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Childhood asthma, allergic rhinitis and eczema are complex heterogenic chronic inflammatory allergic disorders which constitute a major burden to children, their families. The prevalence of childhood allergic disorders is increasing worldwide and merely rudimentary understanding exists regarding causality, or the influence of the environment on disease expression. Phase Three of the International Study of Asthma and Allergy in Childhood (ISAAC) reported that Irish adolescents had the 4th highest eczema and rhinoconjunctivitis prevalence and 3rd highest asthma prevalence in the world. There are no ISAAC data pertaining to young Irish children. In 2002, Sturley reported a high prevalence of current asthma in Cork primary school children aged 6-9 years. This thesis comprises of three cross-sectional studies which examined the prevalence of and associations with childhood allergy and a quasi-retrospective cohort study which observed the natural history of allergy from 6-9 until 11-13 years. Although not part of ISAAC, data was attained by parentally completed ISAAC-based questionnaires, using the ISAAC protocol. The prevalence, natural history and risk factors of childhood allergy in Ireland, as described in this thesis, echo those in worldwide allergy research. The variations of prevalence in different populations worldwide and the recurring themes of associations between childhood allergy and microbial exposures, from farming environments and/or gastrointestinal infections, as shown in this thesis, strengthen the mounting evidence that microbial exposure on GALT may hold the key to the mechanisms of allergy development. In this regard, probiotics may be an area of particular interest in allergy modification. Although their effects in relation to allergy, have been investigated now for several years, our knowledge of their diversity, complex functions and interactions with gut microflora, remain rudimentary. Birth cohort studies which include genomic and microbiomic research are recommended in order to examine the underlying mechanisms and the natural course of allergic diseases.