

**2014 CAPG Colloquium on Physician Groups in Medicare Advantage  
October 7th, 2014**

**Breakout III:**

**Drug Reconciliation and Medication Adherence—  
Two Sides of the Same Coin**

Craig Schilling, Pharm.D.; Vice President, Patient Programs

John Mbagwu, Pharm.D.; Manager, PDL and Channel Strategies



## **Medication Adherence – A Prescription for Lower Costs and Better Health Outcomes**

Craig Schilling, Pharm.D.

# UnitedHealth Group

## One of the World's Largest Healthcare Companies

UnitedHealth Group: \$111B

Publicly Traded Registrant  
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### UnitedHealthcare: \$82B

Health care coverage and benefits businesses, unified under a master brand

- Employer and Individual
- Community and State
- Medicare and Retirement

*UnitedHealthcare purchases \$35B in prescription drugs each year*

### Optum: \$29B

Information and technology-enabled platform, focused on all of the major health system sectors:

- Life Sciences
- Providers
- Payers
- Governments

Our integration with OptumHealth and OptumRx allows us to harness additional capabilities to improve engagement with payers and providers



One of the world's largest **health information, technology and consulting** companies, touching every sector of healthcare



The leader in **population health management** serving the physical, mental and financial needs of both individuals and organizations



The **pharmacy management** leader in service, affordability and clinical quality



# Our clients, customers and partners

Optum provides health and information services to

62M

individuals or  
**1 in 5**  
AMERICANS



80K

Physician  
practices &  
health care  
facilities



5K

Hospitals



66K

Pharmacies



400

Global life  
sciences  
companies



300

Different  
health plans

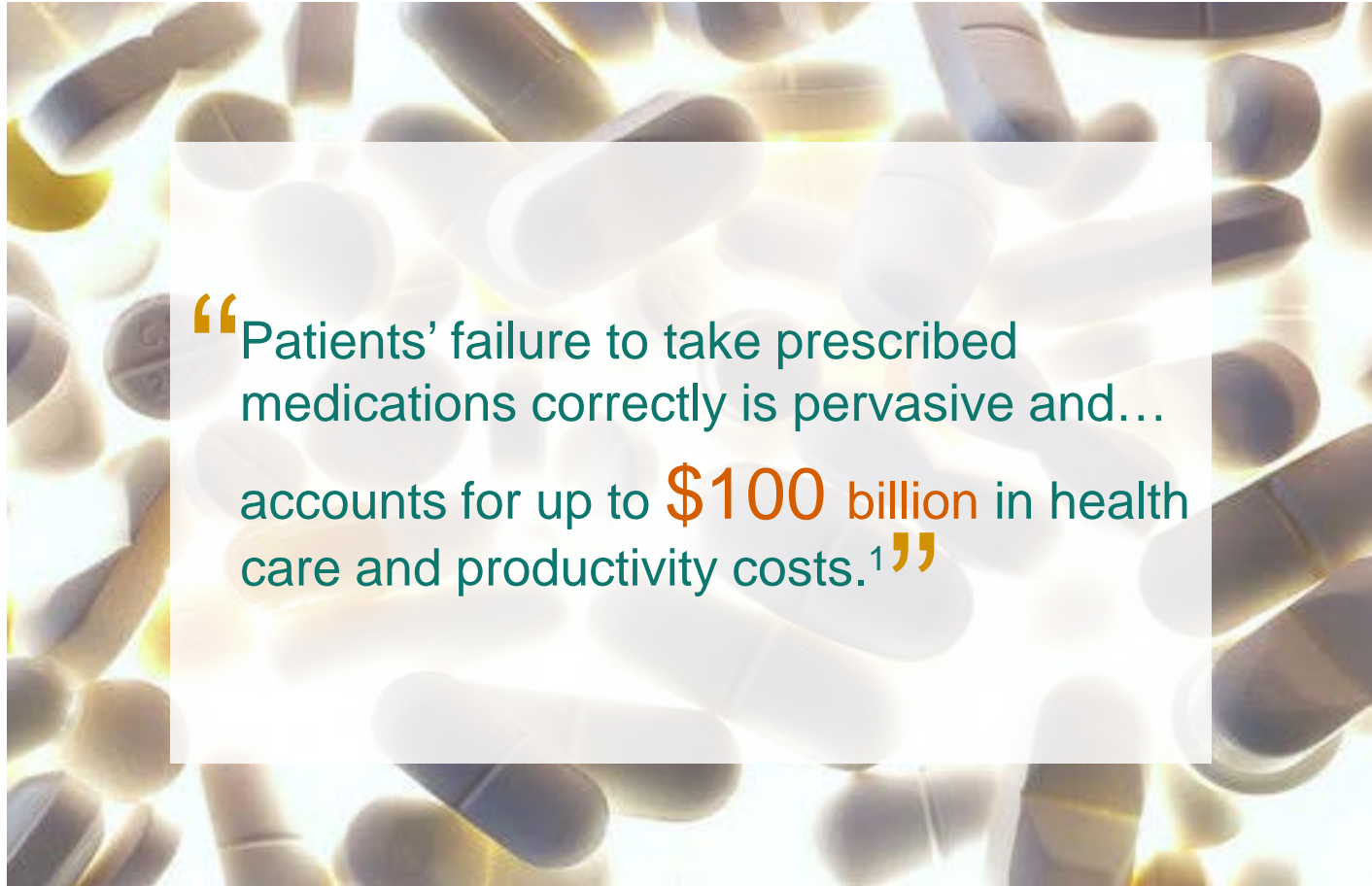


125

Government  
agencies

# The Problem Of Medication Adherence

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“Patients’ failure to take prescribed medications correctly is pervasive and... accounts for up to **\$100 billion** in health care and productivity costs.<sup>1</sup>”

1 Noncompliance With Medications: An Economic Tragedy, A report by The Task Force for Compliance, Revised 1994

# Adherence by the Numbers



20

Percentage of new prescriptions in the US that are not filled <sup>1</sup>

40

Percentage of heart attack survivors who remain on statins two years after being prescribed the medication <sup>3</sup>

125,000

Number of US deaths annually attributed to poor medication adherence <sup>2</sup>

5

Dollars saved per \$1 invested in medication therapy management programs<sup>4</sup>



290

Billion dollars or 13% of total health care expenditures, in potential savings, from adherence and related disease management annually <sup>5</sup>



1 Fischer, M, Primary Medication Non-Adherence: Analysis of 195,930 Electronic Prescriptions, Journal of General Internal Medicine

2 McCarthy R, The Price You Pay for the Drug Not Taken

3 Fernandez, G, Statin Myopathy: A common dilemma not reflected in clinical trials, Cleveland Clinical Journal of Medicine

4 Perez A, Economic Evaluation of Clinical Pharmacy Services, Pharmacotherapy

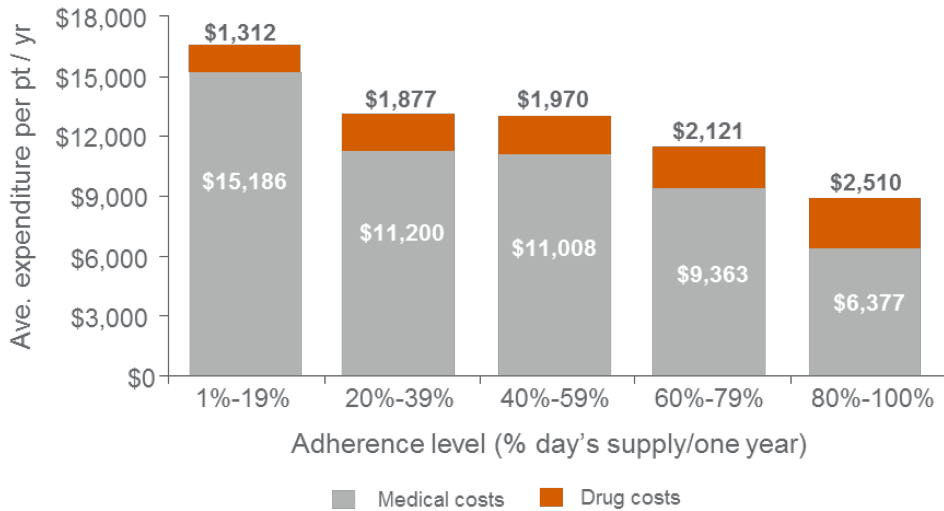
5 New England Health Care Institute estimate





