provide time-limited protection that renders them unsuitable for disease control programmes in countries where the diseases against which they provide protection are responsible for a significant disease burden. Vaccines against global epidemics such as seasonal flu are economically not accessible for the poorest countries. The potential of immunization to help controlling an upcoming flu pandemic will depend on rapid mass production of a product against an organism with currently many unknown characteristics.

The Global Immunization Vision and Strategy (GIVS) proposes a framework to federate global efforts to expedite the benefits that can be achieved with immunization. Its main guiding principle is equity in access to the needed vaccines. Efforts to provide existing vaccines and to develop new vaccines against disease of global importance need to be urgently enhanced and sustained in order to achieve three health-related Millenium Development Goals. A full implementation of the GIVS would allow for preventing more than 4 million current annual deaths among the youngest children in the world.

The new anti-cholera vaccine

Francesco Castelli (Italy)

Institute for Infectious and Tropical Diseases, University of Brescia, Italy

Classic cholera disease is a rare occurrence in international travellers. However, the incidence of cholera infection is probably underestimated due to the extreme variability of the clinical picture following the ingestion of *Vibrio cholerae* spp.

Parenteral killed cholera vaccine has limited efficacy and it is poorly tolerated. A relevant new advancement is the commercial availability of oral cholera vaccines. The live recombinant oral cholera vaccine (CVD 103 HgR), although effective, has been recently withdrawn from the market. In a large clinical trial, the killed oral cholera vaccine (whole cell/recombinant B-subunit – WC/rBS) has conferred 85% protection (6 months follow-up) against cholera in bangladeshi children (Clemens JD et al., *The Lancet*, 1986; july 19: 124-7). Protective efficacy (PE) was lower after 3 years and differed by age groups (PE = 63% in children aged 5-15; PE = 26% in children aged 2-5). After 20 years of follow-up, a *herd immunity* effect has also been noted in the area where the trial was carried out (Ali M et al., *Lancet*; 2005; 366: 4-49). The WC/rBS vaccine has proved effective also in preventing infection in an epidemic outbreak setting (Lucas MES et al., *N Engl J Med*, 2005; 352: 757-67). The antigenic similarity between the B-subunits from *V. cholera* toxin and *Enterotoxinogenic E. coli* heat-labile toxin (LT) has suggested that WC/rBS vaccine might provide cross-protection against both infections. Current evidence suggests that short term (3 months) protection efficacy against LT-producing *E. coli* diarrhea is indeed achieved in 67% of cases (Clemens JD et al., *J Infect Dis*, 1988: 372-77).

A WHO position paper on cholera vaccines states that oral cholera vaccines may be recommended for travelers to high risk regions (*Weekly Epidemiological Record*, 2001; 76: 117-24). The profile of the various categories of travelers that might benefit from cholera vaccination has recently been reviewed (Steffen R *et al*, *Trav Med Infect Dis*, 2003; 1: 80-88).

The combined vaccine against typhoid and hepatitis A

David Overbosch (Netherlands), François Peyron, Nicole Picot, Jean-Paul Varichon, Raffaele Dumas, Laurent Chambonneau, Françoise Weber.

The safety and immunogenicity of a combined hepatitis A and typhoid fever vaccine (Viatim™) were compared with the monovalent component vaccines up to and one month after a booster dose at 3 years.

Method: For primary immunisation healthy, adult volunteers were randomised to receive Viatim™ (group A, N = 179) or separate HA and Vi vaccines (group B, N = 180). Sub-groups were then boosted after 3 years with Viatim™. Local and systemic reactions were recorded for 28 days post-vaccination. Seroconversion and seroprotection rates, and geometric mean antibody concentrations (GMCs) were measured 14 and 28 days, 1, 2 and 3 years post-primary, and 28 days post-booster vaccinations.

Results: Local and systemic safety profiles were equivalent between the two groups. Immediate local reactions were infrequent. Antibody concentrations to both antigens were similar in groups A and B, in which HA seroprotection rates (≥ 20 mIU/mL) were respectively, 98.7% and 100% at day 28, and 99.1% and 99.0% after 3 years, achieving 100% after the booster. Vi seroprotection rates (≥ 1 μ g/mL) of 85.2% and 84.9% after 28 days, fell to 32.1% and 35.6% after 3 years, increasing to 67.3% and 69.8% after the booster dose.

Conclusions: The combined vaccine HA/Vi vaccine, Viatim™, had equivalent tolerability and safety, and was as rapidly immunogenic as its component monovalent vaccines when given concurrently. A booster dose after three years significantly increased antibody levels with some evidence of hyporesponsiveness of the typhoid response.

Knowledge, attitude and practise in adult travelers with regards to pertussis

Wilder-Smith A. Soh LH, Boudville I, Earnest A. (Singapore):

Introduction: Pertussis is a worldwide, highly communicable, vaccine-preventable respiratory disease and is a frequent but often underestimated cause of prolonged cough illness in adults. Immunity from childhood pertussis immunization is thought to last only up to 10 years. The incidence of adult pertussis has been estimated to be 200 -500 per 100,000 persons years. Acellular pertussis vaccines have been evaluated in adults and confer safe and effective protection, and now exist as combination vaccine together with tetanus and diphtheria.

Methods: We did a questionnaire survey to assess the knowledge, attitude and practices towards pertussis in adult travellers. We consecutively enrolled all travellers who presented at the Travellers' Health & Vaccination Centre in one month.

Results: Of 218 consecutively enrolled travelers, 184 completed the questionnaire. Seventy persons (38%) did not know or gave a wrong answer for the mode of transmission of pertussis, 147 (83%) had never heard of a pertussis vaccine for adults, and almost none had received an adult pertussis vaccine booster. Travellers from Western countries were 7 times (95% CI: 2-27) more likely than Asians to have knowledge about pertussis; males were 0.2 times (95% CI: 0.1-0.6) less likely than females to be aware of the booster vaccine.

Conclusion: Knowledge about pertussis was poor amongst adult travelers. Although pertussis was viewed as a serious illness by the majority of participants, only 37% considered a pertussis vaccine booster in adults as important. Awareness about pertussis, its risks and prevention via vaccination need to be increased amongst adult travellers.

Introduction and Scope of Expedition Medicine

Marc Shaw (New Zealand)

The easy question ‘what is expedition medicine?’ needs to be analysed from a number of viewpoints. Firstly, there needs to be an answer to ‘what is an expedition?’ An expedition can be defined as an organised journey with a purpose. Such a purpose can be: an exploration of a particular location, a mission of academic or scientific research, an endeavour of personal or directed endurance, an investigation of environmental or archaeological concern, or a personal challenge.

Secondly, expeditions often take place in the wilderness. Wilderness is described as ‘a wild, uncultivated or desolate region’ and is a term frequently used in the United States where it has been additionally defined as a remote geographical location more than 1 h from definitive care. For the purposes of this article we will consider ‘expedition medicine’ as involving journeys to either the developing world or to very remote geographical regions where access to definitive medical care will involve prolonged evacuation over many hours or days.

There is no clear distinction between those who travel either as expedition team members or others who travel to ‘wilderness’ areas and, from the definitions noted above, there will be considerable overlap between adventure travel and leisure travel. There are many reasons why travellers go to remote regions, for:

- Enjoyment
- Exploration and discovery
- Achieving a geographical goal
- Testing endurance and the element of danger
- Scientific research
- Education
- Personal development
- Cultural exchange.

Preparing medical doctors for expedition

Peter Leggat (Australia)

The most successful expedition MOs contribute to the many aspects of an expedition and are able to deal with all of the medical problems that come their way. Essential in this care for fellow-expeditioners is a routine to follow up any medical problems within the group. There are a number of ways that expedition doctors, and medics, can make themselves more valuable to an expedition team:

The MO needs to be able to deal with the medical problems that are most likely to occur. There needs to be a confidence in the management of care from minor ailments through to, in a worst case scenario, multiple casualties with major trauma. If appropriate to the expedition destination, the MO needs to be familiar with conditions such as: the management of altitude-related illness, temperature-dependant injuries, barotrauma and other environmental problems such as tropical diseases.

Being a useful expedition MO is much more than just doing the medicine alone. An MO must ensure that they never become a liability during the trip and thus depend on other team members to ensure their own or a casualty’s safety. This essentially means that the MO should feel entirely comfortable in the expedition environments be they on mountains, underwater, in the jungle or in a desert. Thus it is important that an MO considers developing skills that can be useful for any expedition: navigation skills, undertaking courses in mountain leadership, in-water rescue or bushcraft and survival. A list of relevant interests or

Preparing the expedition team

Jon Dallimore (UK)

Long before an expedition departs, the medical officer must help to prepare members of the team for the forthcoming adventure. Team members should be given the same counselling and travel advice as any other traveller; this should include the dangers of poor hygiene, bites and stings, the sun and the need for a dental check, appropriate immunisations and anti-malarials. Some team members may have pre-existing health problems that will need careful consideration before departure.

Information regarding the real, rather than perceived, risks must be provided together with control measures to minimise these risks in the expedition environment, be that at sea, in the jungle, desert or high mountains. Expedition team members need to be fit for the planned tasks and should be trained in caring for themselves and each other by attending first aid courses and assembling a suitable personal medical kit.

Expedition team members represent a unique group of travellers and advising them involves a thorough understanding of the particular problems that may be encountered.

On Expedition Kilimanjaro: Planning for altitude

Stephen Toovey (South Africa)

Twenty thousand travelers/annum ascend Kilimanjaro, Africa's highest peak (5895m). Many travelers arrive in Africa unprepared for the inherent risks though, which are downplayed by some European booking agents: approximately 3 travelers/annum die on Kilimanjaro. As lowlands have to be traversed to reach Kilimanjaro's base, all the risks pertaining to tropical African travel prevail. These include falciparum malaria, other infection hazards, counterfeit medication, and trauma, including vehicle accidents. There are no medical or rescue services available on Kilimanjaro, and guides have no knowledge of first aid altitude sickness treatment. In emergency, patients are stretchered down by porters; nocturnal transfer is problematic. All likely medical requirements should be taken by travellers, including altitude sickness prophylaxis and treatment, and supplies for trauma and gastrointestinal disorders. The nearest lowland hospital may also require prescribed medication to be procured from local retail pharmacies. Pre-adventure planning will minimize morbidity, mortality, and improve summiting rate.

The influence of joining to EU. On the Travel Medicine in Hungary

P. Felkai- E.Kovacs (Hungary):

Institution: SOS Hungary Medical Assistance Service Budapest, Hungary

Before 2004, when Hungary jointed to EU community, the travel medicine, as a medical science and practice was absolutely unknown.

The reason of ignorance of this very important segment of medicine was many: it was partly the sad heritage of 40 years of "iron curtain" period, as well as the limited possibility for travelling abroad the Hungarian people.

Yet, when the gates got open, and the restrictions were disappeared, thousands of inhabitants enjoyed the travel. Parallel to that the business tourism also developed. The travel insurance forms tried to utilize the situation: the insurance business was a prosperous one.

The possibility to reach for far-away lands and take exotic tours, absolutely pushed the medical aspect of the travel into the background. The travelers taught the travel insurance will solve all the medical problems occurred during the trip. The Insurance Companies did not object to think on that way, and did not take care of the problem.

Then, parallel to the first news about the world-wide endemic such as SARS, induced some questions on the field of travel health. On the other hand, it was a wide spread misbelieve that the E-111 formula provide a perfect solution to the medical problem of travelers, and just few experts expressed their doubts.

After 2004, an EU comfort solution should be found to the travel health. While Hungary became Eastern border of EU, a lots of migrant, refugees has arrived to Hungary.

As an immediately solution, the Association of Hungarian Physicians of Assurance Medicine made a huge step: it adopted the Travel medicine, as an independent discipline. Moreover, the travel medicine became obligatory lesson for the candidates of insurance medicine specialty. A special section for travel medicine has been found within the Association. The presenter himself is the Chairman of this section.

The authors of this presentation compiled the first travel medicine handbook in Hungary, as well as they has already established the first travel medicine clinic in Budapest

The travel medicine now in Hungary is a dynamically developed science, which includes not only the infectology and immunization, but also the assistance medicine, the wilderness medicine, too. By the help of travel medicine experts many new form of insurance policy was developed (e.g. for the SCUBA divers).

We would like to tell this success story for the participants of the 5th. Conference on Travel Medicine.

Travel Medicine in Romania

Viorica Ungureanu (Romania)

Academy

of

Scientists, Iasi, Romania

In Romania, Travel Medicine is not becomes yet a discipline, even if some constitutive elements have been and are in the attention of romanian medical world.

In this respect, the information ,the evaluations are made in parallel with the prophylactic, therapeutic and surveillance measures which are applied to the population groups in movement(local population and strangers). In this process, the Institute “Cantacuzino” and the Intitute “Matei Bals” from Bucharest,the Institutes of Public Health and Directions of Public Health, clinics and centers from the districts hospitals from all over the country, are involved in the prophylaxes, diagnosis and surveillance of patients presenting imported infectious diseases. Data resulting from, are centralized and used in official information leaflets which are send to all actors involved in this process.

Actually, in our country, travel medicine becomes to be considered from another point of view, in relation with the risks represented by the non infectious diseases(cardio-vascular diseases, diabetes etc) and travelers with special needs.

In this context, in 2003 and in 2005,in Iasi, Romania, have been organized two International Congress, having as theme travel medicine. From the first edition, to the second, we registered an increasing interest of participants of different medical specialities. During the second edition of the International Congress of Travel Medicine,in 2005, Doctor Walter Pasini suggested the opportunity to organize in Romania, an International Health Center ,according with the World Health Organization recommendations. All participants strongly agree this excellent idea.

Strengthening global health security

Daniel Lavanchy(WHO)

Every country should be able to detect, verify rapidly and respond appropriately to epidemic-prone and emerging disease threats when they arise to minimize the impact on health and economy.

Global health security is challenged by the natural, accidental or intentional release of human and animal pathogens. These events pose similar diagnostic, epidemiological and response challenges, and therefore key elements of an effective detection and response share similar characteristics and can use common elements. Establishing an efficient epidemic intelligence system and an efficient laboratory-based epidemiological surveillance systems in strategically important geographic areas is the basis for an early detection followed by a rapid and appropriate response. WHO is coordinating for this the global outbreak alert and response disease surveillance network (GOARN).

It is necessary for governments and strategic partners to implement and evaluate national, regional and global plans of action for natural, accidental and intentional outbreaks of infectious diseases. Monitoring and evaluation of the sensitivity, specificity and timeliness of diagnostic and surveillance activities should be an integral part of the plan and the effectiveness of network activities should be assessed. The rapid dissemination of information will use existing national, regional and global disease surveillance networks, and consequently the evaluation of communications capabilities should be an continuing priority.

A prerequisite for a timely, efficient and effective action is to secure predictable funding. Higher level systematic coordination between governments is needed to insure a comprehensive, efficient and systematic response to communicable disease threats in order to avoid a poor implementation of available interventions.

Investigation on smallpox vaccine (Vero cells) Lyophilised ACAM2000

Philip Bedford (UK)

Institution: Senior VP Clinical Operations and Regulatory Affairs, Acambis Research Limited, Peterhouse

Smallpox is one of the most deadly diseases known to man. In the 20th Century alone, some 300 million people died of smallpox and countless others were left scarred or disabled. Eradicating smallpox became an international priority and in 1967 the World Health Organization (WHO) launched the ten-year Global Intensified Eradication Programme. On 8 May 1980, the WHO officially declared the eradication of smallpox.

Twenty-five years on, the threat of smallpox is back. There are now serious concerns that terrorists might use biological weapons to further their aims. Russian and American scientists have independently concluded that, of all potential bioterror agents, smallpox poses the greatest threat. The virus is highly contagious, has a low infective dose, is stable, could be easily deployed and kills about a third of those it infects.

Officially, the smallpox virus is only located in two places: the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia and the Vector laboratories in Novosibirsk in Russia - both working under strict WHO protocols. However, it can never be fully verified that countries destroyed all vials of smallpox after the eradication programme ended. Several scientists who defected from the former Soviet Union have confirmed that stocks of biological weapons were held, including a stockpile of 20 tons of smallpox virus. Concern is deepened by the fact that Iraq's last reported smallpox outbreak was in 1972 - the year it began its biological weapons programme. The outbreak spread to Iran and Syria, allowing them the opportunity to acquire the virus, if desired.

The threat of bioterrorism has prompted several governments to seek the manufacture and stockpiling of vaccines.

Investigational, second-generation smallpox vaccine - ACAM2000

The US Government was one of the first to address the threat of a smallpox attack. As early as the year 2000, the US CDC contracted Acambis to manufacture a cell culture-based smallpox vaccine. Since then, additional contracts have been signed and Acambis has supplied a total of 182.5 million doses of investigational, smallpox vaccine, ACAM2000. The objectives, as defined by the US Government, for the stockpiling of the vaccine are to ensure optimal protection of the total population in the case of an emergency and to avoid public panic by being able to give a reassuring message that there is one dose available per citizen.

Acambis has since expanded its role with respect to biodefence against smallpox, through an agreement with the Canadian company, Cangene, for the distribution of Vaccinia Immunoglobulin (VIG) - a hyperimmunoglobulin. VIG (now licensed in the US), is a treatment for some of the potential vaccine-related serious adverse events previously observed with live vaccinia-based vaccines.

Until the development of ACAM2000, the only available smallpox vaccine was stock that was left over from the eradication programme. Most of the vaccine is over 20 years old, no longer meets good manufacturing practice (cGMP) and so is unlicensable. This so-called "first-generation" smallpox vaccine was manufactured from material collected from the skin of vaccinia-infected calves or sheep and was not tested for adventitious viruses. The resulting vaccines were a heterogeneous mix of virus subpopulations.

Both the US Food and Drug Administration (FDA) and the European Agency for the Evaluation of Medicinal Products have defined criteria for the development of "second-generation" smallpox vaccine. The criteria state that the new vaccine must be derived from a first-generation smallpox vaccine but that it should be manufactured using cell-culture methods that meet current standards. The vaccine must also be tested to demonstrate that no adventitious passenger viruses are present.

ACAM2000 was plaque-purified from Dryvax®, a first-generation vaccine of the New York City Board of Health (NYCBH) strain of vaccinia virus. Dryvax® was successfully used as part of the global smallpox eradication campaign. Under an FDA Investigational New Drug application, a full clinical program has been completed and a Biologics License Application is to be submitted. The aim is to pursue licensure of ACAM2000 in the US, Europe, Canada and Australia. During the clinical development program, over 3000 subjects have received ACAM2000 at the intended clinical dose.

Conclusion

The rationale for development of second-generation smallpox vaccines is that they are based on first-generation vaccines that were proven to be effective against smallpox but are manufactured by a modern cell-culture process designed to comply with cGMP as demanded by several regulatory authorities. In addition, they must undergo pre-clinical and clinical testing to ensure that they are safe and effective and thus licensable. In addition to the US, many countries are reviewing their smallpox vaccine inventories. A 2003 communication by the EU Commission reported that stockpiles held by Member States ranged from one dose per citizen to one dose per 30 citizens. The EU recommends that countries stocking smallpox vaccine should have a complementary holding of VIG.

The WHO is also supportive of stockpiling smallpox vaccine. It recently announced that a virtual stockpile of 200 million doses of smallpox vaccine should be developed using donations from individual member states. In addition, the WHO plans to hold 5 million doses in a central stockpile in Geneva. A tender issued by the WHO specified the procurement of second-generation smallpox vaccine for this stockpile.

Understanding the Threat of Bio-Terrorism: Public Health Preparedness and Deliberate Disease

Jill Dekker-Bellamy, (Belgium)

Smallpox killed an estimated 3-5 hundred million people in the last century alone, more than all wars and cases of HIV combined. In 1980 the World Health Organization announced the global eradication of smallpox. It is the only disease that has been eradicated. Following this announcement, routine vaccination was halted in most nations throughout the world. Global samples of smallpox were consolidated at two laboratories: the Centers for Disease Control in Atlanta and Russian State Research Center of Virology and Biotechnology known as Vector in Novosibirsk Russia. At the time of consolidation, no checks were ever conducted to verify all samples of this horrific disease were turned in. In the early 1990's a significant discovery was made: two Soviet bio-weapons scientists detailed the extent of their governments work on weaponizing smallpox. The enormity of the Soviet Bio-prepare programme which came to light and the potential for undeclared stocks has given rise to the threat of this disease being used as a biological weapon by states or terrorist. The former Director of Bio-Prepare, Ken Alibek has claimed that the Kremlin had a clear understanding that if smallpox was believed to have been eradicated, and vaccination ended, the virus had the potential to be '*the most powerful and effective weapon ever created to eliminate human life.*' The extent of smallpox stockpiles in other countries is unknown but may be significant since the collapse of the Soviet Union and the possibility that samples were retained from when the disease was

endemic. Recent, interest expressed by Al Qaeda in acquiring smallpox and other possible agents has added to the urgency with which governments are now preparing to face the possible deliberate release of this disease.

Smallpox represents one of the most devastating potential biological weapons ever conceived. As the global community moves closer toward 100 % immune naivety smallpox becomes a more deadly weapon of mass destruction. Given the current volume of air travel, herd naiveté and lack of global public health preparedness in many nations throughout the world, this presentation assesses the real risk the international community faces should a deliberate release of smallpox occur today. The presentation focuses on national public health security preparedness in an age of bio-terrorism and the potential use of smallpox as a weapon. The presentation is designed to increase understanding of the global threat and assess current gaps in public health preparedness. This presentation explores what is known about the use of smallpox as a biological weapon, our current ability to respond to a global catastrophe and the types of measures nations are taking to prepare for a deliberate release of this disease.

