**Strong Primary Care Foundation** Understanding the Role of the Patient-**Centered Medical Home in Building a** 

A Study of the Blue KC Medical Home Program Presented by Karen S. Johnson, PhD



# Methodology

- 3 cross-sectional, retrospective studies analyzed physicians, practices and implementation of the the relationship between primary care Medical Home
- Multiple Logistic Regression (Q1)
- Multiple Linear Regression (Q2 & Q3)
- Study population
- Adult (ages 18-64) members (n=229,541) attributed to primary care physicians within Blue KC network
- Primary care physicians (n=1,552) and practices (n=497) within Blue KC network



Blue KC Medical Home Program Data<sup>1</sup> (Calendar Year 2015)

- Member-Level Data (n=229,541)
- Age, gender, risk score, attribution status, claims cost (\$PMPM)
- Physician-Level Data (n-1,552)
- Age, gender, specialty, practice affiliation, attributed members
- Practice-Level Data (n=497)
- Number of physicians, location, specialty, Medical Home practice status
- 3M<sup>TM</sup> Value Index Scores indicative of high quality, primary care services
- Physician-Level Evaluation
- Composite Score + Six Domains

(3M<sup>TM</sup>/Treo Consulting) <sup>1</sup>This study draws on data provided by Blue KC and/or agreements with its vendor partners Q1: How do basic characteristics of Medical Homes and Homes differ?

Key Differences:

- Medical Homes are larger
- 5 physicians compared to 2.4 (p<0.0001)</li>
- Medical Homes are more urban
- 77% compared to 52% (p<0.0001)
- Medical Homes have more Blue KC attributed members
- 240 per physician compared to 91 (p<0.0001)</li>

Q2: Does Medical Home implementation influence physician practice patterns? Value Index Scores 3M <sup>TM</sup> (VIS)

Efficiency	Chronic & Follow-Up Care	Continuity Chronic & Follow-Up		Tertiary Prevention	Primary & Secondary Prevention	Domain
Use of two key healthcare resources – pharmaceuticals and ancillary services	Post-hospital care and engagement with members who have chronic conditions	Ongoing engagement with a qualified provider with emphasis on the attributed provider	Escalation of chronic illness in patient panel over a two-year period	Effectiveness of provider in addressing "sick care"	Screening services designed for early detection	<b>Evaluation Description</b>
Generic Prescribing Rate Ancillary Services	PPR Rates (# of PPR chains divided by the number of candidate admissions )	PCP Visit Qualified Provider Visit Continuity of Care Index* (COC)	"Status Jumpers" between Chronic Complexity and Chronic Severity levels	Potentially Preventable Admissions & ED Visits (3M <sup>TM</sup> )	Breast Cancer & Colorectal Screening Well Child Visits for o-6	Measures
Difference between actual and expected	Difference between actual and expected	Percent completion for PCP and Qualified Provider Visits and percent difference between actual and expected	Difference between actual and expected	Difference between actual and expected	Percent completion using HEDIS framework and # of well child visits	Metric

Q2: Comparison of VIS Scores by Medical Home Status



\*\*\* *p*<0.0001, \*\**p*<0.001, \* *p*<0.05, +*p*<0.10 (approaching significance)

Q3: Does Medical Home ownership influence total cost of care or utilization rates for high-cost services?

> (n=107\*) Medical Home practices sorted by ownership

Practices were very similar in most ways

- Strong payer influence (more than 310 members per physician)
- Larger practice size (~ 5 physicians)
- Physician-owned practices more urban (p<.05)</li>
- 96% compared to 70%

\*practices with less than 250 attributed members excluded

### Outcomes of Interest Q 3.:

(Actual – Expected)	Difference in ED Visit Rates	(Actual – Expected)	Rates	Difference in Hospital Admission	Per Member Per Month	Total Cost of Care		
(1.1 to 15.6)	8.3	(-9.7 to -1.65)		-r 7	(329.66 to 347.88)	\$338.77	mean (95% Cl)	Physician
(3.8 to 15.8)	9.8	(63 to 1.8)		ПО	(356.88 to 362.07)	\$359.48	mean (95% Cl)	Hospital/ System
1.5			6.3***		ΥΥΟΥ Υ	4°20 μ1 ***		Difformeno1

\*\*\* *p*<0.0001, \*\**p*<0.001, \* *p*<0.05, +*p*<0.10 (approaching significance)

 $^1\!\text{Difference}$  in outcomes of interest evaluated using t test

Outcomes

- Total Cost of Care = Total allowed charges/member months
- Utilization Rates = Actual Expected





- Natural experiment
- Selection bias
- Administrative claims data
- Coding errors, payment errors, membership errors
- No insight into medical home mechanisms in place at non-medical home practices
- Limited understanding of practice environment
- Results specific to this intervention and not generalizable

