

# The Impact of Health Quality Partners' (HQP) Community Based Nurse Care Management Model on Health, Hospital Utilization and Cost Outcomes

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May 26, 2010



# Session Overview

- About Health Quality Partners (HQP) and the Medicare Coordinated Care Demonstration
- Program Outcomes
  - Health
  - Utilization
  - Cost
- Key Characteristics of the HQP Model
- Opportunities for Partnership and Collaboration
- Questions, Comments, Discussion

# Health Quality Partners (HQP)

- Not-for-profit 501c3 health care quality improvement organization established in 2001, based in Doylestown, PA
- Mission: Improve the quality and experience of health care for patients, their families and health care providers
- Organizational Aims:
  - Improve population health outcomes through reliable, systematic delivery of evidence-based preventive interventions (medical, behavioral, social and psychological)
  - Help Seniors live longer, more independently and with an improved quality of life
  - Reduce unnecessary health care costs over the long term



- Team: Currently a 15 Members - Management & Leadership, Nurse Care Managers, Data Management, Database Development, Analytics & Reporting

# The Medicare Coordinated Care Demonstration (MCCCD)

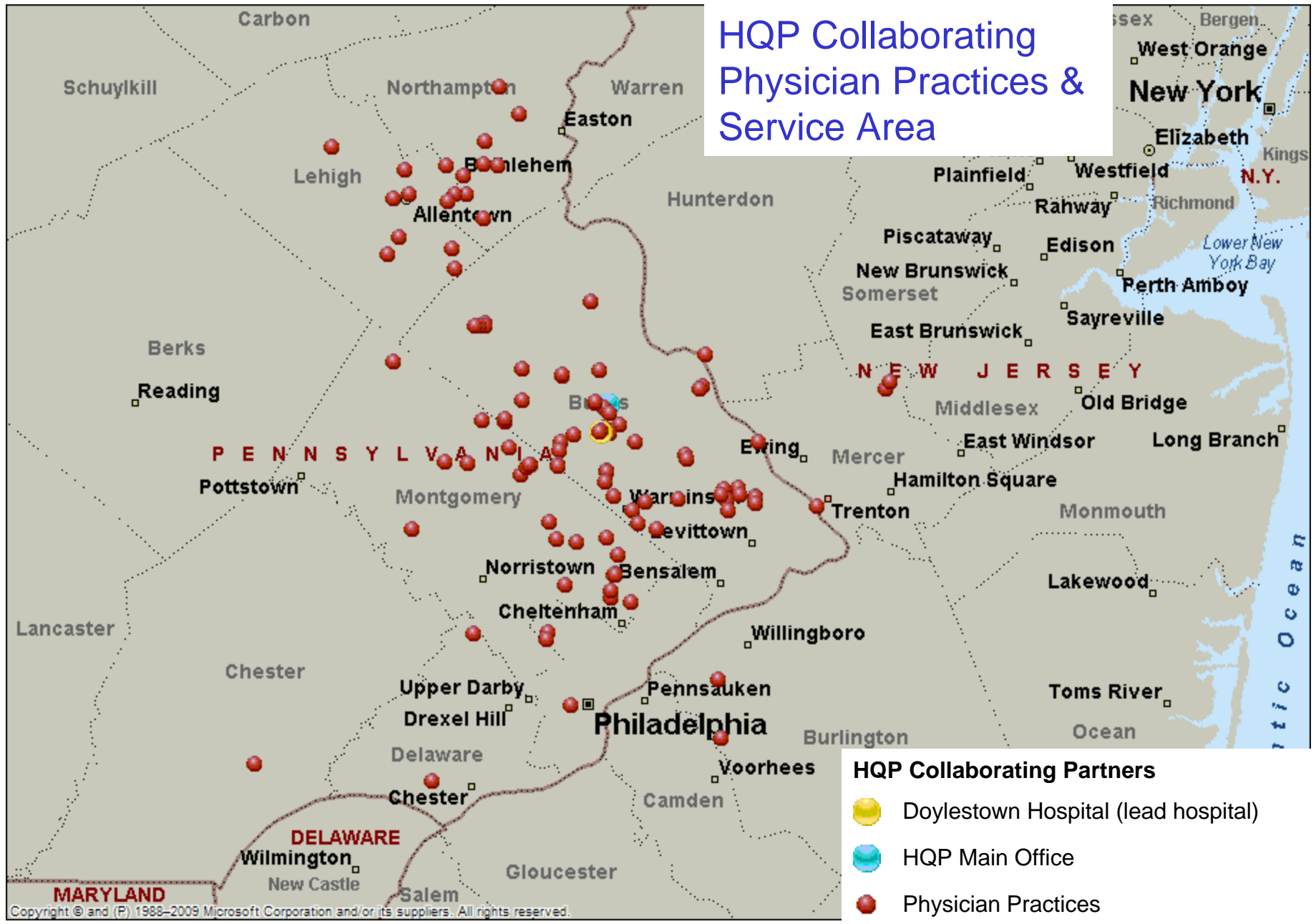
Rigorous, randomized, controlled trial testing 'Care Coordination' for chronically ill Medicare beneficiaries (BBA 1997, demo start 2002)

