

CARDIAC ARRHYTHMIAS AND SUDDEN DEATH: FROM BASIC MECHANISMS TO STATE-OF-THE-ART MANAGEMENT

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PREVALENCE OF PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA (PSVT) IN THE UNITED STATES IN PATIENTS UNDER 65 YEARS OF AGE

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Objective: Paroxysmal Supraventricular Tachycardia (PSVT) prevalence estimates based on chart audits of a single encounter, with ECG confirmation, may underestimate prevalence, given the episodic nature of PSVT. The objective of this study is to estimate PSVT prevalence in the U.S. using longitudinal data from a large employer-based claims data set.

Methods: Data Source: Truven Health Analytics MarketScan databases, with demographic, enrollment, medical and prescription drug claim data for 89,800,000 commercially insured individuals over 4 years. Study population: Patients < age 65 with a PSVT diagnosis (ICD-9: 427.0; ICD-10: I47.1) from October 2012 to September 2016. Prevalence: Age- and sex-adjusted ratios of PSVT patients to total number of individuals with insurance coverage in each year were used to calculate prevalence in the U.S. population. Patients with a PSVT diagnosis were counted in each year they were observable. Estimates were projected to the U.S. population by age and gender using U.S. census data.

Results: A total of 186,026 PSVT patients < age 65 were identified in the claims data. When projected to the U.S. population, annual prevalence estimates ranged from 1,107,101 to 1,396,182. The majority of PSVT patients (61%) were female; most (62%) were age 41 to 64 (**Table 1**).

Conclusion: Based on coded clinical diagnoses, PSVT affects 1.1 to 1.4 million individuals < age 65 in the U.S. annually. Estimates that rely on a single medical encounter may underestimate PSVT prevalence.

Table 1. PSVT Prevalence Projected to the United States

	Number of Patients < 65 Years							
	2015-2016		2014-2015		2013-2014		2012-2013	
Number of PSVT Patients < 65 Years in Truven data*	111,623		139,920		147,921		141,740	
Number of Truven covered lives	23,187,581		25,824,817		31,725,899		33,189,861	
PSVT Patients < 65 Years Projected to the U.S.**								
Number of patients <65 Years	1,246,766		1,396,182		1,200,969		1,107,101	
% Female	61.5%		61.4%		61.2%		60.8%	
Age Group (N, %)								
Under 18 Years Old	74,761	6.0%	85,795	6.1%	76,955	6.4%	74,260	6.7%
18-40 Years Old	394,998	31.7%	441,620	31.6%	374,801	31.2%	340,382	30.7%
41-64 Years Old	777,007	62.3%	868,766	62.2%	749,213	62.4%	692,459	62.5%
Age Group - Male (N, %)								
Under 18 Years Old	480,333	38.5%	538,994	38.6%	465,991	38.8%	433,572	39.2%
18-40 Years Old	39,607	3.2%	44,378	3.2%	39,347	3.3%	36,674	3.3%
41-64 Years Old	129,512	10.4%	145,332	10.4%	122,420	10.2%	112,298	10.1%
41-64 Years Old	311,214	25.0%	349,283	25.0%	304,224	25.3%	284,601	25.7%
Age Group - Female (N, %)								
Under 18 Years Old	766,433	61.5%	857,188	61.4%	734,978	61.2%	673,529	60.8%
18-40 Years Old	35,154	2.8%	41,417	3.0%	37,608	3.1%	37,586	3.4%
41-64 Years Old	265,486	21.3%	296,288	21.2%	252,381	21.0%	228,084	20.6%
41-64 Years Old	465,793	37.4%	519,483	37.2%	444,989	37.1%	407,858	36.8%

* A total of 186,026 unique patients with 1 or more PSVT diagnoses was observed over the 4-year study period.

** Projected prevalence was calculated as follows: 1. Using the Truven data, the ratio of PSVT patients in each year was calculated relative to the total number of Truven covered lives under 65 years of age in that year. These ratios were calculated for the study year in order to estimate the number of PSVT patients in the US population. These projected estimates take into account differences in the distribution of age and gender in the U.S. relative to the Truven covered population. 2. The ratios were then applied to each age-group-gender combination in U.S. census population estimates for the study year in order to estimate the number of PSVT patients in the US population. 3. Once the ratios were applied to the U.S. census to generate estimates of the number of PSVT patients in each age-group-gender bucket, the numbers of patients in each age-group-gender bucket was summed to estimate the total number of PSVT patients in each year.