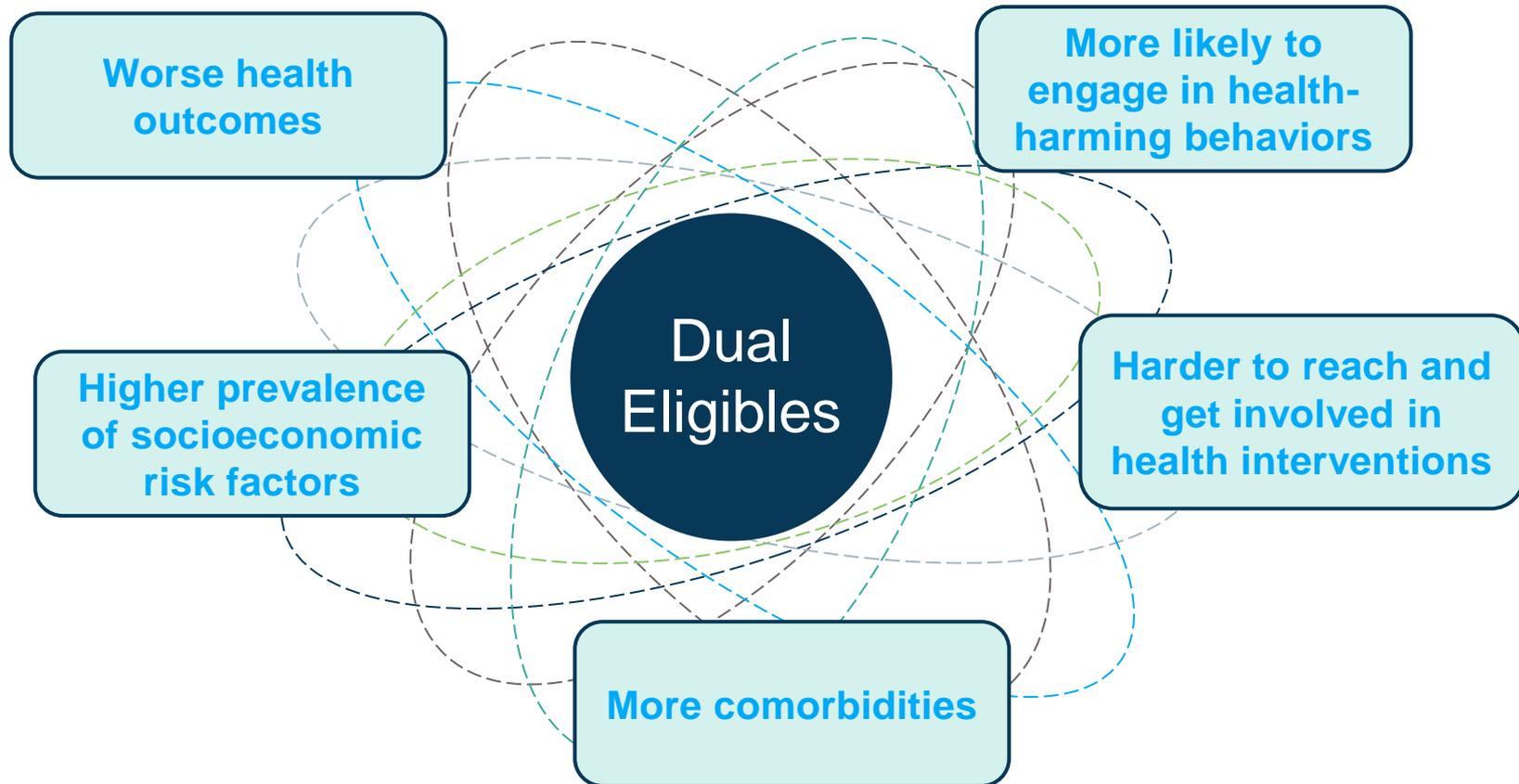




## **Options for Recognizing and Accommodating Social Risk Factor Issues among Duals in Quality/Value Metrics and Approaches**

*SNP Alliance 12<sup>th</sup> Annual Leadership Forum*  
Washington, D.C., October 14, 2016

# Disadvantages Faced by Plans Serving a High Proportion of Duals



Source: Centers for Medicare & Medicaid Services. “Advance Notice of Methodological Changes for Calendar Year (CY) 2016 for Medicare Advantage (MA) Capitation Rates, Part C and Part D Payment Policies and 2016 Call Letter.” February 20, 2015.

Available at: <http://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/Advance2016.pdf>.