# Adherence to medications improves outcomes and economics

**Total Health Care Costs in Diabetes Medical Management**



Source: Sokol MC, Impact of Medication Adherence on Hospitalization Risk and Healthcare Cost. *Medical Care*. 2005. A Task Force for Compliance. 43; 521-530. Retrospective, observational: 1997 through 1999. Employer example: large manufacturer<sup>1</sup>

## Consensus on the value of improving adherence

*“Improving adherence is easy pickings to improve health outcomes, rather than having to discover new ways to treat a disease – or reduce the cost of medicine.” Janet Wright, cardiologist and Executive Director, Million Hearts initiative*

- Diabetes, hypertension and high cholesterol non adherence cost the U.S. \$106 billion a year. *Am J Pharm Benefits, 2012*
- In patients who take their medications as prescribed, annual medical spending is reduced by approximately:
  - \$9,000 per patient with Congestive Heart Failure
  - \$4,000 per patient with hypertension or diabetes
  - \$2,000 per patient with high cholesterol

**Health Affairs, 2011**

# Medication Adherence as a Measure of Quality



**2014** **CMS Marketplace Quality Team** includes **PQA's** Star Rating measures of medication adherence in the **Quality Rating System (QRS)** Beta Test measure set for insurance Marketplace **Qualified Health Plans (QHPs)**.

**2012** **Additional CMS Star Rating measures** include medication adherence, using the PDC methodology endorsed by PQA. Categories measured: Statins, RAS antagonists, Diabetes medications (excluding insulin)

**2010** **Pharmacy Quality Alliance (PQA)**, using measures developed in partnership with **NCQA**, launches demonstration projects to assess the impact of pharmacists interventions on medication adherence

**2009** The **National Quality Forum** endorsed medication adherence as an indicator of quality in drug therapy management. oral anti-diabetic drugs, CCBs, statins, ACEs, ARBs and antipsychotics included

**URAC** (Utilization Review Accreditation Commission) adds new performance measures (seven domains) to its accreditation programs for Pharmacy Benefit Management and Drug Therapy Management

**2007** **National Council on Patient Information and Education** issues a “National Action Plan” calling upon stakeholders to improve medication adherence



# Audience Question

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1. Which of the following statements are true related to the importance of medication adherence to Medicare Advantage Star Rating measures:
  - a. Medication adherence measures represent almost half of the part D Star Rating score
  - b. Medication adherence measures directly or indirectly impact 22 of the 48 Star measures
  - c. Medication adherence measure are weighted equally to the other 45 Star measures
  - d. a and b are true
  - e. a, b, and c are true

# Audience Question

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  - a. Medication adherence measures represent almost half of the part D Star Rating score
  - b. Medication adherence measures directly or indirectly impact 22 of the 48 Star measures
  - c. Medication adherence measure are weighted equally to the other 45 Star measures
  - d. a and b are true**
  - e. a, b, and c are true

# A Key Measure For Medicare Health Plan's Quality Ratings



**Fourteen of the 48 individual Star measures relate to Part D**

- 48% of the Part D score & 17% of the overall Star score is attributable to med adherence**

**Three new medication adherence ratings were instituted in 2012.**

Table G-2: Part D Measure Weights

Measure ID	Measure Name	Weighting Category	Part D Summary	MA-PD Overall
D01	Call Center – Pharmacy Hold Time	Measures Capturing Access	1.5	1.5
D02	Call Center – Foreign Language Interpreter and TTY/TDD Availability	Measures Capturing Access	1.5	1.5
D03	Appeals Auto-Forward	Measures Capturing Access	1.5	1.5
D04	Appeals Upheld	Measures Capturing Access	1.5	1.5
D05	Enrollment Timeliness	Process Measure	1	1
D06	Complaints about the Drug Plan	Patients' Experience and Complaints Measure	1.5	1.5
D07	Beneficiary Access and Performance Problems	Measures Capturing Access	1.5	1.5
D08	Members Choosing to Leave the Plan	Patients' Experience and Complaints Measure	1.5	1.5
D09	Improvement	Outcome Measure	1	1
D16	Part D Medication Adherence for Oral Diabetes Medications	Intermediate Outcome Measures	3	3
D17	Part D Medication Adherence for Hypertension (RAS antagonists)	Intermediate Outcome Measures	3	3
D18	Part D Medication Adherence for Cholesterol (Statins)	Intermediate Outcome Measures	3	3
D14	High Risk Medication	Intermediate Outcome Measures	3	3
D15	Diabetes Treatment	Intermediate Outcome Measures	3	3
D16	Part D Medication Adherence for Oral Diabetes Medications	Intermediate Outcome Measures	3	3
D17	Part D Medication Adherence for Hypertension (RAS antagonists)	Intermediate Outcome Measures	3	3
D18	Part D Medication Adherence for Cholesterol (Statins)	Intermediate Outcome Measures	3	3

Source: CMS Medicare Health & Drug Plan Quality and Performance Ratings 2013 Part C & Part D Technical Notes First Plan Preview DRAFT Updated – 08/09/2012, page 75

# Impact of Medication Adherence on Star Rating measures

ID	Measure name Part C	Weight	Direct or Indirect
C05	Improve /Maintain Physical Health	3	I
C06	Improve /Maintain Mental Health	3	I
C10	Care for Older Adults – Med Review	1	I
C16	Diabetes Care- Blood Sugar Controlled	3	D
C17	Diabetes Care- Cholesterol Controlled	3	D
C18	Controlling Blood Pressure	3	D
C22	Plan All-cause Readmissions	3	D
C25	Customer Service	1.5	I
C26	Rating of Health Care Quality	1.5	I
C27	Rating of Health Plan	1.5	I
C28	Care Coordination	1.5	I
C29	Complaints about the Health Plan	1.5	I
C30	Member Choosing to Leave the Health Plan	1.5	I

ID	Measure name Part D	Weight	Direct or Indirect
D04	Complaints about the Drug Plan	1.5	I
D05	Members Choosing to Leave the Plan	1.5	I
D06	Drug Plan Quality Improvement	5	D
D07	Rating of Drug Plan	1.5	I
D08	Getting Needed Prescription Drugs	1.5	D
D11	Diabetes Treatment	3	I
D12	Medication Adherence for Diabetes Medications	3	D
D13	Medication Adherence for Hypertension (RAS Antagonists)	3	D
D14	Medication Adherence for Cholesterol (Statins)	3	D

