POPULATION HEALTH MANAGEMENT AND HEALTH FACILITY DESIGN

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Presentation Objectives

➤ Review what is meant by *population health*, why *population health management* is a requisite core competency for health care organizations in the emerging value-based healthcare economy

➤ Highlight some of the new ways of thinking about service delivery which are necessary to operationalize *population health management* and, in turn, to thrive in a value-based healthcare economy

➤ Discuss what is meant by *clinical integration* and review the 7 key functionalities necessary to achieve integrated patient care

➤ Highlight some of the health facility design issues associated with achieving *clinical integration* and *population health management*

The Institute for Population Health Improvement

Since being established as an independent operating unit in the UC Davis Health System in mid-2011, the Institute for Population Health Improvement has:

➢ **Developed a diverse portfolio of activities in 5 thematic areas:**
  - ✓ **Health care quality improvement**
  - ✓ **Data analytics and health intelligence**
  - ✓ **Health leadership development**
  - ✓ **Health policy**
  - ✓ **Public health practice**

➢ **Focused primarily on assisting health-related government agencies and philanthropies design, implement, administer and/or evaluate population health programs and new models of care**

➢ **Accrued approximately $90M in funded projects**

WHAT IS MEANT BY *POPULATION HEALTH* AND WHY ALL THE ATTENTION ON IT NOW?

About "Population Health"

➢ *Population health* is a *term of art* increasingly used to refer to the health status or health outcomes of a defined group of people resulting from the many determinants of health, including healthcare, public health interventions, and social and environmental factors.

➢ Populations can be defined by age, gender, race or ethnicity, type of health insurance, clinical condition (e.g., diabetes or asthma), where they live, or any number of other characteristics.

About "Population Health"

➢ **The term *population health* was introduced in the early 2000s to broaden the conversation about health and healthcare reform to recognize that factors other than healthcare have an important role in determining health outcomes – factors such as education, employment, housing, food security, transportation, public safety, lifestyle, and the environment.**

➢ **These "social determinants" of health have more to do with reducing preventable deaths and improving population health than healthcare.**

About "Population Health"

➢ ***Population health management* refers to purposeful actions taken to influence the health outcomes of a defined group of persons through coordination, integration and alignment of healthcare, public health, social and/or environmental interventions.**

Determinants of Preventable Mortality*

Determinants of Preventable Mortality	Percent
Behavioral factors	40%
Genetic and gestational factors	30%
Social circumstances	15%
Medical care	10%
Environmental circumstances	5%

*McGinnis JM, et al. Health Affairs 2002; 21(#3): 78-93

Why Focus on Population Health?

1. The foundation of a society's productivity, creativity, happiness, security and viability is the health of its population.

2. American population health is not improving comparable to other developed nations, and in an increasing number of areas is stagnant or deteriorating.

3. The cost of healthcare in the U.S. is much higher than all other countries; healthcare's rising costs are not sustainable and represent the single biggest threat to the nation's economic future.

4. The value of American healthcare compares unfavorably to other developed countries.

Americans Spend More on Health Care, But Fare Worse: Report

Comparison with 12 industrialized nations shows more money spent, but life expectancy is lowest

THURSDAY, Oct. 8, 2015 (HealthDay News) -- When compared to 12 other industrialized nations, Americans shelled out the most cash on health care services, but they fared worst in terms of life expectancy, according to the Commonwealth Fund findings.

"Time and again, we see evidence that the amount of money we spend on health care in this country is not gaining us comparable health benefits,"
Dr. David Blumenthal, President Commonwealth Fund

