



The Role of Accountable Care Organization Affiliation and Ownership in Promoting Physician Practice Participation in Quality Improvement Collaboratives

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Context for QICs

- Quality improvement collaboratives (QICs) have recently emerged as one strategy to improve processes & outcomes of care via inter-organizational learning
- Structured meetings between clinicians from different organizations, discussing best practices & sharing experiences (Nadeem 2013, Ovretveit 2002)

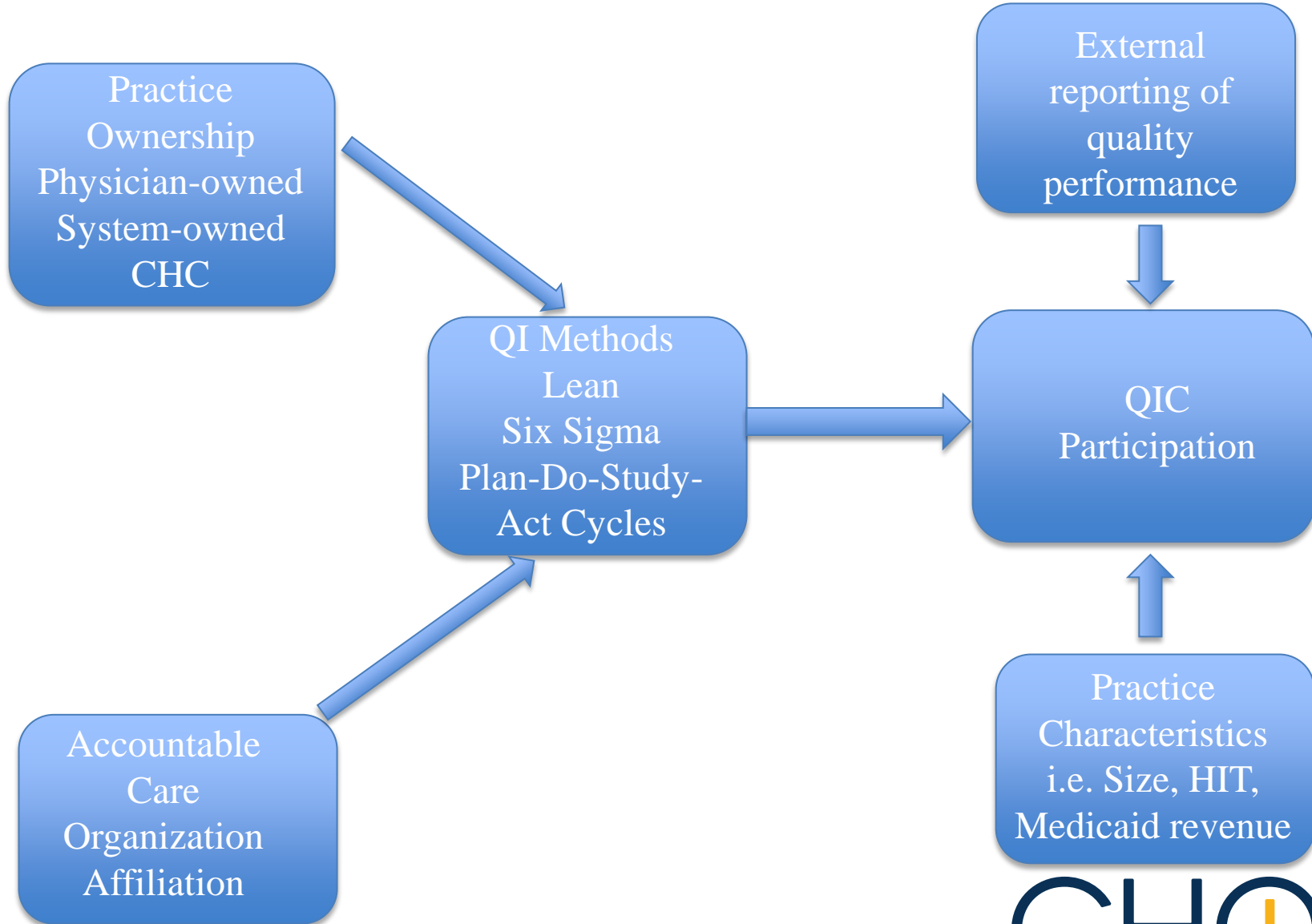
Research on QICs

- QICs are capable of improving processes of care & clinical outcomes (Schouten 2008, Young 2006)
 - Despite mixed results of their effectiveness, evaluations of QICs are ongoing through such programs as the Transforming Clinical Practice Initiative
- Little work examining organizational factors associated with *physician practice* participation in QICs (Deo 2009)

Research Questions

1. To what extent are practice ownership and ACO affiliation associated with physician practices' propensity to join QICs?
2. To what extent does the use of quality improvement methods mediate the relationship of ACO affiliation and QIC participation?

