



2019 HEALTH
MEETING

JUNE 24–26 | PHOENIX, AZ



Session 129, Direct Primary Care – Physician Perspectives and Patient Selection

[SOA Antitrust Disclaimer](#)

[SOA Presentation Disclaimer](#)

Direct Primary Care

Physician Perspectives and Patient Selection

Achilles Natsis, FSA, MAAA, FLMI
Health Research Actuary

Gayle Brekke, FSA, MAAA
PhD candidate, Health Policy and Management

Dustin Grzeskowiak, FSA, MAAA
Consulting Actuary

JUNE 2020

Contents

BACKGROUND

- 3 **Who are we?**
- 5 **Overview of Direct Primary Care model**
- 13 **DPC regulatory considerations**
- 16 **Existing literature on Direct Primary Care outcomes**

OUR RESEARCH

- 20 **Patient selection into Direct Primary Care**
- 35 **Direct Primary Care control group study**

Who are we?

Who are we?

Actuaries actively conducting research into DPC!

- Gayle Brekke, FSA, MAAA
- PhD candidate, Health Policy and Management, University of Kansas
 - “Patient Selection into DPC” survey of DPC patients with comparisons to MEPS data
 - “DPC: Family Physician Perspectives of a Growing Model of Care” survey of family physicians conducted through the American Academy of Family Physicians
 - “How DPC Benefits Complex Patients: DPC Physicians’ Perspectives on this Alternative Payment Model” poster presentation at Academy Health Research Meeting
 - “Utilization of downstream services by employees in DPC and employees in the traditional plan” dissertation research
- Dustin Grzeskowiak, FSA, MAAA
- Consulting Actuary, Milliman
- SOA 2018 Actuarial Practice Expansion & Socially Relevant Research
 - Health Care System Reform including innovative health care and insurance products; health care cost reduction approaches; and refined health care markets
- “Direct Primary Care: Evaluating a New Model of Delivery and Financing”
 1. Literature review and DPC market survey
 2. DPC physician interviews
 3. DPC case studies

