



Using Part D Data for Provider Feedback and Quality Improvement

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(ARS Response Card: Channel 41)

Disclosure

Stephen Kogut and Lynn Pezzullo declare no conflicts of interest or financial interests in any product or service mentioned in this presentation, including grants, employment, gifts, stock holdings, or honoraria.

Learning Objectives

- Understand the opportunities and limitations of using Medicare Part D claims data for quality improvement purposes
- Learn about examples of how Medicare Part D data can be analyzed and presented to providers in ways that enable performance assessment and peer comparison

Project Examples

Healthcentric Advisors (formerly Quality Partners of Rhode Island) under CMS QIO contracts:

- 8th Scope of Work – Task 1d3
Improving Medication Use Among Beneficiaries Enrolled in Part D Plans (completed July 2008)
- 9th Scope of Work – Theme 7.3
Improving the Detection and Treatment of Chronic Kidney Disease (CKD) in Patients with Diabetes (completed July 2011)

8th SOW - Task 1d3: Improving Medication Use Among Beneficiaries Enrolled in Part D Plans (Background)

- QIOs to collaborate with Medicare Part D plans (PDPs) and Medicare Advantage plans (MA-PD) to improve medication utilization
- CMS provided QIOs with examples of performance measures and resources to support the involvement of QIO staff in aiding the quality improvement efforts of PDPs and MA-PDs
- QIOs were responsible for establishing relationships with PDPs and MA-PDs, and collaborating to improve medication use at the level of prescribing, monitoring, and/or patient



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Medicare Quality Improvement Organizations'
Ambulatory Drug Therapy Improvement Activities and
Partnerships With Medicare Part D Prescription Drug Plans
and Medicare Advantage Plans

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Supplement

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8th SOW - Task 1d3: Improving Medication Use Among Beneficiaries Enrolled in Part D Plans: Rhode Island Project

- Condition of focus: Diabetes
 - Drug therapies improve health outcomes
 - Opportunity for improvement
 - Diabetes can be identified from pharmacy data with an acceptable level of specificity
- Aims
 - Improve rates of use of clinically important medications
 - Help providers improve patient adherence
 - Reduce rates of use of potentially harmful drug therapies
 - Increase rates of use of generic drugs and less-costly therapeutic alternatives

Prescription Drug Event (PDE) / Pharmacy Claims Data

Strengths	Weaknesses
<ul style="list-style-type: none">• Generally accurate recording of product dispensed, quantity and days supply• Enables medication adherence assessment• Longitudinal in nature• Can be merged with other data• Familiar data source• Cost and utilization trends• Suitable for analyses at larger units	<ul style="list-style-type: none">• Diagnoses lacking; most cannot be inferred• Cash Rx purchases not captured• Rx dispensing may be inadequate proxy for actual consumption/ proper use• Not timely for all potential purposes• Incomplete data/reversals• Complex to analyze dosing, prn use, switching patterns, etc.• Provider attribution

Quality Measurement Domains and Measure Examples; Administrative Pharmacy Data Sources

- Effectiveness
 - Utilization of clinically important medications
 - Patient adherence
- Safety
 - Drug-drug interactions
 - Potentially inappropriate medications
 - Over-utilization
- Efficiency
 - Generic utilization
 - Therapeutic duplication

8th SOW - Task 1d3: Diabetes-focused Medication Quality Measures: Rx Claims Based

Use of evidence-based drug therapies	• Prescribing of angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin receptor blockers (ARBs)
	• Patient adherence with prescribed ACEI/ARB therapy
	• Prescribing of drugs for dyslipidemia
	• Patient adherence to statin drug therapy
Safety	• Avoidance of drugs that can cause dysglycemia (e.g., chlorpropamide, olanzapine, quinine, gatifloxacin)
Cost	• Generic ACEI use as a proportion of all ACEI/ARB use
	• Generic statin use as a proportion of all statin use
	• Generic oral hypoglycemic use as a proportion of all oral hypoglycemic use (excluding thiazolidinedione drugs)

8th SOW - Task 1d3: Improving Medication Use Among Beneficiaries Enrolled in Part D Plans: Methods/Intervention

- Partnered with five leading Medicare Part D plans operating in Rhode Island
 - Part D pharmacy data were provided for nearly 38,000 beneficiaries; approximately 40% of all drug plan enrollees
- Letters to physicians containing practice-specific measure rates with peer comparisons
- Academic detailing and presentations by clinical pharmacists
- Various quality improvement materials developed
 - Toolkit, including flowcharts, adherence tips, etc.

