2019 ANNUAL MEETING & EXHIBIT

October 27-30
Toronto, Canada

# Session 170: Improve Health Plan Performance by Leveraging CMS and SDOH Data

SOA Antitrust Compliance Guidelines
SOA Presentation Disclaimer

Improve Health Plan Performance by Leveraging CMS and SDOH

October 30, 2019 | 10:15–11:30 a.m.

OPTUM®

# Society of Actuaries

## Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- **Do not** discuss prices for services or products or anything else that might affect prices.
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions.
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone’s responsibility; however, please seek legal counsel if you have any questions or concerns.

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Presentation disclaimer

Presentations are intended for educational purposes only and do not replace independent professional judgment. Statements of fact and opinions expressed are those of the participants individually and, unless expressly stated to the contrary, are not the opinion or position of the Society of Actuaries, its cosponsors or its committees. The Society of Actuaries does not endorse or approve, and assumes no responsibility for, the content, accuracy or completeness of the information presented. Attendees should note that the sessions are audio-recorded and may be published in various media, including print, audio and video formats without further notice.


© 2019 Optum, Inc. All rights reserved.

# CMS Public Use Files

- CMS public use files have evolved since 2006 MMA
  - Potential to improve understanding the program
  - Plans, providers, researchers, and members
  - Remember to read the CMS usage limitations
- Plans, and others, have evolved their use of the files
  - Simple reports
  - Complex customer integrated reports
  - Widely enhanced use of the information
- Medicare plans have more information than most other markets
- We will provide some ideas of what has been done
- Open discussion

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Market drivers

- Partnerships have become mergers
  - UHG continues smaller strategic acquisitions (already had PBM, Optum Health, Optum Consulting)
  - CVS/Aetna merger
  - Cigna/ESI merger
  - Wellcare/Centene?
- Smaller players have niche play and implement competitive ideas
- Health care is still a local business
- Health cost pressure
  - ACA increased enrollment, but still many uninsured
  - MA affordability significantly reduced with ACA, but growth continued

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Why Public Use Files?

## Market assessment

- Overview of total Medicare market
- Overview of the local market
- Understand the competition

## CMS bids

- Significant 2020 Part D bid proposals
- MA local market issues

## Medicare public resources

- Historical public use files
- Office of the actuary trustee report
- Corporate earnings calls
- Many public websites (court documents are interesting)
- Full Medicare dataset — separate presentation

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources

Medicare information is available — look for free Medigap information or employer market data

## Examining trends

- The industry?
- With the competition?
- My products?
- Research groups?

## Derived information — enhanced data

- Example: How do plans estimate the Part D benchmarks?
- Projecting impact of policy changes — winners and losers
- What to expect from competitive products
- Better knowledge of market drivers

## Wide range of usage

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources (not complete)

- CMS statistics file
- Trustee report
- Landscape
- Enrollment reports
- Audit findings
- Star ratings
- Formulary, pricing and benefits
- Hospital cost to charge reporting
- "5%" sample
- PBP information (annual PBP files all plans)
- Plan payment reports and medical loss ratio

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources

## Medicare landscape files combined with enrollment files

- Probably most used file by Part D actuaries
- Determine membership shift drivers
- NAB/LIB models estimates
- Forecasting and projections
- Review competitively
- Average percentile
- De Minimis percentage
- Competitor analysis
- Sanctioned competition

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources

## Audit findings

- Plan sanctions
- OACT bid audits
- Operation audits
- CARs and ICARs
- Plan enrollment sanctions
- Financial penalties
- OMB audits and CMS audits
- What should the plan focus on next?

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources

## Star reporting

- Where is the “silver bullet?!”
- Lots of competitive information
- Who has the best adherence rates?
- Reviewing large year over year movement
- What are the best Star ratings and impact on competition?
- Determining reasons for plan differences
- Personally, the Star reports answer and raise many questions

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources

## Part D formulary and quarterly pricing information

- Discounts and Premium (POS vs. DIR)
- Industry direction
- Clinical analysis — Add OOPC model information
- Policy monitoring (copay and network)
- Benefit discrimination analysis
- Competitive analysis
  - Drugs covered; selection issues
  - Tiers alignment
  - PA/ST

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources

## PBP information (annual PBP files all plans)

CMS released all PBP information since 2014 — Part D trends (old)

- MAPD EA plans preferred networks increased from 16.9%–28.7%
- Total PDP preferred network penetration went from 71.8%–86.7%
- 5-Tier plans increased from 83.4%–93.4%
- MAPD-EA plans with no deductibles dropped from 87%–75%
- PDP deductibles increased 29% in total and by 57% for MAPD EA plans
  – Medium for MAPD EA moved from 100–150
- PDP Generic (Tier 2) coverage dropped from 21.5–16%
- PDP Tier 3&4 Brand coverage increased — 10% GAP rule?

Update: Some plans use the benefits to estimate competitive rates and relative risk and price — evolution in the reporting

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Medicare Public Resources

People have evolved from using public use files from:

*verification* to *analysis* to *modeling the competition* to *strategic decisions*

---

The new data files provided by CMS with proper development will lead strategic decisions

- Part C and Part D claim data files are now synchronized (are yours?)

---

What happens next?

- CMS derived information added — external data, surveys, etc.
- Projection including policy changes
- Policy changes normalizing practice patterns analysis

OPTUM®

© 2019 Optum, Inc. All rights reserved.