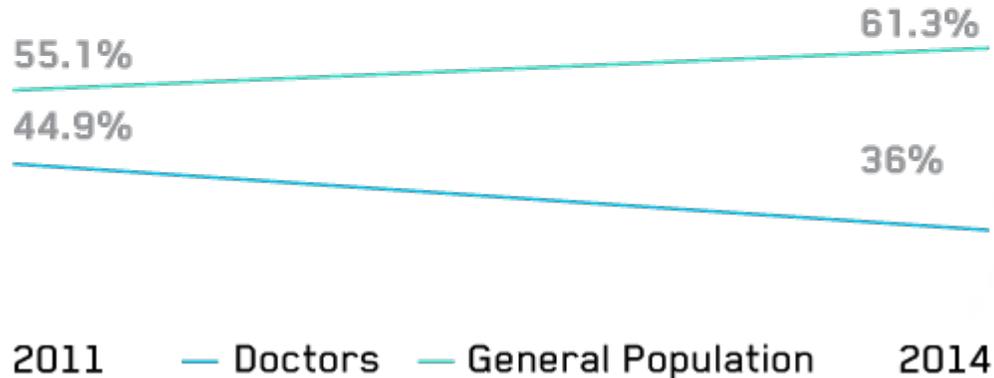
Overview of DPC model

Primary care landscape in US

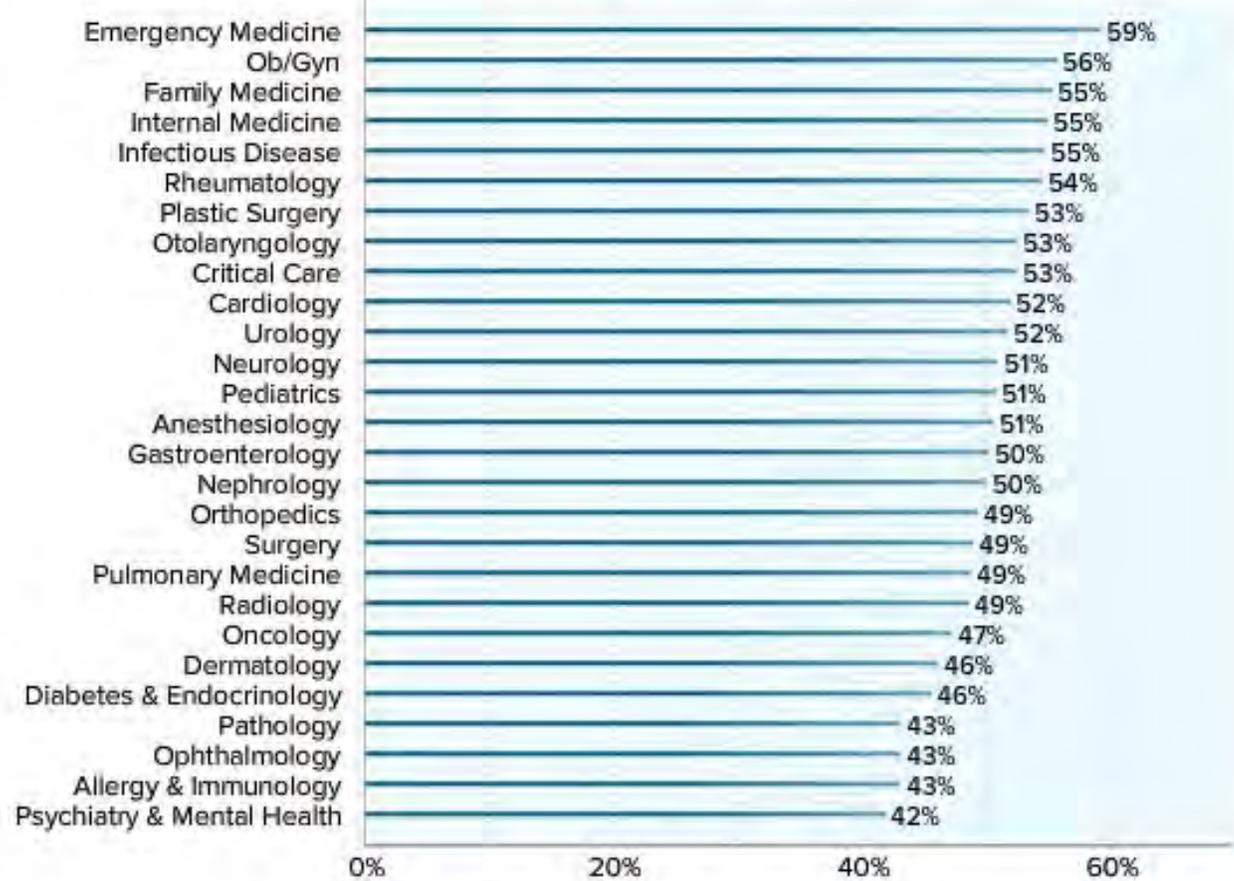
BURNOUT



SATISFACTION WITH WORK-LIFE BALANCE

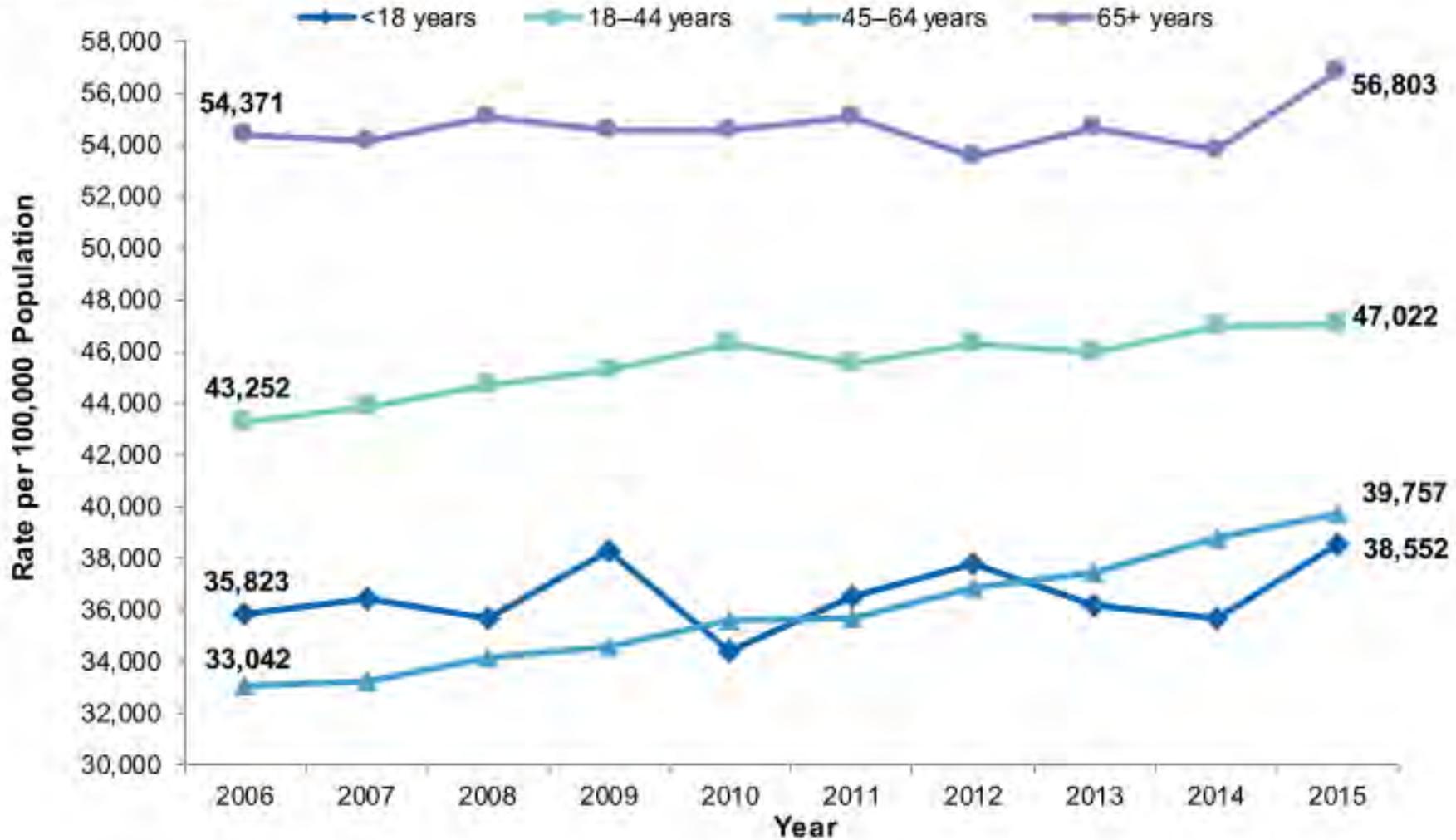


Which Physicians Are Most Burned Out?



Primary care landscape in US

Figure 1. Rate of ED visits, per 100,000 population by age group, 2006–2015



What is Direct Primary Care (DPC)?

- Most common definition –
 - Direct Primary Care practices are those which:
 1. Charge patients a recurring retainer fee to cover most or all primary care related services,
 2. Do not charge patients per-visit out-of-pocket amounts greater than the monthly equivalent of the retainer fee, and
 3. Do not bill third-parties on a fee-for-service basis for services provided.
 - Reported monthly membership fees for adults: \$25 to \$125
 - Covered services:
 - Preventive care
 - Vaccinations
 - Basic Illness treatment
 - Care coordination
 - Basic labs
 - Access to discounted prescriptions

What can DPC offer patients?

- Increased access to their doctor
 - Same day appointments during clinic hours
 - 24/7 access to clinician via email, text, or other platforms (i.e. Skype, specialized DPC software)
- Less fragmented care via long-term direct relationship with clinician
- Discounted fees for labs, imaging, prescription medications and some specialist services
- Predictable monthly DPC membership fee covers 80-90% of care needed
- Navigation of the health care system
 - *Patients characterized their experience with DPC as “He’s not like a regular doctor” and “It’s like a family.”*
 - *“About half of my patients need more time... there’s some symptoms that may not all fit together and we need a little bit of time to figure out what’s going on. Now I have the time to sit and think about it, read, research it, come back and you don’t have to pay more copays so you’re not feeling the pressure to say you really can’t come back.”*
 - *“One of the things we do as DPC doctors is to help patient navigate the health care system, which can be very treacherous... If Mrs. Smith needs a CAT scan, I can send her to the local hospital for a \$2,000 CAT scan or to a really good standalone clinic for \$250. It’s the same test and it’s better for the patient; she’s saved money.”*

What can DPC offer clinicians?

