Who Did What to Whom?
Estimating the Relative Contribution of Pharmacists and Primary Care Providers to Quality Measures

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Background

Merit-based Incentive Payment System, other alternative payment models (APM) putting performance-related pressure on primary care practices
- Many primary care APM quality measures are related to medication use

Community pharmacists can impact many of these measures
- However, relative impact of pharmacists and primary care physicians to shared quality measures is unknown

Lack of evidence impedes collaboration, sharing of quality bonuses

Grant Aims

1

Refine a selection criteria framework for identifying medication-related measures which community pharmacists can impact;

2

Apply the selection criteria to the MIPS measure set for use in the analyses; and

3

Estimate the relative contribution of pharmacists and primary care providers to attributed patients' quality measure scores.

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Aim 1 Methods

Refine a selection criteria framework for identifying medication-related measures which community pharmacists can impact

Multidisciplinary, healthcare subject matter experts were interviewed to determine criteria that evaluate community pharmacist ability to impact quality measures

The draft tool was then reviewed by researchers and subject matter experts to assess face validity and make refinements

Iterative, interrater reliability was assessed by two independent reviewers using a random 20% sample of the 2017 MIPS measure set, and the tool was refined based on the results

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Aim 1 Results

Attribute	Achieved	
Medication or immunization	✓	
Condition managed by medication use	✓	SUM
Treatment in the outpatient setting	✓	
Outcome impacted by medication use	✓	
Data available to pharmacist	—	
Score	**4**	

Scoring:

- 4-5 indicates high community pharmacy/pharmacist impact;

- 2-3 is moderate impact;

- 0-1 is low impact

Aim 2 Methods

Apply the selection criteria to the 2017 MIPS measure set for use in Aim 3

The tool was then applied to the full 2017 MIPS measure set by two reviewers

Absolute agreement and kappa statistics were calculated

Consensus was formed for pharmacist-impact categorization

Assessed measures Aim 3 use (e.g., data availability, population relevance)

Aim 2 Results

Attribute	Kappa Statistic	Absolute Agreement
Medication or immunization	0.92	97%
Condition managed by medication use	0.61	81%
Treatment in the outpatient setting	0.69	85%
Outcome impacted by medication use	0.79	94%
Data available to pharmacist	0.86	96%
Total Score	0.77	83%
Pharmacy Impact Category	0.84	91%

Kappa statistics ranged from substantial (≥0.6) to almost perfect (≥0.9) for individual attribute and pharmacist impact categorization

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Aim 2 Results

Pharmacy Impact Category (Score)	Number of MIPS Measures	Relevant to Elderly and Computed with Claims	Measures Adapted for Aim 3
High (4-5)	32	5	• High-risk Medications in the Elderly • Preventative Care and Screening: Influenza Immunization
Moderate (2-3)	69	11	• Adult Sinusitis: Antibiotic Prescribed for Acute Sinusitis
Low (0-1)	170	18	• Diabetes: Eye Exam

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Aim 3 Methods

Retrospective, cross-sectional design using 2015 Medicare 20% sample

Inclusion: 65+, continuously eligible, non-institutionalized, attributable

- Pharmacy attribution: majority of non-short term medications at one single pharmacy
- Primary care attribution: majority of annual encounters at the same TIN

MIPS Measures:

- High-risk Medications in the Elderly
- Preventative Care and Screening: Influenza Immunization
- Adult Sinusitis: Antibiotic Prescribed for Acute Sinusitis
- Diabetes: Eye Exam

Star Ratings Quality Measures:

- Adherence to RASA, statin, NIDM
- Stain use in persons with diabetes

Two statistical models per measure to calculate two residual intraclass correlation coefficients

TIN: Taxpayer Identification Number; MIPS: Merit-based Incentive Payment System; RASA: Renin-angiotensin system antagonists; NIDM: non-insulin diabetes medications

Explanation of Residual Intraclass Correlation Coefficient (RICC)

$$RICC = \frac{Site-to-Site\ Variance}{Site-to-Site\ Variance + Patient\ Variance}$$

Interpretation of RICC:

- Estimate of provider influence on patients' care as assessed by a given quality measure

