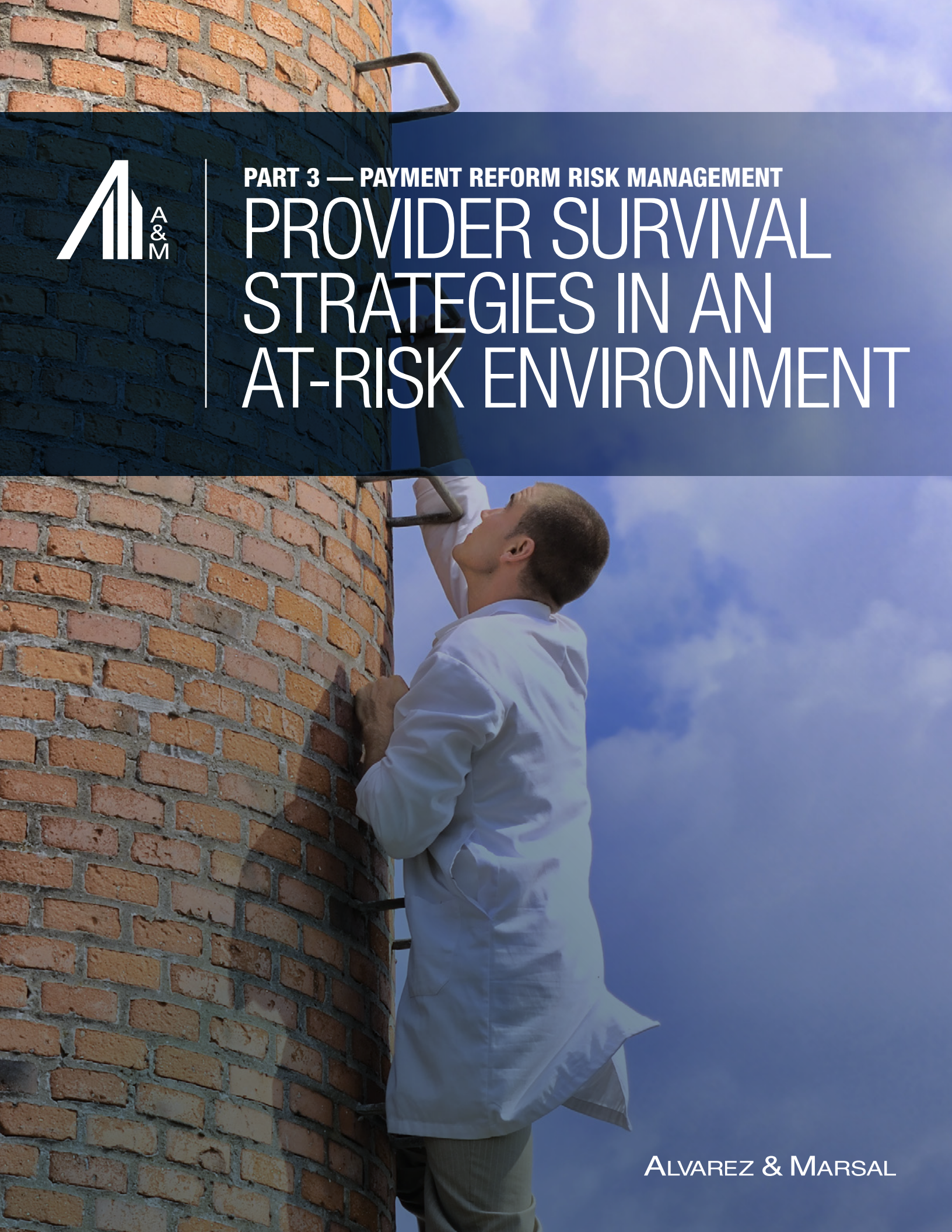

PART 3 — PAYMENT REFORM RISK MANAGEMENT

PROVIDER SURVIVAL STRATEGIES IN AN AT-RISK ENVIRONMENT

ALVAREZ & MARSAL

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Provider Survival Strategies in an At-Risk Environment – Full Report
October 2017

In this compilation of a six-part series, A&M is focused on providing context for the actions deemed necessary by providers to succeed in an increasingly at-risk, value-based environment. All healthcare is local. Siloed activities now require convergent integration. Each provider needs to consider federal (Medicare) and state (Medicaid) reimbursement and regulatory initiatives, local market conditions such as demographics, socioeconomics, competitive intensity, market share and relative performance, and its own capabilities and risk profile.

https://www.alvarezandmarsal.com/insights/provider-survival-strategies-risk-environment

PAYMENT REFORM RISK MANAGEMENT

The transition from fee-for-service (volume) to value (quality as a function of cost) fundamentally alters the risk profile of a provider. *A&M has generated the concept of a* ***provider hybrid****, defined as a provider with risk management understanding similar to payers, but without the depth of investment, capabilities and regulatory approvals necessary to actually create a joint venture or sponsor a health plan.*

Areas of payer risk management (approaches) of interest include product design and pricing, actuarial and underwriting, expense management (managing demand, limiting volume of services and steering volume of services), managing care to best outcomes, contracting, network creation and capital requirements.

Risk management requires local market context, consideration of institutional risk tolerance profile and an assessment of capabilities (internal, outsourced). A systematic approach includes risk identification, assessment, prioritization and control, i.e., avoidance, mitigation, retention and/or transfer.

Augmented analytic capabilities are essential and may represent a competitive advantage as providers will have access to not only retrospective claims data but also real-time electronic medical record (EMR) data facilitating real-time intervention. Most providers offer self-insured health plans to their employees, facilitating the assessment and "testing" of risk management initiatives at a relatively low cost.

FIGURE 33 | TRANSFORMATION OF ENTERPRISE RISK MANAGEMENT BY PAYMENT REFORM

01
- Compliance and/or penalties
  - VBP, HAI, readmissions
  - Episodes of care
  - Impact Act of 2014
  - MACRA

02
- Declining rate of reimbursement growth and/or absolute decline
- Payer mix (Medicare, Medicaid, commercial)
- Revenue cycle/clinical documentation improvement
- Capital expenditures (facility, equipment)
- Third-party contract prices

03
- U.S. Health care reform? State Medicaid initiatives
- Rate of market evolution from fee-for-service to value
- Competitive intensity and position
- Mergers and acquisitions
- Geographic expansion

04
- Cost controls/management to metrics (benchmarks)
- Resource utilization; efficiency and effectiveness
- Service distribution; i.e., access
- Service line performance
- Workforce optimization including talent management, staffing, productivity and compensation

05
- Patient safety
- Quality of care (process, outcomes)
- Evidence-based practice
- Provider variation
- Transition management

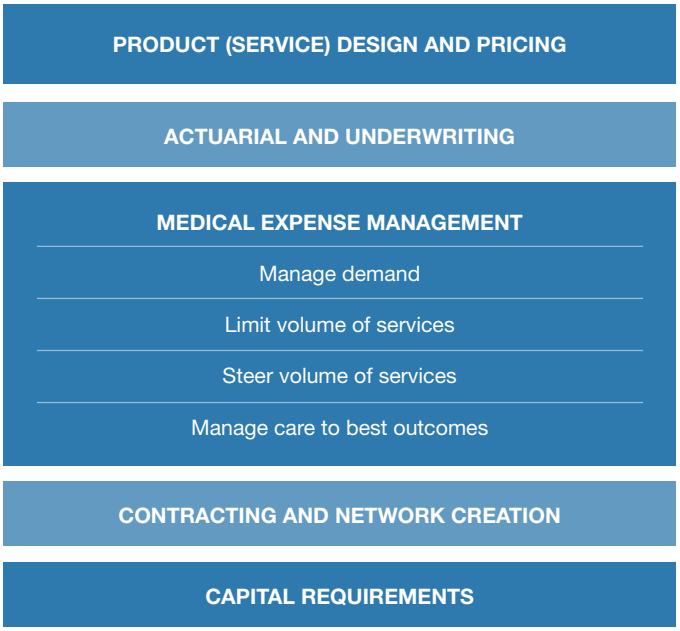
06
- ROI
- Inter-operability of legacy systems
- Analytics
- Data privacy and security

PAYMENT REFORM RISK MANAGEMENT

Enterprise risk management "allows a healthcare organization to use a cross-functional approach to assess, evaluate, and measure risks, and help guide decision-making within the organization's tolerance for risk as it implements plans to be strategically adept under Affordable Care Act reforms."[70] As the aging and elderly become an increasing percentage of the population, and healthcare costs continue to rise and become increasingly unaffordable to many Americans, the provision of at-risk, value-based care will become (eventually) the predominant form of payer reimbursement. Cost containment initiatives will increasingly focus on efficiency and effectiveness, rather than service volume. *From the strategic perspective, it is incumbent upon C-suite executives to recognize the transformative impact of payment reform on the entire enterprise and the interrelationship of domain risks.*

Risk management is central to the payer business model. Providers will be required to generate similar skills, though not necessarily to the same degree. Augmented analytics capabilities are essential and may potentially represent a competitive advantage, as providers will have access not only to retrospective claims data but also electronic medical record (EMR) data allowing for real-time intervention. Most providers offer self-insured health plans to their employees, allowing for the assessment and testing of risk management initiatives.

FIGURE 34 | RISK MANAGEMENT CENTRAL TO THE PAYER BUSINESS MODEL



The "provider as payer" concept was first developed by Kaiser in 1937. Kaiser, a closed system with its own hospitals, clinics and physicians, has 9.1 million members in its commercial, Medicaid and Medicare Advantage health plans spanning eight states. Other leading health plans such as HealthPartners, SelectHealth (Intermountain), Geisinger and Sentara were formed 20–30 years ago. The University of Pittsburgh Medical Center (UPMC) Insurance Services Division (ISD) was created in 1996 as a competitive response to Highmark, offering a lower-cost narrow network plan excluding its facilities; internal reports suggest 3.2 million members.[71] The common attribute of these systems is a strong clinical, data-driven and primary care-centric approach to patient management, allowing for comprehensive product (health plan) offerings at competitive prices. Critical mass and risk management capabilities are also important.

According to the Robert Wood Johnson Foundation, of 37 provider-sponsored health plans formed since 2010, only four were profitable in 2015; another five have exited the market and two were being divested (CHI, Colorado; Tenet, Dallas). High claim losses relative to expectations were contributors to the poor performance. [72,73] Other provider systems have increased payer collaboration in performance-based-contracting, population health and clinical integration.

