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### Linking Registries, EHRs and Comprehensive Care Programs to Drive Quality in Cancer Care

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## Charting a New Course for a System in Crisis



Institute of Medicine 2013 Care often is not patient-centered, many patients do not receive palliative care to manage their symptoms and side effects from treatment, and decisions about care often are not based on the latest scientific evidence.

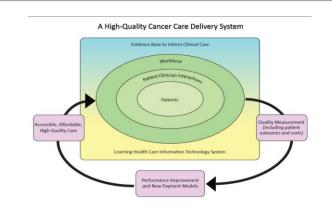
## IOM Recommendations to improve the quality of cancer care

•A national quality reporting program with meaningful quality measures

•Improve the affordability of cancer care by leveraging existing efforts to reform payment and eliminate waste

•Reimbursement aligned to reward affordable, patient-centered high quality care

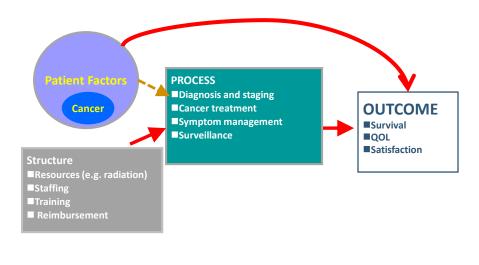
### IOM highlights importance of quality measurement and new payment models



Delivering on IOM Recommendations to Chart a New Course will require quality measurement to be used for accountability

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## Framework for Measuring Quality of Care





## Charting a new course for quality cancer care

Surveillance

**Quality Improvement** 

Accountability

To make progress on the quality and affordability of cancer care will require that we shift quality measurement from efforts focused largely on surveillance and QI to **accountability** 

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### Data Sources

Payer	Practice	Hospital
<ul> <li>Claims data</li> <li>Pharmacy data</li> <li>Data collected for administrative purposes – e.g. pre- authorization</li> </ul>	<ul> <li>EHR data</li> <li>Billing data</li> <li>Medical record data (paper)</li> </ul>	<ul> <li>EHR data</li> <li>Billing data</li> <li>Medical record data (paper)</li> <li>Registry data</li> </ul>

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#### Data Elements included in Data Sources for Cancer Quality Measurement

	Cancer Registry	Claims	Medical Record	Patient Self- report
<b>Diagnosis of cancer</b>	Yes	Yes	Yes	Yes
Timing of diagnosis	Yes	No	Yes	Yes
Tumor size	Yes	No	Yes	No
Stage	Yes	No	Yes	No
Patient refusal	No	No	Yes	Yes
Comorbidity	No	Yes	Yes	Yes
Contraindications	No	No	Yes	?

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### Utility of Administrative Data for Measure Quality of Cancer Care and Other Outcomes

	Definition	Availability
Case Identification	Diagnosis of cancer	Cannot differentiate incident vs. prevalent
Disease characteristics	Stage, biomarkers	Not available (except ICD-9 codes for mets)
Comorbid conditions	Chronic health conditions	Medical claims
Diagnostic testing	Imaging, lab tests	Medical claims
Treatment	Infusions, oral medications	Medical and pharmacy data
Hospitalizations	Admissions	Medical claims
Providers	Practices, facilities	Medical claims provider ID
Cost	\$ paid for service, episode	Medical claims
Outcomes	PFS, OS	Not available
Patient preferences	PROs	Not available

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7

## Potential Methods of Attribution

Payer	Practice	Hospital
<ul> <li>Provider with most visits</li> <li>Provider with any visits</li> <li>Provider with most chemo billed</li> <li>Provider with any chemo billed</li> <li>Highest cost provider</li> </ul>	<ul> <li>Any patient with visit within last year</li> <li>Any patient with chemotherapy in last year</li> <li>New patients in last year</li> </ul>	<ul> <li>Cancer registry</li> <li>Any admission</li> <li>Any chemotherapy billed</li> <li>Most chemotherapy billed</li> </ul>