8th SOW - Task 1d3: Sample Letter to Physicians

Appendix: Exhibit – Physician Letter

<Date>

<First Name> <Last Name>, MD

<Address 1>

<Address 2>

<City>, <State>, <Zip>

Dear Dr. <Last Name>:

As the state's Medicare-contracted Quality Improvement Organization, Quality Partners of Rhode Island provides healthcare professionals with tools, consultation and reliable information to improve healthcare quality. With the introduction of Medicare Part D, we are working with prescription drug plans to improve the quality of medication use among Medicare beneficiaries in Rhode Island.

This letter provides information regarding medication use among patients in your practice having diabetes mellitus; specifically addressing the use of two clinically important therapies: cholesterol-lowering medications, and angiotensin converting enzyme inhibitors or angiotensin receptor blockers. Using pharmacy-level information provided by Medicare Part D plans, we have calculated utilization and adherence rates for these therapies, overall among Rhode Island Medicare Part D plan enrollees, and specific to patients for which you were identified as a prescriber. We hope that you find this information useful.

Medication Management in Diabetes under Medicare Part D

July 1, 2006 – December 31, 2006

Number of patents identified: 30

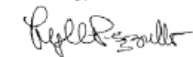
	ACEI or ARB		Cholesterol-Lowering Medications	
	Your patients	RI avg	Your patients	RI avg
% utilizing therapy*	[Insert 1]	69%	[Insert 4]	63%
% patients w/ adherence >= 80%**	[Insert 2]	71%	[Insert 5]	56%
% utilizing generic***	[Insert 3]	67%	[Insert 6]	34%

Definitions: *At least one prescription filled during the 6-month period; **the percentage of patients possessing medication for at least 80% of days during the 6 month period; ***for angiotensin converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB), rate is use of generic ACEI among all ACEI/ARB prescriptions

Quality Partners of Rhode Island can help in your efforts to ensure that your patients utilize medications effectively and safely. We provide materials and tools for promoting patient adherence; we offer assistance with enhancing information systems; and we can work with you to address specific needs pertaining to medication management among your patients having diabetes. Our team includes pharmacists who are eager to share more detail regarding our Medicare Part D quality initiatives and how we can assist you in addressing medication-related issues.

Feel free to contact me by telephone (401) 528-3222 or email Lpezzullo@riqio.sdps.org with any questions you may have.

Sincerely,



Lynn M. Pezzullo, RPh
Manager, Pharmacy Services

Patient and Provider Characteristics among a Sample of Diabetic Medicare Part D Plan Enrollees in Rhode Island, 2006 and 2007

Characteristics	January 1 – June 30, 2006 N = 5,009	January 1 – June 30, 2007 N = 7,331
	n (%)	n (%)
Age (years)		
50-64	621 (12.4)	916 (12.5)
65-74	2,080 (41.5)	3,108 (42.4)
75 +	2,308 (46.1)	3,307 (45.1)
Gender		
Female	2,989 (59.7)	4,390 (59.9)
Male	2,020 (40.3)	2,940 (40.1)
Coronary artery disease (receiving nitrates)		
Yes	461 (9.2)	635 (8.7)
No	4,548 (90.8)	6,696 (91.3)
Physician affiliation		
Group practice A or B	2,795 (55.8)	4,083 (55.7)
Other	2,214 (44.2)	3,248 (44.3)
Endocrinologist care		
Yes	708 (14.1)	1,071 (14.6)
No	4,301 (85.9)	6,260 (85.4)

8th SOW - Task 1d3: Diabetes-related Medication Use Measures and Rates (Jan. 1 – June 30, 2006 and Jan. 1 – June 30, 2007)

Measure	1/1/06- 6/30/06 N/D (%)	1/1/07- 6/30/07 N/D (%)	p value*
ACEI/ARB			
Rate of prescribing	4276/6185 (69.1)	4410/6230 (70.8)	$p < 0.05$
Rate of use of generic products	2971/4276 (69.5)	3087/4410 (70.0)	ns
% of patients adhering to therapy (MPR)	2600/3951 (65.8)	2939/4165 (70.6)	$p < 0.01$
Medications for dyslipidemia			
Rate of prescribing	3841/6185 (62.1)	4051/6230 (65.0)	$p < 0.01$
Rate of use of generic products	845/3835 (22.0)	1700/4051 (42.0)	$p < 0.01$
% of patients adhering to therapy (MPR)	2051/3532 (58.1)	2482/3794 (65.4)	$p < 0.01$
Use of selected medications that can impair glycemic control	530/6185 (8.6)	563/6230 (9.0)	ns

