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Mark E. Lee, MBA
K. J. Lee, MD, FACS
Editors

**ESSENTIAL RATIONAL
HEALTHCARE ECONOMICS**

Past, Present and Future



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This is a must read!

KJ Lee's latest addition to the ESSENTIAL book series aims to provide exactly what our understanding of America's Healthcare Economics has been lacking: perspective.

The burden of fixing America's Healthcare economy should not be shouldered by economists alone. Healthcare providers and their patients should have a seat at the table, or they will be the ones left to continue to finance this trillion dollar (and growing) quandary.

With insightful and provocative chapters written by a diverse collection of world renown physicians and nurses, veterans of hospital administrations, business leaders of the nation's most successful group practices, and more, *Essential Rational Healthcare Economics: Past, Present, and Future* takes a much needed scientific approach to the difficulties with the current state of Healthcare Economics. This book provides primary evidence from multiple sources, introduces critical analysis from industry experts, compares findings with international standards and best practices, and culminates with a summary of discussion and a recommendation - perhaps even a warning - for the future.

Today is the last chance to save tomorrow.

Dedications

Perhaps it is unconventional for one co-editor to dedicate the book to the other. Nonetheless, Mark dedicates this book to his co-editor and father, Dr. K. J. Lee, a man who has modeled admirably the gifts God has given him: hard work, discipline, and service, as well as grace, compassion, and fatherhood. Dr. Lee has dedicated his life in service of his patients: from ailing neighbors to global healthcare systems. This book, and the collection of ideas it shares, would not exist without him.

Mark E. Lee, MBA

K. J. dedicates this book to his wife, Linda, who has been by his side since December 5, 1965, giving him love, counseling and encouragement.

K. J. Lee, MD, FACS

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Chapter 29

Value-Based Healthcare

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Charles R. Woodard, MD

and James T. Gera, MBA

Introduction

In the 1960, U.S. healthcare spending represented only 5% of Gross Domestic Product (GDP) growing to 18% in 2021 and anticipated to be 20% by 2031 (Figure 1). [1, 2] In terms of total annual spending this correlates to \$4.3 trillion in 2021 rising to a projected \$7.2 trillion by 2031. As the U.S. has struggled with the rising cost of healthcare over the past few decades, the call for a fundamental shift in the delivery and payment system has fostered the growth of value-based care (VBC).

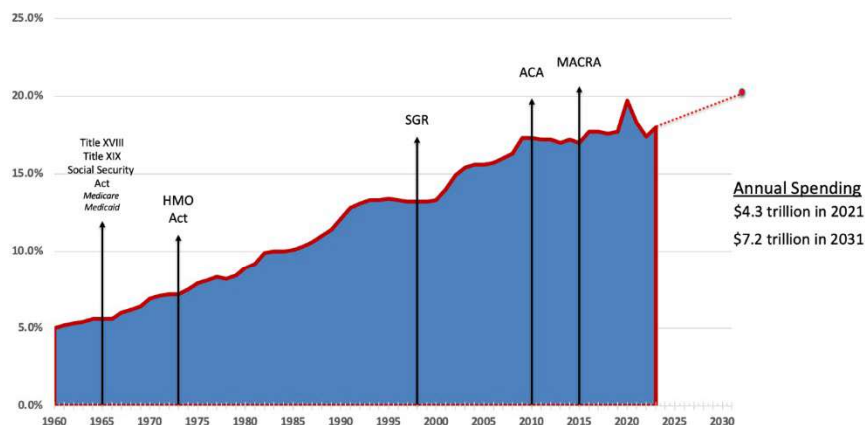


Figure 1. U.S. healthcare spending annual percentage of GDP 1960-2031. [1, 2]

VBC evolved and was influenced by multiple healthcare reform paradigms that extended over a 40-year period. [3] At its core, VBC represents a transformational shift away from a traditional fee-for-service (FFS) reimbursement model to a patient-centric quality driven model based on total cost-of-care transparency and accountability tied to both total spend and quality

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variances. VBC seeks to establish payments linked to outcomes and total spend within an episode-of-care to remove the cost variation found within similar conditions or procedures (Figure 2). [4] Maintaining equitable and affordable access to quality care that maximizes measurable patient outcomes are central goals of VBC. [3, 5-7]

