

Disclosures

- ▶ I, CDR Bisci, nor any member of my immediate family, has any relevant financial relationships with commercial interests to disclose.
- ▶ I, CDR Bisci, have no actual or potential conflict of interest in relation to this program/presentation.

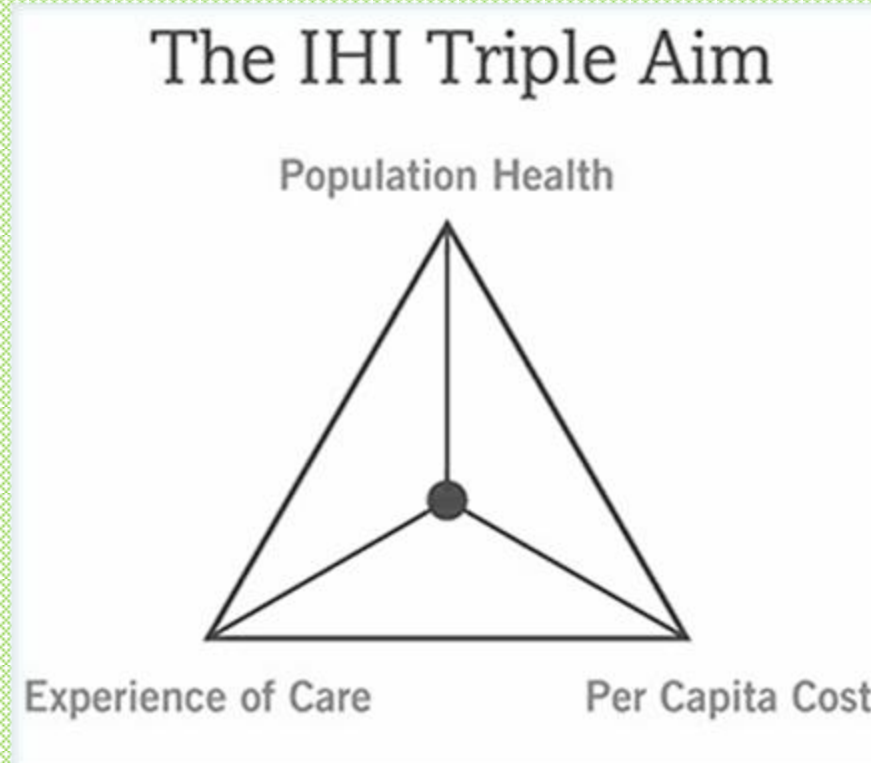
The Triple Aim in Healthcare:

improve quality, decrease cost,
improve population health

CDR Sherri Bisci

Sherri.Bisci@cms.hhs.gov

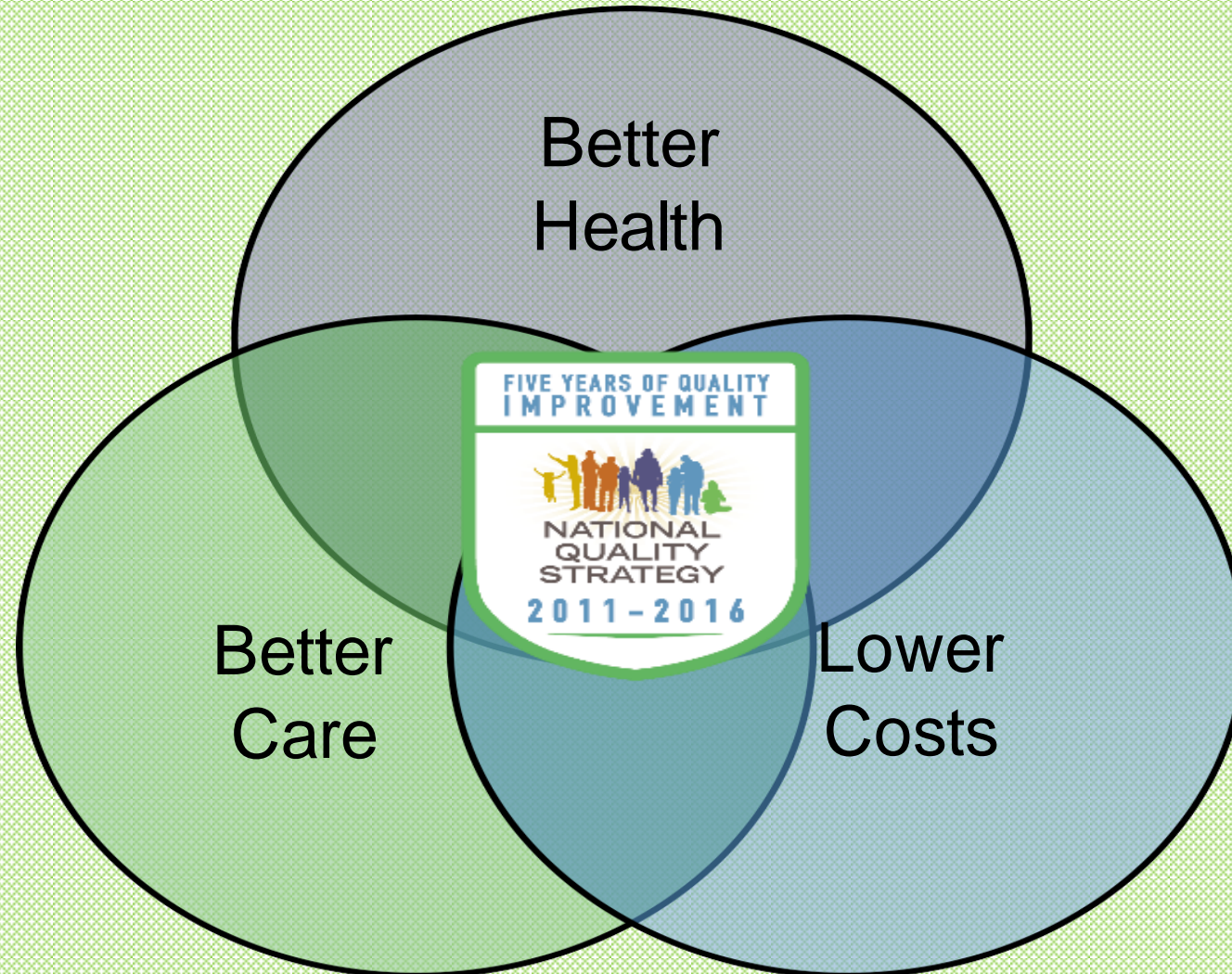
Institute for Healthcare Improvement: Triple Aim