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Physician and Practice Characteristics	No. (%)	Percentage o Medicare Patie Assigned			f Total Visits Assigned Patients	Percentage of and Management with Assign	Visits That Were		Billed That Were
		median	IQR	median	IQR	median	IQR	median	IQR
All Community Tracking Study physicians	8604 (100)	12	2-37	20	360	40	17-77	205	6-648
Specialty§									
PCPs	5527 (45)	39	14-57	62	23-77	77	56-87	467	42-1293
All medical specialists	1406 (25)	6	1-14	10	1-28	28	15-49	186	2-477
Oncologists	97 (2)	28	21-34	62	53-70	66	56-74	1616	619-6637
Cardiologists	213 (4)	7	3-13	17	9-32	34	21-52	945	198-1591
Neurologists	114 (2)	7	4-12	14	7-21	21	15-31	205	23-277
Dermatologists	88 (2)	7	4-10	10	7-17	15	12-21	233	80-227
Surgeons	1261 (23)	9	4-14	14	7-23	18	10-27	136	12-147
Emergency medicine physicians	390 (6)	0	-	0	<del></del>	6	0-16	0	_
Practice size and type									
1 or 2 physicians	3092 (36)	16	4-46	26	7-69	46	17-83	311	18-838
3–10 physicians	1696 (22)	11	4-27	20	7-50	31	16-68	323	27-793
11-50 physicians	633 (8)	9	2-34	17	4-60	33	17-74	333	16-1007
≥51 physicians	279 (3)	11	1-35	23	2-63	46	18-75	228	1-994
Medical school	555 (7)	9	2-22	15	2-42	28	15-60	61	2-154
All other	2349 (25)	8	0-37	13	0-59	51	17-79	40	0-341
PCPs only¶	5527 (45)	47	20-68	70	33-86	87	68-94	541	53-1458

\* The numbers of physicians are unweighted, and all percentages are weighted. Assignments of patients to individual physicians were made using the plurality provider algorithm, first allowing for assignments to any physician and then allowing for assignments to only infrave are physicians. Medians were based on Medicare claims billed by 8604 Community Tracking Study physicians unvey responders for J.79 million Deneficianes they traced in 2000 and were weighted with Community Tracking Study survey weights. We exclude beneficiaries the survey responders is reliaive to any physician and then allowing for assignment to only were weighted with Community Tracking Study survey weights. We exclude beneficiaries the reserve of a settive value units, derived from the Physician of the Schedul tables of the Centers for Medicare and Medicaid Services."
Charges are reported a reliaive valuation and management visits that were with assigned patients were based on the subgroup of 7830 Community Tracking Study physicians. See analytic and management visits that were with assigned patients were based on the subgroup of 7830 Community Tracking Study physicians. Second as reliaive were hysicians devices."
Specially data were missing for 20 physicians. Second physicians devices are deviced by second as reliaive of physicians. Second physicians devices are deviced by second as the special speciality and physicians.
Specially data were missing for 20 physicians. Second physicians devices are deviced by second physicians.
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Specially data were missing for 20 physicians.



### Initiatives to Measure Cancer Care Quality



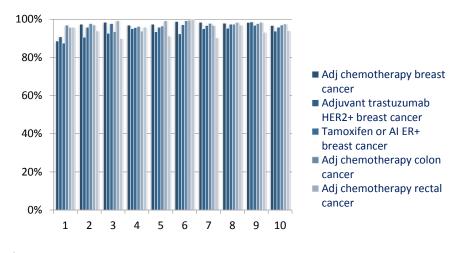
11

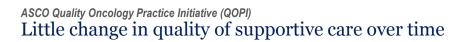
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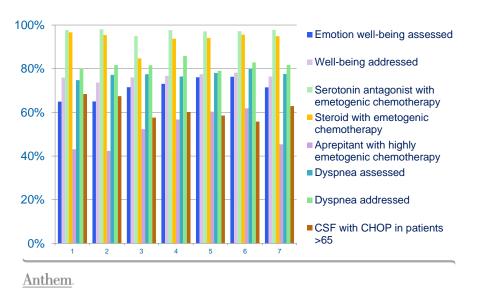
### **Existing Cancer Quality Measures**

	Drococc	Outcome	NQF
	Process Measures	Measures	Endorsed
JCAHO	5	0	0
RAND QATOOL	117	0	0
RAND ASSIST	41	0	4
Commission on Cancer	8+	0	6
ASCO QOPI <sup>®</sup>	134	16*	43
ΑΜΑ ΡΟΡΙ	21	0	16
PPS Exempt Cancer Centers	3†	2	5
Dartmouth Atlas	0	11*	0
OSHPD	0	2	0
30-day post-surgical mortality	0	7	1