# Thank you.

Paul Erickson

VP, Optum Advisory Services

1-952-687–4218
paul.erickson@optum.com

OPTUM®

2019 ANNUAL MEETING & EXHIBIT

# Session 170: Improve Health Plan Performance by Leveraging CMS and SDOH Data

**Lee M. Parrott, FSA, MAAA**

October 30, 2019

SOCIETY OF ACTUARIES®

# SOCIETY OF ACTUARIES
# Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone’s responsibility; however, please seek legal counsel if you have any questions or concerns.

# Presentation Disclaimer

*Presentations are intended for educational purposes only and do not replace independent professional judgment. Statements of fact and opinions expressed are those of the participants individually and, unless expressly stated to the contrary, are not the opinion or position of the Society of Actuaries, its cosponsors or its committees. The Society of Actuaries does not endorse or approve, and assumes no responsibility for, the content, accuracy or completeness of the information presented. Attendees should note that the sessions are audio-recorded and may be published in various media, including print, audio and video formats without further notice.*

# Claims/utilization data from CMS

Learning the Acronyms

- LDS – Limited Data Set
  - Medicare FFS
  - Also known as the 5% sample
- VRDC - Virtual Research Data Center
  - Medicare and Medicaid
  - Different types of data, but often more dated
- QE - Qualified Entity Program
  - 100% Parts A, B, and D
  - Payer data as contributed to individual QEs
  - Ability for a payer to tie a member’s De-identified history together

# CMS Data Release Programs

| CMS Data Assets | "Public" LDS Releases | Virtual Research Data Center (VRDC) | Qualified Entity (QE) Program |
|---|---|---|---|
| Medicare FFS | • Quarterly updates through 1/2017<br>• Annual through 2016<br>• No Part D<br>• 5% of Professional Claims | • Annual through 2017<br>• Part D though 2017 | • Quarterly updates of Parts A & B through Q3/2018<br>• Part D updated annually through 2017<br>• ID and De-ID |
| Medicare Advantage | Not Available | • Only 2015 Encounter data released to date<br>• Schedule unclear | Not available |
| Medicaid/CHIP FFS | Not Available | Limited states available through 2014 | Limited states available through 2014 |
| Managed Medicaid/CHIP | Not Available | Unclear | Not available |
| Access & Use | | | |
| Commercialization | Broad commercialization with limited review | Broad commercialization with extensive review | Commercialization limited |
| Cost | Nominal | Per seat licensing | Determined by QE |
| Data Access & Matching | No matching | No direct data, must use SAS platform, matching available | Access limited to qualified orgs (ex. providers), matching for ID |

# Things to keep in mind

| | Public Use File | Limited Data Sets | Research Identifiable |
|---|---|---|---|
| Requires Privacy Board Review? | No | No | Yes |
| Requires a Data Use Agreement? | No | Yes | Yes |
| Files include beneficiary-level data? | No | Yes | Yes |
| Researchers may request customized cohorts (e.g. Diabetics residing in MN)? | No | No | Yes |
| Data can be linked at beneficiary level to non-CMS data using a beneficiary identifier? | No | No | Yes |
| Claim run off period | NA | Annual file: 6-month run off | Annual file: 12-month run off |
| | | Quarterly file: 3-month run off | Quarterly file: 3-month run off |

# Limited Data Set – 5% sample

## Useful, but lives up to its name

- **What it does well**
  - Provides cost and utilization information at service level detail
  - Develop overall trends, both cost and utilization
  - Geographic comparison
  - Provider contracting insights
  - Bid pricing tool
- **Where it struggles**
  - No Part D data
  - Physician/population variability across markets/performance
  - Credibility may be low when looking at very specific segments of population
  - Longitudinal analysis at member level on FFS data
  - Longitudinal analysis at member level across all lines of business
  - Augmentation of data for risk scores, social determinants of health and other factors.

# Virtual Research Data Center

May be a good fit for some research

- Satisfies all CMS privacy and security requirements
- Researchers can access and perform their own analysis and manipulation of CMS data using the CMS infrastructure
- Researchers can upload external data files into their workspace to analyze with the approved CMS data files
- Provides access to the Research Identifiable Files
- Provides access through a Virtual Private Network and virtual desktop

