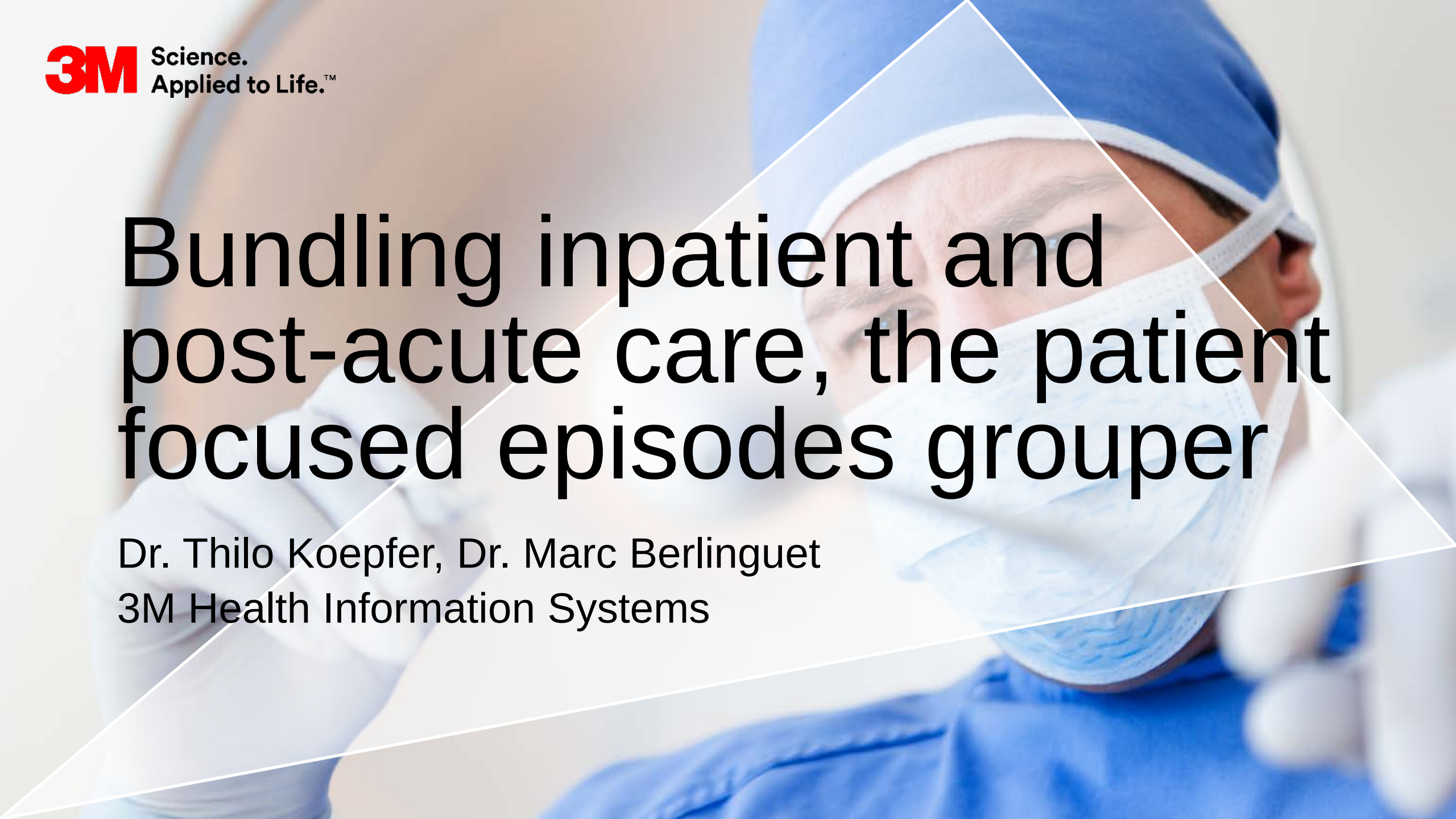

3M Science. Applied to Life.™

Bundling inpatient and post-acute care, the patient focused episodes grouper

Dr. Thilo Koepfer, Dr. Marc Berlinguet
3M Health Information Systems

Agenda

- Introduction
- Bundled Payments for Care Improvement Initiative
- Key Criteria for Building Patient Focused Episodes
- Conclusion