Logic Model



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Hypotheses

- Practices may be more likely to participate in a QIC when they:
 - Possess ready access to capital (Robinson 1996)
 - Have greater managerial planning capacity, as is often the case within larger systems (Shortell 2005)

H1: Practices owned by systems are more likely than physician-owned practices to take part in QICs.

Hypotheses

- Community Health Centers (CHCs)
 - Direct oversight by Health Resources and Services Administration (HRSA 2008)
 - Not only does HRSA sponsor Health Disparities Collaboratives, but they also provide infrastructure (financial & technological) to enable CHCs to engage in such learning

H2: Community Health Centers are more likely than physician-owned practices to participate in QICs.

Hypotheses

- With the rise of new organizational forms such as ACOs, evidence of:
 - Normative pressures to deliver high standards of care that are evidence based (Shortell 2014) may encourage participation in visible initiatives such as QICs.

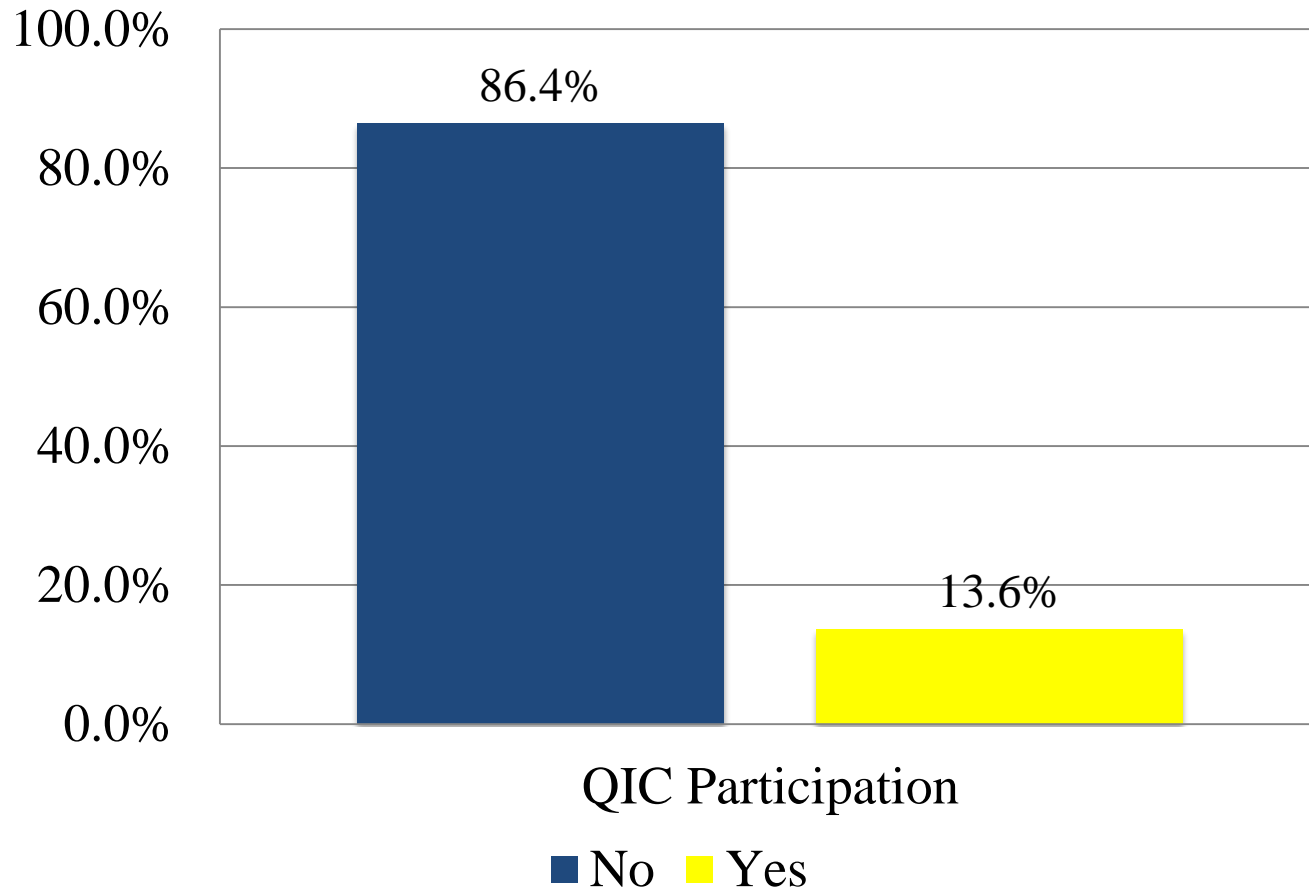
H3: Practices affiliated with ACOs are more likely to participate in QICs than practices not affiliated with ACOs.