## Stipulations/Conditions

https://www.resdac.org/cms-virtual-research-data-center-vrdc-faqs

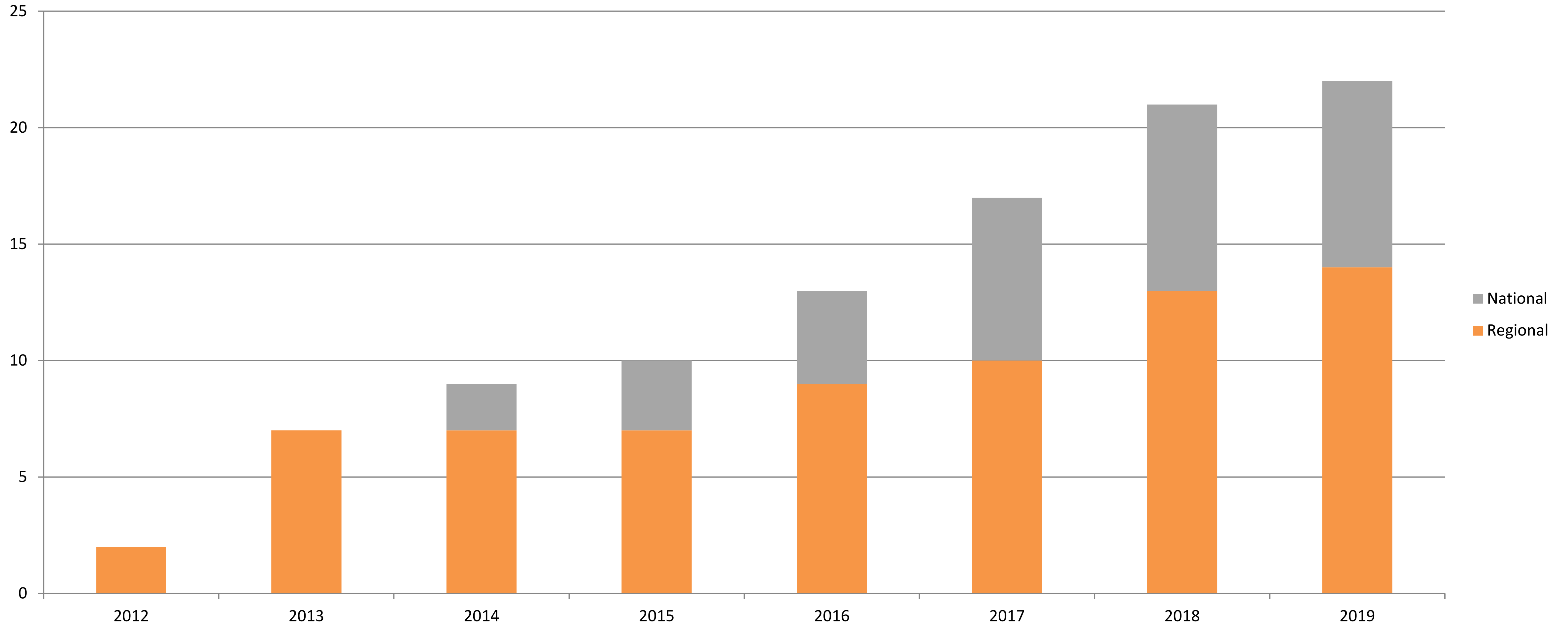
# What is a Qualified Entity (QE)?

The CMS Qualified Entity (QE) Program (also known as the Medicare Data Sharing for Performance Measurement Program) establishes a pathway for capable organizations to receive Medicare claims data under Parts A, B, and D for use in evaluating provider performance, i.e. “100p.”

REQUIREMENTS:

- Organizations approved as QEs are required to combine Medicare and Commercial claims data to produce and publicly disseminate CMS-approved reports on provider performance annually.
- Under the MACRA Expanded Use provisions, QEs are also permitted to create and sell non-public analyses (NPAs) to Authorized Users. In addition, QEs may license combined data at a cost or Medicare claims data alone at no cost, to certain Authorized Users.
- In order to qualify, the QE must meet stringent security standards, demonstrate capabilities in calculation and reporting of health system performance measures, combine the Medicare data with their own claims data, and issue public interest reports around such measures at least annually.
- Expanded Use opportunities have strict re-disclosure requirements so analyses cannot be shared beyond the intended recipient under particular agreements
- Analyses prepared under Expanded Use cannot be used for marketing, harming patients, or seeking to effectuate fraud
- QEs are required to report on sold analyses including the topics and purposes, total fees received and types of organizations that have purchased analyses

# Total Number of QEs by Year




As of 5/1/2019 - https://www.cms.gov/research-statistics-data-and-systems/monitoring-programs/qemedicaredata/index.html

# Payer analytics - examples

Key questions that can be answered at a National/State/County Level:

- What is the value proposition of my MA/EGWP plan relative to FFS?
- How many members have migrated from traditional Medicare to MA program?
- What trend is seen by category of service for hospital and physician coverage?
- What trend is seen by drug type for pharmacy?
- What is the average number of comorbid conditions?
- What percentage of total cost for hospital and physician is paid by beneficiary?
- What is the movement in medications between medical and pharmacy benefits?
- What is the average hospital and physician spend for members with and without pharmacy coverage?
- What percentage of total members have chronic conditions like diabetes, CHF etc.?
- What is the ratio of specialty physicians to general physicians?
- What is the distribution of members by type (Dual vs. Non-Dual) by geography?
- What is the average risk score of the population by Dual vs. Non-Dual?
- What percentage of total members are institutionalized?
- What is the distribution of Special Needs Population (SNP)?
- What percentage of total members are eligible for ESRD subsidy?
- What is the level of non-Low-Income brand discount amount?

# Expanded Use Matrix – All Use Cases

| Authorized Users | Authorized Users | (1) Beneficiary De-Identified Non-Public Analyses (NPAs) | (2) Beneficiary De-Identified Data License | (3) Beneficiary-Identifiable Data License and/or Non-Public Analyses |
|---|---|---|---|---|
| Providers | Providers | ✓ | ✓ | ✓ |
| Suppliers | Suppliers | ✓ | ✓ | ✓ |
| Medical Societies | Medical Societies | ✓ | ✓ | |
| Hospital Associations | Hospital Associations | ✓ | ✓ | |
| Employers | Employers | ✓ | | |
| Health Insurance Issuers | Health Insurance Issuers | ✓ | | |
| Healthcare Provider or Supplier Associations | Healthcare Provider or Supplier Associations | ✓ | | |
| State Entities | State Entities | ✓ | | |
| Federal Agencies | Federal Agencies | ✓ | | |
| Permitted Uses per CMS Regulations: | Permitted Uses per CMS Regulations: | May **not** be used for marketing (§ 401.703(s)), harming patients, and/or effectuating fraud and abuse | 1. Healthcare Operations (qualified under paragraphs 1 and 2 of 45 CFR 164.501) - Quality improvement, care coordination, patient safety, and population based activities, evaluating practitioner and provider performance<br>2. Treatment (qualified under 45 CFR 164.501)<br>3. Fraud and abuse detection or compliance activities (qualified under 45 CFR 164.506(c)(4)(ii) | |

