

## 81.023

**Almost 10.000 second opinion consultations in infectious diseases. A telemedicine program in Argentina**

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**Background:** To describe a on line-second opinion consultation system (SOC) in a telemedicine program (TP) for public hospitals in Argentina (PHA).

**Methods:** A TP for physicians and nurses (HCW) of PHA was started in April 2002. At each PHA, the TP designates a local medical coordinator, an administrative assistant and provides a computer and Internet connection. A specially designed secure website gives HCW free access to medical education (ME) and SOC. SOC have been designed as a complement to ME but their main purpose is to provide rapid access to experts' opinion on complex medical situations. SOC presented by HCW are received by the local TP coordinator, who replies or transfers SOC to the TP headquarters, to be evaluated by the TP Area Directors, who can reply, ask for additional information, or direct the SOC to an external consultant.

**Results:** Up to 10/31/09, 13.989 HCW (6.150 physicians, 5.846 nurses and 1.993 others) from 50 PHA have received ME and access to SOC in our TP.

A total of 9.028 SOC have been processed in the period: 3.204 (35.4%) on pediatricians (P), 1.651 (18%) on perinatologist (Pe) and 3.192 (35.3%) on adults (A). Average reply time is 37 hs. Most frequent topics in SOC about P deal with vaccines, use of antibiotics, HIV, infection control, pneumonia; skin and soft tissue infections, immunocompromised host, TB, chickenpox; in A: HIV, bone and joint infections, non-HIV immunocompromised host infections, severe infectious diseases from the community; skin and soft tissue infections, epidemiologic questions, CNS infections, antibiotics and in Pe: sepsis, epidemiology, nosocomial infections, fever in the newborn, antibiotics, syphilis, toxoplasmosis, puerperal infections, exposure to infections, antibiotics, early membrane rupture and preterm pregnancy.

**Conclusion:** Our TP has organized a network of HCW at PHA actively engaged in scientific knowledge exchange, and SOC prove to be an effective tool as a complement to ME and to help HCW solve complex medical situations locally.

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## 81.024

**7 Years' experience in a telemedicine program in infectious diseases in Argentina**

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**Background:** To describe a telemedicine program (TP) combining medical education (ME) and second opinion consultations (SOC) for public hospitals in Argentina (PHA)

**Methods:** At distance ME is a useful teaching methodology for healthcare workers (HCW); SOC as a complement to

ME would also contribute to HCW daily practice. We describe a TP for PHA, which provides ME in Infectious Diseases (ID) combining e-learning and on site tutorial meetings with a SOC system exclusively over the Internet. The TP is provided free of charge, since it is financed through unrestricted grants from philanthropic organizations. The TP was started in April 2002. The TP designates a local medical coordinator and an administrative assistant at each PHA and provides a computer and Internet connection. The initial phase lasts 2 yrs when ME and SOC are administered directly from TP headquarters (PHQ). After this period, TP is opened to replication by local coordinators, with permanent support and update of ME contents from PHQ.

**Results:** Up to 10/31/09, 13,989 HCW (6,150 physicians; 5,846 nurses; 1,993 others) from 50 PHA have joined the TP. A total of 9,028 SOC have been processed in the period, with an average reply time of 36 hs. In the period 2007-09, 3,047 HCW (1,635 physicians and 1,412 nurses) joined the TP in the 25 PHA entering the second stage. As a result of permanent surveying and feedback, the TP strategy has been redesigned to include other resources: Epidemiological Research Division; Microbiology Branch; Immunizations Branch; intervention actions in HIC including WHO's 5 moments initiative. The TP has given quick response to emerging situations (A-H1N1 influenza and Dengue) and has incorporated external experts to comment on key SOC.

**Conclusion:** The TP has successfully organized a network of HCW at PHA actively engaged in scientific knowledge exchange; SOC prove to be an effective tool as a complement to ME. The TP can be successfully replicated locally. Its main impact is its potential to unify diagnostic, therapeutic and prevention approaches in ID and its capacity to provide rapid response to emerging situations. Continued surveillance and feedback has opened the ground for new TP strategies besides ME and SOC.

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## 81.025

**Sustained malaria control in Suriname after 3 years of effective interventions**

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**Background:** Suriname along with Guyana and French Guyana have contributed with a high concentration of malaria cases in the region. In Suriname, 10% of the population lives in malaria endemic areas. Falciparum malaria is the predominant parasite followed by *Plasmodium vivax* and *Plasmodium malariae*, representing an important public health problem. Effective control measures have impacted malaria morbidity and mortality and changed the epidemiological profile in the country in the last 5 years. We assessed the achievements in malaria interventions in Suriname after 3 years of scaling up control measures.