Air Evacuation of patients with High infectious Diseases under Biosafety Containment

Lastilla Marco et al.(Italy)

New world global travels, military contingency operations in tropical environments and potential use of biological weapons by adversaries may place troops at risk for potentially lethal contagious infections (viral hemorrhagic fevers, plague, and zoonotic poxvirus infections). Diagnosis and treatment of such infections would be expedited by evacuating a limited number of patients to a facility with containment laboratories with Biosafety Level 4.

To safely evacuate such patients by military aircraft and minimize the risk for transmission to air crews, caregivers, and civilians, the Medical Service Italian of Italian Air Force has instituted an aeromedical isolation unit in Pratica di Mare Airport close Rome.

After special training, in the next year, this rapid response team, which has long airlift capability designed to evacuate and manage patients under high-level containment, also offers a portable containment laboratory, limited environmental decontamination, and specialized consultative expertise.

Now, the capability is of two Aircraft Transit isolators and two Stretcher transit isolators with a medical team included specialist in infectious disease. This presentation shows also examines technical aspects of the team's equipment, training, capabilities, and deployments.

The tsunami aftermath

Jahja Kisjanto (Indonesia)

Tsunami (Japanese word for Harbour(Tsu) and Water (nami) is a form of natural disaster of fast moving waves with speed of up to 600 mph, that are generated when water in the ocean is rapidly displaced by a sudden trauma in the form of an earthquake, volcanic eruption, a landslide or the impact of a meteorite.

The first recorded tsunami was in 31 December 1703 after the Genroku earthquake in Japan resulted in a tsunami that killed 100.000 people in Awa, Japan. Several big tsunamis followed, like the 27 August 1883 volcanic eruption in Krakatau island west of Java, Indonesia; generating huge tsunami waves of 40 meters high killing 36.000 people. On 28 December 1908 Europe's most powerful earthquake shook southern Italy. Centered in the strait of Messina, that triggered a 13 meter high tsunami wave, that killed estimated 200.000 people.

The impact of the latest big Indian Ocean Tsunami on 26 December 2004, with an epicentrum 150 km off the west coast of Sumatra was the most powerful the world has seen in a generation, the 5th largest quake ever recorded will be presented here;focusing on Indonesia.

In Indonesia alone there were 128.703 death (globally estimated at 250.000) and 93.088 missing Displaced persons 799.385 where 514.000 spread over 61 locations in 8548 shelters, and another 285.385 stayed with friends and families (globally estimated 1,5 million)

In the tsunami aftermath we divide it in 3 phases. The first phase is CRISIS response. (0-3 months). The second phase is REHABILITATION (until 6 months). The third phase is RECONSTRUCTION (until 60 months). In the first phase the Health factor plays an important role to help the sick and the needed. Together with military personnel, red cross, NGO and international agencies the Crisis/Emergency was managed well. Besides medical treatment a disease surveillance was

done, with the conclusion there was no disease outbreak in Indonesia. For the Rehabilitation & Reconstruction phase, the Indonesian government has formed the Rehabilitation & Reconstruction Agency (Biro Rehabilitasi & Rekonstruksi = BRR) to coordinate the project, working together with 430 local NGO, 124 international NGO, dozens of donor and United Nations agencies, various government agencies and military personnel. There was an international pledge of US\$ 4,4 billion. Out of this pledge US\$ 775 million had been spent by end November 2005. Due to the slow flow of incoming funds and bureaucracy the process of reconstruction did not achieve target. As an example BRR has a target to build 127,000 houses. For the first year target of 32,000 houses, only 16,200 finished, and the rest is under construction. From the health facilities, 38 hospitals, clinics and health centers were rehabilitated, and 51 are under construction.

To prevent such damage in the future an early warning system for tsunami should be installed, which is already agreed by several governments. A good communication and coordinating system with the responsible office/persons is necessary to make the important information working effectively on a short notice to save human life

Pakistan Earthquake Assessment

Jim Ryan(UK)

On October 8 2005 a powerful earthquake of 7.6 magnitude occurred affecting Pakistan, India and Afghanistan. Two provinces in Pakistan bore the brunt of the disaster with over 70,000 deaths, 120,000 injured and 2 million homeless.

The disaster was compounded by pre-existing conflict in Kashmir and this posed unique problems. There were other unique problems, which impacted upon casualty numbers and affected rescue measures.

These unique features include pre-existing war and conflict with resultant compromised infrastructure and lack of investment, adverse mountainous terrain, the collapsing of so many concrete constructed public buildings such as schools, colleges and hospitals. This, coupled to the timing of the main tremor at around 0900 hrs local, meant that a disproportionate number of children and students were killed or injured.

Another feature, which made humanitarian relief and medical care difficult, were the occurrence of so many powerful aftershocks (over 900 were recorded) resulting in the injured refusing to take refuge in hospitals or related buildings.

Received wisdom suggests that following earthquakes and related 'sudden onset' natural disasters the emphasis should be on public and environmental health issues and that ex-patriate medical and surgical teams cannot arrive on time to influence outcome. This paper suggests it may now be necessary to review this received wisdom concerning priorities in planning immediate and long-term humanitarian responses to such disasters.

Is medical personnel ready? The diploma in the medical care of catastrophes

Adriaan Hopperus Buma (The Netherlands)

Medical care for catastrophes requires special skills for medical personnel involved. It's not something you can just do. Therefore the Society of Apothecaries of London established the Diploma in the Medical Care of Catastrophes (DMCC) in 1993 to certify thorough specialist knowledge for those practitioners who are required to provide a medical and surgical response at the scene of major man-made and natural disasters. It is intended for civilian and military doctors, surgeons, dentists and nurses, who will work as members of medical response teams. The diploma consists out of a series of training modules: (1) security & survival, (2) clinical casualty management, (3) incident management & mass casualty planning, (4) the operational environment, (5) preventive & tropical medicine and public health, (6) a dissertation and (7) 2 supplementary modules. The first module considers the requirements for surviving in austere circumstances, the others ensure that students have a competent level in treating patients, including the knowledge about the administrative, communications and political elements of the disaster environment. The first 5 modules form part 1 of the examination, 6 and 7 provide part 2. Module 5 has close links with all skills and knowledge required to practice travel medicine. Every year about six examinations are held in the United Kingdom, The United States and The Netherlands. The can-

didates include medical personnel from many different nations. Some 100 candidates have become diplomats, many more are preparing for part 2 of the examination. In this presentation I will elaborate on the examination as an example for an adequate preparation for medical care under disaster circumstances

Alcohol consumption ,driving distances and road accidents

Vesna Popovic (Croatia)

The purpose of this review is to point on and to discuss the so called “social consumption” of alcohol drinks, which is often considered as acceptable together with driving. The review is based on the results showing road accidents’ incidence rise in relation to drivers’ attitude about alcohol consumption when driving. Driving distances, as the other possible risk factors have also been evaluated, as well as going to holidays by the own car. The attitude “either drink or drive” shows the lowest traffic crashes’ incidence [31,53% (21,95<p<41,11)]; in relation to this group, incidence is higher insignificantly with attitude “drink till 0,05%” [45,45% (35,18<p<55,72)], significantly (P=0,00005) with attitude “drink as mush as I see it does not disturb driving” [76,92% (68,23<p<85,61)], insignificantly with attitude “drink as much as I wish, being good driver and bearing alcohol well” [50,00% (39,69<p<60,31)]. The further results show no significant difference (P=0,3890) in this attitude between those who use the own car for going to holidays and those who do not. There is the difference in the road accidents’ incidence between drivers who use the own car for going to holidays [47,42% (39,05<p<55,79)] and those who do not [30,91 (20,63<p<41,19)], but it is still not significant (P=0,0696). The difference in the incidence of the road accidents is found among groups whose longest drive distances once a week are: inter-city drives longer than 70 km [50,00% (35,42<p<64,58)], inter-city drives shorter than 70 km [44,00% (27,62<p<60,38)], surrounding/suburban drives [43,75% (33,52<p<53,98)], drives through town [33,33% (15,00<p<51,66)], none (those who drive less than once a week) [17,65% (2,39<p<32,91)], but it is also not significant (P=0,2282). Among the factors evaluated, alcohol consumption, especially the attitude “drink as mush as I see it does not disturb driving” - which, because of the “care” shown to driving abilities (judged by the own opinion) to be a limit of the alcohol dose to consume, belongs to “social consumption” - appears as the greatest risk factor.

Death in International Travelers -the Canadian experience 1996-2004

Douglas W. MacPherson- Brian Gushulak et al.

Authors: Douglas W. MacPherson^{1,2}, Brian D. Gushulak¹, James Sandhu³.

Affiliations: 1. Migration Health Consultants Inc., 2. McMaster University, Hamilton, Canada, 3. Consular Services, Foreign Affairs Canada, Government of Canada.

Death in international travellers is an extreme outcome with many implications for travel health providers, host nation medical care services, national and international medical, security, and diplomatic support programs, and the traveller, their family and friends.

Methods: Consular Affairs, Foreign Affairs Canada provides support to Canadian civilians abroad. Beginning in 1995, the Consular Management and Operations System allowed for tracking of notifications of Canadian deaths abroad. The annual data for 1996-2004 was extracted for sex, age, and cause of death by location for all reports received. Deaths in military personnel, diplomatic and Foreign Service employees, and Canadian civilian death reports not submitted to Consular Services were not included in this analysis.

Results: From 1996-2004 (inclusive), there were 2410 reported deaths in Canadians abroad; where sex was known 32% were female and 68% male with an average age of 61.7 years and 60.4 years, respectively. Recorded causes of death were: natural (1762), accidental (450), suicide (92) and murder (106) for an average of 268 deaths per year: 196 natural deaths, 50 accidental deaths, 10 suicides, and 12 murders. In 2004 there was an increase in reported deaths in all categories: 383 natural, 124 accidental, 20 suicide, and 20 murders. Country of death reflected the pattern of Canadian international travel for recreation, business, and ancestral linkages. Average age of natural deaths (66 years) distinguished from all other causes of death: accidental (45), suicide (41), and murder (43)

Discussion: An international traveller death has increased dimensions of personal tragedy and national loss. While natural causes and suicide deaths may be anticipated or planned to occur abroad; all causes of death may be avoidable through adequate personal knowledge and medical assessment, planning, and prevention strategies.

Specific causes of death were not reported over this time interval; but as has been reported previously cardiac and respiratory causes of death in travellers are most common; accidental death from trauma in motorized vehicles, during sports and particularly in water occur frequently; and murder during the commission of another crime such as robbery or assault is also common. Deaths due to vaccine preventable diseases, exotic and infectious diseases were exceedingly rare in this international travelling population. There are consequences for family and friends related to death abroad. Consular services may be able to provide support; including communication, reporting and facilitating access to medical services and investigations. Other responsibilities, such as funeral services and repatriation of the deceased to Canada are governed by local laws and customs, as well as international regulations in health and quarantine

Arrest in International Travellers – the Canadian experience: 1996-2004.

Douglas W. MacPherson^{1,2}, Brian D. Gushulak¹, James Sandhu³.

1. Migration Health Consultants Inc., 2. McMaster University, Hamilton, Canada, 3. Consular Services, Foreign Affairs Canada, Government of Canada.

International travel and arrest data has been rarely reported, but is a travel-related risk outcome to be managed by the traveller for prevention and outcome mitigation strategies. The contravention of national laws carries with it the consequences of the local enforcement and judicial system in arrest, detention, investigation, trial, judgment, and punishment. These steps and their outcomes may differ significantly from the traveller's country of origin with limits on how the traveller, family, friends or even government can intervene or assist in each step.

Methods: Consular Affairs, Foreign Affairs Canada provides support to Canadian civilians abroad. Beginning in 1995, the Consular Management and Operations System allowed for tracking of Canadian arrests notifications abroad. The annual data for 1996-2004 was extracted for sex, age, and reason for arrest by location of all reports received.

Results: For the years 1996-2004 (inclusive), there were 6798 reported arrested Canadians abroad; of these 1076 (16%) were female and 5722 (84%) were male with an average age of 30.9 years and 34.3 years, respectively. Recorded causes of arrest for females: drugs – 416 (39% of females arrested), violence - 75 (7%), other criminal - 141 (13%), immigration – 169 (16%); and for males were: drugs – 1526 (27% of males arrested), violence – 570 (10%), other criminal - 1438 (25%), immigration – 1040 (18%); or cause was not recorded. On average there were 755 Canadians arrested abroad per year but this has been increasing almost every year since recording began; with 430 arrests in 1996 and 1029 in 2004. Alleged drug offences, other criminal activities, and immigration reasons were the most common cited reasons for arrest; and each increased in frequency during the study period. Country of arrest reflected the pattern of Canadian international travel for recreation, business, and ancestral linkages.

Discussion: From a previous study, the conviction rate in Canadian nationals following arrest abroad was 96% with the majority being imprisoned (88%) on conviction. In addition to life and liberty issues, there are physical health, psychological and sociological consequences to arrest and imprisonment that may be augmented in foreign jurisdictions compared to the Canadian criminal law enforcement, investigation, and judicial determination and punishment system. There are limits on the interventions that can be expected by international travellers and achieved by foreign governments in representing and protecting their citizens abroad. International travellers who are alleged or convicted of crimes abroad have significant risks. Drug related offenses - manufacturing, transportation, trafficking and possession, are the single most common risks taken by Canadian travellers who are arrested abroad.

Travelling for health with epilepsy: to have surgery abroad

Ravnik IM, Tretnjak VG, Lorber B, Vrba L, Gosar D

Slovenian Chapter ILAE, and Centres for Epilepsy / Clinical Centre Ljubljana, Slovenia

AIM: Candidates for epilepsy surgery, due to non-availability of specialized pre-surgical diagnosis in the country, have the right to treatment abroad supported by National Health Insurance. Travel and hospital stay in foreign environment is an additional stress on patients that may increase post-operative psychiatric risks. Co-ordination between services imposes extra workload on both the referring and receiving centres. It represents a new task with no formalized solutions in the national health system, requiring analysis and adequate solutions.

METHODS: retrospective analysis of experiences reported by the clients and accompanying persons, both professional and lay.

RESULTS: Supported by National Insurance, more than 40 referrals of patients (children and adults) travelling by car, train or aircraft to 14 European and North American centres have been realized. Travel and hospital experiences have been reviewed in order to analyse: number and type of referrals in terms of medical and psychosocial problems (indications); travelling demands; type of problems (medical and non-medical) occurring during the travel; problems related to being hospitalized abroad and those experienced by the clients in foreign environment (untold hospital rules, information to foreign clients, availability of interpreters, legal implications / written consent forms); interactions between travelling clients and accompanying persons; role of the experience lived by the client / family in a foreign centre on eventual further initiatives by the clients in their home environment; proposals to improve the accompanying service(s): preparation of the patients before travel, group meeting, mutual support, post-travel meeting and review of the experience; analysis of the workload.

CONCLUSIONS: Slovenian Chapter of ILAE (International League against Epilepsy) is aware of the necessity that neuropsychological diagnosis be performed in the patient's mother tongue, and of emotional needs of the patients travelling for health. Professional accompaniment by doctors / neuropsychologist has had no financial cover for the work performed abroad. The League proposed that NHI covers professional needs; and it has used own charitable funds to support lay accompaniment. To support it, student volunteers (medical, psychology, law) have been engaged to act as interpreters and lay helpers during the travel and hospital stay thus preventing additional emotional stress. Education of a dedicated group of students and co-ordination of this service is being planned by the League.

Causes of Death Among European Travellers In Spain

Vicente MERA (Spain)

Several million of European citizens travel from the northern cold countries to Spain looking for mainly fun and sun. Some of them, unfortunately, die every year whilst enjoying their holidays. The aim of this study is an approach to the causes of mortality among travellers who died in such particular circumstances.

METHODS

Retrospective evaluation of all expatriate patients who died for any cause, during a 23 months' period (from January 1st, 2004 and November 30th, 2005) in a 150-bed Private Hospital, one of the Traveller's Disease Facilities, located in Benidorm, the mainstay of the Spanish Mediterranean Costa Blanca.

RESULTS

4976 patients were admitted to the Hospital and 228 (4,58%) deaths were certified during the time of the study. Deaths of Spanish residents, 37 (16,2%), were formally excluded. Neither were another 22 (9,6%) deaths considered, because of a lack of full clinical information. Hence, the remain 169 (74,1%) cases were eligible. The overall proportion of males, 66.3% (112) doubled the one of females, 33.7% (57). The mean average age (72,3 years) was 2,3 points higher for the women (73.8 against 71.5).

The majority of patients, 82 (52,1%) died because of cardiovascular diseases (CVD). In this particular group,

the men were twice (61 against 27) more abundant.

Cerebrovascular events, 28 (31.8% of all CVD) were the leading cause of death (16.6%), closely followed by Acute Coronary Syndromes, 27 (30.7% of all CVD) which was the second one (16%). Additionally, 8 Sudden Deaths (9,1% of all CVD) were also documented.

Cancer with 38 (22.5%) was, as a group, the second cause of death. Interestingly, the lung (12) and the colon (6) were the commonest seats. In this faction, the patients were younger (aged 69- year-old as a mean) and, once more time, mainly men, 27(71.1%) against 11 (28.9%) women.

Infectious Diseases (ID), with 23 (13,6%), and particularly pneumonia, 17 (76,2 % of ID), were also important causes of death. The proportion of men in this latter group was remarkable, 12 (70.5%) men against 5 (29.5%) women

Some other collateral findings are discussed

Comparison of Health Maintenance Recommendations for International Travellers among Three Authoritative Sources

Henry Bagget, Phyllis Kozarsky, Paul Arguin, Christie Reed: (CDC, Atlanta)

Background: As global travel increases, so does the importance of consistent, evidence-based health maintenance recommendations for travellers. Even subtle differences in recommendations from authoritative sources may create confusion for the travelling public and lead to missed opportunities for disease prevention.

Methods: We reviewed travel health recommendations from the U.S. Centres for Disease Control and Prevention (CDC, “Health Information for International Travel” or “Yellow Book”), the World Health Organization (WHO, “International Travel and Health” or “Green Book”), and Canada’s Committee to Advise on Tropical Medicine and Travel (CATMAT) to identify differences in recommendations for international travelers.

Results: We identified several differences, most of which related to the strength of recommendations or the way risk groups were defined. Examples include:

- 1) Hepatitis A: All groups recommend vaccination of non-immune travelers to areas of medium and high endemicity. CDC supports immune globulin (IG) administration to those traveling within 4 weeks, while WHO only suggests IG in cases of “emergency travel”. CATMAT does not recommend IG unless vaccination is contraindicated, regardless of timing.
- 2) Hepatitis B: CDC recommends vaccination for travelers to areas with intermediate to high levels of transmission who anticipate engaging in high-risk activities, while WHO recommends vaccination for all travelers to moderate- to high-risk areas.
- 3) Japanese Encephalitis: CDC recommends vaccination for persons who plan to live in high-risk areas but does not tailor recommendations by travel duration. WHO recommends considering vaccination of all persons traveling to high-risk areas for ≥ 2 weeks, and CATMAT recommends vaccination of those spending ≥ 1 month in rural parts of endemic areas during a period of transmission.
- 4) Malaria chemoprophylaxis: CDC and CATMAT do not recommend chloroquine/proguanil for prophylaxis, while WHO recommends this combination for travelers to areas of “emerging chloroquine resistance” (e.g., India).

Conclusions: Health maintenance recommendations for international travelers differ among authoritative sources. Highlighting these differences is important to define knowledge gaps in travel medicine, determine research priorities, improve harmonization, and better understand remaining differences.

Emergency Travel Medicine for Japanese

Tadashi Shinozuka (Japan)

Japanese Society of Travel Medicine

Japanese Society of Travel Medicine (JSTM) is the only academic society, which has official medical journals, speciality board certification, and academic research activities in Japan.

Current active membership is 1,152 members, 80% of them are medical doctors, whose specialties include internists, surgeons, neurosurgeons, emergency physicians, and G.Ps. JSTM focuses on 3 major areas and 2 minor areas in today's travel medicine.

Major areas are as follows

1. Emergency TM

Based on Japanese government statistics in 2004, the total number of deaths during overseas' travel was 564. 57% of the total deaths were due to stroke and heart attack. The third cause of death was accidental, mainly by traffic accidents.

2. Outdoor Sports TM

Five million Japanese people, mainly middle aged and the elderly,, enjoy trekking and mountaineering. One million Japanese people, mainly young people, enjoy diving.

3. Health Promotion TM

As in many developed countries, aged people are dramatically increasing in Japan, too. Likewise, Health Promotion TM will also become increasingly important in the near future for the Japanese.

Two minor, but important areas are as follows

1. Infectious diseases TM

In 2003, SARS imposed an enormous economic impact on the travel industry in Japan. Now, Avian Influenza might possibly also impact hard on travellers and travel companies.

2. Disaster medicine TM

Massive earthquakes, Tsunami, landslides, and monster hurricanes are also an area of concern for Japanese travellers.

In this lecture, I will focus on Emergency TM of Japanese aged travellers, which means, I'll focus on how to prepare for strokes, heart attacks, and traffic accidents.

There are two topics in this area, one topic is how to overcome the language barrier, and the other topic is how to reach appropriate hospitals.

1. How to overcome the language barrier in the case of stroke and heart attack

Dr. Walter Pasini invented "Health Passport" in order to overcome this language barrier in clinical situations. The "Traveller Clinical Record" is a sheet type English format record, which contains essential clinical information.