#### ASCO Quality Oncology Practice Initiative (QOPI) Very high adherence to adjuvant therapy quality indicators







# Cancer surgery outcomes vary substantially by hospital volume

#### Adjusted Perioperative Mortality and Survival for Cancer Surgery Hazard of Death at Lowest Volume vs. Highest Hospitals

	Adjusted Perioperative	Adjusted 5-Year Survival	Adjusted 5-Year Conditional Survival <sup>*</sup>
Cancer Type	Mortality		
Colon	1.23	1.12	1.10
Esophagus	1.76	1.34	1.29
Liver	2.11	1.21	1.08 <sup>+</sup>
Lung	1.31	1.09	1.06
Pancreas	2.26	1.22	1.13
Rectal	1.33	1.18	1.17
Stomach	1.43	1.13	1.10
<sup>†</sup> NS			

Bilimoria K Y et al. JCO 2008;26:4626-4633

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#### Gaps in cancer quality measures

### Lack of variability on many of the NQF endorsed measures of quality limits utility of measures for public reporting or P4P

- Many measures are not be specific enough (e.g. any adjuvant therapy)
- Low scores often represent data problems public reporting of these measures would lead to resources being spent on data infrastructure/quality

#### Few validated outcome measures

#### Few measures of overuse

No measures of patient experience



### Our model: a Quality Initiative

The Cancer Care Quality Program provides a framework for rewarding high quality cancer care

Oncologists participating in the Cancer Care Quality Program will receive additional payment for treatment planning and care coordination when they select a treatment regimen that is on Pathway

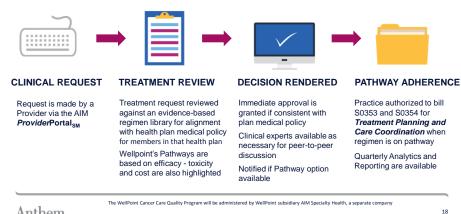
Web-based platform with decision-support for Quality Initiative also improves efficiency of review against Health Plan Medical Policy and decreases administrative burden for practices



#### www.cancercarequalityprogram.com

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### **Cancer Care Quality Program** administered by AIM Specialty



## Clinical data entered by practice staff through web portal

patient          Patient       Image: Control Request         Selects drugs in regimen       4 Perse etter Patient Chical batals. Data will be automatically saved in the system.         Enters clinical info:       • Cancer type         • Disease stage       Biomarkers         • Performance Status       • Line of therapy         • Line of therapy       • Line of therapy	Practice identfies	Alm		@ ProviderPorta
<ul> <li>Selects drugs in regimen</li> <li>Enters clinical info:</li> <li>Cancer type</li> <li>Disease stage</li> <li>Biomarkers</li> <li>Performance Status</li> <li>Line of therapy</li> </ul>	patient	Order Request		Logo
Selects drugs in regimen Enters clinical info: • Cancer type • Disease stage • Biomarkers • Performance Status • Line of therapy				Step: (12)3(4)5(6)
<ul> <li>Cancer type</li> <li>Disease stage</li> <li>Biomarkers</li> <li>Performance Status</li> <li>Line of therapy</li> </ul>	-	Refresh Save and Exit Joe Demo - Male		
Disease stage     Biomarkers     Performance     Status     Line of therapy	Enters clinical info:	Enter Diagnosis		
Biomarkers     'KDR: 182.9 Maigrant recepter of breachus and lung, unspecified site     Performance     Status     Line of therapy	Cancer type	* Pathology:	Select Pathology	
Performance     Status     Line of therapy	<ul> <li>Disease stage</li> </ul>	* Stage:	Select Stage	
Status  •Line of Theatment  •Line of Theatment  • I the of Theatment  • I theatment  • I theatment  • I theatment  • I theatment  •	<ul> <li>Biomarkers</li> </ul>	* ICD9:	162.9 Malgnant neoplasm of bronchus and lung, unspecified site	
• Line of therapy	Performance	Performance Status:		¥
	Status	* Line of Treatment:	Select Line of Treatment	
If Previous	<ul> <li>Line of therapy</li> </ul>			
44 Previous				
		46 Previous		Save and Continue
Anthem Note: AIM Specialty Health maintains the confidentiality of all protected health information. All data displayed is fictional and any resemblance to real persons is ourely coincidental. Proprietary and Confidential	A1	Note: AIM Specialty Health maintains the confidenti	ality of all protected health information.	Proprietary and Confidential. 2014