**22 of 48 Measures Impacted**

- 9 Direct
- 13 Indirect

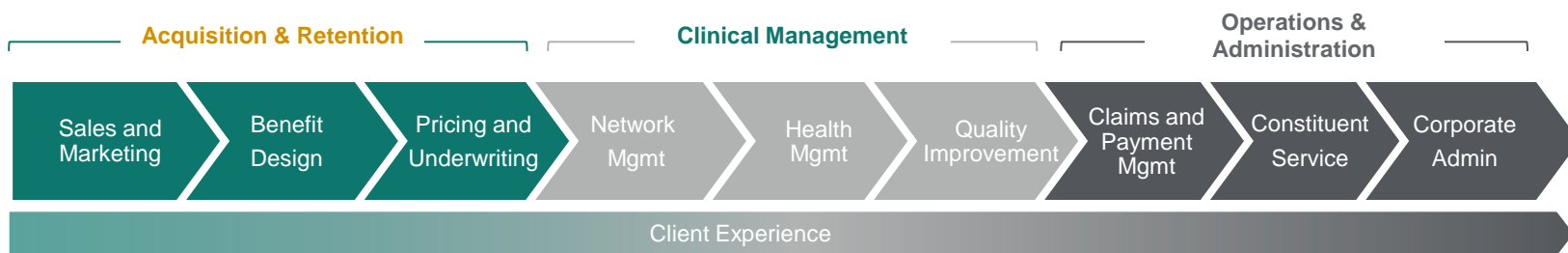
## ***Commercial Payer Perspective on Addressing Medication Adherence***

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- **Highly prevalent chronic condition**
  - Specific measurable goals of treatment exist
  - Symptoms of condition are less noxious than adverse events caused by drug therapy that negatively impact adherence
- **Associated drug therapy exhibits a low baseline proportion of days covered (PDC) in the commercial population**
- **National clinical guidelines that support the adherence intervention**
- **Strong clinical and pharmacoeconomic evidence within the therapeutic category that is supported by improved medication adherence**
  - Improvement in adherence leads to improved clinical outcomes and reductions in disease-related, or overall healthcare costs

# Solving Problems Across The Payer Value Chain

*Medication Adherence responds to six (6) Payer Clinical value chain needs*



**Payer Needs**

- Marketing and selling directly to consumers
- Enabling plan selection
- Succeeding on exchanges
- Retaining groups
- Bidding and winning contracts for Medicare & Medicaid
- Increasing member loyalty
- Designing products for consumers
- Differentiating products on exchanges and for public programs
- Delivering defined contribution arrangements
- Aligning benefit design with target segments and desired risk profiles
- Shifting to community rating
- Pricing for state and federal bids
- Automating underwriting
- Measuring & managing risk
- Aligning risk and payments to payers
- Managing reserves
- Assessing subsidy impact
- Developing a networks strategy
- Contracting
- Aligning networks and products
- Credentialing
- Meeting demands of increased volume and new cohorts
- Improving specialty network performance and LTC
- Improving communic.
- Managing chronic conditions
- Promoting health and wellness
- Engaging consumers and improving decision making
- Maintaining Medical Policy
- Integrating care delivery
- Aligning care to regulatory mandates
- Achieving cost and quality goals
- Measuring quality (i.e., HEDIS)
- Improving stakeholder satisfaction
- Maximizing bonus opportunities (i.e., Stars)
- Closing gaps in care
- Driving accountable care
- Trending medical econ
- Automating and simplifying claims payment
- Ensuring accurate payment
- Complying with payment guidelines
- Executing value based reimbursement
- Reducing the cost of paying claims
- Ensuring ICD-10 readiness
- Aligning consumer experience with service capabilities
- Reducing cost while improving service levels
- Managing increased volume and the needs of new cohorts
- Modifying enrollment and billing for exchanges
- Meeting compliance requirements while reducing cost
- Utilizing technology to improve performance
- Reducing overhead costs
- Managing and aligning data while making it a truly useful asset
- Navigating legislative uncertainty



# Optum Adherence Solution Is A Proactive Program- Three-Step Approach For Better Results



## ID Members at Risk Before Gap Occurs

Proprietary predictive modeling tool – Drug Adherence Index™v2.0 (DAI).

Identify specific members at risk for negative adherence behavior changes.

Target members with high propensity to increase adherence levels to > 80% proportion of days covered.

Limit interventions for members who are already >80% proportion of days covered and not at risk for declining adherence behavior.

## Seek to Understand the Cause

Engage members directly for patient centric approach.

Confirm members at-risk for non-adherence a using validated psychometric instrument.

“Diagnose” underlying issue that may cause non-adherence using Barrier Assessment Survey.

## Remove Barriers to Improve Adherence

Member engagement to address barrier .

Offer multi-modal options to engage members (live call agent, home visit, interactive voice response, text).

Leverage Health care practitioners (Registered Nurse or Pharm.D.) to address adherence barriers (literacy, motivation, cost).

Provide reminder messaging and organizational tools to address the forgetfulness barrier.

## Star Rating cut-points: Medication Adherence Measures (MA-PD)

	3-Star	4-Star	5-Star
<b><u>2013 (2011 PDE data)</u></b> RAS Antagonists	72.6 – <76.5	>/= 76.5 - <79.7	>/= 79.7
Diabetes Medications	72.0 – <75.7	>/= 75.7 - <79.0	>/= 79.0
Statins	67.3 – <71.6	>/= 71.6 - <75.4	>/= 75.4
<b><u>2014 (2012 PDE data)</u></b> RAS Antagonists	>/= 72.0 - <75.0	>/= 75.0 - <79.0	>/= 79.0
Diabetes Medications	>/= 71.0 - <74.0	>/= 74.0 - <77.0	>/= 77.0
Statins	>/= 68.0 - <71.0	>/= 71.0 - <75.0	>/= 75.0
<b><u>2015 (2013 PDE data)</u></b> RAS Antagonists	>/= 76.0 - <81.0 ↑4%	>/= 81.0 - <85.0 ↑6%	>/= 85.0 ↑6%
Diabetes Medications	>/= 73.0 - <77.0 ↑2%	>/= 77.0 - <81.0 ↑3%	>/= 81.0 ↑4%
Statins	>/= 68.0 - <76.0 ↔	>/= 76.0 - <83.0 ↑5%	>/= 83.0 ↑8%

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# Conception Of The Drug Adherence Index™ v1.0

The DAI (Drug Adherence Index™) was shared at the 17<sup>th</sup> Annual International meeting of the ISPOR (International Society for Pharmacoeconomics and Outcomes Research) on June 5, 2011

## Creation of the Drug Adherence Index™ (DAI) to Predict Non-Adherence in Medicare Patients

Matthew Sulzicki, Ajaya Upadhyay, Dan Atkins, Craig Schilling | OptumInsight

### Abstract

- The Center for Medicaid and Medicare Services (CMS) created plan Star ratings that indicate the quality of Medicare plans.
- In 2011, CMS added three pharmacy measures that focus on member medication adherence, i.e. oral anti-diabetic medications, hypertension medications (Renin-Angiotensin System Antagonists - ACE/ARB), and cholesterol lowering medications (statins).
- To proactively identify patients at risk for non-adherence, a multi-variate regression prediction model was developed to create adherence risk scores. Model accuracy was 70%.

### Objective

- This study examined the relevant factors in predicting drug non-adherence and created risk scores for use in predicting patients who are likely to be non-adherent.

### Background

#### Policy Implications

- In 2011, the Centers for Medicare & Medicaid Service (CMS) included drug adherence as a quality measure within the five-star rating system.
- Based on a three-year CMS demonstration project from 2012 to 2014, quality bonus payments (QBPs) will be awarded to plans achieving or exceeding a rating of 3 stars in its overall star rating.
- Drug adherence measures are weighted 3 times as high as most other measures for Medicare Part D. Thus, adherence measures are a key component to improving overall star ratings and obtaining associated QBPs.