JSTM recommends that Japanese travellers should have such English written clinical letters with them.

But, writing English letters is a time-consuming burden for Japanese doctors. So, JSTM invented the "Safety Medical Record Booklet", in which each traveller can write their medical information by themselves.

"Safety Medical Record Booklet" series is for adults, for students, and for children. These booklets relieve Japanese doctors the time burden and clients of the financial burden.

2. How to reach appropriate hospitals in case of stroke and heart attack

In case of stroke in Tokyo, Beijing, or Taipei, what do you do? Which hospital do you go?

This is another important topic in Emergency TM for aged travellers.

In general, in developed countries, we only should know emergency telephone numbers like 911 in USA, 15 in France, and 119 in Japan.

But, in developing countries, including China, we should know the hospital name & location, where we can receive CT examinations and neurosurgery operations, when necessary.

In this context, JSTM members extensively collect real hospital information for those hospitals with high-level equipment (64 ch-CT, 1.5 T MRI, etc.).

We distribute such hospital information through JSTM annual meetings, medical journals, and Japanese guide books.

In reality, current Japanese travel guide books are misleading books regarding hospital information, they only contain “Japanese Speaking” small clinics.

So, I am sure that if Japanese Prime Minister Koizumi suffers from a stroke in Paris, he might die due to delayed and such poor levels of treatment given by these listed clinics.

JSTM has been working on this formidable task to overcome such a misconception.

Sexually transmitted infections in travel medicine perspective

Per Anders Mardh (Sweden)

WHO has estimated that there are approximately 1 milj. new cases of sexually transmitted infections (STIs) each day worldwide! Travel means for many persons an increased risk for contraction of STIs. HIV has been the STI agent that has been in the main focus since the 1980-ties. In spite of efforts, of a magnitude never seen before in the field of preventive the spread of an STI, the last estimation from UN was 14.000 new HIV cases daily and 8500 death from AIDS. However, also other STIs involve deadly risks, but the time lag between contraction of the infection and severe complications, such as cancer, may take even decades. This may explain why these infections have not obtained the same focus as HIV. Thus, human papilloma virus is the cause of probably all cases of cervical, penal and tonsillar cancer and likely also of many rectal cancers. Hepatitis C is on the increase and thereby the number of liver cirrhosis followed by liver cancer. Other non-HIV STIs cause late abortion, still-birth, death of neonates and gravaidae.- STD campaigns, using printed material, aimed to reduce STI risk behaviour have been delivered pretravel, “en route”, e.g. on air planes, and at charter destinations, but the result has not been very rewarding. Neither travellers in general, tour operators and air line companies have been attracted to be pointed out or associated with such a negative aspect of travelling. Campaigns to distribute condoms to young backpack interrail travellers and to set up “condomerias” on beaches on popular charter destinations seems more to have satisfied the campaigners than those at risk.- The extent of the potential STI travel medicine problem can be highlighted by a survey among women from Northern Europe, who in 27% confessed that they had had sex during travelling with a man previously unknown to them. One important implication of the study for STI epidemiology was that the partner in one third of the sex contacts stemmed from the local population, while another third was a tourist from another country and in still another third he was a country-fellow.

WELL-BEING AND TRAVEL

Robin Philipp

Interest in the concept of ‘well-being’ is now widespread, particularly in the context of strengthening social capital. A Working Party of the Royal College of Physicians, UK, studying the role of doctors in society in a changing world reported in 2005, that it “indicates a holistic notion of achieving a state of health, comfort and happiness”, and an internet Google search of the term in February 2006, listed 73,500,000 sites. Some governments are now requiring it to be addressed. In New Zealand for example, the purpose of Local Government as defined in the Local Government Act 2002 is ‘to promote the social, economic, environmental and cultural well-being of communities taking a sustainable development approach’.

Within Travel Medicine, the concept of well-being is of increasing relevance for travellers, local residents of the host populations, and workers in the travel industry. It is being studied within the AESOHP programme (An Ecological Sense Of Healthy Place and Purpose). This programme was established in 2000, in collaboration with the WHO Collaborating Centre for Tourist Health and Travel Medicine, Rimini, Italy, the World Health Organisation, and the Nuffield Trust, London, UK. An underlying hypothesis of its work is that: ‘Our mental health and well-being are influenced by the aesthetic quality of our external environment: improved understanding of this association can influence our sensitivity to environmental qualities and help each of us to identify what we seek, can attain and wish to retain and enjoy for our health and well-being’. Details of this programme and its projects have been published in the Proceedings of the European Conference, ‘Green Cities – Blue Cities of Europe’, held in Forli, Italy, in October 2000, and in the Proceedings of the Third International Conference on Travel Medicine, held in Florence, Italy, in 2002:

‘Aesthetic Quality of the Built and Natural Environment: Why Does It Matter?’

‘The AESOHP Programme: An Ecological Sense of Healthy Place and Purpose’.

These fully-referenced book chapter reports can now be readily accessed on the New Zealand-based website of Arts Access International: www.artsaccessinternational.org

This work of the AESOHP programme has taken as its starting point, the WHO European Charter on Environment and Health which stated that: “good health and well-being require a clean and harmonious environment in which physical, psychological, social and aesthetic factors are all given their due importance”, and awareness that the word ‘aesthetics’ derives from the Greek ‘aisthanesthai’ (to perceive) and ‘aistheta’ (things perceptible). This Charter addressed ‘entitlements’, ‘rights and responsibilities’ of the public for environmental health and personal happiness. For Travel Medicine and within it, Health Promotion, what is from this European Charter are areas such as:

How our interests develop for where we wish to travel to and what we wish to do when there;
how we ‘see’ and value what we are looking at;
the quality of environmental characteristics;
our understanding and respect for local cultures, customs and preferred habits of local residential populations;
how we might wish to record our impressions of what we have seen and done and incorporate them into our lives back at home.

Unfortunately, some host resorts have recently experienced considerable detrimental changes in their fortunes associated with the behaviour when abroad of some tour and travel operator staff and their clients. Accordingly, it is worthwhile to examine further:

how present values associated with society, tourism, and the travel industry are determined; and
how, in the interests of improved valuing for sustainable development, the public health of host, tourist-receiving populations and the psychological health and emotional well-being of travellers and staff abroad can be better appraised.

Within the AESOHP programme, a survey method has been developed to explore how residents, tourists and other visitors value and enjoy the different environmental characteristics and qualities of a tourist resort or other local area. The methodology and travel literature that could be developed in association with its use and from findings of studies with it will be presented. They will be discussed in the context of recent UK newspaper advertisements for travel abroad that illustrate growing interest in the interdependence of environmental aesthetics and well-being.

From this work it is reasoned that further attention to psychological health and emotional well-being associated with tourism will help to benefit:

the public health;
personal enjoyment;
increasingly important areas of tourist health and travel medicine such as health promotion and travel, eco-tourism, ethical tourism, socially-responsible tourism, cultural and special-interest travel, and health-enhancing uses of spa resorts.

Collaboration with the AESOHP programme in this emerging area of psychological health and emotional well-being and its association with Travel Medicine, Environmental Health and Health Promotion is welcomed. Interested persons can contact: Robin.Philipp@ubht.nhs.uk

Dengue in Travellers

Annelies Wilder-Smith (Singapore):
Head, Travellers' Health & Vaccination Centre
Associate Professor, National University Singapore

Dengue is endemic in most tropical and subtropical countries, many of which are popular tourist destinations. The escalating epidemic of dengue over the past decades is in tandem with an increasing incidence of dengue in travellers. In some case series, dengue fever now presents the second most frequent cause of hospitalization in travelers returning from the tropics. Prospective studies on dengue seroconversion rates in travelers revealed an

incidence of dengue between 2.9% and 6.7%. These data demonstrate that dengue fever poses a substantial threat to travelers to the tropics. The incidence in travelers may be as high as that of malaria (without chemoprophylaxis), and is higher than that of other travel related diseases such as hepatitis A or typhoid fever. Risk factors for acquiring dengue depend on duration of travel, season and destination. Clinical manifestation in travellers may differ from that seen in the endemic population.

As international travellers have the potential both to acquire and to spread dengue virus infection, it is paramount that health care providers have an understanding of the epidemiology, clinical spectrum, diagnosis, management and prevention of dengue virus infections in travellers.

Schistosomiasis in Africa: a continuing risk for endemic populations and travellers.

David Rollinson (UK):

Wolfson Wellcome Biomedical Laboratories, The Natural History Museum,

Schistosomiasis is a persistent parasitic disease infecting around 200 million people in over 70 countries of the tropics and subtropics. The majority of cases are found in sub-Saharan Africa, where both intestinal and urinary forms of the disease attributable to *Schistosoma mansoni* and *S. haematobium* respectively occur. The transmission of schistosomiasis is highly focal and influenced by many different factors ranging from the genetics and behaviour of freshwater snails, parasites and people to the suitability of the environment. Water development programmes and associated agricultural schemes may lead to significant increases in prevalence of infection in local communities. Knowledge on schistosomiasis transmission can help target control efforts and this will be illustrated by studies in Africa where control programmes are underway. The cost of praziquantel, the main treatment drug of choice, has fallen significantly in recent years and new control initiatives may have a considerable impact on morbidity and prevalence of schistosomiasis. Introduction of schistosomiasis to new geographical areas is primarily due to movement of people: when suitable snail intermediate hosts are present, disease foci can be rapidly established. Countries close to eradication of schistosomiasis need to monitor for possible re-introduction of the parasite. Travellers to endemic areas are also at risk of infection, especially if they are ignorant of the dangers posed by water contact and proper safeguards are not taken. Even transient contact with water bodies associated with transmission can lead to infection by schistosomes. Scattered reports in the literature indicate there may be a steady rise of schistosomiasis cases in non-endemic countries, possibly due to an increase in overland and off-track travel. Health education and advice are necessary to reduce imported cases.

Occurrence of visceral and cutaneous leishmaniasis in Croatia

Rosanda Mulic-Aida Custovic (Croatia):

In the last 10 years, a total of 29 cases of leishmaniasis have been recorded in Croatia, 20 of which were visceral leishmaniasis (kala-azar) and 9 cutaneous leishmaniasis cases. Of the overall number of the infected persons, 17 are inhabitants of the islands and the coastal area and 12 are inhabitants of the continental part of Croatia. Previous research of our authors has shown that this infection is acquired through residence in the southern part of the coastal and island area of Croatia, so we can assume that this fact also refers to patients suffering from both cases of leishmaniasis in the continental region. Vectors of the visceral form of leishmaniasis in Croatia are *Phlebotomus major*, *Phlebotomus tobbi*, *Phlebotomus perfiliewi* and *Phlebotomus simici*, relatively numerous mosquitoes in the entire coastal area of Croatia.

The primary vectors of cutaneous leishmaniasis are *Phlebotomus papatasi* and *P. perfiliewi*. Dogs, some kind of wild dogs (*Canis aureus*) and rats and are proven reservoirs of the visceral form of the disease in Croatia. Around 80% of all tourist movements in Europe take the direction of continental area - the coast. 50% of these refer to the coast of the Mediterranean. Croatia is a tourist and Mediterranean country and falls under countries with no special health risk, according to the WHO estimates.

Although visceral and cutaneous leishmaniasis are not common and do not represent a public health problem in Croatia we would like to warn of the possibility, however small, that persons who have been residents or spent some time in the southern part of the coastal and island area of Croatia might acquire the infection. As the incubation period of the visceral leishmaniasis is long and clinical manifestation at first unspecific, this might cause difficulties in diagnosis in countries where autochthonous visceral leishmaniasis does not exist.

Traveller's Diarrhea; Diagnosis, Prevention, and Medication

Thaddeus Graczyk (USA)

Institution: Johns Hopkins Bloomberg School of Public Health, Baltimore, MD 21205, USA

Traveller's diarrhea is frequent and watery bowel movement resulting from consumption of contaminated solid food or liquids. It is the most frequent health problem encountered by travellers to tropical countries. *Cryptosporidium parvum*, *Giardia lamblia* and human infectious microsporidia are frequently a common cause of diarrhea in travelers. Conventional diagnostic techniques are laborious, insensitive, require a trained technician, and do not allow for species-specific identification. We have developed a multiplex Fluorescent In Situ Hybridization (FISH) assay for species-specific identification of microsporidian spores in clinical and environmental samples. Also, we have combined FISH and immunofluorescent antibody (IFA) assays for identification of *C. parvum* oocysts and *G. lamblia* cysts in clinical and environmental samples. Prevention of traveller's diarrhea includes: eating well-cooked food; drinking bottled water, bottled drinks, boiled water, and avoiding consumption of ice and tap water; washing and peeling fruits before consumption; using bottled or boiled water for brushing teeth; and washing hands with soap. Good personal hygiene and attention to consumed products are the best ways to prevent traveller's diarrhea. Medications recommended for temporary relief of diarrhea symptoms include: Imodium; Pepto Bismol; Ciprofloxacin; and Azithromycin. Supported by the NATO Collaborative Linkage Grant; NOAA Chesapeake Bay Office; Johns Hopkins Center in Urban Environmental Health (P30ES03819); and the Alternatives Research & Development Foundation.

Malaria case fatality rate with age in UK travellers Is Age a neglected Risk Factor in Travellers' Malaria?

Bradley D J, (1,2), Smith A D, (3)

(1) London School of Hygiene & Tropical Medicine; (2) Department of Zoology, University of Oxford; (3) Department of Public Health, University of Oxford

In advising travellers on malaria prevention, emphasis in recent years has been rightly directed particularly towards children of settled minority groups, lest parents who have come from regions highly endemic for malaria assume that their children, born in temperate climates, retain some resistance to the infection. Elderly people have not received similar special attention, although a hospital-based study in several European countries showed a raised mortality in the elderly.

We have studied all reported cases of falciparum malaria imported into the UK from 1987 through 2003 inclusive. During this time the same standard protocol was used to record details of cases. Special attention was given to tracing deaths due to malaria occurring in the UK. There were 158 deaths among 20548 cases of known age. Case fatality rates by age were calculated for the whole study population of malaria cases and for various subsections of it by date, ethnic group, and use of chemoprophylaxis.

The case fatality rate (CFR) rose steadily and exponentially with increasing age, from the 15-25 year age group where it was lowest, throughout life. In each 10 year age group the CFR rose by about 70% compared with the preceding decade. This remained the case (though the absolute rates varied) in subsets of the data selected by ethnicity, purpose, season and duration of travel (and use of prophylaxis) or by the period when visits were made, before or after 1992. The absolute CFR levels varied substantially with age, from 0.2% in those below 20 years to 7.8% in those over 70 years old. These data appear robust; it is highly unlikely that there is huge under-reporting of malaria in older people (indeed the converse has often been assumed) or that fatalities in the young are taking place undetected on a massive scale. These community-based results are, moreover, comparable with those reported in the hospital study. While the full interpretation of these findings will require highly reliable age-specific travel data, the basic message is clear: malaria in travellers becomes much more lethal with increasing age. It is essential that elderly travellers meticulously comply with prophylactic measures so as to avoid getting malaria in the first place. Practitioners could helpfully emphasize this in their advice to older people intending to travel to countries endemic for falciparum malaria

Malaria Chemoprophylaxis; a potential tragic misunderstanding

David Overbosch, Pleunie PM Rood

Harbour Hospital & Institute for Tropical Diseases. Rotterdam, The Netherlands

Much efforts and resources have been focusing on improving or evolving antimalarial prophylactic regimens in order to reduce the increasing problems of malaria infection in non-immune travellers to malaria endemic regions. The newer antimalarial drugs have indeed increased the trust of travellers in chemoprophylaxis against malaria.

However, malaria chemoprophylaxis remains a complex issue.

In equatorial Africa malaria is hyper endemic. Children build up a semi-immunity during childhood due to repeated attacks of malaria. Among adult Africans, due to this semi-immunity *falciparum* malaria is seldom fulminant, in contrast to the non-immune traveller.

Often adult Africans with malaria have a low parasitaemia so that the diagnosis for these patients is difficult to establish, especially when anti malaria drugs have been given. This is often a reason for the local physician to start treatment despite a negative thick smear preparation.

The above may be two causes for a tragic misunderstanding for the Western traveller. First, the fact that malaria in African adults is not considered a severe disease because of acquired semi-immunity. This often leads to “doctor’s delay”. Second, the treating physician may attribute little value to the result of the thick smear, and even omit this laboratory test entirely and simply treat the patient. This may result in unnecessary treatment of travellers who used adequate malaria chemo prophylaxis, and who may then conclude that this chemo prophylaxis is a waste anyway.

This may have disastrous results for further trips into areas endemic for *falciparum* malaria.

In an attempt to prevent this tragic misunderstanding, information for the traveller must include emphasis on the manner in which malaria is diagnosed in tropical regions. In the first place the traveller must be aware of the difference in appreciation for malaria in adults in Sub-Sahara Africa. Secondly, because the diagnosis of malaria is often established without adequate examination or despite a negative thick blood smear, travellers are strongly recommended to use chemoprophylaxis and to continue to use it after treatment for “malaria”, since it is likely that it concerned another infection and therefore that the prophylaxis did not fail. Such information can decrease the risk of malaria for the traveller and increase the trust of the traveller in the travel recommendations.

Barriers to uptake and adherence with the malaria prophylaxis by the African community in London, England : Focus group study

Morgan M. (UK) ,Figuroa-Munoz J I(WHO):

Background: There are increasing trends in the rates of imported malaria, particularly *Plasmodium falciparum*, in African descent individuals living in the UK and other European countries. This study investigated beliefs about malaria and barriers to uptake and adherence to malaria prophylaxis among African descent individuals in inner London who have low rates of uptake of malaria prophylaxis.

Design. Focus groups conducted with 44 volunteers of African origin living in South London. Transcripts were analysed qualitatively.

Results. Low prophylaxis uptake was influenced by a perception of malaria as a low threat, a common non-serious and easily treatable condition. Some individuals believed they had been vaccinated or somehow they were not at personal risk. Concerns about side effects of malaria prophylaxis, dislike of the taste, and disbelief by some participants of the drugs effectiveness were also identified. Health service barriers included the cost of drugs, waiting times for appointments and uncertainty regarding appropriate medication. Adherence to prophylaxis was hindered by complex regimes, and by a lack of awareness of the need for continuing the drugs after return to the UK and the practice of leaving drugs for relatives in Africa. Beliefs and practices varied in what appear to be associated with socio-economic status, prior experience of malaria and the organization and delivery of local primary care travel services.

Conclusions. Much non-adherence to malaria prophylaxis is ‘intentional’ reflecting beliefs common to all travellers and also particular circumstances and experiences of migrants of African descent. There is considerable variability in beliefs and practices among individuals reflecting the heterogeneity within ethnic groups in socio-economic position and other circumstances. Changing behaviour interventions require a multi-dimensional approach involving community based health promotion targeting the beliefs of this ethnic group and adapting health service measures to the community needs.

Posters

P1

Heart attack risks and smoking

Authors: Bakhturidze George, M (1), Kobeshavidze Gela, M (2)

Institution: Georgian Health Promotion and Education Foundation

BACKGROUND: Despite increased risk for coronary artery disease and acute myocardial infarction (AMI), smokers have a paradoxically lower mortality after thrombolysis for AMI than non-smokers. We determined the clinical risk profiles and coronary flow characteristics of patients in the TIMI trials according to smoking status, focusing on microvascular flow.

METHODS: Among 1,982 patients in the TIMI 4, 10A, 10B and TIMI 14 trials, epicardial flow post-thrombolysis was measured using angiographic TIMI flow grades and the corrected TIMI frame count (CTFC). Microvascular flow was measured by TIMI Myocardial Perfusion Grade (TMPG) and, in TIMI 14, the percentage of ST segment resolution. **RESULTS:** Clinically, the mean age (52 vs. 61 years), the prevalence of diabetes mellitus (9% vs. 14%) and hypertension (23% vs. 39%), and the 30-day mortality (2.8% vs. 6.7%) were lower among smokers than non-smokers (all $p < \text{or} = 0.001$). Angiographically, single-vessel disease (46% vs. 39%) and non-left anterior descending infarct arteries (63.2% vs. 59.5%) were more common among smokers (both $p < \text{or} = 0.01$). Epicardial TIMI grade 3 flow was achieved more often in smokers than non-smokers (62% vs. 54%) and the CTFC was faster (33 vs. 38 frames/sec, both $p < \text{or} = 0.01$), especially in LAD lesions. However, the frequency of normal microvascular flow (TMPG 3) was similar among smokers and non-smokers (23% vs. 28%, $p = 0.15$), as was the frequency of complete ST segment resolution (49% vs. 46%, $p = 0.28$).

CONCLUSIONS: Smokers have lower mortality after AMI than non-smokers, due in large part to lower clinical risk profiles and faster epicardial flow. Differences in tissue-level perfusion do not appear to contribute to lower mortality in smokers.

P2

Demographic variables and presentation of acute coronary syndrom without elevation of ST in Spanish and Nordic people.

Pombo M, Olalla J, Ruiz Mateas F, Garcia Alegria JJ

Institution: Hospital Costa del Sol. Marbella. SPAIN.

INTRODUCTION: It is well known that prevalence of coronary disease is greater in people from Northern Europe (United Kingdom, Germany, Denmark, Scandinavian countries) than in Mediterranean countries, but we do not know if there is any difference in clinical presentation and prognostic factor at admission in the hospital.

