

The Impact of Medicaid Expansion on Community Health Center Staffing

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Appendix I: Staffing Outcomes by Year and States' Expansion Status (N=5,222)

Staffing Outcome	Mean Total	Expansion States			Non-Expansion States		
		Before	After	Net Δ	Before	After	Net Δ
Mean FTE							
Physicians	8.64	11.09	12.35	1.26	6.20	6.53	0.33
Advanced Practice ^{1,2}	6.72	7.15	9.77	2.62	5.28	6.87	1.59
Nurses ^{1,2}	11.89	13.28	16.57	3.29	9.50	11.04	1.54
Other Med ^{1,2}	15.31	18.06	23.51	5.45	10.80	14.01	3.21
Clinical ^{1,2}	42.55	49.57	62.20	12.63	31.78	38.45	6.67
Enabling ^{1,2}	11.47	13.97	17.73	3.76	7.58	10.79	3.21
Total ^{1,2}	124.17	144.70	177.61	32.91	93.48	113.62	20.14
% Clinical Staff							
Physicians ^{1,2}	19.12	21.45	18.39	-3.06	18.66	16.05	-2.61
Advanced Practice ^{1,2}	18.92	16.62	18.42	1.80	20.03	21.34	1.31
Nurses	30.05	28.47	28.57	0.10	31.80	20.21	-11.59
Other Med ²	31.91	33.46	24.62	-8.84	29.51	32.40	2.89
% Total Staff							
Physicians ^{1,2}	6.60	7.37	6.47	-0.90	6.45	5.48	-0.97
Advanced Practice ¹	6.56	5.65	6.34	0.69	7.09	7.30	0.21
Nurses	10.48	9.80	9.96	0.16	11.21	10.50	-0.71
Other Med	11.11	11.57	12.08	0.51	10.38	11.18	0.80
Clinical	34.75	34.39	34.84	0.45	35.13	34.46	-0.67
Enabling ^{1,2}	9.61	9.73	10.58	0.85	8.83	10.52	1,69

¹ Difference in expansion states is statistically significant $p \leq 0.01$

² Difference in non-expansion states is statistically significant $p \leq 0.01$

Appendix IIa: Impact of Medicaid Expansion on Staffing Outcomes in CHCs (2009-2015) (N=5,222⁰)

Variable	Clinical Staff		Enabling Staff		Total Staff
	FTEs	% total	FTEs	% total	FTEs
Expansion state	10.61*** (1.94)	-6.32*** (0.91)	5.86*** (0.70)	4.20*** (0.76)	43.32*** (5.68)
Post-expansion	0.67 (0.59)	-1.51*** (0.27)	2.53*** (0.27)	3.18*** (0.24)	3.36 (1.76)
DID estimator	2.45** (0.81)	0.71* (0.36)	0.43 (0.40)	0.02 (0.33)	3.71 (2.19)
Rural	-0.95 (0.73)	-0.16 (0.39)	-2.06*** (0.42)	-0.19 (0.29)	-5.97* (3.04)
PCPs per 1,000 pop.	-0.10 (1.46)	-1.09* (0.50)	2.32*** (0.70)	0.97* (0.44)	17.36*** (5.08)
NP/PA per 1,000 pop.	0.71 (0.75)	-0.74* (0.31)	0.01 (0.41)	0.14 (0.32)	1.64 (1.79)
% pop. in poverty	0.29*** (0.05)	-0.09*** (0.03)	0.28*** (0.03)	0.09*** (0.03)	1.36*** (0.18)
Full practice + Rx	-0.95 (0.73)	-1.60*** (0.40)	-1.03 (1.32)	0.21 (0.92)	-7.25 (4.39)
Restricted practice + Rx	-0.10 (1.46)	-1.68** (0.61)	2.04** (0.78)	2.19** (0.83)	-7.20 (3.87)
# patients (in 1,000s)	2.42*** (0.04)	0.05*** (0.01)	0.47*** (0.02)	-0.06*** (0.01)	6.31*** (0.19)
% uninsured	-0.17*** (0.02)	-0.13*** (0.01)	0.08*** (0.01)	0.18*** (0.01)	-0.27*** (0.05)
% limited English	0.13*** (0.02)	<0.01 (0.01)	0.12*** (0.01)	0.10*** (0.01)	0.41*** (0.06)
% PCMH	0.01* (0.01)	<0.01 (0.00)	0.01* (0.00)	<0.01 (0.00)	0.09*** (0.02)
R-squared	0.89	0.26	0.58	0.35	0.84

