3M Science. Applied to Life.™

Risk Adjustment in a Value-Based World

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Agenda

- The benefits of value-based care
- What is risk adjustment
  - Clinical risk
  - Social risk
- Attributing the population and risk
  - Primary care provider
  - Specialist
- What should be risk adjusted
  - Financial
  - Quality

3M

Our approach draws upon deep, integrated expertise across core solution areas to reimagine health care

Population health, value-based care, decreasing revenues, and increasing costs are just a few of the pivotal issues challenging health care leaders today.

3M specializes in helping health care leaders address their biggest challenges with insights and strategies to achieve meaningful results and organizational goals.

Advisory Services

3M is committed to reducing the administrative burden of technology and empowering clinicians in all settings to easily document the full patient story, ultimately creating more time to care.

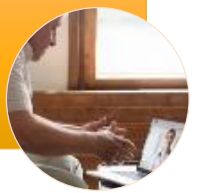
Population Health Management

3M can help streamline your revenue cycle, automate coding processes and reduce burdens on your clinical staff.

Identifying Variation and Cost Control

3M empowers payers with measurable, believable and actionable information to identify root causes and solutions faster using both clinical and social risk metrics.

Patient Outcomes Improvement



Business need

In a value-based payment (VBP) world, health plans need VBP programs that are:

Flexible

- Target Setting:
  - MLR
  - Total Cost of Care
  - Quality Benchmarks
- Category of Service Exclusion
- StopLoss
- Sub-populations

Realistic

- Risk Adjustment
- Achievable targets

Financially Beneficial

- Payouts are truly *Shared Savings*
- Providers see an ROI

Setting the stage for results

Increase the focus on outcomes at the intersection of cost and quality and avoid getting stuck in process indicators

Leverage existing data streams rather than adding additional administrative tasks that divert doctor and nurses from the needs of their patients

CORE PRINCIPLES

Outcomes over process

People over conditions

Metrics aligned with action

Technology that enables versus steals from clinicians' time to care

3M

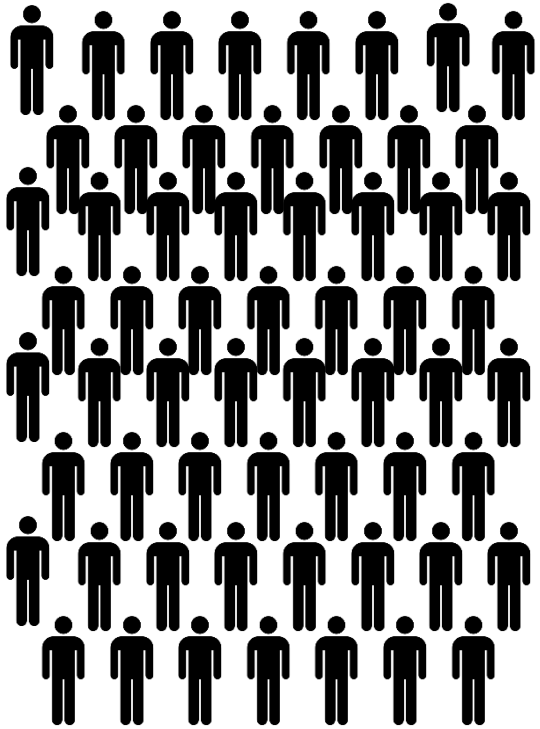
Value-based payments require data

Financial incentives must be accompanied by detailed opportunities for improvement

- Analyze trend over time on potentially preventable admissions (PPAs) for spend and utilization.
- Identify the population and attributed providers incurring these potentially preventable admissions.

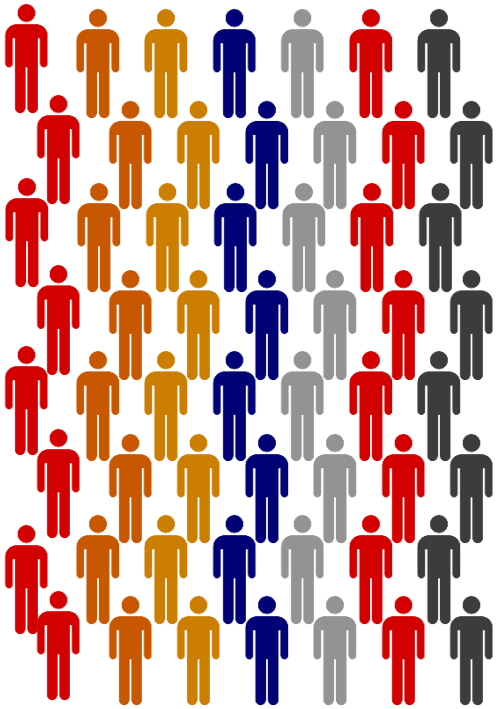
Value-based program populations needs to be risk adjusted

Create groups of clinically similar individuals



The 3M Clinical Risk Groups (CRG) will assign each person to their own clinical category. There are over 1,400 categories that can be assigned, which includes up to 6 severity levels.

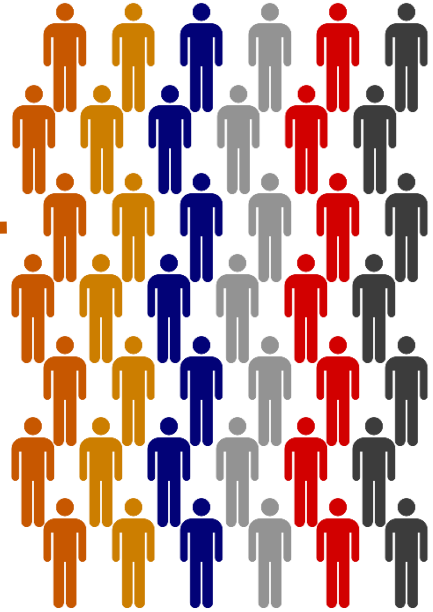
The condition assignment is primarily driven off of diagnosis codes, but other factors including interaction with the healthcare system can contribute to the clinical assignment of the individual. No financial information is used to assign CRGs.