METHODS: All patients admitted in a second level hospital of Spain in the Costa del Sol, with the diagnosis of coronary acute syndrome without elevation of ST, were retrospectively studied, demographic variables were registered, as were cardiovascular risk factors, form of presentation and coronary anatomy. **RESULTS:** 128 Spanish patients were registered and 24 patients from Northern Europe, with no difference in gender (M/F in Spanish 3.4/1, and in Nordics 4.7/1), age (66.5 years vs 67.4), history of relatives with coronary disease (7% vs 9%), previous diagnosis of coronary artery disease (60% vs 59%), peripheral arteriopathy (10% vs 6%), High Blood pressure (54% vs 57%), Hypercholesterolemia (40% vs 36%) or proportion of smokers (28% vs 33%). The proportion of diabetic people was greater in Spanish people (41% vs 14%, $p=0.002$). A tendency in Nordic people was observed, without statistical significance: a greater proportion in people with ST changes

(60% spanish vs 75% nordics), elevation of troponin (25% vs 35%), left ventricular dysfunction (10% vs 21%), and exercise test of bad prognosis (24% vs 33%). The incidence of coronary artery disease of three vessels and normal coronary arteries during coronariography was similar in the two groups. CONCLUSIONS: 1. There is no significative difference in demographic or clinical variables between spanish and nordic patients. 2. There is a tendence to a greater prevalence of severity factors without any correlation with a more serious angiographic disease.

P3

A Decision Support System for crisis management in a Local Health Public Agency

Gelatti U. (1), Covolo L. (1), Orizio G. (1), Guida G. (2), Ferrari G. (3), Garattini S. (4), Scarcella C. (4)

Institutions: (1) Dipartimento di Medicina Sperimentale ed Applicata-Sezione di Igiene Epidemiologia e Sanità Pubblica-Università degli Studi di Brescia, (2) Dipartimento di Elettronica per l'Automazione-Università degli Studi di Brescia, (3) LASER srl, (4) Azienda Sanitaria Locale di Brescia

Local Public Health Agencies, having the mission of caring for population health, are intrinsically exposed to rising crisis; we define crisis a discrepancy between health needs and available resources. In crisis situations it's necessary a quick and skilled response, based not just on emergency plans, but also on the application of organizational and management models which guarantee business continuity, switching from ordinary to extraordinary activity.

Azienda Sanitaria Locale (ASL) of Brescia, which is a Local Health Public Agency that cares for more of a million people in Northern Italy, did experience how complex it is to apply the plan during a crisis, because of the complexity of the Agency itself and because of the overwhelming amount of information. To improve information management in the context of crisis management, ASL of Brescia, collaborating with several partners including University of Brescia, has started a Project - founded by the European Social Found - aimed to develop a prototype of Decision Support System (DSS) to help managers to make decisions in crisis situations. The Project has ran during 2005 and led to a first demonstration of the prototype in September 2005. The prototype has a 3-tier structure, including a database server, an application server and a presentation client. Crisis managers interact with the DSS through four main frames: the event frame shows what is happening, the resource frame provides real time information about available resources; the plan frame shows the plans that should be activated in front of the occurred events; the action frame helps the decision makers to allocate available resources to the actions of the currently active plans.

The DSS is meant to support decision makers in two ways. On one hand it suggests all non critical choices on the basis of available domain knowledge, that can be acquired from regulations, emergency plans and experience of professional crisis managers. On the other hand, crisis managers are allowed to focus only on critical decisions that definitely require their intervention; for this essential choices they receive an informative, structured decision support.

The experimentation of the prototype is currently ongoing. To get a final and operative product it will be necessary to expand the knowledge base of the system in order to cover a larger set of possible cases and events, and to face other technical aspects related to the reliability and robustness of the DSS.

P4

Looking for health advices when travelling abroad

Popovic Vesna (Croatia)

The purpose of this review is to find out whether tourists look for health advices when travelling abroad. The hypothesis to verify is that tourists are still not used to look for all the advices, and that they are much more used to search the informations about road situations than about climate conditions, epidemiological situation, level of the health protection and health insurance. 160 persons were interviewed 2003-2005. about travelling in 1998. and later. Most of the destinations were European (only 4 of the interviewed travelled out of Europe). The results show that 30,00% (24,02<p<35,98) looked for the informations about the road situations. Compared to this result, there are significant differences ($P<0,05$) in population percentages who asked for the advices about climate conditions [6,25% (3,09<p<9,41)], epidemiological situation [1,87% (0,10<p<3,64)], level of the health protection [5,00% (2,16<p<7,84)] and health insurance [18,75% (13,66<p<23,84)]. The intention for looking for health advices in future differs depending of the destination.

P5

Elements of concordance and discordance of some risk factors for arterial hypertension in a twins cohort

Azoicai Doina (1), Preliceanu Mihaela (2), Grudnitchi Alice (1) A

Institutions: (1) "Gr. T. Popa" University of Medicine and Pharmacy Iasi, Romania, (2) "Sf. Spiridon" Clinic Hospital Iasi

The involvement of heredity in the arterial hypertension (AHT) pathogenity is a field opened for actual research. The study aim: to assess the concordance and discordance elements of some cardiovascular risk factors (RF) in a twins cohort to evaluate the influence of environmental and/or heredity in their determinism. Material and methods: observational epidemiological study of AHT and some RF in a monozygotic twins cohort (MZ, n=128) and dizygotic (DZ=194) born between 1975-1990. Results: AHT was registered in both descendants for 5 pairs of MZ and 6 DZ, and for ascendants and descendants in 4 pairs of MZ and 6 DZ. The calculated risk for the studied RF has an epidemiological and statistical significance in MZ for the "A" behavioral type (RR=1.59; 1.19-2.12; p=0.002). The concordance of RF in both descendants for MZ was for: overweight (66.6%), excess salt consumption (56.9%), "A" behavioral type (53.8%), food with atherogenic risk (50.9%). The RF discordance was more frequent in DZ, except the "A" behavioral type (77.7%). Conclusions: the assessment of the concordance variants highlighted the influence especially of environment in MZ for the RF such as: sedentarism, stress, tobacco smoking, alcohol or atherogenic food consumption, and, at the same level, heredity and environmental factors for the "A" behavioral type, overweight, and excess salt consumption.

P6

Pneumococcal vaccination in the immunization program in romania

Azoicai Doina (1), Preliceanu Mihaela (2), Matei Mioara (1)

Institutions: "Gr. T. Popa" University of Medicine and Pharmacy Iasi, Romania (1), "Sf. Spiridon" Clinic Hospital Iasi (2)

The protective effect of 23-valent pneumococcal vaccine, in risk individuals, is scientifically supported by a significant decrease of lethality in invasive forms. Between 2002-2005, by the vaccination program for adults registered in the Pneumophthisiology Network Iasi, 408 patients with lung diseases were immunized (39.7% chronic obstructive pulmonary disease; 14.2% recurrent respiratory infections; 12.7% asthma; 10.5% sequels after pulmonary tuberculosis; 8.3% bronchiectasis; 4.9% pulmonary suppurations; 2.9% lung neoplasm). The strategy to protect the risk group was implemented by this vaccination program, in according with CDC and OMS

recommendations: adults suffering from chronic pulmonary diseases and co-morbidities and elders over 64. The monitoring system of vaccinated persons (age average 57.3 ± 33 years, from which over 50% with age 64+, men predominance - 56.4%), from urban area (72.1%), permitted to make a database concerning the exposure to factors that increase the risk of relapses or death following a severe pneumococcal infection. The exposure was significant for environmental factors ($p=0.00001$, $IC=95\%$) (33.9% exposure to cold / dampness, and 16.5% professional noxae) and individual factors ($p=0.00001$, $IC=95\%$) (28% stress; 18.4% active tobacco smoking; 7.1% alcohol consumption). The following diseases - from the various pathology associated with the main pulmonary affection - were proved to increase the susceptibility for pneumococcal infection: cardiovascular (38.6%); diabetes mellitus (7.4%); chronic liver diseases (6.1%); anatomical or functional asplenia (4.7%), immunosuppressive-induced therapy (4.2%); neoplasms (2.7%) ($p=0.0001$, $IC=95\%$). The vaccine tolerance was good, recording 6.5% (3/46) local side effects and 4.5% (2/44) general side effects, with a favourable prognostic. The results of previous studies concerning the 23-valent vaccine immunogenity and the preliminary clinical observations carried out during 3 years from the beginning of pneumococcal vaccination program in adults suffering from pulmonary diseases, as well as elders over 64, are encouraging to carry on this prevention strategy at the beginning in Romania.

P7

Acute mountain sickness in adventure travelers

SMITH, R.L.

NORTHWEST HOSPITAL, SEATTLE, WASHINGTON, USA 2. UNIVERSITY HOSPITAL, SEATTLE WASHINGTON, USA

OBJECTIVE: To develop a logical and effective pre travel and travel medical plan for the prevention of Acute Mountain Sickness(AMS) for the adventure travelers who may travel several times a day to altitudes above 12,00 ft (4000 meters)but are not mountain climbers

MATERIALS and METHODS: Evaluate the factors that may induce Acute Mountain Sickness in individuals of all ages, whether climbers or not, who travel to altitudes > than 12,000ft. Then correlate those factors with the itinerary of the adventure travelers - not climbers - who may travel several times a day between 12,000 ft. and 17,000 ft over mountain passes as they do in Tibet. Then incorporated that knowledge of the relative risk of developing Acute Mountain Sickness in that unique group of adventure travelers re recommendations for the use of pre travel drug prophylaxis and possible continued use during the entire trip.

RESULTS/SUMMARY: Since prevention is superior to treatment for medical problems and that medical care and evacuation are extremely difficult to obtain in some remote areas of the world, drug prophylaxis should be strongly advised in high altitude travel. AMS can progress to HACE/HAPE with disastrous results even with adequate medical treatment.

The unique aspect of this type of adventure travel is that fluctuations of altitude between 12,000 and 17,000 ft can occur several times a day. That will expose the travelers to repeated environmental factors that can induce AMS. This can cause primary or recurrent s/s of AMS on a daily basis ie headaches,nausea/vomiting paresthesias, and severe fatigue.

Pre travel prophylaxis with Acetazolamide or Decamethasone is in my opinion a must. If s/s of AMS appear after arriving at altitude and after stopping the prophylaxis, it should be restarted and preferably continued during the entire travel time at altitude. Likewise, those with s/s of AMS on arrival should continue the drugs.

This protocol was followed with a group of travelers to Tibet (2005) with satisfactory results, thus providing a more enjoyable adventure with decreases in acute, continuing and reoccurring AMS

P8

Soothing an aching belly... a trans-cultural approach

Fonseca AG., Amaro M., Barata J.

Department of Medicine - Hospital Garcia de Orta

For long sub-Saharan African immigrants have been arriving to Portugal, making it their new home, and bringing with them their culture and life-style.

A 54-year-old Guinean black man newly arrived in Portugal and badly speaking portuguese was admitted for a long lasting abdominal pain. For at least 3 months he had been complaining with persistent upper right abdominal pain, associated with severe microcytic hypochromic anemia and ferropenia, hemodinamically very well tolerated, though. Back home he used to wound himself in order to relieve the pain (traditional medicine). He was markedly undernourished, had several small scars localized to the upper right abdomen from self-injuring and had rhabdomyolysis. Upper digestive endoscopy revealed benign bulbar peptic ulcer under cicatrisation, conditioning severe stenosis significant enough to hamper the progression of the endoscope. No evidence of active hemorrhage was observed at the time. Viral serologies (HBV, HCV, HIV) and tumor markers (alfa feto-protein, CA 19.9, CEA) were negative. Abdominal ultrasound and TC showed no alterations. He underwent truncal vagotomy with antrectomy and gastrojejunal anastomosis.

This case report shows how common pathologies may appear very exuberant when first observed in such advanced stages, very infrequently seen in Europe nowadays. Our African immigrant communities sometimes make us deal with atypical and severe presentations of common and simple diseases.

P9

The threat of emerging infectious diseases and mobility: A case for the pending influenza pandemic

(1) Hannah, H. (2) Grondin, D.

Institution: (1)International Organization for Migration, (2)Canadian Society for International Health

The recent spread of avian influenza among birds has spawned a global preparedness effort for pandemic influenza and highlighted the ever present threat to humans of new and emerging diseases. Globalization coupled with the ease and extent of world travel has allowed for rapid and widespread dissemination of disease conditions.

This paper investigates the consequences of human movement with respect to health and disease in an international context using influenza as a model. As mobile populations increasingly serve as sentinels, couriers and transmitters of pathogens across increasingly permeable international borders, the relevance of the new International Health Regulations from the World Health Organization will be critical. Statistical modeling, although theoretically limited, provides indications that local containment of certain diseases will not be possible thereby resulting in consequences of global proportions. The pending influenza pandemic presents challenges to current international health systems and threatens public health in all countries. Appropriate port quarantine and isolation measures combined with uncomplicated access to medical assistance for mobile populations will be critical to disease containment. Regional coordinated surveillance, response and containment mechanisms beyond national boundaries will require international collaborative efforts.

Failure to address health standards in the poorest countries will inevitably have consequences on a global scale. Influenza viruses and other new and emerging disease causing microbes will continue their evolutionary struggle for survival while our species must attempt to remain one step ahead or at the very least, have the ability to respond appropriately. Existing public health structures which do not prioritize the health and disease status of mobile populations will inevitably result in failure.

Potential Alternative Molecular Model Addressing Puzzling Aspects of *Leishmania* spp. Pathology

P10

Use of recombinant antigens of *t. Cruzi* in the elisa diagnostic test for screening blood donors

Authors: BastosClaudilson (1), Nakatani Maria (1), Netto Eduardo (1), Sherlock Ítalo (2), Lisboa Waldir (3), Santana Aurelino (4), Reed Steven (5), Badaró Roberto (1).

Institutions: 1Hospital Universitário Professor Edgard Santos, Federal University of Bahia, 2Fundação Gonçalo Moniz-FIOCRUZ, Brazil, 3Serviço de Transfusão de sangue (STS), Salvador, Brazil, 4Fundação Hemocentro da Bahia (Hemoba) and 5Corixa Corporation Seattle, WA, USA.

New recombinant antigens synthetic peptides (RASP) for serodiagnosis of *Trypanosoma cruzi* are available. Risk Relative study was performed in blood banks in Salvador- Bahia, Brazil. 253 blood donors were submitted to xenodiagnosis, *T. cruzi* hemoculture and serology. Three RASP (tripeptide, tetrapeptide and TcF) from the TcD epitope were evaluated. 139 (55%) were positive for tetra or tripeptide antigens and 135 (53%) for TcF on ELISA. Strong correlation of risk factors for Chagas and positive test were established 31/32 (97%). *T. cruzi* infected donors were positive for the 3 peptides tested. Specificity of the ELISA peptides among 48 individuals with negative classic serology for *T. cruzi* infection, and no risk factors for infection, were also tested. 41/48 (85,4%) were non-reactive using these peptides. These results indicate that specific RASP is highly efficient for serological diagnosis of *T. cruzi* infection.

P11

Potential alternative Molecular model addressing puzzling aspects of *Leishmania*

Joan E. Jackson, PhD, Department of Entomology, Division of Communicable Diseases and Immunology, Walter Reed Army Institute of Research, Silver Spring, Maryland, U.S.A.; Christopher O. Okunji, PhD, and Maurice M. Iwu, PhD, Bioresources Development and Conservation Programme (BDCCP), Silver Spring, Maryland, U.S.A.

For >100 years, tissue localization with associated typical pathologic manifestations have been considered leishmanial species-specific diagnostic criteria, e.g. visceral parasites (VL) were *Leishmania (Leishmania) donovani* complex species; cutaneous, *Leishmania (Leishmania)* or *Leishmania (Viannia)* complex species; etc. Although case exceptions were published, species-specific tissue localization was generally accepted as valid, if not 100% accurate, particularly as guidance for practical diagnosis. Recent reports of unanticipated leishmanial tissue and pathologic manifestations in *Leishmania*:HIV/AIDS opportunistic infections, with the corollary evidence that inapparent leishmanial infection in healthy, well-nourished adult humans, appears to be the “rule,” not the exception, raised serious medical questions. What criteria comprises “cure” versus asymptomatic? Where is the amastigote during “silent” infection? Is a cutaneous strain localizing internally, properly “VL,” or simply a reflection of more sensitive modern diagnostic technology, i.e. given proper test sensitivity any/many species may be found to “visceralize” under some yet undefined circumstance(s)? Answers to these questions are important due to global mobility to and from numerous leishmanial endemic regions where such atypical leishmanial symptoms may be readily recognized.

While investigating antileishmanial ethnomedical herbal therapies, we noted those having highest antileishmanial activity were plant steroids or -steroidal precursor molecules. Antileishmanial therapy using proven antilipidemic drugs further supported this observation. Wondering why such simple antilipid chemotherapy should prove so unexpectedly effective against *Leishmania*, we asked simple questions. What common characteristics do organs or tissues, including infected tissues reported as “anomalies,” in which we could find leishmanial amastigotes, share? How does a macrophage support 250-300 amastigotes’ intracellular growth/viability within one host cell? What nutrients does the host cell provide that *Leishmania* require but can not synthesize, e.g. what survival essential parasite nutrient(s) do antilipid compounds inhibit?

The alternative molecular model for *Leishmania* spp. pathology we propose encompasses the following answers

to these latter 3 questions, respectively: (1) *Leishmania* spp. appear to preferentially infect mammalian cells having a relatively high number of low density lipoprotein (LDL) receptors on the host cells' external membrane. (2) The LDL-Nramp (natural resistance-associated macrophage protein) receptor transport process affords a hypothetical rationale to explain biochemical "on demand" regulated intracellular nutrient transport to increasing (from 1-2 to hundreds/macrophage) amastigotes. (3) Cholesterol and divalent cations, required for energy generation, are nutrients essential for leishmanial amastigotes' survival. These latter nutrients can not be synthesized *de novo*, from precursor molecules, by the amastigote; rather, cholesterol and various divalent cations must be obtained via salvage uptake from the host macrophage intracellular environment.

It has been often reiterated that the amastigotes' intracellular lysosomal environment is "hostile," being acidic and laden with proteases which the amastigotes must somehow "neutralize," or failing to do so, the parasites die. The alternative hypothesis we propose is that the amastigotes' intra-macrophage lysosomal environment: acidic, full of proteases, Ca^{++} and cholesterol, is uniquely structured to ensure amastigote survival. The lysosome is the only intracellular environment providing amastigotes the 4 requirements for "membrane fusion" (i.e. cholesterol, acidic, Ca^{++} and proteases) plus "on-demand" survival-essential nutrient transport. Membrane fusion is the process essential for both parasite nutrient endocytosis and amastigote replication. Our alternative molecular model: functional elements, process, chemical process inhibition, data and science background evidence, will be presented. This alternative model will address also clinically relevant questions previously noted, "silent" infections and unanticipated tissues' localization of leishmanial pathogens.

P12

Occurrence of cardiovascular travel-related problems among patient with chronic heart disorder and usefulness of pre-travel advice: Call for a multicenter case-control study.

Authors: Potin M (1), Genton B (2).

Institutions: (1) Centre Interdisciplinaire des Urgences, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland; (2) Centre de Vaccination et de Médecine des Voyages, Policlinique Médicale Universitaire, Lausanne, Switzerland.

Cardiac events while travelling abroad occur quite often and are the most frequent reason for an aeromedical repatriation. Usually, it will be the aggravation of a chronic heart disorder linked to the travel itself, or due to the specific conditions at the destination (stress, physical exercise, climate, altitude, infection, etc.). Despite many literature reviews on the topic, few formal studies have been done on the topic. We do not know whether travelling is a risk factor for a cardiac event among patients known to have a chronic heart disorder, and whether pre-travel counselling is useful to prevent those events. In order to answer these questions, we would like to perform multicenter case-control studies with the collaboration of cardiologists and internists who treat these patients.

The overall design of the studies will be provided at the poster session, and specialists from interested centres will be able to discuss the procedures, and register if interested. The results of the study are planned to be presented at the 10th Congress of the International Society of Travel Medicine in Vancouver (Canada) in May 2007. If any questions or proposal to join up the study, please contact Dr Mathieu Potin: mathieu.potin@chuv.ch

P13

A report of cholera epidemic due to imported cases in Iran

Zahraei S.M.

Institution: Center for Disease Control, MOH

Cholera has been an endemic infectious disease in Iran since more than 40 years ago while the latest epidemic occurred in 1998. In last summer many countries in Middle East like Iran, suffered cholera epidemic and 1118 cases were detected in Iran. The first cases of the epidemic in Iran were two Pakistanian patients who traveled to Iran recently and lived in bordering areas of the country. After two weeks other cases occurred in Iranian patients and in different cities. The epidemic was fully controlled in one month but unfortunately 11 patients died. The most age group of these cases were 20-24 and there was not significant gender difference. More than 80% of cases lived in urban areas and 99% of detected serotypes were Inaba serotype. Taking the following facts into consideration, this epidemic is known as a result of imported cases:

- 1- There are usually significant population traffic of the Afghanies and the Pakistanies who cross the borders;
- 2- Afghanistan and Pakistan have been affected by a large cholera epidemic one month earlier than epidemic in Iran;
- 3- The most affected cities were through the rout of the Pakistanies;
- 4- While the main *Vibrio cholerae* serotype was Ogawa in Iran, the epidemic occurred by Inaba serotype that was endemic in Pakistan;
- 5- The first detected cases were the Pakistanies patients who infected with Inaba serotype.

P14

Shigella sonnei biotype g: a further pandemic multiresistant organism?