# Inovalon Research

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2013 Inovalon study:

*“The Impact of Dual Eligible Populations on CMS Five-Star Quality Measures and Member Outcomes in Medicare Advantage Health Plans”*

**Found dual eligible members had lower scores on 9 of 10 Star quality measures examined**

2014-2015 Inovalon follow-up study:

*“An Investigation of Medicare Advantage Dual Eligible Member-Level Performance on CMS Five-Star Quality Measures”*

**Identified key member socioeconomic and clinical characteristics associated with lower performance ratings among dual eligible members**



# Inovalon Duals Study: Member-Level Analyses

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## Main Data Source:

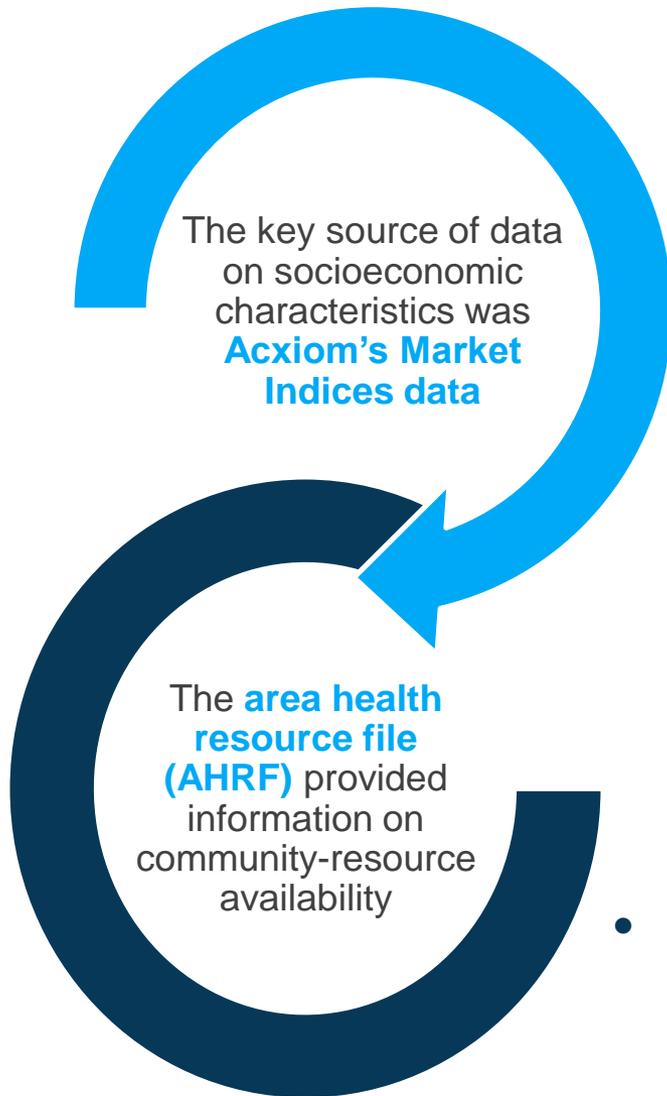
- **Inovalon's MORE<sup>2</sup> Registry®:** Statistically de-identified administrative claims database with data for >137 million unique individuals, including demographics, dual eligible status, low-income subsidy status, and medical and pharmacy utilization

## Supplemental Data Sources:

- **Inovalon's HEDIS Quality Measure Scores:** Five-Star Quality Measures at member level
- **Acxiom Market Indices Data:** Detailed source of near neighborhood socioeconomic characteristics including income, education, household size and other key social determinants of health factors
- **AHRQ Area Health Resource File:** County level data on physician and mental health professional shortage areas