#### Cost of Non-Adherence

- The World Health Organization has identified medication non-adherence as the leading cause of preventable morbidity, mortality and health care costs.
- Direct costs of medication non-adherence in the United States are a minimum of \$100 billion.
- The New England Healthcare Institute estimates that non-adherence along with suboptimal prescribing, drug administration, and diagnosis, costs the health care system as much as \$290 billion per year—or 13 percent of total health care expenditures.
- Improving medication non-adherence is central to our efforts to reform the health care system.

### Methods

#### Study Design

- Retrospective database study that used eligibility, medical, and pharmacy claims data from a large US health care organization.

#### Inclusion Criteria

- ≥ 1 prescription drug claim for cholesterol lowering medication (Statin drugs), blood pressure (Renin-Angiotensin System Antagonists - ACE/ARB), and oral anti-diabetic medications (OADs - biguanides, sulfonylureas, TZDs, DPP-IV inhibitors).
- Continuous health plan enrollment with pharmacy coverage for at least 12 months prior to (baseline period) and 12 months after the index date.
- Enrollment in a Medicare Part D plan. Patients were age 65+. Note that final models used only Medicare Part D prescription drug plan (PDP) patients, although MAPD patients were used at first.

#### Study Design

- Variable of interest was the proportion of days covered (PDC), as determined over the 12 months following the index date. Patients with PDC ≥ 80% were considered 'adherent'.
- Logistic regression was used to examine the effects of socio-economic, clinical, and past drug usage variables on non-adherence.
- 70% of the patients were selected randomly into the test group with simple random sampling without replacement. The test group was used to create the multivariate regression model.
- The remaining 30% sample was considered the validation group.
- Parameter estimates from the test group final regression model were retained and used on the validation group to create the DAI.

Drug Class	n	C-stat	Sensitivity	Specificity
Diabetes	631,308	0.70	71.9	72.9
Statin	1,403,894	0.70	71.9	73.0
ACE/ARB	1,399,729	0.70	71.8	69.9

DAI Score	Correct	Sensitivity	Specificity	False Positive	False Negative	C-statistic
Cohort	72.1	71.8	72.9	14.8	48.2	0.70
30% of data	72.2	72	72.7	14.8	48.1	0.70
25% subsample of 30%	72.1	71.7	72.8	14.4	48.8	0.70
15% subsample of 30%	72.0	72.8	73	14.5	48.1	0.70
5% subsample of 30%	72.3	74.1	71.8	14.7	44.7	0.69
Average	72.46	72.46	72.4	14.55	47.54	0.70

DAI Score	Correct	Sensitivity	Specificity	False Positive	False Negative	C-statistic
Cohort	72.9	72.6	70.4	14.9	45.7	0.70
30% of data	72.7	72.7	70.3	15.1	45.9	0.70
25% subsample of 30%	72.6	72.6	70.2	15.2	45.8	0.70
15% subsample of 30%	72.4	72.5	70.1	15.3	45.1	0.70
5% subsample of 30%	72.4	72.2	70.4	15	45.4	0.70
Average	72.6	72.62	70.34	15.1	45.46	0.70

### Results

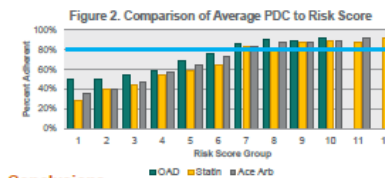
#### Regression Results

- Logistic regression models were evaluated based on c-statistics, sensitivity, specificity, false positive, false negative, Hosmer and Lemeshow Goodness-of-fit test, and AIC. Sensitivity and specificity hovered at 71% for all models (Table 1).
- Inclusion of medical characteristics did not increase the power of the multivariate models. Final models included socio-economic and drug regressors, allowing for the ability to risk score a larger population with similar power (Table 2).
- Past drug usage were the most significant predictors of PDC, with the most significant predictors shown in (Table 3)

#### Risk Scores

- There was a positive correlation between average PDC and risk score group (Figure 2).
- The DAI models correctly identified 70% of the non-adherent patients, and mis-identified 30% of the adherent patients as non-adherent (Figure 1). The 70% success rate was similar to other prediction models.

Table 3. Common Statistically Significant Variables	Variable Type
Number of drug claims in Pre period	drug
Days Supply of Index drug	drug
If patient had drug in 3 months prior to Index	drug
Total Days Supply all drugs prior 12 months	drug
Number of chronic medications used in pre period	drug
Number of claims used in prior 3 months	drug
Number of ACE/ARBs in prior 12 months	drug
Total Drug claims in all pre period	drug
Quantity units on index drug	drug
Number of claims used in prior 12 months	drug
If patient had a diagnosis of diabetic nephropathy diagnosis	medical
Month of drug start date	Other
Number of months of medical coverage in pre period	Other
Number of months of drug coverage in pre period	Other



### Conclusions

- Adherence to previous medication regimen(s) were the most significant predictors of future drug utilization
- Adherence intervention programs that target the entire patient population are unnecessary and not cost effective. Proactive identification of patients at risk for future non-adherence can allow managed care organizations to target the right patients in need of drug adherence intervention programs.
- The Drug Adherence Index™ is an effective tool that may help to avoid adherence intervention costs with patients who are already adherent to their medication(s).

### Limitations

- Presence of a claim for a filled prescription does not indicate that the medication was consumed nor that it was taken as prescribed
- Medications filled over-the-counter or provided as samples by the physician will not be observed in the claims data.
- Certain information is not readily available in claims data that could have an effect on study outcomes, such as certain clinical and disease-specific parameters.
- Additionally, the design of this study was retrospective, which are limited in their ability to account for the unobserved differences between study cohorts. Multivariate analysis adopted in this study adjusted for only the observed characteristics. Additionally, plan benefit design was not included in the model, which may increase model performance.



Poster Presentation at the ISPOR 17th Annual International Meeting, June 2-6, 2011, Washington, DC, USA

# The Drug Adherence Index™

*Target those patients that need intervention and will drive the most programmatic success*