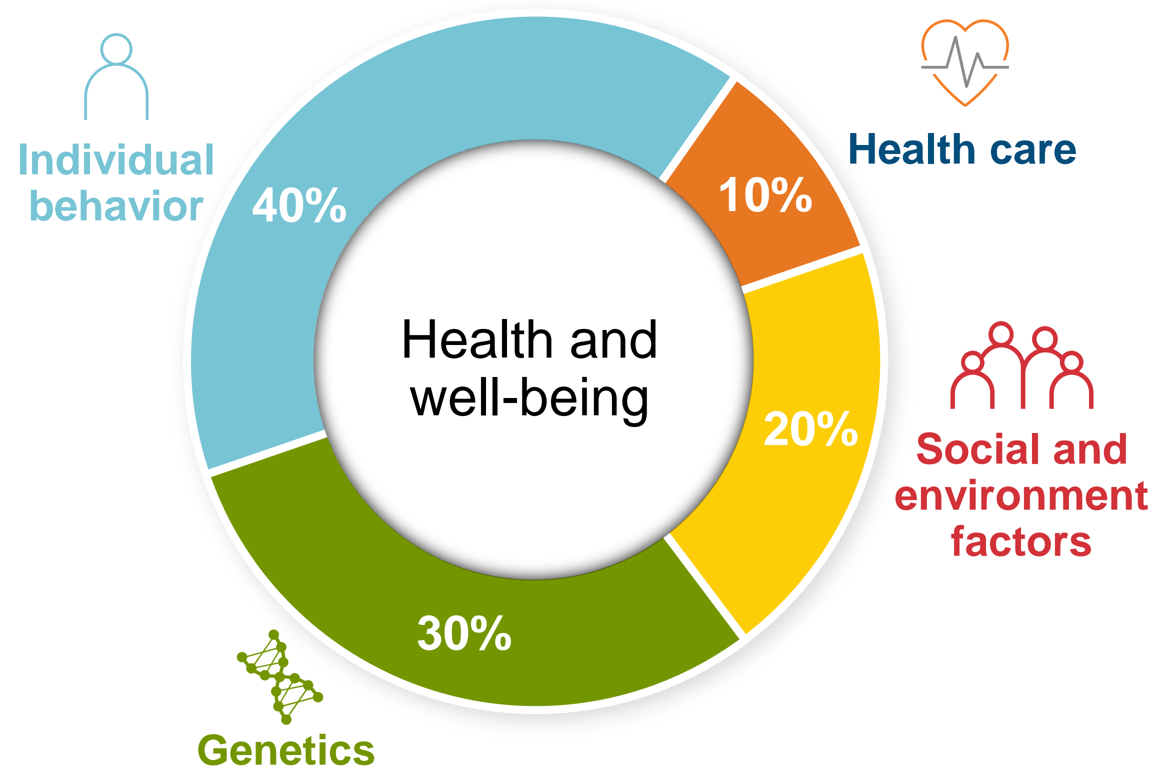
Note: Providers have the right to directly access the linked, de-identified data, and receive non-public analyses (NPA); Payers are not allowed direct access to the data, and can only receive NPAs if contribute data (50% rule).

# Social Determinants of Health: Data and Applications

SOCIETY OF ACTUARIES®

# What impacts health outcomes

## Impact of different factors on impact of pre-mature death

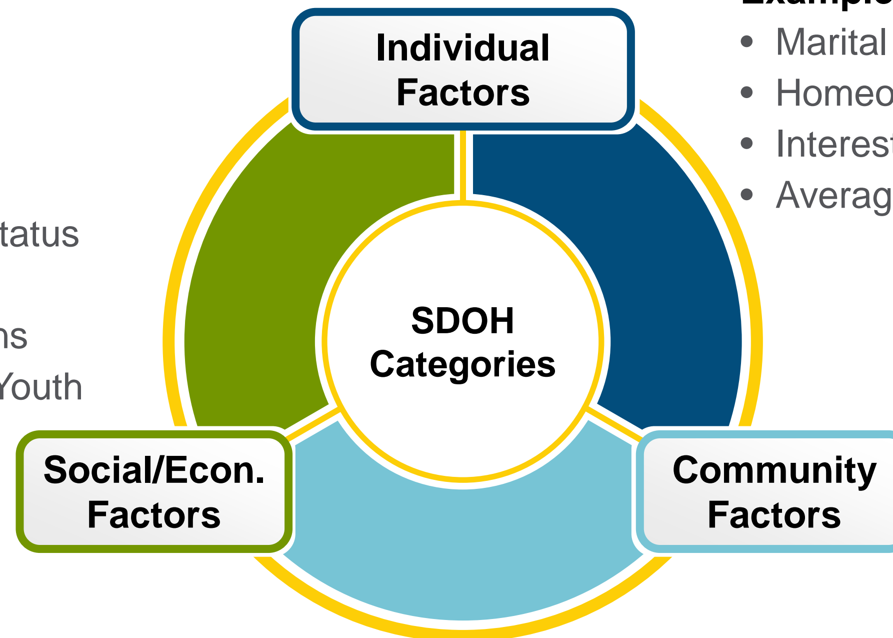



Source: Schroeder, SA. (2007). We Can Do Better — Improving the Health of the American People. NEJM. 357:1221-8.