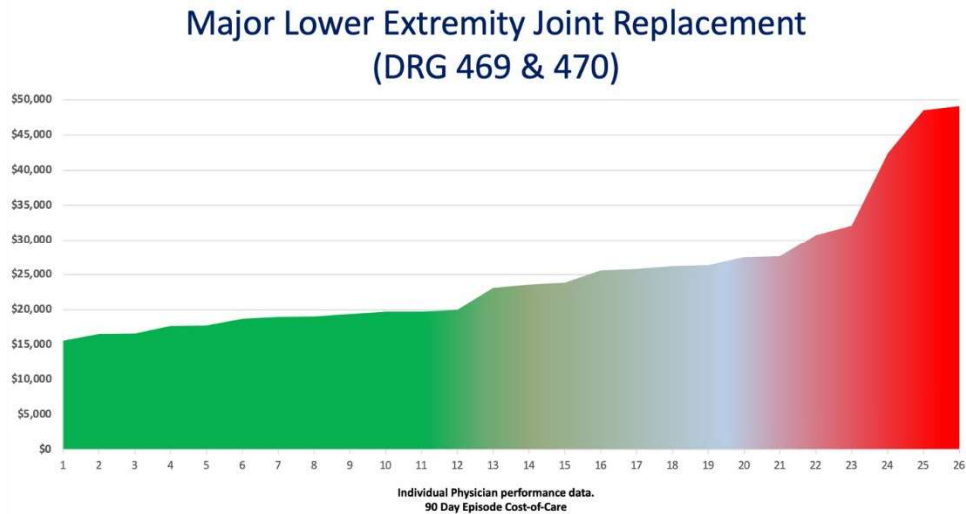


Figure 2. Major lower extremity joint replacement. Same metropolitan region and similar patient co-morbidities. Individual physician 90-episode total-cost-of care. Medicare Data. BridgepointMD. [4]

The successful integration of VBC innovation requires three key stakeholders to be aligned: The patient, the physician/provider (the clinician), and the payer (the Big 3). These are the key decision stakeholders at the point-of-service within the patient journey and the spending associated with those healthcare engagements. All other healthcare stakeholders are engaged by the Big 3 interactions accounting for the total spend associated with an episode-of-care. Within the complex U.S. healthcare system, there are competing agendas across multiple stakeholders that have created obstacles to healthcare cost transparency and the sustainability of value-driven care as a societal return on investment for healthcare dollars spent.

In 2007, Porter and Teisberg challenged the status quo, calling physicians to lead a transformation within the healthcare delivery system with the central goal of delivering value for patients. [5] They proposed a value-based competition model that would rely less on punitive cost reduction strategies targeting the clinician stakeholder that have historically driven vertical integration of physicians into consolidated higher cost delivery models and rely less on cost shifting to the patient stakeholder. [7] Adapting these conceptual principles for value-based competition and health plan benefit design within the current cycle of VBC innovation and legislative initiatives identifies eight key VBC transformational principles: 1) The focal stakeholder is the patient 2) The core tenet for the return on healthcare expenditures within a population is to create value in the patient's healthcare journey within that population 3) Clinical outcomes and costs are attributed to a full cycle-of-care (episode-of-care) within a medical condition or procedure and its related co-morbidities as well as services and facility engagements within that defined cycle-of-care 4) Clinician and patient stakeholder coordination and collaboration of care along with disease severity site-of-service utilization

enhance value and outcomes achieved 5) Clinician stakeholder's VBC competency and the patient stakeholder's health literacy and social determinants at the point-of-care directly impact value and outcomes achieved 6) Competition should be population-based and protectionist barriers to cost-effective healthcare transformation removed 7) Transparency of healthcare price and outcomes must be widely available 8) Administrative burdens of the clinician stakeholders should be minimized to facilitate increased engagement with the patient stakeholder.