Compute averages for clinically similar individuals

Member	CRG	Member Months	ED Visits	IP Admits	Total Paid	PPVs	PPAs …
Member1	CRG 12345	10	5	2	$1,000	3	1
Member2	CRG 12345	12	4	1	$1,500	2	0
Member3	CRG 12345	9	3	0	$700	0	0
…							
Total for CRG 12345		**150,000**	**37,500**	**18,750**	**$15,000,000**	**30,000**	**9,375**
Average			**3.00**	**1.50**	**$ 1,200**	**2.40**	**0.75**

These values become the expected values for any person with CRG 12345



Member	CRG	Member Months	ED Visits	IP Admits	Total Paid	PPVs	PPAs	…
Member1	CRG 56789	10	0	0	$200	0	0	
Member2	CRG 56789	12	1	0	$500	1	0	
Member3	CRG 56789	9	0	0	$150	0	0	
…								
Total for CRG 56789		**900,000**	**56,250**	**7,500**	**$ 13,125,000**	**52,500**	**6,750**	
Average			**0.75**	**0.10**	**$ 175**	**0.70**	**0.09**	

These values become the expected values for any person with CRG 56789

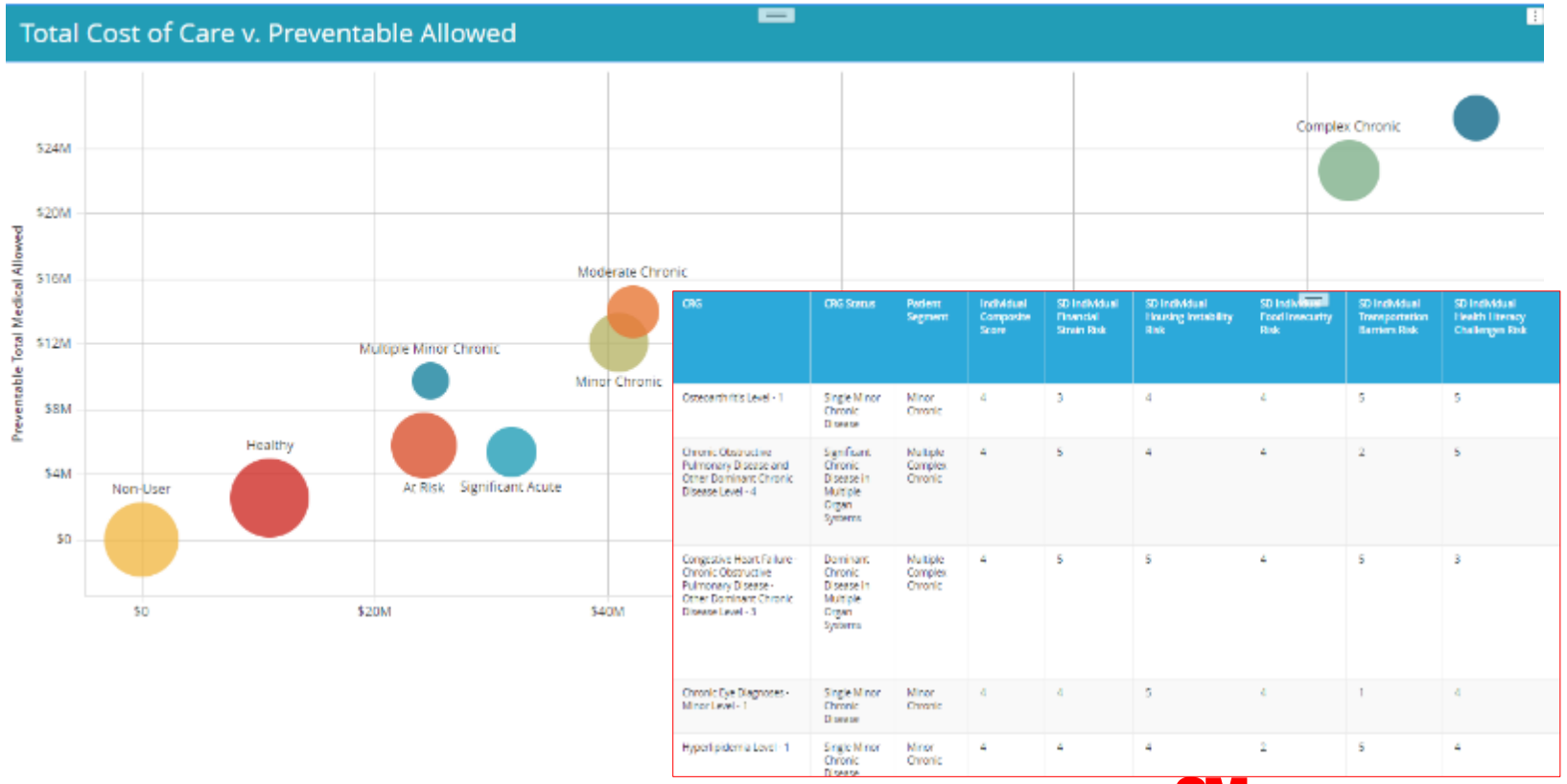
Community level vs. Individual factors

Social factors that impact our ability to achieve optimal health

- Financial Strain
- Food Insecurity
- Housing Instability
- Transportation Barriers
- Health Literacy Challenges
- Psychological Stressors

Socio-clinical risk strengthens value-based care

Who are my members who explain the majority of my spend and preventable events?



CRG	CRG Status	Patient Segment	Individual Composite Score	SD Individual Financial Strain Risk	SD Individual Housing Instability Risk	SD Individual Food Insecurity Risk	SD Individual Transportation Barriers Risk	SD Individual Health Literacy Challenges Risk
Osteoarthritis Level - 1	Single Minor Chronic Disease	Minor Chronic	4	3	4	4	5	5
Chronic Obstructive Pulmonary Disease and Other Dominant Chronic Disease Level - 4	Significant Chronic Disease in Multiple Organ Systems	Multiple Complex Chronic	4	5	4	4	2	5
Congestive Heart Failure Chronic Obstructive Pulmonary Disease - Other Dominant Chronic Disease Level - 3	Dominant Chronic Disease in Multiple Organ Systems	Multiple Complex Chronic	4	5	5	4	5	3
Chronic Eye Diagnoses - Minor Level - 1	Single Minor Chronic Disease	Minor Chronic	4	4	5	4	1	4
Hypothyroidism Level - 1	Single Minor Chronic Disease	Minor Chronic	4	4	4	2	5	4