- Elimination of insurance related paperwork
- Lower practice overhead costs
- Reduced administrative burden on clinician
- Potential to reduce patient panel size by two-thirds
- Re-establishment of the “doctor-patient relationship” via longer visits and continuous care

One DPC doctor characterizes the math of the DPC model this way:

The Math that makes it work:

Traditional:

\$1.00 charged
x 0.65 collected (avg in US)
\$0.65
-60% overhead (avg in US)
\$0.26

Our Model:

\$1.00
x 0.99
\$0.99
-18%
\$0.81

Hat tip: Dr. Brian Forrest

What are the proponents of DPC saying?

- DPC is an alternative primary care arrangement that achieves the quadruple aim:
 - Lower costs
 - Improved quality of care
 - Improved population health
 - Improved physician satisfaction

“At a time when our country is struggling to make healthcare less costly, our [DPC] results confirm that primary care, when made more personalized and accessible to patients, can lower specialty and hospital costs, and keep people healthier and more productive. We have an opportunity to rebuild our healthcare system to ensure we're delivering the right kind of care in the right place at the right time.”

What are the critics of DPC saying?

- DPC is not a scalable primary care arrangement
- DPC exacerbates the existing shortage of primary care clinicians by cutting panel sizes
- DPC exacerbates existing inequities in access to care

“Changes to the current fee-for-service reimbursement model are needed, but DPC is not the promised panacea of payment reform.”

DPC is not a scalable model...to achieve systemic cost savings, promote equity in access, and yield improvement in population health outcomes. Lessons learned from DPC—mainly the potential utility of global capitated payments—should be applied when developing new payment reform models and envisioning a new future for primary care delivery. However, DPC is not the answer to the problem.”

DPC regulatory considerations

Federal level

- ACA permits QHPs to provide coverage through DPCs paired with wraparound insurance
- IRS prohibits individuals with HSAs paired with HDHPs from having an agreement with a DPC provider
- Various federal bills have been proposed that would permit patients with HSAs paired with HDHPs to not only have agreements with DPC providers, but to use their HSAs to pay DPC retainer fees
- In 2018 The Center for Medicare and Medicaid Services (CMS) issued a Request for Information regarding the potential use of DPCs in the traditional Medicare, Medicare Advantage, and Medicaid programs.

State level

- Consumer advocates and insurance commissioners have raised concerns as to whether or not DPC practices are involved in “the business of insurance”.
- Some states have passed laws clarifying that DPC is outside of the business of insurance and constitutes a medical service.
- Some states, such as Maryland, have recommended contractual provisions to include in DPC agreements to avoid being considered the business of insurance.

Existing literature on DPC outcomes

What are the outcomes for the DPC model?

- Due to the relative newness of the DPC model there is not an abundance of literature on its impacts
- Two types of studies relating to outcomes:
 - “Adjusted”
 - “Unadjusted”
- “Adjusted” studies employ methodologies that control for the impact of patient selection on results
- “Unadjusted” studies do not employ methodologies that control for the impact of patient selection on results

What do the “adjusted” studies say about DPC?

- Two articles show lower inpatient and emergency department utilization rates for DPC patients compared to non-DPC patients (*Musich AJMC 2016, Musich PHM 2016*)
- One article shows lower overall healthcare costs for DPC patients compared to non-DPC patients (*Musich AJMC 2016*)
- One article shows no difference in overall healthcare costs for DPC patients compared to non-DPC patients for the overall DPC population, but does show lower costs for older DPC patients versus non-DPC patients (*Musich PHM 2016*)
 - Importantly, the two articles that measured adjusted overall healthcare cost differences do not include DPC retainer fees in their consideration of cost.

What do the “unadjusted” studies say about DPC?

- Two studies show lower overall healthcare costs for DPC patients versus non-DPC patients before consideration of DPC retainer fees (*Restrepo 2016, Nextera 2016*)
- One study shows lower overall healthcare costs for DPC patients versus non-DPC patients after consideration of DPC retainer fees (*Qliance 2015*)
- One study shows lower inpatient and emergency department utilization rates for DPC patients compared to non-DPC patients (*Qliance 2015*)

Patient Selection into DPC

Survey of Direct Primary Care Patients

- All adult patients (18-64) of five DPC practices in Kansas
- Demographics
- Socio-economic status
 - Highest education level completed
 - Poverty level
- Type of coverage
- Physical and Mental Health Status

Comparison Data

- Medical Expenditure Panel Survey 2016
- Nationally representative
- Adult patients (18-64)
- Midwest
- Patients with a primary care usual source of care
- Socio-economic status
 - Highest education level completed
 - Poverty level
- Type of coverage in February 2016 (DPC survey is point in time)
- Physical and Mental Health Status

Health Status

- SF-36 and SF-12 are related instruments that have been validated for various populations and shown to closely approximate each other
 - DPC survey used SF-36
 - MEPS used SF-12
-
- Physical Health Status
 - Physical functioning
 - Role limitations due to physical health
 - Pain
 - General health
 - Mental Health Status
 - Role limitations due to emotional problems
 - Energy / fatigue
 - Emotional well-being
 - Social functioning

Results - Demographics

	DPC	MEPS
Response Rate	31%	
Gender		
Male	37%	46%
Female	63%	54%
Age		
18 - 24	4%	11%
25 - 34	22%	16%
35 - 44	31%	21%
45 - 54	22%	21%
55 - 64	22%	31%
Race / Ethnicity		
Non-Hispanic black	4%	4%
Non-Hispanic white	87%	84%
Hispanic	3%	7%
Mixed race / other	5%	5%

- More female than male respondents with DPC respondents more likely than MEPS respondents to be female