## Clinical detail: stage and biomarkers

lere we will collect	Enter Diagnosis		
nore detailed nformation	* Pathology:	Adenocarcinoma - Invasive Lobular Carcinoma	1
egarding your atient's diagnosis	* Stage:	IIA	· •
atient s diagnosis	* ICD9:	174.4 Malignant neoplasm of upper-outer quadrant of female breast	•
lease confirm:	* Bio-Markers & Tumor Characteristics:		
Specific cancer type	Estrogen Receptor:	Positive	· •
Disease stage	HER2/NEU:	Negative	· •
Bio-Markers as	Menopausal Status;	Post-Menopausal	· •
needed Line of	OncotypeDx @ Breast	Not reported	· •
treatment	Progesterone Receptor:	Negative	· •
Performance Status	* Line of Treatment:	Adjuvant/ Post-operative	· 🖌 0
	* Performance Status:	1 - Symptoms present but ambulatory without restriction	×





## Pathway option available

	Consider Alter	native Regimens			
		assed regimens available for the patient are below. Please consider selecting a Pathway ( rio. To proceed with the current regimen click "Save and Continue".	Ə ) regimen that	meets the pati	ent
based on the Information you Intered, you may		Name	Line of Treatment	Stages	Actions
e offered an	Seed 0	AC (Adriamycin (Doxonubicin) and Cyloxan (Cyclophosphamide) every 2 weeks), followed by Taxol (Pacifizael) Weekly (Adjuvanti Atler Surgery)	Adjuvant/Post- operative	L IA, IB, IA, IIB, IIC	View Details
lternative Pathway egimen. By	✔ Select ②	AC [Adriamycin (Doionubicin) and Cytoxan (Cyclophosphamide) every 3 weeks] (Adjuvant) After Surgery) (W)	Adjuvant/Post- operative	L IIA, IIB, IIA, IIB, IIC	View Details
hoosing a Pathway egimen, your	🖌 Seed 📀	AC (Adriamycin (Dororubicin) and Cytoxan (Cyclophosphamide) every 3 weeks), Followed by Taxol (Pacifizer) Weekty (Adjuvanti After Surgery) (W)	Adjuvant/Post- operative	l IA, IB, IIA, IIB, IIC	View Details
ractice will be ligible for	✓ Seed ②	TC [Taxotere (Docetaxel) and Cytoxan (Cyclophosphamide)] (AdjuvantiAfter Surgery )	Adjuvant/Post- operative	I, IIA, IIB, IIA, IIB, IIC	View Details
enhanced	✓ Select	AC (Adriamycin (Doronublicin) and Oytoxan (Cyclophosphamide) every 2 weeks), followed by Taxol (Paditaxel) every 2 weeks (Adjuardi After Surgery)	Adjuvant/Post- operative	L IIA, IIB, IIA, IIB, IIC	View Details
reimbursement	✓ Select	AC (Advamycin (Doxonubicin) and Oytoxan (Cyclophosphamide) every 3 Weeks), followed by Taxofere (Docetaxel) every 3 Weeks (Adjuvanti After Surgery)	Adjuvanti Post- operative	L IIA, IIB, IIA, IIB, IIC	View Details
Choose "View Details" for	✓ Seect	Anmider (Anastrazole) after Surgery (Adjuvant, Stage (-HI)	Adjuvanti Post- operative	l, IIA, IIB, IIA, IIB, IIC	View Details
additional nformation.	✓ Select	Aromasin (Exemestane) after Initial Tamosfen (AdjuvantiAfter Surgery, Stage (HII)	Adjuvant/Post- operative	L IIA, IIB, IIA, IIB, IIC	View Details
inormation.	✔ Seed	CEF (Cytoxan (Cyclophosphamide), Epinubicin, Fluorouraci (S-FU)) (Adjuvanti After Surgery)	Adjuvant/Post- operative	L IA, IB, IIA, IB, IIC	View Details
	✓ Select	CIRF [Cytoxan (Cyclophosphamide), Methobrevale and Fluorouracii (5-FU)] (Adjuvanti After   Surgery)	Adjuvanti Post- operative	LIA IB, IA, IIB, IIC	View Details