**Methods:** National malaria data per year was obtained from the national malaria surveillance system. Artemisinin-derivatives combination therapy (ACT) was implemented

in 2004 and in 2006, a combination of interventions were implemented in different strata. Insecticide-treated long lasting nets (LLNs), aggressive active case detection (ACD), media campaign (IEC/BCC), Indoor residual spraying (IRS), Mass screening and treatment, Primaquine, passive surveillance and impregnation/re-impregnation were carried out in the interior of the country. Malaria diagnosis was performed with light microscopy and rapid diagnostic tests.

**Results:** After the national implementation of ACT in the country (2004-2005), a 33% reduction of malaria cases was recorded. By 2006, evidence-based interventions were implemented: LLNs (coverage 95%), IRS (60% coverage high risk areas), IEC/BCC (>15 people reached), ACD (20,000+ people screened). Malaria morbidity dropped from 15006 cases in 2003 to 1498 cases in 2008. Malaria-related hospitalizations declined dramatically (>70%) between 2006-2008 and no deaths due to malaria have been reported since 2006. A reduction of 92% of the number of *P.falciparum* infections was recorded between 2003-2008.

**Conclusion:** Malaria morbidity and mortality have decline significantly in Suriname and this reduction, was higher when interventions were combined (2006-2008). Coverage of most malaria control interventions were above 95%. The burden of malaria in Suriname has significantly changed, reaching the Roll Back Malaria objectives and Millennium Development Goals targets in a very short time. The national malaria epidemiological profile was changed focusing now on "hot spots" among gold miners in remote areas. This is the first country in the Amazon basin that have decided to go for elimination of malaria at the national level.

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## Trypanosomiasis, Leishmaniasis & Schistosomiasis (Poster Presentation)

### 82.001

#### Inhibition of entry and survival of *Leishmania donovani* by down regulation of TACO gene on human macrophages using Vitamin D3 & Retinoic Acid

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**Background:** A gene coding for tryptophan-aspartate containing coat protein (TACO) has been recognized to play a crucial role in the survival of *Mycobacterium tuberculosis* within human macrophages. Host molecule TACO has been shown to play a crucial role in the arrest of such a maturation process. At the onset of infection promastigotes of *Leishmania* are internalized by macrophages into phagosomes. Phagosomal maturation arrest is known to play a central role in the survival of pathogenic *Leishmania* within macrophages. We are postulating that the stable association of TACO with phagosomes would prevent the vacuole from maturation. It would be of interest to know whether this protein is associated with *Leishmania*-containing phagosomes.

**Methods:** In this study, We evaluated the dose dependent effect of treatment with vitamin D3/RA what impact TACO gene down-regulation has on the uptake/survival of *Leishmania donovani* within macrophages. The reverse-

transcriptase polymerase chain reaction employed in this study, revealed that the major component of D3/RA had the inherent capacity to down-regulate TACO gene transcription within human macrophages and accompanied by inhibition of promastigote survival within macrophages as assessed through flow cytometry and microscopy.

**Results:** Coat protein TACO gene down-regulation observed with vitamin D3/RA dose dependent treatment occurred through modulation of this gene via the VDR/RXR response sequence present in the promoter region of TACO gene. Treatment of macrophages with vitamin D3/RA allows maturation of promastigote containing phagosome, leading to degradation of the parasite inside the phagosome.

**Conclusion:** Our results shows that vitamin D3/RA treatment inhibits promastigote entry as well as survival within macrophages, possibly through rescue of phagosome maturation arrest. The developing knowledge in this study suggests that vitamin D3/RA may be of importance in the treatment of intracellular infection, particularly Leishmaniasis without any side effects. The major practical application anticipated would be in the treatment of visceral leishmaniasis especially resistant cases wherein it may help in elimination of the parasite. The major attraction here is the use of molecules which are already in routine use and in case these are effective, they could be put to immediate use.

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### 82.002

#### A diagnostic approach to detect murine *Shistosoma mansoni* infection using a polymerase chain reaction

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**Background:** Traditional diagnosis of *Schistosoma mansoni* infection involves direct microscopic detection of eggs in feces. The use of some stool concentration techniques may increase the diagnostic yield. However, it seems that the sensitivity of parasitological methods diminishes when prevalence and intensity of infection are low, making these methods less appropriate for low-endemic areas and in post treatment situations.

In 2001, a new antischistosomal drug, Mirazid® was introduced into the Egyptian market by Pharco Pharmaceutical Company (Alexandria, Egypt). Extensive advertising efforts have encouraged physicians in private clinics to use Mirazid. The chemistry of myrrh is not fully studied. Reports on its anti-schistosomal effect in human or experimental animals seem to be controversial.

**Methods:** Our present study is a laboratory trial aimed at using conventional PCR technique for studying the schistosomicidal effect of Mirazid® in the murine model, and comparing the results with the parasitological results (ova and worm count).

**Results:** Microscopic results showed that there was no eggs passing till the 41st day of infection by examining fecal samples of all infected mice by Kato-Katz technique. Only on the 42nd day, the first batch of eggs appeared in stool samples. Comparable results were found in the number of S.