The U.S. Healthcare Reform Journey to Value-Based Care: Alignment of the Big 3 Stakeholders

Within healthcare reform efforts of the past 70 years, Big 3 stakeholder alignment has had successes and failures. Prior to 1965, the health insurance market was dominated by fragmented employer-based plans. This left a gap in coverage for elderly and low-income populations. In 1965, Congress passed the Medicare and Medicaid Act to respond to this identified coverage gap. [8] Following its enactment Medicare, Medicaid, private insurance, veterans care programs, and worker's compensation provided a third-party fee-for-service payer system for health insurance coverage for a majority of Americans. As a result of siloed stakeholder interests within the FFS model, the financial burden of care between the Big 3 stakeholders led to significant increases in healthcare spending due to lack of coordination and accountability for the volume of care being delivered. [9] In this FFS delivery model, clinicians and hospitals were paid based on the number of services billed irrespective of outcomes, leading to the significant increase in both utilization and cost-of-care as access to healthcare expanded.

With expanded access to care health expenditures, representing a percentage of GDP, rose from 5% in 1960 to 7.4% by 1970 prompting lawmakers to look for a solution to manage coordination-of-care spend. [3, 10] These efforts ushered in the era of managed care with the passage of the Health Maintenance Organization (HMO) Act of 1973. [11] This act expanded private healthcare coverage through federally mandated prepaid health plans within a payer driven initiative to align patient and clinician stakeholder incentives toward more cost-effective use of services.

The HMO model grew rapidly in the 1980s, driven by newfound access to capital markets and the conversion of many not-for-profit healthcare systems to for-profit corporations. [12] The resulting profit-centric competition led to mispricing of HMO contracts and premiums creating significant financial losses in the 1990's resulting in rapid premium increases and care restrictions for the patient stakeholder (Figure 3). [13] By the late 1990s, health benefit spending had increased by 7.3% per annum, three times the rate of inflation. [14] To curtail these spending increases, HMOs reduced plan benefits, employed utilization management strategies (e.g.; prior authorization and medical necessity denials), and implemented narrowed networks of clinicians engaged through primary care-based gatekeeper models. [12, 15]

These unfavorable changes to care access and cost driven by the HMOs reduced their popularity within public perception. A 1997 nationwide survey found that 55% of adults believed that managed care and HMOs were making no impact on healthcare spending. [16] Similarly, the clinician stakeholder had lost support for the HMO model as increased use of medical necessity denials, prior authorization requirements for requested care, and narrower

networks through the involuntary removal of clinicians from regional network panels became prevalent. [12, 17] A 1996 survey demonstrated that only 14% of primary care providers (PCP) believed gatekeeping patient access restriction had a positive impact on appropriate use of specialists, whereas 40% viewed gatekeeping as obstructive. [18] The survey also showed that specialists viewed PCPs as competitors rather than members of the same patient-centered team. The resulting alienation of the patient and clinician stakeholder, as well as secondary stakeholders, resulted in over 900 legislative actions, tort reforms, and class action lawsuits to curb HMO restrictions [3, 19, 20]