In March of 2010, the Patient Protection and Affordable Care Act (ACA) was passed and:

- Required the Secretary of HHS to establish a National Strategy for Quality Improvement in Health Care, aka the National Quality Strategy (NQS)
 - HHS agencies have quality strategy plans to meet the NQS triple aim goals
 - (<https://www.ahrq.gov/workingforquality/reports/agency-specific-progress.html>)
- Created the CMS Innovation Center to test “innovative payment and service delivery models to reduce program expenditures ...while preserving or enhancing the quality of care”
 - <https://innovation.cms.gov/About>
- Created the Medicare Shared Savings Program (MSSP) Accountable Care Organizations

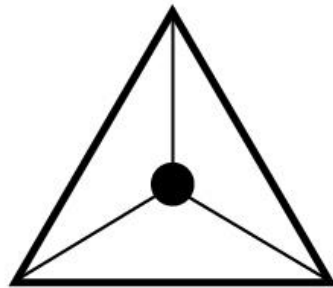
The National Quality Strategy Aims



The Institute for Healthcare Improvement Triple Aim and NQS

Three Aims (<https://www.ahrq.gov/workingforquality/events/past-webinars.html>)

Improving the patient experience of care (including quality and satisfaction)



IHI *Triple Aim*

Improving the health of populations

Reducing the per capita cost of health care

Better Care: Improve overall quality by making health care more patient-centered, reliable, accessible, and safe



Healthy People/Healthy Communities: Improve the health of the U.S. population by supporting proven interventions to address behavioral, social, and environmental determinants of health

Affordable Care: Reduce the cost of quality health care for individuals, families, employers, and government

The synonymous triple aim language:

- ▶ Improve quality, decrease cost, improve population health *or*
 - ▶ Better care, healthy people and communities, affordable care (NQS) *or*
 - ▶ Improve the patient experience of care, reduce per capita healthcare costs, improve the health of populations (IHI)
- ▶ Now generally referred to as “value based care”

Value vs. Volume (or Quality vs. Quantity)

Fee for Service (volume)

- ▶ Clinicians rewarded to perform as many services as possible
- ▶ Results in duplication of services
- ▶ Does not take quality of care or patient outcomes into account
- ▶ No incentive to coordinate patient care

Value based care

- ▶ Incentivize providers / tie provider reimbursement to:
 - ▶ care quality
 - ▶ cost of care
 - ▶ improving the health of a provider's or healthcare organization's population

The Healthcare Industry Push Towards Value

- January of 2015, HHS announces goals of tying:
 - 30% of fee-for-service Medicare payments to quality/value using alternative payment models (APMs), such as Accountable Care Organizations (ACOs) or bundled payment arrangements by the end of 2016
 - and 50% of all fee-for-service payments to quality and value via APMs by the end of 2018.
- By March of 2016, the 30% goal was already met.
 - <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2016-Fact-sheets-items/2016-03-03-2.html>
- In April of 2017, Anthem CEO, indicated 58% of their reimbursements are linked to value-based care models. <https://www.forbes.com/sites/brucejapsen/2017/04/27/anthem-blue-cross-nears-60-value-based-care-spend/#4dede7796fe7>