- Example: Pharmacy RICC of 0.03 for RASA adherence suggests that 3% of the variation in medication adherence is due to the pharmacy where a patient gets prescriptions
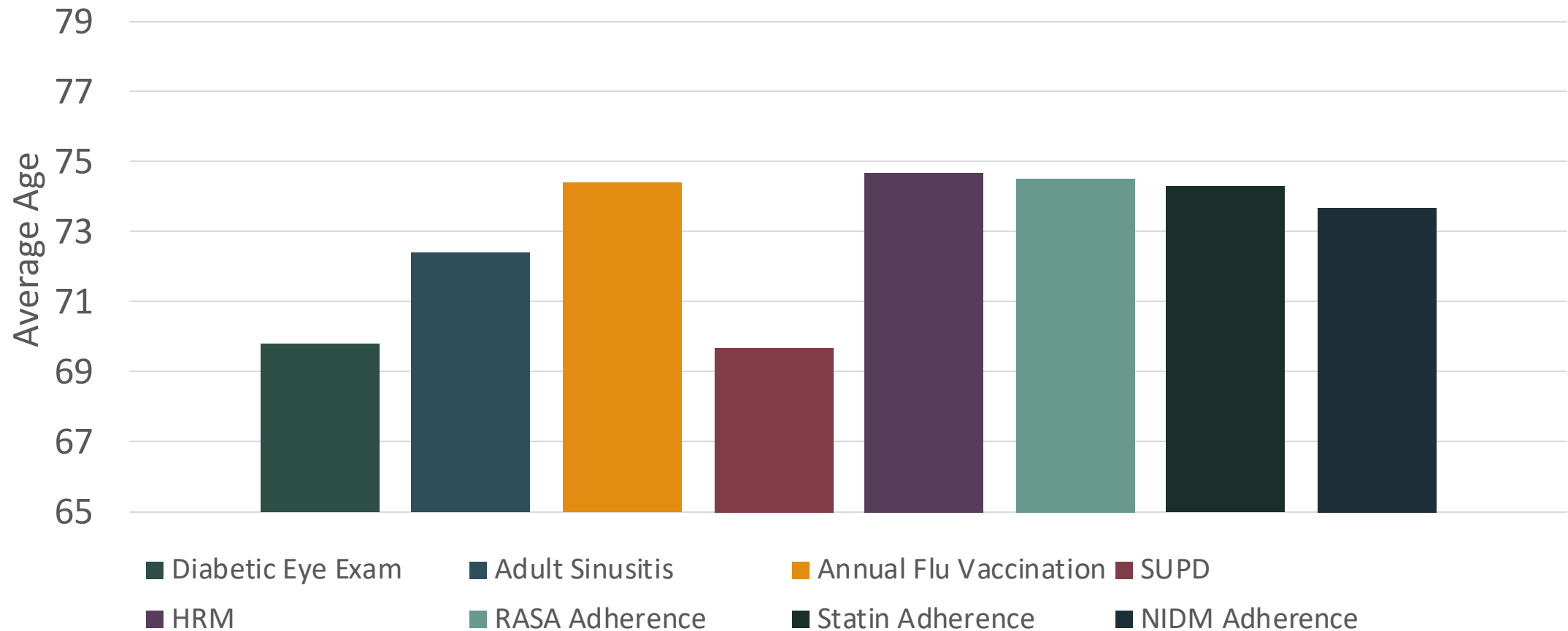
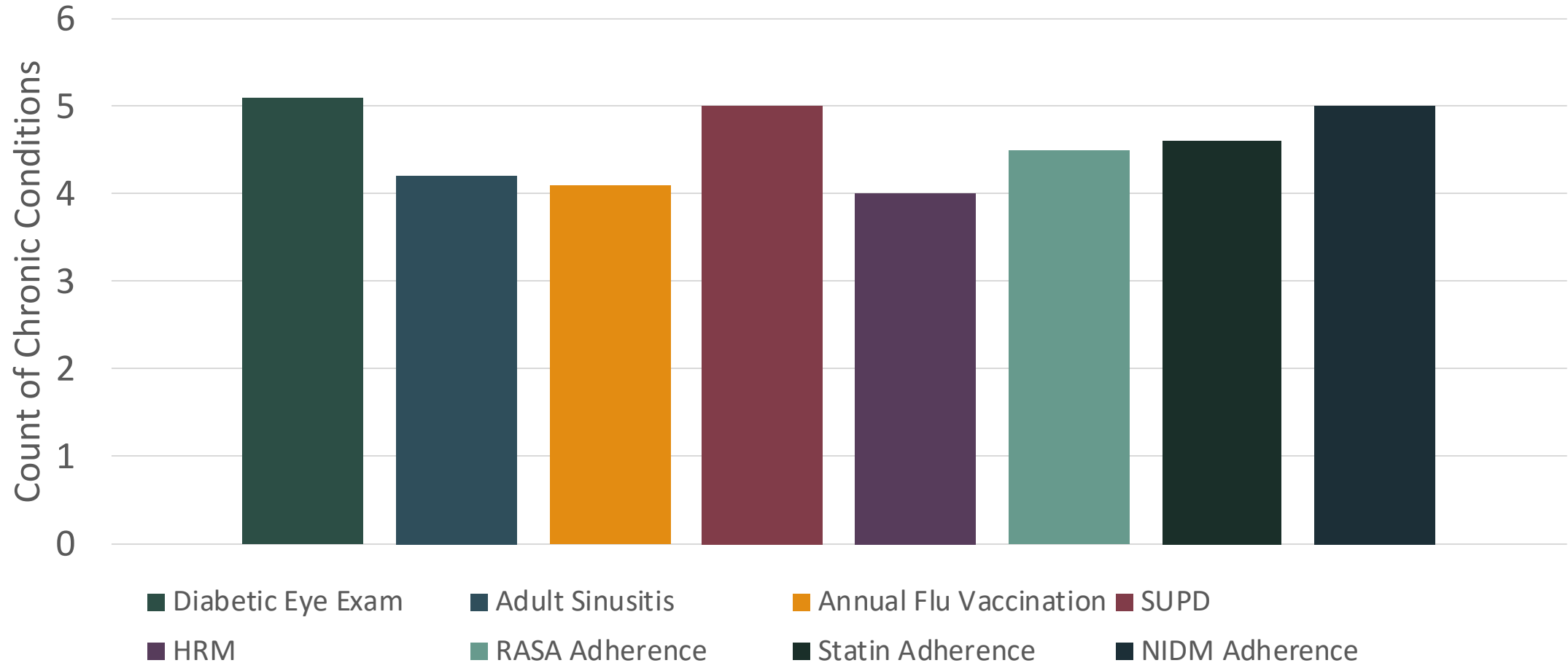Aim 