Mamina C (1), Ranjbar R (2), Aleo A (3), Giammanco G (4)

Institutions: (1,3,4) Department of Hygiene and Microbiology, University of Palermo, Palermo, Italy; (2) Division of Bacteriology, Dept. of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran

Shigellosis is a global human health problem. In developed countries, sporadic common source outbreaks predominantly involve *S. sonnei*, whereas in developing countries *S. flexneri* is most frequently identified. Here we present the results of a comparative molecular epidemiological study performed on *S. sonnei* isolates identified in Italy and in Iran in the period 2001-2003.

64 epidemic and apparently sporadic isolates identified in Italy (Lombardy and Sicily) in 2001 and 2003 and 57 isolates from endemic paediatric cases of enteritis occurred in Tehran, Iran, in 2003 were studied. Biotype, resistance pattern, plasmid and pulsed field gel electrophoresis profiles and class 2 integron content were determined.

Among the Italian isolates biotype g was identified in 53 isolates from four different outbreaks and was consistently associated with resistance to streptomycin, sulfonamides and trimethoprim, a well-defined pulsotype named B (three subtypes B1, B2 and B3) and the presence of a class 2 integron of 2.2 Kbp. The remaining strains, from an outbreak in a Kosovo refugee camp or apparently sporadic cases, showed additional resistance to ampicillin, biotype a, a distinct pulsotype named A and were negative for class 2 integrons.

Among the Iranian isolates biotype g was identified in 55 of 57 isolates and was associated with resistance to streptomycin, sulfonamides and trimethoprim, but two different subtypes were identified within this biotype. Indeed, 30 isolates displayed a quite indistinguishable pulsotype from the Italian subtype B1 and contained a 2.2 Kbp class 2 integron, whereas the 25 remaining strains had a different pulsotype and a class 2 integron of 1.2 Kbp.

Strains of *S. sonnei* sharing the phenotypic/genotypic pattern prevalent among the Italian strains have been described in several countries (UK, Ireland, Australia, Korea, Japan, Malaysia). The collection of Iranian strains also contains a large proportion of isolates with similar properties. These data suggest the possible attribution of these isolates to the spread on a worldwide scale of a "pandemic" clone of *S. sonnei*. Selective pressure exerted by antimicrobial agents used as therapeutic tool in diarrhoeal diseases and/or emergence and dissemination of a particularly "fit" organism may explain the increasing prevalence of these strains. Further

studies are necessary to assess the true extent of this epidemiologic occurrence within the context of the genetic heterogeneity of *S. sonnei*.

P15

Cerebral toxoplasmosis in HIV infected patients

RUGINA SORIN, DUMITRU IRINA

Institutions: "Ovidius" University, Clinical Hospital of Infectious Diseases, Constanta, Romania

Background. Toxoplasmosis is a frequently associated disease in HIV infected patients. The prevalence rate range between 10-45% in USA and between 50-78% in Africa and Western Europe. Clinical manifestations are varied, the disease more frequently involving the brain, the lungs and the eyes. Cerebral toxoplasmosis is the most common clinical manifestation and one of the major causes of neurological involvement (25-80%) in these patients.

Objectives. To determine the prevalence rate regarding cerebral toxoplasmosis in HIV infected patients admitted in Clinical Hospital of Infectious Diseases, Constanta, Romania.

Material and method. We performed a study on 86 adult patients with HIV infection, hospitalized between 2003-2005 in Clinical Hospital of Infectious Diseases. The diagnosis of cerebral toxoplasmosis was based on neurological signs and symptoms, significant immunodepression ($CD4 < 200/mm^3$), high titer of IgG antibodies (ELISA) and suggestive pictures on computed tomography (CT) and nuclear magnetic resonance imaging (MRI).

Results. From 86 patients with HIV infection, 31 presented neurological manifestations (headache, stiffness, consciousness disturbances, motor impairment and focal neurological deficit) and positive ELISA reaction for *Toxoplasma gondii* (titer > 200 EU/ml). All patients presented $CD4 < 200/mm^3$, in 9 cases $CD4 < 50/mm^3$. In 21 patients, CT and MRI showed cerebral mass lesions. Despite treatment, 7 patients died 4-6 weeks after the initiation of therapy with pirimethamine and were confirmed histological on necropsy. The rest of patients had a good evolution of symptoms.

Conclusions. The prevalence rate of cerebral toxoplasmosis in HIV infected patients was 36% in our study. The high prevalence of toxoplasmosis as a cause for neurological manifestations (81%) as well as its high rate of mortality (28%) proves the major implication of this disease in the evolution of HIV infection.

P16

Detection of *Rickettsia africae* in ticks from Botswana.

Pérez-Martínez L., Santibañez S, Portillo A, Blanco JR, Ibarra V, Oteo JA

Institution: Area de Enfermedades Infecciosas. Complejo San Millán-San Pedro de La Rioja. Spain

message: Many factors have increased global movements of people increasing the risk of health problem. Ticks are among the most important vectors of disease affecting both human and animals. The application of molecular diagnostic tools has aided in the discovery of new species of *Rickettsiae* worldwide. For knowing the presence of rickettsials, a total of 53 adult ticks belonging to the species *Boophilus decoloratus* (n=9), *Rhipicephalus evertsi evertsi* (n=27), *R. appendiculatus* (n=9), *Amblyomma hebraeum* (n=5), *Hyalomma marginatum turanicum* (n=3) were removed from oryx (*Oryx gazella*) in the Republic of Botswana (South Africa), near Limpopo river. They were preserved in 70% ethanol. After being washed in sterile water, their DNAs were extracted and analysed for DNA of Spotted Fever Group *Rickettsia* and *Anaplasma phagocytophilum* by polymerase chain reaction (PCR). Seventy-seven percent of *B. decoloratus* as well as twenty percent of *A. hebraeum* were positive in semi-nested *ompA* PCR assays using the primers pairs Rr190-70p and Rr190-701n for the primary reaction, followed by Rr190-70p and rr190-602n in the second run. All PCR amplification products obtained had 100% sequence identity with *R. africae*, the agent of African tick-bite fever (ATBF)

(GenBank accession n° U43790). None of the tested ticks was positive in a nested PCR assay for the 16 rRNA gene of *A. phagocytophilum* using primer pairs ge3a and 10r followed by ge9f and ge2. This result supports the ATBF risk in this area.

P17

Military-civilian cooperation in case of natural disasters, example of the earthquake in Pakistan, October 2005

Michel R. (1), Demoncheaux J-P. (2), Salasc P. (3), Boutin J-P (1)

Institutions: (1) Institut de medecine tropicale du service de sante des armees, (2) secteur veterinaire interarmees de Lyon, (3) Commandement de la force logistique terrestre

8th October, 2005, an earthquake was devastating the region of Pakistani Cashmere. The next day, France was deciding to send a civilian and military humanitarian help team. The military team, at a head doctor's disposal, was comprising a surgical team (role 2), a medical first-aid post, an epidemiological assessment team (1 epidemiologist and 1 veterinary) and a logistic support unit; about thirty personnel in all based in Muzaffarabad.

The missions of the epidemiological assessment team were the followings:

To ensure the sanitary support of the French detachment,

To realize, at the French government's request, an assessment of the sanitary situation and medical risks in Muzaffarabad,

To collaborate with World Health Organisation (WHO) members at Muzaffarabad.

This collaboration has included several parts:

- participation to the WHO daily general meeting,
- participation to the public health surveillance,
- investigations round suspected cases or of epidemics,
- assessments of medical or immunization needs.

After having presented the main results of the assessment of the sanitary situation and medical risks in the town of Muzaffarabad, the authors will evoke the collaboration between the French military epidemiological team and civilian organizations.

Concerning the sanitary situation and medical risks, problems were due to the infrastructures destruction and the settlement of camps for displaced persons, to severe traumatism during the earthquake, to the lack of good quality water, to the absence from immunization regional programme and to the oncoming of winter. Among the military-civilian collaborations, one example of the assessment of the situation and medical needs in a camp for displaced persons will be presented.

At the daily general meeting, 26th October, the doctor of the medical post of the Tariqabad camp reported numerous cases of diarrhoea among which a case of bloody diarrhoea.

We have been then requested to investigate round these cases and to assess sanitary conditions and medical needs in this camp.

Following this assessment, recommendations have been formulated the next day.

WHO was in charge of the management of these recommendations.

Three days later, we have observed that all the recommended actions had already been realized.

The example of the earthquake in Pakistan shows that the military medical services can bring to civilian organizations their know-how in case of natural disasters.

P18

Viral meningitis with West Nile viruses and echoviruses in Constanza county, Romania

DUMITRU IRINA , RUGINA SORIN

Institution: "Ovidius" University, Clinical Hospital of Infectious Diseases, ConstanZA, Romania

message: Objective. Comparative analysis of clinical and epidemiological aspects in two lots of patients admitted with viral meningitis in Clinical Hospital of Infectious Diseases Constanza, Romania, in the periods September-October 1996 and July- October 1999.

Material and method. Retrospective study on 19 cases of meningitis with arboviruses (West Nile viruses) and 388 cases with echoviruses admitted in Clinical Hospital of Infectious Diseases, Constanta, Romania. Positive diagnosis was based on lumbar puncture, CRF analysis and viruses isolation from CRF and blood or stools.

Results. In 1996, 19 cases with viral meningoencephalitis have been registered, especially in old peoples (20 men and 9 women), majority from rural area, with lakes and populated spaces by mosquitoes. Isolation of the viruses from CRF and blood revealed West Nile virus. All the patients had severe forms of the diseases, 3 patients died. In 1999, we registered 388 cases with viral meningitis, especially in young peoples (218 men and 170 women), majority from urban area, with digestive transmission. Isolation on the viruses from CRF, blood and stools revealed Echoviruses type 4, 6 and 30. All the patients had mild forms of the diseases with a good evolution under the treatment.

Conclusions. Constanta County had involved in the 2 epidemics with less morbidity in the first, in old peoples with severe forms of the diseases and higher in the second, in young peoples with mild forms of the diseases. In evolution, the 2 epidemics were integrated in a social-economic context of our country.

P19

Epidemiological considerations regarding vibrio cholerae infection in romania in the last 30 years

Rugina Sorin, Dumitru Irina , Rugina Claudia Nina

Institutions: "Ovidius" University, Clinical Hospital of Infectious Diseases, Constanta, Romania

Objective. To study the epidemiological aspects regarding Vibrio cholerae infection in Romania in the last 30 years.

Material and method. We performed a retrospective study on 2279 patients with Vibrio cholerae infection who were diagnosed in the Departments of Infectious Diseases between 1974-2004.

Results. In Romania, after 1974, seven epidemics spread across the country: 115 cases in 1997, 746 cases in 1981, 745 cases in 1987, 298 cases in 1990, 247 cases in 1991, 20 cases in 1993 and 100 cases in 1994. Only five, respectively, three imported cases were registered in 1984 and 1992 (contact with persons from Southern Asia). The most of cases were noticed in Constanta and Tulcea County and in the Danube Delta Area. In all cases Vibrio cholerae 0:1, El Tor biotype, Ogawa serotype was identified. Water, fresh fish and sea fruit plays a major role in the transmission of Vibrio cholerae in endemic areas. During major epidemics, the direct contamination of food with infected excreta was also important. Mild and moderate clinical forms predominated; lethality was ranged between 1.5-2%.

Conclusions. In Romania, in the last 30 years, during seven epidemics, a great number of cases were registered, especially in southeast of country and Danube Delta Area (contaminated water and fish). Despite the treatment, a high lethality was noticed in severe cases.

P20

Travelers' knowledge on vaccines: results from a study in a French travel Center

Delbos V. (1), Abgueguen P. (1), Bras M. (1), Fanello S. (2), Chabasse D. (3), De Gentile L. (3), Chennebault JM. (1), Pichard E. (1)

Institutions: (1) Service des Maladies Infectieuses et Tropicales, (2) Département de Santé Publique, (3) Service de Parasitologie-Mycologie

Because of the rising travel activity, the importance of pretravel advice consultation with vaccine-preventable diseases realization is increasing. Few data are available about how travelers perceive risks associated with travel and about their awareness in vaccines.

This survey was performed to examine the vaccination certificate of travelers and to evaluate their knowledge on vaccination.

Methods:

Standardised questionnaires were administered to travelers, aged 15 years or more and consulting the French travel center of the University Hospital Center of Angers, France.

Results:

>From September 2002 to November 2003, 400 travelers were recruited. The sex ratio was 1 and the mean age was 41 years (Standard Deviation: SD=15). Fifty one per cent of travelers prepared for their trip at least one month before departure. African and American destinations accounted respectively for 85.5% and 22% of travelers' destinations. Tourism (68%) and business (14%) were the main reasons for the trip, visiting family concerned 10.5% of travelers. A majority of travelers (70%) were advised about vaccines before coming to the center but only one third were able to produce a vaccination certificate.

Concerning the travelers' knowledge on vaccination, 33% were able to quote one vaccine with considerable adverse effect and 64% were able to quote one adverse effect. The younger travelers (age between 20-29 years) were more able than older travelers (60-69 years old) to answer to these questions. Seventy-three per cent of the overall travelers were able to indicate the periodicity of diphtheria tetanus polio (DTP) booster. It reached 100% for the farmers.

Travelers didn't clearly distinguish obligatory or recommended vaccines in the French calendar. Moreover, many of them thought to be up-to-date on vaccination whereas they were not.

Conclusion:

The travelers' knowledge on vaccination is globally poor and decrease with age. Not enough travelers are able to produce a proof of vaccine protection. Improve vaccine uptake is necessary, the role of the referent general practitioner is essential and the use of a universal certificate of vaccination could help doctors and patients to know the vaccine coverage.

P21

Impact of Transnational Corporations on Human Rights and Health

Holtz T. (1), Gassert T. (2), McCue M. (3)

Institution: (1) Doctors for Global Health, (2) None declared, (3) University of Iowa

Evidence is growing that transnational corporations (TNCs) exert a profound impact on global human rights and health both through their control of key industries, production technology, and consumer marketing, and also as prime beneficiaries of international finance, aid, trade, and military agreements. TNCs are economic entities that know no boundaries, are unattached to any one culture or community, and owe no loyalty to any government. Unlike the nations that host them, they are rarely limited by binding international treaties. TNCs, leading International Financial Institutions, and International Free Trade Agreements often dictate investment, trade and labor policies in poorer developing nations that have both direct and indirect consequences on the health of people and the local environment. This is achieved by the establishment of free trade export processing zones, host government deregulation and weakening of judicial systems, increased control of goods and markets and of scientific research, and readiness to quickly shift investments from one nation to another to

take advantage of cheaper labor and absent or relaxed regulations on health, labor rights, and environmental protection. This growing trend of global economic dominance by TNCs and free trade agreements that benefit them has become known as “globalization.” With globalization it is becoming ever more difficult for poorer developing nations, and their people in local communities and in workplaces, to secure their basic human rights including rights to health and environmental protection, good health information, and fair judicial recourse when harmed. Public health professionals are increasingly challenged to act to help implement regulatory policies, and to conduct appropriate research on health outcomes, that would hold TNCs accountable and that would assure health and environmental protection. Specific recommendations are offered for all stakeholders to help secure global upward harmonization and uniformity for protection of ! health and human rights.

P22

Imported malaria in Madrid, Spain (January 2002 - December 2005): 310 cases

Puente S. (1), Subirats M. (2), Benito A. (3), Lago M. (1), Rubio JM. (3), Rivas P. (1), de Julián R. (1), González-Lahoz JM. (1)

Institutions: (1) Tropical Medicine - Department of Infectious Diseases and (2) Department of Microbiology, Hospital Carlos III, Madrid, Spain. (3) Parasitology Department, National Center for Microbiology, Institute of Health Carlos III, Madrid, Spain

To describe 310 imported malarial cases diagnosed in the Department of Tropical Medicine of the Hospital Carlos III from January 2002 to December 2005.

Methods. We studied the clinical history of all patients who were aged > 15 years and who were diagnosed with malaria during the period January 2002 through December 2005. Data regarding age, sex, nationality place of residence, place of acquisition of malaria, and determination of Plasmodium species were analysed.

Results. A total of 310 imported malaria cases are reported. Age: mean 40.57 (SD 13.77). Sex: Male/Female: 184/126. Malarial species: Plasmodium falciparum (F) 259 (83%), P. vivax (V) 19 (6.1%), P. ovale (O) 5.1%), P. malariae (M) 11 (3.5%), F+O 3 (0.9%) and F+V 2 (0.6%). Total number of travellers: 162. with the following origins: Spanish travellers 101, other Europeans 5, and long-term immigrant residents in Spain 56 (45 from Equatorial Guinea, 10 from other African countries and 1 from Latin America). Newly arrived immigrants: 148 (129 from Equatorial Guinea, 17 from other African countries and 2 from Latin America). Place of acquisition of malaria: Equatorial Guinea 226 cases, other African countries 66, Latin America 11 and Asia 7. High parasitaemia ($\geq 5\%$) in 10 patients. Recovery was satisfactory in all patients, without deaths. Eight patients from Equatorial Guinea, with very low parasitaemia, were diagnosed with hyperreactive malarial splenomegaly

Conclusions. Most malarial cases were acquired in Sub-Saharan Africa, mainly from Equatorial Guinea, a former Spanish colony located in Central Africa. Hyperreactive malarial splenomegaly is a frequent condition in Equatorial Guinea. Travellers must be provided with complete information about preventive anti-malarial measures and about the risk for acquiring the disease.

P23

Possible vectorial transmission of acute Chagas' disease in Brazil

Bastos Claudilson (1), Aras Roque (2), Silva Robson (2), Oliveira Ricardo(2), Sampaio Pompilio (2), Nakatani Maria (2), Grassi Fernanda (3), Netto Eduardo (2).

Institutions: Hospital Especializado Couto Maia (1), Hospital Universitário Professor Edgard Santos - Federal University of Bahia, Salvador, Brazil (2), Fundação Gonçalo Muniz - FIOCRUZ (3).

The infection occurs throughout North, Central and South America, but it is most prevalent in South Cone. An estimated number of 16 -18 million individuals are infected with this parasite, and 100 million are at risk of infection in Latin America. In addition, more than 7 million immigrants from endemic countries for

Chagas' disease live in the USA. The disease can be manifested by the Acute form, which occurs after the incubation period of 14 days approximately and is generally asymptomatic. This form is more frequent in children that occurs in approximately 85% of the cases. After this, progression to chronic form of Chagas' disease coincides with clearance of parasites from bloodstream and tissues. This period can last up to 20 years, and is called indeterminate phase when no clinical symptoms and signs are found. Only 20-30% of infected people develop chronic form which is manifested by cardiac disease and 10% develop digestive form as megaesophagus and megacolon. Currently, in Brazil, only the states of Bahia and Rio Grande do Sul are not certified of eradication of Chagas' Disease caused by vectorial transmission from triatomine bug.

It was done a seroepidemiologic study in a small village of an endemic region for Chagas' Disease in Bahia state. 17 blood samples of 0-5 years old children (12 girls and 5 boys) residents in a stick house of Cardeal da Silva village were collected and tested for Chagas serology by ELISA with Recombinant Antigens test. It was used to assay *T. cruzi* lysate and 2 Recombinant Antigens (TcF and tetrapeptide) supplied from Corixa Corporation (Seattle, USA). The results of the serologic tests were considered positive when the optic density of the sample analyzed were 1.4 times above cutoff. To exclude vertical transmission, blood samples of children mothers were analyzed too. The positive results were 03 (17.65%) girls and 1 (10.0%) boy that their mothers presented negative serologic and these children have not received blood transfusion in their all life. Unfortunately they live in a poor social condition where the triatomine bug could survive despite of sentinel surveillance and infect these children by vectorial transmission.

P24

Phytophotodermatitis induced by lima in travellers to tropical countries: report of 5 cases

Puente S. (1), Bru F. (2), García-Benayas T. (1), Colomo C. (2), Comunión A. (2), González-Lahoz JM (1)

Institutions: (1) Tropical Medicine. Hospital Carlos III. Madrid, Spain. (2) Dermatology. Ayuntamiento de Madrid, Spain

Objective. To describe phytophotodermatitis in travellers to tropical zones. The disease is of difficult diagnosis if it is not had in mind. Phytophotodermatitis is induced when skin contaminated with juices containing furocoumarins is subsequently exposed to irradiation in the 320-400 nm range. Humidity enhances the phototoxic response, probability by favouring absorption of furocoumarins.

Methods. We review the clinical history of patients diagnosed of phytophotodermatitis by contact with lima. **Results.** Five patients were diagnosed, 3 men and 2 women, with ages between 29 and 36 years old. Tourism was the reason for the trip in all cases. Countries of acquisition: Dominican Republic (2 cases), Mexico, Panama, , and Senegal. Contact with lima was preparing beverages in 4 cases, and the washing of hands in one. The 5 patients had lesions like burns, located on right hand and wrist in the first patient (Fig. 1); nose, left hand and right knee in the second (Fig.2); left leg and thigh in the third (Fig. 3); hands, wrists and abdomen in the fourth (Fig. 4); neck in the fifth (Fig. 5). All the lesions were painless, with brown colour. Evolution was self resolution in few weeks in all patients. The patient who had traveled to Senegal, with lesions on right hand and wrist, also had 1 lesion of cutaneous larva migrans in left foot.

Conclusions. Travellers must be advised of possibility of phytophotodermatitis in contact with several plants. If contact with them, is necessary made an immediate and good washing, before exposition to sunlight.