Patient and Provider Characteristics among a Sample of Diabetic Medicare Part D Plan Enrollees in Rhode Island, 2006 and 2007

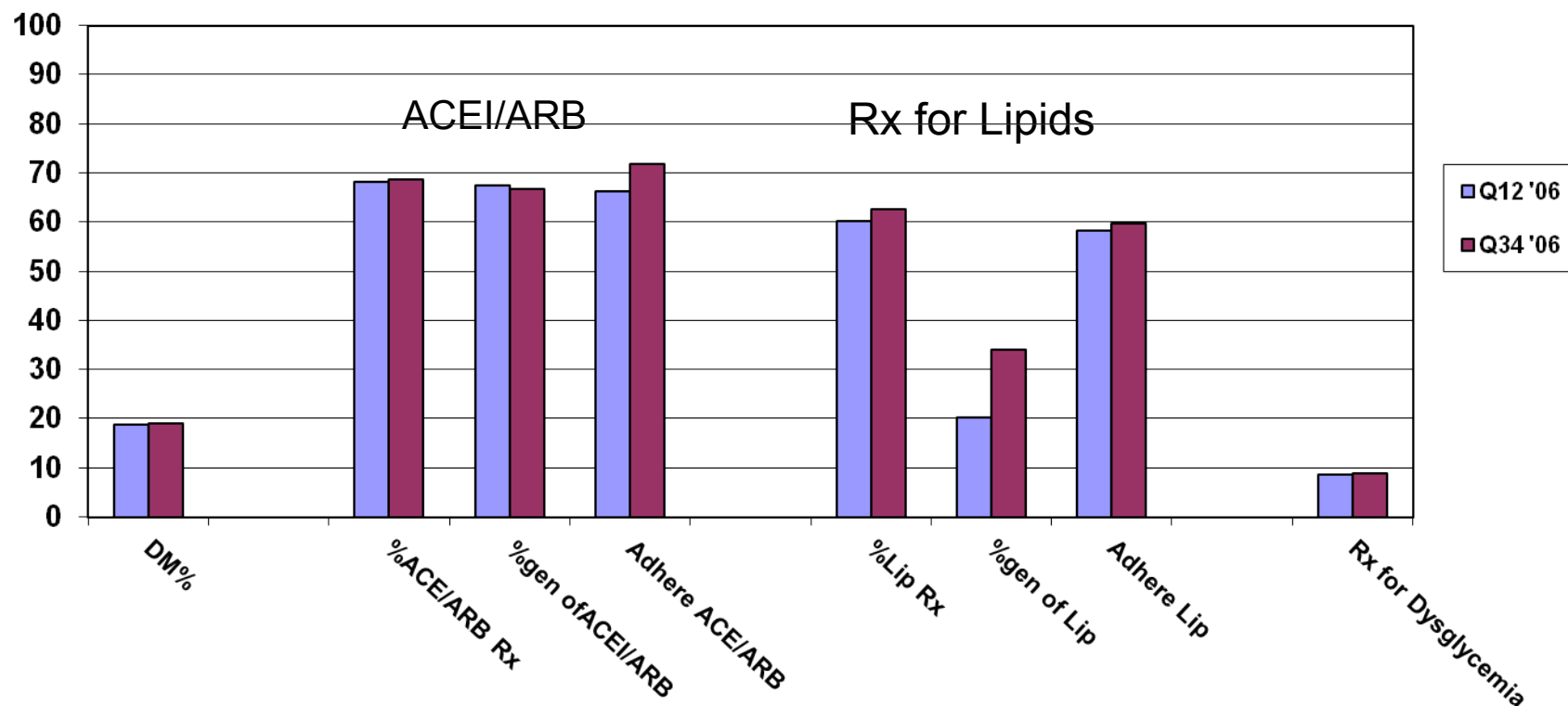
Characteristic	ACEI/ARB N (%)	Lipid therapy N (%)
Overall	5,123 (69.9)	4,796 (65.4)
Age (years)		
50-64	611 (66.7)	591 (64.5)
65-74	2,280 (73.4)	2,190 (70.5)
75 +	2,232 (67.5)	2,015 (60.9)
Gender		
Female	3,236 (73.7)	3,090 (70.4)
Male	2,063 (70.2)	1,840 (62.6)
Coronary artery disease (receiving nitrates)		
Yes	473 (74.5)	488 (76.9)
No	4,650 (69.4)	4,308 (64.3)
Physician affiliation		
Group practice A or B	2,930 (71.8)	2,769 (67.8)
Other	2,193 (67.5)	2,027 (62.4)
Endocrinologist care		
Yes	770 (71.9)	774 (72.3)
No	4,353 (69.5)	4,022 (64.3)

