

Supplemental materials for:

Rittenhouse DR, Ramsay PP, Casalino LP, McClellan S, Kandel ZK, Shortell SM. Increased health information technology adoption and use among small primary care physician practices over time: a national cohort study. *Ann Fam Med*. 2017;15(1):56-62.

Appendix 1. Characteristics of the National Study of Physician Organizations (NSPO) surveys

Study	National Survey of Small and Medium Sized Practices (NSSMPP)	National Survey of Physician Organizations 3 (NSPO3)
Dates of survey	07/2007 – 10/2010	01/2012 – 11/ 2013
Total sample	4803	3977
Total respondents	1,931 medical groups	1,398 medical groups
Adjusted response rate	63.6%	49.7%
Eligibility for survey	• Medical groups only • 1-19 physicians • ≥60% must be primary care physicians, cardiologists, endocrinologists or pulmonologists	• Medical groups only • Any number of physicians • For medical groups with 1-19 physicians, ≥ 40% must be primary care physicians, cardiologists, endocrinologists or pulmonologists • For medical groups with at least 20 physicians, ≥30% must be primary care physicians, cardiologists, endocrinologists or pulmonologists
Sample	• Stratified random sample of eligible medical groups nationally • Oversampled in AF4Q RWJF Communities	• NSPO2 medical group respondents • NSSMPP respondents • Additional stratified random sample of eligible medical groups nationally • Oversampled in AF4Q RWJF Communities

SOURCE: National Study of Small and Medium-sized Physician Practices, National Study of Physician organizations III

Appendix 2. National Study of Physician Organizations Response Rate Calculation

	NSSMPP	NSPO3
Complete (I)	1,931	1,398
Partial (P)	0	29
Non Respondent- Eligible (NRE)	0	384
Non Respondent – Unknown Eligible (UE)	329	1,417
Ineligible (IE)	1,627	749
Total sample	4,803	3,977
A. All Known Eligible (I+P+R+NRE)	2,829	1,811
B. All Known Eligible and Ineligible (I+P+R+NRE+IE)	4,112	2,560
Estimated percentage of unknown contacts likely to be eligible (A/B)=e	0.635	0.707
Estimated number of unknown contacts likely to be eligible (e*(UE))	209	1,002
AAPOR RR3 (Completes/(All known eligible + estimated number of unknown eligible likely to be eligible) (I/[(I+P)+(R+NRE)+e(UE)])	63.6%	49.7%

Appendix 3. Association Between the HIT Index and Practice Characteristics and External Incentives, With Time Introduced as an Independent Variable (Linear Regression Model Using GEE Procedure)

	Estimated Regression Coefficient (95% CI)	P-value
Time		
T1	--	
T2	2.17 (1.88 to 2.45)	<0.001
Ownership		
Physician-owned	--	
Hospital-owned	1.11 (0.67 to 1.55)	<0.001
Practice size		
1-2 physicians	--	
3-8 physicians	2.40 (2.18 to 2.63)	<0.001
Pay for performance		
No	--	
Yes	0.34 (0.13 to 0.56)	0.002
Public reporting		
No	--	
Yes	0.91 (0.80 to 1.02)	<0.001
%Revenue from Medicare	0.01 (0.01 to 0.02)	<0.001

Data were weighted to be nationally representative. GEE analyses performed using SAS v9.3 genmod procedure. The GEE model fits two cross-sectional regressions for times 1 and 2 with common regression coefficients and adjustment for the nesting of HIT measurements within practices.