3 Results: Eligible Population
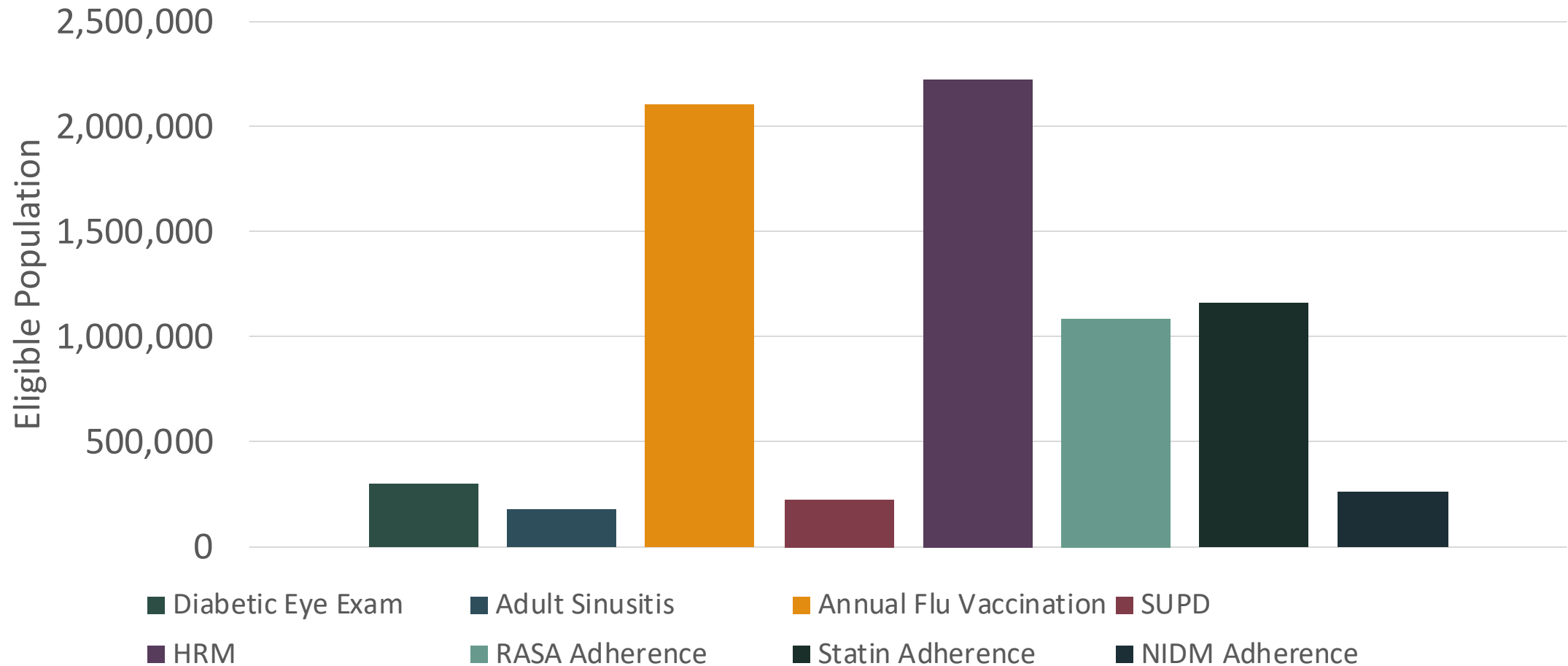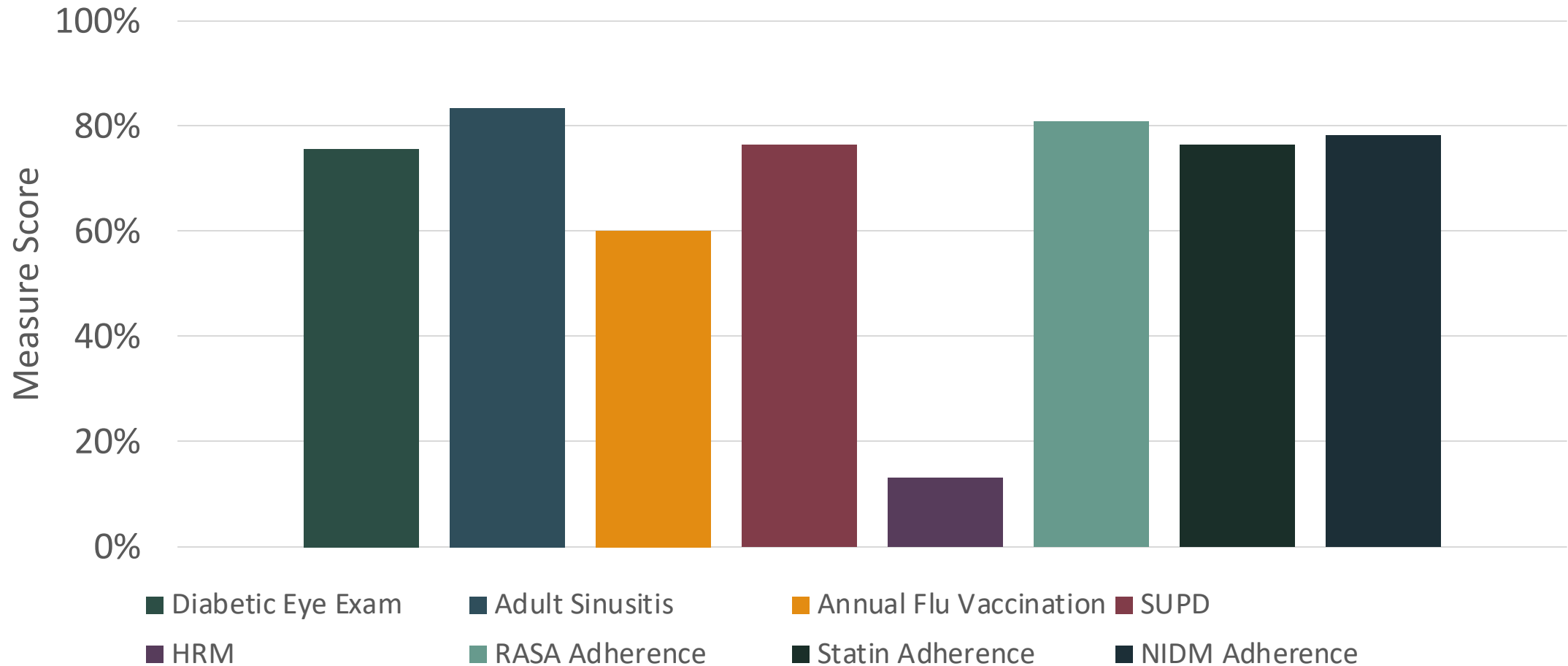