Rising Health Care Costs Will Push the Nation's Debt Into High Risk Territory
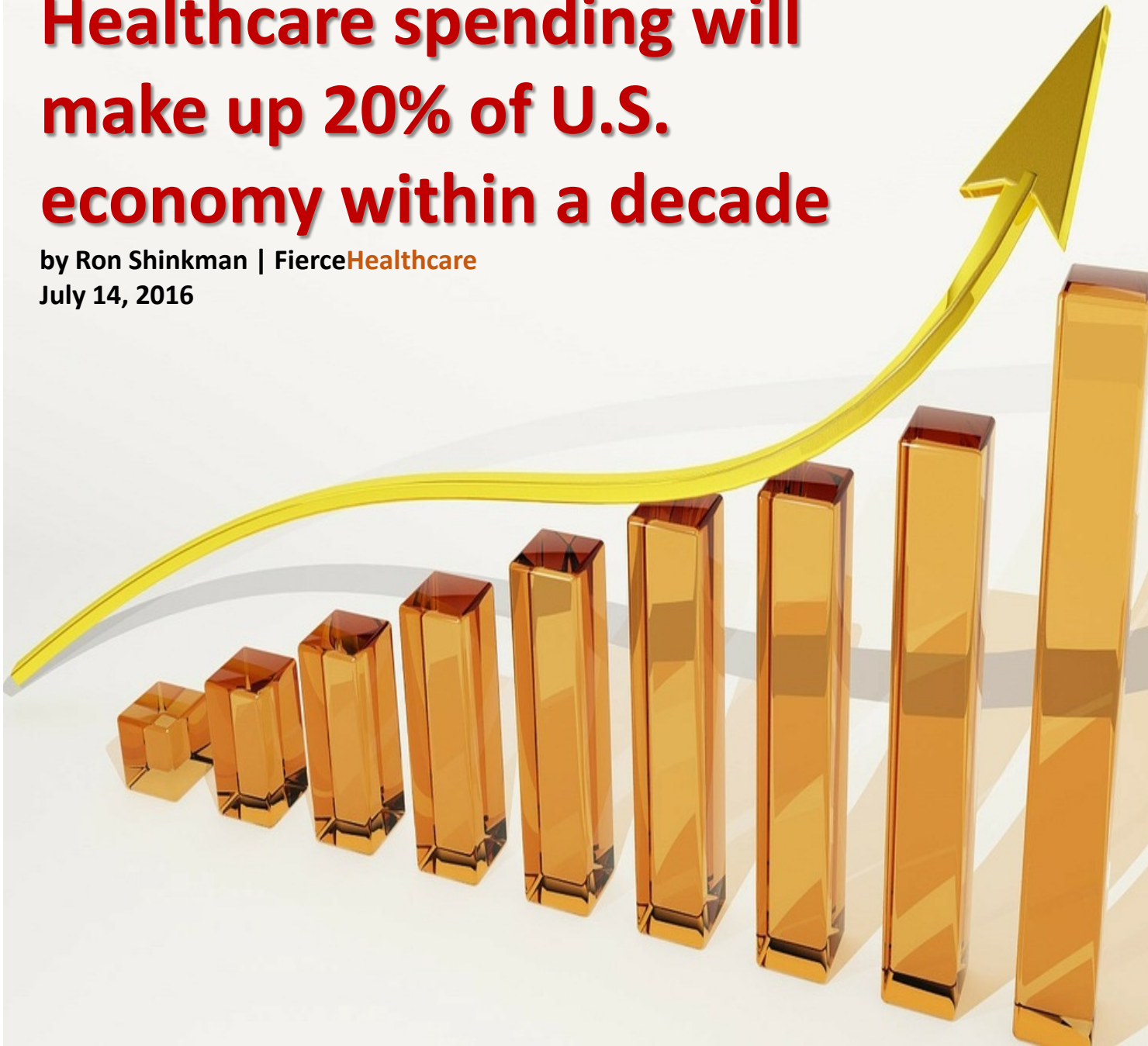
By Eric Pianin
The Fiscal Times
July 15, 2016