- 15 sites across the country were competitively selected from 58 applicants – yielding a diverse set of organizations, each with its own intervention and target population

## HQP's Model as Tested within the MCCCD framework

- Eligible Dx's: Coronary heart disease, Heart failure, Diabetes, Asthma, High blood pressure, High cholesterol
- Over 2,500 participants enrolled in the study to date
- Patients have been identified and enrolled through their Primary Care Provider
- Once enrolled, patients continue to receive ongoing, long-term care manager support
- HQP was the only site considered for possible continuation at the 8 year point

# HQP Collaborating Physician Practices & Service Area



# Changes in Cardiovascular Risks for the Intervention Group from baseline to last follow-up

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Clinical measures: Paired data available, n (%)	Mean follow-up period Years	Mean value		% at target goal	
		Pre-enroll	Last follow-up	Pre-enroll	Last follow-up
Total Intervention participants N=873					
<b>Systolic BP</b> (mmHg): 784 (90%)	3.8	134	128 *	60.6 %	78.2 % *
<b>Total chol</b> (mg/dl): 759 (87%)	3.4	193	180 *	60.5 %	70.2 % *
<b>LDL chol</b> (mg/dl): 752 (86%)	3.4	111	100 *	72.1 %	82.8 % *
<b>Triglycerides</b> (mg/dl): 758 (87%)	3.4	144	128 *	64.9 %	73.1 % *
<b>Weight</b> (lbs) [enroll BMI≥30]: 262 (30%)	3.7	208	200 *	NA	28.6 %