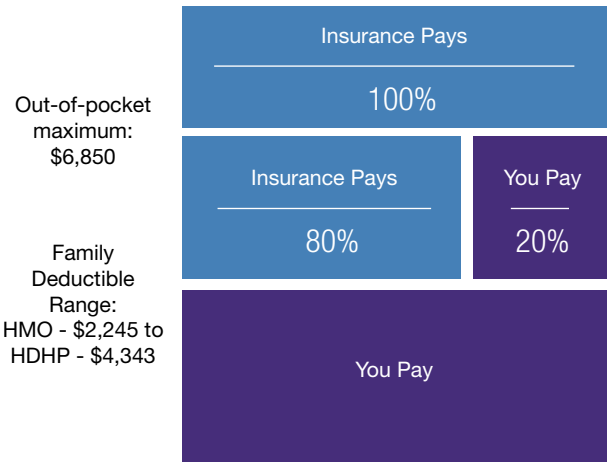
*A&M has generated the concept of a **provider hybrid**, defined as a provider with risk management understanding similar to payers, but without the depth of investment, capabilities and regulatory approvals necessary to actually create a joint venture or sponsor a health plan.*

FIGURE 35 | LEADING PROVIDER SPONSORED HEALTH PLANS, 2015

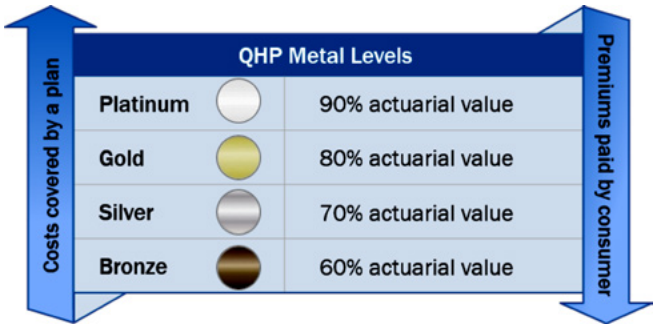
Rank	Provider-Sponsored Health Plan	Plan Inception Date	Location	[3]Total Enrollment	[1]Medicare Advantage	Employer	[2]Medicaid	Medicare Advantage	Employer	Medicaid
1	Kaiser Foundation Health Plan, Inc.	1937	CA, CO, GA, HI, MD, OH, VA, WA, D.C.	7,588,809	1,347,939	-	-	-	-	-
1	Kaiser Foundation Health Plan of Colorado, Inc.	1969	CO	573,897	-	-	-	-	-	-
1	Kaiser Foundation Health Plan of the Mid-Atantic States, Inc.	1988	MD, VA, D.C.	522,272	-	-	-	-	-	-
1	Kaiser Foundation Health Plan of the Northwest, Inc.	1942	OR, WA	488,902	-	-	-	-	-	-
	SUBTOTAL			9,153,880	1,347,939	7,683,147	122,794	14.7%	83.9%	1.3%
2	AmeriHealth Caritas Family of Companies	1965	D.C, IA, LA, PA	1,879,528	-	1,427,577	451,951	0%	76%	0%
3	Healthfirst	1993	NY, NJ	1,005,670	129,378	48,379	827,913	13%	5%	0%
4	HealthPartners, Inc.	N/A	MN	908,113	53,975	746,170	107,968	6%	82%	0%
5	UPMC Health Plan, Inc.[4]	1997	PA	885,883	147,942	456,807	261,134	17%	53%	30%
6	SelectHealth		UT	729,018	33,463	617,512	78,043	5%	85%	11%
7	Health Alliance Plan of Michigan	1973	MI	686,171	54,489	631,682	-	8%	92%	0%
8	Priority Health	1992	MI	587,005	101,029	374,794	111,182	17%	64%	19%
9	Group Health Cooperative	1945	WA, ID	549,500	85,872	429,512	34,116	16%	78%	6%
10	AultCare Insurance Company	1989	OH	529,949	20,268	509,681	-	4%	96%	0%
11	Geisinger Health Plan	1984	DE, NJ, ME, PA, WV	472,349	87,187	258,186	126,976	18%	55%	27%
12	Sentara Health Plans, Inc. (aka Optima Health)	1984	VA	454,328	1,809	452,433	28	0%	100%	0%
13	Capital District Physicians' Health Plan, Inc. (CDPHP)	1984	NY	452,770	47,472	311,136	94,162	10%	69%	21%
14	MetroPlus Health Plan, Inc.	1994	NY	443,701	8,704	29,141	405,856	2%	7%	91%
15	Presbyterian Health Plan/Presbyterian Insurance Company	1986	NM	443,010	42,557	212,223	188,230	10%	48%	42%
16	Providence Health Plan	1985	OR, WA	434,657	49,758	384,852	47	11%	89%	0%
17	Texas Children's Health Plan	1995	TX	392,204	-	89,430	302,774	0%	23%	77%
18	MDWise	2002	IN	356,881	-	45,378	311,503	0%	13%	87%
19	Mercy Care Plan		AZ	351,105	-	84,924	266,181	0%	24%	76%
20	Community Health Plan of Washington (CHPW)	1992	WA	350,000	16,250	17,214	316,536	5%	5%	90%
21	Neighborhood Health Plan	1986	MA	371,010	-	-	371,010	0%	0%	100%
22	Paramount Insurance Company	2014	CH, MI	320,075	15,144	113,826	191,105	5%	36%	60%
				21,736,807	**2,243,296**	**14,924,004**	**4,569,507**	**10.3%**	**68.7%**	**21.0%**

[1] CMS 2015 Monthly Medicare Enrollment by Plan
[2] Medicaid.gov 2014 - https://www.medicaid.gov/medicaid/managed-care/enrollment/index.html
[3] AIS February 2015 - https://aishealth.com/archive/nhex0215-04
[4] FY 2016 UPMC Annual Report suggests membership of 3.2M and revenues of $6.1B (2015: $5.3B)

FIGURE 36 | PRODUCT (SERVICE) DESIGN AND PRICING



- Average Co-payments: $24 primary care, $38 specialist
- Average U.S. family premium $18,142. Worker contribution $5,277; employer $12,865.



REFERENCE-BASED PRICING (RBP)

Total costs for hip and knee replacement participants in the Anthem-California Public Employees Retirement Program (CalPERS) dropped by 19 percent without adversely affecting outcomes by establishing a procedure price of $30,000 above which the insurance company does not reimburse the provider.

Source: http://files.kff.org/attachment/Report-Employer-Health-Benefits-2016-Annual-Survey

An understanding of health plan product (service) design is essential to assess the impact of high out-of-pocket costs on the demand for services, as well as rising levels of bad debt among the insured population. According to the 2016 Employer Health Benefits Survey, the average U.S. family health insurance premium is $18,142, with a worker contribution of $5,277 (29.1 percent), a deductible of $2,245–$4,343 and an out-of-pocket maximum of $6,850.[74]

The employee maximum annual expense of $12,127 (premium, deductible, co-pay, co-insurance) represents 21.5 percent of the median American household income of $56,516.[75] The out-of-pocket maximum for health exchange plans is even higher, at $14,300 for a family plan prior to subsidies for the lowest-income members.[76]

Actuarial value is defined as "the percentage of total average costs for covered benefits that a plan will cover."[77] Health exchange plans range from bronze to platinum, with an actuarial value of 60–90 percent. Higher actuarial value usually implies more comprehensive benefits, less out-of-pocket costs and higher premiums. The declining actuarial value of many commercial health plans due to employer cost shifting to employees contributes to demand and payment risks.

The use of reference pricing by the California Public Employees Retirement System (CalPERS), with purchasing power associated with 1.3 million members, resulted in a reduction of joint replacement prices by many providers from the pre-implementation range of $12,000–$75,000 to below the reference price range of $30,000. Based on market data, CalPERS established a reference price above which the member paid the entire incremental amount, with excess out-of-pocket payments not counting for as a deductible or for out-of-pocket maximums.[78] *The CalPERS experience highlights the potential of major employers and/or payers to unilaterally affect market prices and provider volume (share).*

Actuaries and underwriters have distinct roles. Actuaries set the price for a product, determine risk and model variations, while underwriters are responsible for determining what risk the company will take on and under what conditions on a case-by-case basis. Actuaries, as employed by insurers, have a responsibility to minimize financial risk. *Healthcare delivery is grossly inefficient and ineffective, and these assumptions are embedded within their models.* Outperformance leads to higher profits.

ACOs are intended to "lower healthcare costs, improve quality outcomes, and improve the experience of care" by accepting financial responsibility, inclusive of risk management, for the health of a targeted population.[79] According to the Congressional Research Services, "in each year of the three-year agreement period, an ACO will be eligible for a shared savings payment if the estimated per capita Medicare expenditures for Part A [hospital] and Part B [professional services], adjusted for beneficiary characteristics is at least the specified percentage below the applicable benchmark."[80] Savings payments are

FIGURE 37 | CRITICAL ROLE OF ACTUARIES AND UNDERWRITERS

PRICING / RATING
RATE = Price per Exposure Unit (e.g. per $1,000 of life insurance)
PREMIUM = Rate x Number of Units Purchased
PURE PREMIUM = Claims Only (expected losses and related expense)
GROSS RATE = Claims + Load (G&A, Commissions, Premium Taxes, Profit)
GROSS PREMIUM = (Claims + Load) x Number of Units Purchased
Types of Rating Methodologies: Class / Manual, Judgement, Merit, Schedules, Retro and Experience Rating

UNDERWRITING
The primary purpose of underwriting is to ensure that the insurance pool is comprised of the risk profile assumed in the company's pricing, and to avoid adverse selection.
Underwriting seeks to ensure that the delta between ***actual losses*** and ***expected losses*** is as small as possible.
Good underwriting = getting complete information / data about the risk. Examples include claims history, medical conditions, credit scores, lifestyle / behavioral and policyholder risk management. Group underwriting and individual underwriting and handled in a similar manner.
Underwriting Cycles - Underwriting continually moves through a cyclical pattern of varying underwriting stringency, premium levels and profitability. Insurance often fluctuates between periods of tight underwriting standards and high premiums (hard market) and loose underwriting standards and low premiums (soft market). Cycles are based significantly on industry capacity, which is essentially the amount of available surplus.

made only if quality standards are met in four domains: patient / caregiver experience, care coordination / patient safety (e.g., preventable stays, medication reconciliation), preventive health (e.g., immunization, screening) and population risk management (i.e., diabetes, hypertension, ischemic vascular, heart failure).

