

# Healthcare & Hospital Management & Biologics and Biosimilars

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### Precision medicine in prevention: Predicting atopic diseases


A group of prevalent conditions in children, atopic dermatitis (AD), asthma, and allergic rhinitis (AR) are chronic disorders resulting in adverse quality of life in patients and their family due to prolonged and repeated symptoms. The prevalences of these atopic diseases have increased in the past two decades worldwide, including in Taiwan. Atopic diseases are multifactorial diseases, that genetic and environmental factors contribute to the development. However, environmental factors probably play a more important role than genetic in the rapidly increased prevalences in the past few decades. Exposed to allergens and air pollutants, infection, stress, etc. were all reported to associate with occurrence of atopic diseases. Predictive models for estimating the risk probability of AD and

asthma were proposed based on analysis of follow-up study of birth cohorts in Taiwan, taking into account of hereditary and environmental factors. The predictive models were further improved after taking into account biomarkers, genetic polymorphisms, and maternal mental health during pregnancy. Using this precision medicine approach, we can identify high-risk children and potentially develop environmental preventive strategies.

#### Speaker Biography

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