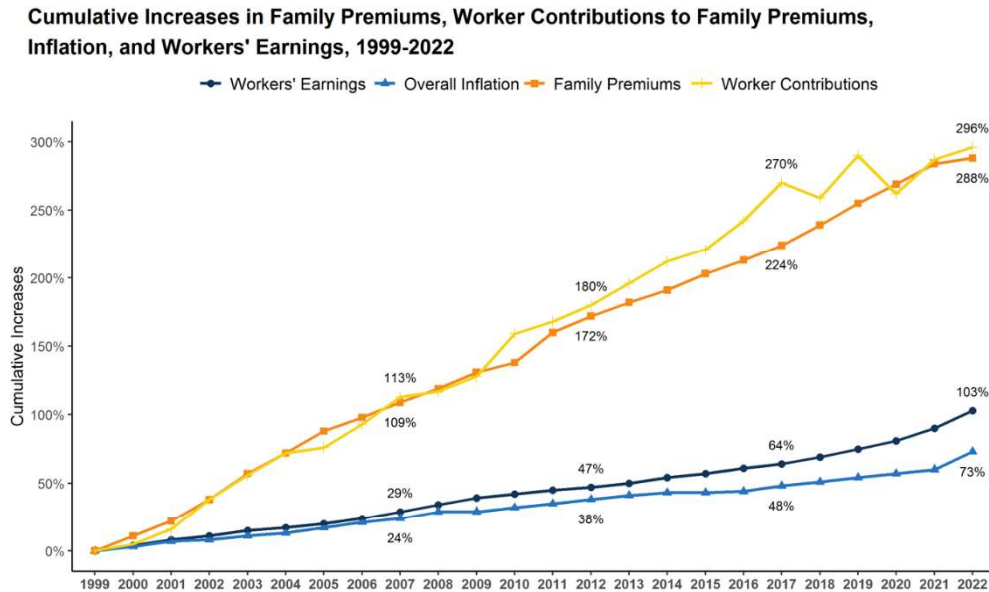


Figure 3. KFF Employer Health Benefits Survey, 2018-2022; Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2017. Bureau of Labor Statistics, Consumer Price Index, U.S. City Average of Annual Inflation, 1999-2022. Bureau of labor Statistics, Seasonally Adjusted Data from the Current Employment Statistics Survey, 1999-2022.

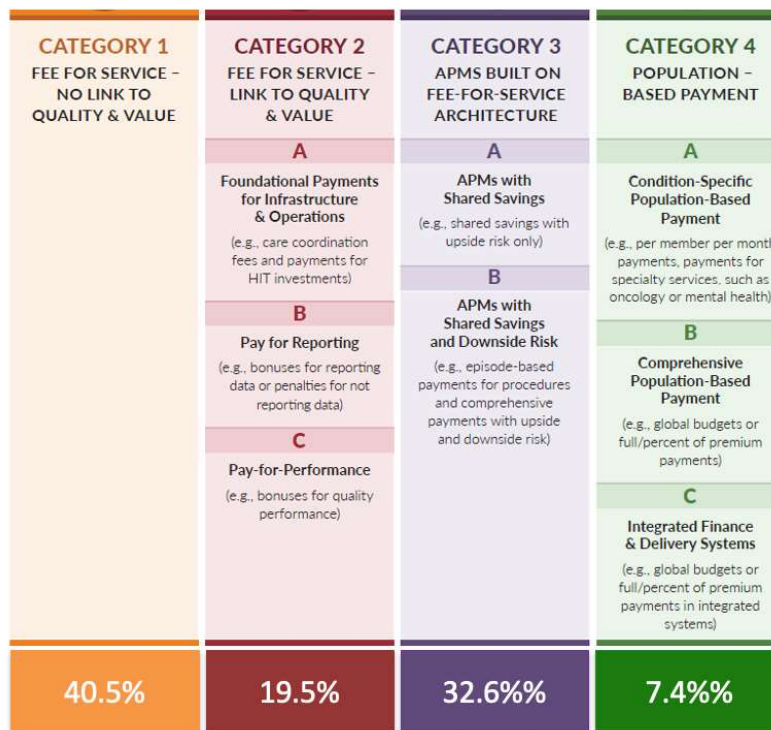
At the end of the HMO healthcare reform paradigm in the early 2000's, the clinician and patient stakeholders became aligned in opposition to these payer stakeholder driven reform efforts. However, this clinician-patient stakeholder structural alignment produced little immediate impact on actual healthcare reform, but through advocacy and electoral efforts they cumulatively ushered in the value-based care era. A major driver for the patient stakeholder's newfound voice as a consumer came from increased cost shifting as higher out-of-pocket costs and deductibles reduced access to affordable healthcare despite having health insurance coverage.

The necessary payer and clinician stakeholder risk alignment to drive value was achieved within the CMS Innovation Center's Physician Group Practice (PGP) Demonstration in 2005 that was the precursor test model to the Accountable Care Organization (ACO) model. [21] This strategic alignment was codified in the Affordable Care Act (ACA) in 2010 and expanded further in 2015 with the Medicare Access and Children's Health Insurance Program(CHIP) Reauthorization Act (MACRA) with the repeal of the sustainable growth rate formula that

mandated FFS physician payment cuts, establishing pay-for-performance and Alternative Payment Models (APMs) [22, 23] An important milestone precursor to the ACA and MACRA was the near universal integration of Electronic Health Records (EHR) through incentives from the 2009 American Recovery and Reinvestment Act which offered the potential for aggregation of large amounts of population-based healthcare data (Big Data) to analyze and manage care pathways between payer and clinician stakeholders. [24]

VBH Payment Models

2021 Healthcare Spending Percentages



63 health plans, five states, Traditional Medicare representing 77.7% of national market in 2021
HCPLAN 2021