Results - Demographics

	DPC	MEPS
Response Rate	31%	
Gender		
Male	37%	46%
Female	63%	54%
Age		
18 - 24	4%	11%
25 - 34	22%	16%
35 - 44	31%	21%
45 - 54	22%	21%
55 - 64	22%	31%
Race / Ethnicity		
Non-Hispanic black	4%	4%
Non-Hispanic white	87%	84%
Hispanic	3%	7%
Mixed race / other	5%	5%

- More female than male respondents with DPC respondents more likely than MEPS respondents to be female
- DPC respondents are more concentrated in the middle ages (25-44) and MEPS respondents are more concentrated in the youngest and oldest ages
- Similar distributions by race / ethnicity

Results – Education & Coverage Type

	DPC	MEPS
Highest Education Level Completed		
Less than HS diploma	2%	7%
HS diploma or GED	9%	30%
Some college but less than 4 year degree	30%	30%
Four year degree or greater	58%	33%
Coverage Type		
Medicaid / SCHIP	2%	12%
Group insurance	38%	72%
Individual insurance	13%	6%
Health Sharing Ministry	19%	
Uninsured	24%	5%

- DPC respondents are more highly educated

Results – Education & Coverage Type

	DPC	MEPS
Highest Education Level Completed		
Less than HS diploma	2%	7%
HS diploma or GED	9%	30%
Some college but less than 4 year degree	30%	30%
Four year degree or greater	58%	33%
Coverage Type		
Medicaid / SCHIP	2%	12%
Group insurance	38%	72%
Individual insurance	13%	6%
Health Sharing Ministry	19%	
Uninsured	24%	5%

- DPC respondents are more highly educated
- Distributions by coverage type are dramatically different
 - Group insurance is most common but less likely in DPC than in MEPS
 - DPC more likely to have individual coverage
 - DPC much less likely to have Medicaid / SCHIP

Results – Education & Coverage Type

	DPC	MEPS
Highest Education Level Completed		
Less than HS diploma	2%	7%
HS diploma or GED	9%	30%
Some college but less than 4 year degree	30%	30%
Four year degree or greater	58%	33%
Coverage Type		
Medicaid / SCHIP	2%	12%
Group insurance	38%	72%
Individual insurance	13%	6%
Health Sharing Ministry	19%	
Uninsured	24%	5%
Health Sharing Ministry <i>only</i>	17%	



- DPC respondents are more highly educated
- Distributions by coverage type are dramatically different
 - Group insurance is most common but less likely in DPC than in MEPS
 - DPC more likely to have individual coverage
 - DPC much less likely to have Medicaid / SCHIP
 - HSM is not an option in MEPS so 5% uninsured in MEPS corresponds to 41% in DPC

Results – Poverty Level

MEPS								
(in 2017 dollars)	1	2	3	4	5	6+	Approximate Poverty Level	
Less than \$25,000	5%	5%	1%	2%	1%	0%	9%	Very poor (below FPL)
\$25,000 to 50,000	6%	4%	2%	1%	1%	1%	13%	Low income (100% - 200% FPL)
\$50,000 to 75,000	4%	8%	3%	5%	2%	1%	20%	Middle income (200% - 400% FPL)
\$75,000 to 100,000	1%	5%	4%	2%	1%	0%	58%	High income (above 400% FPL)
More than \$100,000	1%	12%	8%	9%	6%	2%		

DPC						
	1	2	3	4	5	6+
Less than \$25,000	4%	2%	2%	1%	1%	0%
\$25,000 to 50,000	6%	8%	4%	3%	2%	1%
\$50,000 to 75,000	3%	6%	5%	3%	3%	2%
\$75,000 to 100,000	1%	5%	2%	4%	3%	2%
More than \$100,000	1%	7%	4%	6%	3%	4%

- % of FPL (Poverty Level) is based on size and income of household
- MEPS data allows Poverty Level by size and income of household to be approximated

Results – Poverty Level

MEPS

(in 2017 dollars)

	1	2	3	4	5	6+		Approximate Poverty Level
Less than \$25,000	5%	5%	1%	2%	1%	0%	9%	Very poor (below FPL)
\$25,000 to 50,000	6%	4%	2%	1%	1%	1%	13%	Low income (100% - 200% FPL)
\$50,000 to 75,000	4%	8%	3%	5%	2%	1%	20%	Middle income (200% - 400% FPL)
\$75,000 to 100,000	1%	5%	4%	2%	1%	0%	58%	High income (above 400% FPL)
More than \$100,000	1%	12%	8%	9%	6%	2%		

DPC

	1	2	3	4	5	6+	
Less than \$25,000	4%	2%	2%	1%	1%	0%	5%
\$25,000 to 50,000	6%	8%	4%	3%	2%	1%	20%
\$50,000 to 75,000	3%	6%	5%	3%	3%	2%	31%
\$75,000 to 100,000	1%	5%	2%	4%	3%	2%	44%
More than \$100,000	1%	7%	4%	6%	3%	4%	

- % of FPL (Poverty Level) is based on size and income of household
- MEPS data allows Poverty Level by size and income of household to be approximated
- DPC is more concentrated in the middle Poverty Levels (low and middle income)

Results – Health Status

Physical Health Status (mean)	DPC	MEPS
Age 18 - 24	84.5	88.4
Age 25 - 34	84.3	82.1
Age 35 - 44	82.2	82.9
Age 45 - 54	78.6	76.1
Age 55 - 64	76.0	73.3
Average	80.6	79.0

Mental Health Status (mean)	DPC	MEPS
Age 18 - 24	66.7	80.9
Age 25 - 34	70.2	74.7
Age 35 - 44	75.3	77.9
Age 45 - 54	75.5	76.7
Age 55 - 64	79.0	75.7
Average	74.7	76.8

- For all but the youngest ages (18-24) physical health status of DPC respondents is better or about the same as MEPS respondents

Results – Health Status

Physical Health Status (mean)	DPC	MEPS
Age 18 - 24	84.5	88.4
Age 25 - 34	84.3	82.1
Age 35 - 44	82.2	82.9
Age 45 - 54	78.6	76.1
Age 55 - 64	76.0	73.3
Average	80.6	79.0