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### Not perfect... but a way forward

#### **Quality Measures**

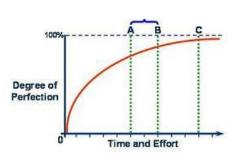
- Pay for performance based on pathway adherence
- Reporting to practices will include adherence to % of evidence-based regimens, NQF endorsed measures (e.g. hospice), hospitalizations

#### **Data Sources**

- Clinical data captured via portal
- Medical claims
- Pharmacy claims

#### Attribution

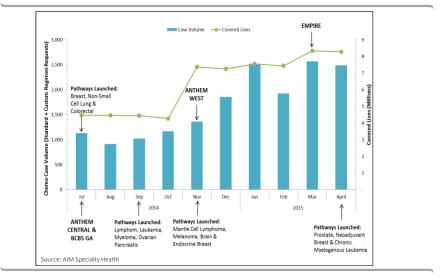
• Practice self identifies when registers patient with Program



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## Program growth since July 2014



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## Where do we go from here?



A national designation awarded by Blue Cross and Blue Shield companies to hospitals and medical facilities that have demonstrated expertise in delivering quality healthcare in the areas of bariatric surgery, cardiac care, complex and rare cancers, knee and hip replacement, spine surgery and transplants. The designation is based on objective, evidence-based selection criteria established in collaboration with expert physicians and medical organizations.

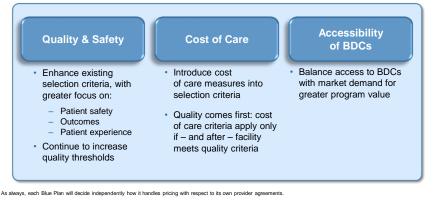
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24

## Refining Program to Meet Market Needs

The Blues are responding with a value-based approach

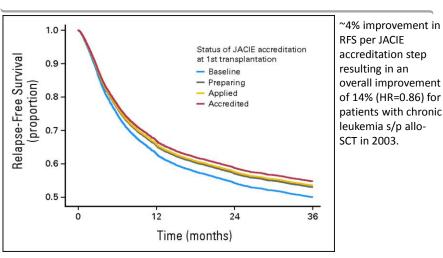
**Total Value Proposition** 



25

26

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## Accreditation associated with better RFS after ASCT

Gratwohl A et al. JCO 2010; 29:1980-1986



## What about other outcomes?

Long Ter	m Outcomes of ASC	T
	All Survivors (N=324)	Siblings (N=309)
Health Condition		
No condition	84 (25.9%)	189 (61.2%)
Psychological Distress		
Somatization	35 (10.8%)	12 (3.9%)
Global distress	19 (5.9%)	10 (3.2%)
Health Care Utilization		
Medical contact	322 (99.4%)	308 (99.7%)
Cancer/HCT visit	182 (56.2%)	6 (1.9%)
Health Status		
Excellent/good	283 (87.6%)	292 (94.5%)
Fair/poor	40 (12.4%)	17 (5.5%)

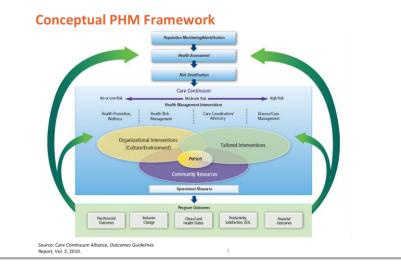
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Can-Lan S et al. Biol Blood Marrow Transplant. 2013 Jul; 19(7): 1073–1080.

27

28

## New Focus: Population Health Management



# PHM will shift focus from procedure outcomes to disease and population outcomes

## Long Term Outcomes of ASCT Acute Leukemia

	Health System A	Health System B
Survival		
1-yr RFS	??%	??%
Health Condition		
No condition	??%	??%
Psychological Distress		
Somatization	??%	??%
Global distress	??%	??%
Health Care Utilization		
Medical contact	??%	??%
Health Status		
Excellent/good	??%	??%

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Discussion



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