



PART I — PATIENT CARE (DELIVERY) TRANSFORMATION

PROVIDER SURVIVAL STRATEGIES IN AN AT-RISK ENVIRONMENT

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

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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>



EXECUTIVE SUMMARY

The U.S. healthcare delivery system is inefficient (expensive), ineffective (high mortality rate) and often results in an inadequate care experience. Contributors to the dysfunction include several well-known factors such as fee-for-service reimbursement, a focus on acute intervention, care fragmentation, facility-centricity and limited patient (caregiver) engagement.

Patient care (delivery) transformation requires an increased focus on the patient, their comorbidities and social determinants; disease management alone does not sufficiently recognize the need for whole person care. Hospital-centric health systems will be

challenged by its cost structure, relatively high outpatient prices, the shift to home-based care and the need to recognize the importance of (cognitive) primary care physicians who are not procedure-oriented.

Risk stratification, prevention, discharge planning, transition management and case management require an interoperable technology infrastructure with advanced analytic capabilities. Particularly challenging will be care coordination and management by fragmented providers across the entire continuum. A provider-driven reduction in process variation is critical to improving quality while reducing costs.



CRITICAL SUCCESS FACTORS

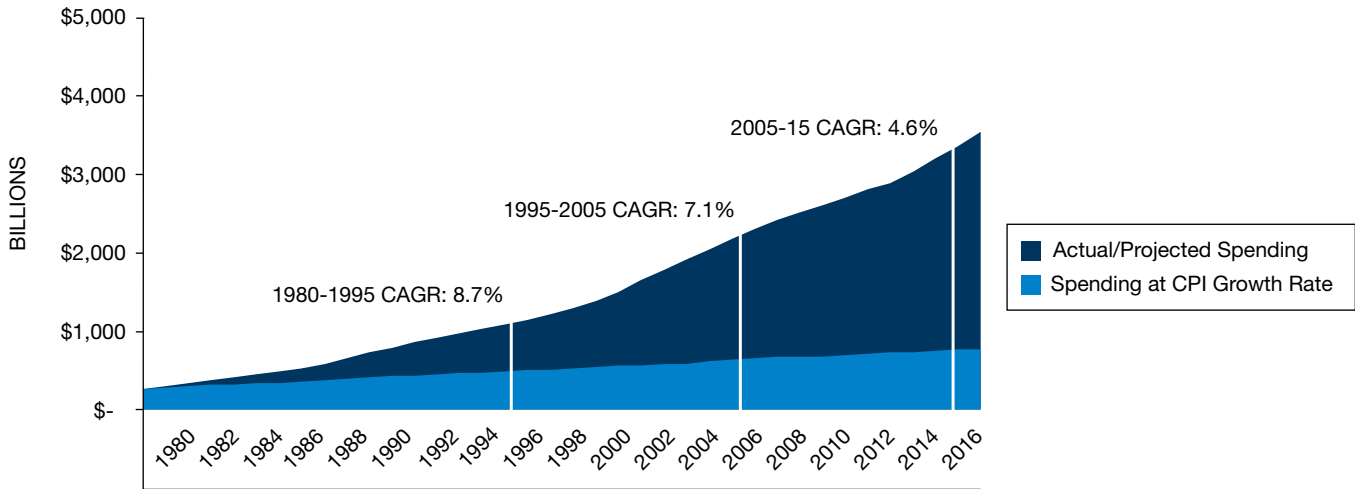
PATIENT CARE (DELIVERY) TRANSFORMATION

Since 1980, national healthcare expenditures have increased at 2.6 times the rate of the Consumer Price Index (CPI), from \$256 billion to \$3.5 trillion in 2017.^{10,11} During this period the percentage of GDP attributed to healthcare has risen from 8.9 percent to 18.3 percent. Repeated attempts at cost containment such as managed care, new payment methodologies, reductions in payment growth, changes to coverage, consumer cost shifting and technology enhancements have had a limited impact on longer-term trends.¹² Many of these initiatives failed to adequately address the fundamental failures of healthcare delivery: fee-for-service reimbursement combined with limited, if any, accountability for health outcomes and the total cost of care.

In 2009, the Institute of Medicine (IOM) convened four meetings to identify opportunities to reduce healthcare costs by 10 percent within 10 years without negatively affecting outcomes. Workshops entitled “Understanding the Targets, Strategies That Work, The Policy Agenda and Getting to 10 percent: Opportunities and Requirements” were attended by leading experts.¹³ Sources of waste

totaling \$765 billion or 30.6 percent of spending were identified, and unnecessary services, inefficiencies, excessive administration, price variation, missed prevention opportunities and fraud were highlighted as causative. Applied to 2016 national health expenditures of \$3.4 trillion implies waste exceeding \$1 trillion!¹⁴

FIGURE 1 | NATIONAL HEALTHCARE EXPENDITURES, 1980–2016



Sources: CMS National Health Expenditures, BLS CPI Inflation Calculator. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html>

Despite high levels of spending, the U.S. life expectancy of 78.9 years lags 26 countries behind the leader, Japan, at 83.7 years;¹⁵ premature mortality — the potential years of life lost per 100,000 inhabitants aged 0–69, exceeds that of Chile, Turkey, the Czech Republic, Greece and other countries with a far lower standard of living;¹⁶ and the

infant mortality rate (deaths per 1,000) is comparable to the Slovak Republic and is 65–80 percent higher than that of France and Germany.¹⁷ The U.S. was ranked last in the Conference Board of Canada health benchmarking study of 16 countries based on mortality indicators; cancer was the lone bright spot.¹⁸