According to a Brookings Institute analysis, the ACOs with the highest cost savings had higher average per capita Medicare spending in their metropolitan areas ($11,544) than the average Pioneer ACO ($10,386) with several years of experience managing Medicare patients in a comprehensive, primary-care-centric and team-based manner; average quality scores were also lower in the higher-cost savings provider cohort.[81] *The data suggests that higher levels of baseline spending (reflective of local market provider inefficiency and/or ineffectiveness) may be more important than actual performance to generate shared savings.* Successful ACO providers cannot presume risk management expertise based on these findings.

Commercial payer ACOs may be benefiting from the process improvements applied to Medicare ACO patients that are also being applied to commercial patient populations.

The essentials of risk management include risk identification, assessment, prioritization and treatment / control. The latter includes avoidance (hazard removal), mitigation (exposure reduction), retention (self-insurance) and transfer (reinsurance).

FIGURE 38 | ESSENTIALS OF RISK MANAGEMENT

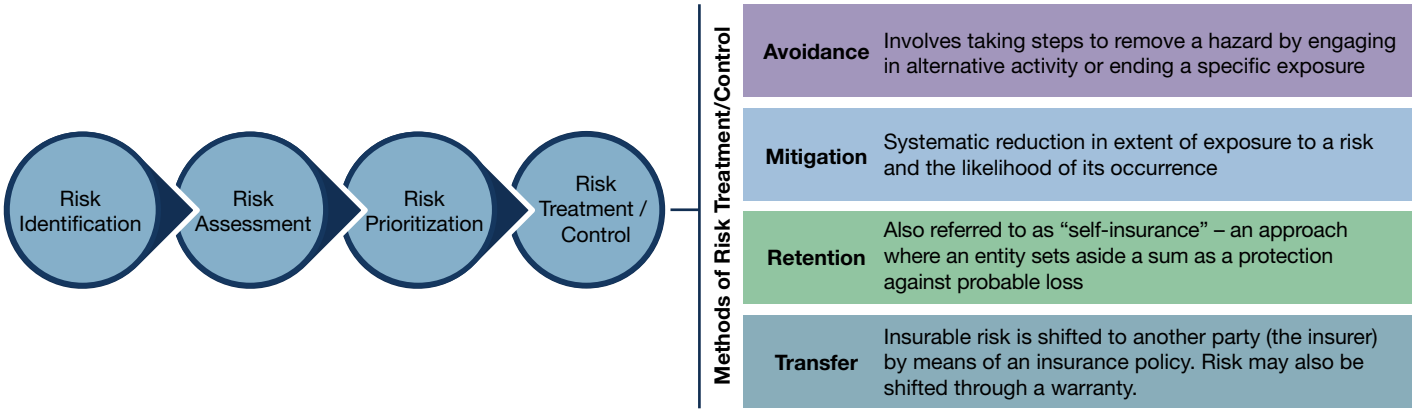
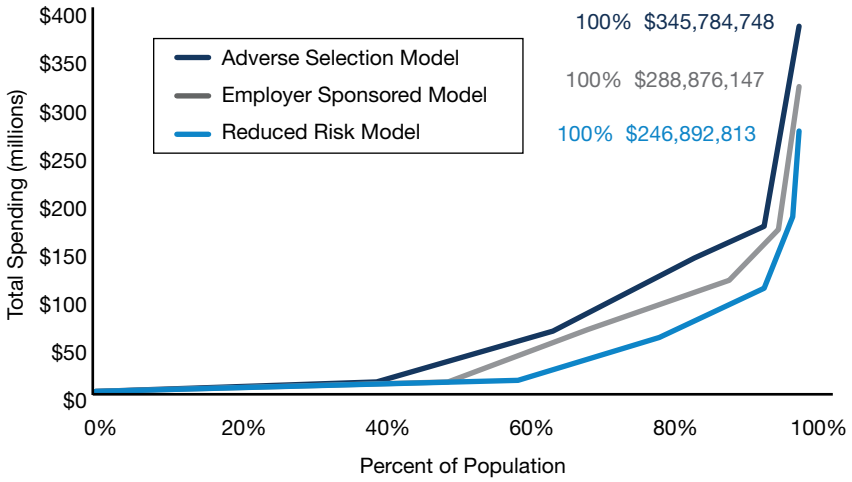


FIGURE 39 | RISK IDENTIFICATION



INCREASED RISK MODEL

% INCREMENTAL PATIENT POPULATION		INCREMENTAL EXPENDITURES
Low Risk	45%	$7,799,656
Medium Risk	30%	$49,108,945
	15%	$69,330,275
High Risk	3%	$29,465,367
	7%	$190,080,505
TOTAL	100%	$345,784,748

CURRENT EMPLOYER SPONSORED MODEL

% INCREMENTAL PATIENT POPULATION		INCREMENTAL EXPENDITURES
Low Risk	50%	$8,666,286.40
Medium Risk	30%	$49,108,944.95
	10%	$46,220,183.49
High Risk	5%	$49,108,944.95
	5%	$135,771,788.99
TOTAL	100%	$288,876,146.78

REDUCED RISK MODEL

% INCREMENTAL PATIENT POPULATION		INCREMENTAL EXPENDITURES
Low Risk	55%	$9,532,912.84
Medium Risk	25%	$40,924,120.80
	10%	$46,220,183.49
High Risk	7%	$68,752,522.94
	3%	$81,463,073.39
TOTAL	100%	$246,892,813.46

EMPLOYER SPONSORED INSURANCE IN THE US: DISTRIBUTION OF COST

RISK LEVEL	INCREMENTAL % OF POPULATION	% OF TOTAL ESI EXPENDITURES	EXPENSE PER ENROLLEE
Low Risk (Low)	50%	3%	$347
Medium Risk (Low)	30%	17%	$3,274
Medium Risk (High)	10%	16%	$9,244
High Risk (Low)	5%	17%	$19,644
High Risk (High)	5%	47%	$54,309

Source: AHRQ.CMS

A&M created a model to explain the importance of risk identification and the financial impact of a minor change in population risk stratification. Public sources of information were utilized for the following model assumptions:

- 2016 employer-sponsored health insurance spending of $1,007.6 million for 174.4 million covered lives; spending per enrollee of $5,778.[82]
- Concentration of spending in (commercial) population 18–64 years: top 5 percent of the population = 47 percent of spending; top 10 percent = 64 percent; top 20 percent = 80 percent, top 50 percent = 97 percent; bottom 50 percent = 3 percent.[83]

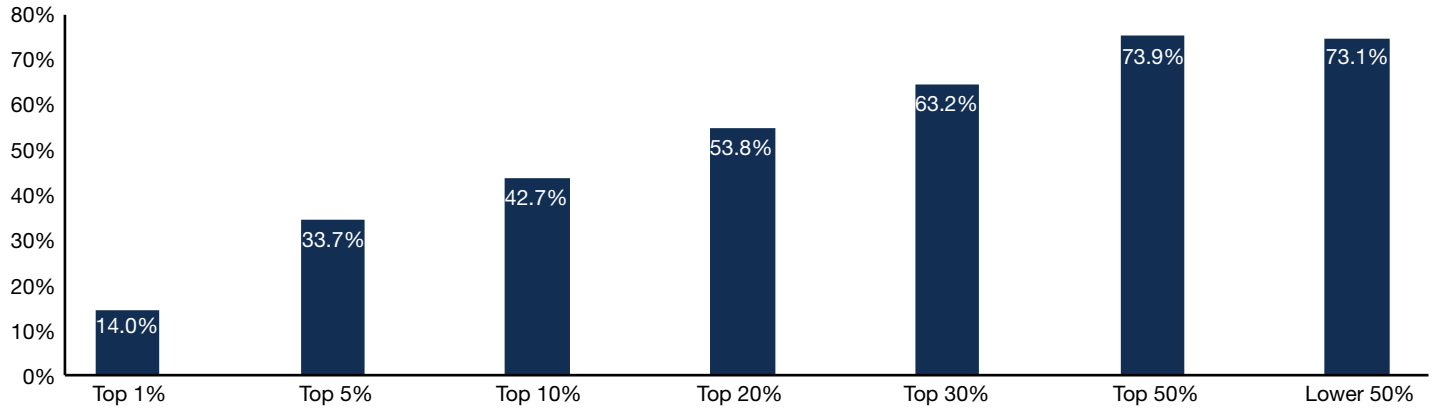
A&M calculated the spending per enrollee based on the stratification of the population, as noted in our assumptions. Our hypothetical population of 50,000 members will generate claims (expenses) of $288.9 million. Each percentage point of the population equates with 500 people.

A shift of only 2,500 people from the low-risk to the medium-risk group and another 1,000 people from the high-risk to the highest-risk cohort results in incremental healthcare expenditures of $56.9 million. Conversely, a shift of 2,500 people from the medium to the low-risk group and 1,000 people from the highest-risk to the high-risk cohort results in reduced healthcare expenditures of $42.0 million. Large membership pools (covered lives) mitigate the impact of shifting population risk.

According to the American Academy of Actuaries, risk pool viability requires sufficient size and can be comprised of a broad cross section of risks.[84] The goal of risk pooling is to share the costs of a sick population across the broader population, i.e., low-risk / low-cost individuals subsidize the care of higher-cost people. Affordable Care Act initiatives such as the individual and employer mandate increase participation. Alternatively, guaranteed issue and community rating rules also increase access, but by higher-cost individuals, thereby increasing the potential for adverse selection.