*p≤0.05 **p≤0.01 ***p≤0.001 NOTES: Estimates include state fixed effects (not shown) and clustered standard errors at state-year level. ⁰Due to missing data, FTE estimates are based on 4,390 observations and % FTE estimates on 4,373 observations. DID=difference in differences estimator; Rx=prescriptive authority; PCMH=patient-centered medical home

Appendix IIb: Impact of Medicaid Expansion on Staffing Outcomes in CHCs (2009-2015) (N=5,222⁰)

Variable	Physicians		Advanced Practice		Nurses		Other Medical Staff	
	FTEs	% clinical	FTEs	% clinical	FTEs	% clinical	FTEs	% clinical
Expansion state	2.75*** (0.46)	-1.32* (0.58)	2.24*** (0.35)	4.22*** (0.90)	0.10 (0.89)	-3.75* (1.65)	5.52*** (1.70)	0.86 (1.89)
Post-expansion	-0.56** (0.18)	-2.21*** (0.28)	0.51*** (0.12)	1.65*** (0.33)	-0.07 (0.24)	-1.33** (0.50)	0.80* (0.36)	1.89*** (0.47)
DID estimator	0.30 (0.21)	-0.43 (0.33)	0.54** (0.17)	0.81 (0.44)	0.69* (0.34)	1.42* (0.56)	0.92 (0.53)	-1.80** (0.59)
Rural	0.62 (0.33)	-0.94** (0.35)	-0.60*** (0.15)	2.20*** (0.38)	1.83*** (0.41)	7.64*** (0.90)	-2.81*** (0.59)	-8.91*** (0.87)
PCPs per 1,000 pop.	1.29* (0.58)	5.32*** (0.52)	-1.68*** (0.30)	-6.53*** (0.63)	0.36 (0.76)	-1.23 (1.14)	-0.07 (1.36)	2.44* (1.14)
NP/PA per 1,000 pop.	-0.37* (0.17)	-2.10*** (0.39)	0.99*** (0.20)	3.49*** (0.46)	0.60 (0.50)	0.01 (0.70)	-0.51 (0.49)	-1.40* (0.69)
% pop. in poverty	0.07** (0.03)	0.06** (0.02)	0.03* (0.01)	-0.08** (0.03)	0.06 (0.04)	0.05 (0.06)	0.12* (0.05)	-0.04 (0.06)
Full practice + Rx	-0.75* (0.30)	0.65 (0.68)	-0.11 (0.28)	-0.73 (0.67)	-1.80** (0.68)	-0.90 (1.04)	-0.38 (0.64)	0.98 (0.97)
Restricted practice + Rx	-0.55 (0.29)	-0.78 (0.54)	0.27 (0.20)	2.56*** (0.57)	-1.59*** (0.44)	0.48 (0.61)	-1.15 (0.63)	-2.25** (0.75)
# patients (in 1,000s)	0.58*** (0.02)	0.04*** (0.01)	0.30*** (0.01)	-0.06*** (0.01)	0.55*** (0.04)	0.01 (0.01)	0.99*** (0.05)	0.01 (0.01)
% uninsured	-0.04*** (0.01)	-0.07*** (0.01)	-0.01* (0.00)	0.10*** (0.01)	-0.06*** (0.01)	-0.04* (0.02)	-0.06*** (0.01)	<0.01 (0.02)
% limited English	0.02*** (0.01)	0.02* (0.01)	-0.01*** (0.00)	-0.07*** (0.01)	-0.04** (0.01)	-0.14*** (0.01)	0.16*** (0.02)	0.19*** (0.01)
% PCMH	<0.01*** (0.00)	-0.01*** (<0.01)	<0.01*** (0.00)	<0.01 (0.00)	<0.01 (0.00)	-0.01 (0.01)	0.01 (0.00)	0.02*** (0.01)
R-squared	0.84	0.21	0.69	0.28	0.55	0.32	0.73	0.36

*p≤0.05 **p≤0.01 ***p≤0.001 NOTES: Estimates include state fixed effects (not shown) and clustered standard errors at state-year level. ⁰Due to missing data, FTE estimates are based on 4,390 observations and % FTE estimates on 4,373 observations. DID=difference in differences estimator; PCP=primary care physician; NP=nurse practitioner; PA=physician assistant; pop=population; Rx=prescriptive authority; PCMH=patient-centered medical home