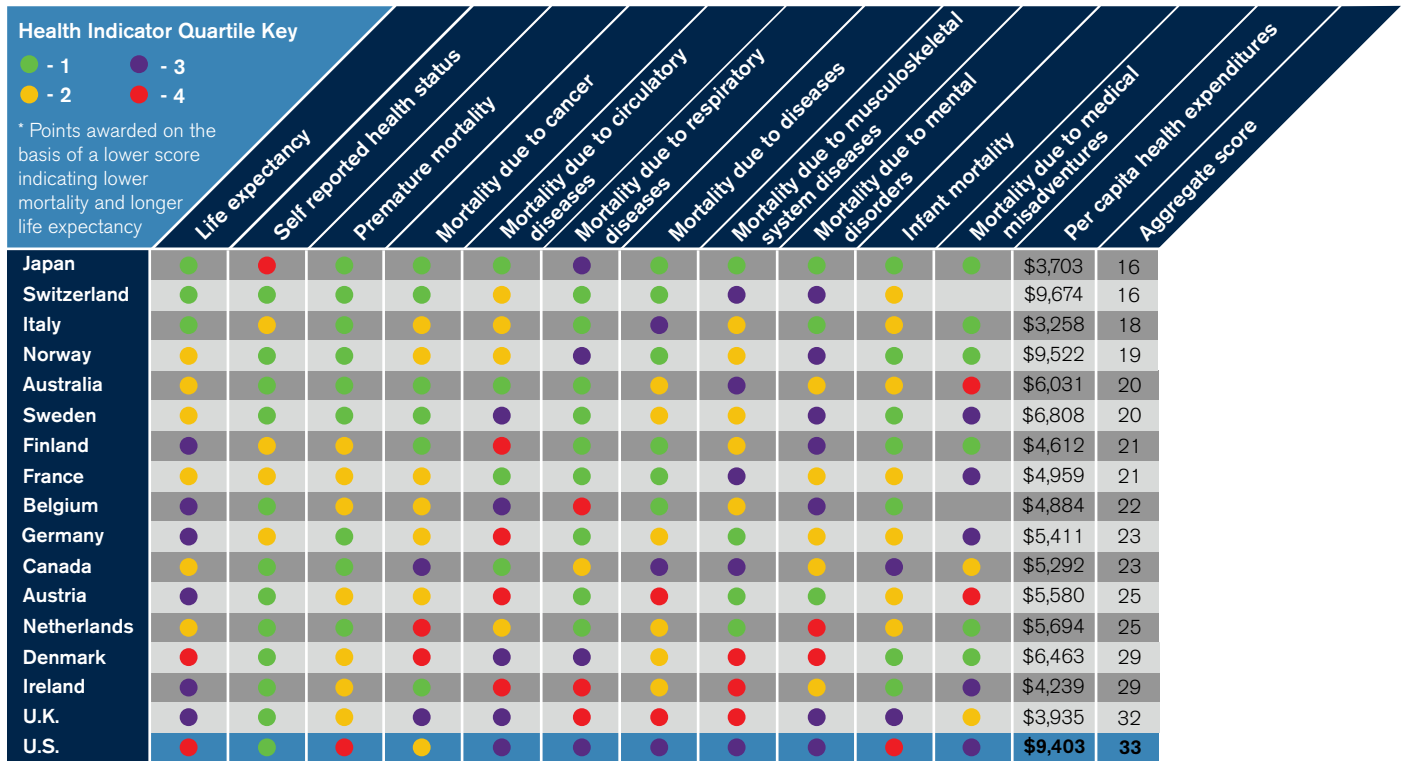
FIGURE 2 | INEFFICIENCY OF U.S. HEALTHCARE DELIVERY

CATEGORY	COST (\$B)	SOURCES OF WASTE
Unnecessary service	\$210	<ul style="list-style-type: none"> • Overuse — beyond evidence established levels • Discretionary use beyond benchmarks • Unnecessary choice of higher-cost services
Inefficiently delivered services	\$130	<ul style="list-style-type: none"> • Mistakes—errors, preventable complications • Care fragmentation • Unnecessary use of higher-cost providers • Operational inefficiencies at care delivery sites
Excess administrative costs	\$190	<ul style="list-style-type: none"> • Insurance paperwork costs beyond benchmarks • Insurers’ administrative inefficiencies • Inefficiencies due to care documentation requirements
Prices that are too high	\$105	<ul style="list-style-type: none"> • Service prices beyond competitive benchmarks • Product prices beyond competitive benchmarks
Missed prevention opportunities	\$55	<ul style="list-style-type: none"> • Primary, secondary and tertiary prevention
Fraud	\$75	<ul style="list-style-type: none"> • All sources—payers, clinicians and patients
TOTAL	\$765	2009 National Health Expenditures: \$2.501B

Source: *The Healthcare Imperative: Lowering Costs and Improving Outcomes*, 2010 Table S-1. Adopted by National Academy of Sciences from IOM Workshop Summary.

FIGURE 3 | INEFFECTIVENESS OF U.S. HEALTHCARE DELIVERY

International Mortality Health Indicators Report Card



Source: The Conference Board of Canada

The inefficiency and ineffectiveness of care delivery are but a couple of the catalysts for healthcare transformation. Others include growing unaffordability for >25 percent of the population, a rapidly aging population, CMS payment reform initiatives focused on value (not volume), a growing shortage of primary care physicians, emerging technology and recognition of the need for data-enabled care coordination and patient management.

CMS has taken a leading role in reforming Medicare and, by default, the entire healthcare system. In 2016, Medicare accounted for 20.2 percent of national healthcare expenditures (\$3.4 trillion) and 24.7 percent of total hospital spending (\$1,086.3 billion).¹⁴ After several years of evolutionary changes, mostly voluntary but a few mandated, the U.S. Department of Health and Human Services (HHS) Secretary Sylvia Burwell made the following announcement on January 26, 2015:

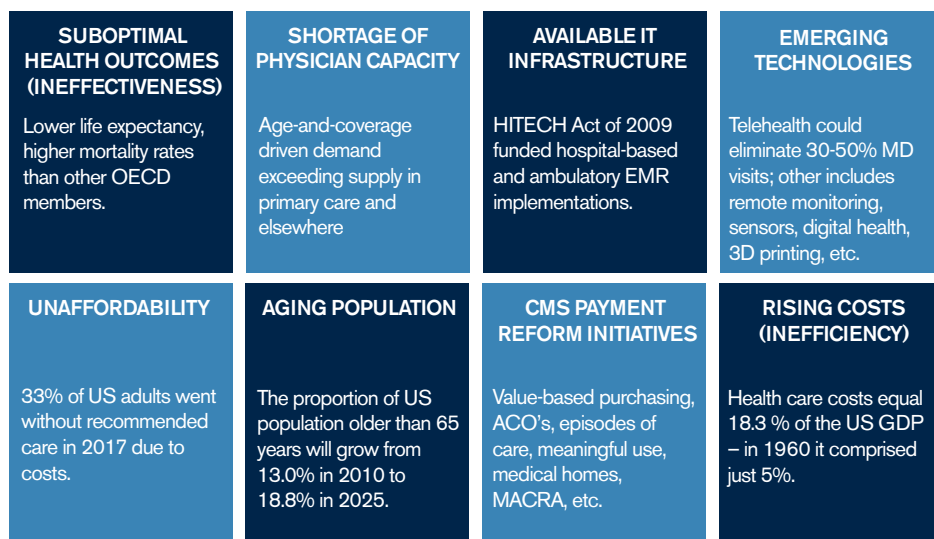
“Today, for the first time, we are setting clear goals – and establishing a clear timeline – for moving from volume to value in Medicare payments. We will use benchmarks and metrics to measure our progress; and hold ourselves accountable for reaching our goals. Our first goal is for

30% of all Medicare provider payments to be in alternative payment models that are tied to how well providers care for their patients, instead of how much care they provide – and to do it by 2016. Our goal would then be to get to 50% by 2018. Our second goal is for virtually all Medicare fee-for-service payments to be tied to quality and value; at least 85% in 2016 and 90% in 2018.”¹⁹

Medicare is often seen as the bellwether for reimbursement change by commercial payers. Medicare Accountable Care Organization (ACO) membership (8.2 million) is far exceeded by that of commercial plans (17.2 million). Commercial payers have benefited from the process-of-care changes instituted by health systems to meet CMS requirements. However, we view the current ACO model as evolutionary due to its reimbursement limitations; e.g., spending benchmarks, out-of-network expenditure inclusion.