p < 0.05 for all comparisons except by endocrinologist care among patients receiving ACEI/ARB therapy

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Use of ACEI/ARB and Lipid Rx Therapies Among Diabetic Medicare Beneficiaries in Rhode Island



Results using Part D data (2006)

DM defined as having ≥ 1 Rx for DM drug, N ~ 6,700

Caffrey AR, Kogut SJ. Application of Medication Possession Ratio and Gaps in Therapy Adherence Measures to Medicare Part D. AMCP Annual Meeting, March 2009.

Adherence Measure	Jan 1 – Jun 30, 2006					Jan 1 – Jun 30, 2007				
	Total (n=1239)	Sulfonylureas (n=577)	Metformin (n=421)	TZDs ¹ (n=68)	Combinations ² (n=173)	Total (n=1949)	Sulfonylureas (n=973)	Metformin (n=659)	TZDs ¹ (n=108)	Combinations ² (n=209)
Median Medication Possession Ratio ^a (Interquartile Range)	0.973 (0.143)	0.978 (0.118)	0.955 (0.178)	0.956 (0.081)	0.968 (0.171)	0.974 (0.123)	0.978 (0.102)	0.968 (0.151)	0.968 (0.125)	0.968 (0.143)
Adherent by Medication Possession Ratio ^b , n (%)	1001 (80.8)	480 (83.2)	327 (77.7)	57 (83.8)	137 (79.2)	1634 (83.8)	837 (86.0)	534 (81.0)	91 (84.3)	172 (82.3)
Adherent by Gap Measure ^c , n (%)	1065 (86.0)	505 (87.5)	356 (84.6)	58 (85.3)	146 (84.4)	1689 (86.7)	855 (87.9)	559 (84.8)	91 (84.3)	184 (88.0)

¹ TZDs: thiazolidinediones

² Combinations: fixed-dose combinations of metformin plus a sulfonylurea

^a Medication possession ratio: sum of days supply / number of days between the first and last prescription claim plus the days supply of the last prescription claim.

^b Medication possession ratio ≥ 0.80 .

^c Gap: difference between the last day covered by the prescription claim and the day of the subsequent prescription claim. Experiencing at least one significant gap of 30 days or more was considered non-adherent.

Overlap between adherence measures

Adherence Measure	Jan 1 – Jun 30, 2006 (n=1239)	Jan 1 – Jun 30, 2007 (n=1949)
Adherent by Medication Possession Ratio Alone, n (%)	15 (1.2)	39 (2.0)
Adherent by Gap Measure Alone, n (%)	79 (6.4)	94 (4.8)
Adherent by Medication Possession Ratio and Gap Measure, n (%)	986 (79.6)	1595 (81.8)

Percent adherent by medication possession ratio measure

	Jan 1 – Jun 30, 2006 (n=1239)	Jan 1 – Jun 30, 2007 (n=1949)
Age (years)		
50-64	75.9%	74.2%*
65-74	80.2%	82.8%*
75 +	82.2%	86.2%*
Coronary artery disease ¹		
No	80.8%	84.0%
Yes	80.5%	81.3%
Physician affiliation ²		
Group practice	80.5%	82.8%
Other	81.1%	85.1%
Under care of endocrinologist ³		
No	80.8%	84.0%
Yes	80.5%	81.8%

