

Comparing PA and NP Practice in U.S. Emergency Departments; 2010-2017

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BACKGROUND

PAs and NPs are widely used in United States emergency departments (EDs). It's estimated that there are 12,000 PAs and 14,632 NPs practicing emergency medicine. Previous literature reports that 77.2% of EDs are using PAs and NPs in some capacity. Scant published literature is currently available comparing the role and impact of PAs and NPs in emergency medicine. We seek to compare the use of PAs and NPs in US EDs from 2010 to 2017 based on ED visits as reported by the National Hospital Ambulatory Medical Care Survey (NHAMCS) with and without physician involvement.

METHODOLOGY

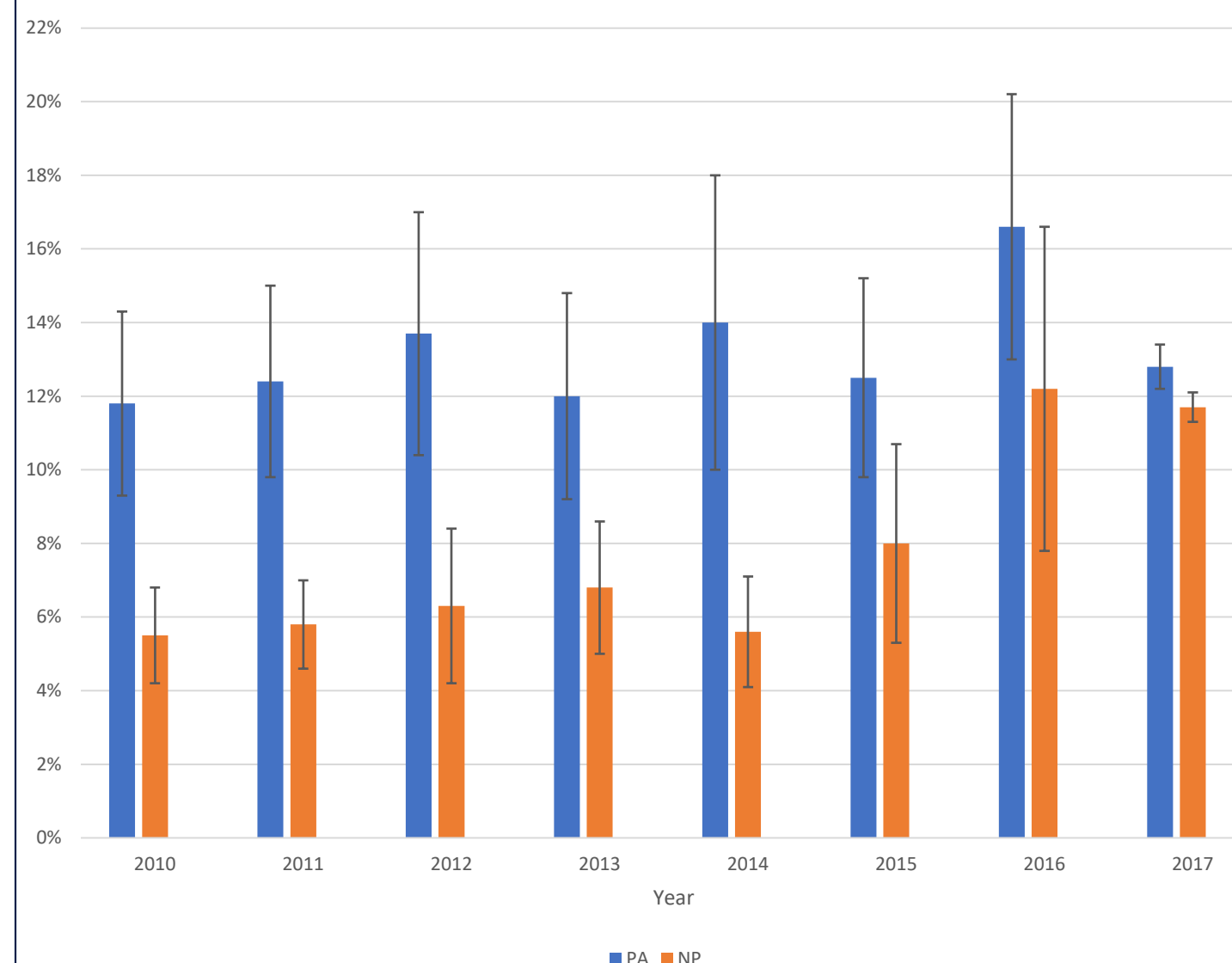
A retrospective, secondary analysis of the 2010 to 2017 Center for Disease Control's National Hospital Ambulatory Medical Care Survey (NHAMCS) was performed. NHAMCS has been conducted annually since 1992 and is the nation's foremost study of ambulatory medical care in hospital emergency departments. Each year, 450 nationally representative hospitals exclusive of Federal, military, and Veteran's Administration hospitals, located in the 50 States and the District of Columbia are identified to provide data on a sample of patient visits to emergency departments over a designated 4 week reporting period. National estimates of ED visits involving PAs alone (PA), PAs with physician involvement (PA+), NPs alone (NP) and NPs with physician involvement (NP+) were analyzed for patient demographics (age, gender, race, payment type), visit (triage, EMS arrival, length of stay, diagnostic testing, admission) and hospital characteristics (geographic region). Descriptive frequencies were performed using SPSS (IBM Corp, Endicott, NY).