# Measuring the Effect of Social Determinants of Health (SDH)

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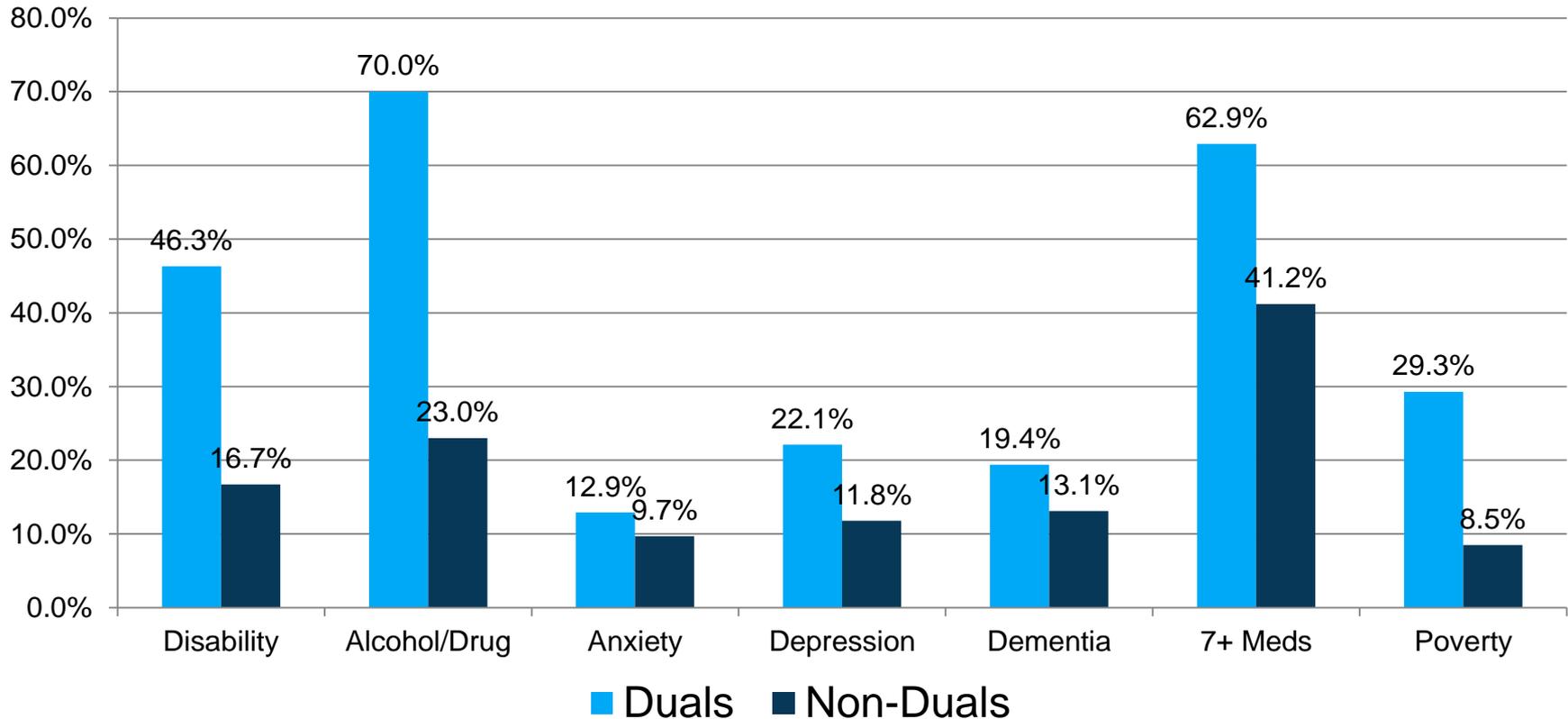


- Acxiom's market indices data is an aggregation of the U.S. Census American Community Survey (ACS) PLUS data aggregated from multiple public databases (e.g., government information, buying activity, financial behavior)
- Provides about **30 million discrete areas based on Zip+4 areas** (average of 8 households per neighborhood)
- **Research has demonstrated the close association of a person's characteristics and health behaviors to near neighborhood characteristics**
- Previous studies examining socioeconomic characteristics have generally utilized U.S. Census data available at the **5-digit ZIP code level (about 40,000 areas) or ACS area block group data (about 250,000 areas)**. These sources provide information averaged across multiple disparate neighborhoods, resulting in a relatively imprecise assignment of characteristics to individuals
- The **AHRF** contains information such as primary care and mental health professional shortage areas and number of physicians per 10,000 people.



# Dual-Eligible Beneficiaries Have Significantly Different Profiles

Sample MA Member Characteristics



MORE<sup>2</sup> MA beneficiaries 2014.

# Summary of Characteristics Contributing to Observed Disparities in Star Outcomes

MA Member Characteristic	Star Measure						
	Rheumatoid Arthritis Mgmt.	Breast Cancer Screening	High Risk Meds	Medication Adherence			All Cause Readmission
				Hypertension	Diabetes	Cholesterol	
Alcohol/Drug/Substance Abuse	+	+	+	+	+	+	
Lower Home Ownership Area	+	+		+	+	+	
Disability as Original Reason for Entitlement		+	+	+	+	+	
Living in Primary Care Shortage Area		+	-	+	+	+	+
Living in High Poverty Area				+	+	+	+
Male Gender	-		+	+		-	-
Age	-	-	-	+	+	+	
Race/Ethnicity		-	-	+	+	+	
Percent of Population Never Married				+	+	+	

**+** Increases disparity in rates  
**-** Reduces disparity in rates

## ***Examining Potential Effects of Socioeconomic Factors on Star Ratings***

### **Types of Disparity**

When examining differences in the outcomes between the dual eligible, low income subsidy or disabled groups, the disparities can be decomposed into two components.