# Data categories: Individual, socioeconomic and community factors

Three categories of data are typically used in analyzing and understanding social determinants of health:

- **Individual factors:** Include consumer and health behavior measures
- **Community factors:** Include clinical access, housing, transportation, safety and food security measures
- **Socioeconomic factors:** Include education, income, poverty, family and social support




**Examples:**
- Marital status
- Homeowner status
- Interests and hobbies
- Average online spending

**Examples:**
- Socioeconomic Status
- % below poverty
- Social associations
- % Disconnected Youth
- Education level

**Examples:**
- Violent crime rate
- Food access and security
- Transportation access
- Access to clinical care

# Data elements and output: not Claims data!

## BASE LEVEL OF DATA INPUT

### DATA INPUTS

**Eligibility data**

- First name
- Last name
- Address, city, state
- ZIP code
- Date of birth
- Member ID

### INDICES AND ANALYTICAL OUTPUT

**Social determinants**

- Gender
- Ethnicity
- Language
- Education level
- Socioeconomic score
- Health factor summary
- Health outcome summary

**Types of Propensity models that can be developed using this data:**

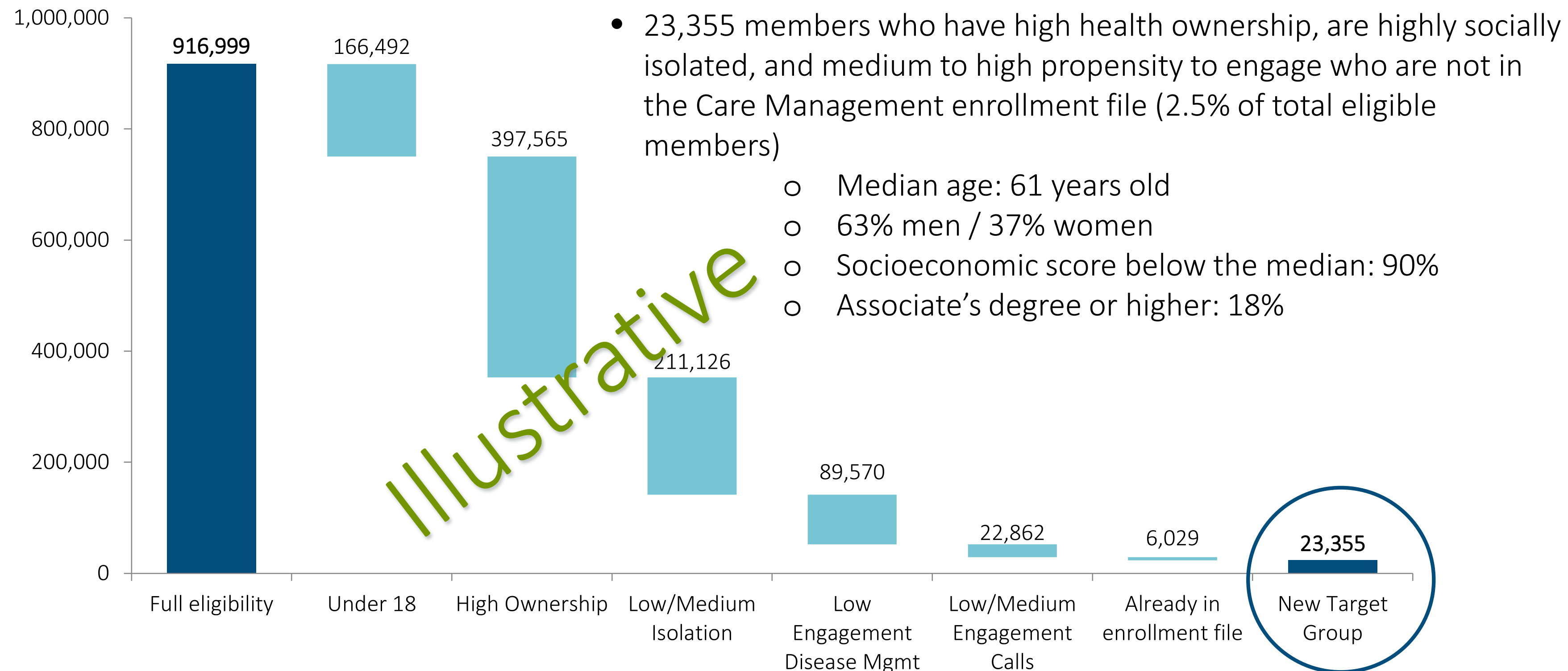
- Propensity to engage
- Social isolation
- Health ownership
- Network leakage
- Predicting Readmission and ED admits

## HOTSPOTTING

Reallocates data resources to focus on a small subset of high-needs, high-cost patients