Healthcare spending will make up 20% of U.S. economy within a decade

by Ron Shinkman | Fierce Healthcare
July 14, 2016

Health care costs set to top $10k per person
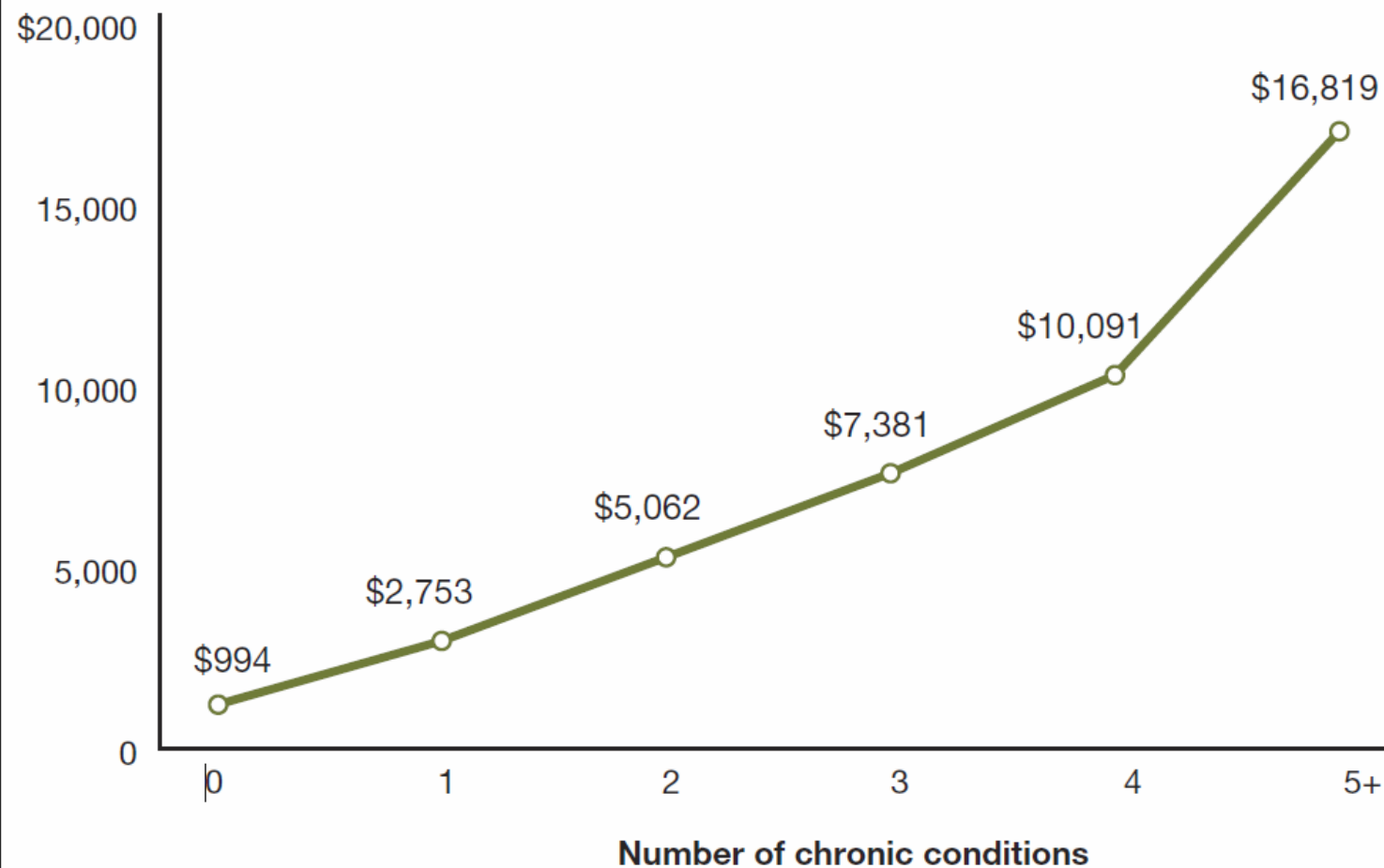
Kimberly Leonard
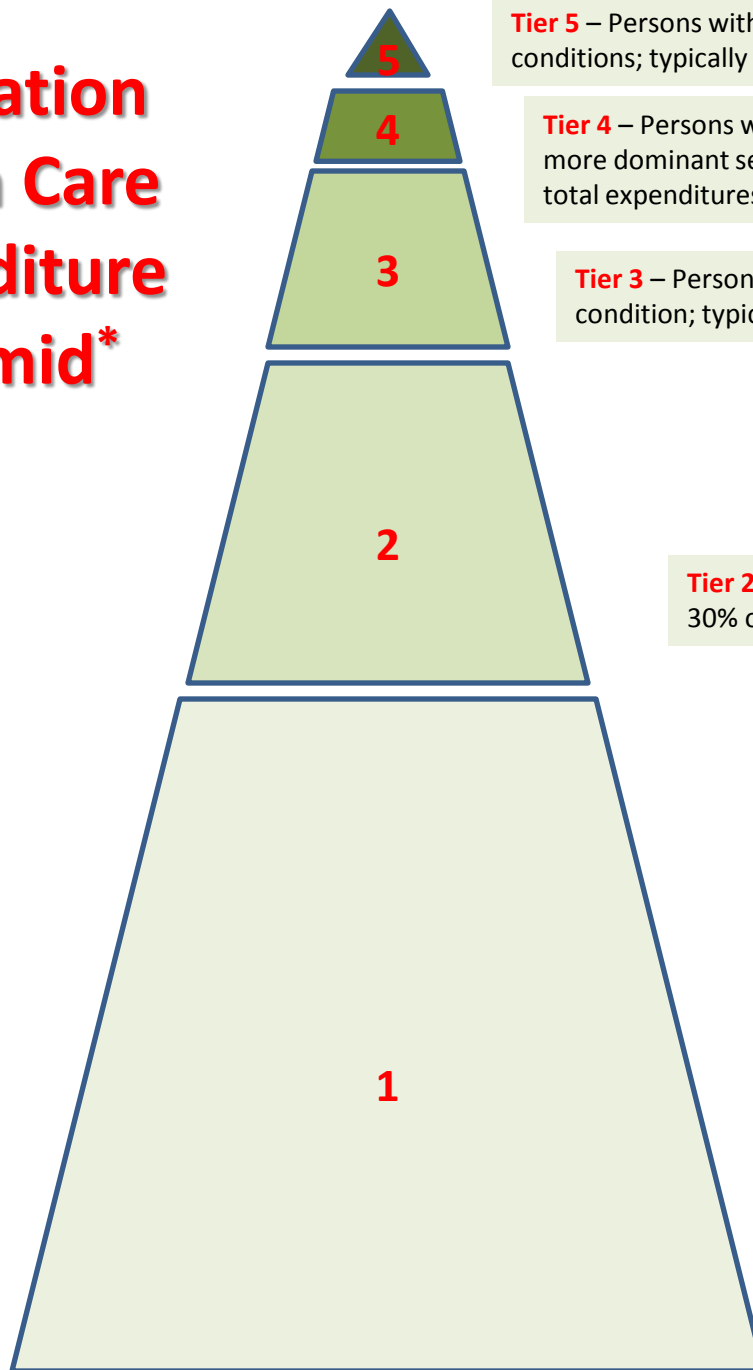**July 13, 2016**