It's important to recognize that only 42.7 percent of the highest-cost patients — the top 10 percent — will remain in the highest-cost category the following year; 57.3 percent will cost less the following year. The highest-cost conditions that may not require sustainable (recurring) expenditures include acute conditions such as trauma and

FIGURE 40 | PATIENT PERSISTENCE IN HEALTHCARE EXPENDITURES, 2012–2013



Source: Center for Financing, Access and Cost Trends, AHRQ. Household Components of the Medical Expenditure Payment Survey, HC – 155 and HC-163 (Panel 17, 2012-13) https://meps.ahrq.gov/data_files/publications/st481/stat481.pdf

injuries, cardiac arrhythmias requiring an implant and, for many patients, osteoarthritis and back problems requiring surgery, and the first year of certain cancer diagnoses and (responsive) treatment. Patients with multiple, complex chronic conditions such as congestive heart failure, COPD and chronic kidney disease (CKD) may require frequent hospitalizations, whereas patients who need expensive specialty drugs (rheumatoid arthritis, inflammatory bowel disease, multiple sclerosis, hemophilia), or who have advanced stage or recurring cancer, more often generate high costs over a multiyear period, if not a lifetime.

Risk assessment is a complicated subject, requiring an understanding of the severity of the underlying condition, alternative treatment modalities, the presence of comorbidities, social determinants and the likelihood of treatment (medication) adherence. Disease management programs are often ineffectual as they do not adequately focus on the whole person, v i.e., related conditions, psychosocial support and the need for sustainable behavior change.

The Department of Health and Human Services has developed a risk adjustment methodology assigned to each enrollee for the Medicare Advantage (CMS-HCC model) and commercial payer (HSS-HCC) populations

FIGURE 41 | RISK ADJUSTMENT FACTORS CRITICAL TO MEDICARE ADVANTAGE REIMBURSEMENT

Accurate RAF coding drives 4 key factors of a successful population health program

Additional Resources	Provides a payer with additional resources to manage the health of a riskier population
Better Analytics	More accurate coding leads to improved predictive modeling and stratification of a population
Whole-Patient View	Creates individual patient profiles that reflect their overall health instead of episodic issues
Encourages Regular Engagement	Encourages regular outreach to patients who aren't visiting the practice but may need follow up

- Used to assess the clinical complexity of a patient and predict the burden of illness for individuals and populations
- Acts as a multiplier when calculating CMS payments to a payer
- Factors into the bidding and payment of MA plans
- Focuses on identification, management and treatment of chronic conditions

- Enhances physicians' understanding of the comparative riskiness of their panel
- Allows for an accurate account of the population's clinical profile, including conditions treated by specialists, complications and comorbidities
- Helps identify previously undocumented suspect medical conditions through integration of disparate patient data using clinical algorithms
- Improves accuracy of patient stratification for clinical programs, referral to care manager and care team
- Helps providers develop comprehensive and coordinated care plans to manage the whole patient
- Encourages outreach to patients without regular visits to their primary care physician

Source: Premier Health Group, Risk Adjustment Factor

known as the "risk adjustment factor" (RAF score). The RAF score is calculated based on demographic (age, community- or institution-based, Medicaid disability) and diagnosis data, the latter derived from ICD-10 codes.[85]

Diagnoses are grouped into a Hierarchical Condition Category (HCC) and assigned a numeric value that represents the relative expenditures that a plan is likely to incur for an enrollee with a given category of medical diagnosis. The diagnostic data is captured on an annual basis during face-to-face encounter between the patient and physician (nurse practitioner). Physicians are also required to provide a condition status update (new, stable, worsening or improving) and plan of action (assessment, treatment). *Providers need to ensure accurate, specific and consistent clinical documentation (coding) for payment optimization.*

If an enrollee has multiple, unrelated diagnoses (such as prostate cancer and arthritis), both HCC values are used in calculating the individual risk score. Additionally, if an adult enrollee has certain combinations of illnesses (such as a severe illness and an opportunistic infection), an interaction factor is added to the person's individual risk score. Once individual risk scores are calculated for all enrollees in the plan, these values are averaged across the plan to arrive at the plan's *average risk score*. The average risk score, which is a weighted average of all enrollees' individual risk scores, represents the plan's predicted expenses, i.e., level of reimbursement."[86]

Physician reimbursement also depends upon an aggregate of patient complexity and may be above or below 100 percent of Medicare (allowable). The CMS point system does not always make sense, i.e., incidental aortic atherosclerosis adds 0.299, whereas obesity, a driver of significant morbidity and mortality, does not have point value.[87]

Unlike EMR data, claims data does not quantify the severity of a condition. Risk prioritization can be subdivided between those already at high cost with an advanced disease (e.g., Stage 4 CKD prior to the need for dialysis or transplant) and those with a condition whose progression can be halted with the appropriate treatment (e.g., Stage 2 and 3 CKD). The advent of comorbidities, particularly chronic kidney disease, often results in patient management challenges and higher costs.

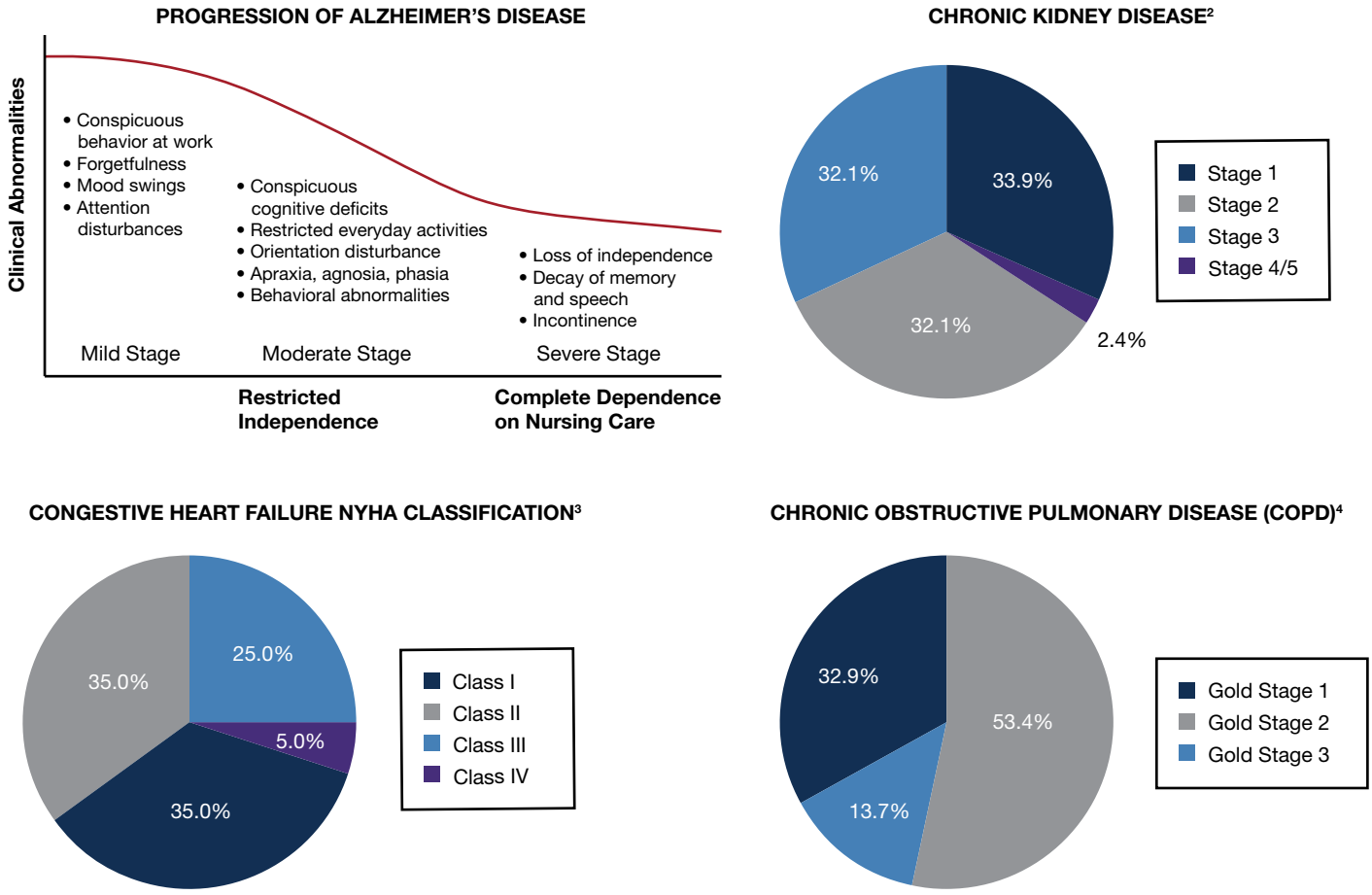
FIGURE 42 | RISK ASSESSMENT DETERMINATION

PRIMARY CARE ADMISSIONS (ANNUAL) PER 1000 INDIVIDUALS WITH DIABETES FOR A REPRESENTATIVE COMMERCIAL POPULATION BASED ON SEVERITY LEVEL							
Status (Case Mix Type)	**Example of base 3M CRG**	**Severity Level**					
		1	2	3	4	5	6
1 Healthy/non-users	No chronic health problems	N/A	N/A	N/A	N/A	N/A	N/A
2 History of significant acute disease	Chest pains	N/A	N/A	N/A	N/A	N/A	N/A
3 Single minor chronic disease	Migraine	N/A	N/A	N/A	N/A	N/A	N/A
4 Minor chronic diseases in multiple organ systems	Migraine and benign prostatic hyperplasia (BPH)	N/A	N/A	N/A	N/A	N/A	N/A
5 Single dominant or moderate chronic disease	Diabetes mellitus	26	88	100	N/A	247	N/A
6 Significant chronic disease in multiple organ systems (pairs)	Diabetes mellitus and chronic heart failure (CHF)	43	119	195	320	644	1023
7 Dominant chronic disease in 3 or more organ systems (triplets)	Diabetes mellitus, CHF and chronic obstructive pulmonary disease	132	269	497	845	1343	1606
8 Dominant and metastatic malignancies on experience	Colon malignancy – under active treatment	416	209	493	1294	2242	N/A
9 Catastrophic condition status	History of major organ transplant	290	626	806	990	1685	2486

Rate of Hospitalization

Source: https://www.3mhisinsideangle.com/blog-post/predicting-medical-resource-utilization-with-patient-surveys/

FIGURE 43 | RISK PRIORITIZATION



Sources:
[2]Prevalence of Chronic Kidney Disease and Associated Risk Factors --- United States, 1999—2004. Weekly. March 2, 2007 / 56(08);161-165;
[3] http://heartfailurecertification.com/pdf/nyha.pdf
[4]Lange P, et al. Cardiovascular morbidity in COPD: A study of the general population COPD. 2010 Feb;7(1):5-10.