# Hotspotting example: Identifying hidden risk members

## Engaging members in need

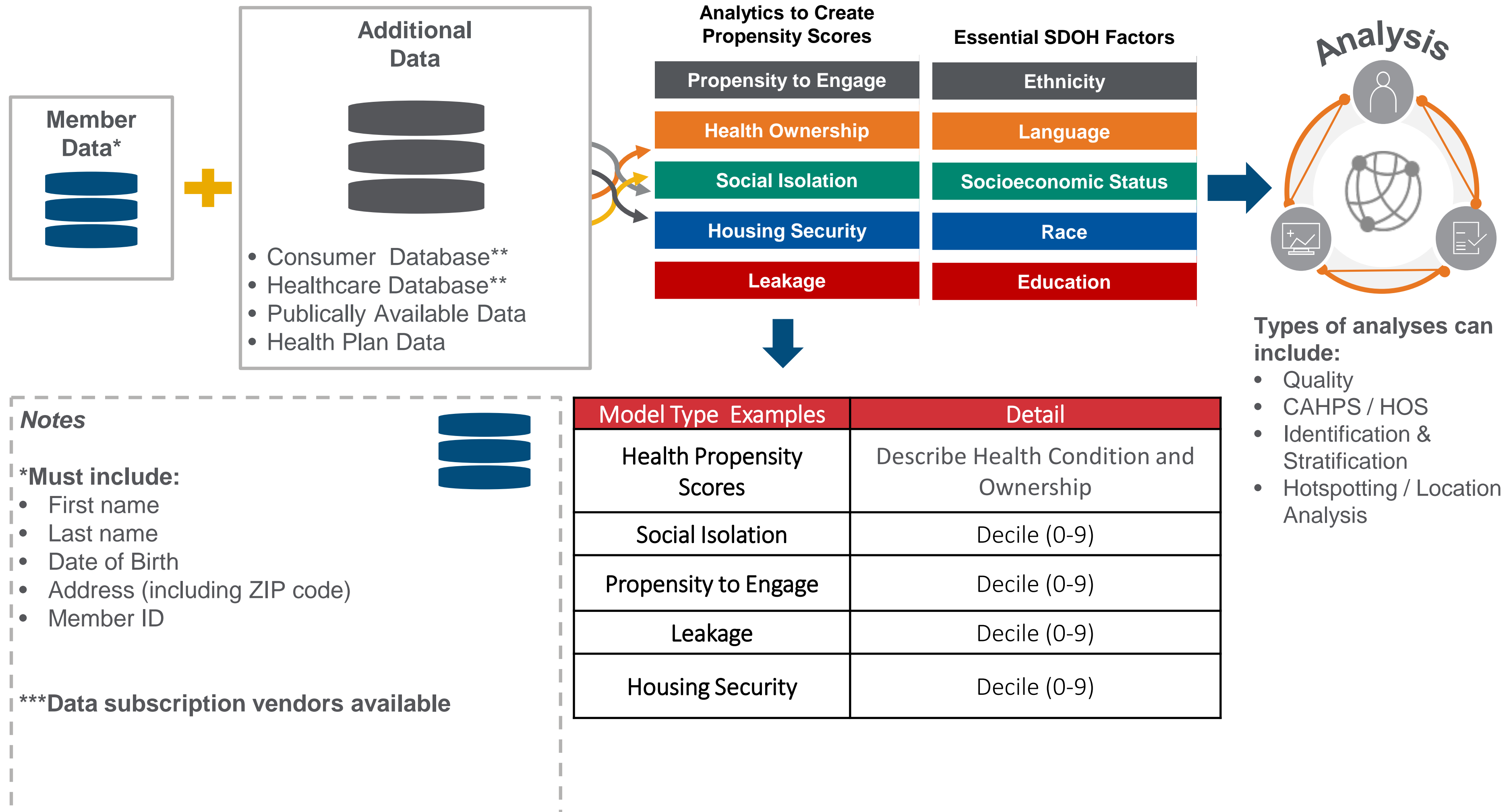



- 23,355 members who have high health ownership, are highly socially isolated, and medium to high propensity to engage who are not in the Care Management enrollment file (2.5% of total eligible members)
  - Median age: 61 years old
  - 63% men / 37% women
  - Socioeconomic score below the median: 90%
  - Associate's degree or higher: 18%

These members currently have low levels of personal health ownership, are socially isolated, and are at least moderately likely to enroll in disease management programs. They should be prioritized in outreach campaigns because they are the most likely to enroll and benefit in the short term.

# Enhanced member profile

## Data process flow example




| Model Type Examples | Detail |
|---|---|
| Health Propensity Scores | Describe Health Condition and Ownership |
| Social Isolation | Decile (0-9) |
| Propensity to Engage | Decile (0-9) |
| Leakage | Decile (0-9) |
| Housing Security | Decile (0-9) |

# Analytics help you transform data into action

GOALS

1. Identify high risk, high want members with no claims data
2. Identify and implement Care Management Programs based on member characteristics to reduce clinical risk

| | |
|---|---|
| Integrated data | Bring together data for population health, social determinants, behavioral, consumer, eligibility, care management and claims |
| Descriptive analytics | Historical care management, claims and utilization data for the full population to identify those without any health plan interaction |
| Diagnostic analytics | Consumer analytics models to identify common traits and propensities |
| Predictive analytics | Statistical and predictive models that identify the high-risk, high-want members based on their propensities and characteristics |
| Prescriptive analytics | Identify, recommend, and implement care management outreach campaigns to the identified members. Measure, adjust, deploy. |

# Appendix

SOCIETY OF ACTUARIES®

# ER Admission / Hospital Readmission and SDOH: Supporting Evidence

Members experiencing issues related to social determinants of health tend to use the ER more frequently and report inpatient visits.

- A Canadian study found that frequent emergency medical services callers experienced higher rates of poverty and food insecurity than average Ontario citizens

(https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6964-1)

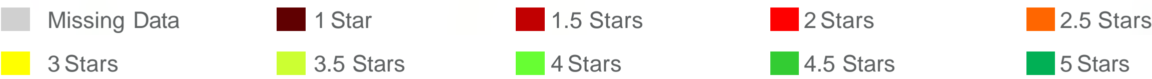
- A McKinsey study found that survey respondents who indicated food insecurity were 2.4x as likely to report multiple ER visits and 2x as likely to report an inpatient visit over a 12-month period

(https://medcitynews.com/2019/05/social-determinants-of-health-utilization-rates/)