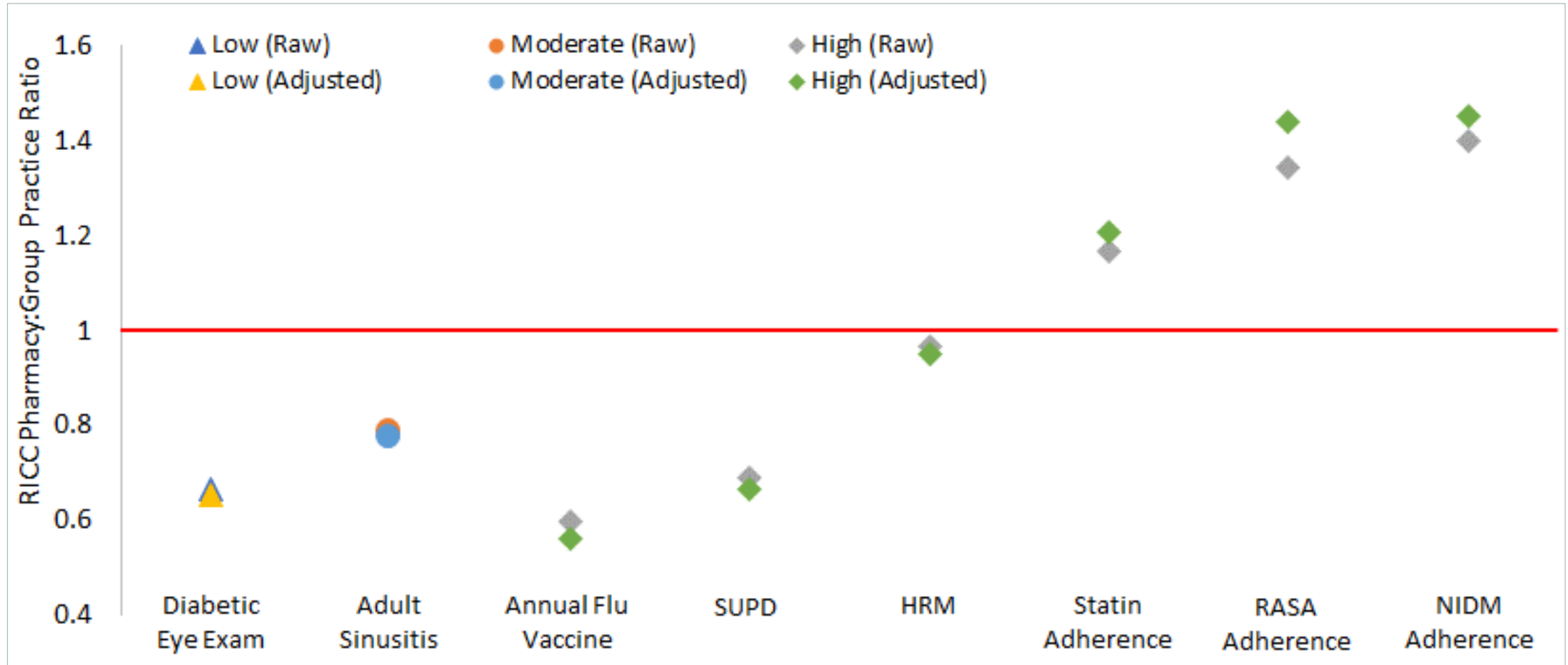# Aim 3 Results: Demographics
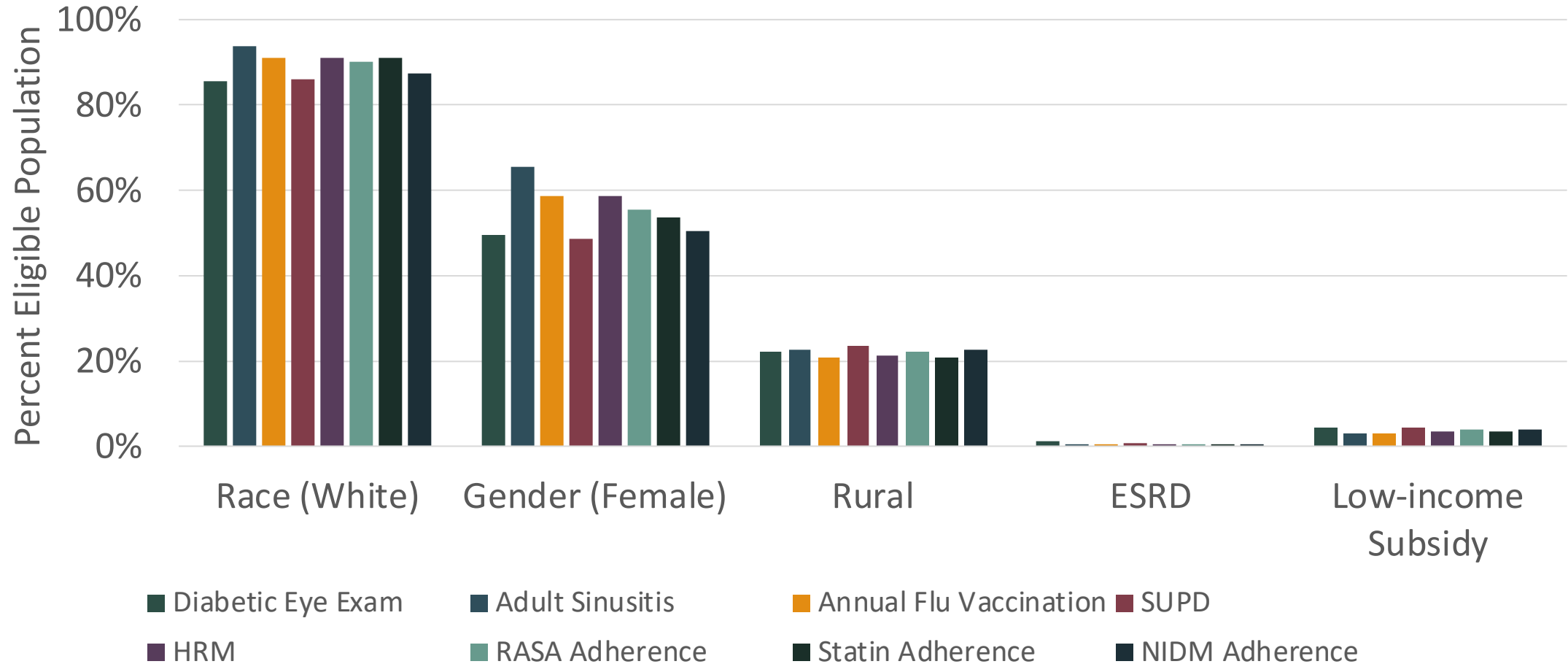
Aim 3 Results: Age