In a December 2016 press release, the Health Care Transformation Task Force, comprised of 43 health systems and payers, affirmed “their support for the transition to value-based care that reduces cost, improves quality, and more sharply focuses on patient needs ... and to urge the

FIGURE 4 | CATALYSTS FOR PATIENT CARE (DELIVERY) TRANSFORMATION



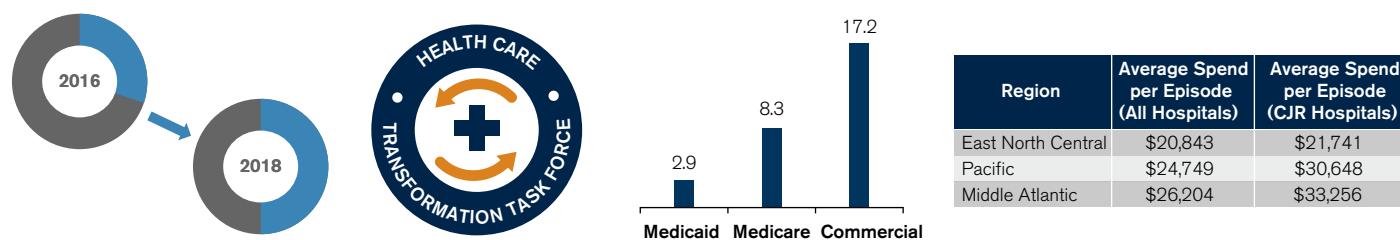
Source: <http://www.commonwealthfund.org/publications/in-the-literature/2016/nov/2016-international-health-policy-survey-of-adults>; commentary added by Alvarez and Marsal

industry to continue its important evolution to a modern payment and care delivery system that provides high value, affordable health care through a competitive marketplace.”²⁰

The election of President Trump and appointment of Tom Price, M.D., may somewhat slow the transition to value-based care, but it will not reverse the trend; the “train has left the station.” An example is CMS’s recently released proposal to eliminate bundled payment models targeting cardiac care (acute myocardial infarctions,

coronary artery bypass grafts), orthopedics (surgical hip and femur fracture treatments) and cardiac rehabilitation, and reducing the number of mandated comprehensive care joint replacement (CJR) markets from 67 to 34.²¹ The resignation of Dr. Price on September 29, 2017 may alter the animus and next steps for bundled payment models. The rationale for bundled payments, excessive provider variation across the continuum, remains and potentially offers a competitive advantage to lower-cost health systems during their contract and network negotiations with payers.

FIGURE 5 | GROWTH OF AT-RISK, VALUE-BASED CARE



The Department of Health & Human Services (HHS) set a goal of tying 30% of FFS Medicare payments to quality or value through alternative payment models by the end of 2016 and 50% by 2018

Twenty health systems, health plans, consumer groups and policy experts formed the Health Care Transformation Task Force, and aim to have 75% of their business based on value by 2020

Despite growth in number of participants and covered lives, ACO model limitations such as variation in regional spending benchmarks, weak correlation between quality scores and savings, and a limited ability to generate savings have emerged.

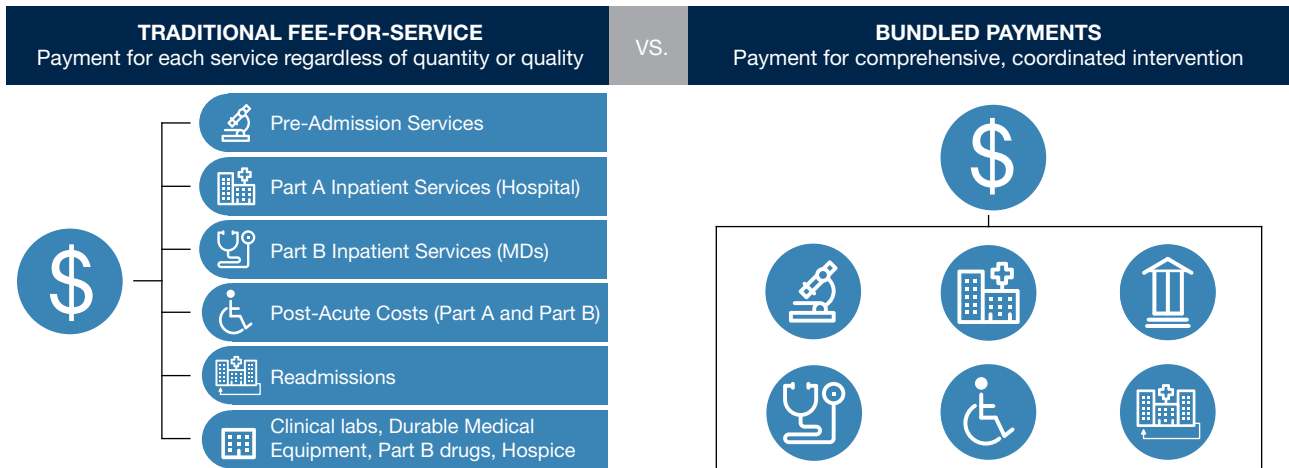
Comprehensive Joint Replacement (CJR) mandate in 67 markets (800 hospitals) effective April 2016; expanded to hip fractures. Cardiovascular episode payments also implemented

Source: HealthLeaders Media Intelligence, “Industry survey: HealthLeaders Media 2014, Forging healthcare’s new financial foundation,” January 2014, <http://content.hcpro.com/pdf/content/299648.pdf>, accessed March 16, 2016

FIGURE 6 | MEDICARE FOCUS ON QUALITY, OUTCOMES AND TOTAL COST OF CARE

PIONEER ACO	ISSUE	NEXT GEN ACO
In performance year 5 in 2016	Timeline	Begin 2016; 3-year agreement period
60% shared risk & savings	Financial Risk	80%-100% shared risk & savings
3-year historic baseline	Benchmark	One-year historic baseline
Most claims paid under traditional fee-for-service (FFS)	Payment Mechanism	Four payment options: Traditional FFS; FFS with monthly infrastructure payments; population-based payments; capitation
Quality score determines savings/losses sharing rate	Quality	Quality score determines quality component of benchmark discount

COMPREHENSIVE CARE JOINT REPLACEMENT: SURGERY + HOSPITAL + POST-ACUTE = 90-DAY EPISODE

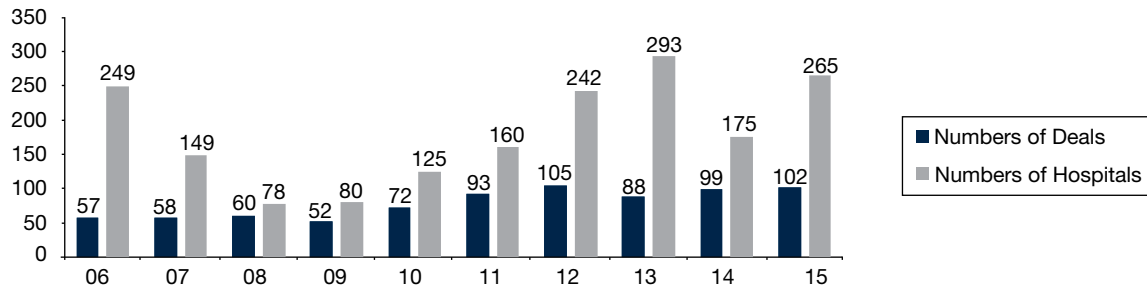


Source: CMS

According to Irvin Levin Associates, the average number of hospitals each year in announced deals in 2011–15 of 227 was 67 percent higher than the 136 announced in 2006–2010.²² Major for-profit acquisitions include Steward Healthcare – IASIS Health System (2017), Community Health Systems – Health Management Associates (2014) and Tenet Healthcare – Vanguard Health Systems (2013). Nonprofit acquisitions and mergers have also occurred based on geographic expansion (Catholic Health Initiatives’ purchase of St. Luke Episcopal Health and

Memorial Health System in Texas, Sylvania Franciscan Health System in Ohio and the St. Alexis Health System in North Dakota) and local market share gains (Mt. Sinai Health System – Continuum Partners, Hackensack NJ – Meridian, Barnabas Health – RWJ Health System). The dramatic increase in debt for some of these systems has led to an increase in divestiture activity in 2017, as evidenced by recent Community Health Systems’ efforts inclusive of the Quorum spinoff.²³

FIGURE 7 | ANNOUNCED HOSPITAL MERGERS AND ACQUISITIONS, 2006–2015



Source: Irving Levin Associates, Inc. (2016). *The Health Care Services Acquisition Report, Twenty-Second Edition*.