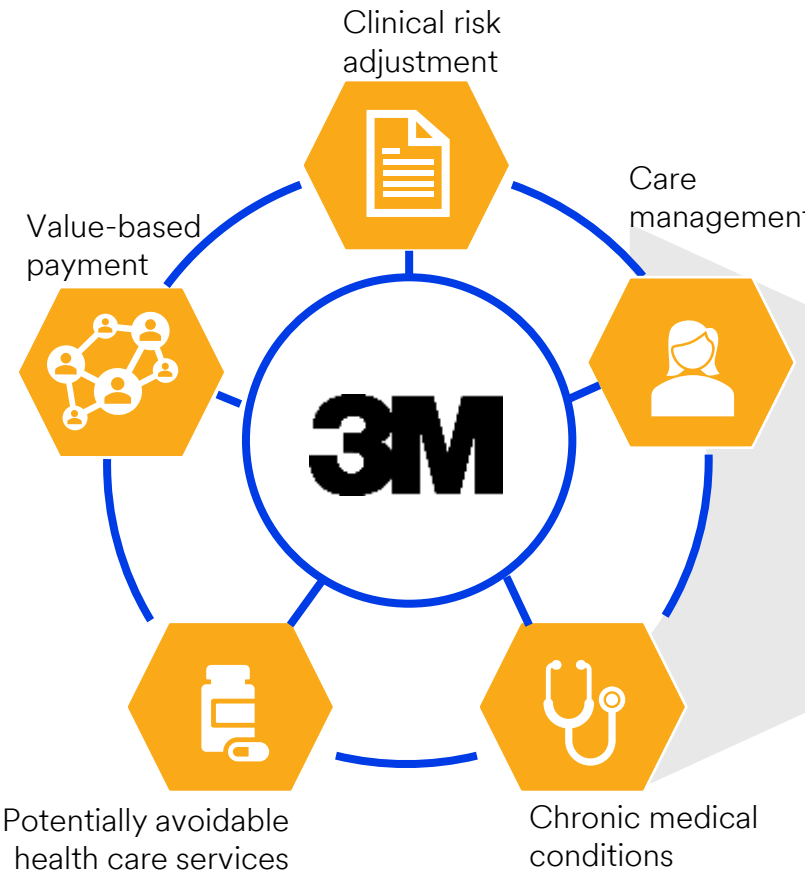
Manage Care

- ✓ Target care management more efficiently and comprehensively
- ✓ Proactively manage members with high, or rising, social risk
- ✓ Promote effective communication and care coordination with CBOs

Screen shot from 3M™ Social Determinants of Health Analytics.
All data is for demonstration purposes only.

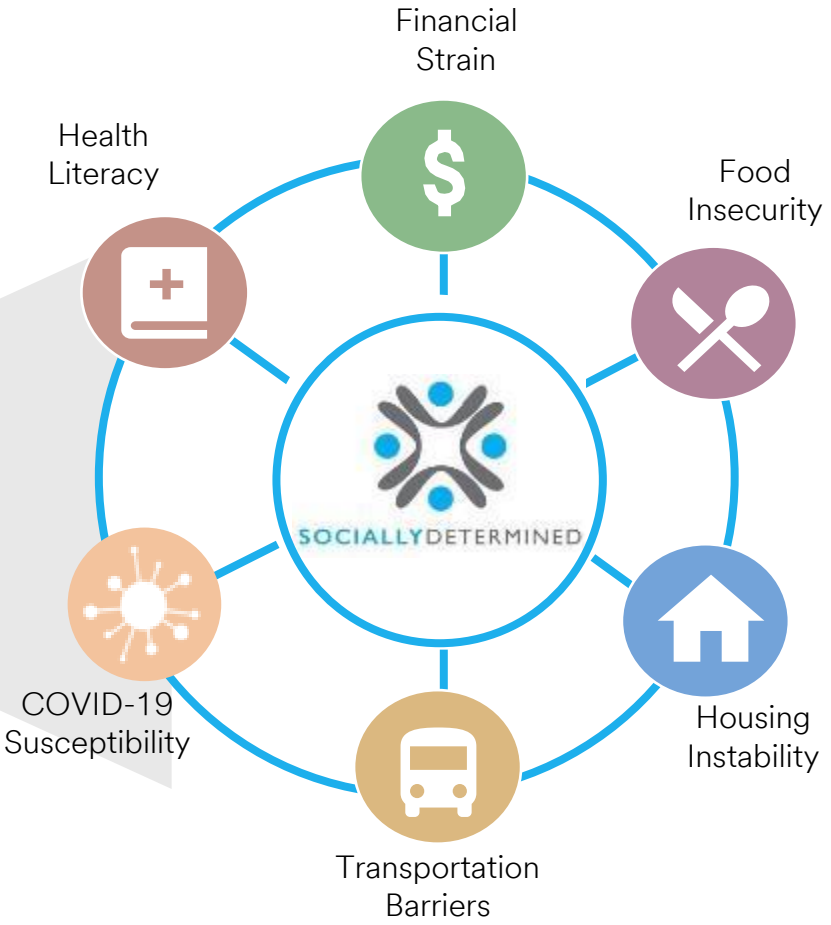
A complete patient picture

Clinical Factors



Using 3M's clinical expertise combined with social risk factors allows for integrated whole-person population health analytics at scale.

Social Factors



Complete picture of risk

Demographics

67 year old female

Member for >3.5 years

Lifestyle & Living Situation

$40K
Est. Annual Income

Lives Alone

Homeowner

70+ Year Old Home

$200K Home Value

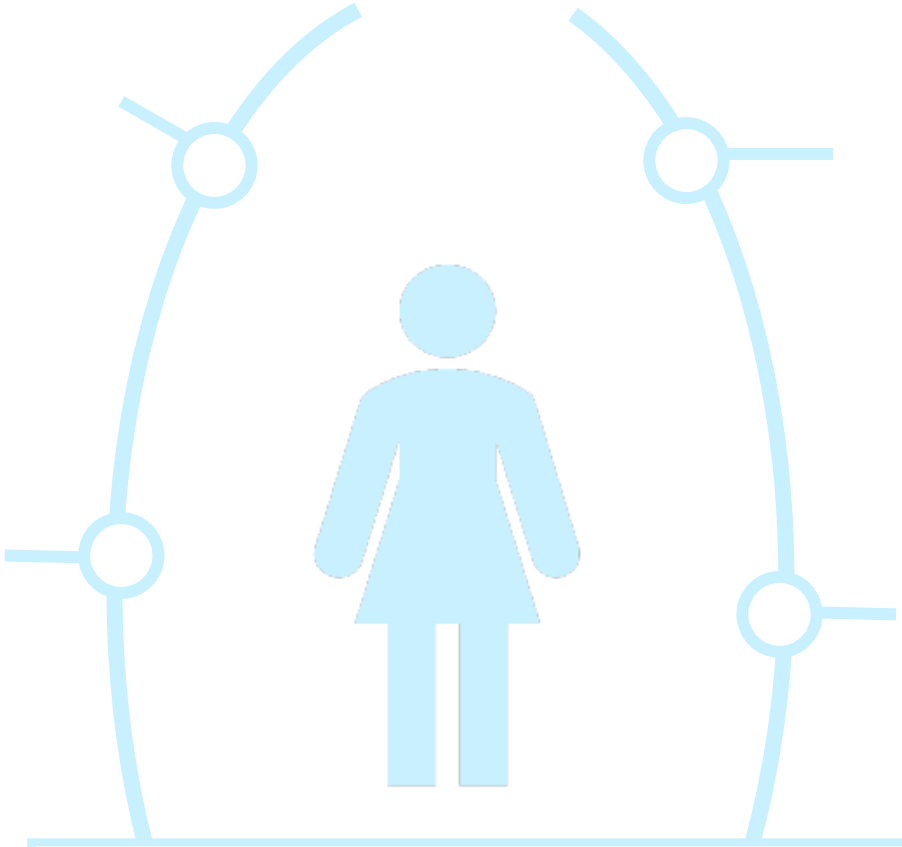
Owns a Car

Accessibility & Location

Lives far from a pharmacy

And far from healthy food options

SOCIALLYDETERMINED



Social Risk Scores

4 3 4 2 5

Clinical Risk Score

CRG	70602
Patient Segment	Multiple Complex Chronic
Description	Congestive Heart Failure - Diabetes - Chronic Obstructive Pulmonary Disease
Severity	Level 2

Considerations for Social Risk Score Assignment

4

Distance from food options as well as the pharmacy were the defining attributes driving elevated risk.