Aim 3 Results: Chronic Conditions

Aim 3 Results: Measure Scores

Aim 3 Results: Contribution Ratios

Reference line at 1 indicates no relative impact. Values greater than 1 indicate greater pharmacist impact; values less than 1 indicate greater primary care provider impact. SUPD: Statin Use in Persons with Diabetes; HRM: High-risk Medications in the Elderly; RASA: Renin-angiotensin System Antagonists; NIDM: Non-insulin Diabetes Medications

Future Directions

Dissemination

- Measure selection tool manuscript
- RICC primary results manuscript
- RICC extended methods manuscript

Research

- Support pharmacy-primary care contracting with specific measures of relative provider impact
- Expand into other quality measures (e.g., not claims-based)
- Use of RICC to enhance measure development

Measure Scoring Tool Attribute Descriptions

Attribute	Description
Medication or immunization	Measure describes medication/drug therapy or an ACIP-recommended adult immunization. Additionally, the medication/drug therapy mentioned is not a newly prescribed/initiated treatment within the measure.
Condition managed by medication use	Measure includes a medical condition that can be managed by medication use (e.g., treatment, symptom management). This criterion excludes all screenings, assessment, diagnostic testing, and imaging for medical conditions.
Treatment in the outpatient setting	Measure focuses on treating patients in the outpatient setting.
Outcome impacted by medication use	Measure is designated as an outcome or intermediate outcome measure that can be impacted by a guideline-recommended medication or immunization.
Data available to pharmacist	Measure data are readily available to the community pharmacy or can be reasonably extrapolated from existing data. This may include accessibility to measure data available within the medication dispensing data system, the medication therapy management (MTM) platform, or through point-of-care testing.

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