Why Focus on Population Health?

➢ **The primary business of health care today is managing chronic conditions, and the clinical course of most chronic conditions is materially influenced by poorly understood genetic factors and behavioral, social and environmental factors outside of medical care.**

➢ **Healthcare costs are not distributed evenly across the population – i.e., some people incur a lot more costs than others.**

➢ **The cost of care is closely correlated with the number of chronic conditions.**

Figure 1: Average per capita spending by number of chronic conditions

Average per capita spending

$20,000	
15,000	
10,000	
5,000	
0	

$994
$2,753
$5,062
$7,381
$10,091
$16,819

0   1   2   3   4   5+

Number of chronic conditions

Population Health Care Expenditure Pyramid*

Tier 5 – Persons with multiple severe complex chronic or otherwise devastating conditions; typically about 1% of the population and 20-25% of total expenditures

Tier 4 – Persons with multiple serious chronic conditions, with or without one or more dominant severe conditions; typically 4-5% of the population and 25-30% of total expenditures

Tier 3 – Persons with multiple chronic conditions or one dominant severe chronic condition; typically 10-15% of the population and 15-20% of total expenditures

Tier 2 – Minor to moderately severe chronic conditions; typically about 30% of the population and approximately 25% of total expenditures

Tier 1 – Generally healthy persons having acute illnesses or injuries; typically about 50% of the population and approximately 3% of total expenditures

5
4
3
2
1

*KWKizer. IPHI. 2013.

Table 1: Distribution of Health Expenditures for The U.S. Non-Institutionalized Population, By Magnitude of Expenditures % Of U.S.

Pop. Top	1%	5%	10%	50%
1970	26%	50	66	96
1977	27%	55	70	97
1980	29%	55	70	96
1987	28%	56	70	97
1996	27%	55	69	97