3

Financial situation generally stable in light of consistent income over time and only supporting herself.

2

Owning a car was the primary attribute driving low risk.

5

Health literacy elevated due to limited educational attainment, age and living alone with no support system.

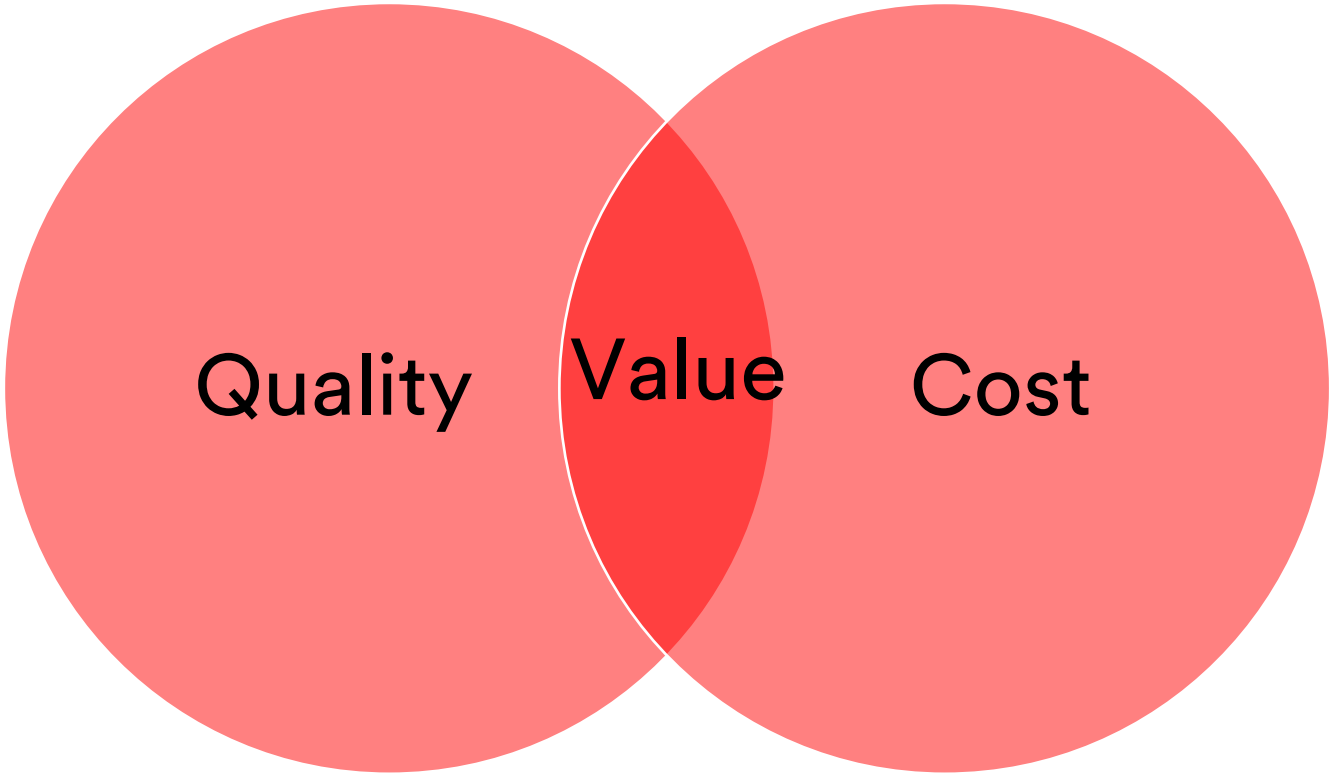
4

Owns the home, but the market value is less than outstanding mortgage.

Financial and quality measures should be risk adjusted

Financial and quality measures should be risk adjusted

- Spend by member or provider
- Process Measures
  - chronic care follow-up
  - preventative measures that are not needed under current treatment
- Outcome Measures
  - inpatient stays
  - ED visits
  - potentially preventable events



Why risk adjustment?

Base Condition(s) and Diagnosis codes	3M CRG assignment	CRG Weight *Child*	PMPM	IP Visits PKPY	ER Visits PKPY
Opioid Dependence *F11.20 Opioid dependence, unspecified*	CRG 57831 Opioid Abuse/Dependence Level - 1	**1.732**	**$ 393.92**	**90**	**1,433**
Opioid Dependence + Overdose *F11.20 Opioid dependence, unspecified* *T507X1A Poisoning by analeptics and opioid receptor antagonists, accidental (unintentional), initial encounter*	CRG 57832 Opioid Abuse/Dependence Level - 2	**2.811**	**$ 437.12**	**260**	**1,247**
Opioid dependence + Overdose + Schizophrenia *F11.20 Opioid dependence, unspecified* *T507X1A Poisoning by analeptics and opioid receptor antagonists, accidental (unintentional), initial encounter* *F20.9 Schizophrenia, unspecified*	CRG 61213 Dominant Chronic Mental Health Disease and Other Dominant Chronic Substance Abuse Level - 3	**9.676**	**$ 1,092.61**	**903**	**1,518**

Source: Sample State Medicaid Managed Care plan data CRG v2.1

Risk can be consolidated to higher levels

Provider Groups/ PPS/Region	Members	Member Months	CRG Weight	Total Paid PMPM $	Total Expected Paid PMPM $	Total %Diff.
Provider 1	66,322	708,580	1.204	$483.31	$457.73	5.6%
Provider 2	12,139	130,494	1.285	$477.08	$489.87	-2.6%
Provider 3	17,040	182,377	0.817	$315.43	$297.60	6.0%
Provider 4	4,297	45,719	1.139	$477.18	$424.24	12.5%
Provider 5	43,832	472,835	1.270	$483.70	$481.63	0.4%
Provider 6	19,916	211,067	1.546	$607.64	$599.99	1.3%
Provider 7	121	1,328	2.202	$667.45	$813.87	-18.0%
Provider 8	278,236	2,458,729	0.689	$239.66	$261.82	-8.5%
Provider 9	4,535	47,959	1.516	$634.48	$562.56	12.8%
Provider 10	14,398	154,927	1.245	$474.01	$466.27	1.7%
Provider 11	176,414	1,896,994	1.160	$449.68	$436.20	3.1%
Aggregate	**637,250**	**6,311,009**	**1.000**	**$378.48**	**$378.48**	**0.0%**