P25

Filth-feeding Flies as Mechanical Vectors of Pathogens Causing Traveler's Diarrhea

Conn D.B. (1), Weaver J. (1), Graczyk T.K. (2), Tamang L. (2), Conn D.A. (3)

Institutions: (1) Berry College, (2) Johns Hopkins University, (3) North American Scientific Enterprises

Traveler's diarrhea is often caused by transmission of zoonotic pathogens through contaminated food and water to humans traveling through sylvatic and agricultural areas. Among the most important of these pathogens are *Cryptosporidium parvum* and *Giardia lamblia*, which cause intestinal diseases in humans, domestic animals and wildlife. Several studies have demonstrated that these pathogens can be carried by filth-feeding flies that are associated with livestock and wildlife, but which are highly vagile and may move readily from animal waste to human food and water supplies. To test for potential of transmission in a variety of agricultural and sylvatic settings, we studied calliphorid, muscid, and sarcophagid flies at dairy, beef, equine, sheep, and wild deer areas within a 10-kilometer-radius area of the southeastern United States. We compared these sites with a garden control site within the same radius; the garden included a picnic area, was nearly one kilometer from the nearest livestock area, and was enclosed by fencing to exclude deer. We trapped wild flies and tested for pathogens carried on the exoskeleton and in the gut (based on whole-fly homogenates), as well as on the surface elutants from the traps. Flies and trap surfaces were washed into testing vessels, homogenized, and subjected to a combination of fluorescent in situ hybridization (FISH) and immunofluorescent antibody (IFA) techniques. Flies from all three families were carrying viable *Cryptosporidium* oocysts and *Giardia* cysts, and deposited them on trap surfaces (and thus potentially on food items). Furthermore, the contaminated flies and surfaces occurred in association with each of the four domestic animal species, and in wildlife areas dominated by deer and Canada Geese. *Cryptosporidium* was isolated from 68.75% of the fly samples, whereas *Giardia* was isolated from only 12.5%. *Cryptosporidium* was isolated comparably from exoskeletal elutants and fly homogenates, but *Giardia* was isolated primarily from homogenates, indicating !

primarily internal transport in the latter. The percentage of contaminated flies ranged from 50-67% in livestock and deer activity areas, but was 40% even in the isolated garden and picnic area. In conclusion, these flies have the potential to serve as mechanical vectors of both *Cryptosporidium* and *Giardia* to humans in sylvatic and agricultural areas in which travelers are likely to obtain and consume food, thus contributing to the threat of traveler's diarrhea.

P26

Cardiovascular risk factors in flying personnel: hypertension in pilots and cabin attendants.

Biagini Mario, Fulvio Sergio, Cristofanelli Lucio, Cassetti Pierluigi

Institutions: SCUOLA MILITARE DI SANITA' AERONAUTICA, ROMA

The health requirements for commercial and private pilots, as well as cabin attendants, are published by the International Civil Aviation Organization (ICAO) and the European Joint Aviation Authorities (JAA). Hypertension itself does not carry the risk of sudden flight incapacitation, but it represents one of the most important risk factors for stroke and CAD, which can be suddenly incapacitating. During 2004, 3477 commercial pilots (class 1 licence) and 2422 private pilots and cabin attendants (class 2 licence) were examined in the cardiology department of the Aeromedical Institute in Rome. 66 people belonging to the first group (1.8%) and 38 of the second group (1.5%) were declared temporarily unfit for flight activity. Rhythm disturbances such as complex ventricular arrhythmias and paroxysmal atrial fibrillation were the main cause of temporary disqualification in both groups (34% and 26%, respectively), while hypertension was found responsible in 15% of commercial pilots and 7.8% of private pilots and C.A.. According to the International Guidelines and to Joint Aviation Requirements, all subjects with a blood pressure constantly higher than 140/90 mmHg or the

ones who were already under antihypertensive treatment, were evaluated in order to assess the presence of other major cardiovascular risk factors, as well as target organ damage. We performed an ECG and echocardiogram on all patients, to detect left ventricular hypertrophy or silent manifestations of CAD. Pharmacological treatment included all the agents commonly used that have proven effective in reducing blood pressure levels and cardiovascular morbidity and mortality. No subject was permanently disqualified at the end of our observation and the majority of patients (84%) whose blood pressure values were constantly below 140/90 mmHg and who were not showing signs of target organ damage, could resume their activity within a period of 92 ± 13 days.

P27

Outbreak of African tick-bite fever in French travelers after a safari in South Africa

Consigny PH. (1), Rolain JM. (2), Mizzi D. (3), Raoult D. (2)

Institutions: (1) Institut Pasteur de Paris, Centre Médical, Paris, France, (2) Unité des Rickettsies, Université de la Méditerranée et Faculté de Médecine, Marseille, France, (3) Médecin de Santé au Travail, Plaisir, France

African tick-bite fever (ATBF) is caused by *Rickettsia africae* and remains the most common tickborne rickettsiosis in sub-saharian Africa. We report in this study an outbreak of 10 laboratory-confirmed cases of ATBF that occurred in a group of 34 tourists returning from South-Africa for wildlife attractions organized by their work council (attack rate = 29,4%). Most of our patients presented with fever (60%), headache (40%), myalgias (70%), multiple inoculation eschars (80%), and skin rash (30%). Delay between probable exposure and onset of symptoms was 3-10 days (mean \pm SD 6,1 \pm 1,9 days). None of the travelers reported a history of tick bite. Diagnosis was confirmed by serological methods, and classified as certain in 9 cases, probable in 1 case.

Most cases of ATBF are reported in clusters of travelers exposed to ticks during game hunting or safaris. The estimated incidence of ATBF in safari travelers is 4%-5,3%, but higher incidence may be reported as emphasized in our study. ATBF remains a common cause of flulike illness in travelers returning from South Africa, but with a higher rate than malaria, typhoid fever or other tropical fevers. Healthcare professionals who are providing advice should inform persons traveling to endemic areas of the risk of contracting ATBF and the importance of protecting themselves against tick bites.

P28

Experimental preparation of recombinant BCG vaccine and DNA vaccine against *Plasmodium falciparum*

Wu S.T.(1), Zhen C.F.(2), Zhang R.L.(1), Gao S.T.(1), Lin M.(1), Chen Y.T.(2)

Institutions: (1) Shenzhen Center for Disease Control and Prevention, (2) Institute of Infectious and Parasitic Diseases of First Affiliated Hospital, Chongqing University of Medical Science

The DNA vaccines and recombinant BCG vaccines which encoding circumsporozoite protein (CSP) or merozoite surface protein 2 (MSA2) of *Plasmodium falciparum* were constructed based on the studies of molecular biology characteristics and immunogenicity of *P. falciparum* vaccine candidates MSA-2 and CSP in current experiment. Series studies on the protective immunity mechanism, immune response and vaccine security were carried on. The main results were showed below: The gene fragments which encoded CSP or MSA2 were amplified respectively. DNA sequences of CSP contained identical genes composed of 1171 bp, encoding 383 amino acid, while DNA sequences of MSA2 contained genes composed of 792 bp, encoding 264 amino acid. The prokaryotic and eukaryotic expression systems of CSP and MSA2 were established. The CSP and MSA2 genes were subcloned into PBK-CMV phagemid vector. A 42 kDa and a 31 kDa of target recombinant proteins were expression in *E.coli* respectively, which were recognized by sera from *P. falciparum*.

parum patients. The BCG expression vectors of CSP and MSA2 were constructed and the 42 kDa recombinant CSP protein as well as 31 kDa recombinant MSA2 protein were expressed in *M. smegmatis*. Western blot showed these expressed proteins could be recognized by sera from *P. falciparum* patients. Immune responses were evaluated and protective immunity mechanism was studied in BALB/c mice which were inoculated with vaccines. The DNA vaccines proved to be able to express target proteins and induce immune responses in vivo. The strong multiplication of T lymphocyte subgroups especially CD4+T subgroup were observed; High production of IFN- γ and IL-2 were detected in culture supernatant of spleen cells from mice inoculated with BCG multivalent vaccine; The multivalent vaccines induced a Th1 bias cell immune response and high levels of specific IgG antibodies, which in turn inhibited the growth and reproduce of plasmodium effectively. It was demonstrated that both of humoral- and cell-mediated immunity were

strongly induced by these BCG multivalent vaccines and DNA vaccines. A predominant character of BCG vaccine is that BCG, as a live vaccine vector, could survive in body and secrete antigens constantly; therefore, it need not inoculate for many times. It is predicted from results that BCG multivalent vaccines and DNA vaccines have potential to be further studied in clinic phase.

P29

The prevention of fractures among the women during the traveling

Ignatyev Alexandr(1), Yermolenko Tatyana(2), Batsulya Lyudmila(3)

Institutions: Odessa State Medical University, Odessa, Ukraine (1,2,3)

Osteoporotic fractures among the old women represent a serious problem for the Medical Care in the whole world. The possibility of fractures during the ship sailing or the bus traveling and etc. should be taken into the consideration in the security system of transportation in order to prevent the injuries. One of the main determinants of the risk rate of the fractures, caused by the falling, is the Mineral Bone Density (MBD). However, in the epidemiological, clinical and experimental examinations the positive role of the physical activeness was displayed by the increasing and sustaining of the bone mass and firmness. This examination is aimed to evaluate the influence of calcium-D3 and physical exercises on the MBD and the muscle strength of women in the climacteric period.

Materials and methods. The patients (94 women of postmenopausal age - $55 \pm 3,5$ years old) were divided on two groups: the main (n=69) and the controlled (n=25). The calcium and phosphor contents in blood were analyzed during the treatment. The mineral density was evaluated in the beginning of the examination and in 3 month after it by the ultrasound densitometer "Achilles express", which gives the prognosis of the fractures among the patients during the early changes of the mechanical strength of bone tissue that can't be seen clinically or diagnosed timely. The diagnostic program also included the evaluation of the complaints, the anamnesis, the clinical status, the determination of the functional state of the vegetative nervous system and the conducting of the functional tests. The patients of the main group have been having the special program exercises 3 times a day for 3 months They also have been taking the "Calcium-D3, Nicomed" for 3 months before and during the traveling.

The maximal muscle strength and the phosphor-calcium metabolism parameters were as well evaluated. The controlled group, where the patients didn't get any treatment, was juxtaposed according to the age, endured diseases, and the menopause's length.

Results. The use of calcium-D3 and the set of physical exercises, accomplished for 3 months before the traveling, promote the improvement of phosphor-calcium metabolism parameters, which is the indicator of the bone resorption's slowing down. The improvement of moves' coordination, the growth of tolerance to the physical exercises and the stability of tissues' MBD were observed in the main group, when in the controlled group the progression of osteopenia continued.

Conclusions. The combination of calcium-D3, as an efficient remedy for prevention and therapy of osteopenic syndrome, and physical exercises, as a cause for increasing of the firmness of skeleton and muscle strength of women of postmenopausal age, create a complex treatment, which is an efficient and available method for prevention of osteoporosis and osteoporotic fractures. But it is necessary to continue the treatment during the traveling as well.

P30

Drinking water: Disinfection By-products (DBPs) investigation in nine Italian towns.

Agazzotti G. (1), Righi E. (1), Fantuzzi G. (1), Predieri G. (1), Giacobazzi P. (1), Kanitz S. (2), Barbone F. (3), Sansebastiano G. (4), Battaglia MA. (5), Leoni V. (6), Fabiani L. (7), Triassi M. (8), Sciacca S. (9), and Collaborative Group for the Study of Chlorinated Drinking Waters and Pregnancy

Institutions: (1)Dep. of Public Health Sciences University of Modena and Reggio Emilia (2)Dep. of Health Sciences University of Genova (3)Dep. of Pathology and Exp. Clinical Medicine University of Udine (4)Dep. of Public Health University of Parma (5)Dep. of Hygiene University of Siena (6)Dep. of Public Health Sciences University of Rome La Sapienza (7)Dep. of Int. Medicine and Public Health University of L'Aquila (8)Dep. of Medical Prev. Sciences University of Naples (9)Dep. GF Ingrassia University of Catania

Drinking water disinfection with chlorine and related compounds is commonly applied worldwide because of its low costs and ease of use. However, water chlorination can form different disinfection by-products (DBPs) potentially dangerous for human health.

This study investigated the presence of DBPs in 1199 drinking water samples collected from 72 waterplants located in nine Italian towns. In 46 plants (64%) sodium hypochlorite was used as main disinfectant; while in 21 (29%) chlorine dioxide and in 18 (25%) chlorine dioxide together with hypochlorite were involved in the disinfection treatment.

Total and individual THMs (chloroform, dichlorobromomethane, dibromochloromethane, bromoform) were evaluated using the head-space gas chromatographic technique with a detection limit of 0.01 ug/l. Chlorite and chlorate analysis was performed by ion chromatography with a detection limit of 20 ug/l.

THMs were evidenced in 925 samples (77% of the total samples): values were ranging from 0.01 to 54.5 ug/l with a median value of 0.6 ug/l. THMs levels were higher in water samples treated with sodium hypochlorite than in those disinfected with chlorine dioxide (mean values 2.8 +/- 4.5 and 0.6 +/- 1.2 ug/l, respectively). On the whole, only in 7 water samples (0.6%) THMs values were higher than the THMs Italian limit (30 ug/l).

Chlorite and chlorate were measured in 893 samples: levels were higher than the detection limit in 403 samples (45%) for chlorite and in 306 samples (34%) for chlorate; median values were 221.0 ug/l and 76.0 ug/l respectively for chlorite and chlorate and the observed values ranged from 20 to 2000 ug/l and 20-1500 ug/l, respectively. The highest mean levels of THMs (6.7 +/- 9.3 ug/l) and chlorite (224.7 +/- 261.7 ug/l) were measured in the city of Genova while the highest values of chlorate (72.2 +/- 228.1 ug/l) was detected in Parma water supplies. Chlorite values were higher than the chlorite Italian limit in force up to the end of 2006 (800 ug/l) in 28 samples (3.1%) and higher than the chlorite Italian limit that will be in force starting from 2007 (200 ug/l) in 213 samples (24%).

Overall, in our study THMs concentrations in drinking water resulted negligible in most samples, whereas, high levels of chlorite were sometimes observed therefore their potentials effects on human health should be further evaluated and better understood.

P31

Behaviour of Dutch kidney transplant patients before and during travel

Roukens A. (1), Visser L. (1)

Institutions: (1) Leiden University Medical Center

BACKGROUND: The risk of acquiring travel-related illness is considered to be higher in those who are immunocompromised, such as solid organ transplant recipients receiving immunosuppressive therapy. Previous studies suggest that seeking of and adherence to pre-travel advice of this group is far from ideal. We investigated travel precautions of Dutch kidney transplant recipients regarding travel destinations and burden of illness. **METHODS:** Kidney transplant patients attending the LUMC outpatient transplant clinic were surveyed with two questionnaires, first at the clinic and later by mail. **RESULTS:** Of the 400 transplant recipients who visited the clinic in December 2004 and January 2005, 290 were not immediately summoned by their

nephrologist and filled out the questionnaire. As travelling in the first year after transplantation is dissuaded, 72 were excluded from analysis since they were from patients who had been transplanted in the previous year. Of the remaining 218, 75 (34%) patients indicated that they had travelled outside Western Europe, the USA or Canada within the last 5 years. Their mean age was 48.5+1.3 years, 133 (61%) were male and their mean time since transplantation 9.6+0.7 years. 60 (80%) travellers outside WE, USA or Canada sought pre-travel advice, primarily (54%) from their transplant physician. 103 travellers outside WE received a mailed questionnaire. Of these, 69 (67%) were returned and 58 were eligible for analysis. 74% (14/19, $p<0.00$) of travellers requiring vaccinations and seeking pre-travel advice were vaccinated. Of the remaining 5, 4 travelled to Turkey. 9 of 24 (38%) of travellers to destinations for which vaccinations are recommended and 8 of 34 (24%) to non-vaccination recommended destinations became ill ($p=0.25$). Of these ill travellers 18% (3/17) were hospitalized with a mean duration of hospitalization of 25+16 days (range 1-56 days). Of the reported symptoms, 43% (13/30) were diarrhea, 17% (5/30) fever and 17% (5/30) symptoms of airway infections. CONCLUSIONS: ! Although

a relatively large number of Dutch kidney transplant patients seek pre-travel advice, there is still a need to improve the consciousness on travel related diseases in this immunocompromised group and to instruct transplant physicians to either refer these patients to a specialized travel clinic or contact a travel medicine specialist. Especially the burden of travel acquired disease is relatively high in this population and should by these means be reduced.

P32

Safe-and-fly: a referral center for the protection of workers travelling in foreign countries

G. Arcangeli*, P. Del Guerra**, P. Pistolesi**, M. Montalti*, V.Cupelli*

**Dipartimento di Sanità Pubblica - Università di Firenze **Azienda USL 11 Empoli, Dipartimento della Prevenzione*

Traveler or worker?

The number of workers who have to travel abroad due to their profession is continuously increasing all over the world, due to complex social and economic factors. In order to prevent travelers' health hazards, several factors, including journey mode, destination, residence in the foreign country, and previous health conditions, are to be assessed, so that the activities of travellers' health centers are becoming increasingly valuable in developed countries. In case travellers are also workers, further strategies are to be enacted, and to this purpose, the management (entrepreneur and/or company managers), occupational health physicians, and the worker himself play a key role.

The management is legally responsible for providing appropriate measures for workers' protection not only from "traditional" professional hazards, but also in case they should work in a foreign country, thus including travel issues among professional hazards to be assessed. Company communication is essential, since workers should receive adequate information concerning all risks (i.e. not only occupational, but travel hazards as well), and matching prevention measures, including personal protection devices. Occupational health professionals should in turn evaluate workers' fitness for work before each journey, as appropriate, offer adequate health counselling to workers and provide them with such vaccines and/or prophylactic drugs as necessary for the area; to fulfil this goal, they should receive adequate information from the management concerning company plans and activities workers are from time to time requested to perform out of the country. Workers should also actively take part in the prevention program, for instance by means of feedback questionnaires to assess and improve the process of workers' health protection.

A surveillance center and its aims.

To be effective, workers' health measures should be adequately planned according to up-to-date scientific and national legal criteria.

The University of Florence (Department of Public Health – Occupational Medicine) and the Azienda USL (Local Health Unit) 11 Empoli have put up a multiprofessional working group in order to create a referral center in Florence ("Safe & Fly"). Among the main purposes of such center are: 1. to cooperate with all parts involved (companies, organizations, travel unions); 2. to provide scientific, medical and legal support to occupational health professionals, mostly company physicians; 3. to develop guidelines and practical strategies for the protection of workers-travelers' health.

As for ongoing activities, counselling has been provided to several companies as to risk assessment and health protection measures; also, a 22-item feedback questionnaire is currently under evaluation: its main goal is to help occupational health physicians in the pre/post evaluation of relevant workers' symptoms. The post-travel questionnaire also includes items aimed at helping the company management to reassess and improve the company hazard evaluation through workers' feedback suggestions. Further developments include a cohort study.

P33

A local response in disaster preparedness

Gotovac P., Zlatar M., Medved I., Mustac S., Kalinic P., Prodan I.,
Health Care Crisis Management Headquarters, Zagreb, Croatia

It's all in the moment!(Anciently)

Summary:

The hard lessons learned during the Croatian Homeland War 1991-1996 and lessons by the paradigm-shifting tragedy in the fall of 2001 in the Twin Towers included the concept that emergency preparedness is a necessity in health care.

The subsequent flurry of white powder incidents across North America and Europe including virtually every health jurisdiction in Croatia, as well as Avian Flu incident during October 2005 which occurred in Croatia only in one health jurisdiction demonstrated that integration of emergency responses between health care organizations and municipal first response services (firefighters, police, ambulance and others) is required for effective emergency management, first of all at local level.

Robust emergency preparedness mandates establishment of flexible and sustainable emergency management system at local level such as Incident Command System (ICS). Such structured approach would provide clarity of roles and responsibilities, unity and leadership in the chain of command, administrative and financial management, information collection and dissemination, supplies and all-hazard tools for managing crises situations, and provides timely, relevant information to people managing the crisis at the front line, as well as to other including partners from local to governmental and, if necessary, international level.

The investment in public health infrastructure at the local level is uneven at the best, and we believe it is local (or regional) preparedness that is the key to an effective emergency management in health care in large scale emergencies, and cooperation between effective public health functions and other partners is critically important at that very moment.

We are now in an advanced phase of preparedness for local exercises which would take place at three local communities (one in a sea tourist resort, another in a mountain region and the third in the continental region) during the spring and autumn 2006. The aim of this paper is to present our experiences from the those preparations.

Key terms: Crisis Management, Health, Preparedness

P34

Chikungunya virus in Bata, Equatorial Guinea.

Ximena Collao^{1,2}, Jorge Cano³, Ana I. Negrodo¹, Antonio Tenorio¹, Agustín Benito³, María-Paz Sánchez–Seco^{1,4}

Laboratory of Arbovirus and Imported Viral Diseases. National Center of Microbiology. Instituto de Salud Carlos III (ISCIII), Madrid, Spain. Phone: 34918223405. Fax: 34915097966

Virology Department, Valparaíso University, Valparaíso, Chile.

National Center of Tropical Medicine. ISCIII, Madrid, Spain.

Alerts and Emergency Unit. ISCIII, Madrid, Spain.

Chikungunya virus (CHIK) is an arthropod-borne-virus, that belongs to the family *Togaviridae*, *Alphavirus* genus. It causes a febrile syndrome and the most typical clinical manifestations are similar to Dengue fever (headache, rash, nausea, vomiting, myalgia and persistent arthralgia).