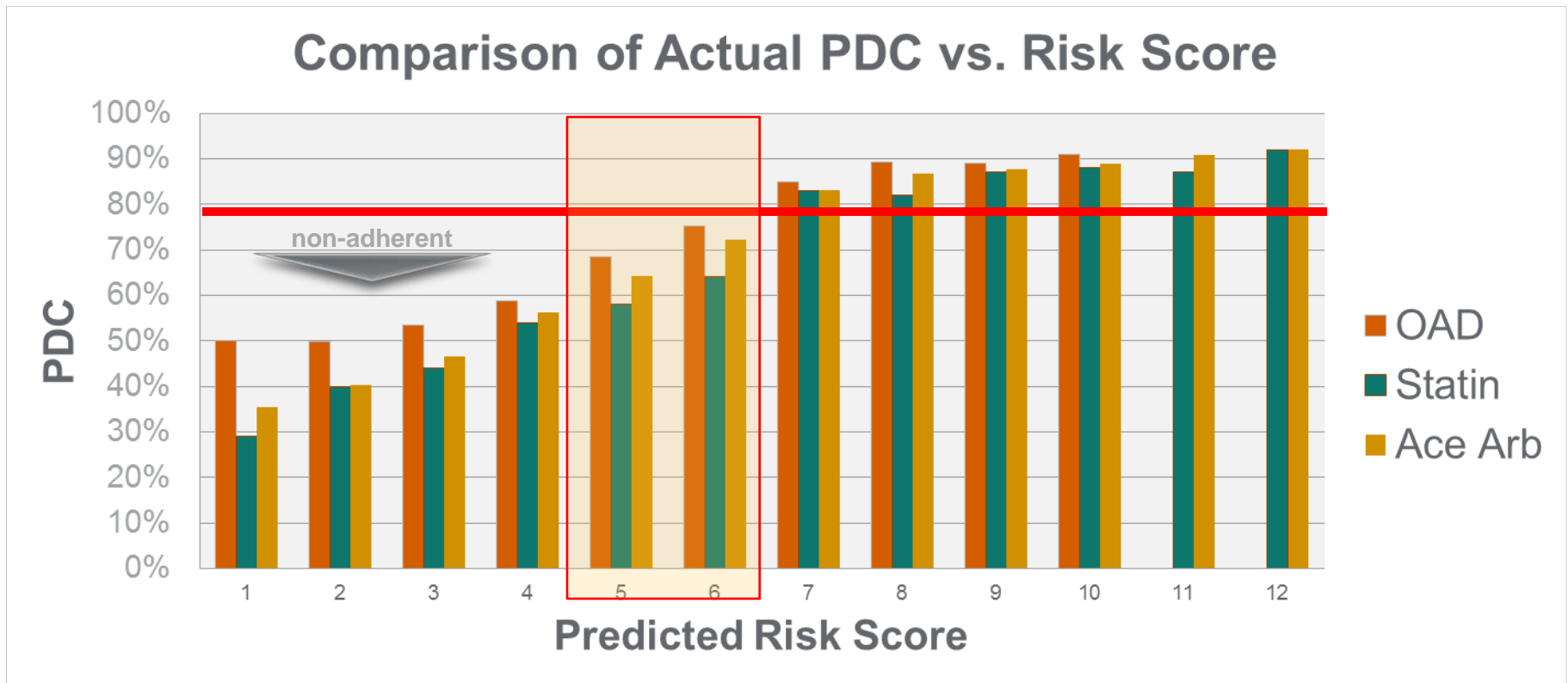
- A predictive model that can proactively identifies patients at high risk of not adhering to their medications.
- It produces a risk score for every patient.
- The score is based on each patient's past drug usage and other medical and socio-demographic characteristics.

The screenshot shows the 'Optum DAI 1.2' interface. At the top left is the 'OPTUMInsight™' logo. The title 'Drug Adherence Index Tool' is on the top right. The interface is divided into two main sections: 'Input Data Sources' and 'Output Data Destination'.  
In the 'Input Data Sources' section, there are three rows:  
1. 'Enrollment' with a dropdown menu set to 'my\_enrollment.sas7bdat', a folder icon, and radio buttons for 'SAS Dataset' (selected) and 'Csv'.  
2. 'Pharmacy' with a dropdown menu set to 'my\_pharmacy.sas7bdat', a folder icon, and radio buttons for 'SAS Dataset' (selected) and 'Csv'.  
3. 'Medical (optional)' with an empty dropdown menu, a folder icon, and radio buttons for 'SAS Dataset' and 'Csv'.  
In the 'Output Data Destination' section, there is one row:  
1. 'Scored Data' with a dropdown menu set to 'Scored\_2012\_5.csv', a folder icon, and radio buttons for 'SAS Dataset' and 'Csv' (selected).  
At the bottom, there are three checked checkboxes: 'Oral Anti-Diabetic', 'Statin', and 'ACE/ARB'. A 'Score!' button is located to the right of these checkboxes.

- It is completely scalable and applicable to multiple data sources

# Using The Index To Target Members For Intervention

Goal: Identify patients predicted to be non-adherent



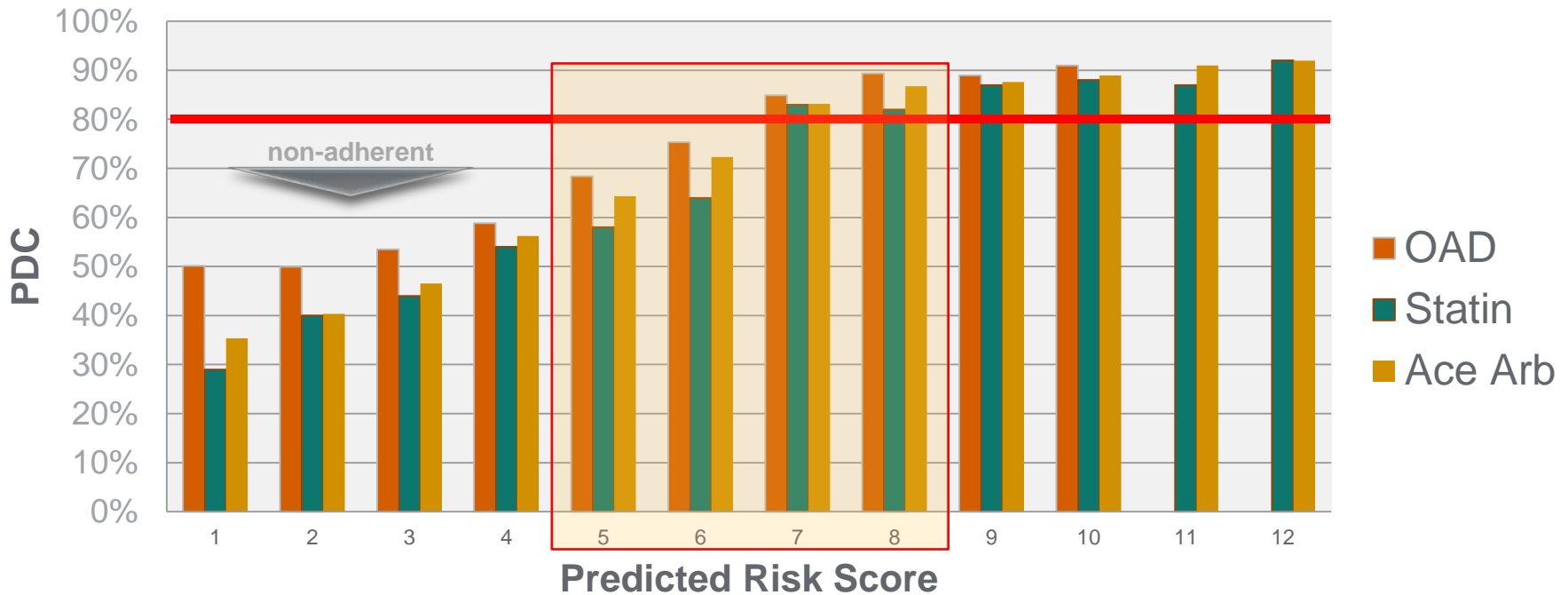
\* PDC = Proportion of Days Covered    \* OAD = Oral Anti-Diabetic    \* Ace Arb = Angiotensin converting enzyme inhibitor / Angiotensin receptor blocker



