APPROACHING VALUE-BASED CONTRACTS AT AN ACADEMIC MEDICAL CENTER

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Medical Director, Network Integration and Ambulatory Quality

December 5, 2018
Financial Disclosures

• None
Learning Objectives

• Review NYU Langone Health’s approach to value-based contracts

• Describe new strategies to improve quality and care coordination

• Demonstrate opportunities to integrate data science into care delivery operations
Roadmap

Value-Based Contracts:

• Brief history lesson

• Current challenges

• NYU Langone Health approach

• Future direction
Why VBC’s?

Fee-For-Service Contracts

- Foundation of U.S. Health Care System
- Submit claims to insurer and paid according to negotiated fee schedule
- Paid the same amount regardless of necessity or outcome
- Separate fee schedules for professional services and facility fees
Physician Reimbursement History

• 1965 – Medicare Act Passed
  – Professional Services billed under Medicare Part B
  – “usual, customary, and reasonable” fees

• 1972 – Health Care Financing Administration (now known as CMS) put in charge

• 1989 – Congress establishes “resource-based relative value scale”
  • Still in place today
  • Thousands of codes with associated fee schedule
  • Administered by CMS, assisted by Relative Value Scale Update Committee (RUC) run by AMA

Physician Reimbursement History

• 1997 – Medicare Sustainable Growth Rate (SGR) created
  o Set growth limit not to exceed growth in GDP
  o If fees exceeded target, fees would be cut the following year
  o If fees fall below target, fees would be increased following year

• 2015 – 21.2% reduction based on SGR
  o 17 “doc fixes” over 12 years freezing fees

• 2016 - Medicare Access and CHIP Reauthorization Act (MACRA)

Facility Reimbursement History

• 1965 – Medicare Act Passed
  – Facility fees billed under Medicare Part A
  – “Hospitals be reimbursed for the reasonable costs they incurred”
  – Billed Medicare on a per-diem basis
  – Over the next 17 years, hospital payments increased 15.4% annually
  – In 1981, average length of stay for medical patient was 9.4 days

Altman S. “The Lessons of Medicare’s Prospective Payment System Show That The Bundled Payment Program Faces Challenges.” Health Affairs: September 2012
Facility Reimbursement History

- 1982 – Congress passes legislation establishing prospective payment system (PPS)
  - Capitates Medicare payment to facility based on Diagnosis Related Group (DRG) system
  - By 1986, average length of stay for medical patients down to 7.2 days

- 1994 – 16.9% operating margin on Medicare admissions

- 2010 - ~2.2% operating loss on Medicare admissions

Altman S. “The Lessons of Medicare’s Prospective Payment System Show That The Bundled Payment Program Faces Challenges.” *Health Affairs: September 2012*

How different is re-imbursement for the facility between various payers?
## Contribution Margins by Payer Source

### Teaching Service 2009-2010

<table>
<thead>
<tr>
<th>Payer</th>
<th>Contribution Margin per Patient</th>
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<tbody>
<tr>
<td>Private Insurance</td>
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<tr>
<td>Medicaid</td>
<td>$1,135</td>
</tr>
<tr>
<td>Medicare</td>
<td>$1,246</td>
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<tr>
<td>Self Pay</td>
<td>$(2,155)</td>
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<tr>
<td>Indigent</td>
<td>$(3,491)</td>
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</tbody>
</table>

Where has this model gotten us in terms of costs and outcomes?

- $3.3 trillion
- Per capita spend of $10,348
- 17.9% GDP

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>NHE, billions</td>
<td>$2,598.8</td>
<td>$2,689.3</td>
<td>$2,797.3</td>
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<td>$3,026.2</td>
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</table>

## Exhibit 9. Select Population Health Outcomes and Risk Factors

<table>
<thead>
<tr>
<th></th>
<th>Life exp. at birth, 2013&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Infant mortality, per 1,000 live births, 2013&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Percent of pop. age 65+ with two or more chronic conditions, 2014&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Obesity rate (BMI&gt;30), 2013&lt;sup&gt;d,e&lt;/sup&gt;</th>
<th>Percent of pop. (age 15+) who are daily smokers, 2013&lt;sup&gt;f&lt;/sup&gt;</th>
<th>Percent of pop. age 65+</th>
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<tr>
<td>Australia</td>
<td>82.2</td>
<td>3.6</td>
<td>54</td>
<td>28.3&lt;sup&gt;e&lt;/sup&gt;</td>
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<td>14.4</td>
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<td>Canada</td>
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<td>56</td>
<td>25.8</td>
<td>14.9</td>
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<tr>
<td>Denmark</td>
<td>80.4</td>
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<td>--</td>
<td>14.2</td>
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<td>2.4</td>
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<td>Switzerland</td>
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<td>3.9</td>
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<td>17.3</td>
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<td>United Kingdom</td>
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<td>3.8</td>
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<td>24.9</td>
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<td>17.1</td>
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<tr>
<td>United States</td>
<td>78.8</td>
<td>6.1&lt;sup&gt;e&lt;/sup&gt;</td>
<td>68</td>
<td>35.3&lt;sup&gt;d&lt;/sup&gt;</td>
<td>13.7</td>
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<tr>
<td>OECD median</td>
<td>81.2</td>
<td>3.5</td>
<td>--</td>
<td>28.3</td>
<td>18.9</td>
<td>17.0</td>
</tr>
</tbody>
</table>