Mental Health Status (mean)	DPC	MEPS
Age 18 - 24	66.7	80.9
Age 25 - 34	70.2	74.7
Age 35 - 44	75.3	77.9
Age 45 - 54	75.5	76.7
Age 55 - 64	79.0	75.7
Average	74.7	76.8

- For all but the youngest ages (18-24) physical health status of DPC respondents is better or about the same as MEPS respondents
- For all but the oldest ages (55-64) mental health status of DPC respondents is worse than MEPS respondents
- Mental health status of the youngest DPC respondents (18-24) is quite low but this is a small number of respondents. This cell may warrant further study

Conclusions

- The idea that DPC physicians are cherry picking patients is not supported
 - DPC respondents are less concentrated in the high income band than MEPS
 - Health status results are mixed – DPC respondents generally have higher physical health status and lower mental health status
- DPC seems to attract patients without traditional types of coverage
 - 24% of DPC respondents are Uninsured, 17% only have a Health Sharing Ministry
 - This corresponds to 5% of Uninsured MEPS respondents
- Other findings
 - DPC respondents are more highly educated

Next Steps

- Obtain distribution of DPC patients by demographics to determine if response rates vary by age and gender
- Obtain county of respondent from restricted MEPS data to determine income vs county median, enabling more detailed poverty level analysis
- Determine variables that are correlated with physical or mental health status – these will be potential control variables in a difference in differences analysis of DPC and non-DPC claims data

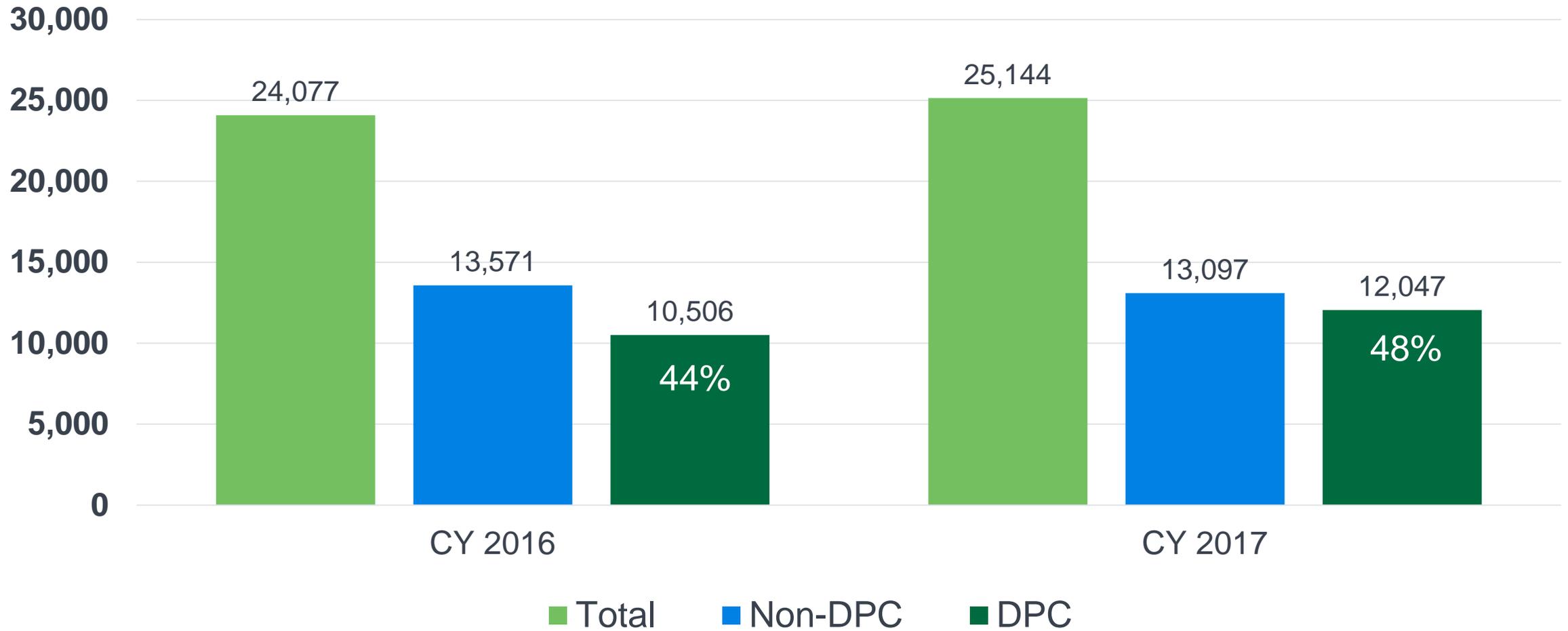
DPC control group case study

Ongoing SOA sponsored research

- Public employer with 1,000 employees
- 2,000 total members enrolled in self-funded health plan
- Prior to July 2015:
 - Single plan option
 - \$750 HRA, \$750 deductible, 20% coinsurance, \$2,000 / \$4,000 out-of-pocket limits
- Beginning in July 2015:
 - Dual plan option
 - Old plan remains an option
 - New plan with DPC – Plan covers membership fee at contracted DPC practice instead of funding HRA
- Data provided for study:
 - Administrative eligibility and claims data (2015-2017, paid through mid 2018)