50% of the population accounts for 3% of expenditures
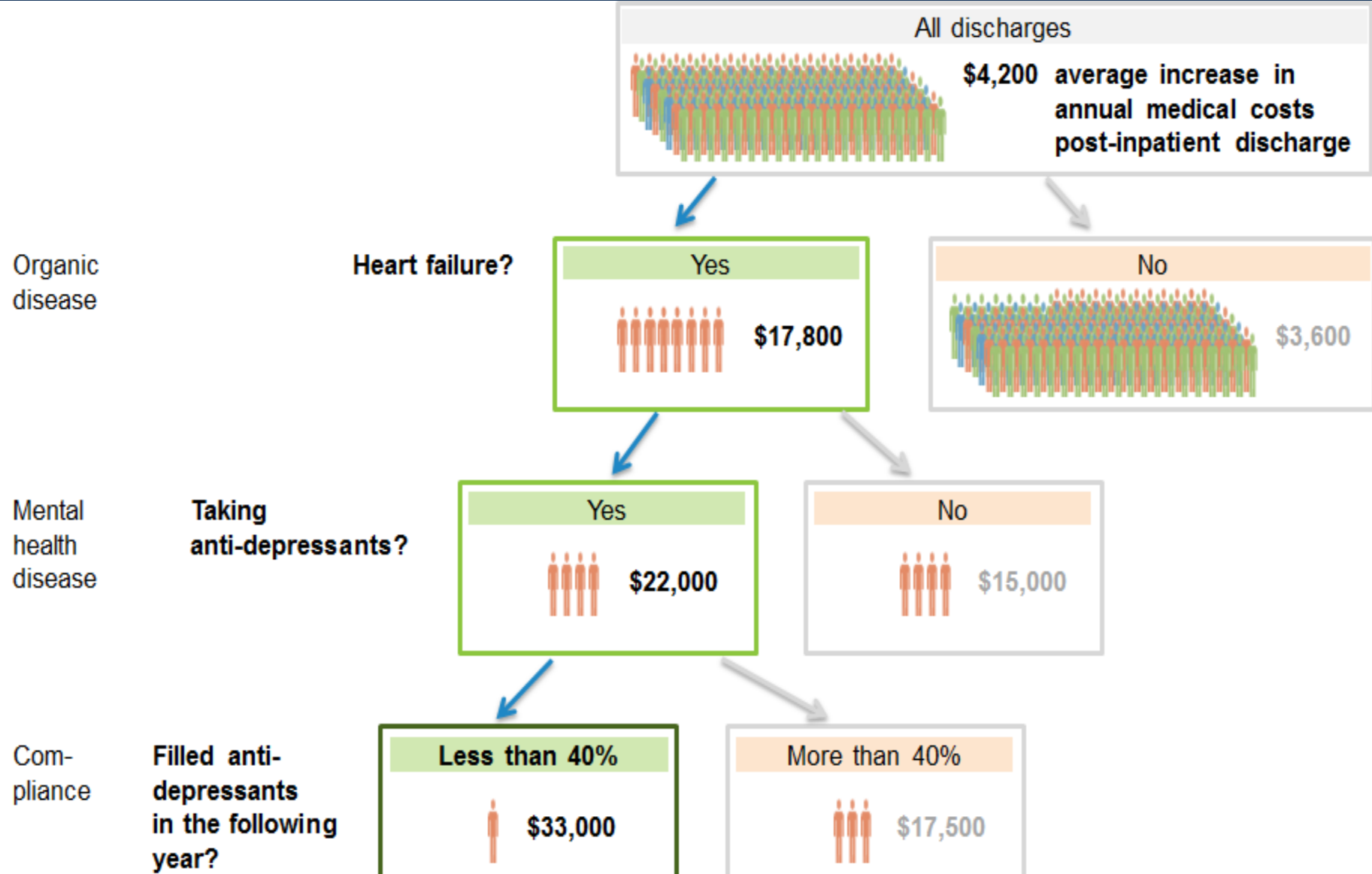
Figure 3: Annual growth in medical costs after inpatient discharge, with increasing segmentation

From A. Sengupta. Beyond Care, Inc

Why Focus on Population Health?

Notwithstanding the need for and benefits of population health management, the proverbial 'elephant in the room' is that there has not been a financial imperative to pursue PHM in the past

However, the new value-based payment methods will create a financial imperative for population health management.

Population Health Care Expenditure Pyramid*
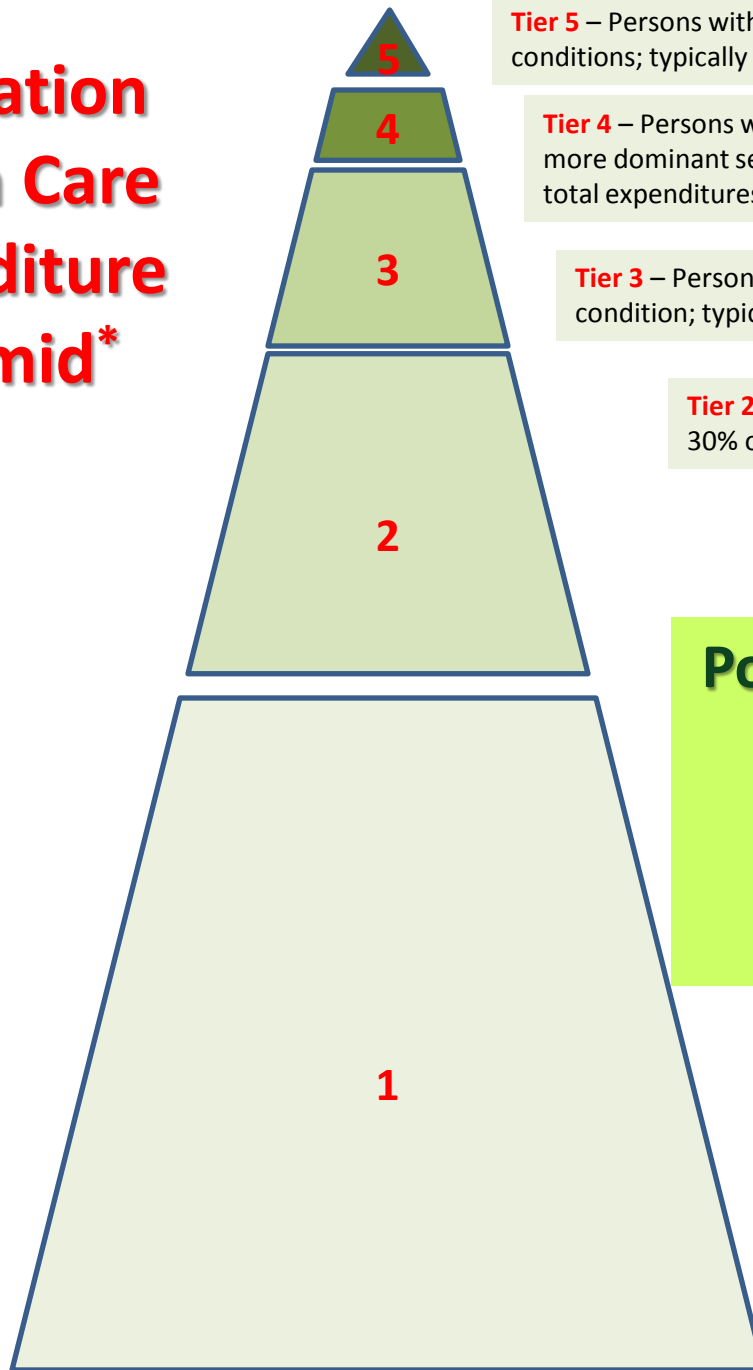
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Population Health Management Segmentation
- Tiers 1 & 2 – At risk (high risk)
- Tiers 3 & 4 – Rising risk
- Tier 5 – Keep healthy