Alternative Payment Models (APMs)

- ▶ **Alternative Payment Models** = New, innovative approaches to delivering and paying for medical care that incentivize quality and value. Over 25 different APMs.
 - ▶ Bundled payment initiatives - single payment to providers or health care facilities for all services to treat an episode of care. Goal is to encourage coordinated care among different providers and settings
 - ▶ Accountable Care Organizations: are groups of doctors, hospitals, other healthcare providers, post-acute providers, that voluntarily join together to provide coordinated, high quality care
 - ▶ e.g., Medicare Shared Savings Program - 480 Accountable Care Organizations serving 9 million beneficiaries (16% of total number of individuals enrolled in Medicare = 55 million)

Accountable Care Organizations

- An ACO is **NOT** an HMO. Patients can go to any doctor / health care facility they choose
- Patients don't join an ACO, providers do
- Medicare ACO providers are still reimbursed via fee-for-service, however financial incentives exist to decrease the cost of care and improve the quality of care
- There are many commercial ACOs or “value-based contracts” (BCBS, Aetna, Cigna, United, Anthem)
- Many healthcare organizations participate in both Medicare and commercial ACOs

How ACOs work

- ACO is assigned beneficiaries / patients
- ACOs earn incentive payments by meeting per capita benchmarks and therefore creating savings
- ACOs use Care Coordination teams to focus on their patients/areas of care that are most expensive (ie. patients with multiple chronic conditions, frequent ER users, frequent re-admits, Home Health Care or skilled nursing facilities spending)
- ACOs use data to examine and predict expenditures trends, stratify patients based on health risk, identify areas for improvement both at a systemic level and a provider level, and ensure quality of care
- ACOs required to report on quality measures annually (MSSP ACOs report on 31 quality measures every year) and results are tied to financial incentives

Other Alternative Payment Models examples

- ▶ **Bundled Payments for Care Improvement Initiatives (Models 1-4)**
- ▶ **Comprehensive Primary Care + Initiative**
 - ▶ also includes commercially insured patients
(fast facts: <https://innovation.cms.gov/Files/x/cpci-fastfacts2016.pdf>)
- ▶ **Vermont All-Payer Model:** Medicare, Medicaid and commercial payers incentivize care quality and coordination; began in 2017
- ▶ **Comprehensive Care for Joint Replacement Model:** hip and knee replacements; mandatory for 791 hospitals in 67 geographic regions
- ▶ **Comprehensive ESRD Care:** ESRD beneficiaries less than 1% of Medicare beneficiaries but account for over 7% of Medicare spending

Alternative Payment Model commonalities

- ▶ Fundamental change in how care is provided and funded
- ▶ Financial incentive for providers to account for care quality and cost
- ▶ Emphasis on care coordination
- ▶ Most use certified EHR technology
- ▶ Most have quality measure criteria
- ▶ Most use CMS claims data and other data to guide operations
 - ▶ Clinical decision support (evidence based medicine)
 - ▶ Analyze expenditures (identify areas to cut down on waste)
 - ▶ Analyze patient population (stratify low risk to high risk patients)

Data in Healthcare

How is data used to meet the triple aim goals?

Data

- ▶ Data commonly used by health care organizations (HCOs)
 - ▶ Claims data
 - ▶ EMR/EHR data
 - ▶ Admission, Discharge, Transfer (ADT) reports <http://www.patientping.com/>
- ▶ Less commonly used, but available
 - ▶ Research data
 - ▶ Genetic data - (Geisinger Health System project with over 100,000 patients)
 - ▶ <http://www.prnewswire.com/news-releases/geisingers-mycode-genomic-study-hits-100k-recruits-goal-now-set-at-250k-300256640.html>
- ▶ ***Data needs to be actionable to be effective***

How is the Data Used?

- Healthcare organizations use data to:
 - Track expenditures (which area/group of patients are we spending the most?)
 - Track providers' patient panels (annual physical, flu shots, follow-up care compliance, etc.)
 - Identify quality measures care gaps (i.e. fall risk screening, diabetic eye exam, colorectal cancer screening, depression screening, breast cancer screening)
 - Develop/analyze patient “risk scores” (diagnosis, chronic conditions, age, and gender)
- **Predictive analytics / predictive modeling algorithms**
 - Based on patient demographics and processed claims, models/algorithms “predict” probability of ER admittance, disease progression, inpatient hospitalization, and forecast medical utilization for whole populations, groups and subgroups.
 - John Hopkins ACG (Adjusted Clinical Groups) <https://www.hopkinsacg.org/#advantage>