Figure 4. VBH payment Models. Reprinted with permission from HCPLAN (HCP-LAN APM Framework). [26]

The ACOs, powered by Big Data, laid the groundwork to operationalize VBC nationally within CMS pay-for-performance models with hospital systems and PCP groups engaging within ACO models. CMS established pay-for-performance (P4P) incentive APMs within the Pioneer and Medicare Shared Savings Program (MSSP) ACO Models. [25] When first introduced, there were upside only risk-sharing models where CMS assumed the downside risk utilizing traditional FFS payment models (Category II payments), meaning the opportunity for bonus payments for predefined quality performance without risk of a financial penalty for poor performance to the participating clinician within the ACO (Figure 4). [26] The introduction of

Next Generation (NextGen) ACO (upside and downside risk models), expansion of Medicare Advantage (Part C Medicare modified bidirectional capitated risk), and creation of Realizing Equity, Access, and Community Health (REACH), and Making Care Primary (MCP) ACO models were designed to move ACOs and population health models further into Level III and IV APMs. [27-29] Ending 2021, 59% of ACOs participating in a MSSP assumed bidirectional risk with 483 MSSP ACOs covering 11 million lives across the country, representing a >300% increase in participation since program implementation in 2012/2013. [30]

Unintended adverse consequences occurred within these early innovative ACO reform efforts. The introduction of downside risk slowed the growth of ACOs within the MSSP program and began to contract after CMS initiated the Pathways to Success program introducing bidirectional risk sharing, bringing downside risk to ACO models. [31] While allowing physician stakeholder participation in financial incentives offered alignment advantages that did flatten the healthcare expense curve as a portion of GDP level prior to the disruptive impact of Covid 19, the initial reduction in the annual percentage change in healthcare spending achieved soon after the passage of the ACA faded after the passage of MACRA in 2015 (Figures 1, 5). [1, 32] MACRA-related quality reporting programs tied to future physician Medicare payment adjustments were also shown to be overly burdensome and penalized small group independent practitioners concentrated in non-urban regions. [33-37] These groups lacked the necessary administrative scale to support the required reporting burdens and lower operationing margins to absorb the FFS payment reductions, or lack of increases, to keep up with operational costs and inflation. This impact was felt most acutely in non-urban and critical-access hospital regions of the U.S. where most small group independent practitioners and smaller hospitals are located. [38-42] This unintended consequence favored the employed physician over the independent physician resulting in increased vertical integration and reduced access to health services which has been shown to increase Medicare spending long-term. [43-54]

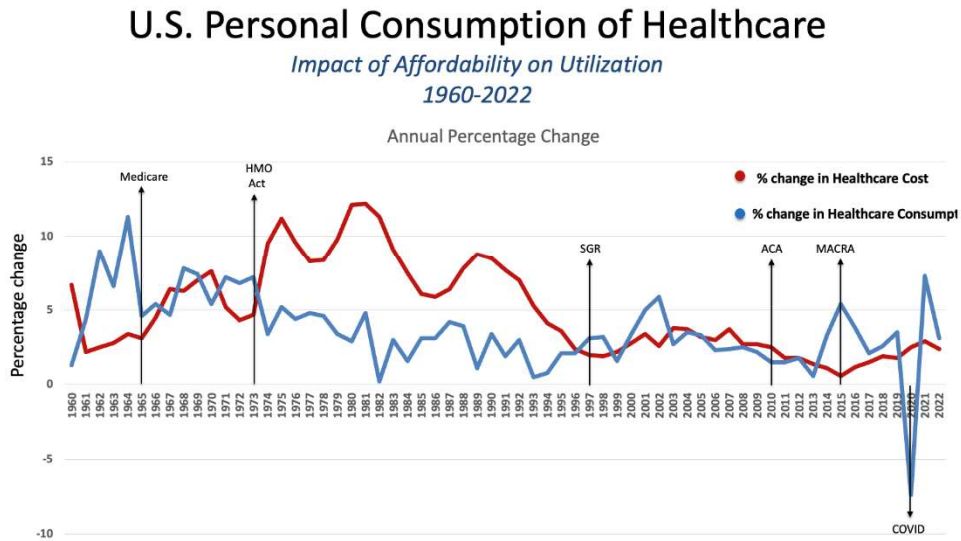


Figure 5. Bureau of Economic Analysis, U.S Department of Commerce, Percentage Change in Healthcare Prices and Percentage Change in Healthcare Consumption 1960 - 2023. [32]