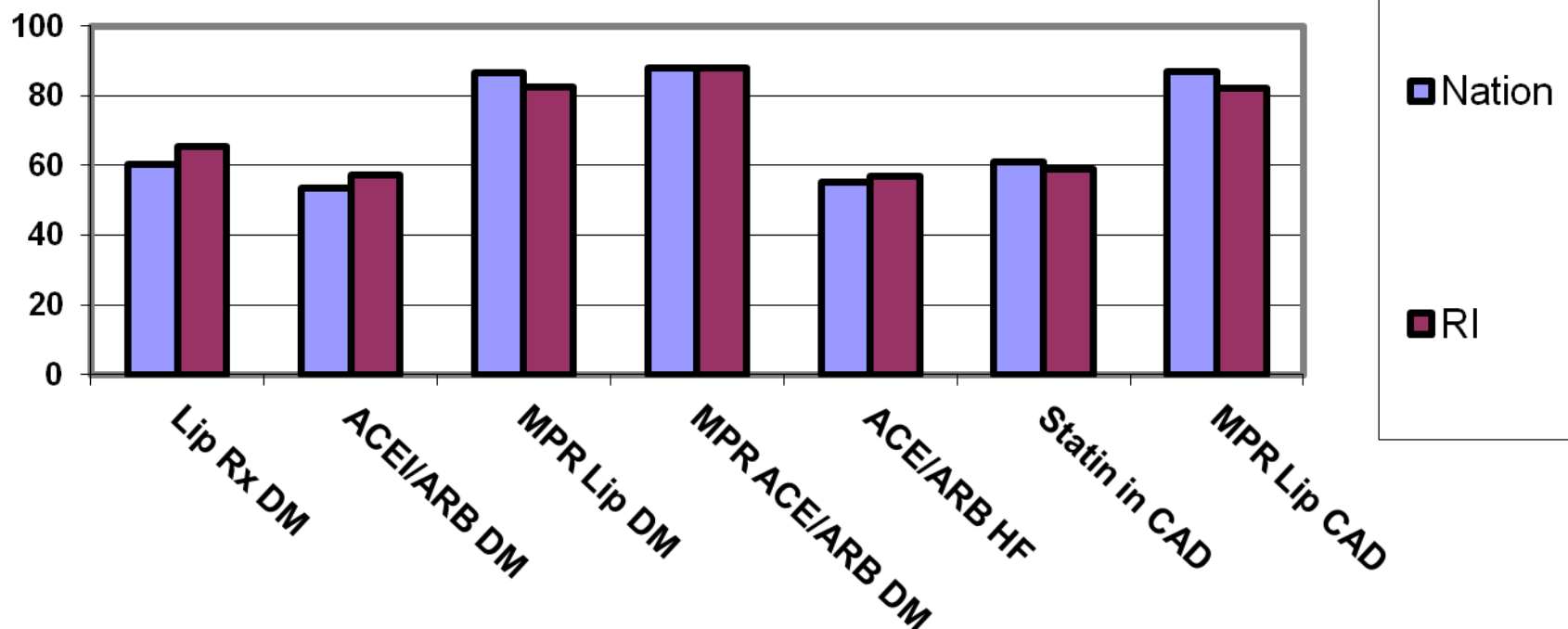
¹ Symptomatic, at least one prescription claim for a nitrate-containing product.

² Associated with the most recent prescription claim for any medication in the period.

³ Associated with at least one claim at any point in the study period.

* p<0.001

Selected Rx Quality Measures Using Part D Data (2006): Rates for Rhode Island and Nation



Legend:

Lip Rx DM: Lipid-lowering medication use in patients with diabetes

ACEI/ARB DM: Angiotensin-converting enzyme inhibitors and angiotensin receptor blocker use in patients with diabetes

MPR Lip DM: Medication Possession Ratio (adherence measure) for lipid-lowering medication use in patients with diabetes

MPR ACE/ARB DM: Medication Possession Ratio for angiotensin-converting enzyme inhibitors and angiotensin receptor blockers in patients with diabetes

ACE/ARB HF: Angiotensin-converting enzyme inhibitors and angiotensin receptor blocker use in patients with heart failure

Statin in CAD: Statin medication use in patients with coronary artery disease

MPR Lip CAD: Medication Possession Ratio (adherence measure) for lipid-lowering medication use in patients with coronary artery disease

Electronic Sources of Health Data: Elements for Measuring Quality in Medication Use (Selected Highlights)