Select Characteristics of ED Visits Seen by PAs Only (PA), PAs with Physician Involvement (PA+), NP Only (NP) and NP with Physician Involvement (NP+); 2010-2017

	PA	PA+	NP	NP+
Urgency				
Immediate/emergent	3.2 (2.2-4.2)	9.1 (7.4-10.8)	2.1 (1.2-3.0)	8.0 (6.3-9.7)
Urgent	24.7 (19.1-30.3)	36.1 (29.4-42.8)	18.0 (13.0-23.0)	34.2 (28.0-40.5)
Semiurgent/nonurgent	56.4 (45.7-67.1)	37.5 (31.5-43.5)	48.8 (39.2-58.4)	34.6 (29.0-40.2)
No triage/unknown	14.5 (9.0-20.0)	17.3 (13.4-21.2)	29.6 (8.4-50.8)	21.1 (14.8-27.4)
Hospital admission	1.7 (1.1-2.4)	11.1 (9.0-13.1)	1.5 (0.7-2.4)	11.1 (8.5-13.8)
Arrival by ambulance	5.8 (4.5-7.1)	14.7 (12.1-17.4)	4.9 (3.1-6.7)	13.1 (10.4-15.8)
Any imaging	38.8 (32.2-45.4)	53.2 (45.1-61.4)	36.8 (24.8-48.8)	55.6 (45.4-65.7)
Age (yr)				
0-15	20.4 (16.0-24.9)	14.9 (12.0-17.9)	28.8 (21.0-36.7)	18.8 (14.7-22.9)
25-44	32.9 (26.7-39.1)	30.4 (25.5-35.3)	28.5 (20.6-36.4)	28.9 (23.3-34.5)
ED length of stay (hr)				
1-1.9	32.9 (26.2-39.6)	22.4 (8.5-26.3)	34.3 (26.7-41.9)	21.9 (17.9-26.0)
≥3	25.4 (20.3-30.5)	43.5 (35.9-51.0)	22.2 (17.3-27.2)	45.1 (36.1-54.1)

Data are reported as % (95% CI)

Percentage of U.S. emergency department visits seen by PAs or NPs, 2010-2017. Error bars represent 95% CIs for annual estimates. PA or NP involvement includes with and without physician involvement.



RESULTS

Between 2010 to 2017, an estimated 1 billion US ED visits occurred. 5.0% (95% confidence interval [CI] +/- 2.7%) of visits were seen by PA, 8.2% (+/-2.7%) by PA+, 3.6% (+/-2.9%) by NP and 4.2% (+/-3.1%) by NP+. A significant trend was identified for NP visits between 2014 (5.6%, +/-1.5%), 2015 (8.0%, +/-2.7%) and 2016 (12.2%, +/-4.4%). PA and NP acuity was highest for semi-urgent/nonurgent (56.4%, +/-10.7% and 48.8%, +/-9.6%). PA see the majority of ambulance arrivals (5.8%, +/-1.3%). Hospital admission rates were similar between PA and NP. PA and NP had similar rates of imaging ordered (38.8%, +/-6.6% vs. 36.8%, +/-12.0%). PA visits were most common for patients 25-44 years old (yo) (32.9%, +/-6.2%). NP visits were most common for patients 0-15 yo (28.8%, +/-7.9%). Most PA and NP visits result in a length of stay (LOS) between 1-1.9 hours (32.9%, +/-6.7% and 34.3%, +/-7.6%).

CONCLUSIONS

From 2010 to 2017, PAs and NPs were involved with 21% of US ED visits. While emergency medicine has predominately been a specialty for PAs, NPs have been increasing over the past several years. In fact, there has been a greater than 100% increase in number of visits seen by NPs between 2010 and 2017. PA and NP visits share many of the same characteristics such as diagnostic screening, imaging ordered, procedures performed, medications ordered and patient acuity. Admission rates were also similar between the two groups. PAs and NPs are seeing younger patients and mostly have an ED LOS between 1-1.9 hours.