<sup>a</sup> Source: OECD Health Data 2015

<sup>b</sup> Includes: hypertension or high blood pressure, heart disease, diabetes, lung problems, mental health problems, cancer, and joint pain/arthritis. Source: Commonwealth Fund International Health Policy Survey of Older Adults, 2014.

<sup>c</sup> DEN, FR, NETH, NOR, SWE, and SWI? based on self-reported data; all other countries based on measured data.

<sup>d</sup> 2012 * 2011

Value-Based Contracts (VBC)

“...alternative payment approaches to engage physicians and health care organizations willing to assume collective responsibility for the cost and quality outcomes of a specified population...”

• Key Tenets
  – A financial arrangement that fundamentally aligns financial outcome of organization/provider with the outcome of the patient(s)
  – Diverse array of contracts across payers, populations, with varying degrees of risk
    - Medicare MSSP/ACO
    - Episodic VBC (Bundles)
    - Commercial Contracts
    - Medicare Advantage Contracts
    - Medicaid Contracts
    - Upside-Only vs Downside risk

1 Nyweide D; Woolton L; Cuerdon T; et al. “Association of Pioneer Accountable Care Organizations vs Traditional Medicare Fee for Service With Spending, Utilization, and Patient Experience.” JAMA. 2 June 2015
VBC- Current Challenges

• Decreasing expenditures → Decreased revenue for certain stakeholders

• Who is in your population of attributed lives?

• How do we determine cost thresholds?

• How do you keep patients engaged in YOUR system

• How do you leverage EHR?

• How do you get external data?

• How do you address/fix Social Determinants of Health

• How do you message out to clinicians?

• How do you compensate physicians?

• Who defines quality/outcome metrics?

• How do you measure it?

EVALUATING THE QUALITY OF MEDICAL CARE

AYEDIS DONABEDIAN

Definition of Quality

The assessment of quality must rest on a conceptual and operational definition of what the "quality of medical care" means. Many problems are present at this fundamental level, for the quality of care is a remarkably difficult notion to define. Perhaps the best...
VBC- Current Challenges

- What defines quality?
  - Evidence-based Medicine / Guidelines
- Payers and regulatory agencies:
  - VBC contracts
  - CMS (ACO/APM, MIPS)
  - UDS (FQHC)
- Institutional Leadership
- Physicians
- External agencies:
  - Leapfrog
  - Vizient
  - USNWR

Mission vs Margin
Health Care Quality Improvement Prioritization: Keeping the Focus on the Union of Mission and Externalities

A focus only on an organization’s aspirational priorities (“Mission”) would neglect the contractual and regulatory imperatives of the environment in which the organization operates (“Externalities”). At the same time, an over-emphasis of externality success alone is short-sighted and neglects the broader purpose of many health care delivery organizations. Thus, a thoughtful discernment of the clinical quality improvement conditions that fall within the union of both Mission and Externalities can focus organizational resources for enduring success.

Source: Christopher R. Dale, MD, MPH

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society
VBC– Current Challenges

- Data Sources
  - EHR
  - Claims
  - Regional Health Information Exchange (Healthix)
  - Patient – reported data?

- Structured Data Limitation
  - Avoiding ‘documentation warfare’
  - Binary logic
  - Clinical richness more likely in unstructured data

- Attribution:
  - “This isn’t my patient”
  - Can be at the physician level or system level
  - Churn

- Denominator discrepancies
  - Age ranges
  - Disease states
  - Measurement calendar vs. clinical calendar

- Risk Adjustment / Risk Scores
  - Medical complexity → coding
  - Costs → re-basing
  - SDoH

- Non-Domestic Utilization
  - Increased cost
  - Care fragmentation
  - Data fragmentation
VBC – Current Challenges: Documentation Warfare