Tier 1 – Generally healthy persons having acute illnesses or injuries; typically about 50% of the population and approximately 3% of total expenditures

*KWKizer. IPHI. 2013.

VALUE-BASED PAYMENT

HOW IS VALUE DEFINED?

Value = Quality/Cost

How is Health Care Value Defined?

$$V = \frac{A+TQ + FS + SS}{C}$$

- ➢ V = Value
- ➢ C = Cost/price
- ➢ A = Access or Accessibility
- ➢ TQ = Technical quality
- ➢ FS = Functional status
- ➢ SS = Service satisfaction

What is Value Based Payment?

➢ **"Payment methods designed to improve the quality and safety of care, spur provider efficiency, and reduce unnecessary spending."***

➢ **Multiple models of VBP**
  ✓ **Pay for performance**
  ✓ **Patient-centered medical homes**
  ✓ **Episode of care bundled payment**
  ✓ **Accountable care organizations and other capitation with quality safeguards**
  ➢ **Other**

***Adapted from Catalyst for Payment Reform**

How value-based care will change healthcare

September 26, 2013 | By Zack Budryk

Although the transition to value-based healthcare may be difficult, the end result of reduced costs and improved care and patient outcomes will be worth it, according to the president and CEO of the Cleveland Clinic.

Toby Cosgrove, M.D., in a blog post for the *Harvard Business Review,* described value-based healthcare as a "breakthrough that will change the face of medicine." He said the pay-for-performance model will lower healthcare costs, improve quality and outcomes and eventually affect every patient across the United States. But the road ahead is difficult, he said, as many oppose the plan, which offers less money than the current fee-for-service model.

"Whether providers like it or not, healthcare is evolving from a proficiency-based art to a data-driven science, from freelance physicians to hospital-employed physicians, from one-size-fits-all community hospitals to vast hospital networks organized around centers of excellence," Cosgrove wrote. "Each step in this process leads to another."

Toby Cosgrove, MD
CEO, Cleveland Clinic

The Emerging Value-Based Healthcare Economy

➤ **A central goal of health care reform generally and the triple aim specifically is to improve health care value.**

➤ **CMS aims to have 30% Medicare payments in value-based models of care in 2016, and 50% by 2018.**

➤ **Commercial payers aiming for 75% VBP by 2020.**

➤ **Providing more coordinated or integrated patient care and better managing the care of complex conditions and high-need patient populations is foundational to improving healthcare value - and survival in the emerging value-based healthcare economy.**

POPULATION HEALTH MANAGEMENT MINDSET

➢ **Caring for the individual takes place across a continuum and involves both medical and social factors**

➢ **A provider's responsibility no longer starts when patients walk in the door, nor does it end when they walk out**

➢ **Providers must have a deep understanding of their patients and their lives (clinical and otherwise)**

➢ **Facilities and clinical services must be tailored to the community's needs**

➢ **Collaborations and partnerships with community organizations are essential**

Business Imperatives for Population Health Management?