# Using The Index To Target Members For Intervention

Goal: Target those with the greatest opportunity for Stars success

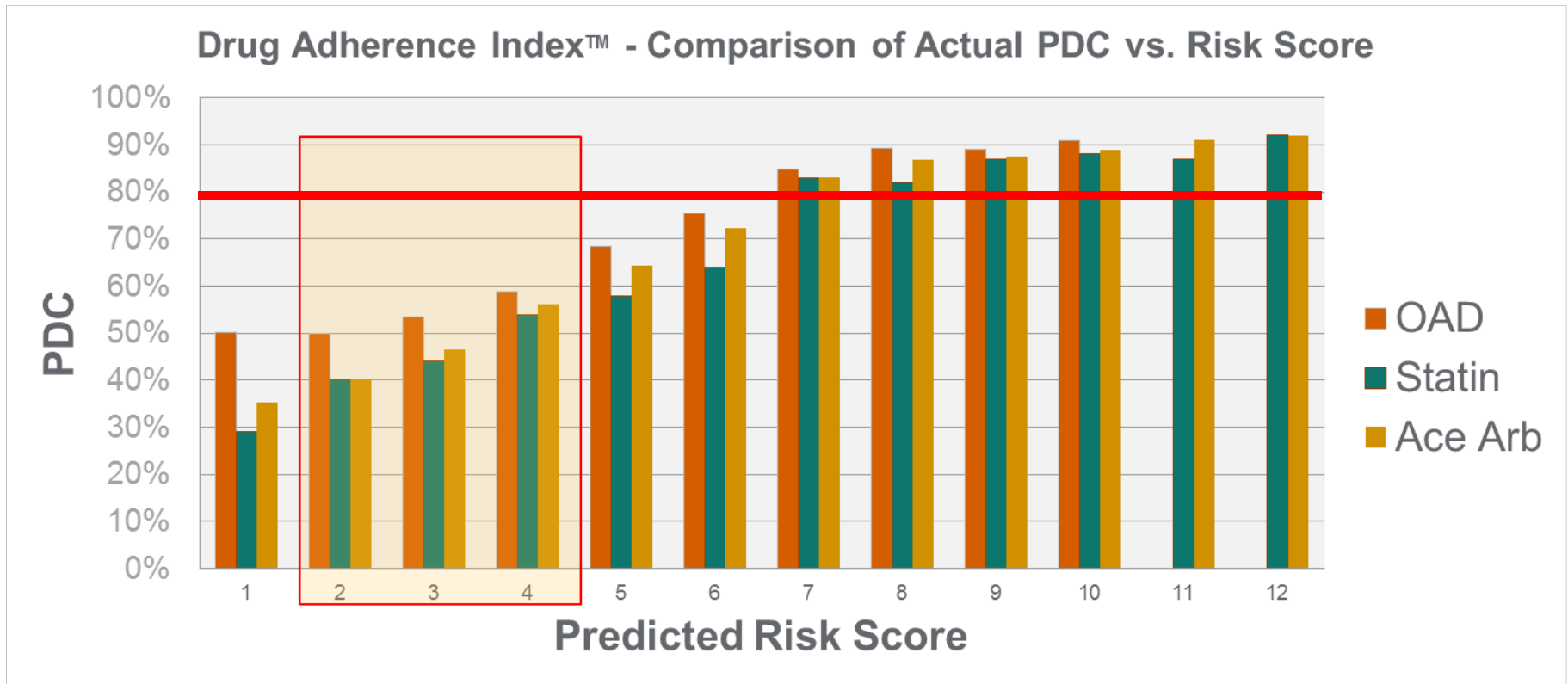
Drug Adherence Index™ : Comparison of Actual PDC vs. Risk Score



\* PDC = Proportion of Days Covered \* OAD = Oral Anti-Diabetic \* Ace Arb = Angiotensin converting enzyme inhibitor / Angiotensin receptor blocker

# Using The Index To Target Members For Intervention

Goal: Broaden member targets to improve medical management and reduce utilization



\* PDC = Proportion of Days Covered    \* OAD = Oral Anti-Diabetic    \* Ace Arb = Angiotensin converting enzyme inhibitor / Angiotensin receptor blocker

## Audience Question

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2. Adherence to medications is highly important from a clinical, health economic, and quality perspective. If a group of patients are adherent to their chronic hypertension / diabetes / statin medication (i.e. their 'proportion of days covered' measure is at least 80%), what percent of them will become non-adherent to that same medication class in the coming 12 months?
- a. 1%
  - b. 5%
  - c. 10%
  - d. 25%
  - e. 40%

## Audience Question

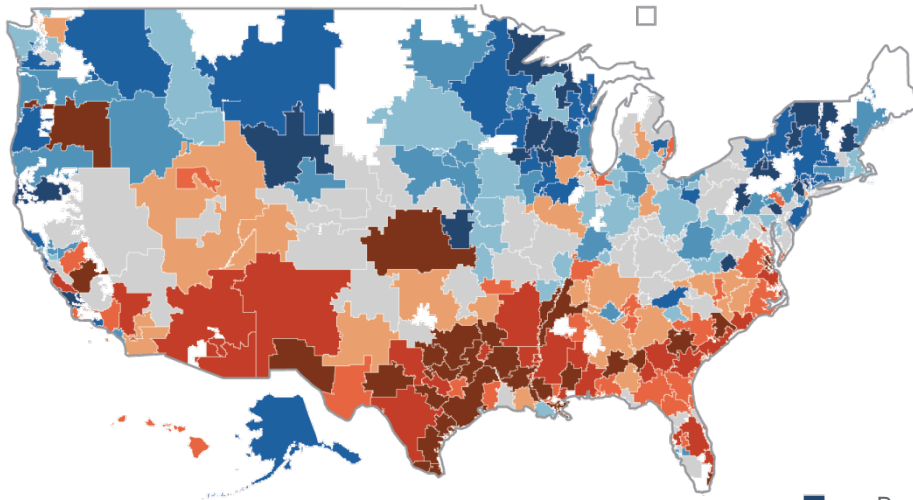
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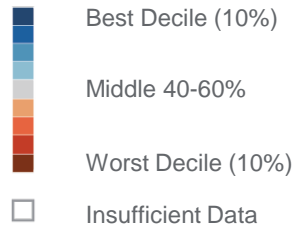
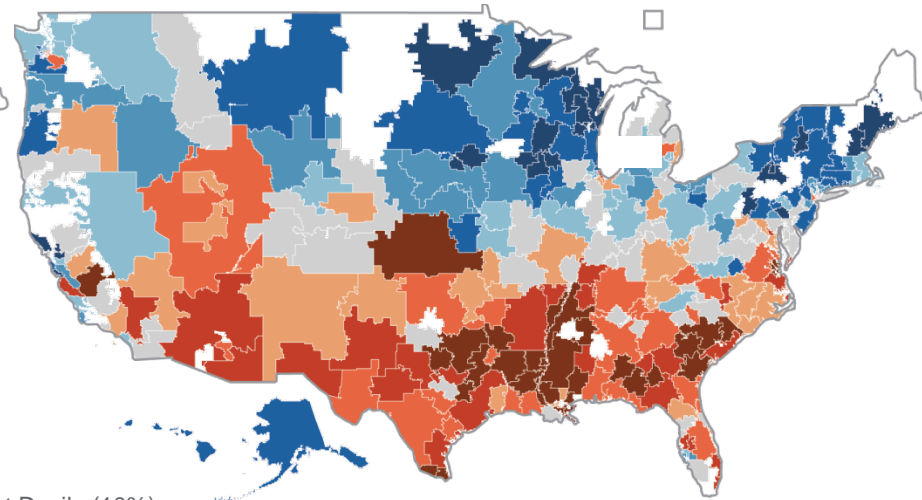
# Predictive Modeling Specific To Higher Risk Members: DAI™ v2.0

- Drug Adherence Index™ was developed in a large, national cross section of Medicare members
- Adherence rates for six chronic conditions exhibit similar geographic patterns (Diabetes, Hypertension, Coronary Artery Disease, Asthma, Depression, Hyperlipidemia)
- It was necessary to enhance our existing capability to accommodate for geographic variability to optimize our outreach in these geographies

## Diabetes



## Hypertension



# Optum Adherence Solution Is A Proactive Program- Three-Step Approach For Better Results



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Target members with high propensity to increase adherence levels to > 80% proportion of days covered.

Limit interventions for members who are already >80% proportion of days covered and not at risk for declining adherence behavior.

## Seek to Understand the Cause

Engage members directly for patient centric approach.

Confirm members at-risk for non-adherence a using validated psychometric instrument.