#### **Between-Contract Disparities:**

*These differences represent true differences in quality between plans and are not appropriate for adjustment*

#### **Within-Contract Disparities:**

*These are differences between subgroups within a particular contract that may be appropriate for adjustment*

# CMS (RAND) Study

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## CMS reported significant negative effect of dual/LIS and disability status for the majority of measures

- **75%** of measures showed significantly lower performance among duals/LIS
- **73%** showed worse performance among those with disability

## Effect of patient characteristics and SES

- CMS reported that dual status effect was not sensitive to:
  - inclusion of patient characteristics such as age, gender, HCC, end-stage renal disease
  - **inclusion of socio-economic factors at the Census Block after adjusting for within plan effect for 7 of 9 Star measures evaluated**

# CMS (RAND) Study

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## AMERICAN COMMUNITY SURVEY (ACS)

- **In 2015, the ACS sampled approximately 3.5 million housing unit addresses.**
- This represents about 2.5% of households, but the final sampling ratio is much lower.
- Final interviews (which includes occupied and vacant housing units), correspond to about **1.6 percent of housing units.**
- At the state level, the final interviews range from a low of 1.2 percent (Florida) to a high of 2.7 percent (North Dakota) of total housing units.

District of Columbia has 287 5-digit ZIP codes

In 2015, ACS final sample of housing units = 4,696

= 16 households per 5-digit ZIP code

There are 714 ZIP-4 areas per 5-digit ZIP on average!

# Inovalon Study

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- Inovalon found **significant effect of socio-economic factors** using more precise assignment of characteristics to members, **after adjusting for dual status.**
- Inovalon found **significant effect of chronic conditions, age, gender and other community resource characteristics**, **after adjusting for dual status.**



# Interim Adjustment to Address SES in MA Star Ratings

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## Categorical Adjustment Index (CAI)

### 7 of 44 Star Measures Were Selected for Adjustment:

1. Breast Cancer Screening
2. Colorectal Cancer Screening
3. Diabetes Care – Blood Sugar Controlled
4. Osteoporosis Management in Women w/Fracture
5. Rheumatoid Arthritis Management
6. **Reducing Risk of Falling (Note: positive dual status effect!)**
7. Medication Adherence for Hypertension

- The 6 measures with a negative impact comprised **13.6%** of the 44 Star measures for 2015.
- Factoring in the contribution of each of the measures to the overall rating, the **maximum contribution of the adjusted measures is 19.4%**.
- Any upward adjustment for high dual plans may be reduced by the risk of falling measure which has a positive impact on Star ratings for high dual plans because they tend to perform better on this measure.

# Interim Adjustment to Address SES in MA Star Ratings

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## Example: Breast Cancer Screening (BCS) Adjustment Factor 0.085 or 8.5% for 100% dual eligible plans

Contract H999 (100% Dual/LIS members)	Measure Score	Star Rating
Observed Rate	63.0%	3 Stars
Adjusted Rate	71.5%	3 Stars*

\* Top of BCS rating threshold for 3 Stars is 74%.

- Contract H999 would have no adjustment to their overall Star Rating from the BCS measure.
- Contracts would generally need to be close to the top of the threshold for a measure to have a change in Star Rating for the measure.
- Contracts would need to have a change in Star Rating for all 6 measures to have any change in their Overall Star Rating.

# Interim Adjustment to Address SES in MA Star Ratings

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## Summary of CAI Adjustment on Contracts Overall Star Rating

Contracts with .5 Star Increase	<b>11</b> (2.60%)*
Contracts with .5 Star Decrease	<b>1</b> (0.24%)
<b>Contracts with No Change in Star Rating</b>	<b>409 (97.1%)</b>

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\* 1 contract to 3.0; 5 contracts to 3.5; 3 contracts to 4.0; 2 contracts to 4.5

# Outstanding Questions

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1. **Were the SES data from U.S. Census ACS used by CMS/RAND sensitive enough to capture the association of social risk factors on Star outcomes?**



# Inovalon Example: PQA Drug Measure Risk Adjustment

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Medication adherence for hypertensive drugs (MA-H) quality measure showed significant negative association with outcomes for the following characteristics:

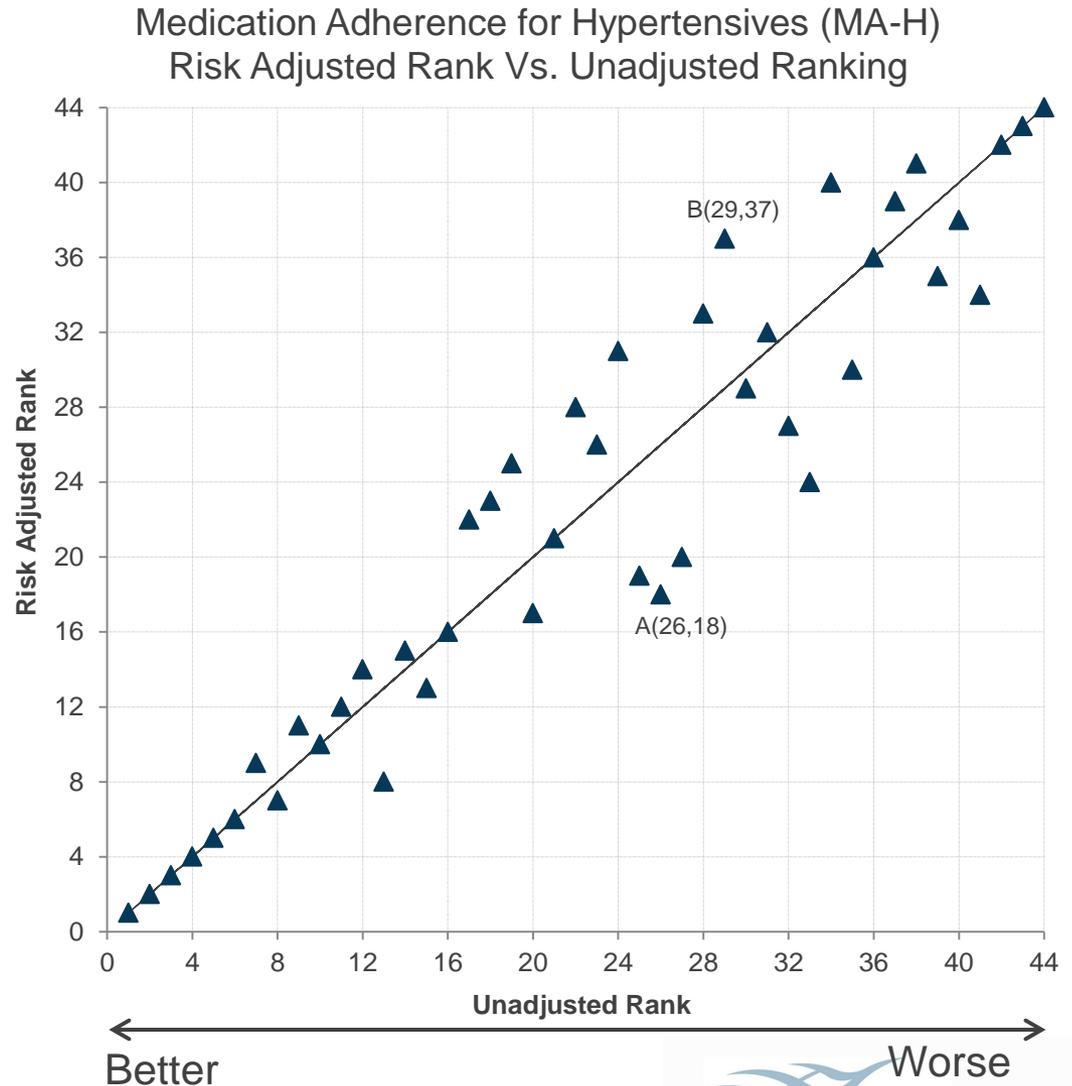
1. **Disability + age** (must use interaction term— *disabled less likely* but *older people more likely* to be adherent—odds ratio for disabled aged 18-54 is 0.54; odds ratio for disabled aged 70+ is 0.87)
2. **Gender** (*males less likely* to be adherent)
3. **Race/ethnicity**
4. **Dual status** (*non-duals less likely to be adherent* after adjusting for socio-economic status!)
5. **# of unique medications** (*more meds, more likely to be adherent, consistent with literature*)
6. **% of households that own home** (*higher home ownership in neighborhood, more likely to be adherent*)
7. **% of neighborhood population below POVERTY level** (*higher percent of poverty, less likely to be adherent*)
8. **Education** (*higher education more likely to be adherent*)

*\*Note that LIS is not significant in the model when dual status is included; but both dual status and socio-economic factors are significant.*

# Impact of Applying More Comprehensive Risk Adjustment: Medication Adherence

Plans ranked BEST stayed ranked best and plans ranked WORST stayed ranked worst

- Many plans changed rank
- Plans above the line ranked lower after adjustment
  - This indicates these plans performed worse based on performance of other plans serving a similar population
- Plans below the line ranked higher after adjustment
  - This indicates these plans performed better relative to other plans serving a similar population
  - Plans below the line appeared to have a lower quality of care than they were actually providing before adjusting for all population risk factors



Results were consistent for all 3 medication adherence measures.

# Outstanding Questions

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2. **Did the approach to adjust only for *within plan* differences between duals and non-duals fully capture the impact of greater burden of disease and social status on outcomes for disadvantaged members?**



# Distribution of MA Part C and Part D Contracts by Percent Dual Eligible Enrollment

## Contracts by Percent LIS/Dual\* Enrollment: Distribution, Size, and Average Risk Scores (2014)

Contract Percent Dual		0%	1-19%	20-49%	50-79%	80-99%	100%
<b>Part C</b>	# of Contracts (432)	6	251	78	40	47	10
	Average Enrollment	17,516	37,206	29,596	17,300	6,031	4,458
	Median Enrollment	6,102	15,834	12,885	8,735	3,469	2,574
	Average Risk Score	0.72	0.95	1.02	1.15	1.42	1.37