As most of the arboviruses, CHIK is mainly maintained in sylvatic cycles independent of human hosts, infecting people accidentally although high levels of viremia produced in men could lead to urban cycles.

Outbreaks and large epidemic episodes by CHIK have been described in Tropical Asia including India and in Sub-saharian Africa. The virus is considered as an emergent or reemergent virus and a real public health problem because of the increasing number of CHIK infections observed in recent years.

From June 2002 to January 2003, seven hundred and twenty samples of blood were obtained from children attending to the Reference Center for the Control of Endemic Diseases located in Bata, continental region of Equatorial Guinea. The sample of blood was collected into a tube containing a lysis buffer composed by guanidinium isothiocyanate. A generic RT-nested-PCR, designed in the nsP4 gene that encodes for the RNA-dependent RNA polymerase, was used to detect alphaviruses. Positive results were found in eight samples obtained at the end of the two rainy seasons that take place in Equatorial Guinea. None of the patients had fever higher than 37°C when the samples were obtained. *Plasmodium falciparum* was also found in four cases (50%).

The sequences obtained from the amplified fragments were compared with those equivalent present in databases using the MEGA 3 software. The sequences obtained in this study are similar to the strain Ross of CHIK forming a robust clade supported by a 99% bootstrap value and with a similarity of 98% at nucleotidic level .

The generic RT-nested-PCR, able to detect CHIK and other alphaviruses, has been successfully used with blood samples and diagnosis of CHIK has been obtained. The method is suitable for alphaviruses surveillance since it can detect a wide spectrum of viruses.

Data concerning viral diseases transmitted by vectors in Equatorial Guinea are scanty and these infections are rarely considered by local clinicians who might think about coinfections as one of the possible explanations for the lack of response to treatments against Plasmodium.

In this report we describe the circulation of CHIK in Equatorial Guinea for the first time. Although it seems that this virus is an important causative agent of febrile syndrome, searching of CHIK is needed to ascertain its real incidence in this country. The obtained results point out the need of considering it in the differential diagnosis of febrile syndrome in travelers returning from this region.

P35

Psychological support in post tsunami Sri Lanka: the experience of the italian Red Cross.

L.E. PACIFICI, F. RICCARDO, M.ROSSI, M. BRAGA

Italian Red Cross International Health Division

On the 26th of December 2004 a tidal wave (tsunami) with origin off the coast of the island of Sumatra in south east Asia struck 12 different countries causing more than 280 000 dead. ¹ Sri Lanka was the second most affected country after Indonesia with 31 141 dead, 23 033 wounded and 4 245 dispersed people. 547 727 people were evacuated from the areas of residence in 262 IDP (Internally Displaced People) camps. ^{2,3,4,5}

The impact of Psychological Support in major disasters is a relatively new field of study that is starting to be applied to

international relief programs. The WHO studied the problem of psychological distress caused by trauma and loss consequent to Tsunami, estimating the prevalence of mild to moderate common mental disorders and severe disorders such as psychosis and depression in the general population as 10% and 2-3% respectively and an expected increase after the disaster to 20% and 3-4% respectively.⁶

The Italian Red Cross has been working in the Eastern Province Batticaloa District since February 2005 in the Division of Vakarai. The Organization set up a Field Hospital open 24 hrs a day from February to May 2005, after this period of time, in consideration of the evolution of the post-emergency phase, medical assistance was offered by means of a Medical Health Post open 5 days a week on daylight hours. During this time 14423 patients were visited in out patient regime (both in the medical health post and in the IDP camps), 183 people were hospitalized for at least 24 hrs and 71 children were born.

The median percentage of psychiatric cases observed per month in Vakarai out patients by the equipe of medical staff deployed by the Italian Red Cross from February to December 2005 was 2%. The incidence trend throughout the observation period was in decrease (fig1). The patients that underwent clinical observation in the field hospital for at least 24 hrs were dismissed with a diagnosis of psychiatric nature in 3,3% of cases (fig 2). Patients requiring medical assistance for psychiatric disorders presented most often with symptoms of hyperarousal, aggressiveness, somatization, sleep disorders and depression, moreover we observed several suicide attempts by poisoning with toxic fruits that caused severe and sometimes fatal bradycardia. Cases of suspect domestic violence on women with cutting instruments were rather common in the area however we observed an organized action of both the village human network and local organizations in separating violent husbands from households.

The health relief programs set up by the Italian red Cross in Sri Lanka focalized on medical assistance, epidemiological surveillance and communicable disease prevention and treatment. The incidence of psychiatric disorders was low on the population observed, however the cases that came to observation were severe mostly presenting as suicide attempts. For this reason the authors believe that further study of the psychological impact of major disaster on affected populations is required and that specialized staff would be necessary in mid-acute and post emergency setting in order to define sub clinical and latent cases of psychological distress and supply specific assistance. In particular we consider this activity essential in mid acute (2-3 months from the disaster) rather than post emergency in consideration of the trend lines observed on the field. Further investigation would be necessary to confirm this preliminary observation.

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P36

Illness and injury to travellers on premium expedition to remote regions

Marc T.M. Shaw^{1,2} and Peter A. Leggat²

Worldwise Travellers Health Centres of New Zealand, Auckland; Anton Breinl Centre for Public Health and Tropical Medicine, James Cook University, Townsville.

Background: Commercial expeditions provide an opportunity for travellers to undertake various specialised travel to more adventurous destinations in the relative security of an expeditionary group with medical cover provided by an expedition physician. Little is known about the illnesses and injuries occurring on premium expeditions. This present study was designed to investigate the prevalence of health problems suffered by travellers on a premium expedition to Iceland, Greenland and Spitzbergen.

Conclusions: On this premium expedition, the health problems encountered were largely similar to those reported for other expeditions. The most common problems included common respiratory, gastrointestinal and dermatological conditions. As well as being part of the service provided to travellers, the inclusion of an expedition physician on this premium ship-bound expedition decreased the reliance on local health services, which are often scarce or absent on more remote location expeditions.

P37

Enteric fever due to *salmonella paratyphi* a resistant to quinolones In a short-term traveller to south-east asia

Morales R., Manzardo C.

Unitat Medicina Tropical i Salut Internacional Drassanes ICS

Human typhoid and paratyphoid fever is a severe systemic illness characterized by fever and abdominal symptoms. The main burden of disease is in countries with poor sanitation and hygiene, particularly in the Indian subcontinent¹. In Western countries enteric fever is a risk mainly for long-term travellers and immigrants. Quinolones antibiotics are the current treatment of choice in adults, but drug resistance is becoming a problem in the management of this infection²⁻³. There is no vaccine that confers an optimal protection⁴. We describe a case of enteric fever due to florquinolone-resistant *Salmonella paratyphi* A in a short-term traveller to South-East Asia.

An healthy 34 years old man with previous history of VHA infection, returned from a 21 days organized travel to Burma and southern Thailand; in the pre-travel counselling he had a booster of tetanus and diphtheria vaccine (since he had had a complete infant vaccination schedule) and he was suggested to take anti-malarial prophylaxis with weekly mefloquine. He had detailed advices about food and drink safety; despite this he had a very poor compliance with these ones during the travel. A week after his returning, he presented continuous fever up to 38,9°C associated with abdominal discomfort and nocturnal sweating without other symptoms. At physical examination: feverish (37,6°C), tenderness in right hypochondrium. Blood cells count and Hb levels were normals, GOT 63, GTP 99, GGT 67. QBC, tick and thin blood films for malaria, serology to Dengue fever, *Brucella sp.*, *Salmonella typhi*, *Entamoeba histolytica*, EBV, CMV, HBV, HCV, parasitologic test and culture of stools was negative. Blood culture was positive to *Salmonella paratyphi* A sensitive to beta-lactams and cotrimoxazol but resistant to cipro- and levo-floxacin. Also the ELISA for detection of *E. histolytica* specific antigen in stools was positive. The patient was treated with oral amoxicillin and clavulanic 70 mg/kg in four daily doses for 14 days. After 48h patient had the fever clearance; relapse was not observed. Moreover, the patient received a 7 days course of paromomycin to treat the asymptomatic infection by *E. histolytica*.

Typhoid and paratyphoid fever are rare in short-term travellers. None of available typhoid vaccines is 100% effective and there is no vaccine available against the second most common cause of enteric fever, *Salmonella paratyphi* A, so the most important prevention is a careful selection of food and drinks. Furthermore, we alert about emerging resistances to Fluoroquinolones in South-East Asia.

Keywords: typhoid and paratyphoid fever, typhoid vaccine, travellers health, *Entamoeba histolytica*

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P38

Information and prevention campaign of legionella infections in hotels of local health authority (a.s.l.) Roma.

A. ERCOLE¹; G. ESTERINI¹; A. PICCOLI¹; M. IPPOLITI²; S. MASSARI²; E. PICHINI²; R. BOGGI¹; B. GIUDICEANDREA¹; B. CORDA¹; M. MONTESANO²; G. SPAGNOLI².

¹ A.S.L. ROMA A, Dipartimento di Prevenzione, Servizio Igiene e Sanità Pubblica (SISP)
Via Cesare De Lollis 20, 00185 Roma
E-mail: profilassi.rma@tiscali.it

² Istituto Superiore Prevenzione e Sicurezza Lavoro (ISPESL)
Via Alessandria 220/E, 00198 Roma

AIMS

The Annual Report of Istituto Superiore di Sanità (National Health Institute) for year 2003 and 2004 evinces, respectively, 20 and 22 clusters of Legionella infection related to the same number of Italian accommodation sites, mainly hotels. In 2005, from January to October, European Working Group for Legionella Infections (EWGLI), within the International Surveillance Program, notified 25 clusters of Legionella infection linked to Italian accommodation sites. Related environmental study lead out the isolation of 90% of "Legionella" cases, or more.

These results represent a threat for the tourist industry so attentive to the risk of traveller's health.

The aim of the study is the evaluation of the level of knowledge of "Legionella phenomenon" among workers operating in hotels located in the area of Local Health Authority (A.S.L.) Roma A and the promotion of a specific information campaign.

METHODS

The analysis of the Legionella notifications in the period 2001-2005 represents the basis to reach the above mentioned aims. A questionnaire is submitted in order to evaluate the knowledge on the issue before and after the distribution of a specific booklet, realized for the purpose, among hotel managers and maintenance operatives.

RESULTS

In years 2001-2005, 171 notifications of Legionella infection arrived in the district of ASL Rome A: 36 occurred to tourists who sojourned in the accommodation sites of the district, 7 were considered as clusters and 26 hotels were involved.

Prevention to be effective requires that control measures are applied before the occurrence of a case or a cluster and, for this reason, an informative booklet is realized and addressed to the managers of accommodation sites. In collaboration with APRA (Associazione Provinciale Romana Albergatori) a sample of 350 hotels is identified. At first, an anonymous questionnaire on basic epidemiology and technical-maintenance aspects is distributed to hotel managers and maintenance operatives with the purpose of evaluating the knowledge of "Legionella".

Afterwards, the previously realized booklet is distributed and a second questionnaire is given out to test the effectiveness of the informative tool.

The analysis and comparison of the two questionnaires reveals an improvement, even if partial, of specific knowledge about the prevention of Legionella infection and simultaneously an increased interest in the following specific training courses.

CONCLUSIONS

Information campaign, herewith presented, is the starting point to plan effective strategies addressed to maintenance operatives and hotel managers.

P39

Investigation on Subclinical Aspects Related to Intestinal Parasitic Infections Among foreign Thai Laborers in Taipei

Shieh, Ying-Hua, Chan Hsiao Wen*

Department of Family Medicine, Taipei Medical University. Wan Fang Hospital

**Taiwan Society of Travel Medicine*

The migration of foreign workers from developing regions to developed countries may potentially lead to transmission of intestinal parasitic infections. In order to determine the relationship between intestinal parasitic infections and the health status of foreign workers, 302 Thai laborers brought to Taiwan were examined in this study. Nine species of parasites were found in 64.9% of laborers; *Opisthorchis viverrini*, hookworm and *Strongyloides stercoralis* were the main ones found.

A significant higher rate of *O. viverrini* infection was found among the lower income group and there was a significant association with consumption of *koipla* (a dish of raw fish). No significant differences were found

in the body mass index or nutritional status between those laborers with and without parasites. However, a significant elevation of total IgE level was observed in those with parasitic infections.

One hundred thirty-three laborers (44%) had a high level of eosinophils ($>400/\text{mm}^3$), but there was no significant difference between infected laborers and those without parasites.

Results of post-treatment fecal examinations indicate that 2 or 3 repeated courses of treatment by pyrantel pamoate, mebendazole, praziquantel, or metronidazole were effective in eradicating parasites, with adverse side effects found in 29.7% of treated laborers.

P40

Vegetation types and pollen-related allergies in the Mediterranean region of Croatia: Case of Dubrovnik

ANTUN CAR¹, NENAD JASPRICA²

¹General Hospital, Dubrovnik, Croatia

²University of Dubrovnik, Institute for Marine and Coastal Research, Dubrovnik, Croatia

According to the plant-geographical division of vegetation in Croatia, the city of Dubrovnik and its surroundings belong to the Mediterranean vegetation zone of the *Quercion ilicis* alliance. Thermophilic evergreen forests of Holm oak (*Quercus ilex*) vegetation are the most common plant communities in this area. Despite great extensions of this tree, sensitization to its pollen is rare. Communities of wild olive forests (*Olea europaea*) are fragmentarily developed over a wider area. Frequently, the sensitization to pollen allergens of *Olea* is associated with other atopic sensitizations, such as allergy of grasses. Three pollen seasons can be recognized: a) low winter pollen season (from December to the end of March); b) high spring–summer pollen season (from April to July); c) summer-autumn season (from August to October). Grass pollen is by far the most important cause of pollinosis in this area. Besides this, *Parietaria judaica* – a species of the *Urticaceae* family – is the most common allergenic plant species. The present findings are consistent with those of other studies carried out on vegetation types, floral composition and pollinosis in several Mediterranean areas. During past decades, many alien plants have been introduced into this area. Noxious, invasive, and non-native plants have become a major threat not only to the integrity of plant communities and native habitats, but also because of their allergenic properties (e.g. annual ragweed - *Ambrosia artemisiifolia*). Our future objective is to predict the principal pollination periods in order to allow clinicians time to prevent allergenic reactions. A positive correlation of pollen concentration and surrounding vegetation density could be expected, which could indicate that seasonal changes in the floral composition of the area have a direct influence on its aeropalynological spectrum

P41

Emerging health problems and risk factors in symptomatic travellers returning from the tropics

Manzardo C., Morales R., Gómez i Prat J., Treviño B.

Unitat Medicina Tropical i Salut Internacional Drassanes ICS

Travel to the Tropics is associated with increased morbidity and mortality. The most common health problems in travellers are diarrhoea, upper respiratory infections and skin diseases. Normally only 7% of reported diseases are severe (Beherens et al, 2003).

In 2004 our Tropical Medicine Unit performed 20.369 pre-travel counselling visits and 827 post-travel visits, with an increasing of post-travel visits in late summer and fall. From 2004 we offer an Emergency service in this period. The aim of this study is to evaluate risk factors and health problems in travellers returning from

the Tropics who attended our Emergency service from 16th August to 30th of November 2005. We attended 150 travellers, of which 60% women and 40% males; mean age was 31.6 yrs (range 6.5-60.7 yrs). Almost 90% of travellers were Spanish or Western Europeans; 26% travelled to Indian Subcontinent, 21.3% to Western and Central Africa, 16% to Central America and Caribbean, 12.7% to South America, 24% to others zones (mainly South-East Asia, South and East Africa); 91.3% travelled for less than 3 months and 8.7% for more (geometric mean of days of travel 25.32 days, median and mode 21 days). We administered a questionnaire in order to assess risk factors during the travel: 76% had attended a Travel Medicine clinic before travelling, 59.3% declared an incorrect food and drink hygiene (53% among those who received a pre-travel counselling vs. 77% among those who did not, $p=0.010$), 39% contact with animals (mainly pets), 37.3% had baths in lakes and/or rivers, 67% had used repellents and/or bed nets against mosquitoes. Eighty-five people had been advised taking anti-malarial prophylaxis before the travel: 38 (44.7%) declared they didn't take it properly. The main causes of consultation ($>80\%$) were: diarrhoea (41.3%), skin lesions (23.3%) and fever (22.7%). Among diarrhoeas, 66% were self-limiting and no pathogen was identified (we checked routinely stools for Rotavirus antigen only in children); 5% was probably caused by antimalaria prophylaxis; in 29% of cases a pathogen was identified (44.5% had a bacterial aetiology-mainly quinolone-sensitive ETEC, but also EHEC, *Shigella* and *Campylobacter* - 33.3% a protozoan one- mostly Giardia, but 2 cases of amoebiasis- 11,2% mixed bacterial and protozoan, and 11.2% an helminth was isolated). Among skin lesions, 57% were attributed to arthropods bites (of which 35% infected, principally by meticillin-sensitive *S. aureus* identified by skin culture); 11.4% were identified as cutaneous *Larva Migrans* (successfully treated with a 5-days course of Albendazol since we experienced some failure with the 3-days course in the past), 8.6% as scabies, 8.6% as *Tunga penetrans*; a case of cutaneous leishmaniasis and one subcutaneous myiasis were also diagnosed. Among patients who consulted because of fever 47% presented a self-limiting syndrome; 3 (8.8%) had a *Pl. falciparum* malaria diagnosis, 3 patients presented a pneumonia, 2 patients had a positive serology for EBV (IgM), 2 patients who presented also disuria had a confirmed diagnosis of lower urinary tract infection; 2 patients had a positive Dengue serology (1 IgM+IgG with fever and rash in a traveller to southern India and the other one, in a girl who had travelled 6 months to Guatemala, only IgG+); 1 had a positive seroagglutination and indirect Coombs test for *Brucella*; 1 was diagnosed of acute rheumatic fever because of an **antistreptolysin O titre** > 1000 U/mL and a CRP=36 mg/dL; 1 had a positive IgM for HAV. Eleven out of 85 persons who had been taking malaria prophylaxis (12.9%) experienced moderate to severe side effects: 2/11 with doxycycline (dermatitis and stomatitis), 2/12 with Atovaquone and proguanil (abdominal pain and oral *afiae*), 5/43 with Mefloquine (3 moderate anxiety crisis, 1 severe panic attack, 1 moderate dizziness), 2/17 Cloroquine±Proguanil (abdominal pain and diarrhoea).

Conclusions: the *spectrum* of pathologies in returning travellers who attended our Emergency service in last late summer and fall was wide; the majority presented skin lesions and self-limiting diarrhoea and fever, even if 7.3% had a severe or potentially severe disease and among them almost all presented fever. It would be important that a specialized Tropical Medicine Centre could check promptly the symptomatic traveller returning from the Tropics in order to rule out potentially life-threatening conditions; cosmopolitan diseases always have to be ruled out. It could be important in the pre-counselling visit to tell the travellers to attend a specialized service if they experience some symptoms (and especially fever) after the travel.

P42

Guide lines of the italian society of occupational medicine and industrial hygiene (simlii) for the protection of traveller-workers abroad

V. Anzelmo*, P. Bianco**, N. Castellino*

* Istituto di Medicina del Lavoro Università Cattolica S.Cuore-Rome, Italy

** Servizio Sanitario Rai Radiotelevisione Italiana - Rome, Italy

The SIMLII in 2004 has published the Guide Lines (GL) on the jobs to the foreign country in order to carry out the sanitary and medical surveillance previewed from the D.Lgs.626/94 for the traveller-workers and to optimise the aptitude to carry out in safety the own job.

The workers abroad have been classified (short-time or long-time, frequent traveller, etc). It has been done the risk assessment for the health connected to the working activity to the foreign country (risks connected to the productive department, to the specific job profiles, to the geographic area of destination, to the frequency of the travels and means of transport). The occupational physicians must set up the program of sanitary surveillance and prevention with multidisciplinary approach (medical service of company, university departments, travel clinic) and methodologies that inserts the occupational medicine in the context of the travel medicine.

The outlines proposed from the G.L. SIMLII are:

1) sanitary surveillance (medical visit and laboratory and instrumental examinations in order to evaluate the aptitude to carry out the specific job profile; 2) immunization (required from the destination countries and or identified for the potential infectious risks); 3) prophylaxis of malaria ;4) definition of sanitary emergency procedures (first aid in the working place and isolated place, planning of the medical emergency strategies and integration with local medical references); 5) educational program; 6) epidemiological studies for monitoring the prevention strategies 7) medical control to return. They have been identified the criteria of aptitude to the job abroad (fit, temporary not fit, fit with special conditions or limitations, unfit).

They have been supplied medical indications for the traveller-workers affecting from chronic diseases that do not contraindicate the development of the job abroad. They have been considered the legal issues in accident case or occupational disease. The objective of L.G. is to harmonize the preventive strategies for this particular typology of employees in continuous increase (16 millions of traveller-workers in 2002, in Italy).

P43

Medical services and models of company organization for health protection of travelling workers in foreign countries.

P. Bianco*, V. Anzelmo**, G. Sturiale***, N. Castellino**

**Servizio Sanitario Rai Radiotelevisione Italiana – Rome, Italy*

***Istituto di Medicina del Lavoro Università Cattolica S.Cuore-Rome, Italy*

****Direzione Risorse Umane Rai Radiotelevisione Italiana – Rome, Italy*

D.Lgs. 626/94 is the law for health protection of workers in foreign countries and for prevention of biological and other environmental risks: physical, chemical and psychological. For protection of the health of the traveller-workers and to optimise the ability to carry out in safety conditions the own job, like previewed from the law, it is necessary to apply in the companies new organizational models.