New measures of ‘value’

3M Potentially Preventable Events

3M Potentially Preventable Readmissions

Result of poor continuity/ transitions of care

3M Potentially Preventable Complications

Result of insufficient processes of care

3M Potentially Preventable Emergency Room Visits

Result of inadequate access to care

3M Potentially Preventable Admissions

Result of inadequate access to care

3M Potentially Preventable Ancillary Services

Avoidable services outside inpatient setting

Overtreatment | **Complications** | **Poor access** | **Unnecessary services** | **Inappropriate care**

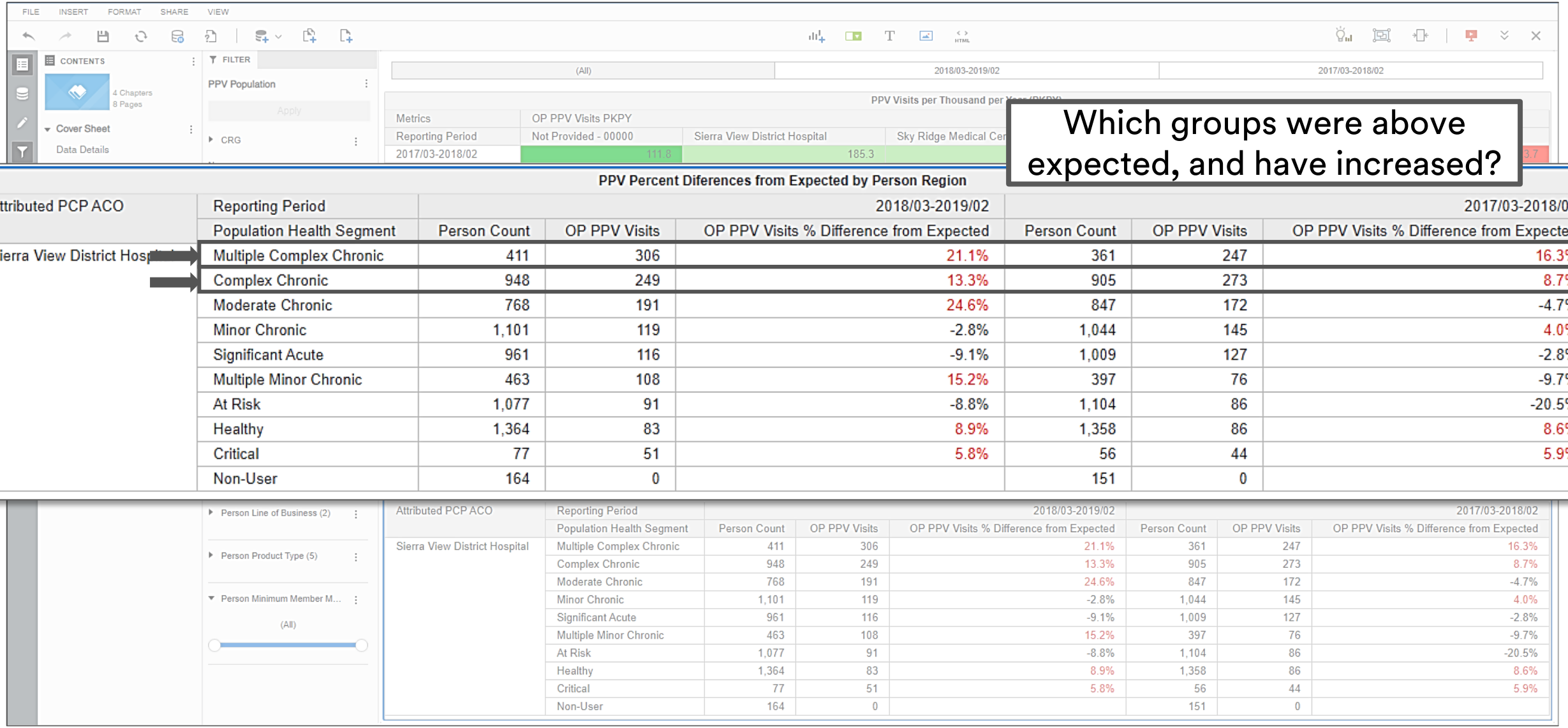
The 3M approach to potentially preventable events

- The focus is on adverse outcomes that are potentially preventable, are meaningful for patients, and are expensive for the health care system
- Overall rates, not individual events
- Not all events are preventable, but meaningful reductions can be achieved, saving money and improving health
- Comparisons always casemix adjusted
  - PPCs and PPRs by APR DRG
  - PPAs, PPVs, PPSs by Clinical Risk Group
- We compare actual PPE rates with expected PPE rates, where expected rates depend on the casemix of the health plan, hospital, or other population

Example of Potentially Preventable Admission A/E Calculations			
	Actual PPAs	Expected PPAs	A / E
High-acuity MCO	100	120	0.83
Low-acuity MCO	100	80	1.25
All MCOs	**200**	**200**	**1.00**

- A/E ratios > 1.00 => worse than expected
- A/E ratios < 1.00 => better than expected
- "A/E ratios," "Actual minus expected," and "risk adjusted rates per 1,000 beneficiaries" are merely alternative presentations of the same concept