- **Dual enrollment in contracts is highly skewed:**
  - **Nearly three-fourths of all contracts have fewer than 20% duals or non-duals:**
    - 60% of contracts have <20% duals and are much larger on average (33,500 non-duals to 3,700 duals on average).
    - 13% of contracts have >80% duals and are much smaller on average (5,400 duals to 900 non-duals on average).
    - Only 27% of contracts have between 20% to 80% duals (average size decreases as percent duals increases).
    - **73% of contracts will likely show statistically insignificant “within plan” differences due to unbalanced split of duals vs. non-duals.**
  - **Contract mean risk scores are directly associated with percent dual**  
(higher percent dual = higher risk scores of members)

\*Only LIS status is publicly available and the CMS/RAND study used LIS/Dual interchangeably. About 93% of LIS are dual eligible; about 7% are LIS only, but considered similar to duals.

# Distribution of MA Part C and Part D Contracts by Percent Dual Eligible Enrollment

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## Based on the distribution of contracts:

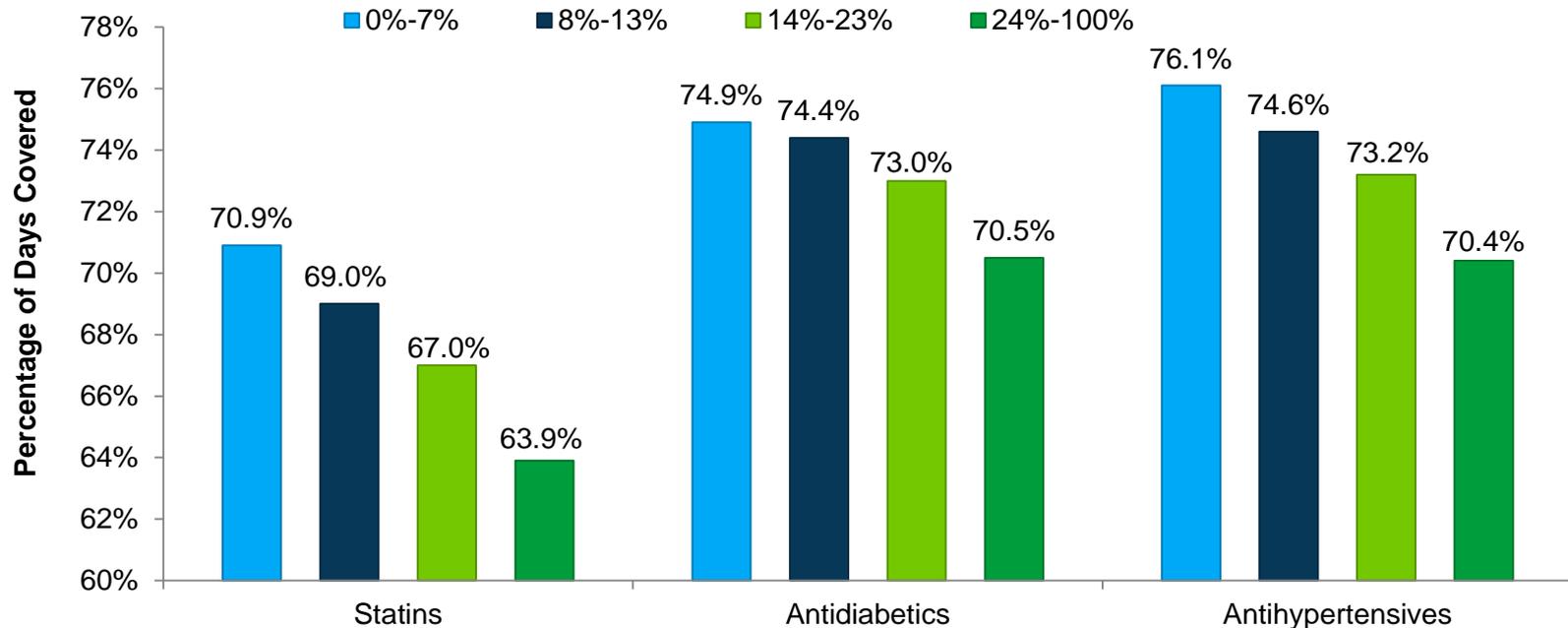
- The “within contract” disparity effects were largely captured by the 27% of contracts with 20-79% duals vs. non-duals.
- Contracts with a higher proportion of non-duals are much larger and have significantly lower risk scores on average.
- Risk scores are directly correlated with contract percent dual, and are **50% higher** among members of contracts with >20% duals compared to those with <20% duals (mean risk score 1.42 vs. 0.95).



