

NEW CONCEPTS IN CARDIOVASCULAR DISEASE AND TREATMENT OUTCOMES

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HEALTHCARE RESOURCE USE AND EXPENDITURES IN PATIENTS UNDER 65 YEARS OF AGE AND NEWLY DIAGNOSED WITH PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA (PSVT) IN THE UNITED STATES

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Objective: To characterize healthcare resource use (HRU) and spending in newly diagnosed Paroxysmal Supraventricular Tachycardia (PSVT) patients <65 years of age.

Method: Data source: Truven Health Analytics MarketScan databases, with demographic, enrollment, medical and prescription drug claim data for commercially insured 89,800,000 individuals over 4 years. Study population: Patients < age 65 newly diagnosed with PSVT (ICD-9: 427.0; ICD-10: I47.1) from October, 2012 to September, 2016, and observable for one year before and after index diagnosis. Outcome measures: HRU and costs paid by insurers 1 year pre- and post-diagnosis.

Results: A total of 14,164 newly diagnosed patients met study criteria; 58.2% were female; mean age was 49.0y (SD: 13.73). Mean annual costs per PSVT patient increased \$17,708 after diagnosis (from \$12,477 to \$30,185; $P < 0.0001$), with largest increases in outpatient hospital and inpatient spending. More than half the increase was for services with a PSVT diagnosis, including cardiac ablations (18%) and other PSVT services (38%); an additional 16% was for other rhythm disorders. Rates of office, outpatient hospital and ED visits and hospitalizations were 1.3, 1.7, 1.8 and 3.0 times higher, respectively, following diagnosis (all $P < 0.0001$). The proportions of patients with ED visits or hospitalizations also increased (**Table 1**).

Conclusion: Healthcare costs and use show large increases following initial PSVT diagnosis, with most spending for PSVT and PSVT-related services.

Table 1. Healthcare Expenditures and Resource Utilization in Patients < 65 One Year Before and One Year after PSVT Diagnosis in the United States

	Healthcare Expenditures			Healthcare Resource Use		
	Pre-dx	Post-dx	Pct Change ¹	Pre-dx	Post-dx	Pct Change ¹
Office Visits	\$ 1,635	\$ 2,265	38.5%	10.8	14.1	30.3%
Outpatient Hospital	\$ 3,015	\$ 7,948	163.6%	2.7	4.7	73.1%
Emergency Department (ED) Visits	\$ 328	\$ 735	123.9%	0.3	0.6	78.0%
% patients with at least 1 ED Visit	-	-	-	21.3%	35.8%	68.3%
Other Outpatient	\$ 1,207	\$ 2,216	83.6%	-	-	-
Inpatient (IP) Admissions	\$ 3,951	\$ 13,991	254.1%	0.13	0.39	201.7%
% patients with at least 1 IP Admission	-	-	-	9.0%	25.8%	186.1%
Cardiac Ablations*	\$ -	\$ 3,218	-	0.00	0.10	-
All Prescriptions (Rx)	\$ 2,341	\$ 3,030	29.4%	22.3	27.6	23.4%
Beta Blocker or CCB Rx	\$ 61	\$ 75	23.4%	2.1	3.6	67.2%
Total Costs	\$ 12,477	\$ 30,185	141.9%	-	-	-
	Increase in Costs Post Diagnosis (PSVT Patients)					
	Total Increase	Cardiac ablation costs	PSVT costs (excluding ablation costs)	PSVT-related costs**	Non-PSVT-related costs	
Amount of Increase	\$ 17,708	\$ 3,218	\$ 6,701	\$ 2,751	\$ 5,038	
Pct of Total Increase	100.0%	18.2%	37.8%	15.5%	28.5%	

¹ Differences in costs and healthcare resource utilization pre- and post-diagnosis are all significant at $P < 0.0001$

* Cardiac ablation costs are also included in inpatient and outpatient costs, according to the setting where ablation was performed

** PSVT-related spending for the following PSVT-related ICD-9 and ICD-10 diagnoses: Paroxysmal Tachycardia (427.2); Tachycardia, Unspecified (785.0); Other cardiac dysrhythmias (427.2, 427.89, 427.9/47.9); Tachycardia, unspecified (785/R00.0); Cardiac Arrhythmia, Unspecified (427.9); Supraventricular premature beats (427.61); Palpitations (785.1/R.002); Anomalous atrioventricular excitation (426.7); Atrioventricular block, complete (426.0); Pre-excitation syndrome (145.6)