EMR	PDE / Rx Claims	ePHR
<ul style="list-style-type: none">• Demographics• Problem list• Current medication list• Allergies• Clinical notes• Laboratory results• Reports• Administration and quality	<ul style="list-style-type: none">• Demographics• Prescriber identifier• Drug product identifier• Quantity dispensed• Date of service• Days supply• Ingredient cost• Patient pay amount	<ul style="list-style-type: none">• Demographics• Prescriber(s) identified• Diagnoses and conditions• Medications (Rx/OTC/cash)• Health data tracking• Patient preferences

MPR Validated: Examples from the Literature

1. Pittman DG, Chen W, Bowlin SJ et al. Adherence to statins, subsequent healthcare costs, and cardiovascular hospitalizations. *American Journal of Cardiology*. 2011 June;107(11):1662–1666
2. Lang K, Meyers JL, Korn JR et al. Medication adherence and hospitalization among patients with Schizophrenia treated with antipsychotics. *Psychiatric Services*. 2010 Dec;61(12):1239-47
3. Lau DT, Nau DP. Oral antihyperglycemic medication nonadherence and subsequent hospitalization among individuals with Type 2 Diabetes. *Diabetes Care*. 2004 Sep;27(9):2149-53

8th SOW Task 1d3: Lessons Learned

- PDE and Rx claims data sources can be readily utilized for quality improvement purposes
- Can use drug proxy for select medication conditions
- Part D data is suitable for larger units of analysis (e.g. comparing group practices, PDPs)
- Provider feedback initiates discussion and introspection
- Consider composite measures for smaller units of analysis

9th SOW - CKD: Improving the Detection and Treatment of Chronic Kidney Disease (CKD) in Patients with Diabetes

Program Goals

- Timely testing to detect the rate of kidney failure due to diabetes
- Slowing the progression of kidney disease in individuals with diabetes and hypertension through the use of ACEIs and ARBs
- Arteriovenous fistula placement and maturation for individuals who elect hemodialysis as their treatment option for kidney failure

9th SOW - CKD: ACEI/ARB Prescribing – Measure Definition

- Definition: Percentage of elderly and disabled Medicare FFS beneficiaries with CKD (stages 1-4), diabetes, and hypertension and indication of ACEI/ARB use
- Denominator: Elderly and disabled Medicare FFS beneficiaries 18-75 years of age with diagnoses of diabetes, hypertension and CKD (stage 1-4)
- Numerator: Individuals in denominator who have a claim for an ACEI and/or ARB in the reporting period
- Data Source: Medicare Part D claims data supplemented by other Medicare administrative data

9th SOW - CKD: Methods/Interventions

- Provided onsite technical assistance to 13 primary care practices
 - Implement evidence-based interventions
 - Identify and share best practices
 - Support HIT, PQRS, and other initiatives
- Formed a statewide strategic coalition to achieve sustainable change
 - Physician office practice redesign
 - Beneficiary education and self-management support
 - Systems changes to support primary prevention, early detection and treatment of CKD

9th SOW - CKD: Sample Letter to Physicians

<Date>

<MD First> <MD Last> <Suffix>

<Facility ID>

<Address 1> <Address 2>

<City> <State> <Zip>

Dear <Title> <MD Last Name>:

As part of our CMS-directed work as Quality Partners of Rhode Island, we have been charged to review Rhode Island's Medicare Fee-for-Service claims data to determine the rate of annual microalbumin testing in patients with diabetes, and prescribing of angiotensin converting enzyme inhibitors (ACEI) or angiotensin receptor blockers (ARB) in patients with diabetes, hypertension and chronic kidney disease (CKD).

Quality Measure	Your Rate (%)	State Rate (%)	Goal (%)
Microalbumin testing (annual)	<Task 1a rate>	34.4	35.4
ACEI/ARB prescribing	<Task 1b rate>	79.1	81.8

*Claims data represents the period April 1, 2008 through March 31, 2009.

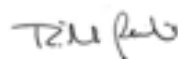
We want you to know that data from Medicare claims indicate that your rate of ACEI/ARB prescribing is lower than goal. Recognizing the potential limitations of claims data, and that the above figures depend greatly upon patient medication adherence, I am sharing these data, hoping they will be useful to you in improving your process of caring for your patients with diabetes. We will be monitoring these data and will send you an update in March (the report will represent the period July 1, 2008 through June 30, 2009), and then periodically during the next two years.

Annual microalbumin testing is consistent with national clinical practice guidelines; early detection and treatment of proteinuria with ACEIs or ARBs in patients with diabetes can delay the need for dialysis or renal transplant by 24% (Gennaro, NEJM 2001; 345:861-869).

