Body: Background: Demographic aspects of different variants of asthma are not well known. It seems necessary to register and follow all age patients with asthma in a tertiary respiratory referral center to uncover many pitfalls in diagnosis and treatment. Aim: We have developed Asthma Registry System which includes pediatrics and adolescents' patients in NRITLD, the largest respiratory referral center in Iran, in order to register and report asthma prevalence, demographic characteristics and follow-ups. Methods: Asthma Registry software was developed and launched in September 2011, and thereafter all patients referred to our clinics were visited, diagnosed and followed up by Allergist. All demographic and follow data were recorded in the system. Results: 163 patients with proved asthma based on clinical and labs were recorded in the Registry System. Among this, 79 males and 84 females were recorded. 26.6% of patients had less than 6 years age, 27.2% between 6-18 years old and 34.8 % had more than 18 years old. 71.2% of patients symptoms aggravated with upper respiratory tract infections, 45% had exercise induced asthma, and 21% aggravated with aeroallergens, and more interestingly 88% aggravated with air pollution. 2.2% had mild intermittent asthma, 31% had mild persistent, 60% had moderate persistent, and 6.5% had severe persistent asthma. Accompanying disease were allergic rhinitis in 39.7%, dermatitis atopic in 15%, drug allergies in 4.9%, and urticaria in 7.6%. Chief complaints were cough in73%, wheeze in 46%, and dyspnea in 88%. Conclusion: Our study indicates the need for a thorough analysis of demographic data, labs, and follow ups in asthma patients by a Registry System in a respiratory referral center.