*Results:* Between April 2008 and April 2009, 403 patients with fever were identified (207 males, 51.4%). Mean age was 51.4 yrs (SD 21.2 yrs). 223 Patients (55.6%) were hospitalized, 32 patients (7.9%) died and 18 patients (4.5%) were admitted to the Intensive Care Unit. In 129 febrile patients (32.0%), infection was proven. 84.4% of patients had bacterial (29.0% urinary tract infection (UTI), 23.2% pneumonia), 5.6% viral and 10.0% parasitic or fungal infection. In 34 patients (8.4%), dengue fever was suspected; dengue was serologically proven in one patient. 21 Patients (5.2%) were discharged with a non-infectious diagnosis, most frequently malignancy. 172 Patients (42.7%) were discharged without a clear diagnosis.
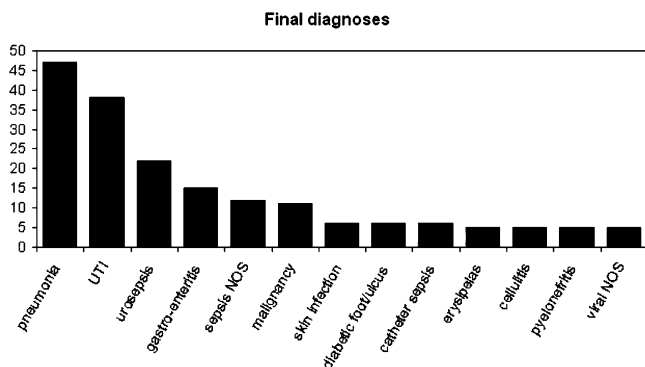
Final diagnoses

Final diagnoses of febrile patients on the emergency department, Curacao

Conclusion: A high mortality rate of 7.9% was observed in this cohort. We found a high prevalence of bacterial infections, with pneumonia and urinary tract infections as most common causes of fever. Not many typical tropical infections were seen, although many patients were diagnosed with probable dengue fever during the rain season, which could not be corroborated serologically. One in 20 patients presenting with fever did not have an infectious disease.

51.004

Transmission risk and predictability of invasive meningococcal disease

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Background: In light of the media coverage concerning recent infectious disease outbreaks such as the ongoing influenza pandemic as well as previous ones involving Severe Acute Respiratory Syndrome (SARS), the public domain has become more conscience of infectious diseases as well as the effect of travel aiding their spread. Meningococcal meningitis has been a disease which among other factors such as age, climate and life style, is facilitated by travel. The causative bacterial agent, *Neisseria meningitidis*, being spread through aerosol respiratory droplets can cause Invasive Meningococcal Disease (IMD), and is a widely distributed, complex human disease affecting all age categories. Forecasting models exist for diseases based on vector-borne or wind related movement, as well as climate derived assessments, and recently travel oriented detection. Hence a combination of several factors ranging from meteorological to molecular level information should aid in determining likely occurrences of meningococcal meningitis epidemics in spatial and temporal means.

Methods: A systematic review was conducted in order to identify the different risks and models available in terms of IMD spread. Varying risk stratification was used to classify risk factors such as: travel related spread, respiratory co-infections, the effect of new meningococcal clones into a susceptible population, low humidity, high temperatures and lifestyle based aspects. These data will be used to create an early warning system generated through various technologies and transmission models in order to highlight risk areas and periods of ongoing IMD.

Results: As other studies have shown, travel patterns such as destination, duration and timing during the year affect risk of IMD development and spread among travelers, whilst climate, geography and factors such as virulence of circulating strain are more important in determining the severity of an outbreak in terms of local occurrence and potential epidemic developments.

Conclusion: Meningococcal meningitis is not only a well established threat in terms of epidemic or endemic occurrences, but also for travelers. Hence the development of more accurate and timely detection and forecasting methods are required to help in decision making processes involving prevention and early warning purposes.

51.005

Hospitalizations due to pneumonia and case-fatality rates in Brazil between 2003 and 2007

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Background: In emerging countries, pneumonia is a leading cause of hospitalization and death, particularly among young children and older adults. Between 2000 and 2003, 13% of all deaths in children under 5 years of age living in Brazil were due to pneumonia. Overall, deaths in Brazil due to pneumonia averaged 4% between 1979 and 2001.

Methods: This was a retrospective study to quantify the rate of hospitalizations due to pneumonia (HDTP) and cases-fatality rates (CFR) in age groups ranging from <1 years old to 80 years and older. An online, interactive web-based database of individuals hospitalized during the 5-year period, 2003-2007 covered by the Integrated Health System (DATASUS) in Brazil was used to identify cases. The Instituto Brasileiro de Geografia e Estatística database served as the source of the population/denominator statistics used for