In addition to providing you with your own rates on these measures, we want to provide you with information to support and encourage focusing on these important clinical measures. Our contract with Medicare allows us to provide various resources or to work directly with interested practices, clinics, and physicians to improve CKD screening and early treatment. Enclosed is a reference supporting this effort. We are eager to help practices to further analyze their data and assist in implementing innovations likely to improve outcomes on these measures. Additional information, including tools and resources in support of the CKD project, can be accessed at www.qualitypartners.org or by contacting Mary Barlas at 401-429-3228 or mbarlas@rhodeisland.org.

Thank you for reading this letter and considering allowing us to work with you to improve care.

Sincerely,



Richard Weadine, MD
Senior Director, Medical Affairs



Christopher Campagnolo, MD, PhD
Clinical Coordinator

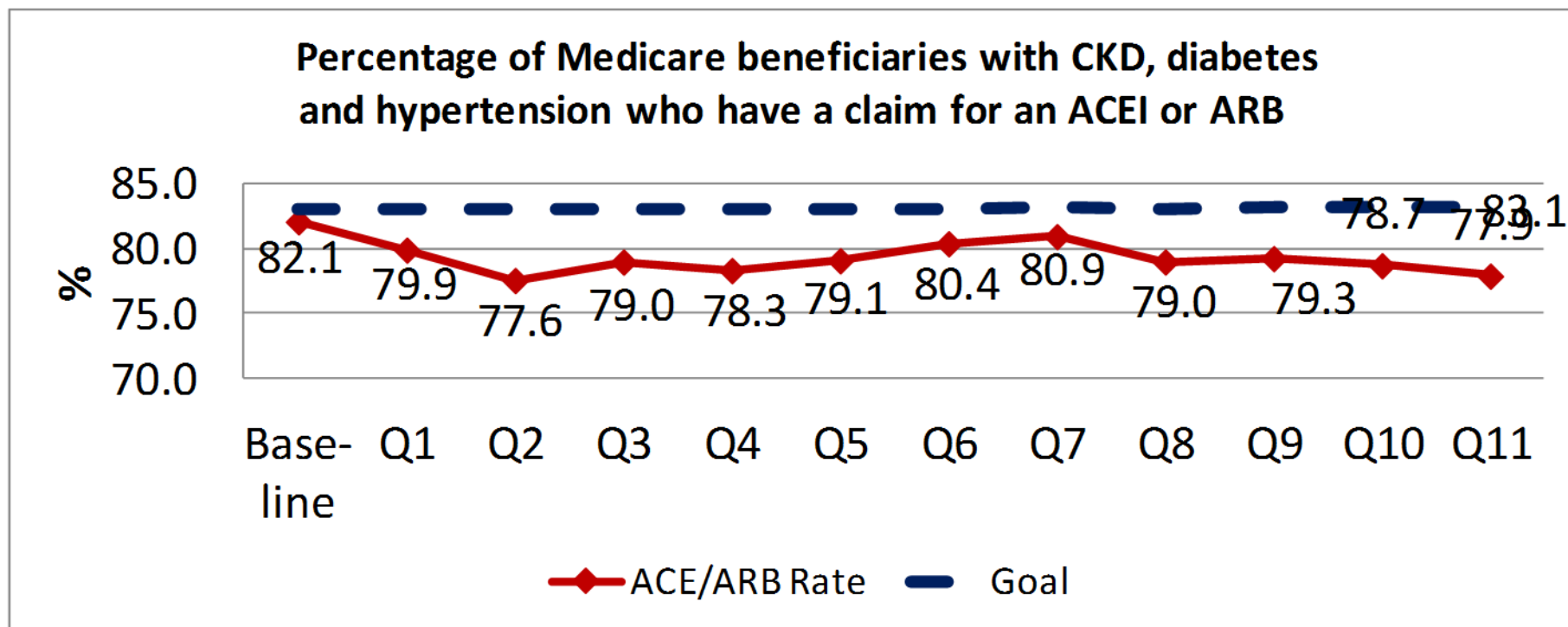
9th SOW - CKD: ACEI/ARB Prescribing Rates

Percentage of Medicare FFS beneficiaries 18-75 years of age with DM, HTN and CKD (stages 1-4) with a Part D claim for an ACEI or ARB agent