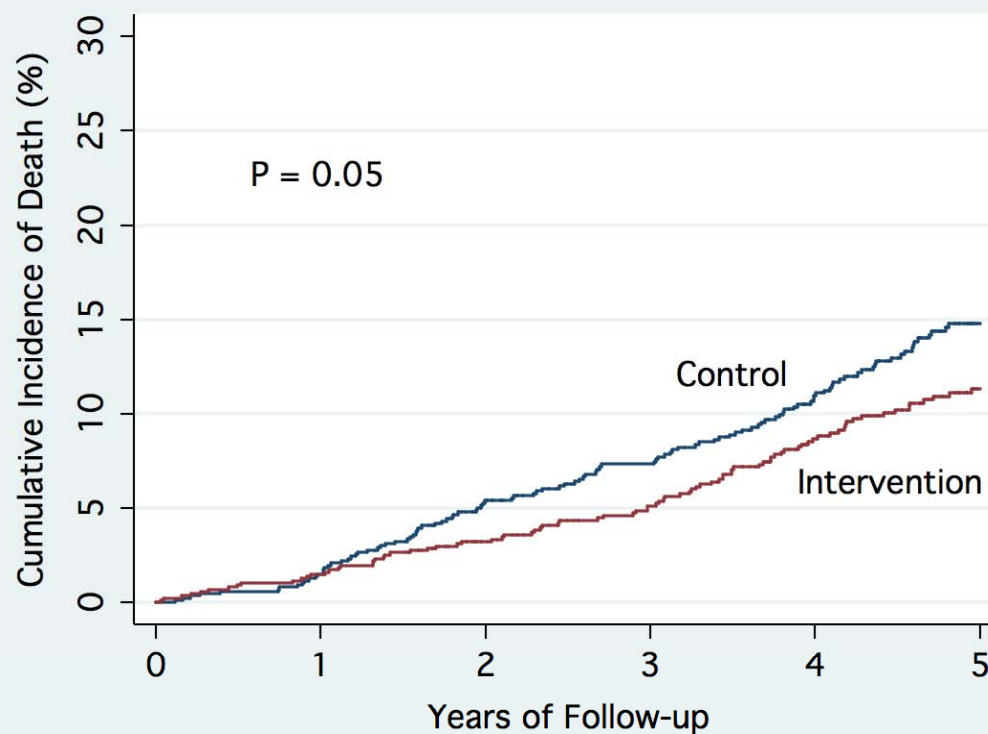
\* P < 0.001

# Risk of death reduced 25%

## All Participants Randomized

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Eighty-six (9.9%) participants in the intervention group died compared to 111 (12.9%) in the control group (hazard ratio, 0.75, 95% CI, 0.57 to 1.00; P=0.05) during follow-up (mean, 4.2 years)

Number at Risk (deaths):

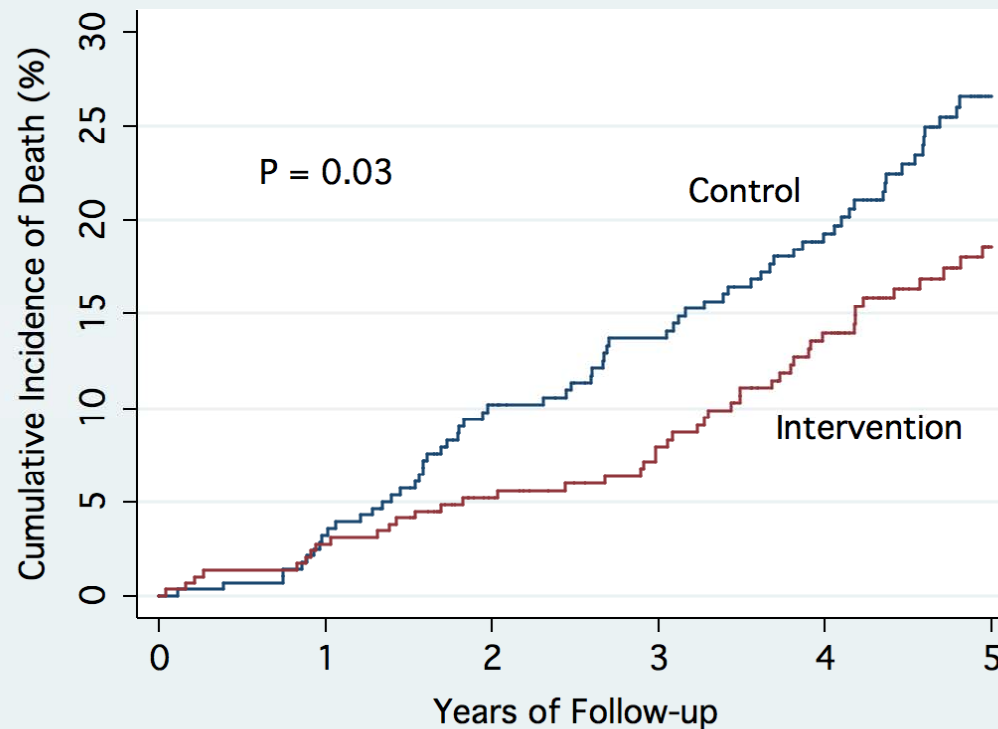
Control	863	(13)	850	(33)	766	(15)	712	(27)	617	(23)	398
Intervention	873	(13)	860	(15)	792	(15)	738	(27)	642	(16)	417

# Risk of death reduced 34%

## 'High Risk' Geriatric Frailty / Complexity

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B



Among those higher geriatric risk assessment scores, 46 (15.9%) versus 66 (23.7%) participants died in the intervention and control groups, respectively (hazard ratio, 0.66; 95% CI, 0.45 to 0.96;  $P = 0.03$ ).