Metric: % of tobacco users counseled on cessation

Pexels.com

Pendleton, R. “We Won’t Get Value-Based Health Care Until We Agree on What “Value” Means.” Harvard Business Review. 27 February 2018
VBC – Current Challenges: 2 Canoes…

What about your remaining Fee-for-Service patients?
NYU Langone Health Approach to VBC
NYU Langone Health

Tertiary-Care Academic Medical Center

4 Inpatient Facilities

>190 Ambulatory Practices across 5 Boroughs
  – 7 Federally Qualified Health Centers

Hybrid Environment of Fee-For-Service and Value-Based Contracts
  – Organized as a Clinically Integrated Network (CIN)

Participate in Merit-based Incentive Payment System (MIPS)

EPIC Electronic Health Record
NYULH Approach - Clinically Integrated Network (CIN)

- 18 Shared Savings Contracts
- 420,259 Attributed Patients
- 71 Unique Quality Measures
- 150+ Payor Targets
- Over 80,000 gaps managed by department
NYULH Approach – Identify the “Team”

• Clinically Integrated Network (CIN)
  – Care Coordination
  – Pharmacists
  – Quality
  – Contracting
  – Data Analytics

• Information Technology (IT)
  – Reporting Team
  – Display Team
  – Application Team

• Operational Leads
  – Faculty Group Practice
  – Family Health Centers
  – Clinical Quality and Effectiveness

• Department of Population Health
  – Center for Healthcare Innovation and Delivery Science (CHIDS)
  – Predictive Analytics Unit
  – Research and grant funding
NYULH Approach

• Define the Objectives
  – Closing care gaps
  – Chronic disease management
  – Decreasing preventable ED visits and hospitalizations
  – Addressing Social Determinants of Health

• Strategies to Achieve Objectives
  – Telephonic care coordination
  – Centralized pre-visit planning
  – Extending care beyond the 4 walls
NYULH Approach – Care Coordination

Telephonic Care Coordination

• Successfully identifying high-risk patients

• ROI analysis signaling towards positive investment

• Low completion rate: ~17%

• Challenge becomes identifying high-risk patients' WHO WOULD BENEFIT from telephonic care coordination
NYULH Approach – Care Coordination

Features included in the preliminary model

- Age
- LOB
- Inpatient visits in the past 12 months
- Outpatient visits in the past 12 months
- ED visits in the past 12 months
- Chronic conditions recorded in Epic (0/1)
- # My Chart login in the past 30 days
- Previous engagement
- Days from previous call episode
- Days in the previous call episode
- # Calls and call length in previous call episode
NYULH Approach – Care Coordination

Model: Extreme Gradient Boosting

AUC: 0.633

Important Features:

- opcount
- Age
- login
- Days_from_prev
- edcount
- ipcount
- days_prev
-LOB_Commercial
- Minutes_prev

• Key outcome:
  Positive predictive value: 23.5 % i.e. we can increase from 17% to 23.5%
NYULH Approach – Centralized Pre-Visit Planning

• **<100% gap closure for patients seen in the office**
  – Hemoglobin A1c
  – Diabetic Eye Exam
  – Mammography
  – Colon Cancer Screening
  – Cervical Cancer Screening

• **Why?**
  – Time pressure
  – Not the primary reason patient seeing physician
  – Not the primary physician who manages medical problem
  – Alert fatigue / competing demands
  – Data inaccuracy

• **Solution:**
  – Create reliable data source
  – Embed within workflow
  – Offload site/physician with task

![Table of Gap Closures](image-url)
NYULH Approach – Centralized Pre-Visit Planning

- **Centralized RN’s to “pend” orders into visit encounters prior to visit**
  - RN’s access pre-charting activity ~1-7 days prior to visit
  - Providers open encounter during patient visit and can sign/delete orders
  - Post-visit, RN’s ensure patient has necessary appointments AND completes appointment
NYULH Approach – “Beyond the 4 Walls”

Solution

• Community Health Worker Program
• Primary Care + Program
Future Direction - Measuring provider wellness metrics such as “Work After Work”

- Measuring provider wellness metrics such as “Work After Work”
Future Direction – Natural Language Processing

COLONOSCOPY W OR W/O BIOPSY (Order 260512760)

Procedure: Colonoscopy
Indications: Therapeutic procedure for known colon adenoma

Impression:
- Two new 6mm base of cecum and giant 7 cm proximal cecal polyp, one small base of cecum 5 mm adenoma, one pedunculated 2 cm abutting the giant polyps in the cecum, removed using injection-lift and a hot snare. Resected and retrieved.

Recommendation:
- Repeat colonoscopy in 6 months for surveillance after piecemeal polypectomy.

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THE WALL STREET JOURNAL.