For the patient stakeholder, similar to the prior HMO era, from 2010-2022 household out-of-pocket expenses, deductibles, continued to rise while premiums grew at a rate more than double that of inflation and workers earnings. [13, 55] Personal consumption of healthcare has consistently shown a correlation with the percentage change in total healthcare costs (Figure 5) [32]. This raises an interesting paradox: is the flattening in healthcare spending relative to GDP within the same timeframe partially driven by the patient's inability to afford and engage healthcare despite having healthcare insurance coverage? That trend would negatively impact the goals of VBC, leading to a decrease in timely access to preventative or early intervention care. The net impact results in a long term and gradual increase in higher disease severity, furthering the complexity of healthcare management needs which dramatically escalates future healthcare spending. Evolving VBC design models should drive access to care which produces the near and intermediate disease management impact necessary to lower future disease complexity and progression resulting in lower long-term healthcare spending. VBC is not achievable when the access to care burden is preventative and timely care is too expensive for the population to engage.

Where Do We Go from Here

The past ten years have witnessed a significant expansion from supply-driven, volume-based care to demand-driven, value-based care across all spectrums of healthcare. To understand and map out future innovation within the U.S.'s future VBC journey one must recognize the key driver for change: the trend line to insolvency of the Medicare Trust Fund. [56] With just under 65 million beneficiaries, Medicare is the single largest payer in the U.S. health system averaging \$2.3 billion in claims paid daily. [2] Considering the immense number of daily payments conducted by CMS, it is important to understand that the transition to VBC innovation must be achieved within the existing infrastructure of a FFS system. The current logistics of the US healthcare electronic claims submission and adjudication system drives a significant amount of the strategic thought process because any new VBC model must somehow work within the existing electronic payment infrastructure.

The Medicare Trust Fund financing of its beneficiary health services claims are projected to exceed total Fund income beginning in 2023 leading to capital depletion and insolvency. [56] Current estimates are for Medicare spending to grow faster than GDP through 2070 as the U.S. population life expectancy grows, leaving Medicare with the largest Payer Enrollment Duration Liability Risk (PEDLR) compared to its payer peer group (Figure 6). [57-61] Thus, CMS has the most urgent need for a value-based healthcare solution for its growing beneficiary population obligations paired with a dwindling trust fund which accounts for its leadership in payment innovation strategy.

Since 2007, Medicare Advantage, (Part C private payer Medicare initiative) has been a leading value rather than volume driver of innovation; penetration has grown from 19% of the Medicare eligible population to 48%. [62] In addition, the formation of the Centers for Medicare and Medicaid Innovation Center (CMMI) has deployed over 40 models involving 18 million across every state. [63] While the development and testing of VBC models has primarily been generated from CMMI in the Medicare and Medicaid population, significant translational impact within commercial and employer healthcare markets can be found.

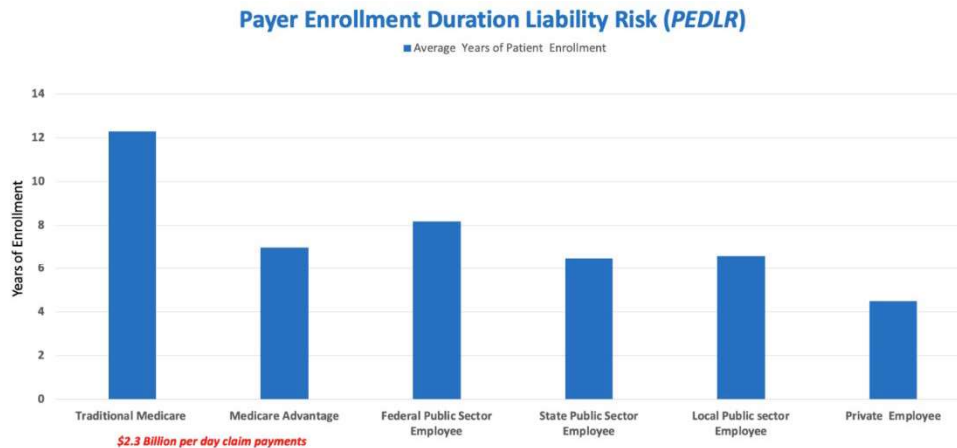


Figure 6. Payer Enrollment Duration Liability Risk (PEDLR). Medicare payments total \$2.3 billion per day in claims combining traditional Medicare and Medicare Advantage. [57-62]

