Streptococcus pneumoniae is one of the major pathogens causing invasive and non invasive infections in children younger than 5 years as well as in the elderly. Primary clinical syndromes associated with pneumococcal infections are pneumonia, bacteremia, acute otitis media and meningitis. This microorganism contributes importantly to morbidity and mortality among children under 5 years of age, it is estimated that 1,000,000 deaths occurs per year in that age range alone, mostly from developing countries, thus becoming a serious public health problem around the globe. In year 2000 the first heptavalent conjugated pneumococcal vaccine was licensed in the United States of America, it differed from the already available polysaccharide pneumococcal vaccine, by its ability to provide an effective immune response for the protection of children under the age of 2. The efficacy of the heptavalent conjugated vaccine reported in initial clinical trials was 97.4% against invasive pneumococcal disease related to vaccine serotypes (4, 9V, 14, 19F, 23F, 18C and 6B). Different health authorities worldwide, including the European Medicines Agency (EMEA) had approved the introduction of a 10-valent formulation which includes all 7 PCV7 serotypes plus serotypes 1, 5 and 7F; 8 serotypes are conjugated with protein D as a novel carrier, an element found in the outer core of the non-typeable Haemophilus influenzae. Another new conjugated vaccine is being assessed by several regulatory entities such as the Food and Drug Administration (FDA) and EMEA and in Chile is already approved. This 13-valent formulation includes the 10 serotypes contained in the 10-valent vaccine plus serotypes 3, 6A and 19A, all conjugated to the carrier protein CRM197. These new formulations pretend to enhance vaccine coverage against S. pneumoniae including the frequent serotypes in developing countries (1 and 5) and emerging serotypes such as serotypes 3, 6A, 17F and 9A after a decade of PCV7 immunization.

Keywords
Pneumococcus, conjugate vaccines, Streptococcus pneumonia, vaccines.