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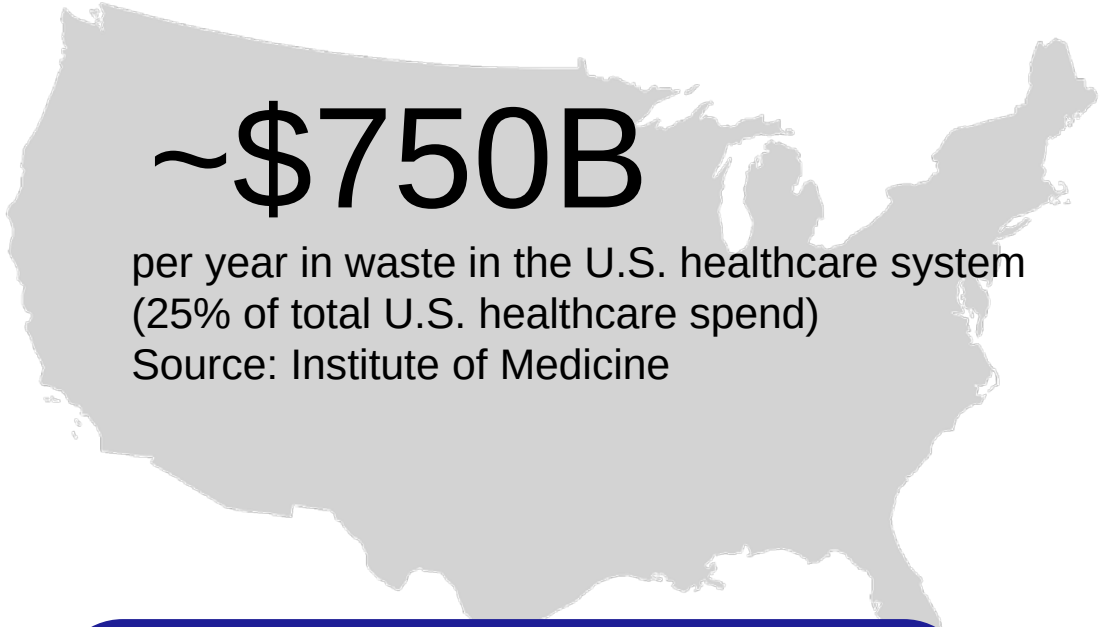
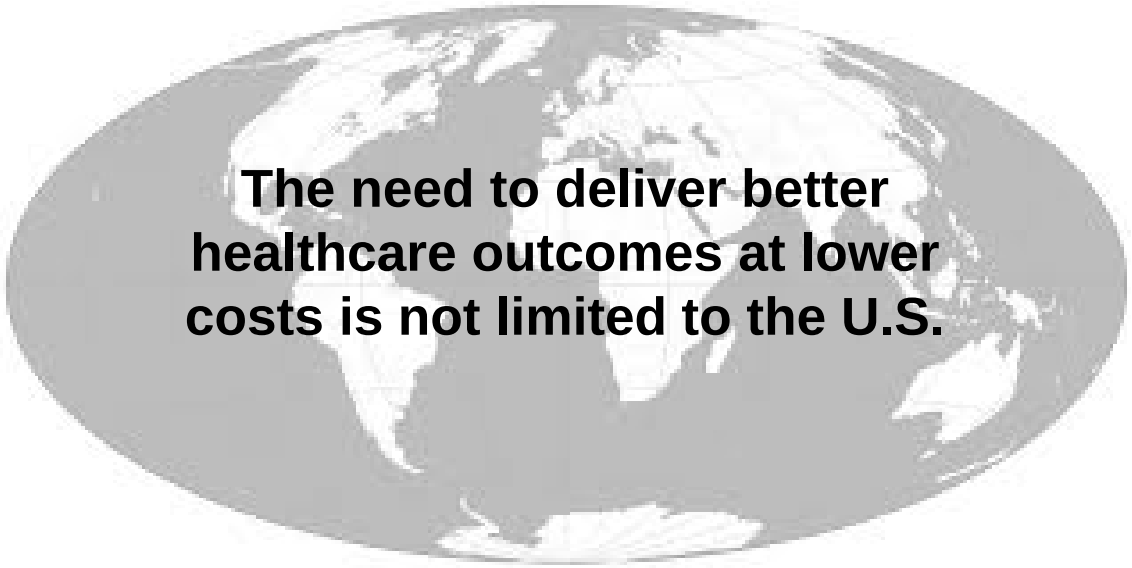
A need to reduce unnecessary care in the U.S. and globally