- (1) In 2004, the privatization of Select Medical Corp., an operator of long-term and acute-care hospitals, and divestiture of hospitals by Tenet Healthcare Corporation helped to increase the number of hospitals affected.
- (2) In 2006, the privatization of Hospital Corporation of America, Inc. affected 176 acute-care hospitals. The acquisition was the largest health care transaction ever announced.
- (3) In 2013, consolidation of several investor-owned systems resulted in a large number of hospitals involved in acquisition activity.

Health systems have also been acquiring physician practices. The number of physician practices owned by hospitals / health systems rose 86 percent between 2012–15, with 38 percent of U.S. physicians employed by hospitals and health systems. The rationale for many of these acquisitions has been to increase patient capture, referrals and market share; and to gain higher prices.²⁴ Results have been mixed, with acquisitions, when combined with EMR requirements, often leading to a reduction in physician productivity.

Industry consolidation does not imply positive change, i.e., increased efficiency and effectiveness. It does, however, imply even higher prices.²⁵

The magnitude of change required for transformation to an at-risk, value-based healthcare delivery system is significant. Compounding the challenge is a healthcare system comprised of stakeholders primarily interested in their own financial sustainability, a system that is not necessarily aligned with those of outcome-centric patients and cost-oriented payers (employers). The availability of “big data” and, more importantly, actionable insights will provide measurable transparency to an opaque system subject to profit-maximizing obfuscation. Executive leadership (visionary, strategic and operational) will be essential, especially during the three to 10 year transition period from fee-for-service to value-based reimbursement. The hospital-centric healthcare delivery system that has

FIGURE 8 | EMERGING HEALTHCARE DELIVERY MODELS

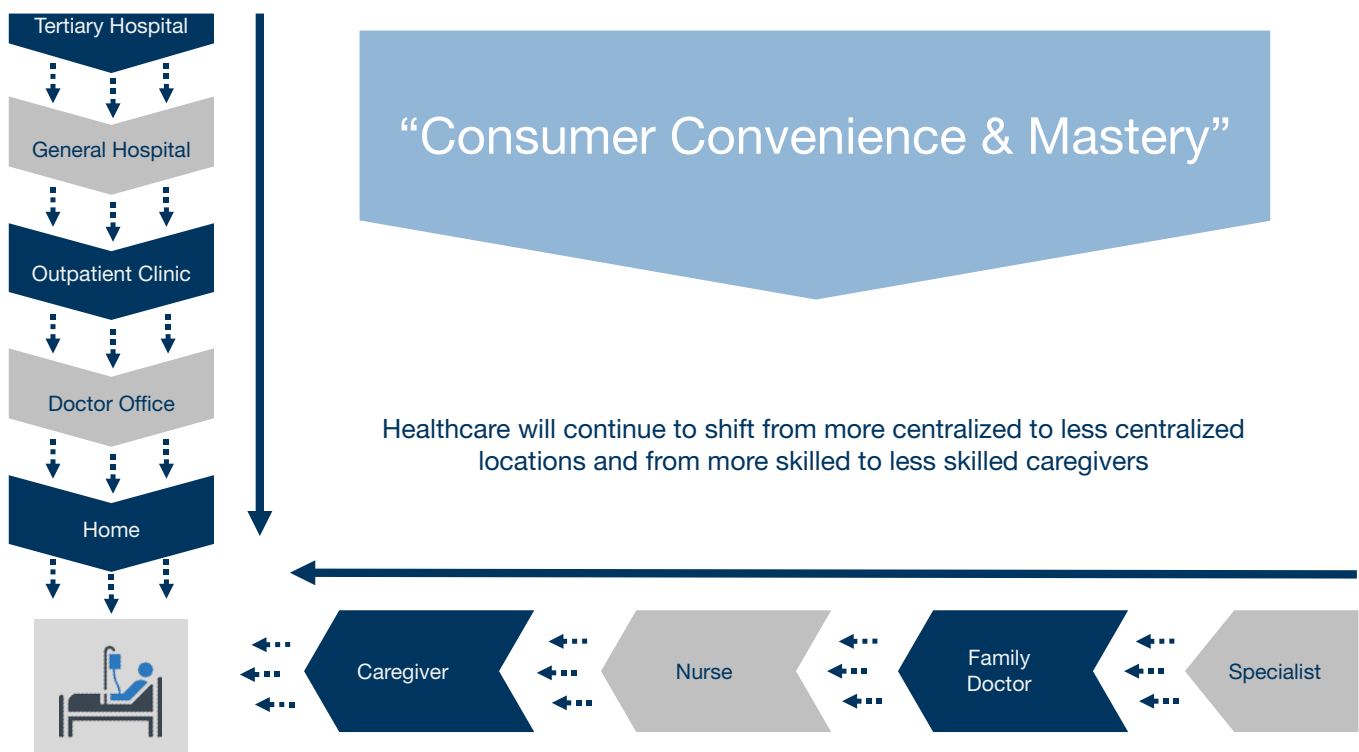
EVOLUTION OF HEALTHCARE DELIVERY MODELS	
CURRENT PROVIDER MODEL	EMERGING PROVIDER MODEL
Volume-driven	Value-driven
Facility and/or procedure cost	Total cost of care
Acute intervention	Proactive intervention and prevention
Disease/condition-centric	Patient-centric (co-morbidities, social determinants)
Process quality measures	Outcome quality measures
Facility-centric	Home-centric
Care fragmentation	Care integration
Uncoordinated care delivery	Coordinated care delivery
Silo'd	Across the continuum of care
Subjective (i.e., based on experience)	Objective (i.e., based on data insights)
Poor patient experience	Enhanced patient experience
Limited patient/caregiver engagement	Increased self-management
Performance: margin per service or procedure	Performance: Margin per covered or attributed life

emerged during the past few years does not (yet) fully capitalize upon the opportunities for prevention, proactive intervention, care coordination, patient engagement, self-management and, importantly, for cognitive (non-procedural) primary care physicians.

Value-based payment initiatives, primarily driven by CMS and, to a lesser extent, Medicare Advantage, recognize the primacy of prevention, earlier intervention and non-facility, community based care. Hospitals, rehabilitation facilities, long-term acute care hospitals and skilled nursing facilities are far more expensive than home care for specific types of services (skilled, instrumental and activities of daily living support). As a result, community hospital inpatient volume has declined an average of 320,000 discharges (1.0 percent) per annum in 2010–15, a figure understated relative to the age adjusted population growth. Negative volume drivers include a decline in the rate of preventable admissions and readmissions inclusive of a cardiovascular admissions reduction of 25.2 percent between 2005 and 2014, increased observation stays and a volume shift of surgical procedure volume from inpatient to ambulatory centers.²⁶