Number at Risk (deaths):

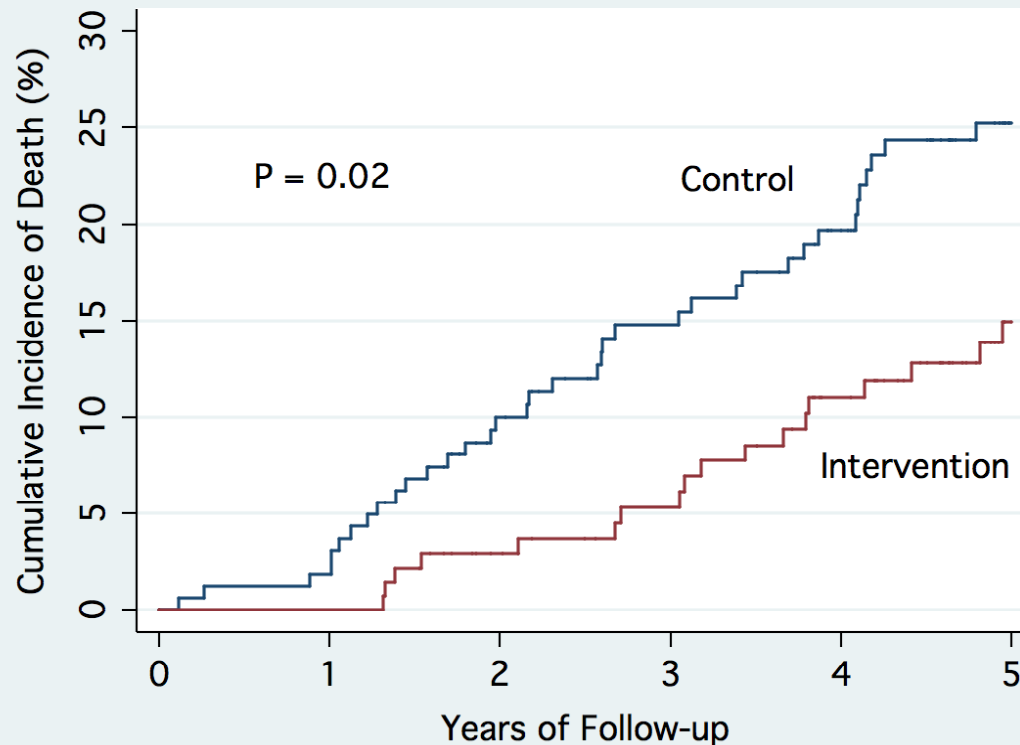
Control	279 (9)	270 (19)	236 (9)	220 (14)	192 (15)	124
Intervention	289 (8)	281 (7)	253 (7)	236 (15)	199 (9)	135

# Risk of death reduced 48%

## Coronary Heart Disease Participants

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For participants with coronary heart disease (n = 300), 18 (13.0%) died in the intervention group versus 37 (22.8%) in the control group (hazard ratio, 0.52; 95% CI, 0.30 to 0.91; P=0.02).

Number at Risk (deaths):

Control	162	(3)	159	(13)	138	(7)	123	(7)	107	(7)	74
Intervention	138	(0)	138	(4)	126	(3)	117	(7)	104	(4)	76

# One example of the Cost and Utilization Impact of HQP's Program on a 'Higher-Risk' Subgroup

<u>Hospitalizations</u> (% change compared to controls)	<u>Medicare Part A &amp; B savings</u> (mean \$ per person per year, <i>excl. program fee</i> )
<b>-24%*</b>	<b>-\$3,060</b>

*Results are for patients having:*

(CAD, CHF, or COPD) and 1+ hospital stay in prior yr

-Or-

(Any of 12 chronic conditions) and 2+ hospital stays in prior 2 years

\* P=0.005, Source: Features of Successful Care Coordination Programs; Webinar on Care Management of Patients with Complex Health Care Needs, Dec. 16, 2009 Randy Brown, Debbie Piekas, Greg Peterson, Mathematica Policy Research, Inc. available at <http://www.rwjf.org/files/research/121609.brown.pdf>