3M Potentially Preventable Visits module



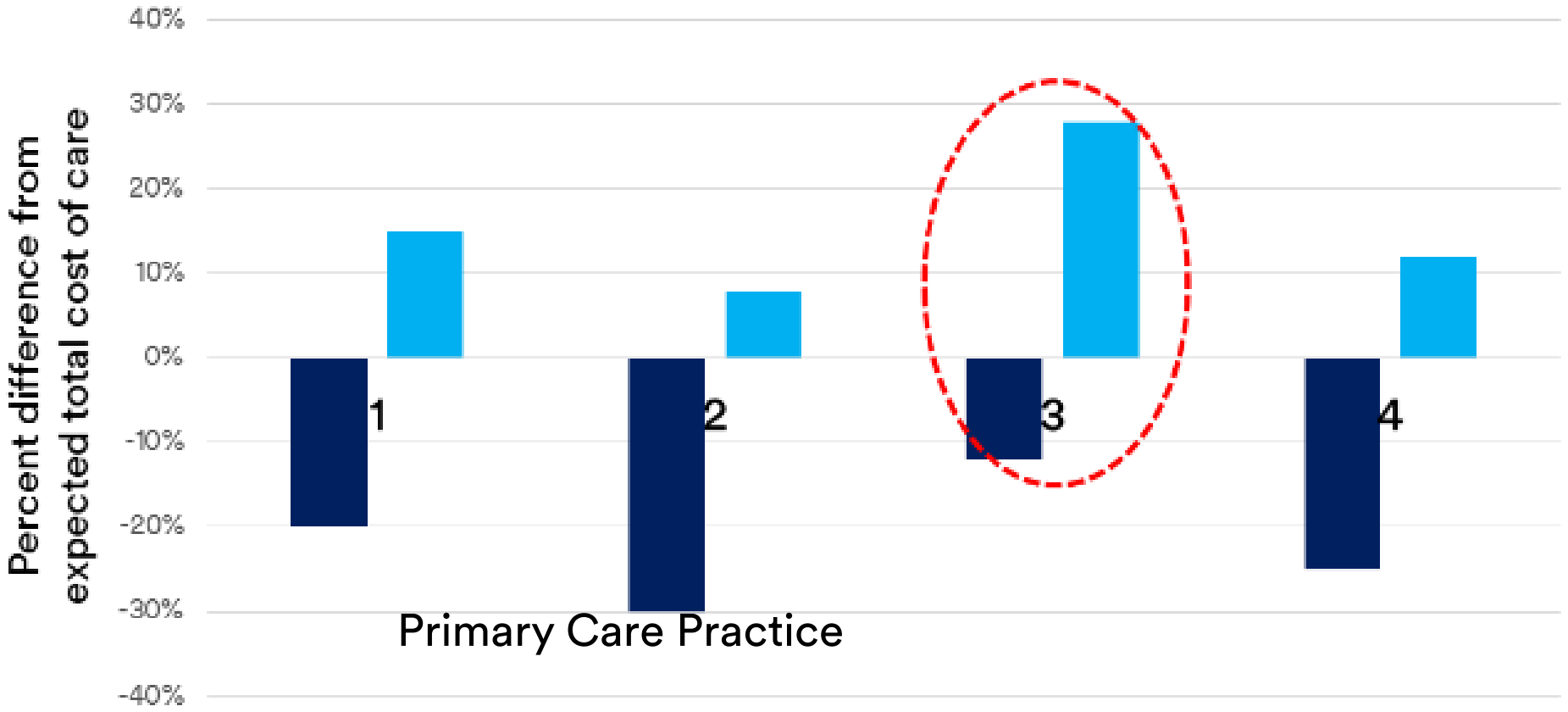
Which groups were above expected, and have increased?

PPV Percent Diferences from Expected by Person Region

Attributed PCP ACO	Reporting Period	2018/03-2019/02			2017/03-2018/02		
	Population Health Segment	Person Count	OP PPV Visits	OP PPV Visits % Difference from Expected	Person Count	OP PPV Visits	OP PPV Visits % Difference from Expected
Sierra View District Hospital	Multiple Complex Chronic	411	306	21.1%	361	247	16.3%
	Complex Chronic	948	249	13.3%	905	273	8.7%
	Moderate Chronic	768	191	24.6%	847	172	-4.7%
	Minor Chronic	1,101	119	-2.8%	1,044	145	4.0%
	Significant Acute	961	116	-9.1%	1,009	127	-2.8%
	Multiple Minor Chronic	463	108	15.2%	397	76	-9.7%
	At Risk	1,077	91	-8.8%	1,104	86	-20.5%
	Healthy	1,364	83	8.9%	1,358	86	8.6%
	Critical	77	51	5.8%	56	44	5.9%
	Non-User	164	0		151	0	

Somebody must be responsible for the risk adjusted population

Directed Care	A members care is considered to be ***directed*** if the member's attributed PCP performed the preponderance of evaluation and management (E & M) visits.
Influenced Care	A member's care is ***influenced*** if the member's care is not directed by the attributed PCP, but the PCP is still involved.
Contributed Care	Members whose care is ***contributed*** to are those whose attributed PCP neither directed nor influenced care.