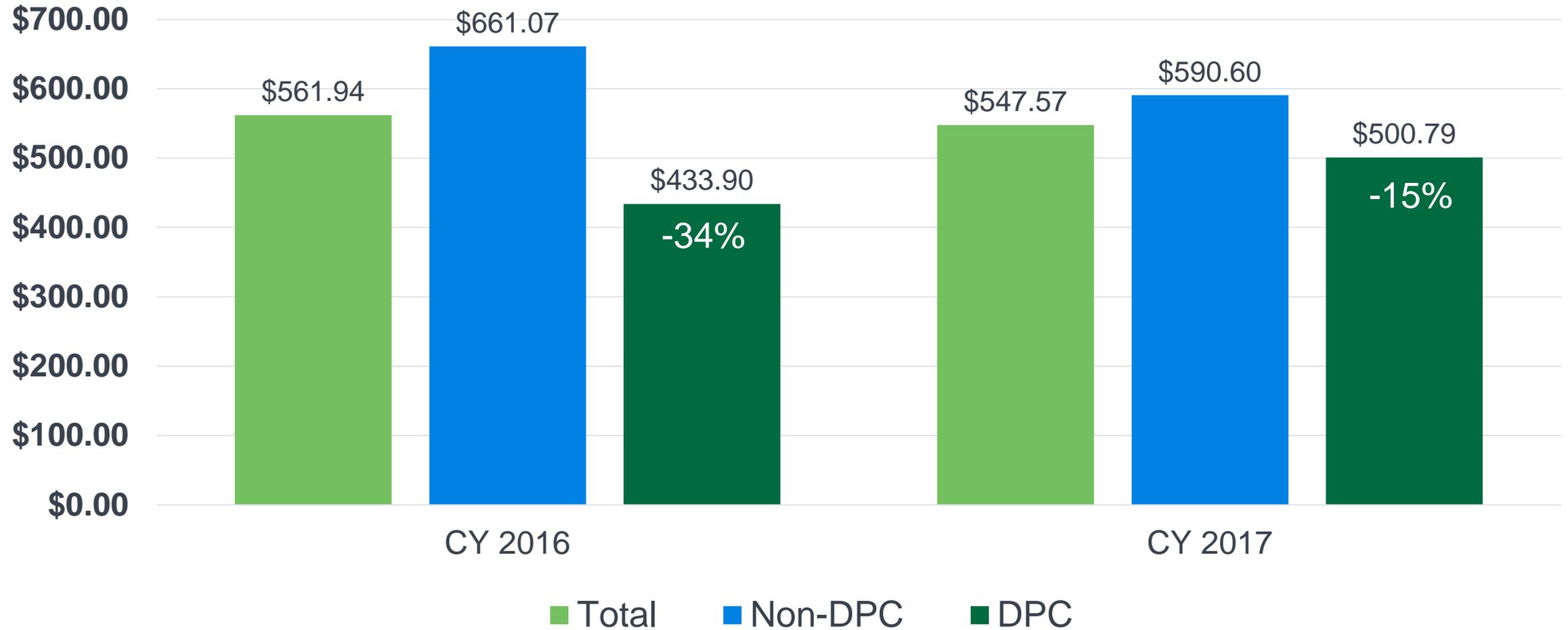
“Unadjusted” results

Member Months



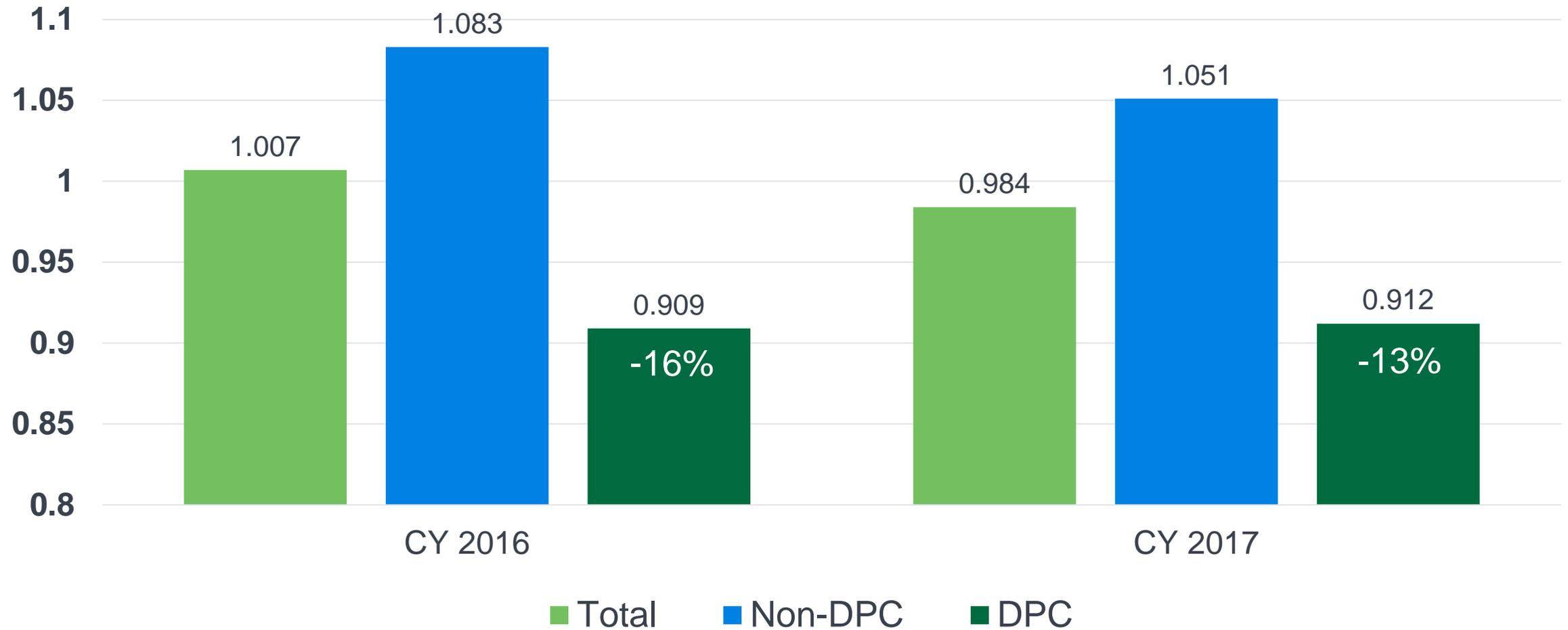
“Unadjusted” results

Allowed Claim Costs (PMPM)