Until implementation of the Affordable Care Act pre-existing condition coverage denial rule in 2014, insurance companies avoided the enrollment of higher-risk and/or higher-cost individuals by denying coverage, whenever deemed appropriate. Until 2014, insurers were also allowed to charge higher premiums and/or reduce benefits to mitigate associated risk. However, many still try to dissuade high-cost patients from enrolling in their plans, a concept known as *risk selection*, by offering a high deductible plan or a plan with a restrictive formulary for specific high-cost drugs.

Conversely, *adverse selection*, or the use of insurance in guaranteed markets by those most in need for coverage, is leading to rapidly rising health exchange premiums by distorting the underlying risk assumptions.

Payers can also transfer financial risk to providers. By mid-2014, it was reported that 30 commercial bundled payment contracts were signed by large employers, integrated health systems and insurers.[88] The Geisinger bundled payment (guarantee) model for coronary bypass graft surgery and other types of complex surgical and/or interventional procedures have increased revenues and volume, while decreasing length of stay and readmission rates, i.e., increased operating margin.

FIGURE 44 | RISK AVOIDANCE AND/OR MITIGATION STRATEGIES

NEARLY A THIRD OF ADULTS UNDER AGE 65 HAVE PREEXISTING CONDITIONS

- Breast Cancer
- Uterine Cancer
- Pregnancy or
- Expectant Parent
- A Caesarean Delivery
- Being a Survivor of Domestic Violence
- Medical Treatment for Sexual Assault
- Mental Disorders (Severe, e.g., Bipolar, Eating Disorder)
- AIDS / HIV
- Lupus
- Alcohol Abuse / Drug Abuse with Recent Treatment
- Alzheimer's / Dementia
- Multiple Sclerosis
- Arthritis (Rheumatoid), Fibromyalgia, Other Inflammatory Joint Disease
- Muscular Dystrophy
- Any Cancer within Some Period of Time (e.g., 10 Years, Often Other Than Basal Skin Cancer)
- Obesity, Severe
- Cerebral Palsy
- Organ Transplant
- Congestive Heart Failure
- Paraplegia
- Coronary Artery / Heart Disease, Bypass Surgery
- Paralysis
- Crohn's Disease / Ulcerative Colitis
- Parkinson's Disease
- Stroke
- Obesity, Severe
- Cerebral Palsy
- Organ Transplant
- Congestive Heart Failure
- Paraplegia
- Coronary Artery / Heart Disease, Bypass Surgery
- Paralysis
- Crohn's Disease / Ulcerative Colitis
- Parkinson's Disease
- Stroke

OTHER CONDITIONS INSURERS COULD USE TO INCREASE THE COST OF INSURANCE

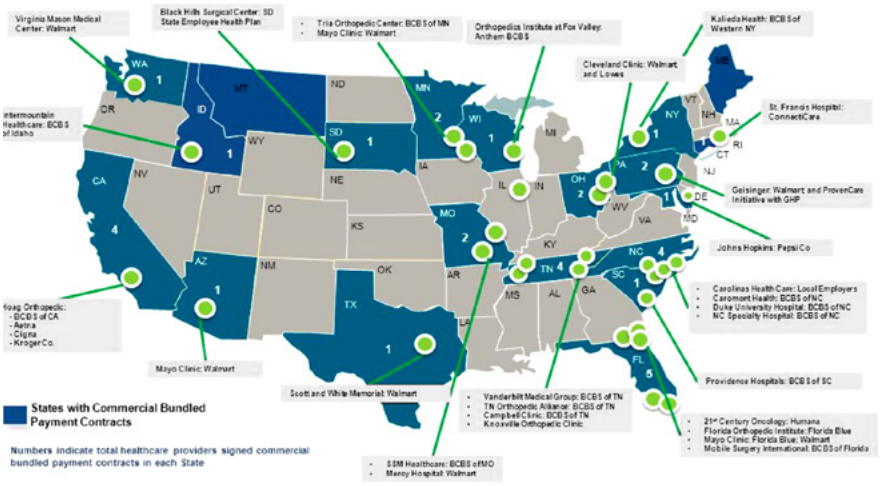
- Urinary Tract Infections
- Menstrual Irregularities
- Migraine Headaches
- Acne
- Allergies
- Anxiety
- Asthma
- Basal Cell Skin Cancer
- Depression
- Ear Infections
- Fractures
- High Cholesterol
- Hypertension
- Incontinence
- Joint Injuries
- Kidney Stones
- Overweight
- Restless Leg Syndrome
- Tonsilitis
- Varicose Veins
- Vertigo

Source: Kaiser Family Foundation, National Women's Law Center

FIGURE 45 | RISK TRANSFER (MITIGATION) FROM PAYER TO PROVIDER

TRANSITIONING TO FEE FOR VALUE

Large employers, health payors and integrated health systems have signed over 30 bundle-payment contracts



GEISINGER HEALTH SYSTEM PROVENCARE

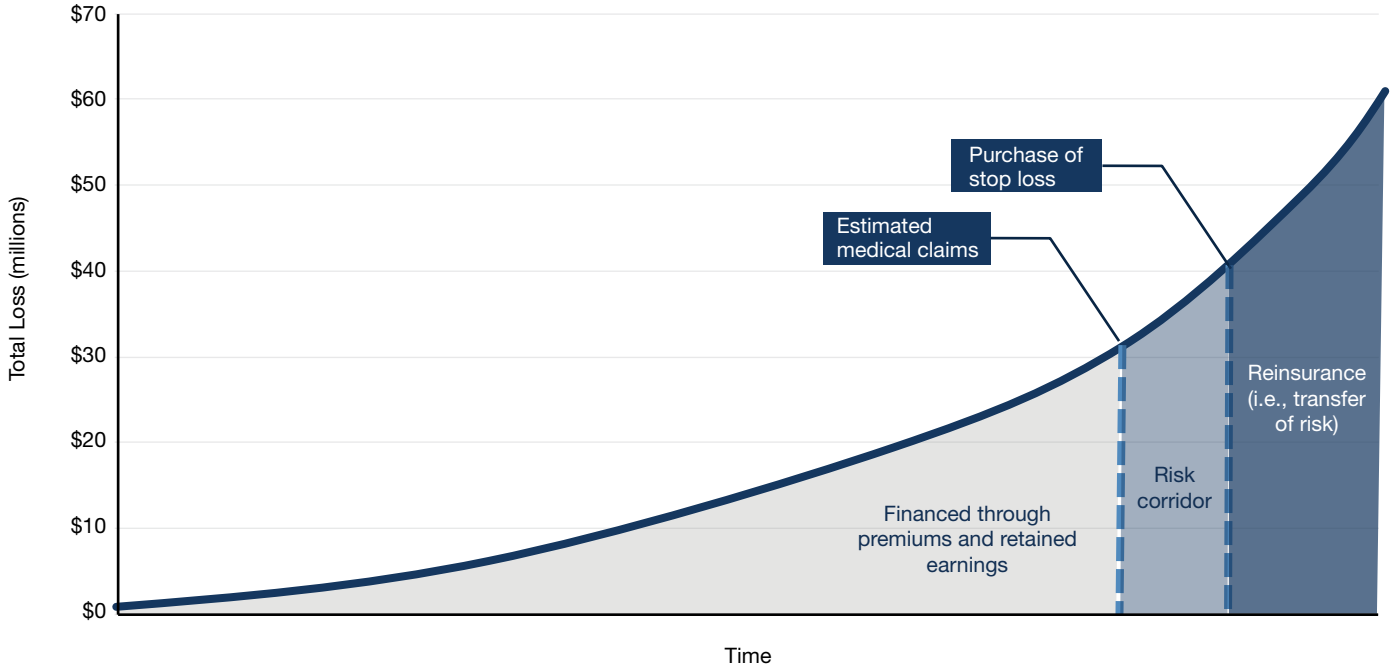
A single payment for an entire 90 day period, including:

- All related pre-admission care
- All inpatient physician and hospital services
- All related post-acute care
- All care for any related complications or readmissions

Types of conditions/treatments currently offered:

- Cardiac bypass surgery
- Cardiac stents
- Cataract surgery
- Total hip replacement
- Bariatric surgery
- Perinatal care
- Low back pain
- Treatment of chronic kidney diseases

FIGURE 46 | RISK RETENTION (ACCEPTANCE) AND TRANSFER REINSURANCE



Insurers may also retain and/or transfer risk. Risk retention requires the identification of a risk corridor, i.e., an excess of claims beyond expectations that is internally funded. Reinsurance is an expensive approach to managing the possibility of far more-than-expected catastrophic claims, i.e., where all costs associated with an individual claimant exceeding a pre-defined threshold are paid by a third party. Reinsurance can also be purchased for coverage beyond an aggregate dollar amount.