Actionable Data example – patient panel dashboard

Individual	DOB	Gender	# of Admissions	# of Re-admissions*	# of ER Visits	# of Office Visits	Highest Paid Diagnosis	Total Paid	Risk Score
Please schedule an appointment with the following Medicare beneficiaries immediately and every month thereafter									
DOE, JOHN	01/01/1900	M	1	0	4	111	Retinal Disorders	\$ 73,126.39	3.57
DOE, JOHN	01/01/1900	F	2	0	0	28	Colorectal Cancer	\$ 34,951.71	1.15
DOE, JOHN	01/01/1900	F	0	0	0	25	Cataract	\$ 10,453.13	1.05
Please schedule an appointment with the following Medicare beneficiaries as soon as possible and every 3 months thereafter									
DOE, JOHN	01/01/1901	F	0	0	2	58	Rheumatoid Arthritis	\$ 59,634.61	2.15
DOE, JOHN	01/01/1901	M	1	0	0	41	Osteoarthritis	\$ 55,896.64	2.10
DOE, JOHN	01/01/1901	M	0	0	0	28	Multiple Myeloma	\$ 26,386.24	1.90
Please schedule an appointment with the following Medicare beneficiaries every 6 months									
DOE, JOHN	01/01/1901	F	0	0	1	41	Hemias	\$ 20,495.17	1.57
DOE, JOHN	01/01/1901	F	0	0	1	21	Osteoarthritis	\$ 25,782.92	1.47
DOE, JOHN	01/01/1901	F	1	0	3	15	Gall Bladder Diseases	\$ 10,521.51	1.46
DOE, JOHN	01/01/1901	F	0	0	0	48	Misc Cancers	\$ 8,122.01	1.41
DOE, JOHN	01/01/1901	F	0	0	0	42	Musculoskeletal Disorders	\$ 13,569.09	1.26

Beneficiary Expenditures - Part A

• Why are our beneficiaries admitted?

GBHA Medicare Part A- Principal Diagnosis FY 2015 YTD

Principal Diagnosis Code	Principal Diagnosis Description	Claim Count	Part A Claim Payment Amount
0389	SEPTICEMIA NOS	183	\$ 2,680,324.20
5990	URIN TRACT INFECTIONNOS	118	\$ 1,013,638.94
V5789	REHABILITATION PROC NEC	118	\$ 2,104,466.02
486	PNEUMONIA, ORGANISM NOS	100	\$ 805,087.91
71536	LOC OSTEOARTH NOS-ULEG	95	\$ 1,610,679.28
4280	CONGESTIVE HEART FAILURE NOS	74	\$ 625,164.33
42731	ATRIAL FIBRILLATION	69	\$ 669,798.04
41071	AC MYOCARDIAL INFARCT,SUBENDO INFARCT.INITIALEPIS	65	\$ 965,977.61
43491	CEREBRAL ART OCCLUSION NOS W CEREBRALINFARCTION	65	\$ 544,258.94
49121	OBSTRUCTIVE CHRONIC BRONCH, W/ ACUTE EXACERBATION	60	\$ 462,420.18
5849	ACUTE RENAL FAILURE NOS	48	\$ 341,012.84
6826	CELLULITIS OF LEG	47	\$ 374,332.85
82021	INTERTROCHANTERIC FX-CL	44	\$ 748,261.30
71535	LOC OSTEOARTH NOS-PELVIS	42	\$ 705,847.61
4359	TRANS CERES ISCHEMIA NOS	41	\$ 214,991.65

Flint, MI water crisis example

- “How big data and algorithms are slashing the cost of fixing Flint’s water crisis”
 - <https://theconversation.com/how-big-data-and-algorithms-are-slashing-the-cost-of-fixing-flints-water-crisis-62525>
 - U of Michigan professors and U of M Data Science Team aggregated data of over 20,000 water samples covering over 10,000 Flint homes, records of city’s water service lines, and water usage records
 - Developed algorithms and statistical models to determine which homes were most likely to have lead in their pipes with over 80% accuracy
 - Used information to focus the limited resources of the line replacement teams

Geisinger Health System

- **Geisinger Health System Springboard Health**
 - Fresh Food Pharmacy <http://www.springboardhealthy.org/#FreshFoodPharmacy>
 - <http://www.npr.org/sections/thesalt/2017/05/08/526952657/fresh-food-by-prescription-this-health-care-firm-is-trimming-costs-and-waistline>
 - Geisinger Health System identifies individuals with HbA1c levels greater than 8.0 and provides them with a “prescription” to be enrolled in the fresh food pharmacy
 - The fresh food pharmacy provides enough fresh food for at least one meal a day, five days per week, for the entire family
 - Early results appear promising

Takeaways

- Delivery of healthcare is changing – value over volume
- Care coordination and quality of care is more important than ever before
- Data is crucial, **if** it's analyzed well and is presented in a digestible way for clinicians / public health professionals