“Diagnose” underlying issue that may cause non-adherence using Barrier Assessment Survey.

## Remove Barriers to Improve Adherence

Member engagement to address barrier .

Offer multi-modal options to engage members (live call agent, home visit, interactive voice response, text).

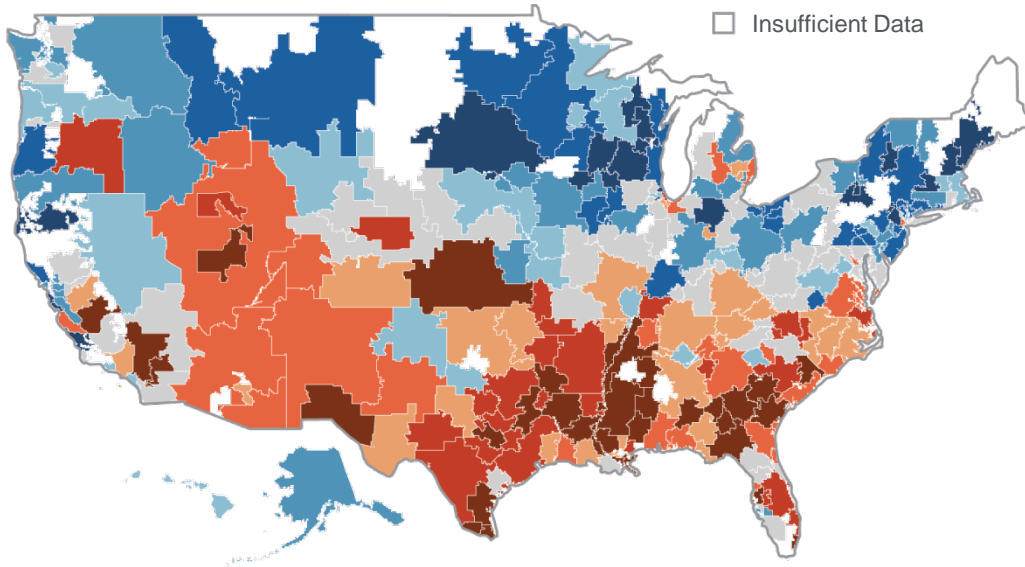
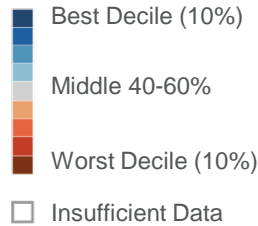
Leverage Health care practitioners (Registered Nurse or Pharm.D.) to address adherence barriers (literacy, motivation, cost).

Provide reminder messaging and organizational tools to address the forgetfulness barrier.



# Geographic Variation in Overall Medication Adherence

Medication Adherence Commercially Insured  
(Hospital Referral Regions >4,000 members)



## Geographic Variation in Adherence

- Average medication adherence rates tend to vary across regions
- Communities in the South and mountain regions have lower rates of medication adherence

Data from UnitedHealth Group commercial claims as analyzed by Optum

# Tracking Results using Adherence Measurement

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## Proportion of Days Covered (PDC):

- The standard adherence metric used in accordance to specifications developed by the PQA, and endorsed by CMS, as well as, the NQF
- Equals the proportion of days in the measurement period “covered” by prescription claims for the same medication or another in its therapeutic category.

## Adherence Star Measure Calculation:

- **Numerator** - Number of member-years of enrolled beneficiaries 18 years or older with a proportion of days covered (PDC) at 80 percent or over across the specified medication class(es) during the measurement period
- **Denominator\*\*** - Number of member-years of enrolled beneficiaries 18 years or older with at least two fills of medication(s) across the specified drug class(es) during the measurement period

***\*\* Patients are only included in the measure calculation if the first fill of their medication occurs at least 91 days before the end of the enrollment period.***

# Role of the Provider in Medication Adherence: **Significant!** *Knowledge & Approach are Key*

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## **Knowledge:**

- Work with your health plan(s)
  - Knowledge of benefit design, and drug coverage options
    - ❑ Use of Rx drug cards vs. low \$ cash co-pay programs
  - Ask for adherence rates of your patient population
    - ❑ Incorporate adherence data into the patient's care plan
- Knowledge about barriers to patient adherence
  - Health literacy and motivation are more prevalent than financial barriers
- Appreciate complexity of life circumstances and medication regimen
  - Knowledge of methods to reduce complexity
    - ❑ Pill boxes
    - ❑ Synchronize refills at the pharmacy

# Role of the Provider in Medication Adherence: *Significant!* *Knowledge & Approach is Key*

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## Approach –

Modifying our approach to improve adherence<sup>1</sup>:

- Patients are the only experts in their behaviors and barriers (years of experience)
  - Patients will not take their medications in the manner you have prescribed until they believe you respect their expertise
- Successfully addressing the 3 difficult adherence conversations
  1. Asking about adherence
    - ❑ Open ended questions, clarify, and be curious (about their life and experience taking their chronic medication)
  2. How to problem solve
    - ❑ Work on acceptance of diagnosis; shared decision making on treatment; issues with treatment implementation
  3. How to inform/educate
    - ❑ Understand what they know
    - ❑ What they want to know (no assumptions)
    - ❑ What they need to know (avoid too much here)
- Does not need to be done all in one visit – a little at a time is fine too
- ***A team based approach to adherence improvement is a great prescription for success!***

1 – Dr. Ira Wilson, MD, MSc; Brown University – November, 2013

# Conclusions – Key Takeaways

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- Non-adherence to chronic medications for highly prevalent primary care conditions remains a significant health care dilemma
- Adherence to medications improves clinical endpoints and health economic outcomes, plus is a highly prioritized measure of health care quality
- Adherence improvement to diabetes, hypertension and cholesterol drugs in Medicare Advantage members is a key strategy to improve a health plan's overall Star Rating
- Patient identification and segmentation using real-time analytics and predictive modeling allow for efficient and cost effective adherence intervention in the right patients
- The role of the provider and the health care team in medication adherence improvement is significant
- Knowledge of medication taking behaviors and proactively addressing the three difficult adherence conversations is critical for success



# Questions / Discussion

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2014 CAPG Colloquium on Physician Groups in Medicare Advantage  
October 7th, 2014



## **Medication Reconciliation**

John Mbagwu, Pharm.D.



# Objectives

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- Medication reconciliation
  - Definition
- Ways to improve medication reconciliation
- Medication Therapy Management (MTM)
- Resources





## Question #1...

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- In a recent study of newly discharged patients, how many experienced an adverse drug event?
  - A) 25%
  - B) 50%
  - C) 5%
  - D) 11%

Source: Forester AJ, et al. Adverse Drug Events Occurring Following Hospital Discharge. J Gen Intern Med. Apr 2005; 20(4): 317–323.



## Question #1...

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Source: Forester AJ, et al. Adverse Drug Events Occurring Following Hospital Discharge. J Gen Intern Med. Apr 2005; 20(4): 317–323.



## Question #2....

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- Medication reconciliation can be done at which of the following settings?
  - A) Outpatient clinic
  - B) Pharmacies
  - C) Hospitals
  - D) All the above



## Question #2....

---

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  - C) Hospitals
  - D) **All the above**



# Medication Reconciliation

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- “Medication reconciliation is a formal process for creating the most **complete** and **accurate** list possible of a patient’s current medications and comparing the list to those in the patient record or medication orders” (Barnsteiner, 2008)
  - This reconciliation is done to avoid errors such as:
    - Omissions
    - Duplications
    - Dosing errors
    - Drug-drug or drug-disease interactions
- **>40%** of medication errors are believed to result from inadequate reconciliation in handoffs during transitions of care
- Of these errors, **~20%** are believed to result in harm (Rozich, 2004)
- Reconciliation must be done at **every** transition of care!