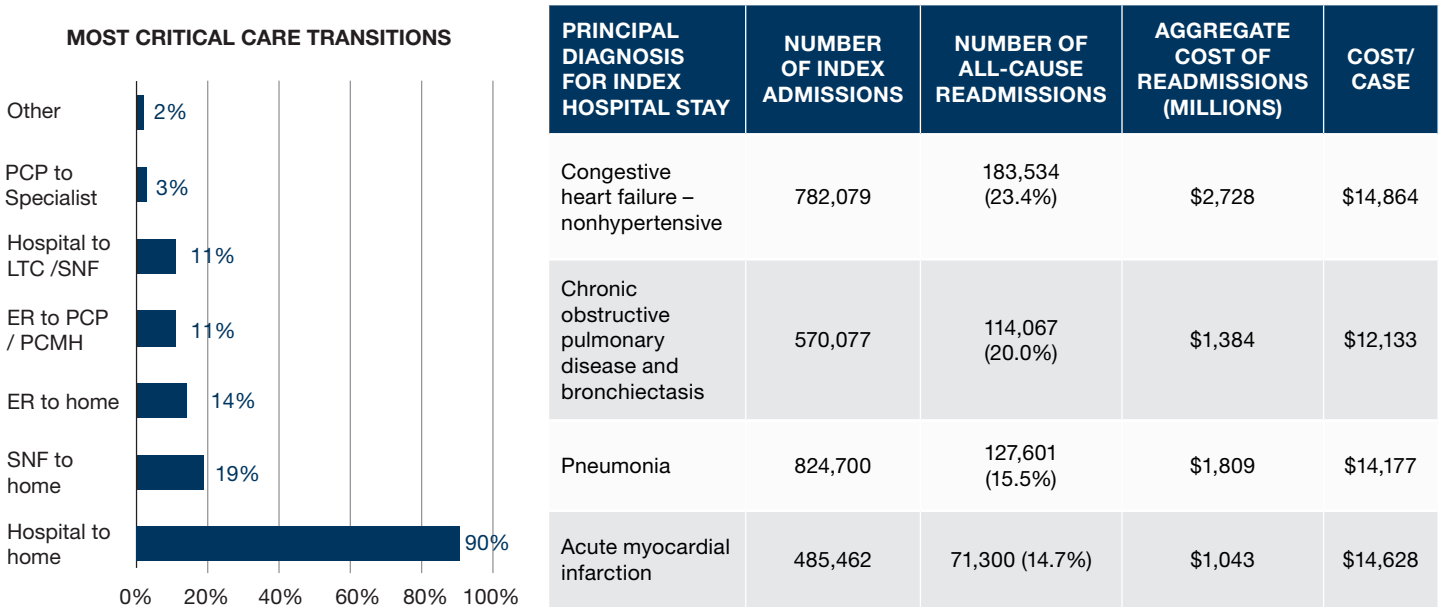
Hospital discharge, typically to home or a skilled nursing facility, represents a critical juncture for patients and their families. The potential for complications, relapse and/or readmission are recognized. CMS payment reform initiatives have increased provider focus on discharge planning and, if appropriate, case management for the highest-risk patients. The discharge planner not only focuses on the medical needs of a patient, but also on social determinants such as socio-economic, psychosocial, environmental and behavioral factors that may lead to negative outcomes. Medication reconciliation, a timely visit with a primary care physician and accessible communications are critical to prevent readmission. The advent of episode payment models such as Comprehensive Care for Joint Replacement, downplayed by Secretary Price, has been critical to the extension of the former post-discharge focus period by hospitals and health systems from 30 to 90 days.

FIGURE 9 | SITE OF SERVICE SHIFT FROM FACILITY TO HOME



Sources: Clayton Christensen, Harvard Business School; Regina Herzlinger, Harvard Business School

FIGURE 10 | CRITICALITY OF TRANSITION MANAGEMENT



Source: https://www.slideshare.net/H_J_N/2013-benchmarks-in-care-transitions-management; Agency for Healthcare Research and Quality; Center for Delivery, Organization, and Markets, Healthcare Cost, and Utilization Project, Nationwide Readmissions Database

Risk stratification, combined with the identification of gaps in care — the discrepancy between evidence-based best practices and the care that’s actually delivered to the patient — are critical elements to care transformation.²⁷ For an employer, 5 percent of plan members account for 47 percent of healthcare costs, with another 5 percent accounting for an additional 17 percent; in total, 10 percent of plan members account for nearly two-thirds of costs.²⁸ Medicare patient population costs are somewhat more distributed, whereas for Medicaid it’s slightly more concentrated. High-cost members include those with an acute event (e.g., knee replacement) that is typically resolved within a single year; a condition, usually post-acute, that results in high costs for a few years (e.g., major trauma requiring repeat surgeries and/or rehabilitation, certain types of cancer); or a chronic condition requiring a lifetime of high expenditures (e.g., multiple sclerosis, kidney failure, frail elderly.)

Americans >65 years represent 13 percent of the population and account for a disproportionate 34 percent of expenditures. Medicare spending per beneficiary increases from \$7,859 to \$12,805, +63 percent from the ages of 65–74 to 75–84, consistent with the impact of an increase in the number and severity of comorbid chronic conditions and the high cost of end-of-life care. The incremental rise in spending for the >85 population can be largely attributed to cognitive decline, with Alzheimer’s disease and other forms of dementia affecting

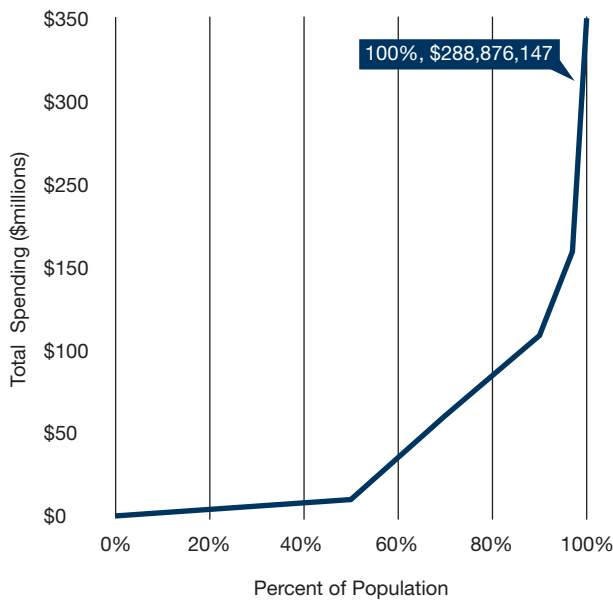
nearly one-third of the population and often leading to institutionalization and/or other forms of community-based support (paid by Medicaid and out-of-pocket).

The chronic disease life cycle is typically progressive and subject to acute, intermittent events. Exacerbations may occur due to failure to comply with the treatment regimen, inclusive of diet, activity and medications; inadequate medical management; or infection and other organic events. The key to effective chronic care management rests with altering the disease life cycle by focusing on prevention, executing precisely timed intervention and increasing patient (and caregiver) engagement.

In 1998, Edward Wagner, M.D., lead developer of the Chronic Care Model, introduced an evidence-based framework for healthcare that delivers safe, effective and collaborative care to patients, and recognizes the supremacy of primary care, care coordination, team-based care, site transition management and self-management.