~$750B

per year in waste in the U.S. healthcare system
(25% of total U.S. healthcare spend)
Source: Institute of Medicine

Unnecessary services: ~$210B
Excess admin costs: ~$190B
Inefficient delivery of care: ~$130B
Inflated prices: ~$100B
Fraud: ~$70B
Prevention failures: ~$50B



The need to deliver better healthcare outcomes at lower costs is not limited to the U.S.

- Germany spends over 30% more per capita on medications than the Organization for Economic Cooperation and Development (OECD) average
- Australia has an obesity rate 5% higher than the OECD average
- Spain' s emergency services are overloaded ambulatory/surgery waiting lists are increasing rapidly

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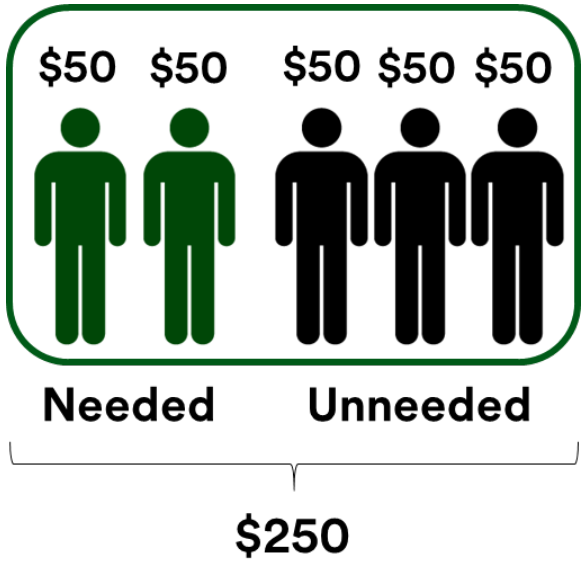
Payment methods are shifting to incent only needed care

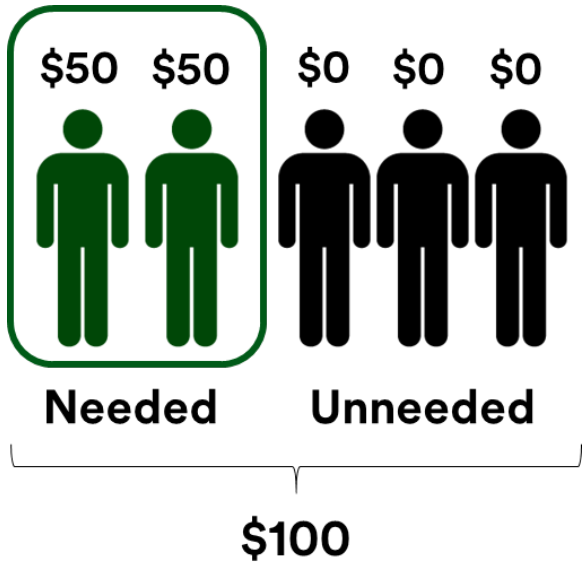
Today: Volume-Based Healthcare

Each service is reimbursed by the payer regardless of the quality.



Future: Value-Based Healthcare

Payment is made only for comprehensive, coordinated intervention. Unneeded care is not reimbursed.