- ➤ **Clinical integration**
- ➤ **A strategic contracting strategy (at-risk contracts)**
- ➤ **Network optimization**
- ➤ **Operational efficiency/business restructuring**
- ➤ **Enabling infrastructure (data, data analytics, processes, personnel)**
- ➤ **Population-informed clinical management**
- ➤ **Collaborations and partnerships (clinical, community)**

WHAT IS "CLINICAL INTEGRATION" AND HOW IS IT ACHIEVED?

The Need for Integrated Care

- The primary business of health care today is managing chronic conditions
  - 75% of all health care expenditures are for managing chronic conditions
  - 9 chronic ailments account for nearly 60% of the rise in Medicare spending in recent years
- A typical Medicare patient has 4 chronic conditions and will see 7 doctors (including 5 specialists) in 5 different practices in a year*
- 40% of Medicare patients have 7 or more chronic conditions and are likely to see 11 physicians in 7 different practices in a year (and it is not especially unusual for a patient to see 15-20 different doctors, along with other caregivers, in a year)*
- The cost of care is closely correlated with the number of chronic conditions

NEJM **2007; 356:1130-1139**

What is Integrated Care? Multiple Definitions

➤ **The converse of fragmented care**

➤ **Kodner, et al (2002) - "a coherent set of methods and models on the funding, administrative, organizational, service delivery and clinical levels designed to create connectivity, alignment and collaboration within and between the cure and care sectors."**

➤ **WHO (2008) – "the organization and management of health services so that people get the care they need, when they need it, in ways that are user-friendly; achieve the desired results and provide value for money"**

➤ **Singer, et al (2010) - "patient care that is coordinated across professionals, facilities, and support systems; continuous over time and between visits; tailored to the patients' needs and preferences; and based on shared responsibility between patient and caregivers for optimizing health."**

➤ **The outcome or product of "clinical integration"**

Clinical Integration Defined*

"...comprehensive, coordinated programs of care management designed to improve quality and cost-effective care through use of IT systems, practice guidelines, care protocols, referral policies, quality benchmarks and performance assessment."*

*Federal Trade Commission, 2009

CLINICAL INTEGRATION: Form vs Function

➤ **"Integrated patient care" and "integrated delivery system" are not synonymous; full financial integration (common ownership) is not synonymous with nor necessary for clinical integration**

➤ *Integrated delivery system* **(IDS) is a generic term for a variety of organizational structures having varying degrees of administrative, financial and/or clinical integration;** *there is no standardized definition of what constitutes an IDS*

➤ **Integrated delivery systems do not necessarily produce integrated care – e.g., VA early 1990s, DOD-Military Treatment Facilities**

➤ **Achieving clinical integration is dependent on key organizational functionalities, not a particular structure; no single organizational form has been shown to be superior to others for achieving integrated care**

CLINICAL INTEGRATION: Core Functionalities

1. **A values-based shared vision of healthcare delivery that is patient-centric and population health focused**
   a. Succinctly says what the health system aspires to accomplish
   b. Rooted in explicitly stated core values
   c. Drives services to be culturally sensitive and respectful of individual preferences, needs and values
   d. Communicates an understanding that health outcomes are a shared responsibility
   e. Matches service delivery resources and methods to the needs of the population served

CLINICAL INTEGRATION: Core Functionalities

2. **A governance structure that establishes clear clinical goals and oversees implementation of policies and procedures for coordinating care across the continuum of services**

   a. **Clearly specified clinical aims facilitate performance assessment and sharing of performance data.**

   b. **Policies and procedures promote a seamless continuum of services that are provided in a cost-effective, clinically appropriate setting.**

   c. **Services arranged to minimize over- and under-utilization, facilitate information flow, and maximize the likelihood of safe, effective and timely service delivery.**

   d. **Care transitions designed to avoid disruptions in care.**

CLINICAL INTEGRATION: Core Functionalities

3. **Strong clinical leadership that drives integrated care and engages frontline caregivers**

   a. Builds and sustains trust in the organization; fosters transparency

   b. Nurtures collaboration and teamwork; promotes a culture of ownership and empowerment that supports innovation and learning

   c. Communicate the vision, tells 'the story'; serves as a bridge between the boardroom and the bedside; ensure values are incorporated into operational policies and practices

   d. Prioritizes goals and objectives; harmonizes and aligns competing agendas

   e. Forges partnerships and collaborations

   f. Engineers the change strategy and plan

   g. Finds needed resources

   h. Ensures appropriate recognitions and rewards are made to reinforce desired behaviors and outcomes; identifies what is valued

   i. Maintains focus on the vision; take the long-term view

   j. Is accountable

CLINICAL INTEGRATION: Core Functionalities

4. **Information management tools (e.g., EHRs, HIEs, data analytics) and other supporting infrastructure**
   a. Information technology tools (EHR, decision support, registries, HIE, scheduling, tele-health, social media, etc.)
   b. Human resources
   c. Physical space
   d. Care/disease management tools and competencies
   e. Clinical guidelines and care protocols, care review and adherence mechanisms
   f. Utilization and demand management programs
   g. Education and training to develop new competencies
   h. A broadly participatory and structured method to balance patient and provider freedom of choice with efforts to coordinate care and control costs
   i. Patient/family involvement mechanisms, shared decision making