Other analyses (not yet released), show that HQP's model is associated with durable (~ 4 year) reductions in hospitalizations and cost for several subgroups of patients at higher-risk. More information is likely to be published soon by the demonstration evaluators (Mathematica Policy Research, Inc.) and to be available in an upcoming (4th) Report to Congress

# Re-hospitalization among HQP's Medicare Coordinated Care Demonstration Participants at Doylestown Hospital;

April 2002 thru March 2009

	Intervention Grp	Control Grp
Readmissions (within 30 days)	139	196
Total admissions	1041	1084
Readmission rate	13.4%*	18.1%

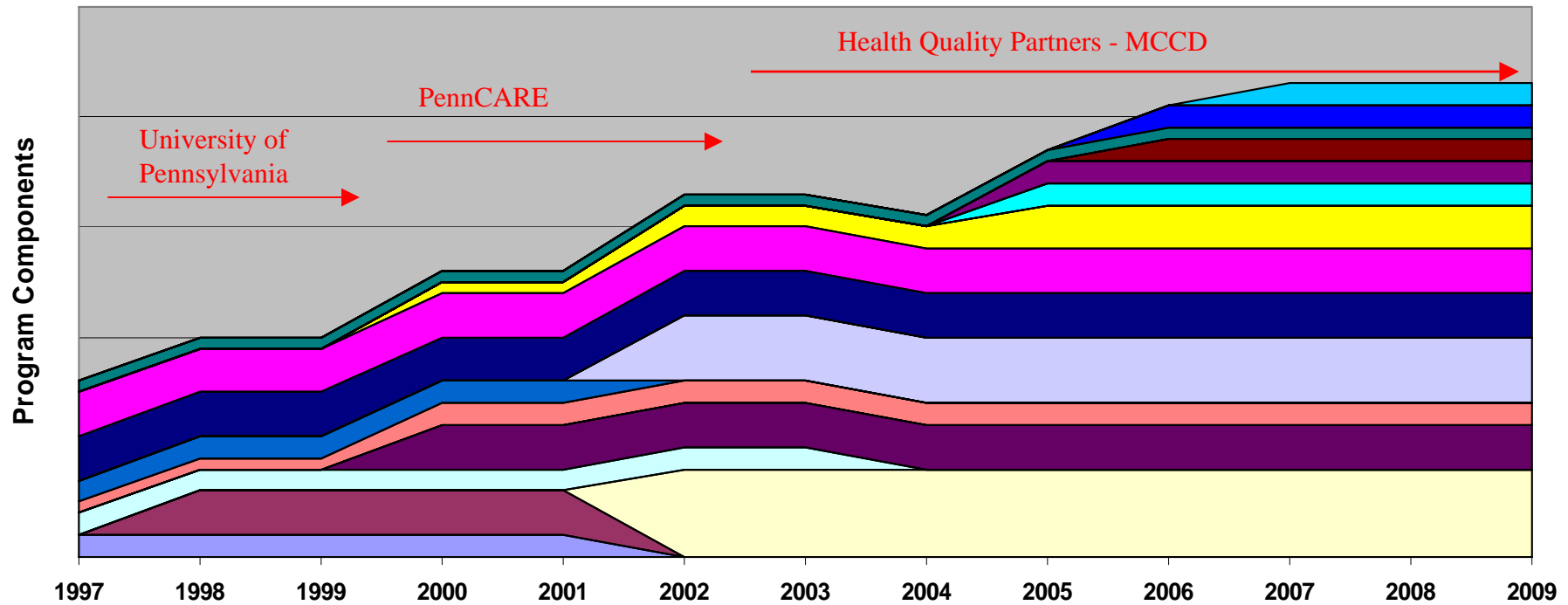
\* Risk ratio=0.74 (95%CI, 0.60-0.90) P=0.003, Source: data from Doylestown Hospital and HQP MCCD enrollment data, analyzed by K. Coburn, MD, MPH

