Critical Care Advanced Practice Providers: Practice and Workforce

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Importance

This study provides nationally representative data on critical care advanced practice provider (APP) workforce structure and practice, addressing gaps in onboarding, productivity assessment, and administrative roles that influence workforce sustainability.

The objective is to analyze the composition of the clinical practice and workforce demographics of critical care medicine APPs.

Design, Setting, and Participants

This study utilized a cross-sectional survey, which was distributed via email through the Society of Critical Care Medicine email list, targeting critical care APPs.

Main Outcomes and Measures

A total of 518 critical care APPs participated in the survey, comprising 63.2% advanced practice registered nurses, 28.8% physician assistants, and 8% clinical nurse specialists. The majority of the sample APPs worked 12-hour shifts covering days, nights, and weekends, with over 50% managing 6–10 patients per day shift. Common billing practices included critical care time (60.6%) and bedside invasive procedures (64.3%). Formal onboarding was reported by 68.6% of respondents, with academic hospitals more likely to offer such programs than community hospitals (72.3% vs. 27.7%; $p < 0.001$). Administrative APP roles were more prevalent in academic centers ($p < 0.001$) and were associated with greater access to professional development opportunities ($p < 0.001$). A significant proportion of respondents (41.5%) reported that their productivity was not formally measured. Notably, 22% of respondents reported an intent to leave the profession, particularly those lacking leadership or professional growth opportunities ($p < 0.01$).

Daily Task and Time Spent on Each Task[a]

Tasks	Time/Min per Patient	*n* (%)
Rounding	0–10	106 (20.8)
	11–20	205 (40.3)
	21–30	130 (25.5)
	> 31	68 (13.4)
Documentation	0–10	117 (22.9)
	11–20	192 (37.5)
	21–30	128 (25)
	> 31	75 (14.6)
Time spent on orders	0–10	340 (66.9)
	11–20	138 (27.2)
	21–30	25 (4.9)
	> 30	5 (1)
Procedure	0–10	391 (76.8)
	11–20	103 (20)
	21–30	13 (2.6)
	31	3 (0.6)
Family meetings	0–10	396 (78.4)
	11–20	103 (20.4)
	21–30	5 (1)
	31	1 (0.2)
Supervising residents/students	0–10	443 (92)
	11–20	21 (4.4)
	21–30	11 (2.3)
	31	4 (0.8)
Research (protected time)	0–10	445 (96.1)
	11–20	11 (2.4)
	21–30	5 (1)
	31	2 (0.5)

[a]Range of time advanced practice providers spend on daily workload activities.

Performed Training and Years of Experience[a]

Category	Total Years As a Critical Care Advanced Practice Provider, *n* (%)					
Postgraduate Training and Procedures	**≤ 2**	**3–5**	**6–10**	**11–15**	**> 15**	***p***
Formal postgraduate training program, residency, fellowship	24 (34.3)	28 (20.7)	22 (18.2)	14 (17.5)	19 (17.3)	0.048
Arterial lines	51 (72.9)	115 (85.2)	109 (90.1)	66 (82.5)	83 (74.8)	0.007
Central lines	52 (74.3)	113 (83.7)	106 (87.6)	64 (80.0)	74 (66.7)	0.001
Temporary dialysis catheters	42 (60)	93 (68.9)	86 (71.1)	49 (61.3)	47 (42.3)	< 0.001
Intubation	25 (35.7)	75 (55.6)	65 (53.7)	40 (50)	40 (36)	0.004
Bronchoscopy	8 (11.4)	29 (21.5)	26 (21.5)	24 (30)	17 (15.3)	0.040
Percutaneous tracheostomy	1 (1.4)	1 (0.7)	6 (5.0)	1 (1.3)	2 (1.8)	0.170
Emergent tracheostomy/ cricothyrotomy	1 (1.4)	6 (4.4)	4 (3.3)	8 (10.0)	8 (7.2)	0.104
Percutaneous endoscopic gastrostomy placement	1 (1.4)	2 (1.5)	2 (1.7)	2 (2.5)	3 (2.7)	0.942
Chest tube	21 (30.0)	57 (42.2)	43 (35.5)	50 (62.5)	48 (43.2)	< 0.001
Thoracentesis	9 (12.9)	44 (32.6)	38 (31.4)	35 (43.8)	38 (34.2)	0.002
Paracentesis	9 (12.9)	39 (28.9)	33 (27.3)	27 (33.8)	22 (19.8)	0.019
Lumbar puncture	8 (11.4)	33 (24.4)	37 (30.6)	23 (28.7)	29 (26.1)	0.049
Intracranial pressure/external ventricular drain monitor	1 (1.4)	4 (3.0)	1 (0.8)	1 (1.3)	3 (2.7)	0.704
Point of care ultrasound	35 (50.0)	87 (64.4)	76 (62.8)	46 (57.5)	50 (45.0)	0.013

[a]Correlation of advanced practice provider years of experience and the various components of procedures.

Conclusions and Relevance

This study captures practice trends and demographics of the critical care APP workforce. Day-to-day tasks among all respondents were globally clinically focused, but there were disparities in workload distribution, onboarding, productivity measurement, and administrative roles across types of centers. Additionally, there was significant association between limited professional growth opportunities and intent to leave critical care. These findings underscore the need for healthcare systems to invest in structured support, leadership development, and professional growth to enhance APP retention, engagement, and productivity.

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