Retrospective database analysis on anaphylaxis and patient concordance in the United States

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Aims: The objective was to understand and evaluate patient characteristics, concordance with post discharge care, health care resource utilization and repeated events among adults and children with an inpatient or Emergency Department (ED) claim for food or non-food induced anaphylaxis in the United States.

Methods: For retrospective analysis the Truven Healthcare MarketScan® Commercial and Medicare Supplemental and COB Databases was used to 1) identify the patient profiles with inpatient or ED claims for anaphylactic shock, stratified to food-based allergic reactions and to allergic reactions due to non-food or unknown causes; 2) examine the event characteristics and healthcare resource use (HCRU) related to the event and 3) assess Epinephrine Auto-Injector (EAI) prescriptions pre- and post-event and the HCRU associated with these prescriptions.

Results: The study comprised 10189 adults (age >18) and 3891 pediatric patients (age <18). Those patients treated in the ED present with acute respiratory failure (3.8%), hypotension (5.0%), and in rare cases cardiac arrest (0.3%). While in the ED, intervention included resuscitations (25.4%), intubation (1.6%), tracheostomy (2.0%), epinephrine administration (13.2%), and cardiopulmonary resuscitation (0.1%). 11.7% of patients seen in the ED were admitted to inpatient care and spent 2.7 days on average in the hospital. At the time of the index event 83.3% of patients did not have a prescription for an EAI filled. Only 12.1% of patients had the minimum of 1 EAI prescription refill. The mean number of days from last prescription to anaphylactic event was 2350 days.

Discussion: A significant portion of patients are transitioned to inpatient care from the ED resulting in greater healthcare utilization. The data indicate that patients demonstrate suboptimal maintenance of EAI prescriptions placing them at risk for life threatening events and questioning the preparedness of patients and caregivers for the management of an anaphylactic event. Given the low active prescription level it appears patients are not proactively prepared for an anaphylactic event which may lead to costly ED visits and hospital admissions.

Conclusions: Current educational programs and safety information delivered to patients and caregivers regarding the use of EAI to treat anaphylaxis are not effective.