# Medication Reconciliation, cont.

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- According to the Joint Commission, there are **5** steps that need to be conducted with **each** medication reconciliation:
  - List of **current** medications
  - List of medications to be **prescribed**
  - **Compare** the two lists
  - Make **clinical decisions** based on the comparison
  - **Communicate** the new list to appropriate caregivers and to the patient

# Best Practices: Medication Reconciliation

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- Determine next **site of care** for the patient
  - SNF, outpatient clinic, etc.
- Educate **patients** and **caretakers** to serve as **advocates**
  - Self-management and understanding of medication regimen by the patient
- A **comprehensive list** of medications should include not only prescription medications, but **herbals**, **vitamins/supplements**, **OTC drugs**, **vaccines**, **diagnostic/contrast agents**, and **IV solutions**
  - Need name of medication, dose, route, frequency, and when last dose was taken
  - Obtain most recent discharge papers, medication lists, and/or medication bottles from the patient

# Best Practices: Medication Reconciliation



- Engage **patient's pharmacy** to determine and reconcile **pre-** and **post-** hospitalization medications
- Leverage use of **electronic health records** (EHRs) to gain access into patient's inpatient/outpatient prescription drug lists
  - Establish a **location** on the **medical record** to store the most current **drug list**
  - Ensure software is **updated** in a timely manner to reflect **current** health plan **formulary** information
- Emphasis needed on patients with **polypharmacy** (**≥6 chronic medications**)
  - Special focus on patients who are on **high risk** medications



# Best Practices: Medication Reconciliation

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- Have an explicit **time frame** for completion
- Leverage programs with multiple impact points such as **Medication Therapy Management (MTM)**
  - Star Ratings measures
    - Part C domains: **Staying Healthy & Managing Chronic Conditions**
    - Part D domains: **Member Experience** with Drug Plan & **Patient Safety** and **Accuracy** of Drug Pricing



## Question #3...

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- MTM is a valuable tool in helping to reduce or prevent all of the following except?
  - A) 1.5 million preventable adverse events
  - B) \$177 billion in injury and death
  - C) Republicans taking control of the Senate
  - D) A and B



## Question #3...

---

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  - B) \$177 billion in injury and death
  - C) Republicans taking control of the Senate
  - D) **A and B**

# Medication Therapy Management



- Medication Therapy Management or MTM is a “...service or group of services that optimize therapeutic outcomes for individual patients” (APhA, 2004)
- Services include:
  - Medication therapy reviews
  - Pharmacotherapy consults
  - Anticoagulation management
  - Health and wellness programs
  - Immunizations



<http://www.pharmacist.com/mtm>



# Medication Therapy Management , cont.

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- MTM is needed because of the massive medication-related problems and mismanagement in the US
  - Experts estimate that **1.5 million preventable adverse events** occur each year that result in **\$177 billion** in injury and death (APhA, 2014)
  
- MTM can be provided by pharmacists or other qualified healthcare providers in most settings:
  - Retail
  - Clinics
  - Managed Care
    - Health Plans
    - PBMs
  
- Components of MTM:
  - Medication therapy review (**MTR**)
  - Personal medication record (**PMR**)
  - Medication-related action plan (**MAP**)
  - **Intervention** and/or **referral**
  - **Documentation** and **follow-up**



# Medicare and MTM

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- Medicare Modernization Act of 2003 (MMA) established the requirements, which went into effect in 2006, that plan sponsors must meet with regard to cost control and quality improvement including requirements for MTM programs
- Medicare beneficiaries who are eligible for MTM services are those who have multiple chronic diseases, are taking multiple Part D drugs, and are likely to incur annual costs for covered Part D drugs that exceed a predetermined level
- Sponsors are required to target beneficiaries with multiple chronic diseases, and they define the minimum threshold for eligibility into their MTM program
  - Ceiling number is **3**
- Each sponsor sets a minimum number of covered Part D drugs beneficiaries must have filled
  - Max number is **8**
- Annual cost threshold in 2014 is **\$3,144** on covered Part D medications

Source: <http://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/CY2013-MTM-Fact-Sheet.pdf>



# Medicare and MTM, cont.

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- Sponsors must offer a **minimum** level of MTM services to all targeted beneficiaries:
  - Interventions for beneficiaries and prescribers
  - Annual comprehensive medication review (**CMR**)
  - Quarterly targeted medication reviews (**TMRs**) with follow-up interventions when necessary

Source: <http://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/CY2013-MTM-Fact-Sheet.pdf>



# Medicare and MTM, cont.

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- CMS estimates **25%** of beneficiaries are eligible for MTM
- According to a recent analysis, **less than half (~11%)** of Part D members eligible for MTM received these services
  - Members enrolled in a MA-PD plan were more likely to receive MTM services (**11.4%**) than those in in stand-alone PDPs (**10.7%**)
    - MA-PD members were also more likely to receive a CMR (**1.7%**) than those in PDPs (**0.6%**)

Source: "Few Medicare Beneficiaries Receive Comprehensive Medication Review Services." Avalere Health





# Health Plans and MTM

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- As **ACOs** and **collaborative practice** models continue to gain momentum, data will need to flow **both** ways to enhance care to the patients
  - Pharmacists conducting MTM in the outpatient setting may reach out to **case managers** or **disease management nurses** at the health plan to determine and overcome challenges in care
  - **Health information technology (HIT)** can be leveraged to identify patients within a plan for whom MTM would benefit
- **Health plans** and **providers** have a shared goal in providing the most **cost-effective** care to their patients

# Optum Medication Therapy Management Program (MTMP)

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- Offered to Part D beneficiaries who meet eligibility criteria
- Goals of the program:
  - Ensure appropriate use of medications
  - Reduce risk of adverse events, including drug interactions
- Provides services that exemplify best practices and may significantly impact clinical outcomes.
  - CMR with an RPh via phone
  - Provides patient & physician education
  - Improves medication adherence
  - Detects clinically significant drug-drug interactions
  - Detects medications that are considered inappropriate in elderly patients
  - Detects patterns of over- and under-use of prescribed medications
  - Maximizing effectiveness of medication therapy

# Summary

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- Medication reconciliation is an integral part of providing quality care to patients
- Utilize “best practices” to improve medication reconciliation activities at your practice site
- Leveraging programs with multiple impact points such as Medication Therapy Management (MTM) may help to improve Star Ratings measures



# Resources

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- American Society of Health System Pharmacists (ASHP)
  - ASHP Medication Reconciliation (Med Rec) Toolkit
    - ROI Worksheet - Worksheet justifying FTEs for MedRec
    - Example flowcharts of MedRec in an ambulatory setting
  
- American Pharmacists Association (APhA) /American Society of Health-System Pharmacists (ASHP)
  - Improving Care Transitions: Optimizing Medication Reconciliation 2012
  
- Health Partners
  - Ambulatory Patient Safety Toolkit 2013
    - Medication safety- Medication reconciliation
  
- American Pharmacists Association (APhA)
  - Medication Therapy Management
  
- America's Health Insurance Plans (AHIP)
  - Innovations in Medication Therapy Management: Effective Practices for Diabetes Care and Other Chronic Conditions



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- Few Medicare Beneficiaries Receive Comprehensive Medication Review Services. <http://www.avalerehealth.net/expertise/managed-care/insights/few-medicare-beneficiaries-receive-comprehensive-medication-management-serv>
- <http://www.ahip.org/Innovations-in-Medication-Therapy-Management/>



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