The Chronic Care Model recognizes the centrality of primary care physicians to manage and coordinate the care of aging patients with multiple chronic conditions across the entire continuum. Despite the recognition, primary care physicians are overworked, underpaid and under-appreciated, relative to procedure-oriented specialists. Throughput rather than cognition and the potential for preventative activities remain the primary

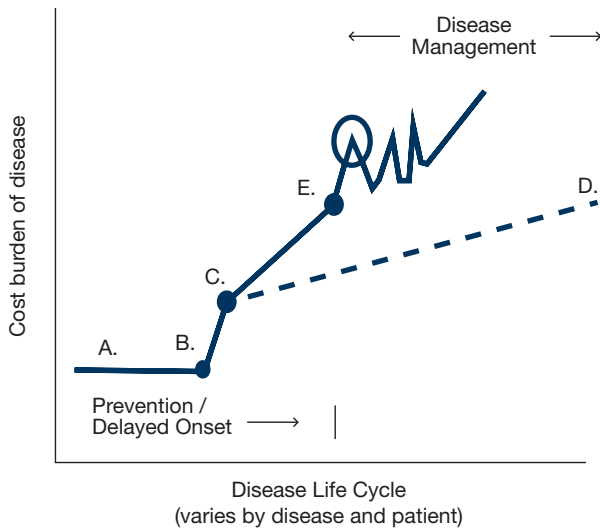
FIGURE 11 | RISK STRATIFICATION HIGHLIGHTS DISPROPORTIONATE SPENDING



EMPLOYER SPONSORED INSURANCE IN THE US: DISTRIBUTION OF COST FOR 50,000 EMPLOYEE COMPANY			
RISK LEVEL	INCREMENTAL % OF POPULATION	% OF TOTAL 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

Sources: AHRQ,CMS

FIGURE 12 | SHIFTING PROVIDER FOCUS TO CHRONIC DISEASE MANAGEMENT



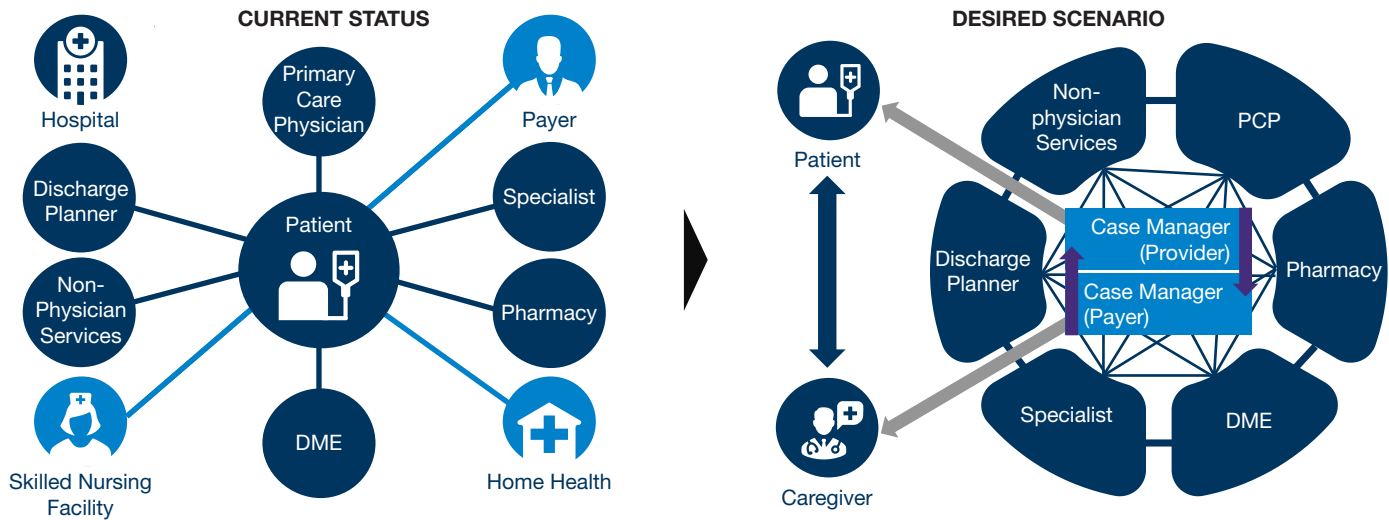
LEVELS OF PREVENTION

<p>PRIMORDIAL PREVENTION</p> <p>Whole population through public health policy</p>	<p>Establish or maintain conditions to minimize hazards to health</p> <p>Advocacy for social change to make physical activity easier</p>
<p>PRIMARY PREVENTION</p> <p>Whole population – selected groups and healthy individuals</p>	<p>Prevent disease well before it develops</p> <p>Reduce risk factors</p> <p>Primary care advice as part of routine consultation</p>
<p>SECONDARY PREVENTION</p> <p>Selected groups with high risk patients</p>	<p>Early detection of disease (e.g. screening and intervention for pre-diabetes)</p> <p>Primary care risk factor reduction for patients at risk of chronic diseases, falls, injury, etc.</p>
<p>TERTIARY PREVENTION</p> <p>Patients</p>	<p>Treat established disease to prevent deterioration</p> <p>E.g. exercise advice as part of cardiac rehabilitation</p>

INFLECTION POINT

- A. Disease onset
- B. Diagnosis
- C. Management initiated
- D. Good medical management with disease progression
- E. Poor medical management with disease progression and acute exacerbations

FIGURE 13 | EFFECTIVE CARE COORDINATION ESSENTIAL



**Patients identified based on cost/risk and disease stratification*

drivers of compensation. The growing shortage of primary care physicians is forecast to worsen due to retirements, compounded by the potential of a 25–35 percent reduction in physician productivity following hospital acquisition.²⁹ Electronic medical records, expected to enhance productivity, have created dissatisfaction and worsened the situation due to “poor usability that did not match clinical workflows, time-consuming data entry, and overwhelming numbers of electronic messages and alerts.”³⁰ Care extenders such as nurse practitioners and physician assistants are adjunctive and not a replacement for highly trained primary care physicians in a system focused on the total cost of care. Directional progress has been made by policymakers and health systems toward implementation of the Wagner model, but full implementation of all the necessary components has yet to be achieved.³¹

Care coordination is exceedingly difficult in a highly fragmented healthcare delivery system incented by “piecemeal” fee-for-service reimbursement. Limited healthcare literacy, combined with the lack of a primary contact point, minimal caregiver involvement and payment strains often result in patient uncertainty regarding the treatment plan. Caregivers, an under-recognized resource, usually female, assist the elderly, ill, disabled, family and non-family members with activities of daily living and medical tasks on a voluntary basis.

Caregivers may “help to shop and buy groceries; prepare meals, cleans house or does laundry; help with activities of daily living like dressing, bathing, administering medications; aid with transferring the recipient in and out of bed; assist with physical therapy, injections, feeding

tubes, or other medical processes; arrange the medical appointments and transportation to the doctor or clinic; order and pick up medications at the drugstore; discuss the care plan and needs with the doctors and care managers; handle a crisis or medical emergency; and fill the designated ‘on-call’ position for the family member.”³²

All these activities affect patient recovery, clinical outcomes and mental status. According to the National Alliance for Caregiving and AARP, approximately 43.5 million Americans provided unpaid care to an adult or child in the last 12 months, 34.2 million (78.6 percent) for adults >50 years. The estimated economic value of their services is \$470 billion.³³

The lack of coordination extends among providers, payers and other stakeholders with a vested financial interest. Payer disease management programs (incorporating health coaches in remote call centers, patient education, reminders and feedback) are usually independent of provider efforts to improve health outcomes. A seminal study of commercial disease management programs for 250,000 Medicare patients did not find a reduction in hospital admissions, ER and net expenditures between the intervention and the usual care (control) group.³⁴ According to the lead author, “telephone contact or an occasional visit does not achieve the cost savings ... Our results suggest that for such programs to be effective, they would need to be supplemented by intensive, costly, personal clinical attention.”³⁵ Other disease management studies have shown mixed results, with several investigators suggesting that studies with positive results have exhibited self-selection bias, i.e., enrollees tend to be more highly motivated than the population at large.^{36,37}

Case managers have a challenging 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, echocardiograms, ambulatory surgical centers and 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.³⁸ Our calculation is based on a previously published estimate of 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.^{39,40}

Evidence-based medicine is a function of clinical expertise, best practices and patient values and preferences. According to the Institute of Medicine, clinical guidelines are “statements that include recommendations, intended to optimize patient care, that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.”⁴¹ Recommendations are not infallible and “may be wrong (or at least wrong for individual patients)” due to limited or misinterpreted scientific evidence and the undue influence of guideline development group members (subject to their own clinical bias and nonclinical factors such as cost).⁴² As a result, many health systems, hospitals and physicians utilize guidelines as one of several factors involved in managing specific patients.