Centers for Medicare and Medicaid announced 50% of all reimbursements will be value-based by 2018

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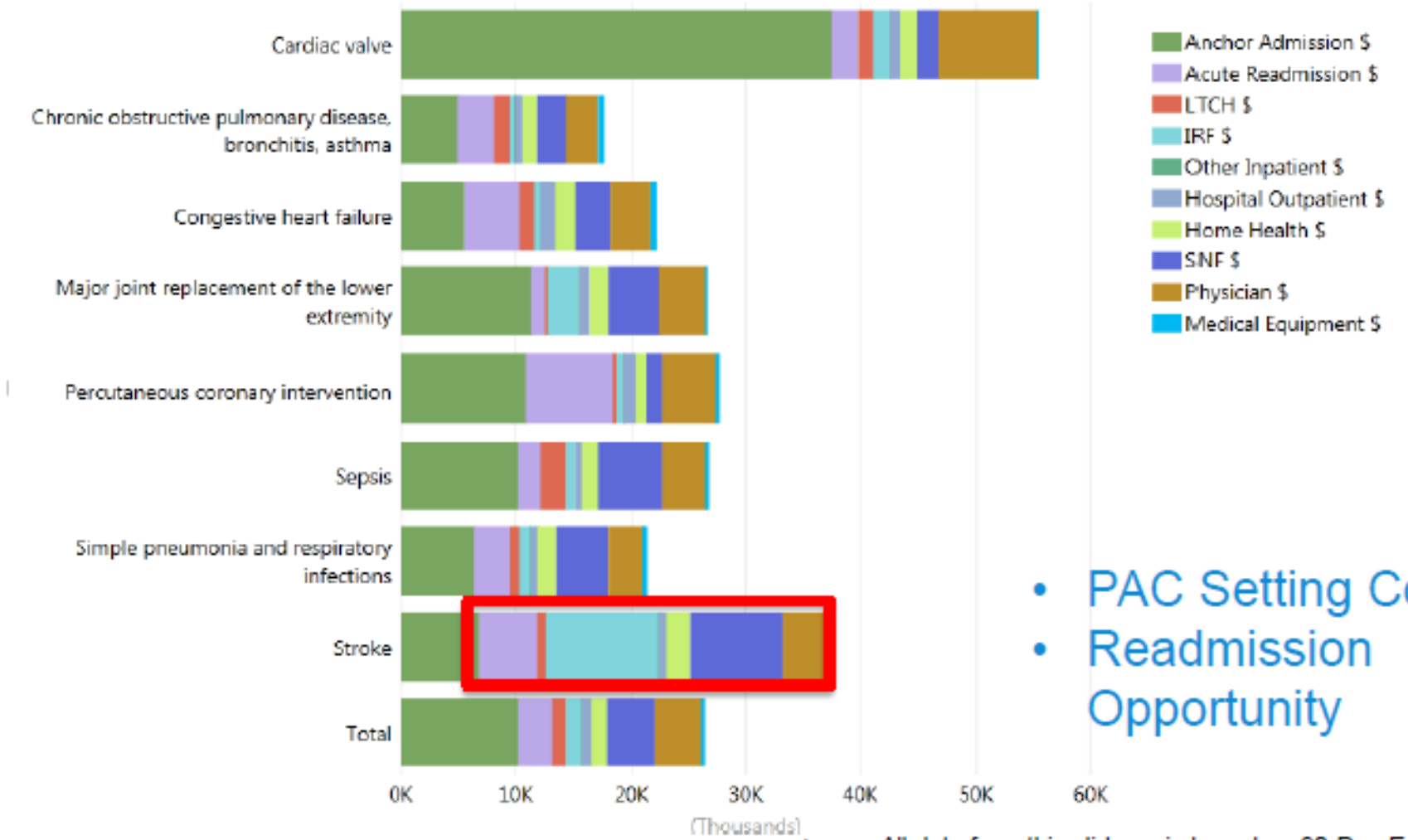
Distribution of Medicare Spend by Care Episode



- PAC Setting Costs
- Readmission Opportunity

All data from this slide on is based on 90-Day Episodes - Trimmed Spending (Risk Track B) in 2012 Dollars , Episodes with less than 250 count are not included, but are available.