# Do All “Between Plan” Differences Represent “True Differences” in Quality?

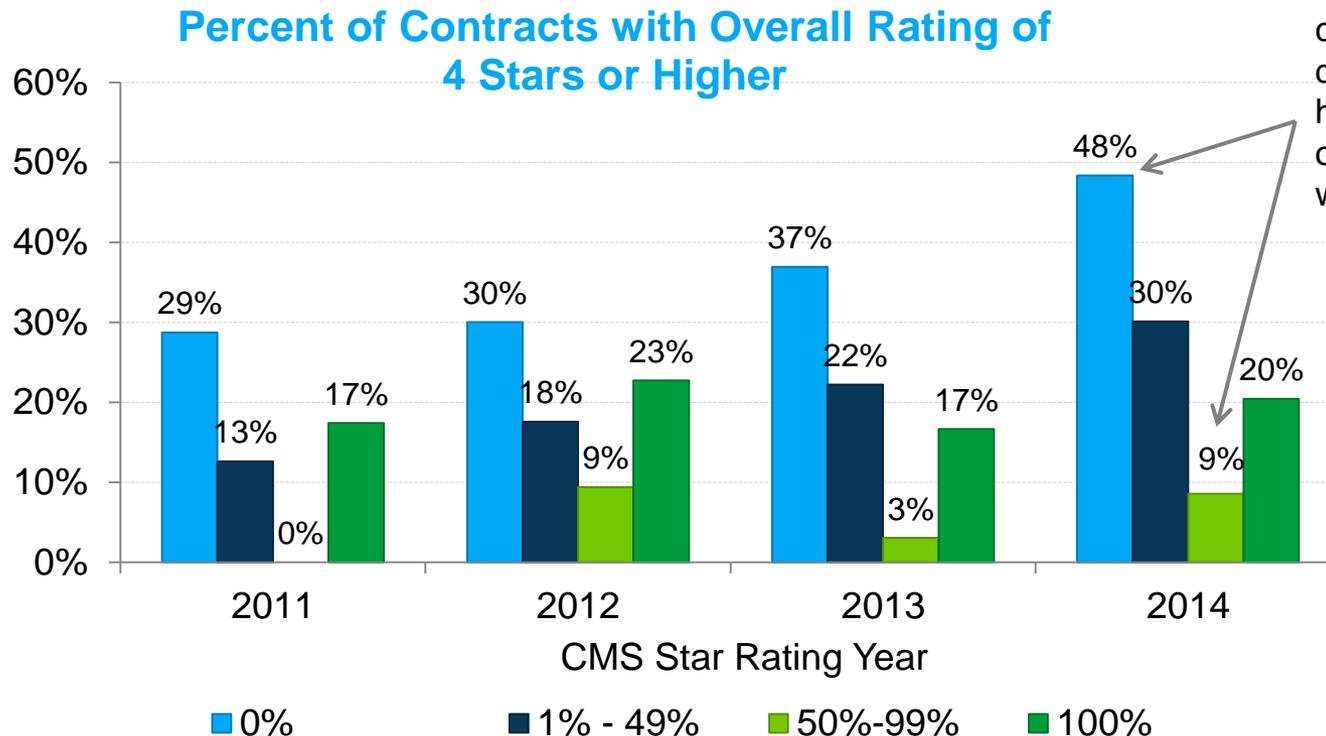
- Lets assume contracts with <20% duals are all in the group with 0-7% of members living below poverty level, and contracts with >80% duals are all in the group with 24-100% of members living below the poverty level.
- ***Is it accurate to assume that the observed “between contract “ differences in adherence rates represent true differences in quality between the two groups of MA contracts?***