The Bureau International du Travail (1998) indicates three functional areas:

1) in house travel department (organization and travel planning, culture of safety; contacts with embassies and international agencies of public health); 2) medical unit staff, in house or in stable outsourcing (knowledge of the corporate structure in order to collaborate with the other department involved in the job to the foreign country and management of the employees; predisposition of the medical records containing the health story of those assigned to travel assignments, including details of any prior travel misadventures and diseases; authorization to the treatment of transmissible sanitary data to the foreign country; procedures of emergency for the repatriation and successive hospitalisation); 3) relationships codify with Travel Clinics (the Medical Services of the Company cooperate with Institutes of Infectious Diseases and Tropical specialized in the diagnosis and the treatment of the diseases of the travellers). This organizational model is used in order to manage the missions to the foreign country of broadcasting employees in 2005 (synthesized in table).

Area Mission Stay (total days) Asia 222 2.003 Africa 75 345 North America 3 33 Central -America 4 35 South - America 10 87 Europe 25 103 Australia 2 33 **TOTAL 341 2.639**

P44

Cysticercosis in a female Nicaraguan traveller

Adan Flores, Hugo López, Ashley Croft

*Clinica San Jose (A A Flores MD); Laboratorio Clínico Metropolitano, Leon, Nicaragua (H Z López MSc)
Medical Branch, Headquarters Fifth Division, Shrewsbury SY3 8LZ, United Kingdom (A M Croft MD)*

We present the case of a 43-year old Nicaraguan woman who resided in England, returning to Nicaragua for a month's holiday each Christmas. While in England she developed multiple pea-sized swellings, including a swelling in her mouth which she felt was moving constantly, with a backwards and forwards motion. The swellings were variously diagnosed as sebaceous cysts, lipomata, third molar discomfort, depression, and gnathostomiasis. At no time while in England did she receive a CT or MRI scan. Serological testing in Nicaragua proved positive for cysticercosis IgG. CT scan of the brain was normal. She was treated with albendazole 400 mg twice daily and made a complete recovery.

P45

The malaria mass infection cases among Northern Basin seafarers.

A.BAGRETSOVA, E. KAZAKEVITCH, V. ARKHIPOVSKY

*Marine Medicine Research Institute, Arkhangelsk, Russian Federation
Northern Medical Centre named after N.A. Semashko, Arkhangelsk, Russian Federation*

In early 90-s of the XXth century the vessels of Arkhangelsk Trawl Fleet started working in Africa zone because of the fishing areas broadening and international trade relations development. Many fishing areas turned out malaria affected. All the vessels of the Arkhangelsk Trawl Fleet operating in the malaria endemic areas had a sufficient stock of medicines for preventive chemical treatment and cure of the disease. The drugs quantity is calculated according to 3-month tropical voyage period per person. This quantity is to be doubled in case of six-month tropical voyage period. There is a sufficient reserve of the antipyretic drugs, infusion solutions, ascorbic acid, and cardiovascular drugs on board. The disinfection of mosquitoes in places of their swarming is carried out when the vessels are located in the malaria endemic areas. The ship doctor is to secure the seamen protection from the mosquito-bites with the help of special repellents and nets.

Nevertheless in May 1996 the first incident of the malaria mass infection was registered on arrival the motor vessel "Hibini" at the port of Arkhangelsk. Twenty out of 32 crewmembers got sick with malaria during their working in Africa regions (Nigeria, Benin). When returned to Russia, 6 seamen were hospitalized with the symptoms of tropical malaria. Three days before arriving to Africa all the seamen had undergone a course of preventive chemical treatment with delagil (chlorochyn) in the dose of 50 mg per day and continued taking it during the whole period of stay in the Africa endemic area.

The second incident of the malaria mass infection was registered in the period August 2003 - January 2004 during the voyage to Sierra Leone (Africa) despite the same course of preventive treatment taken by all the seamen. Seven of them got malaria. Six of them were treated in the hospital of Sierra Leone and one seaman was treated in the infection hospital of Arkhangelsk.

According to the case histories studies there were no organic lesions and fatal outcomes among the cases. Thus, the use of delagil (chlorochyn) for preventive treatment proved to be ineffective due to the spread of drug resistant Plasmodium falciparum in Africa. The drugs choices for the seamen operating in Africa regions are the following: mephlochin (laryam), doxycycline or atovahon with proguanil. The ships are to be provided with the up-to-date medicines for preventive chemical treatment and cure of malaria with the precise account of a fishing area since the drug choice is determined by the local causative agent strain sensibility.

There is a printed order by Northern Medical Centre named after N.A. Semashko – the Maritime Medicine Centre for the seamen prescribed all ship owners organize the adequate measures to prevent malaria on board. This order keeps ship owners responsible for the health of crewmembers when sending the malaria endemic areas, the bulk purchase and supply with the up-to-date medicines for preventive chemical treatment and cure of malaria, organization and up-to-date carry out of malaria preventive measures, proper reports being provided.

P46

Elevated incidence of malaria and intestinal parasites among children of a south-west Cameroon village. A randomized study to create a parasite control program.

Cultrera Rosario, Giuliiodori Margherita, Contini Carlo

Infectious Diseases, Department of Clinical and Experimental Medicine, University of Ferrara

Objective: To create a parasite control program for Lobange, South-West Cameroon, we worked with local health care workers to estimate the incidence of malaria and intestinal parasitic infections among school children.

Methods: Three hundred children (5-12 years) were randomly selected between the school population and tested for malaria by blood microscopy. All patients were asked to submit a stool sample in a tube. Each sample was fixed with 10% formalin. Survey also included the direct observation of the house and village environments, particularly for the presence of *Anopheles* reservoirs. A questionnaire was administered to parents and to primary teachers to evaluate the health behaviour of children and parents and to establish the source of drinking water.

Results: Environment investigations evidenced the absence of mosquito nets in the houses and in the bed. A latrine, common for several families, was present outside the home. Children and their parents did not clearly know the transmission of malaria and of intestinal parasites. A total of 244 thick blood samples and 286 stool samples were collected and investigated. All children were asymptomatic for malaria or enteric pathology. Specimens were analysed at the Laboratory of Infectious Diseases of University of Ferrara, Italy. 176/244 thick blood samples resulted positive. *P. vivax* was more frequent (72%) than *P. falciparum* (28.4%) and *P. malariae* (8%). Detection of *P. vivax* plus *P. falciparum* and *P. vivax* plus *P. malariae* was unusual. In most cases (48.5%), stool specimen resulted positives for eggs of *Ascaris lumbricoides* and *Trichuris trichiura*. *Ancylostoma duodenalis*, *Strongyloides stercoralis* and *Diphyllobothrium latum* were detected less frequently (<5%). Among protozoa, *Entamoeba histolytica/E. dispar* was repeatedly isolated (33.2%) compared to *Endolimax nana* and *Blastocystis hominis*.

Conclusion: This study indicates the high prevalence of malaria in asymptomatic children in a rural village of the Cameroon. The persistent antigenic stimulation by *P. falciparum* malaria could allow a degree of cellular or humoral immunity which leads to asymptomatic malaria in individuals of areas of highly seasonal transmission. Further analysis of the prevalence of red blood defects as possible factors of resistance to *P. falciparum* and *P. vivax* infections in this population could better define the epidemiology of malaria in this area. The contemporary presence of malaria and intestinal parasitic infections in the same individual needs of urgent intervention in this area to control parasitic diseases. Based on the results of this study, the health education program is recommended for addressing the poor hygiene and for using the mosquito nets.

P47

A Sociological Assessment of Leisure and Tourism In Iran: An Asian Perspective

Dr. Mohammad Taghi Sheykhi,

Associate Professor, Sociology, Department of Social Science, Al-Zahra University, Tehran,

The paper seeks how leisure participation and satisfaction are important determinants of health and well being. But, not all people can attain a high level of leisure and tourism satisfaction to promote psychological and health conditions. However, the widespread existence of a variety of leisure-related problems in the society reflects the need for leisure education and related facilities. The paper explores the role of science and technology as the agents of the development of leisure and tourism as it also affects the quality of life in Iran. The changing socio-economic circumstances that enhance leisure and tourism, are also examined. Leisure activities are highly related to income and changing lifestyles not only in Iran, but in many other Asian countries. Tourism as the world's biggest industry is usually known as the other side of the leisure coin. The author introduces the reasons why people travel, and defines what is really meant by tourism. It could be

multi-purpose i.e. taking place for leisure, cultural, religious, business, medical/health purpose etc. However, in order to attract foreign patients, developing countries such as Singapore, India, Malaysia and Thailand for example, have been at the forefront of this growing industry in Asia. The impact of health tourism on the economy is considerable too. Generally speaking, tourism needs adequate planning in order to respond to the changing and increasing expectations, fashions and the like in a particular society. The paper proposes that thoughtful policy-making could minimize the likely negative effects of tourism not only in Iran, but in Asia as a whole.

P48

If there is a medical doctor on the plane please press your Flight Attendant call button

GODFREY D. RIPLEY MD

Private Practice, Boca Raton, Florida USA

Many a physician has faced the dilemma: “Shall I?”, whilst a passenger on a long-haul flight.

No doctor’s tools – no sphygmomanometer – no EKG – not even a stethoscope.

How long since this physician dealt with a medical emergency in Primary Care? How can the physician address the expectations of the Flight Captain with regards: “Is it OK to continue to our original destination or shall I divert to nearest airport as ‘medical emergency’?” Should Continuing Education Credits in “Medical Emergencies in Primary Care” be mandatory for annual re-licensure for **all** physicians in whatever specialty? What can the physician expect in the way of “medical equipment” and pharmaceuticals on board? Can he expect some “compensation” from the airline? Would “Good Samaritan” mandates – and reliefs – of the physician’s home licensing jurisdiction apply? What moral/ethical rules apply over the oceans and overflown nations? When do the physician’s “responsibilities” end if no acceptable health-care provider appears when the plane lands?

These questions and more will be addressed in this presentation.

gdr 12/09/05

P49

Improving the Public Health Infrastructure in China to better respond to 21st Century Threats

M. Ricardo Calderón, M.D., M.P.H.

Learning Objectives:

At the conclusion of the session, the participant (learner) will be able to:

1. Appreciate the value added by the integration of scientific knowledge and executive leadership skills into a single training and educational program.
2. Discuss approaches to design and deliver educational programs intended to retrain the most senior public health leaders and practitioners of a nation.
3. Value public health leadership development as a prerequisite to enhance the performance of local, national and international public health systems.
4. Leverage expertise and resources from the public, private and non-profit sectors to create practice-based academic and non-academic training programs.

The SARS Epidemic taught the world the importance of preparedness planning, collaborative responses, training and education, new research agendas, proactive communication, linkages between different disciplines, political will and, most importantly, to expect the unexpected. SARS was indeed another wake up call for a renewal of public health systems worldwide to effectively address the challenges and threats of the 21st Century, be they a result of natural disasters, bio-terrorism acts, or newly emerging and re-emerging infectious

diseases. Consequently, the Chinese Centers for Disease Prevention and Control (CCDC) invited the University of Southern California (USC) to strengthen the leadership capacity of its public health leaders and practitioners with world class knowledge and technology in population-based disease prevention and control. USC conceptualized and delivered, in collaboration with CCDC, two intensive trainings in Beijing in 2004, one on Public Health Intelligence and Leadership and the other on Public Health Leadership and Emergency Response. More than 260 health professionals, including the CCDC's most senior leaders, were trained by USC faculty and experts and scholars from the Chinese Ministry of Health and CCDC. Guest speakers from WHO, Family Health International, Oxford University and the Los Angeles County Department of Health Services complemented the curriculum with country and regional lessons learned. These innovative leadership development programs serve now as the basis for the design of academic and non-academic education to enhance the public health capacity in China to meet the critical challenges of an effective emergency response; that is, fast detection, science, communication, integration, action and containment.

Target Audiences:

Public health academicians, directors and practitioners interested in the design and delivery of innovative, practice-based, international academic and non-academic training of senior public health leaders.

Keywords:

Leadership development, health workers training, public health infrastructure strengthening, public health partnerships.

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Building a Better Public Health Response System in Los Angeles County

M. Ricardo Calderón, M.D., M.P.H., Deborah Davenport, M.S., R.N., Sharon Grigsby, B.A., M.B.A., Belinda Towns, M.D, M.P.H.

Learning Objectives:

At the conclusion of the session, the participant (learner) will be able to:

Promote action learning and collaborative leadership change projects in order to strengthen and expand public health emergency response systems.

Discuss the components of a public health Incident Command System and how it can be incorporated into their own emergency response plans assuring coordination with other agencies.

Embrace public health leadership competencies and skills needed to effectively build a better public health response system.

Apply session concepts to current challenges and opportunities in their work environment and communities.

A Team of Scholars of the Los Angeles County Department of Health Services was selected to participate in the UNC National Public Health Leadership Institute (NPHLI) in summer 2003. Given the size of Los Angeles County and the potential impact on its target-rich communities, the Team envisioned the creation of a fully integrated public health system response to the full range of 21st century threats, be they a result of natural disasters, bio-terrorism acts, or newly emerging infectious disease outbreaks. The inherent challenge to the project was the recognition and integration of local Service Planning Areas (SPAs) as critical components in disaster preparedness and response, including the implementation of an Incident Command System and the engagement of SPA staff and the Community. An Action Learning Approach was utilized to conceptualize and refine the project model. Over the course of 12 months the perspectives on the project goal, objectives, approach and, particularly, on the team, all changed markedly. The Team moved from a mental model of a Public Health agency looking internally and outside of itself to an inter-sectoral model of “connections and collaborations” as a means of improving the system. Consequently, the goal of the project evolved to create a network of critical roles

across Los Angeles County communities instead of trying to structure how others interacted with it. The model developed, currently under implementation, was awarded the National Martha Katz Award as the best national public health leadership project during 2003/04.

Key Words: public health preparedness, emergency response, incident command system, action learning, collaborative leadership.

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AN OUTBREAK OF BOTULISM IN ITALY

Bigliardi L. and Sansebastiano G.

Department of Public Health Sec. Hygiene, University of Parma – Italy

In Italy in the period 1992-1995 134 cases of botulism occurred many of them linked to the consumption of vegetables canned (57%) and ham and sauces (15%) and in the 13% of cases it was impossible to identify the responsible food.

In 1996 12 Regions reported 81 suspected cases of botulism of which 58 confirmed with 8 cases, one death, caused by consumption of mascarpone, cheese that with other dairy products was never involved in botulism case in Italy.

Data reported about episodes were reviewed first by WHO (1996), then by Squarcione and coll. (1999) and at least by Aureli and coll. (2000) to reconsider the possible contamination route of food in order to study the possible prevention measures to adopt.

The first hypotheses relating to the contamination and the following replication of *C. botulinum* regarded the pollution of raw material (milk) and of the same cheese, the interruption of cold chain and also a fraudulent contamination (WHO).

According to Squarcione the cases could be determined by happening of different situations that favoured toxin production and particularly crude milk contaminated and not adequately ultra-filtered, a contamination due to a malfunction of production process followed by a cold chain interruption.

Aureli confirms the importance of storage temperature reporting experimental data on mascarpone samples artificially. The bacterial replication and the toxin production for proteolytic strains stopped under the 10°C and for non proteolytic strains under the 3,3°C. Often at retail the conservation temperature is higher than 10°C. From these results and considering that overall none of these hypotheses resulted responsible of a case of such importance unequivocally, also in the industrial products preparation which were involved in few botulism cases however preventive measures at different levels will be applied as here below briefly reported:

Improve the controls on quality of raw materials and the reliability of suppliers

Improve the effectiveness of sterilisation procedure responsible for the inactivation of spores of pathogenic microorganisms

Provide a proper personnel training on adequate hygienic procedures regarding both the individual and the working environment

A more accurate survey of all measures involving the food conservation either during its transport or its storage

More attention from the consumer when buying food, checking the package integrity, the expiry date and the reliability of the conservation, especially if such products shall be eaten raw.

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Experimental research on inactivation of Feline Calicivirus with Chlorine Dioxide

Zoni R., Zanelli R., Riboldi E., Bigliardi L. and Sansebastiano G.

Department of Public Health Sec. Hygiene, University of Parma - Italy

Among different viruses responsible of enteric disease surely the most important are Norwalk and Norwalk like viruses which regarding different epidemiological studies cause of about 70% of gastroenteritis. The outbreaks are often due to the consumption of fresh products and ready-to-eat food contaminated by infected subjects as also by shellfish cultured in contaminated waters.

At this purpose disinfection processes are important to assure food safety.

Being impossible to cultivate in vitro Norwalk virus, we tested the resistance of feline calicivirus versus Chlorine Dioxide, in comparison with HAV and CoxsackieB5.

For inactivation tests it was used feline calicivirus F9 strain grown on Cfrk cells.

The viral titres were calculated as TCID₅₀.

As disinfectant it was used ClO₂ at concentration from 0,2 to 0,8 mg/l in water solution at pH 7 and at +20°C.

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Level of concern and sources of information of Australian hostellers for personal safety and terrorism when travelling abroad

Peter A. Leggat,* Deborah Mills[†] and Richard Speare*

*Anton Breinl Centre, James Cook University, Townsville, Australia; [†]Travel Doctor, Brisbane, Australia

Background: Little is known about the level of concern and sources of information of hostellers concerning personal safety and terrorism. This study was designed to investigate these in relation to the Australian context.

Methods: In 2006, hostellers attending a travellers' information evening in Brisbane, Queensland, were asked to complete self-administered questionnaires.

Results: 42 questionnaires (60.8%) were returned. Over two-thirds of attendees were female (71.4%, 30).

About two-thirds of the hostellers attending the travelers' information evening reported being aged 29 years or younger (64.2%, 27), however nearly one-fifth (19.1%, 8) were aged 50 or over. Hostellers indicated that they were traveling to Europe including the United Kingdom (68.3%, 28), USA including Canada (11.9%, 5), Asia (14.3%, 6), and other destinations (4.8%, 2). Nearly two thirds (63.4%, 26) intended to travel in more than 8 weeks time or were not sure. On a five point rating scale (1 being not concerned to 5 being extremely concerned), median ratings of hostellers for personal safety (4.0) was significantly higher than terrorism (2.5) with the range being 1-5 in each case ($p < 0.001$). Nearly three-quarters (73.8%, 31) of hostellers would seek advice concerning personal safety abroad from multiple sources and sources of information included the internet (69.0%, 29), travel books and guides (59.5%, 25), physicians (57.1%, 24) and travel agents (45.2%, 19) and other sources (11.9%, 5). Only three hostellers (7.1%) nominated the physician as their only source of information on personal safety.

Conclusions: Hostellers attending the travellers' information nights are mainly younger female travelers. They were more concerned about personal safety rather than reemerging issue of terrorism. The internet was the most common source of information for hostellers concerning personal safety.

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Assistance provided abroad to insured travellers from Australia following the 2004 Asian Tsunami

Leggat, P.A.*, Leggat, F.W.

Anton Breinl Centre, James Cook University, Townsville, Qld

Introduction On 26 December 2004, the Asian tsunami hit countries around the Indian Ocean rim, particularly around its earthquake-associated epicentre off Indonesia. A number of popular tourist destinations for Australian travellers are located in this region. This study was designed to investigate travel insurance claims reported by travellers from Australia following the Asian tsunami and to examine the role of travel insurance and emergency assistance companies.

Methods In December 2005, all claims reported, following the Asian tsunami on 26 December 2004, to a major Australian travel insurance company were examined for those claims associated with the Asian tsunami.

Results Twenty-two tsunami-related claims were submitted of which nine travellers (40.9%) used the travel insurance company's emergency assistance service. Four travellers (18.2%) cancelled their trip to Asia, mainly to Thailand. Five travellers (27.3%), who were already abroad, also curtailed their trip as a result of the tsunami. Half of travellers (50.0%) were claiming loss of personal belongings. Of those using the emergency assistance service, five travellers (22.7%) sought policy and claiming advice, two (9.1%) sought assistance with flight rearrangements, and one (4.5%) sought situation advice. There was also assistance provided following the death of one insured traveller as a direct consequence of the tsunami, which included a lump sum payment to the deceased estate. The mean refund, where a travel insurance claim was paid, was AUD2,234 (SD = AUD5,755).

Conclusions This study highlights the importance of travellers taking out appropriate travel insurance, which provides for emergency assistance. Travel insurance agencies do play some role after emergencies such as the Asian tsunami. This assistance predominantly involves dealing with cancellation of travellers' intended visits to the affected area, but does also involve some assistance to travellers affected by the crisis.

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Old traveler in a new airplane

Davidovic Mladen

There is no simple definition of what quality of life includes or at least what would be sufficient to define it. Love, a meaningful profession, safety and security, health and energy, maybe even fame of some sort, long life and of course a society that would promote and support the institutions necessary to sustain a meaningful life. Something is missing : Travel ,specially in the later life. On the other hand the data from US tell as that 7.4 million disabled elderly people reported traveling long distance in the past year. They usually use commercial airplane . About half of the elderly disabled airplane passengers (49.8 percent) experienced problems at airports and 28.6 percent experienced problems on airplanes.([Research and Innovative Technology Administration • U.S. Department of Transportation](#)).

To define a possible problems during the flight can be difficult. You must include a factor as : Temperature (heat and humidity), the effect of high altitude and jet lag.

There is a risk from para nasal air sinus disorder to the venous thrombosis and possibly pulmonary embolism. The duty of geriatrician is to create evidence based recommendation for the elderly traveler ,not to limit the quality of life.