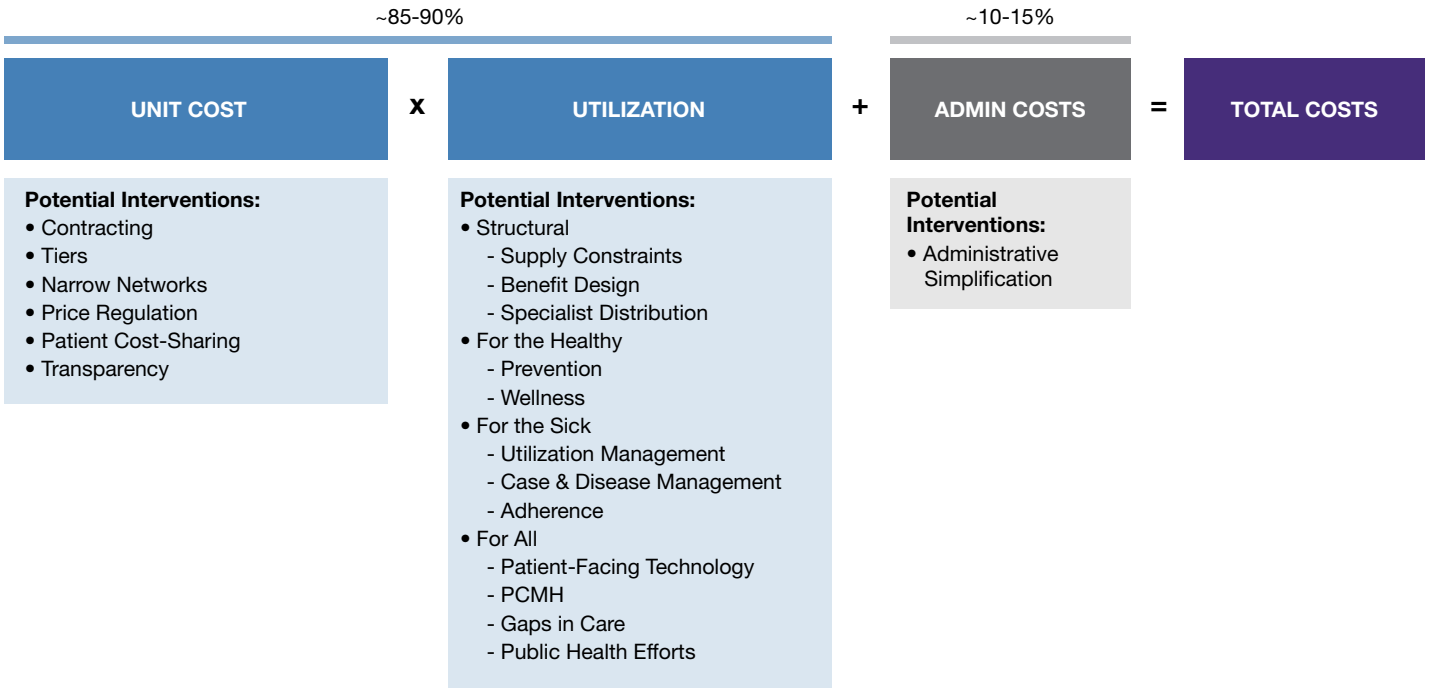
Medical expense management is the central focus of insurers and their primary driver of profitability. The Patient Protection and Affordable Care Act (ACA, P.L. 111–148) requires certain health insurers to provide consumer rebates if they do not meet a set financial target known as a medical loss ratio (MLR). The MLR is defined as:

$$\text{MLR} = \frac{\text{MEDICAL CLAIMS + QUALITY IMPROVEMENT EXPENDITURES}}{\text{EARNED PREMIUMS - TAXES, LICENSING AND REGULATORY FEES}}$$

Medical claim calculations include prescription pharmaceuticals, whereas the inclusion of quality improvement expenditures provides an incentive for increasing the efficiency and effectiveness of care delivery. More specifically, allowable quality improvement expenditures include:

- Activities to improve health outcomes, such as quality reporting, effective case management, care coordination, chronic disease management, or medication and care compliance initiatives;
- Activities to prevent hospital readmissions, including a comprehensive program for hospital discharge including patient education and counseling, discharge planning and post-discharge follow-up by an appropriate healthcare professional;
- Activities to improve patient safety and reduce medical errors through the use of best clinical practices, evidence-based medicine and health information technology, and wellness and health promotion initiatives.

FIGURE 47 | MEDICAL EXPENSE MANAGEMENT



Source: Presentation by Jeffrey Levin-Scherz, Columbia University School of Public Health

The ACA requires that the MLR calculation include methodologies ("credibility adjustments") to account for the special circumstances of smaller plans with <50,000 members exhibiting increased random variation in filed claims and high deductible plans, where a smaller share of policyholders may end up filing medical claims, but the claims that are filed are generally higher (than lower-deductible insurance plans).

Medical expense management is focused in three areas: unit cost and utilization, accounting for 85–90 percent of the total, and administrative efficiency.

Medical expense management has been translated by insurers into managing demand, limiting the volume of services and steering to lower-cost providers. Unlike providers, insurers do not directly deliver care and have limited access to real-time EMR data, thereby limiting their ability to affect patient outcome at the point-of-care. Insurers' efforts are also not fully integrated into those of the care team. Physician credibility is limited.

Medical expense management has been lagging at many providers, driven by fee-for-service reimbursement. Higher inpatient volume, especially in orthopedics and, to a lesser extent, cardiology, combined with higher-priced outpatient and ancillary services, generates higher operating margins. Price transparency is limited. *An association between price and quality does not exist.*[89] Providers have focused on the commercial market and, to a lesser extent, Medicare wherever possible — though that will change based on rapidly aging demographics and changing resource utilization patterns. Hospital and health system consolidation, combined with physician acquisition, has (temporarily) somewhat reduced the impetus for improved medical expense management.

Demand management has focused on benefit design, i.e., higher out-of-pocket costs and employer cost-shifting to employees. The threshold of affordability has been reached for a sizable minority of Americans, reducing demand even for serious problems where the benefits of earlier intervention are evident. Prevention efforts, with exceptions, are not adequately reimbursed.

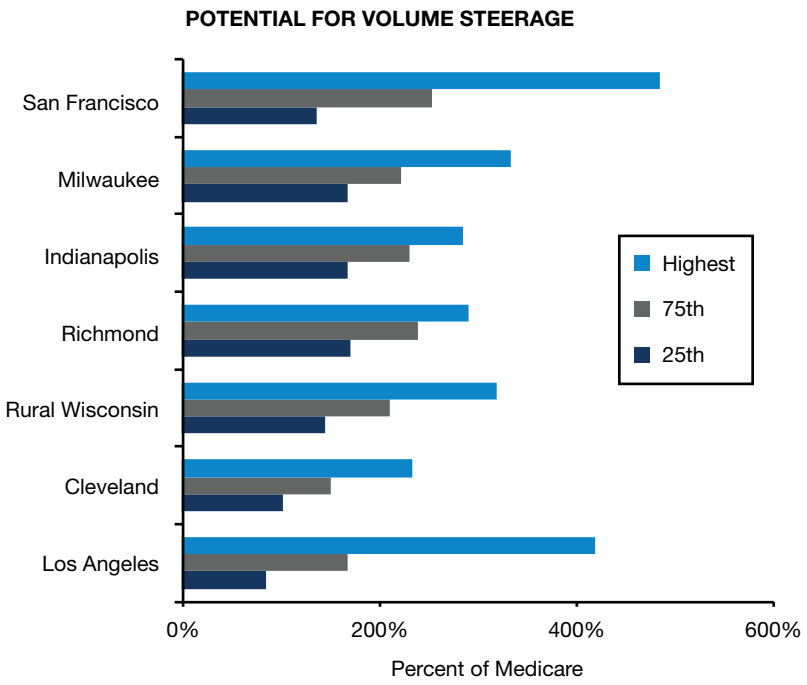
FIGURE 48 | PAYER MEDICAL MANAGEMENT STRATEGIES

MANAGE DEMAND

- Health awareness and promotion
- Benefit design
- Cost-shifting; i.e., higher out-of-pocket costs
- Consumer access
- Consumer education
- Prevention
- Palliative and end-of-life care

LIMIT VOLUME OF SERVICES

- Utilization review
  - Prior authorization
  - Concurrent review
  - Retrospective review
- Clinical guidelines
  - Step-therapy
- Case management



Source: Center for Studying Health System Change. Wide variation in hospital and physician payment rates evidence of provider market power. Research brief #16, November 2010.

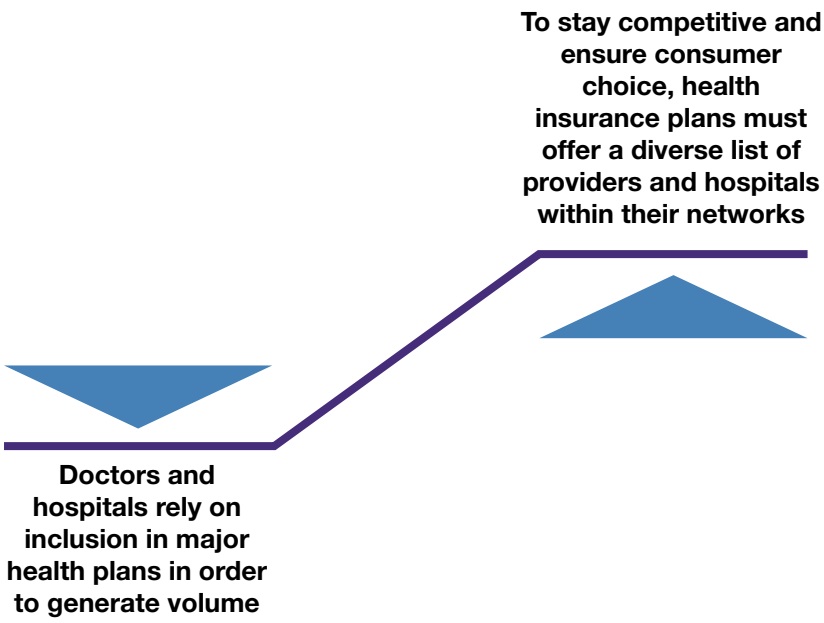
Consumer health and wellness initiatives receive lots of publicity but, in general, have not been effective.[90] A report on Medicaid Managed Care access by the Office of the Inspector General "found long wait times to see doctors, inaccurate plan information, and inadequate network adequacy standards."[91,92]

Opportunities exist to reduce employer costs by utilizing narrow (selective) networks. The formation of health systems via mergers, acquisitions and joint ventures offering a range of inpatient, outpatient, ancillary and ambulatory services reflects an attempt to offset consolidating insurance company negotiating capabilities and extend brand equity across an entire network and/or geographic region. Competitive intensity is likely to rise as fewer health systems and providers vie for market share.

Employer-sponsored insurance accounts for 35 percent or >$1 trillion in U.S. personal healthcare expenditures; spending per employee is forecast to accelerate in 2015–2020. *Employers spend more on healthcare than Medicare and Medicaid.* CMS has utilized its ability to manage healthcare costs more effectively than employers due to a multitude of reasons, including its ability to single-handedly influence Medicare payment terms and Medicaid spending at the state level. Employers, especially those with self-insured health plans enrolling 60 percent of covered workers, have under-utilized their market "power" for a variety of reasons.[93] Given the accelerating costs and increasing employee unaffordability, it is increasingly likely that employers, possibly through relationships with other large employers or coalitions, will contract directly with providers and steer market share to those providers offering the highest value, i.e., level of quality (outcome) for a unit of cost.

Utilization and case management programs represent the linchpins for provider success in an at-risk, value-based environment. Due to the lack of EMR data and an inability to manage clinical resources on a real-time basis, insurers have focused their utilization review activities on prospective pre-authorization, essentially questioning "medical necessity and appropriateness" as deemed by a physician. Alternatively, providers can self-manage real-time clinical practice with greater success by a focus on concurrent and retrospective utilization review.