Building Sustainable VBC Structural Elements of Care: EM³

A single stakeholder approach to VBC will fail to achieve a sustainable solution within the multitrillion-dollar U.S. healthcare system. For success to be achieved, the Big 3 stakeholders must be engaged to work collaboratively and find benefit to support the model. Strategically engaging in meaningful innovation solutions to drive value within constrained healthcare spending requires a more dynamic solutions analysis than the single dimensional Value=Outcomes/Cost in the traditional VBC equation. Representation of the three stakeholders' unique roles and perspectives within VBC strategies have not been captured within this single dimensional formula. Alignment on the foundational elements of care allowing the Big 3 stakeholders to collaboratively engage and manage the key variables impacting outcomes and spending produces a more sustainable value-based healthcare collaborative. Examination of the variables that impact the fundamental needs and challenges of each stakeholder identifies three core structural elements of care where mutual engagement must be achieved in: 1) management of clinical outcomes, 2) management of the episode-of-care spend, and 3) management of the patient's engagement (Figure 7).

The patient experience value add involves predictive mapping of the patient's care journey and strategically deploying resources to support and manage the patient's overall experience, resulting in an increase in compliance to the prescribed care. Patient journey mapping maximizes efficiency and care tracking to ensure strategies integrate with and support the patient's health literacy and social determinants of health variables. Clinician and payer stakeholders face the responsibility of collaboratively understanding their collective interactions along the patient's healthcare journey and how each will be supported and navigated to achieve improved healthcare outcomes. Coordination-of-care and communication is critical to a patient's retention and compliance along their healthcare journey and simplifies the overwhelming amount of information often inundating the patient. Clinicians must be responsible leaders of a comprehensive healthcare team collaborating the management of the

complex psychosocial care needs of the patient. Improving patient experience means clinicians must focus beyond their therapeutic treatment strategy, which accounts for only 20% of health variation outcomes, and expand into the patient's health literacy and social determinants of health which account for 50% of variation in outcomes. [64] Clinician and payer stakeholders need to measure and map the patient's experience to better understand how to collaborate and maximize the variables that are vital to each patient's outcomes.

$$\text{Value} = \text{EM}^3$$

Patient Experience Management: EM³

- Management of the ***Clinical Outcomes*** of that Experience
 - *COORDINATION OF CARE MEASURES*
 - *PATIENT REPORTED OUTCOME MEASURES*
 - *DIAGNOSTIC REPORTED MEASURES*
 - *PHYSICIAN PERFORMANCE MEASURES*

- Management of the ***Episode-of-Care Spend***
 - *CLAIMS-BASED QUALITY MEASURES*
 - *DISEASE SEVERITY MEDICAL COST VARIANCE*
 - *DISEASE SEVERITY SITE-OF-SERVICE MANAGEMENT*
 - *PHYSICIAN/PROVIDER HEALTHCARE COST LITERACY*
 - *PRICE TRANSPARENCY*

- Management of the ***Patient Engagement***
 - *BARRIERS TO CARE AVAILABILITY*
 - *PATIENT JOURNEY MAPPING*
 - *HEALTH LITERACY AND SOCIAL DETERMINANTS IMPACT*
 - *PATIENT REPORTED EXPERIENCE MEASURES*
 - *EQUITABLE ACCESS & DELIVERY OF CARE MEASURES*

Figure 7. Three Key Structural Elements within the delivery of Value-Based Care.