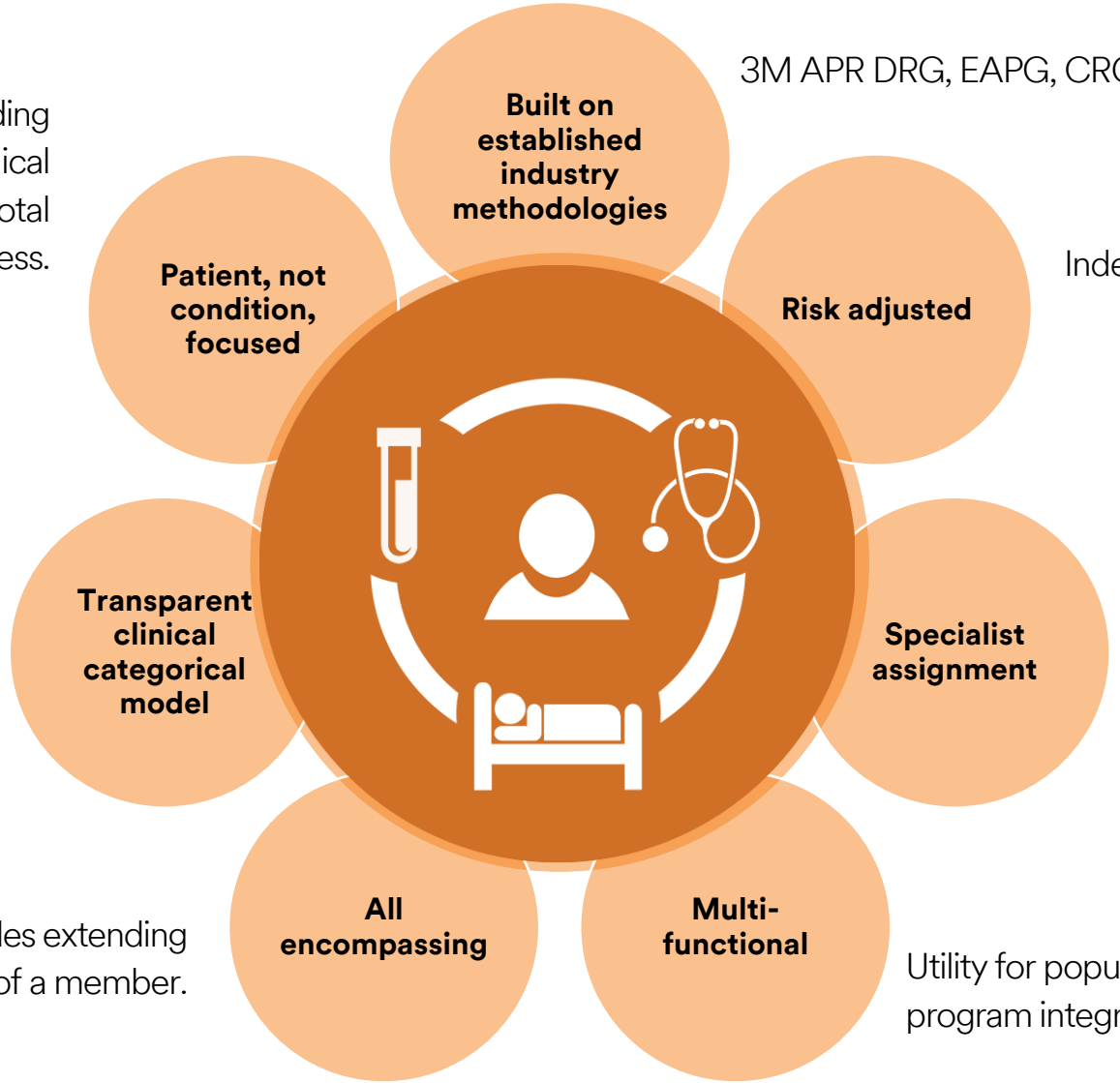
New models for patient management

Specialists

- Physicians who are highly trained in a narrow branch of medicine
- Some diseases may lend themselves to the specialist as the director
- Is there is a difference in cost or quality?
- Can management be shared?

3M Patient-Focused Episodes (PFEs)

PFE reflects baseline health status, including multiple comorbidities. The episode clinical model should focus on an enrollee's total burden of illness.



3M APR DRG, EAPG, CRG

Independent and empirical relative weights

Identifying the type of episode and chronic illness burden of the beneficiary. Full access to definitions manual with complete clinical criteria.

Offering an additional lens to provide insight into clinical pathways, referral patterns and provider profiling.

Expansive catalog of over 450 episodes extending over the complete life-cycle of a member.

Utility for population health, value-based payments, program integrity and bundled payments.

Analyze disease cohort episodes by CRG status/severity

Diabetes Cohort Episode Distribution

CRG Health Status	CRG Severity				
	1	2	3	4	5
5	5.8%	4.3%	2.3%	2.7%	
6	28.0%	11.1%	10.3%	6.0%	5.7%
7	7.7%	5.3%	2.4%	1.9%	4.0%
8	0.0%	0.1%	0.1%	0.1%	
9	0.5%	0.8%	0.9%		

Diabetes Episode Total Cost vs. Expected - $ in Millions

CRG Health Status	CRG Severity				
	1	2	3	4	5
5	$2.29	$5.58	$2.94	($5.88)	
6	$20.52	$2.30	($9.94)	($1.09)	($12.14)
7	$17.77	$4.81	($3.37)	($3.40)	($10.73)
8	$0.10	($0.11)	($1.12)	$2.87	
9	$1.95	($16.94)	($2.60)		

$ Above Expected per Diabetes Cohort Episode

CRG Health Status	CRG Severity				
	1	2	3	4	5
5	$561	$1,842	$1,823	($3,084)	
6	$1,038	$292	($1,360)	($258)	($3,007)
7	$3,277	$1,284	($1,985)	($2,500)	($3,825)
8	$6,348	($2,911)	($22,466)	$28,383	
9	$5,857	($28,862)	($4,001)		

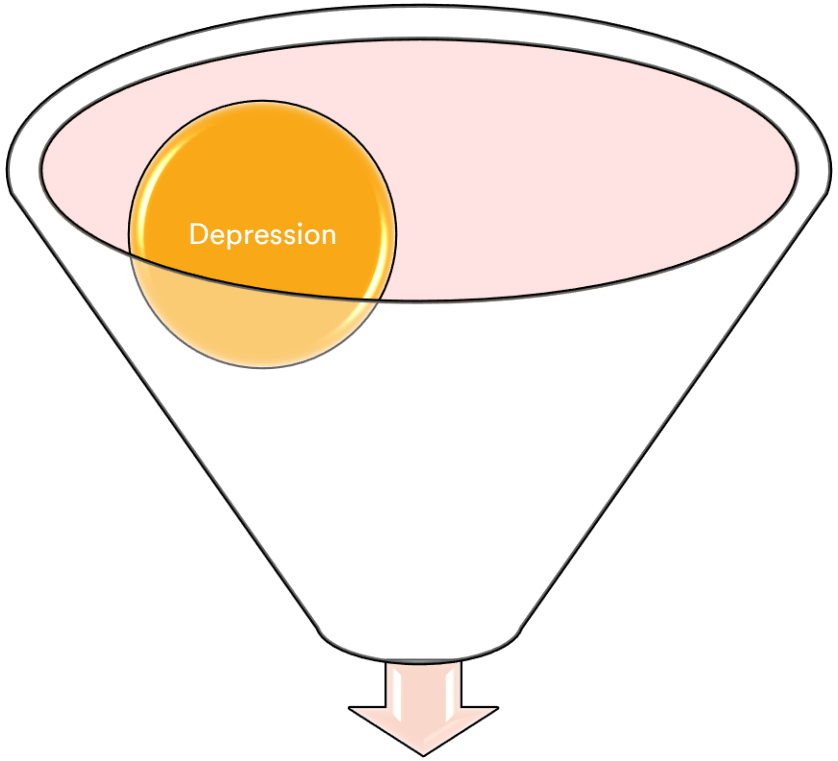
Table 1. The nine core health status groups described by 3M Clinical Risk Groups and their characteristics

3M CRG core health status groups (1-9)	Base 3M CRGs (Total = 330)	Description/Example of base 3M CRG	Severity levels	Number of 3M CRGs (Total = 1,408)
9 - Catastrophic condition status	10	History of major organ transplant	4	40
8 - Dominant and metastatic malignancies	30	Colon malignancy - under active treatment	4	120
7 - Dominant chronic disease in 3 or more organ systems (triplets)	28	Diabetes mellitus, congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD)	6	168
6 - Significant chronic disease in multiple organ systems (pairs)	78	Diabetes mellitus and CHF	6	468
5 - Single dominant or moderate chronic disease	125	Diabetes mellitus	4	500
4 - Minor chronic disease in multiple organ systems	1	Migraine and benign prostatic hyperplasia (BPH)	4	4
3 - Single minor chronic disease	50	Migraine	2	100
2 - History of significant acute disease	6	Chest pains	None	6
1 - Healthy/Non-Users	2	Healthy (no chronic health problems)	None	2