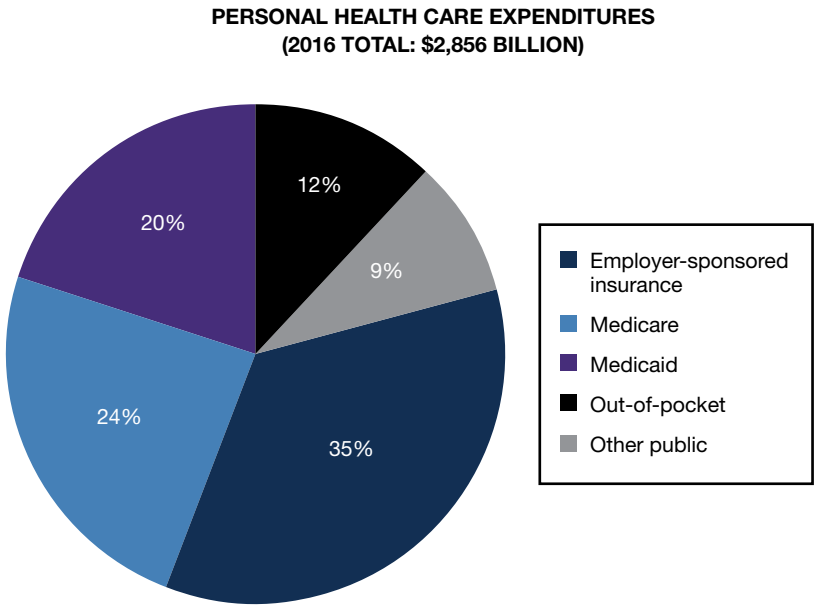
FIGURE 49 | PROVIDER NETWORK CREATION AND CONTRACTING



HOW DOES PROVIDER CONTRACTING WORK?

- To become part of a network, a provider must contract with a health insurance company
- The agreement gives the providers a steady stream of patients through network listings / provider directories and offers the health insurance company services at reduced rates
- A provider discount is the difference between the charge rate for health care services and the contractually determined reimbursement rate
- A health insurance company determines who it contracts with based on how aggressive a provider's discounts are and how available the provder's services are to the plan's customers

FIGURE 50 | EMPLOYER PURCHASING POWER



REASONS FOR LIMITED IMPACT

- Focus on benefit design and not health outcomes and total cost of care
- Complexity of healthcare delivery and clinical conditions
- Over-dependence on third-party consultants and vendors that may have a conflict-of-interest
- Inadequate use of data analytics; and generation of related insights
- Inadequate measurement of health & wellness initiative effectiveness
- Inadequate collaboration between Human Resources and Finance Department
- Division between healthcare, disability, worker's compensation, leave of absence and other health-related costs

Excludes government administration: $45.0B, government public health: $82.5B, net cost of private health insurance: $216.3B, investment research: $47.9B, structures & equipment: $110.2B

FIGURE 51 | COMPARISON OF PAYER AND PROVIDER UTILIZATION MANAGEMENT STRATEGIES

PROVIDER UTILIZATION MANAGEMENT

STRENGTHS
- Access to real-time EMR data enabling the management of clinical resources on a real-time basis
- Access to data enables the execution of concurrent and retrospective utilization review

WEAKNESSES
- Most providers have not developed utilization management capabilities due to the historical volume-driven, fee-for-service reimbursement system

PAYER UTILIZATION MANAGEMENT

STRENGTHS
- Volume-based, fee-for-service reimbursement has led to a strength in payer prospective utilization review

WEAKNESSES
- Claims data is process rather than outcome oriented
- Lack of real-time EMR data
- Unable to impact clinical care on a real-time basis
- Data limitations do not allow concurrent and retrospective utilization review

A focus on provider variation is essential. A case study could be applied to the CMS Comprehensive Care Joint Replacement (CJR) for lower extremity joint replacements (i.e., DRG 469 with medical complications (MCC) and DRG 470 without MCC) for a 90-day episode of care. EMR data can be used by the chief of orthopedics to highlight the variation in unit cost (physician preference items such as implants), resource utilization (OR time, length of stay), quality (complications), and total cost of care among faculty and attending staff with privileges. Among the most effective manners to change physician behavior (practice) is a public disclosure of relative performance on a risk-adjusted basis.

FIGURE 52 | PROVIDER VARIATION BY EPISODE OF CARE

PATIENT RISK ADJUSTMENT

PROCEDURE
- Pre-operative patient triage
- OR time
- Anesthesia duration
- Complication rate
- Physician preference items (e.g., implant selection)
- Ancillary supplies

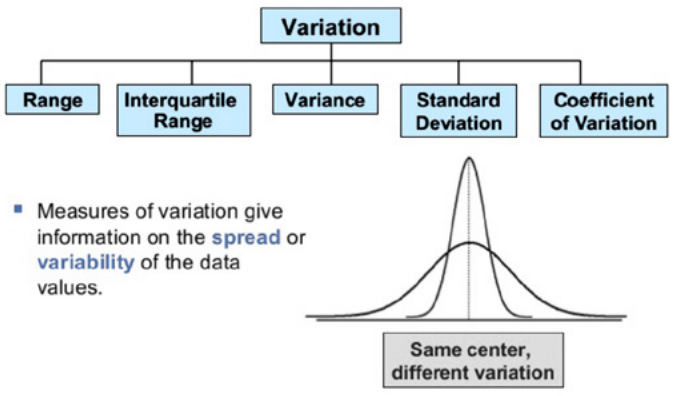
LENGTH OF STAY

DISCHARGE SITE
- Skilled nursing facility
- Inpatient rehabilitation
- Home

POST-OPERATIVE COMPLICATIONS
- Hospital acquired infections
- Post-discharge

READMISSION RATE

MEASURES OF VARIATION



- The interquartile range (IQR) is a measure of variability, based on dividing a data set into quartiles. It is the difference between 75th and 25th percentiles, or between upper and lower quartiles, IQR = Q3 – Q1.
- Standard deviation reflects the amount of clustering around the mean in a set of data
- The coefficient of variation is a measure of spread that describes the amount of variability (dispersion) relative to the mean (in percentage terms)

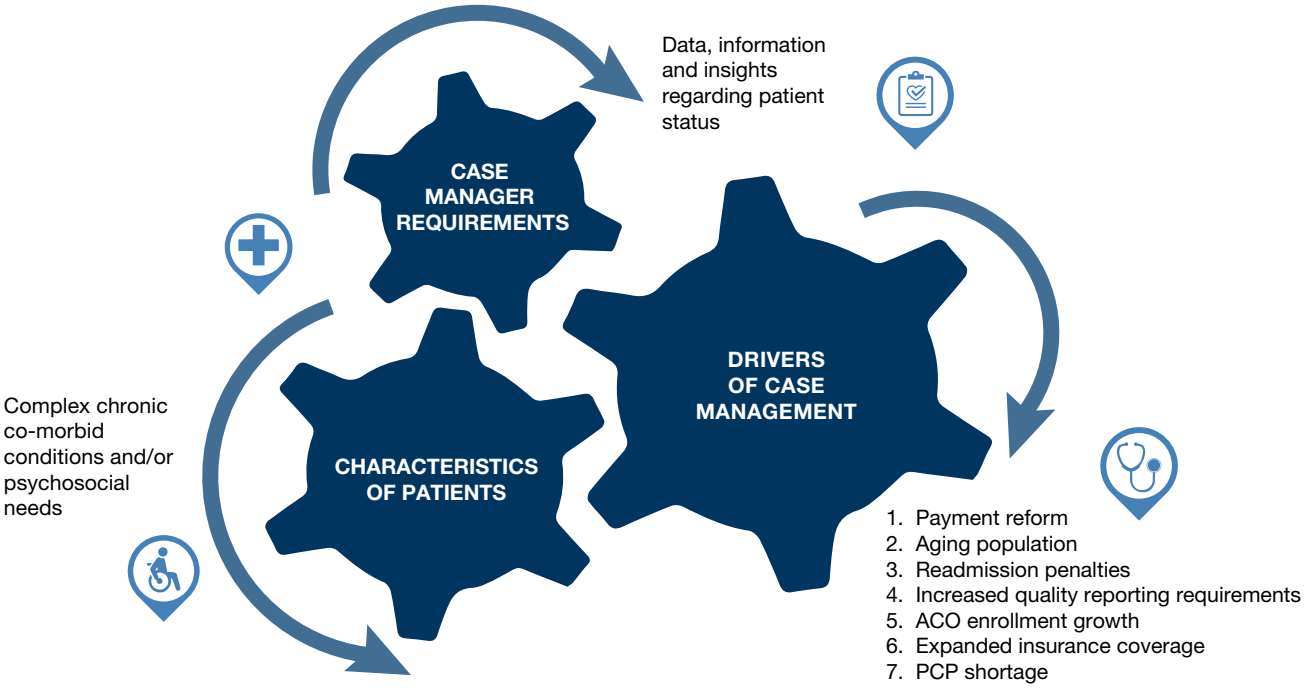
Case management targets high-cost and moderate-to-high-risk patients consuming a disproportionate amount of healthcare resources. Effective case management programs are becoming increasingly important in a healthcare ecosystem being impacted by a variety of factors, including an aging population, readmission penalties, increased quality reporting requirements, ACO enrollment growth, expanded health insurance coverage, payment reform and, importantly, a growing shortage of primary care physicians.[94]

Case managers have a difficult and multifactorial role focused on prevention, proactive intervention and transitions of care. They facilitate care for patients with complex chronic comorbid conditions and/or psychosocial needs, coordinate care to assure quality outcomes in the most cost-effective manner, reduce avoidable hospital admissions, reduce gaps in care, impact practice quality scores and engender self-management capabilities, i.e., the ability to identify changes in health status and be compliant with a treatment plan. They require timely access to data, information and insights regarding patient status.

