

Federal Telemedicine **NEWS**

Misdiagnosis of Child Illness Leads to Development of Support System

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In the UK, three year old Isabel Maude was diagnosed with chicken pox, but after the initial diagnosis, Isabel's illness took a strange turn. Isabel developed a high fever, vomiting, diarrhea, severe pain, and discoloration of the chicken pox rash. Follow-up visits to the doctor and the emergency room reassured the parents that everything was normal and there was nothing to worry about. Like most parents they trusted the physician's opinions and waited for her to improve.

When she didn't improve, they took Isabel back to the emergency room. Minutes after arriving, Isabel's blood pressure dropped dramatically and she required emergency resuscitation. Isabel was moved to the pediatric intensive care unit at St. Mary's Hospital in Paddington London, where Dr. Joseph Britto, a pediatric intensive care physician took over her care. She was diagnosed with complications of chicken pox, toxic shock syndrome, and a flesh eating bacteria.

Isabel spent two months in the hospital, including a month in PICU after experiencing multiple organ failures and cardiac arrest. Not only were the parents dealing with the notion that their daughter might not survive, but if she did, she might suffer brain and organ damage. The really good news is that she did survive and today Isabel is fully recovered and an active school age child.

Her father Jason Maude, realized that his child's suffering could have been avoided if her doctors at the local hospital had taken all of her symptoms and clinical signs into account and had considered all the possible diagnoses rather than assuming that her symptoms were simply related to chicken pox.

Rather than suing the hospital for the error, Jason teamed up with Dr. Britto who developed the Isabel Clinical Diagnosis Decision Support System and together they created Isabel Healthcare. Today this system is being used by doctors, nurses, residents, and students to reduce diagnostic and decision errors and at the same time, improving patient safety and the quality of care.

Dr. Britto, exhibiting the Isabel Technology at the **Public Health Congress held on July 16-18 2007 in Washington D.C.**, emphasized that diagnosis decision-making will always remain the responsibility of the clinician who is the learned intermediary at the point of care. The Isabel clinical decision support system used to support providers at the point-of-care has two components.

The Isabel Diagnosis Reminder System searches through the Isabel database of more than 11,000 diagnoses and 4,000 drugs and then provides the clinician with a checklist of likely diagnoses and drugs that may be causing the patient's symptoms and signs. The system also informs the user when there is a pattern of similar illnesses and can send alerts.

The Isabel Knowledge Management System compiles information from medical textbooks, journal abstracts, produces images, treatment algorithms, lessons learned, and highlights the most recent advancement in the field

According to Dr. Britto, the Isabel Technology is used as a stand-alone system and designed to interface seamlessly with an electronic medical system. Today, the Isabel Application Program Interface is customizable and can be interfaced with leading primary care, ambulatory and hospital-based EMR systems.

The annual cost for the system at a hospital starts at \$180 per bed per year and can be reduced on a sliding scale with size. Individual doctors and group practices can purchase Isabel for approximately \$60 per provider per month. The Isabel Healthcare web site offers assistance to help determine the potential return on an investment.

For more information, go to www.isabelhealthcare.com or email Dr. Britto at joseph@isabelhealthcare.com or call (703)-787-0380.