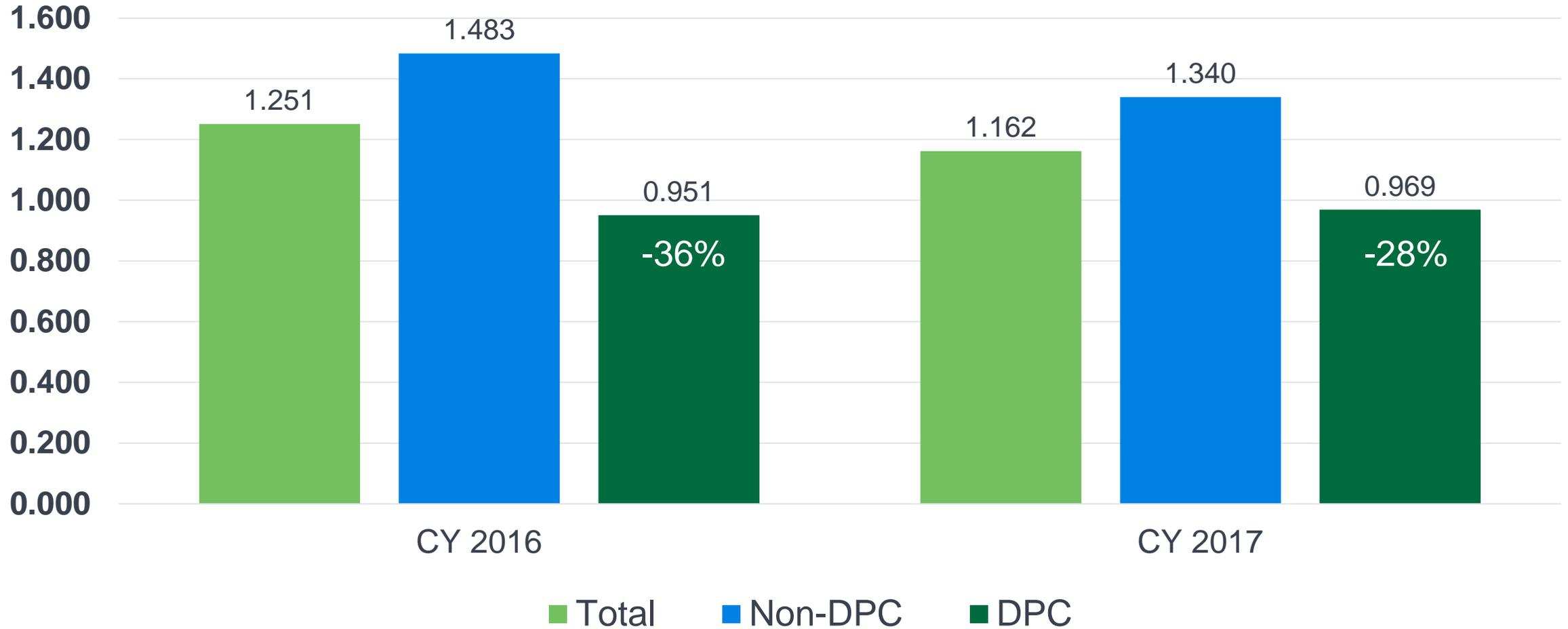
“Unadjusted” results

Age/Gender Factors



“Unadjusted” results

Risk Score Factors

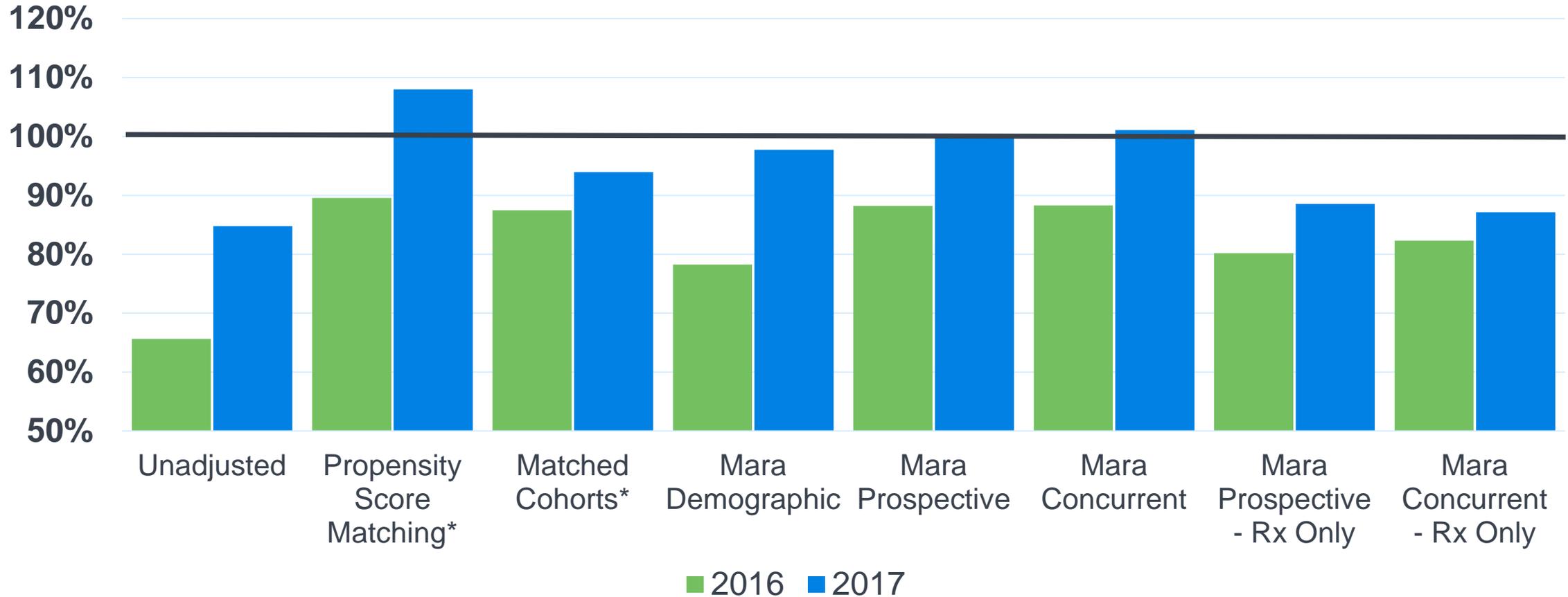


“Adjusted” methodologies

- **Propensity Score Matching:** Matches like members based on a "propensity score" derived from covariates including age, gender, family status, base claims costs and Chronic Condition Hierarchical Group (CCHG™) grouping.
- **Matched Cohorts:** Directly matches like members on age, gender, family status, base claims costs and CCHG grouping.
- **Prospective Risk Score:** Adjusts using age/gender factors, medical conditions, and prescription drug usage. Prospective scores will focus on recurring and chronic conditions going forward.
 - Also used “rx only” prospective risk scores to account for potential coding differences between DPC and non-DPC patients
- **Concurrent Risk Score:** Adjusts using age/gender factors and medical conditions but uses both acute and recurring and chronic conditions in the current period.
 - Also used “rx only” concurrent risk scores to account for potential coding differences between DPC and non-DPC patients