Methods

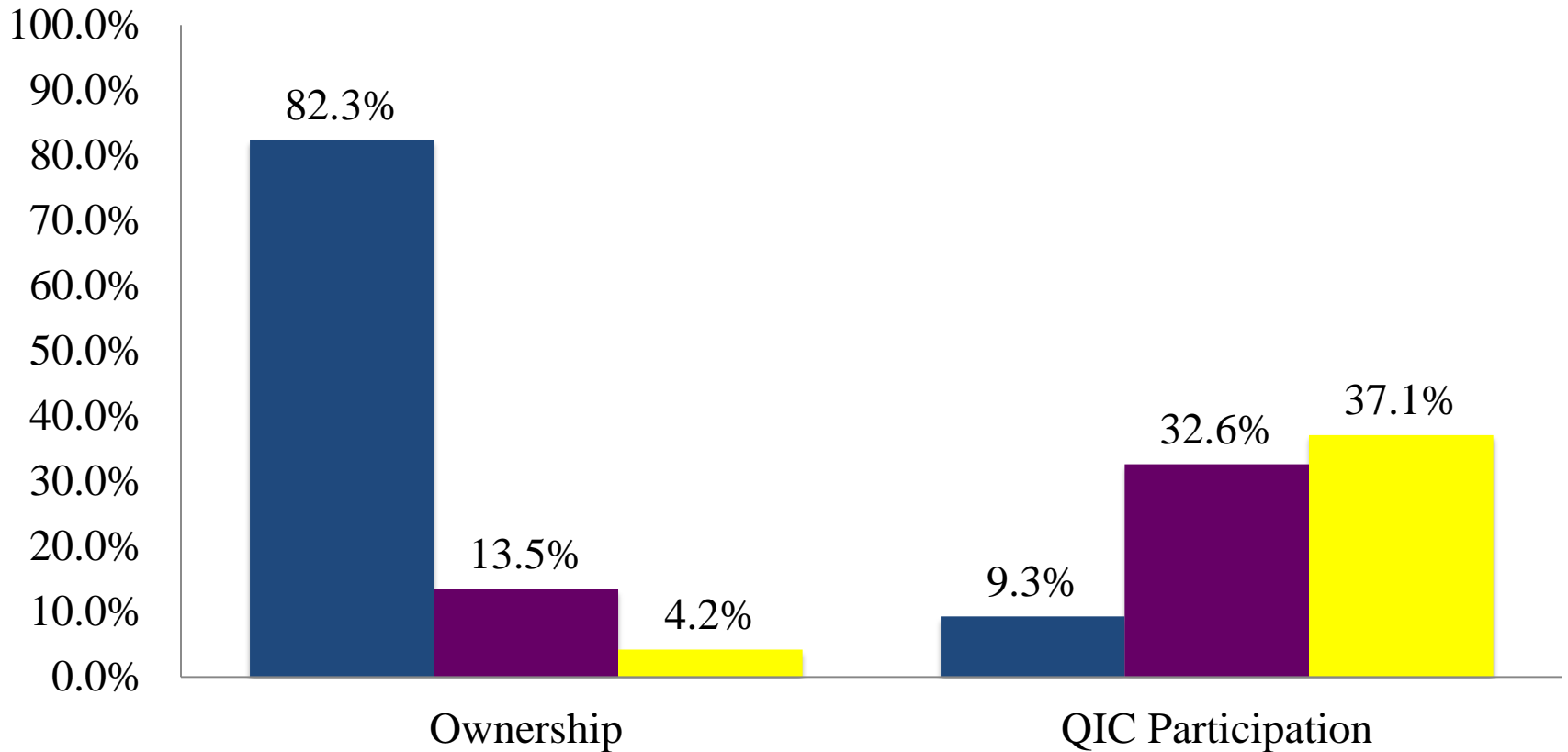
Third wave of the National Study of Physician Organizations (NSPO3) (2012-2013)

- Nationally representative sample of physician organizations, 50% response rate
- Practice size, ownership, HIT capacity, chronic disease management & quality improvement processes
- Final sample for analyses N=1359