5. **Team-based care**

    a.   **Multidisciplinary care teams for all but trivial conditions**

    b.   **Grounded on the science of teams**

    c.   **Nurtured and supported by leadership and the system**

CLINICAL INTEGRATION: Core Functionalities

6. **Methods of accountability, including a performance management system that consistently measures and monitors clinical performance**

    a. **Grounded on a solid understanding of the science of performance management**

    b. **Clearly defined performance goals and performance management goals**

    c. **Broad stakeholder involvement**

CLINICAL INTEGRATION: Core Functionalities

7. **Shared financial risks and rewards for clinical outcomes (some form of economic integration)**
   a. **Various strategies work**
   b. **Whatever the approach it must be understood by those who are involved**

ADDITIONAL OBSERVATIONS ABOUT ACHIEVING CLINICAL INTEGRATION

➢ **Achieving clinical integration is fundamentally about changing the culture of health care; it's more sociological than technological**

➢ **Changing healthcare culture requires new ways of thinking and new competencies**
  - ✓ Systems thinking, Collaboration and teamwork concepts, Quality management and process improvement science, Complexity theory, Population health management
  - ✓ Conceptualizing hospitals as cost centers instead of revenue centers
  - ✓ Viewing admissions as largely predictable and preventable (in chronic condition) and readmissions as system failures

➢ **Effective use of information management and clinical integration tools requires a culture of collaboration and continuous improvement.**

➢ **A strategic communications plan is an essential and integral component of the clinical integration strategy.**

THE MEDICAL NEIGHBORHOOD

- An evolving concept in how to operationalize clinical integration

- Primary care base

- Specialty care tailored to the needs of the community involved

TECHNOLOGY AND POPULATION HEALTH MANAGEMENT

THE TECNOLOGIC TOOLS FOR POPULATION HEALTH MANAGEMENT

- ➤ **Electronic health records, clinical decision support**
- ➤ **Health information exchanges (HIEs)**
- ➤ **Data analytics**
- ➤ **PCs/laptops and tablets**
- ➤ **Smart phones**
- ➤ **Telehealth**
- ➤ **Mobile apps**
- ➤ **Wearables**
- ➤ **Other**

Telehealth is emerging as a critical component of healthcare

Mobile's role in population health management
by Dan Bowman | July 18, 2016

BARRIERS TO USING INFORMATION TECHNOLOGY AND POPULATION HEALTH MANAGEMENT

➢ **Medicine's conservative culture**

➢ **Payment issues**

➢ **Reliability/accuracy problems**

➢ **Interoperability problems**

➢ **Privacy and information security issues**

➢ **Scope of practice laws in some cases**

➢ **Device design issues**

➢ **Long term patient engagement issues**

POPULATION HEALTH MANAGEMENT AND HEALTH FACILITY DESIGN

POPULATION HEALTH MANAGEMENT MINDSET

- Caring for the individual takes place across a continuum and involves both medical and social factors
- A provider's responsibility no longer starts when patients walk in the door, nor does it end when they walk out
- Providers must have a deep understanding of their patients lives
- Facilities and clinical services must be tailored to the community's needs
- Collaborations and partnerships with community organizations is essential

POPULATION HEALTH MANAGEMENT AND HEALTH FACILITY DESIGN:
How can health facilities be designed so that they:

➢ **Facilitate connectivity – with patients/families, health care providers, community-based organizations, social service organizations, others?**

➢ **Connect with people "where they are" – i.e., where they are living and in ways that health and health care are woven into the fabric of their lives**

➢ **Become an attractive destination to promote healthful living and wellness, health educations and healthy activities (not just treatment)**

➢ **Maximize the patient experience**

Health does not happen in the hospital or doctor's office; health happens in the fabric of people's lives.

POPULATION HEALTH MANAGEMENT AND HEALTH FACILITY DESIGN:
How can health facilities be designed so that they:

- ➢ **Supports multi-disciplinary team care**

- ➢ **Supports multi-modality communication between caregivers and patients/families**

- ➢ **Facilitates community engagement and community events**

- ➢ **Supports patient engagement through shared decision making, group visits, family education, etc.**

- ➢ **Supports care coordination and seamless transitions of care**