“Adjusted” results

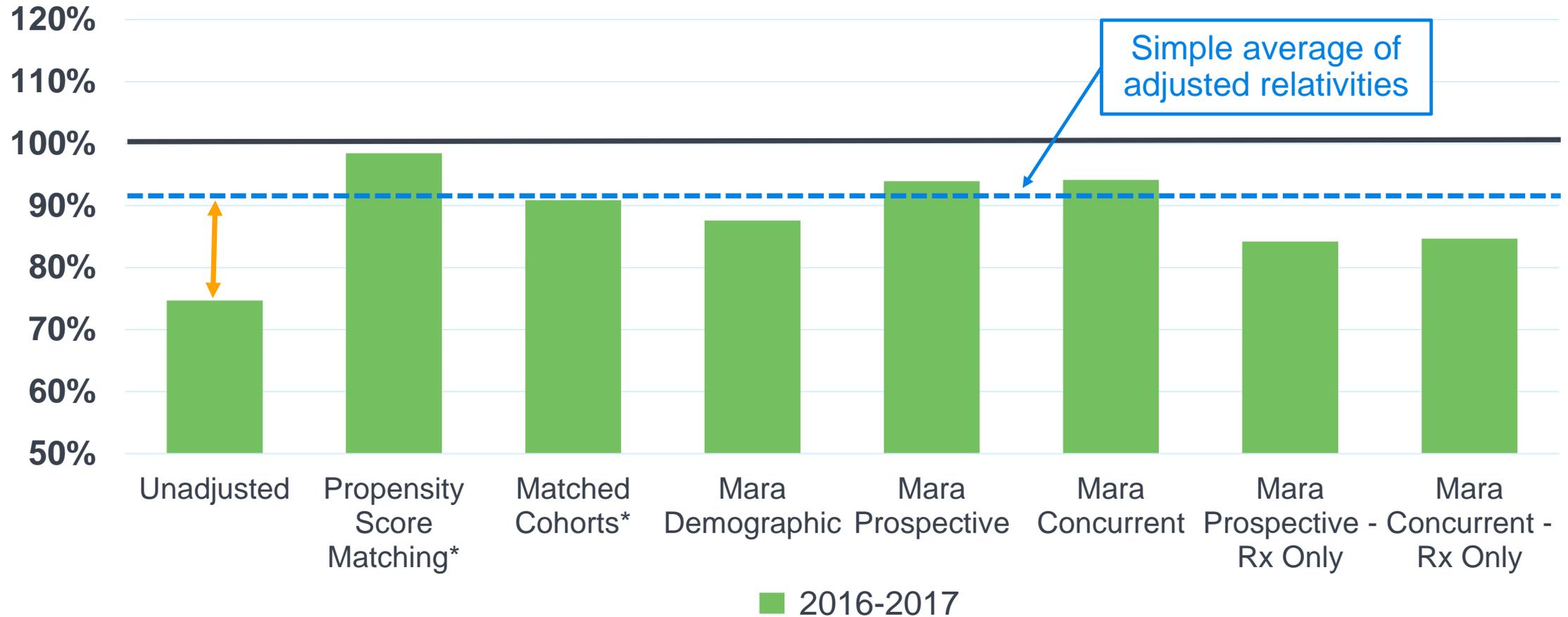
Allowed Claims Cost Relativities (DPC PMPM / Non-DPC PMPM)



* Propensity matching and cohort matching were not statistically significant

“Adjusted” results

Allowed Claims Cost Relativities (DPC PMPM / Non-DPC PMPM)



* Propensity matching and cohort matching were not statistically significant

“Adjusted” results

Other outcomes – CY 2016 matched cohorts

Metric	Mean DPC Change	P-Value	95% CI
Allowed PMPM	-\$42.86	0.42	-\$146.49 to \$60.78
Inpatient Admits / 1,000	-29.17	0.00	-46.32 to -12.02
Readmissions / 1,000	-5.25	0.00	-7.68 to -2.82
ER Visits / 1,000	-48.36	0.01	-83.03 to -13.70
Specialist Visits / 1,000	92.53	0.42	-131.87 to 316.94
ACSC Admits / 1,000	-4.28	0.00	-6.54 to -2.02

N = 359 matched DPC patients

ACSC = Ambulatory Care Sensitive Conditions (AHRQ)

“Adjusted” results

Other outcomes – CY 2017 matched cohorts

Metric	Mean DPC Change	P-Value	95% CI
Allowed PMPM	-\$4.62	0.94	-\$116.66 to \$107.42
Inpatient Admits / 1,000	-4.07	0.60	-19.49 to 11.34
Readmissions / 1,000	0	NA	NA
ER Visits / 1,000	-14.30	0.50	-55.48 to 26.87
Specialist Visits / 1,000	-278.30	0.04	-541.32 to -15.28
ACSC Admits / 1,000	0	NA	NA

N = 312 matched DPC patients

ACSC = Ambulatory Care Sensitive Conditions (AHRQ)

Next steps for SOA research

- More data! (hopefully)
 - Working to procure 2018 data from employer included in case study
 - Working to procure data from a different employer with a similar arrangement
 - Working to procure data from major DPC vendors
- DPC practice survey
 - Electronic survey to be distributed to 1,000 DPC practices nationwide
 - Questions about DPC fees, covered services, observed impacts
- DPC physician interviews
 - 1 hour interviews to be conducted with one to two dozen DPC clinicians
 - Questions about motivation for offering DPC practice, clinical and administrative experience, patient stories

Gayle Brekke

gbrekke@kumc.edu

Dustin Grzeskowiak

dustin.grzeskowiak@milliman.com