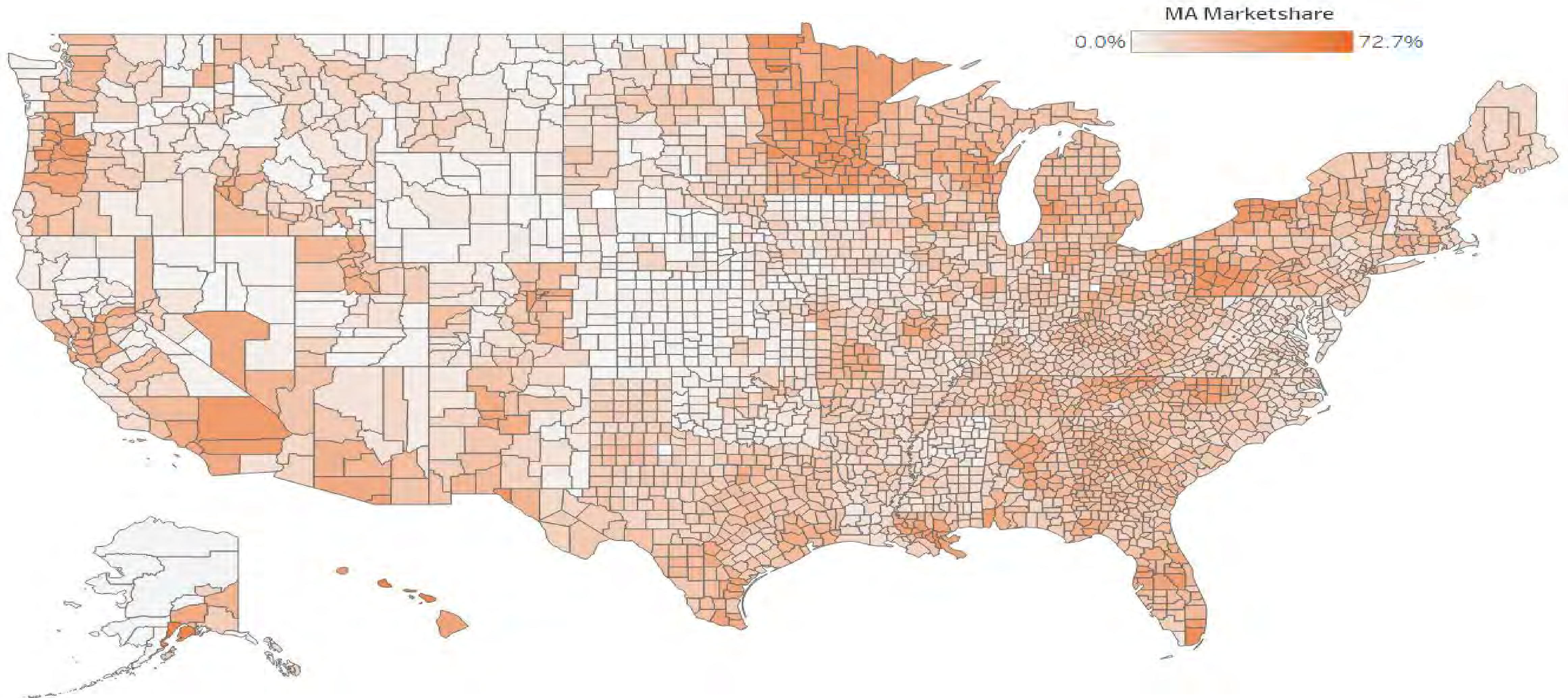
- Those who indicated transportation issues are 2.6x as likely to report multiple ER visits and 2.2x as likely to report an inpatient visit over a 12-month period

(https://medcitynews.com/2019/05/social-determinants-of-health-utilization-rates/)