It is important as well to recognize the impact on patient experience within the scope of physician wellness especially within the current context of rising professional burnout. Physician burnout rates achieved a historic high in 2021 with over 60% up from 45% ten years earlier. [65] A CHG Healthcare study found that 80% of all physicians were experiencing some form of burnout prior to the COVID pandemic, and after the pandemic over 62% respondents indicated the burnout issues had increased. [66] New emerging VBC innovation dimension must assess physician experience and professional satisfaction alignment within measurable variables that directly impact the physician/patient relationship within the patient's clinical care journey. [67-70] Physician experience and the capacity for empathy and effective patient engagement is diminished with increasing administrative and EHR reporting burdens, low

staffing levels, and barriers to delivering care to patients (i.e., prior authorization and care denials). [71-73]

It is essential for VBC to contribute both economic value and care management benefit to the key stakeholders to sustain the VBC transformation. Patients need economic simplicity and certainty. Clinicians and payers create undue stress exasperating patient mental health issues with surprise billing, inaccurate and confusing billing statements, complex benefit plans, opaque pricing information, and disassociating outcomes and experience with payments. [73, 74] Payers need to achieve expected economic value within clinician engagement by aligning the exchange of services for payments based on clear and consistent outcomes measures. To expand adoption of VBC programs across all clinicians, including specialists, the VBC payment and spend benchmark methodologies need to be transparent and demonstrate a clear path in returning economic value for investments required to engage these VBC platforms. Clinicians engaging in VBC will need to add significant resources in staffing, technology, and operations to capture and improve value to payer and patient stakeholders, so it is vital to know these investments will be offset with reasonable and reliable financial incentives. These investments demand an unequivocal APM model which is reasonably achievable and viable for all clinicians, both employed and independent.

Long-term, it is problematic that in most VBC models the clinician stakeholder is benchmarked against their previous year's performance rather than the performance with in the peer group, setting up a race to the bottom in terms of net return for high performing physicians as they excel in VBC payment models. [75] These misaligned incentives results in a devaluation of high performing clinicians within future performance measures and amplifies disengagement. This is well demonstrated within the attrition rates within CMMI's Bundled Payments for Care Improvement (BPCI) program where between 40% to 60% of participants exited from the program within three years. [76] It will be difficult to adopt new VBC models if 50% of clinician participants cannot achieve long-term financial sustainability based on predictable and incentivized economic models that partner with high value clinicians.

Another critical area of economic value in VBC is aligning population health and episode-of-care models. The overlap between CMMI APM models increased significantly over the course of development going from a one in ten patients overlapping to one in four. [77] Overlapping APMs risk provoking conflict and fragmentation between clinician stakeholders by creating care attribution confusion. Currently, the ideology has been to default to a single physician, the PCP, however if we have not learned from the history of the PCP gatekeeper era, we are doomed to repeat the history of its epic failure. Healthcare is an immensely complicated field which requires years of specialized training to develop skilled clinicians and specialists, so it is crucial to build VBC models organized around the appropriate key clinician necessary to treat the patient within each point in their care journey.

All the Big 3 stakeholders want achievable outcomes within VBC models. These outcome measures necessitate an operational framework which can be consistently measured and benchmarked, provide meaningful results, and remain fully transparent. Patient reported outcome measures (PROMs) are designed to detect the value a patient perceives from the care delivered. Clinician and payer stakeholders should look to expand upon next generation PROMs to better understand all dimensions of value received by the patient while improving both patient compliance within PROM response rates and the operational functionality of PROM data transparency. Current reporting of PROMs, which rely on comparing mean differences between groups rather than the proportion of patients who meet a clinically relevant

threshold, may overestimate treatment effects for individual patients. [78] Development of diagnostic reported measures, care coordination measures, and clinician experience measures allow for the establishment of standards which can be benchmarked through claims and/or EHR data. This provides a foundation on which clinician and payer stakeholders can agree on VBC best practice and alleviate the need for payer centric prior authorization and denial of care which prevents timely efficient care delivery. These clinical measures should look to other non-traditional co-morbidities that affect outcomes such as in behavioral health, mental health, and social determinants of health to provide a comprehensive and all-encompassing understanding of the patient's true experience and barriers to successful care. By introducing clinician experience measures within VBC models, one can correlate PROM data and other clinical measures evaluating the clinician skills, empathy, and outcomes necessary to maintain improve a patient's healthcare status. Developing and refining VBC measures relating to the management of spend and clinical outcomes requires collaboration among the payer and clinician stakeholder, and full collaboration of the Big 3 stakeholders relating to the patient's experience.

For VBC to succeed within a diverse population, it must expand to become a collaborative effort. True value can be achieved when all three key stakeholders find common ground and areas of mutual benefit.

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