Patient-focused Episodes (cohort)

Single chronic vs. multiple chronic patient

Patient A

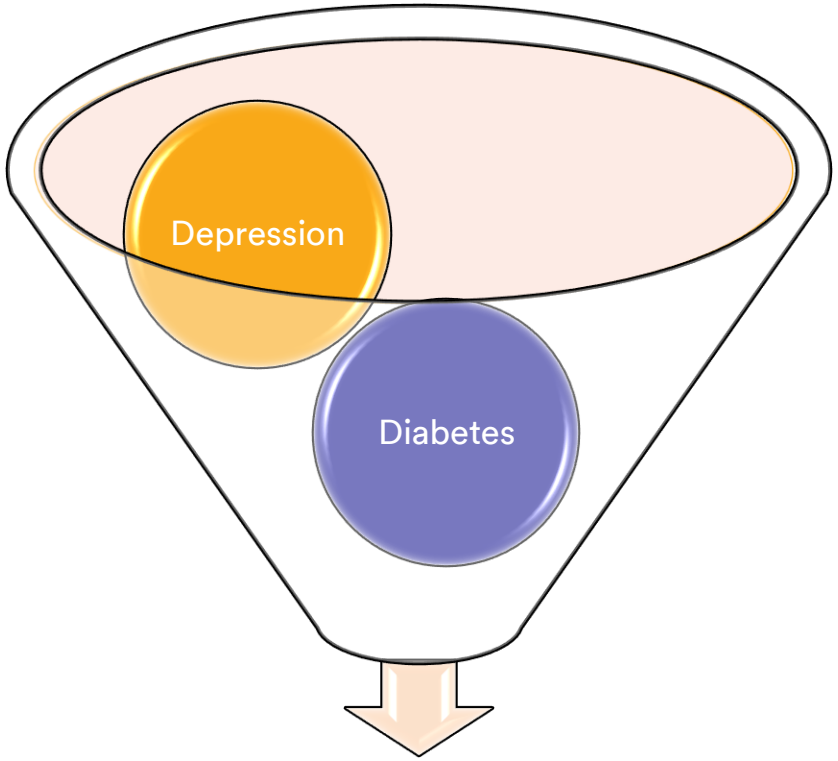


1 Single Chronic - Depression Episode

- Expected Cost: $3,100

- Total Cost of $3,000 is $100 below risk adjusted expected

Patient B



1 Multiple Chronic - Depression Episode

- Expected Cost: $6,400

1 Multiple Chronic - Diabetes Episode

- Expected Cost: $7,500

-Total Cost of $7,000 is $600 above risk adjusted expected for Depression and $500 below risk adjusted expected for Diabetes

Average health plan payment per episode and baseline health status combination:

Single Chronic – Depression

$3,100

Multiple Chronic – Depression

$6,400

Multiple Chronic - Diabetes

$7,500

*$ values are examples for illustrative purposes only

Patient-focused Episodes vs. Disease specific

Cohort episode comparison for a comorbid patient

3M Patient Centered Approach: 4 Cohort Episodes

Dominant Chronic Disease in 3 or More Organ Systems – Schizophrenia Episode: $40,000

Dominant Chronic Disease in 3 or More Organ Systems– Asthma Episode: $40,000

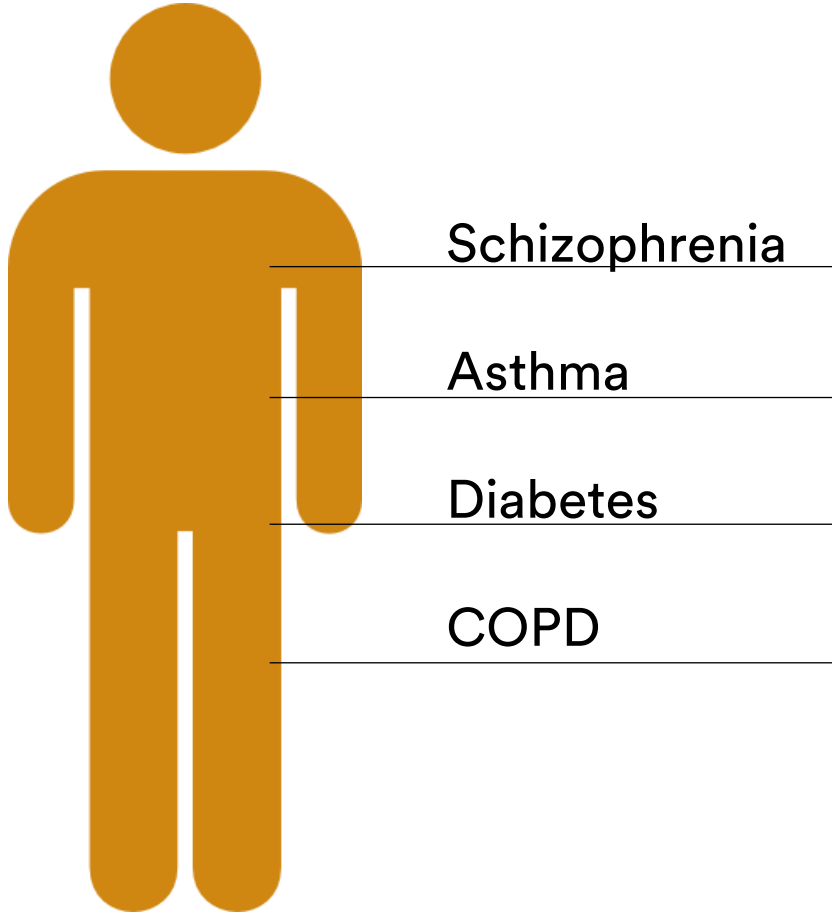
Dominant Chronic Disease in 3 or More Organ Systems– Diabetes Episode: $40,000

Dominant Chronic Disease in 3 or More Organ Systems– COPD Episode: $40,000

Disease Specific Approaches:

- Split costs evenly across all Cohorts (if episodes for each exists)
- Attempt to assign spend to each Cohort, with potential for spend to be uncounted

Total Cost: $40,000



Splitting costs amongst diseases is both inaccurate and potentially dangerous

*$ values are examples for illustrative purposes only

Patient-focused Episodes can help

Reduce Waste

Traditional medical cost containment initiatives focused on unit price reduction, authorization limitations, and PCP management fail to address a major driver of health care spend which is Specialist practice and referral patterns.

Expand VBP Models

Primary Care Physician (PCP) centric Value-Based Payment (VBP) models leave Specialists out of the picture, leaving little incentive to shift from Fee-For-Service Volume to Value.

Improve Population Health

Cohort episodes of care provide a view into a population's disease progression, drivers of spend and Potentially Preventable Events.

Questions?

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