Erythropoiesis’ Stimulating Factors (ESAs) are among the top ten therapeutic groups with the highest pharmaceutical expenditure in Greece. OBJECTIVES: To explore the penetration of ESAs in the Greek pharmaceutical market and differences between originais and biosimilars. METHODS: Data derived from the IKA-ETAM Social Security Fund, covering almost 50% of insured population. Consumption of ESAs (epoetin alfa, darbepoetin alfa, epoetin beta, methoxy polyethylene glycol epoetin beta, epoetin zeta) was collected from the Central & Peripheral Pharmacy stocking high value medicines for serious diseases on patient basis covering almost 70% geographical area of Greece. Consumption of epoetins was recorded from 2008 to 2010, classified per strength (IU/mcg), separated in originals and biosimilars. The average price per 1000IU of each category was analyzed per respective years based on IMS Hospital prices. RESULTS: ESAs consumption in 2008 and 2009 was approximately the same (26 & 27% respectively) while decreasing by 4% reaching 23% in 2010. A 13.8% decrease was also observed in IKA-ETAM total pharmaceutical expenditure in 2010. ESAs expenditure in 2008, was €41,4 million corresponding to 19% market share (MSH) of originals epoetins, leaving only 1% MSH in biosimilar epoetin zeta launched in that year. In 2009 ESAs expenditure reached €63 million, with 94% and 6% MSH for original and biosimilar ESAs respectively. In 2010 ESAs expenditure was almost halved (€22 million), due to price cuts and stricter control of prescriptions. Specifically, the MSH of originals reached 81% and biosimilars 19% respectively. In the reported years prices of biosimilars were slightly different from that of originals, however as of 2011 original ESAs reached 81% and biosimilars 19% respectively. In the reported years prices of ESAs were almost halved (from €2.96 million to €1.5 million) in costs of severe flares (no statistical significance for mild/moderate flares). CONCLUSIONS: Severe patients experience both a higher number of flares and more severe flares compared to non-severe patients. Patients experiencing at least one flare over the study period experienced a total two year increase in costs of severe flares (no statistical significance for mild/moderate flares). The mean two years cost for patients experiencing at least one flare over study period was €9627 compared to €3190 (p<0.001) without flares. Exploratory flare analyses revealed a mean 2 year increase in costs of severe flares (no statistical significance for mild/moderate flares). The mean two years cost for patients experiencing at least one severe flare was 1.42 compared to 0.52 (p<0.001) for severe and non-severe patients respectively. The mean number of mild/moderate flares was 1.32 compared to 1.32 (p<0.001), while the mean number of severe flares was 1.42 compared to 0.52 (p<0.001) for severe and non-severe patients, respectively. The mean two years cost for patients experiencing at least one severe flare over study period was €9627 compared to €3190 (p<0.001) without flares. Exploratory flare analyses revealed a mean 2 year increase in costs of severe flares (no statistical significance for mild/moderate flares).