The misalignment of financial incentive poses challenges to case managers employed by health systems and hospitals. Site of service reimbursement differentials have increased between offerings provided by hospital outpatient clinics (e.g., diagnostic imaging, ambulatory surgical centers, oncology drug infusion centers) and non-hospital private practice providers. Lower-cost care (of equal quality) is often available in the community that would potentially reduce the revenues of the case manager's employer. *The misalignment issue still requires resolution.*

Opportunities also exist for case managers to become increasingly engaged with palliative and hospice care, as 25–30 percent of Medicare expenditures are spent in the last year of life; the average cost in the final year of life, $82,343, as calculated by A&M, is 10 times the cost of surviving Medicare recipients.[95] Our calculation is based on a previously published estimate of the *last year of life* costs as a percentage of total Medicare spending and the number of deaths in the population >65 years irrespective of cause.[96,97]

FIGURE 53 | CASE MANAGEMENT



The provider business model in the future will require threshold levels of competency in areas such as population health, analytics, risk management, efficient (lower-cost) and effective (enhanced health outcomes) care delivery, utilization and case management, and patient / caregiver and physician engagement.

A decision to either form a joint venture with an insurance company (Innova Health System – Aetna) or become an insurer requires additional skills in product design and pricing, sales and marketing, transaction processing, eligibility and enrollment administration, revenue cycle, customer service and capital management. Many, but not all, of these functions can be outsourced to third parties. Care coordination across the continuum, case management for the 5–10 percent of patients accounting for the majority of costs, utilization management targeting provider variation and a data-driven (analytic) culture are also essential. An understanding of future regulatory developments, combined with compliance with current insurance regulations, is also required.

FIGURE 54 | INSURANCE REGULATIONS

FEDERAL INSURANCE REGULATION	STATE REGULATION
The Dodd-Frank Wall Street Reform and Consumer Protection Act established Treasury's Federal Insurance Office (FIO) and vested FIO with the authority to monitor all aspects of the insurance sector. The PPACA expanded the federal government's reach into insurance regulation.	Public policymakers that establish set broad policy for the regulation of insurance by enacting legislation and establishing laws which grant regulatory authority to regulators and oversee state insurance departments and approve regulatory budgets
Marginalized Population - Monitor the extent to which traditionally underserved communities and consumers, minorities and low- and moderate-income persons have access to affordable non-health insurance products	**The National Association of Insurance Commissioners (NAIC)** - The U.S. standard-setting and regulatory support organization created and governed by the chief insurance regulators from the 50 states. With the NAIC, state insurance regulators establish standards and best practices, conduct peer review and coordinate their regulatory oversight
Conduct Audits - Recommend to the Council that it designate an insurer as an entity subject to regulation as a nonbank financial company supervised by the Board of Governors of the Federal Reserve System (Federal Reserve)	**Company Licensing** - State laws require insurers and insurance-related businesses to be licensed before selling their products or services
Protect from International Threats - Assist the Secretary in administering the Terrorism Risk Insurance Program, which was established in the Department of the Treasury under the Terrorism Risk Insurance Act of 2002	**Producer Licensing** - Insurance agents and brokers, also known as producers, must be licensed to sell insurance and must comply with various state laws and regulations governing their activities
Evaluate State Law - Determine, in accordance with certain standards and processes prescribed by law, whether State insurance measures are preempted by covered agreements	**Product Regulation** - State regulators protect consumers by ensuring that insurance policy provisions comply with state law, are reasonable and fair, and do not contain major gaps in coverage that might be misunderstood by consumers and leave them unprotected
Elevated State Insurance Matters - Consult with States regarding insurance matters of national importance and prudential insurance matters of international importance	**Market Regulation** - Market regulation attempts to ensure fair and reasonable insurance prices, products and trade practices in order to protect consumers
	Consumer Services - States have established toll-free hotlines, Internet Web sites and special consumer services units to receive and handle complaints against insurers and agents

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David Gruber, MD, MBA, is a Managing Director and the Director of Research with Alvarez & Marsal's Healthcare Industry Group in New York, specializing in strategy, commercial due diligence, analytics, new ventures and health benefits. Dr. Gruber brings 32 years of diversified healthcare experience as a consultant, corporate executive, Wall Street analyst and physician.

Dr. Gruber's A&M publications include: Getting (Much) Closer to the Cost Precipice; Safety Net Hospitals at Risk: Re-thinking the Business Model; Behavioral Health: Key to Chronic Disease Costs; Healthcare: Economic Value Need Not Apply (Yet); and Post-Acute Care: Disruption (and Opportunities) Lurking Beneath the Surface.

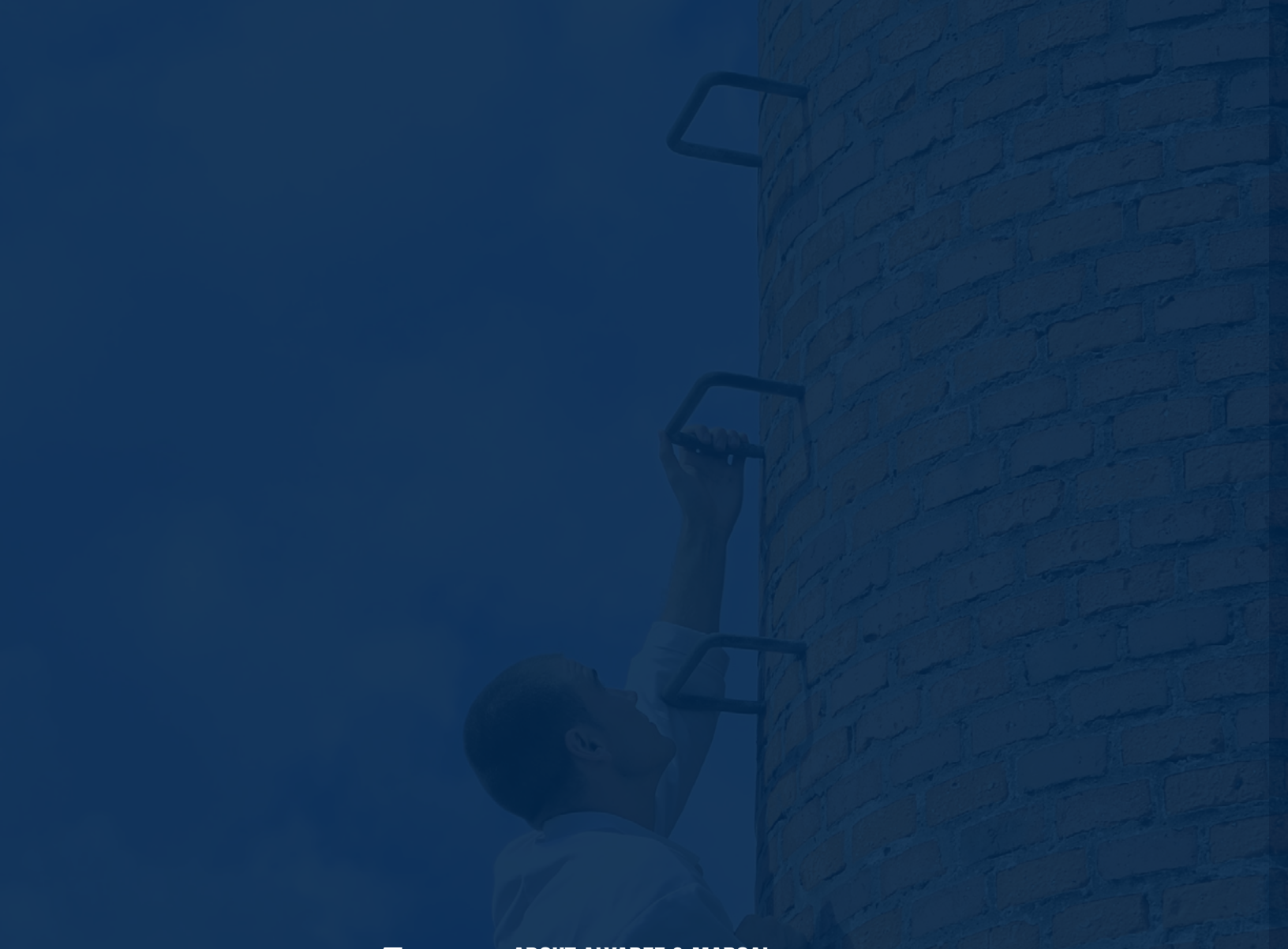
Before joining A&M, he spent three years as the Founder of Healthcare Convergence Associates, a consulting firm focused on the convergence of healthcare, technology and the consumer. His initiatives included wireless and tele-health opportunities, chronic obstructive pulmonary disease (COPD) technology assessment, pharmacy benefit management (PBM) diabetes innovation, and retail health and wellness. He was also involved in three healthcare-related information technology (IT) start-ups.

Until 2008, Dr. Gruber was Vice President of Corporate Development and New Ventures with the Johnson & Johnson Consumer Group of Companies. His primary focus was in dermatology / aesthetics, consumer engagement and wireless health across the company. From 1995 to 2004, he worked on Wall Street as a top-ten rated medical supplies and devices analyst at Lehman Brothers, Piper Jaffray and Sanford Bernstein. He was the lead analyst for the initial public offering of Intuitive Surgical (robotics) and Given Imaging, and a merchant banking investment in Therasense.

Prior to entering Wall Street, Dr. Gruber was Vice President of Planning and Business Development for the $1.6 billion healthcare group at Bristol-Myers that included Zimmer, ConvaTec, Linvatec and Xomed-Treace. While at Bristol-Myers, he represented the company with the Health Industry Manufacturing Association (HIMA) as it deliberated the merits of Hillary Clinton's healthcare reform proposals.

Dr. Gruber has recently appeared on NPR and C-Span; was quoted in the Washington Post, Los Angeles Times, The Deal, Healthcare Finance News, Managed Care Executive, Managed Care Outlook, Becker's Hospital Review and Inside Health Policy; and was published in the Journal of Diabetes Science & Technology, Turnaround Management Association Newsletter of Corporate Renewal and American Bankruptcy Institute Journal.

Dr. Gruber is a magna cum laude graduate of a six-year BS-MD program, having earned a bachelor's degree from the Sophie Davis School of Biomedical Education, CCNY in 1981 and a medical degree from the Mt. Sinai School of Medicine in 1983. He also has an MBA from Columbia University and was a Kellogg Foundation National Fellow. Dr. Gruber is currently a Senior Fellow, Healthcare Innovation and Technology Lab (HITLAB) at Columbia Presbyterian. He is a re-elected Trustee to the Teaneck Board of Education.



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