Measurement Period		N	D	%
Baseline	1/1/07 - 12/31/07	449	547	82.1
Quarter 1	4/1/07 - 3/31/08	377	472	79.9
Quarter 2	7/1/07 - 6/30/08	439	566	77.6
Quarter 3	10/1/07 - 9/30/08	466	590	79.0
Quarter 4	1/1/08 - 12/31/08	488	623	78.3
Quarter 5	4/1/08 - 3/31/09	484	612	79.1
Quarter 6	7/1/08 - 6/30/09	533	663	80.4
Quarter 7	10/1/08 - 9/30/09	518	640	80.9
Quarter 8	1/1/09 - 12/31/09	549	695	79.0
Quarter 9	4/1/09 - 3/31/10	573	723	79.3
Quarter 10	7/1/09 - 6/30/10	601	764	78.7
Quarter 11	10/1/09 - 9/30/10	648	832	77.9

*Six-month data lag

9th SOW - CKD: ACEI/ARB Prescribing Rates



Root Cause Analysis and Next Steps

- Completed a root cause analysis (RCA) to understand the source of the quality gap between ACEI/ARB prescription rates and evaluation target, which revealed the following:
 - ACEI/ARB prescribed, but not captured in Medicare Part D claims
 - ACEI/ARB prescribed, but not filled
 - ACEI/ARB not prescribed or was discontinued
- Partnered with a prioritized list of physicians and practices to complete chart abstractions to:
 - Allow further investigation into why ACEI/ARB prescription rates did not increase to the degree expected
 - Enable our team to understand where patients fell in the above areas of focus to identify opportunities for further intervention
 - Obtain a greater understanding of the magnitude of the confounding factors on ACEI/ARB fill rates

Chart Abstractions: QIO Support to Practices

- Completed chart abstractions of Medicare FFS patients with the diagnoses of diabetes, hypertension, and CKD
- Documented findings from chart abstractions that we then provided to the physician in a report
- Conducted follow-up discussions with physicians based on findings, to identify opportunities in which patients may be considered for ACEI or ARB therapy
- Supported outreach to pharmacies and/or patients to determine whether or not the ACEI or ARB prescription was actually filled
- Provided information and education to patients regarding the benefits of their medication and the importance of adherence
- Sent a letter to each physician with a summary of findings and patient-specific recommendations

Summary of Findings

Chart abstractions completed (N=172)

Beneficiaries receiving an ACEI or ARB, but not in numerator	(n=26)
ACEI or ARB not prescribed or discontinued (due to contraindication)	(n=19)
ACEI or ARB not prescribed or discontinued (other reasons)	(n=42)
Beneficiary deceased	(n=19)

Findings: Beneficiaries Receiving an ACEI or ARB but Not Included in the Numerator

Category	n
Physician provided samples	11
Prescription filled at VA Medical Center	10
Prescription filled using discount generic program	5
Total =	26

Findings: Beneficiaries Not Prescribed an ACEI/ARB or ACEI/ARB Discontinued Due to Contraindication

Category	n
Allergy	3
Cough with ACEI	2
Hyperkalemia	7
Contraindication (other)	7
Total =	19

Findings: Beneficiaries Not Prescribed an ACEI/ARB or ACEI/ARB Discontinued for Other Reasons

Category	n
No proteinuria	8
Normotensive	4
Taking another anti-hypertensive class	30
Total =	42

9th SOW - CKD: Lessons Learned

- Medicare Part D claims data can be readily utilized for quality improvement purposes
- Part D data is suitable for larger units of analysis (e.g. comparing states, PDPs)
- Provider feedback initiates discussion and introspection



Assessments

Assessment Question 1

Potentially problematic features of Medicare Part D data as used for quality improvement purposes include:

- 1/A Timeliness of data
- 2/B Data completeness
- 3/C Difficulty determining diagnoses
- 4/D All of the above

Assessment Question 2

Which of the following is NOT an appropriate application of Part D data for quality measurement?

- 1/A Determining generic utilization rates
- 2/B Calculating patient adherence to therapy
- 3/C Creating prescriber-specific reports
- 4/D Monitoring over-the-counter drug use



Questions?

Contact Information

For more information please contact:

Stephen Kogut

kogut@uri.edu

Lynn Pezzullo

lpezzullo@healthcentricadvisors.org



Presentation Evaluation

Please get your ARS Response Card ready