U.S. Edition • November 27, 2018 • Print Edition • Video

BUSINESS | HEALTH CARE | HEALTH

Amazon Starts Selling Software to Mine Patient Health Records

The move is the latest by a technology company to tap the health-care market

By Melanie Evans and Laura Stevens
Nov. 27, 2018 3:55 p.m. ET

Amazon.com Inc. is starting to sell software to mine patient medical records for information that doctors and hospitals could use to improve treatment and cut costs, the latest move by a big technology company into the health-care industry.

The software can read digitized patient records and other clinical notes, analyze them and pluck out key data points, Amazon says. The company is expected to announce the launch Tuesday.
Future Direction – External Data Integration

- Hadoop
- Epic
- MyChart
- Healthix

Health Maintenance
- New information from outside sources is available for reconciliation:
  - 01/01/1952: TETANUS VACCINATION
  - 01/01/2001: HERPES ZOSTER VACCINE
  - 01/01/2006: OSTEOPOROSIS SCREENING
  - 01/01/2006: PNEUMOCOCCAL VACCINE
  - 08/01/2018: INFLUENZA VACCINATION
Automated Hovering in Health Care — Watching Over the 5000 Hours
David A. Asch, M.D., M.B.A., Ralph W. Muller, M.A., and Kevin G. Volpp, M.D., Ph.D.

Future Direction – Social Determinants of Health

Exhibit 8. Health and Social Care Spending as a Percentage of GDP

Notes: GDP refers to gross domestic product.

The Root of the Problem: America’s Social Determinants of Health

Alex M. Azar II
Hatch Foundation for Civility and Solutions
November 14, 2018 Washington, D.C.

“Social determinants of health is an abstract term, but for millions of Americans, it is a very tangible, frightening challenge. How can someone manage diabetes if they are constantly worrying about how they’re going to afford their meals each week? How can a mother with an asthmatic son really improve his health if it’s their living environment that’s driving his condition? This can feel like a frustrating, almost fruitless position for a healthcare provider; who understands what is driving the health conditions they’re trying to treat, who wants to help, but can’t simply write a prescription for healthy meals, a new home, or clean air.”

Future Direction – VBC in Pharma

Oklahoma Signs the Nation’s First State Medicaid Value-Based Contracts for Rx Drugs
By Jennifer Reck  |  September 25th, 2018

On the heels of Oklahoma’s first-in-the-nation, value-based purchasing deal to improve adherence to an antipsychotic drug, the state’s Medicaid agency just signed its second value-based contract for a prescription drug used to treat serious bacterial skin infections.

CMS approves value-based drug payments in Michigan's Medicaid program
by Evan Sweeney  |  Nov 14, 2018 1:57pm
Future Direction – Is VBC Working?

Medicare Spending after 3 Years
of the Medicare Shared Savings Program

J. Michael McWilliams, M.D., Ph.D., Laura A. Hatfield, Ph.D., Bruce E. Landon, M.D., M.B.A., Pasha Hamed, M.A., and Michael F. Chernew, Ph.D.

The New England Journal of Medicine

SPECIAL ARTICLE

Table 2. Differential Changes in Medicare Spending from the Pre-Entry Period to 2015 for ACO Patients, as Compared with the Control Group, According to ACO Type. *

<table>
<thead>
<tr>
<th>Measure</th>
<th>Unadjusted Sample Mean in the Pre-Entry Period†</th>
<th>Differential Change (95% CI)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hospital-Integrated ACOs</td>
<td>Physician-Group ACOs</td>
</tr>
<tr>
<td>Total spending</td>
<td>-37 (-110 to 37)</td>
<td>-300 (-404 to -196)</td>
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<tr>
<td>Acute inpatient care</td>
<td>-1 (-44 to 41)</td>
<td>-104 (-150 to -59)</td>
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<td>Outpatient care</td>
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<td>Independent office</td>
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<tr>
<td>Hospice</td>
<td>-2 (-10 to 6)</td>
<td>-6 (-21 to 9)</td>
</tr>
</tbody>
</table>

McWilliams J; Hatfield L; Landon B; et al. “Medicare Spending after 3 Years of the Medicare Shared Savings Program.” NEJM. 2018;379:1139-49: 5 Sept 2018
Future Direction – The 2 Canoes…

**New Marketplace**

**Time to Sink the Two-Canoe Argument**

*Article · March 27, 2018*

- Culture > Strategy
  - Know your institutional environment

- Clear mission and objectives
  - Mission vs Externality

- Identify ALL stakeholders early and create **collaborative** environment

- Relentless commitment to transparency and agility
The Future of VBC’s are....
THANKS!

Harry.Saag@nyulangone.org
@DrHarrySaag