**Example: Medication Adherence Rates by Percent of Members Living Below Poverty Level**



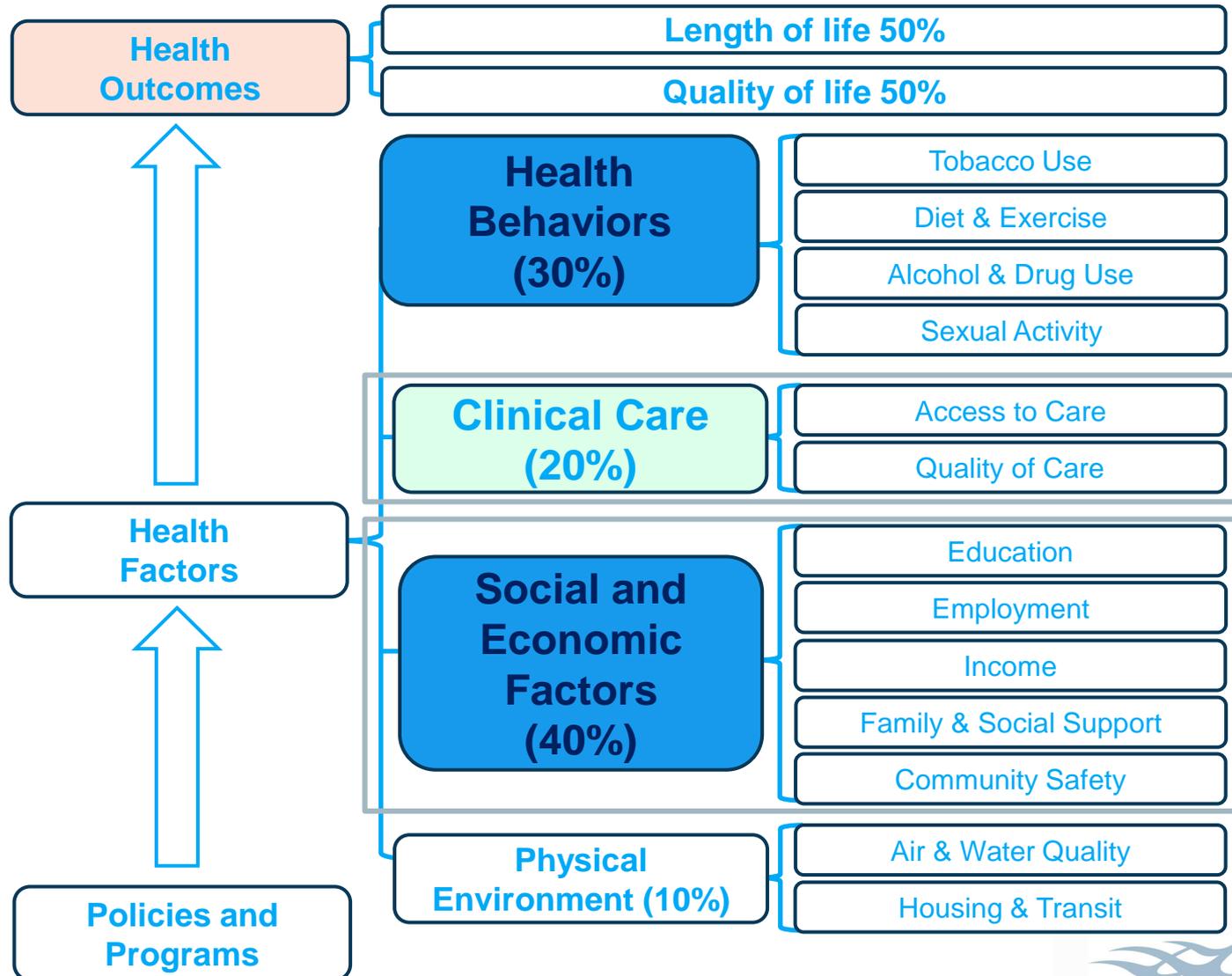
# Percent of Contracts with Overall Rating of 4 Stars or Higher

- Contracts with no dual enrollees consistently perform best every year while contracts with 50-99% dual enrollment consistently perform worst every year.
- ***Since the <50% dual contracts have significantly lower risk scores and higher SES profiles compared to the >50% dual contracts, are we certain the higher Star Ratings “between” these contracts are due to higher quality performance?***



In 2014, nearly half of contracts with 0% duals rated 4 Stars or higher compared to only 9% of contracts with 50-99% duals.

# Assigning Weights to Determinants of Health



# Outstanding Questions

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- 3. Do duals in plans with a relatively low percentage of duals have the same clinical, demographic and socioeconomic profile as those in plans with a relatively high percentage of duals?**



# Are All Duals the Same?

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- **Do the “duals” in the low dual plans look like duals in high dual contracts, or more like the non-dual members in the plan?**
  - Dual eligibles can have widely different characteristics and are subject to State Medicaid rules and expansion (e.g., many non-duals may be poor, so we may be comparing duals to “near or sometimes” poor non-duals and thus find no differences in outcomes).
- **Do the “non-duals” in high dual plans look like non-duals in low dual plans, or more like the duals in the plan?**
  - Do the non-duals in high dual contracts have a higher number of comorbidities and mental health conditions or higher historical burden of disease ?
  - Do they have lower incomes or education on average?
  - Are they near the threshold of dual eligible?

***Higher dual contracts have higher risk scores and lower Star Ratings on average.***

# Outstanding Questions

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- **These are all important research questions that require further analysis to determine:**
  - Was the SES data utilized sensitive enough to capture the impact of SES at the individual plan member level?
  - Did the decision to adjust only for “*within plan*” differences capture all true disparities in outcomes for the disadvantaged population given the highly skewed distribution of contracts and significantly different risk profiles?
  - Should additional measures be adjusted for clinical risk factors that are more prevalent in duals and low income, disadvantaged members, such as disability, depression, dementia, mental health and behavioral issues, and other diseases/conditions?
  - Is there a better approach to risk adjust for risk factors including SES and clinical factors that impact quality outcomes for all MA members with these characteristics?

For example, the commonly accepted approach to risk adjustment is to adjust across an entire population so that—regardless of the plan or group you are in or whether you have dual eligible status or not—all patient risk factors are taken into account and applied to the entire population being measured.



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