QIC Participation Among All Practices

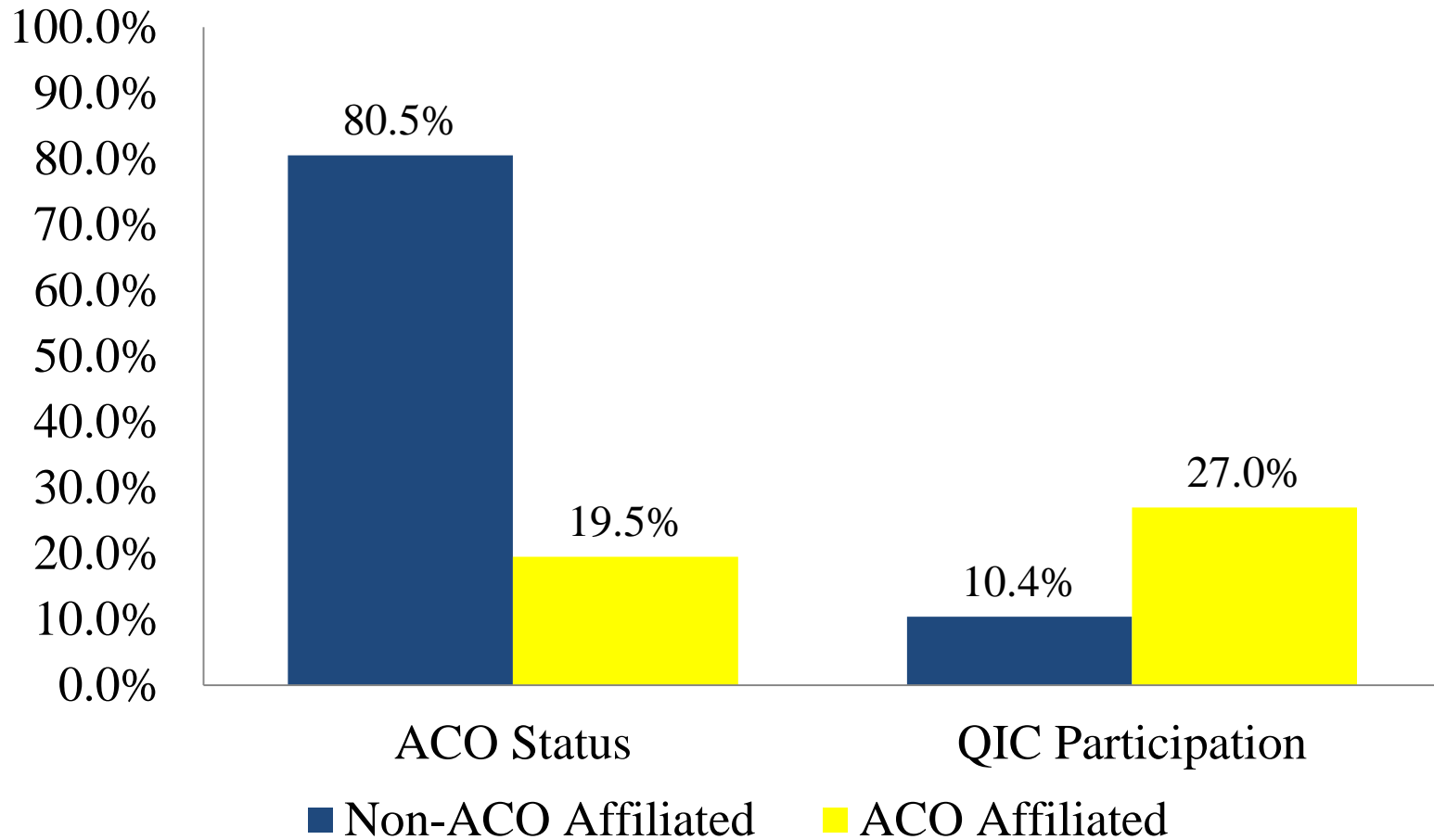


Practices By Ownership and QIC Participation



- Physician Owned
- Health System Owned
- Community Health Center Owned

Practices by ACO Status and QIC Participation



Statistical Methods

- Multivariate logistic regression analyses estimated the association of practice ownership, ACO affiliation and physician practice propensity to participate in QICs
 - Survey weights
 - Controls: practice size, HIT, revenue from Medicaid/uninsured, public reporting of quality
- Sobel Goodman Tests to examine the extent to which the use of QI methods mediated the relationship of ACO affiliation and QIC participation.