**A relative 26% decrease in re-hospitalizations for those getting HQP care management; (95%CI, 10% to 40%)**

Interventions: one on one and group models - in the home and in the community (physician, HQP and community based settings)



# HQP's model has evolved greatly over 12 years and 3 settings; it takes a robust SET of interventions to be effective



- |  |  |
|--|--|
| ■ Disease Specific Care Managers                     | ■ Geriatric Specific Care Managers                     |
| ■ Integrated Disease & Geriatric Care Managers       | ■ Patient Referrals by Physicians                      |
| ■ Patient Referrals through Claims and Practice Data | ■ Prioritization - Claims and Other Data               |
| ■ Stratification - Diagnosis based                   | ■ Stratification - Geriatric & Disease Risk Assessment |
| ■ Comprehensive Assessments                          | ■ 1:1 Education & Self Management                      |
| ■ Group Education                                    | ■ Structured Weight Loss                               |
| ■ Lifestyle Physical Activity & Exercise             | ■ FallProof Balance & Mobility Program                 |
| ■ Aggregate Data Analysis                            | ■ Data Analysis- cohort, patient, management           |
| ■ Care Transitions Protocol                          |  |

# Key characteristics of HQP's model

- **Person-centered**
  - Needs of the patient, as defined by the patient, come first
  - Build long-term relationships with patients, families, and providers based on respect and trust
- **Evidence-based / best in class interventions provided directly by nurses**
  - Multi-dimensional geriatric assessments and in-home interventions
  - Monitor for variance from disease specific guidelines
  - Self management skills assessment and training
  - Group model interventions – interactive workshops, weight management, weight maintenance, seated exercise, gait and balance training
- **Focus on multidimensional determinants of health**
- **Systems approach**
  - Collaborate with PCPs, hospitals, and other providers on a high information relevance basis
  - Prevent or mitigate system errors related to care transitions, medications, miscommunications, discontinuity, etc.
- **Integrated management, process monitoring, and organizational learning system**
  - Standardizing for performance & reliability

# Process/Outcome Dashboards; Web-based Report Combines Process Reliability and Outcomes

Total Population /  
Multiple Measures

Row	measure	OOC_Overdue	OOC	Overdue	Good	no_value	status	DrillDownUrl	ScoreCardUrl
1	Blood Pressure	3%	16%	4%	74%	1%		▼	
2	LDL	9%	5%	16%	66%	2%		▼ Click	
3	HDL	9%	7%	16%	65%	2%		▼	
4	Trig	5%	3%	18%	69%	2%		▼	
5	Waist	21%	10%	34%	24%	8%		▼	
6	HbA1c	19%	6%	25%	47%	0%		▼	