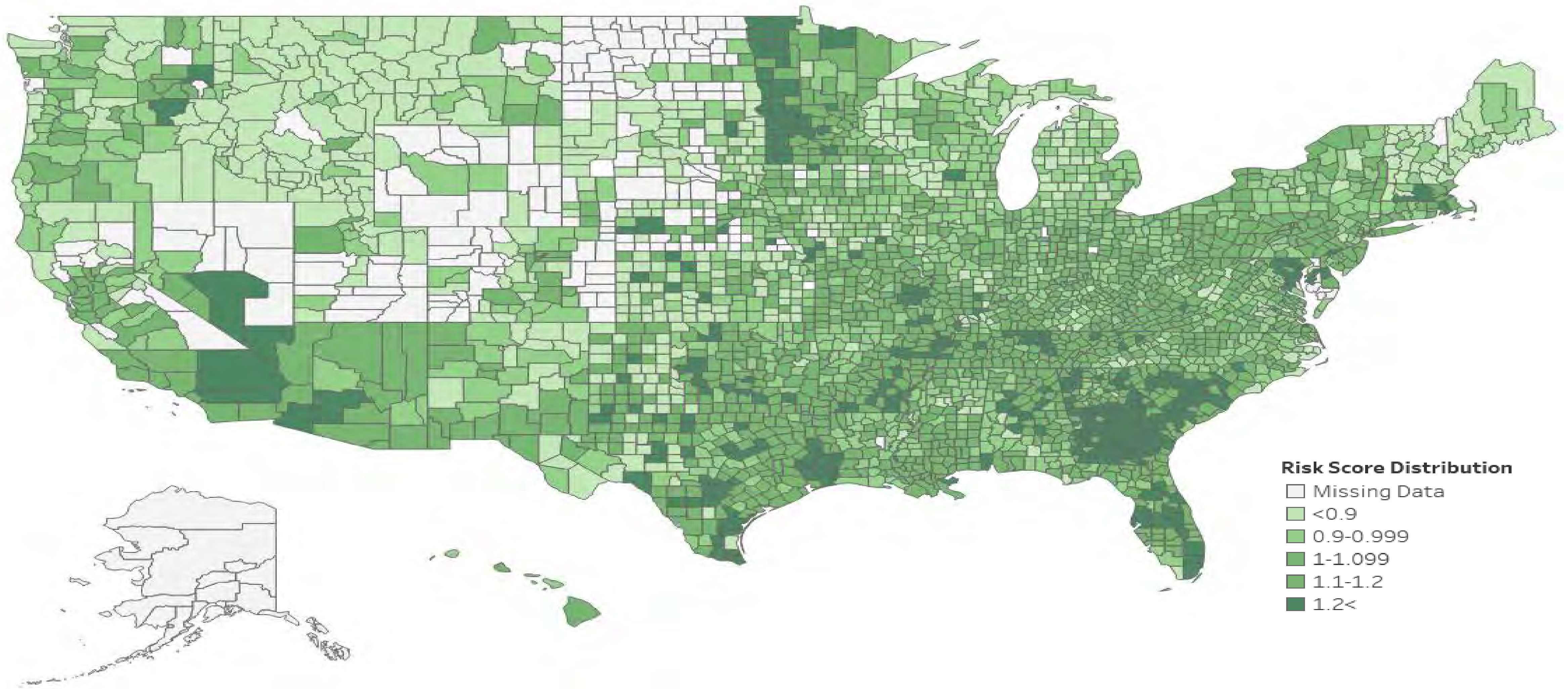
# 2018 County Star Ratings



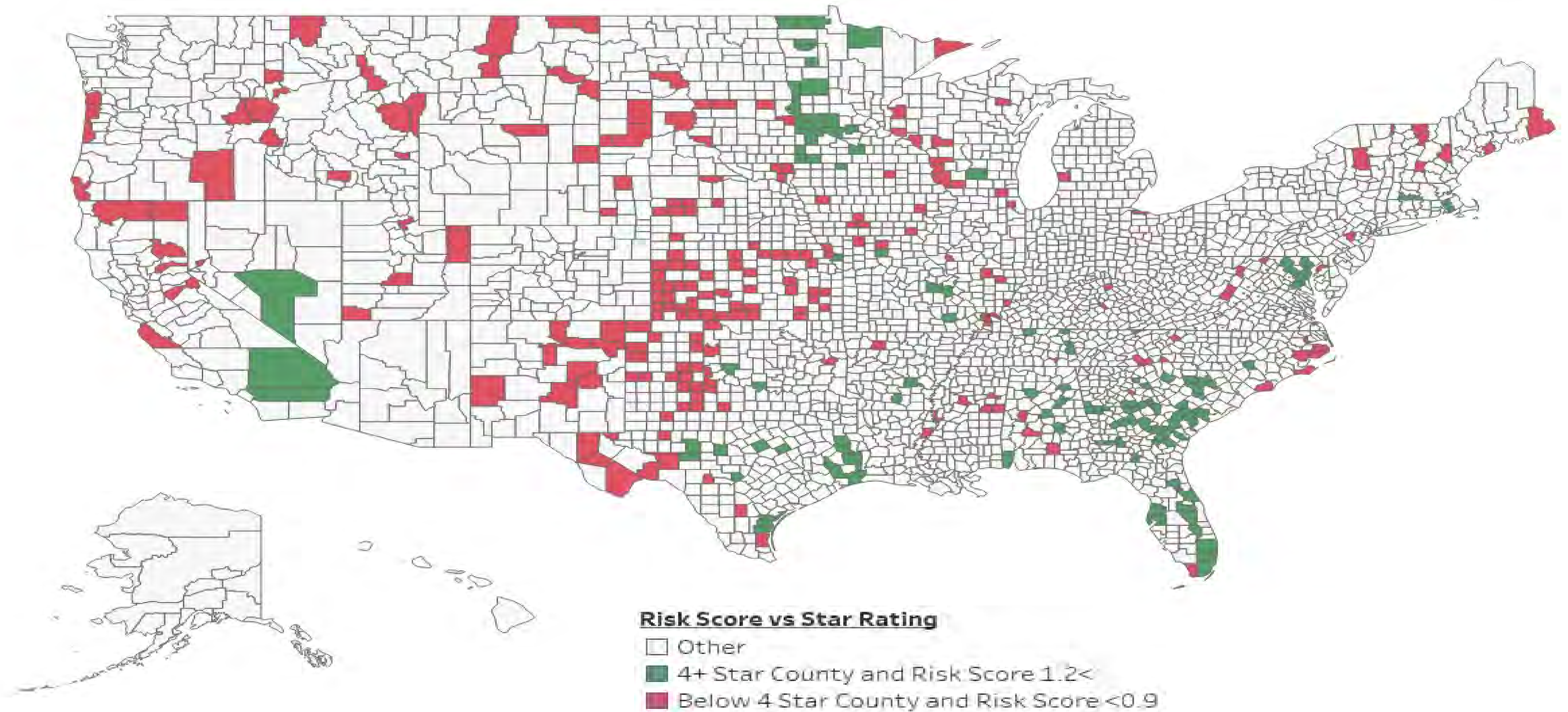
# 2018 MA Market Share



# 2018 MA County Weighted Average Risk Scores



# Risk Score and Star Rating  Intersection



2019 ANNUAL MEETING & EXHIBIT

# Thank You

Lee Parrott
Senior Director, Advisory Services
T: 763.361.6883
lee.parrott@optum.com

SOCIETY OF ACTUARIES®