Multivariate Regression Analyses

	Odds Ratio	p-value
Organizational Characteristics		
ACO Affiliation		
Non-ACO affiliated (reference)	---	
ACO affiliated	1.51	**
Practice Ownership		
Physician-Owned (reference)	---	
System-Owned	3.05	
CHC	6.57	***
Practice Size		
1-2 physicians (reference)	---	
3-7 physicians	1.35	
8-12 physicians	1.63	
13-19 physicians	3.79	
20-99+ physicians	14.72	***
HIT Index	1.15	***
Medicaid/Uninsured Revenue	1.04	
Public Reporting of Quality Metrics by External Entities		
No (reference)	---	
Yes	2.9	***

* p<0.05, ** p<0.01, *** p< 0.001

Findings

- System-owned practices had three times the odds of QIC participation compared to physician-owned practices (OR = 3.05, $p > 0.05$); CHCs had six and a half times the odds (OR = 6.57, $p < 0.001$)
- ACO-affiliated practices had greater odds of participation in a QIC relative to non-ACO affiliated practices (OR=1.51, $p < 0.05$)

Sobel-Goodman Tests

Percent of total effect of ACO on QIC Mediated

<u>Mediator</u>	<u>Unadjusted</u>	<u>Adjusted</u>
Plan-Do-Study-Act Cycle	35.2%	13.1%
Lean	36%	27.7%
Six Sigma	28.6%	32.3%
Any Quality Improvement	58.2%	46.7%

Note: Adjusted analyses control for practice ownership, practice size, Health Information Technology (HIT) index, percent Medicaid/uninsured revenue, and public reporting of quality metrics by external entities



Limitations

- 50% response rate for NSPO3 suggests that we cannot rule out the possibility of differential nonresponse by QIC participation status
 - Single respondent per practice
- Cross-sectional data limits ability to draw causal inferences
- We do not know when participation occurred, the clinical foci of QICs, or whether QIC participation resulted in improvements

Conclusions

- ACO affiliation is significantly associated with QIC participation among physician practices, but CHC ownership and large practice size appear to be greater influences
 - Health IT and public reporting of quality are also associated with QIC participation
- Engagement in internal quality improvement within the practice setting appears to facilitate participation in inter-organizational quality improvement

Policy Implications

- Given the acquisition of physician practices by systems, greater practice involvement in QICs may result.
- Attention should be focused upon how to encourage small physician-owned practices to take part in QICs as their internal capabilities may currently limit their ability to effectively participate

Thank You!

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References

- Nadeem, E., S. S. Olin, L. C. Hill, K. E. Hoagwood and S. M. Horowitz (2013). "Understanding the Components of Quality Improvement Collaboratives: A Systematic Literature Review." Milbank Quarterly **91**(2): 354-394.
- Ovretveit, J., P. Bate, P. Cleary, S. Cretin, D. Gustafson, K. McInnes and H. McLeod (2002). "Quality Collaboratives: Lessons from Research." Quality and Safety in Health Care **11**: 345-351.
- Schouten, L. M., M. E. Hulscher, J. J. van Everdingen, R. Huijsman and R. P. Grol (2008). "Evidence for the Impact of Quality Improvement Collaboratives: Systematic Review." British Medical Journal: 2.
- Young, P. C., G. B. Glade, G. J. Stoddard and C. Norlin (2006). "Evaluation of a Learning Collaborative to Improve the Delivery of Preventive Services by Pediatric Practices." Pediatrics **117**(5): 1469-1476.
- Deo, S., K. McInnes and C. J. Corbett (2009). "Associations Between Organizational Characteristics and Quality Improvement Activities of Clinics Participating in a Quality Improvement Collaborative." Medical Care **47**(9): 1026-1030.
- Robinson, J. C. and L. P. Casalino (1996). "Vertical Integration and Organizational Networks in Health Care." Health Affairs **15**(1): 7-22.
- Shortell, S. M., J. Schmittiel, M. C. Wang, R. Li, R. R. Gillies and L. P. Casalino (2005). "An Empirical Assessment of High-Performing Medical Groups: Results from a National Study." Medical Care Research and Review **62**(4): 407-434.
- HRSA. (2008). "Health Disparities Collaboratives." Retrieved Jun. 1, 2016, from <http://www.ihl.org/resources/pages/improvementstories/healthdisparitiescollaboratives.aspx>.
- Shortell, S. M., F. M. Wu, V. A. Lewis, C. H. Colla and E. S. Fisher (2014). "A Taxonomy of Accountable Care Organizations for Policy and Practice." Health Services Research **49**(6): 1883-1899.