## By Nurse Care Manager Caseload – LDL

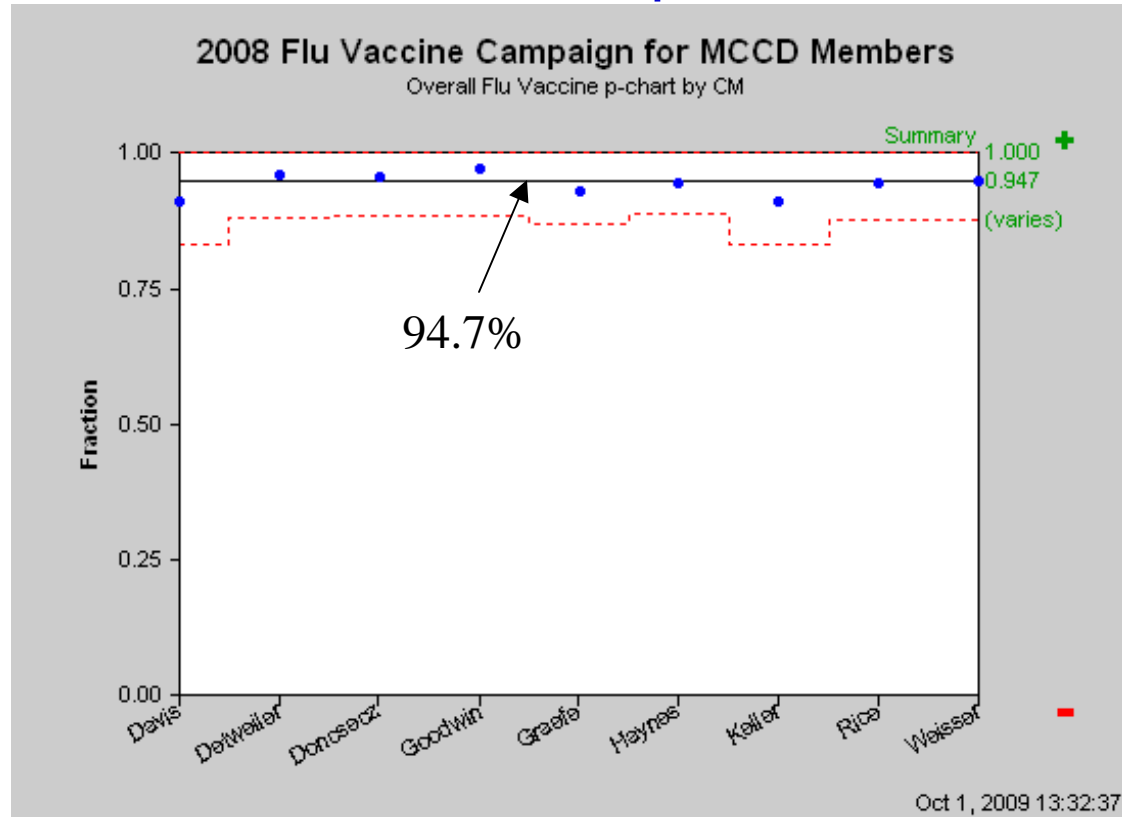
LDL

Single measure by  
nurse panel

Row	CM	OOC_and_Overdue	OOC	Overdue	Good	No Value	status	DrillDownUrl
1	Davis	8	4	6	26	3		▼
2	Detweiler	11	12	13	83	3		▼
3	Doncsecz	13	9	39	57	3		▼
4	Goodwin	15	6	23	77	2		▼
5	Graefe	5	8	16	87	1		▼
6	Hanson	7	1	4	35	7		▼
7	Haynes	9	8	18	81	0		▼
8	Keller	1	1	9	23	3		▼
9	Rice	9	8	20	83	4		▼
10	Weisser	8	9	20	84	1		▼