Implications for Building a Strong Primary Care Foundation

- Identify ways to engage small, rural practices
- Understand the influence of the payer
- Understand the role that patients play
- Understand how context influences outcomes

## Implications for Payers

role: Payers have the potential to play an important

- Multi-payer collaborations can enhance tinancial incentives and reduce administrative burdens
- Implement benefit designs that promote primary care
- Selection of PCP at enrollment
- Low/no copays for basic primary care services
- Lower cost for specialty services that have a primary care referral
- Focus on accountable care agreements that move beyond primary care



- More focused research to understand the role of the patient:
- Personal preferences
- Benefit design/financial incentives
- A more qualitative approach to understanding the influence of:
- Hospital and health system ownership of primary care practices
- Community resources
- Physician Leadership

Thank you and Questions





# Appendix

Q1: Multiple Logistic Regression with Odds Ratio

*** p<0 0001 **p<0 001 * p<0 05 +p<0 10 (approachin	Age of attributed members	Risk weight of attributed members (CRG Score)	# of attributed members per physician	Urban practice setting	Practice size (# of physicians)	Practice Characteristics
ning signific:	1.01	1.03	1.06*	2.19*	2.24*	Odds Ratio
incel	.95 - 1.07	.95 - 1.11	1.05 -1.08	1.27 - 3.78	1.81 - 2.78	95% Confidence Interval
	.031	.397	.009	.609	.245	Standard Error

\*\*\* *p*<0.0001, \*\**p*<0.001, \* *p*<0.05, +*p*<0.10 (approaching significance)

n= 497 Practices (135 Medical Home/362 non-Medical Home) Pseudo  $R^2 = .2915$ 

#### Q2: Multiple Regression

# Association of Medical Home Status with Physician Practice Patterns

Efficiency	Chronic & Follow-Up Care	Continuity	Population Health Status Change	Primary & Secondary Prevention	Tertiary Prevention	VIS Composite		as Measured
0.007	.0412***	.0117*	.0165*	.0731***	.0256***	.0465***	Adjusted R-Squared	by VIS Sco
.001 (030032)	0.01 (025046)	054** (087021)	-0.014 (060031)	.117*** (.082153)	.083*** (.050117)	.058*	Medical Home Status (b, 95% Cl)	res (n = 1,308
001 (006004)	0.005 (002012)	.002 (004008)	075*** (112037)	-0.001 (009005)	-0.003 (009002)	-0.001 (007006)	Member CRG Score (b, 95% Cl)	s physicians)
.004* (.001006)	.010*** (.007130)	.000 (003003)	.006* (.001011)	0.002 (001005)	-0.002 (005001)	.006*** (.002009)	Member Age (b, 95% Cl)	
.038 (031108)	0.048 (037133)	.102* (.024178)	0.07 (046186)	.098* (.014183)	.074+ (003152)	.128* (.040215)	Percent Female Members (b, 95% Cl)	
.006 (027038)	.056* (.019094)	.044* (.009078)	-0.002 (051046)	.069*** (.032107)	0.006 (028040)	.068*** (.030107)	Percent Urban Providers (b, 95% CI)	

\*\*\* p<0.0001, \*\*p<0.001, \* p<0.05, +p<0.10 (approaching significance)

#### Q3: Multivariate Analysis

R-Squared	<del>c (s. 106)</del>	Merical Home Score <sup>1</sup>	Percent Female	Member Age	Members Per Physician	Ownership Type			(0=Independer
in		-24.5*	-5.2	.19	01	20.28***	ъ	Total ( (\$ Per Mer	nt, 1=Hosp
3378***	530***	(-41.6 to -7.4)	(-48.7 to 38.4)	(-1.1 to 1.5)	(03 to .01)	(11.27 to 29.28)	(95% CI)	Cost of Care nber Per Month)	ital/System) (n=:
		i'.	-13.4	71*	01	6.32**	σ	Hospit (Actu	107 Med
2353***	3.71*	(-8.2 to 7.5)	(-30.6 to 3.77)	(-1.4 to06)	(01 to .01)	(2.7 to 9.9)	(95% CI)	al Admissions al – Expected)	lical Home Prac
		-40.9*	14.1	.13	04**		β	(Actu	tices)
.1800**	3.26**	(-76.9 to -4.9)	(-22.2 to 50.5)	(80 to 1.1)	(06 to01)	(-7.9 to 7.3)	(95% CI)	ED Visits al – Expected)	

\*\*\* p<0.0001, \*\*p<0.001, \* p<0.05, +p<0.10 (approaching significance)
Note: VIS Composite and Domain Scores, Percent Female Members and Member Count were i</pre>

analyses, but did not reach significance for any outcome of interest and are excluded from this summary table. Note: VIS Composite and Domain Scores, Percent Female Members and Member Count were included in the multivariate



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