FIGURE 14 | CASE MANAGEMENT APPLIED TO HIGH-COST / HIGH-RISK PATIENTS

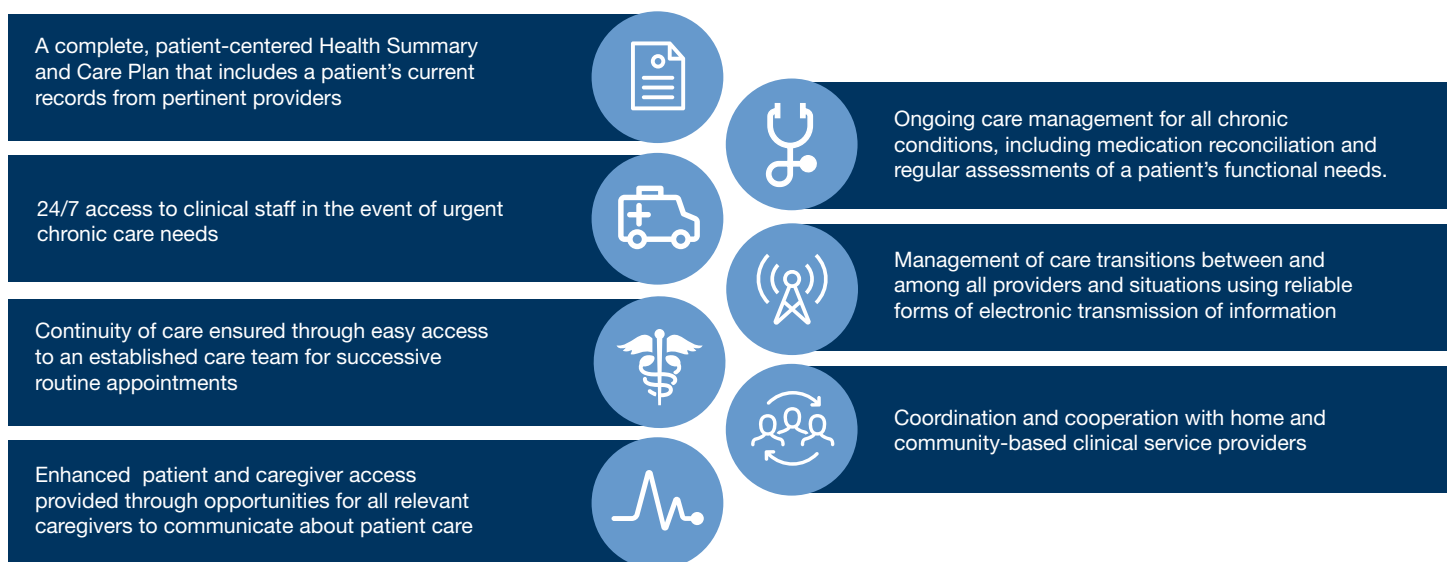
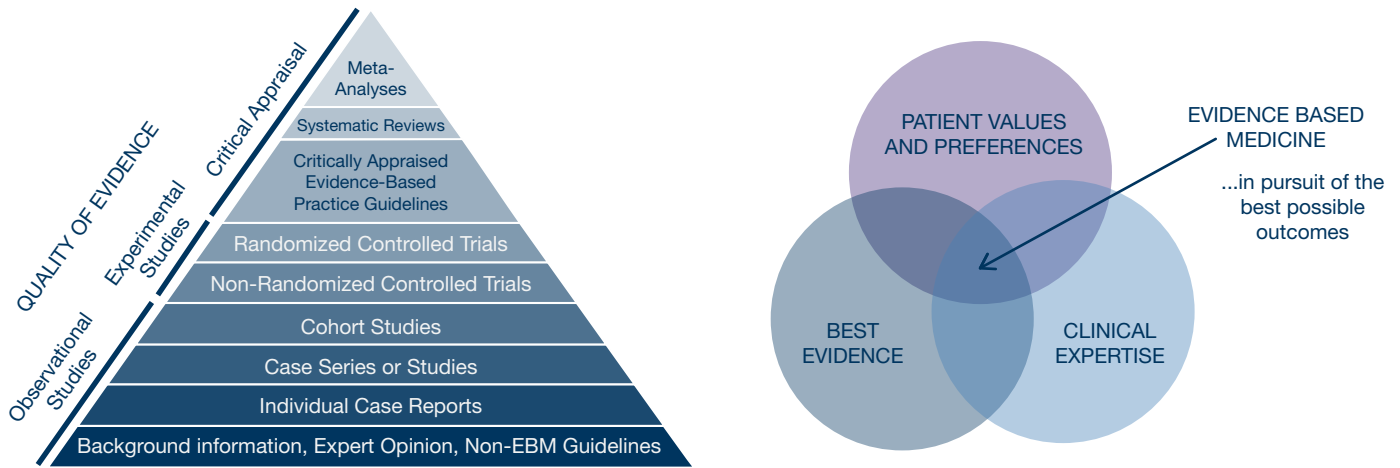


FIGURE 15 | ADOPTION OF EVIDENCE-BASED PRACTICES TO REDUCE PROVIDER VARIATION



Utilization management (UM) represents an evidence-based, clinical support process to assist physicians, other providers and payers in evaluating the use of medical services based on medical necessity, appropriateness and efficiency.⁴³ UM may be performed prospectively, concurrently and retrospectively. Historically, UM has been viewed by payers as a means to reduce inpatient and outpatient costs. The emerging, at-risk care delivery system presents an opportunity for an effective UM program to benefit providers and patients through enhanced discharge planning, reduced provider variation and continually improved process-of-care.

The advent of Accountable Care Organizations, value-based purchasing readmission penalties and episode-based reimbursement highlights the importance of patient

discharge destination. In 2012, there were 13.7 million hospital discharges of people >65 years: 48.0 percent were sent home, 43.6 percent received post-acute care services (i.e., skilled nursing facility, home healthcare, inpatient rehab facility and long-term acute care hospital), 3.2 percent died and 2.2 percent transferred to another hospital.⁴⁴ A risk-adjusted analysis of destination sites highlights a broad range of spending without a commensurate relationship to health outcomes.

Significant variation in the utilization of acute inpatient, post-acute and outpatient services by physician exists. Inpatient variation is notable for specific risk-adjusted conditions in terms of length of stay, complications, mortality, use of ancillary resources (e.g., imaging, labs), outpatient / observation stays, admission rates, gaps in care and

FIGURE 16 | EXPANSION OF PROVIDER UTILIZATION MANAGEMENT



PROSPECTIVE OR “PREAUTHORIZATION” (INPATIENT, OUTPATIENT)

Nurses assess proposed surgeries, procedures, ancillary tests and other health care services. If the available clinical information does not support the medical appropriateness of the requested procedure or service, then clinical indications and alternative treatments are discussed with the physician by the nurse and if necessary, the insurance plan medical director.



CONCURRENT REVIEW (INPATIENT), INCLUSIVE OF DISCHARGE PLANNING

Involves screening for medical necessity and the appropriateness/ timeliness of the delivery of medical care from the time of admission until discharge. Objectives are to ensure that doctor orders are carried out in an efficient and accurate manner, to anticipate treatment, plan ahead and to continually monitor the patient’s progress and facilitate discharge planning, the latter involving a review of alternate levels of care, the need for ancillary services and the potential benefits of home support.