# One Preventive Care Measure Example Flu vaccination

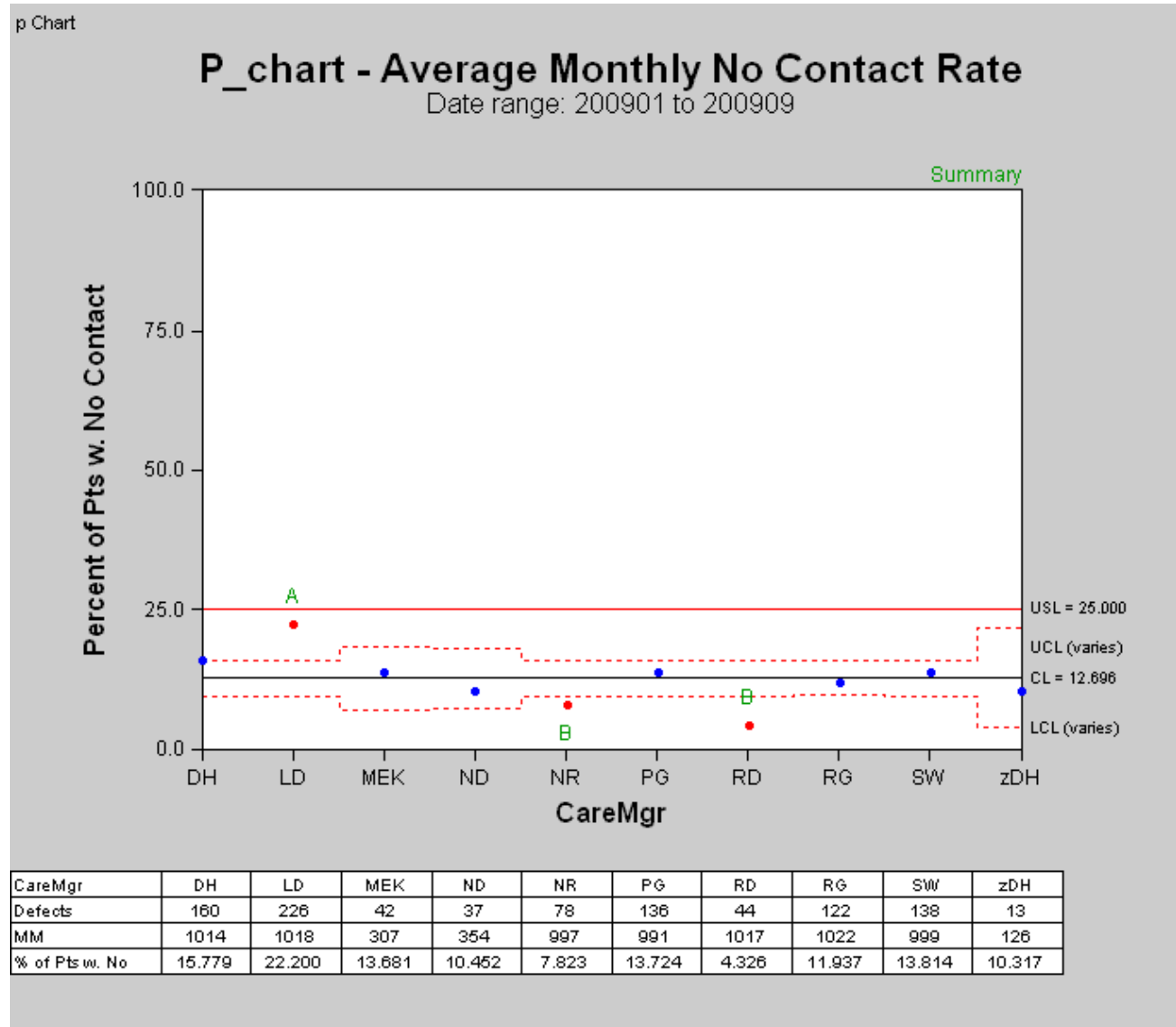
Web-based statistical process control charting is used extensively to robustly compare performance between groups or over time; here's a 'cross-sectional' p-chart of flu vaccination coverage by nurse



CM	Caseload	Received	Allergy	Refused	PhysRestrict	NotAddressed
Davis	36	31	1	3	1	0
Detweiler	95	90	1	3	0	1
Doncsecz	114	106	3	4	0	1
Goodwin	107	103	1	3	0	0
Graefe	72	65	2	5	0	0
Haynes	127	120	0	3	0	4
Keller	34	31	0	0	0	3
Rice	92	86	1	5	0	0
Weisser	95	88	2	4	0	1

# Care Manager / Team Performance

Another cross-sectional p-chart comparing the rate of monthly “no contacts” by care manager; we use identification of meaningful variation and root cause analysis for organizational learning



# HQP is seeking new partners and collaborators

- Test the scalability, replicability, and generalizability of the HQP model - in the Philadelphia area
- Prospectively validate refined patient targeting criteria
- Prepare to advance future work on a larger scale
  - Innovate partnership/'franchise' business models
  - Further develop tools and analyses to ensure reliable implementation

*To explore collaborative opportunities contact:*

*Sherry Marcantonio at Health Quality Partners 267-880-1733 ext. 27,  
Marcantonio@HQP.org or Ken Coburn at Coburn@HQP.org*

## Questions, Comments, Discussion



### **HQP Thanks -**

CMS, Mathematica Policy Research, Inc., Aetna, U.S. Representatives Patrick Murphy and Allyson Schwartz, Senators Arlen Specter and Robert Casey, MGMA, hundreds of physicians, thousands of patients and their families, Fritz Wenzel, Rich Reif & Doylestown Hospital, Mary Naylor, the entire HQP Board, Ron Barg, Chad Boulton, United Way SEPA, GlaxoSmithKline, and private donors