RETROSPECTIVE

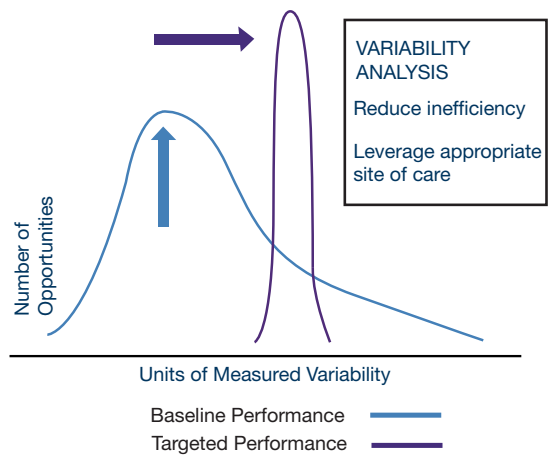
Includes an analysis of length of stay and other metrics at the institutional, group practice, and individual physician level. Efforts are made to identify gaps in care and unusual utilization patterns, develop clinical guidelines, conduct (registry) outcome studies and work with providers to alter practice patterns, as necessary.

FIGURE 17 | EXTENSION OF QUALITY MANAGEMENT

CRITERIA FOR MEASUREMENT OF HEALTH CARE QUALITY		
CRITERIA	REPRESENTATIVE ITEMS MEASURED	WHAT IS EVALUATED
Structure	<ul style="list-style-type: none"> Licensure (faculty and professional) Compliance with health and safety codes Medical staff appointment Board certification 	Environment in which services are provided; whether there is adequate capability to provide the services offered
Process	Specific ways care is provided: <ul style="list-style-type: none"> Laboratory and radiology test Diagnostic approaches Drugs prescribed Therapeutic procedures 	Evaluate against national criteria and standards for specific diagnostic categories and procedures
Outcome	Midpoint and end results of the clinical care process: <ul style="list-style-type: none"> Morbidity Mortality Infection rates Complication rates 	Combine other measures by examining the end results of care

Source: <http://imaging.ubmmmedica.com/CME/pt/content/p981245.gif>; http://ajslp.pubs.asha.org/data/Journals/AJSLP/934712/m_AJSLP_24_4_S854fig1.jpeg;

**EVIDENCE BASED PRACTICE:
MINIMIZES VARIABILITY WHILE IMPROVING QUALITY**



Reporting requirements: NCQA, HEDIS, HCAHPS, STAR Ratings, PQRS, Consensus Core Set (CCS), Healthcare Compare, Value-based Purchasing (VBP), Hospital Acquired Conditions (HAC), re-admissions, Leapfrog Group, MACRA

other areas. Post-acute variation is notable for its site of service, length of stay, complication and readmission rate. Variation in the ambulatory care-sensitive hospitalization rate suggests opportunities for improved chronic disease management. Quality metrics are being rationalized to enhance care delivery processes and improve outcomes. Physician-led peer review (utilization management) and teamwork for high-value care are essential components of the Mayo Clinic’s group medical model.⁴⁵

Technology remains critical to patient care (delivery) transformation. Medical management, population

health, discharge plans, case management and patient / caregiver engagement require data, information and, most importantly, actionable insights for effective implementation. Remote monitoring, telemedicine and digital health increase access and, potentially, the timeliness of intervention.

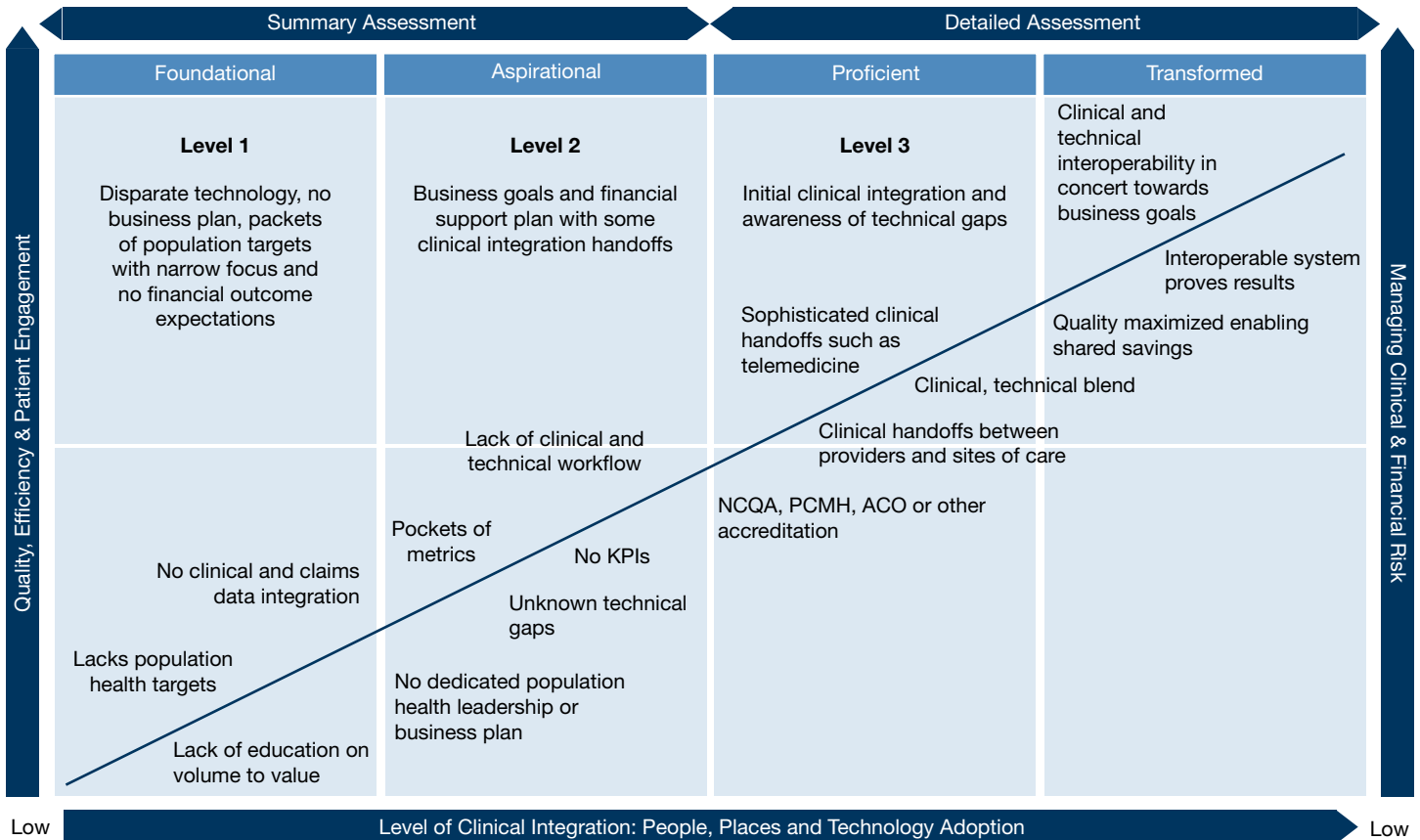
In summary, the transition from fee-for-service to value-based reimbursement will require transformation of care delivery. A measurable, integrated, patient-centric and cost-effective approach focused on improving outcomes – if well-executed – will ultimately lead to a sustainable competitive advantage.

FIGURE 18 | CHANGING ROLE OF TECHNOLOGY INFRASTRUCTURE





FIGURE 19 | CARE DELIVERY TRANSFORMATION GRID



ENDNOTES

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AUTHOR'S BIOGRAPHY

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.

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