Data provided by Dobson DaVanzo

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MEDICARE HOSPITAL PAYMENT

Bundled Medicare Payment For Acute And Postacute Care

Would financial risk to hospitals increase if Medicare paid them a lump sum per episode of care?

by W. Pete Welch

Health Affairs 17, no.6 (1998):69-81
doi: 10.1377/hlthaff.17.6.69

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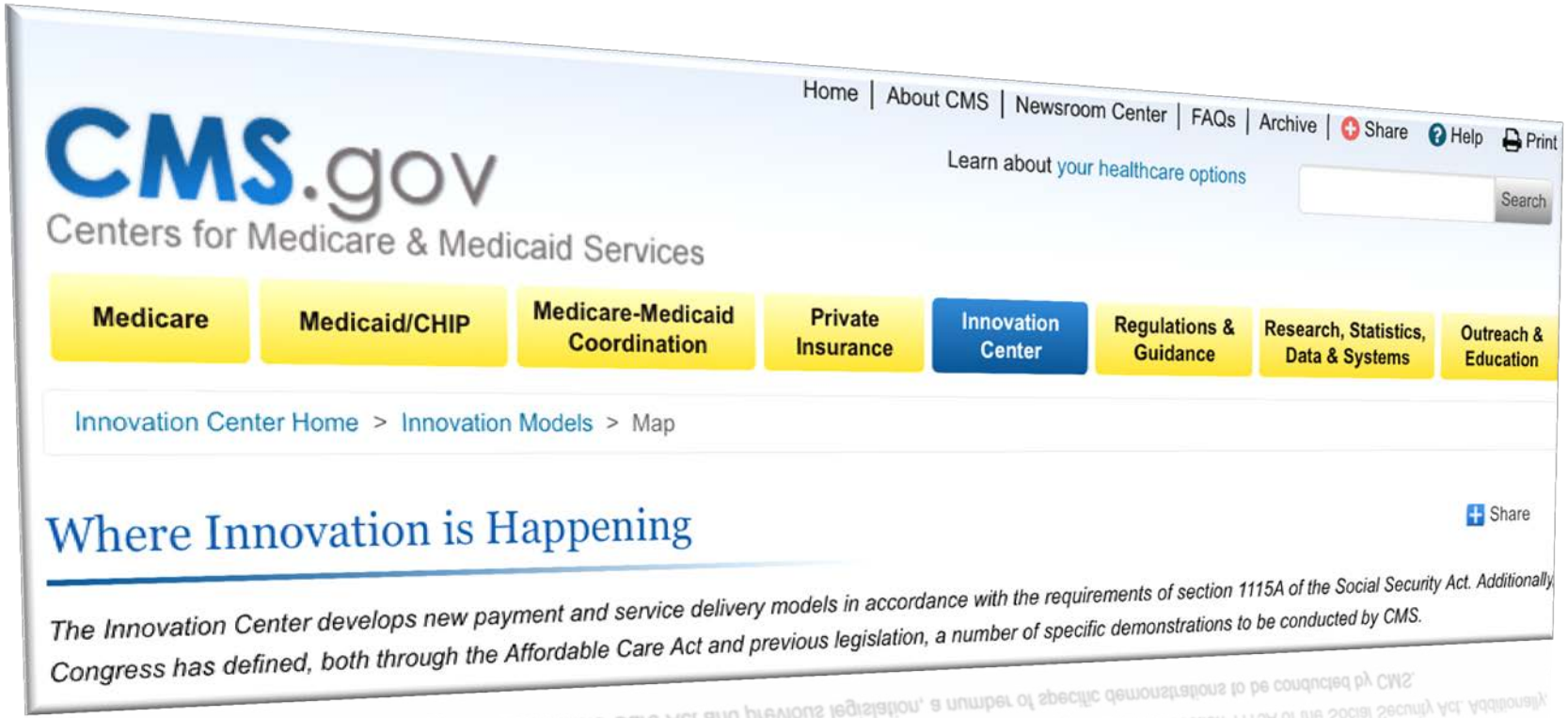

The Innovation Center develops new payment and service delivery models in accordance with the requirements of section 1115A of the Social Security Act. Additionally, Congress has defined, both through the Affordable Care Act and previous legislation, a number of specific demonstrations to be conducted by CMS.

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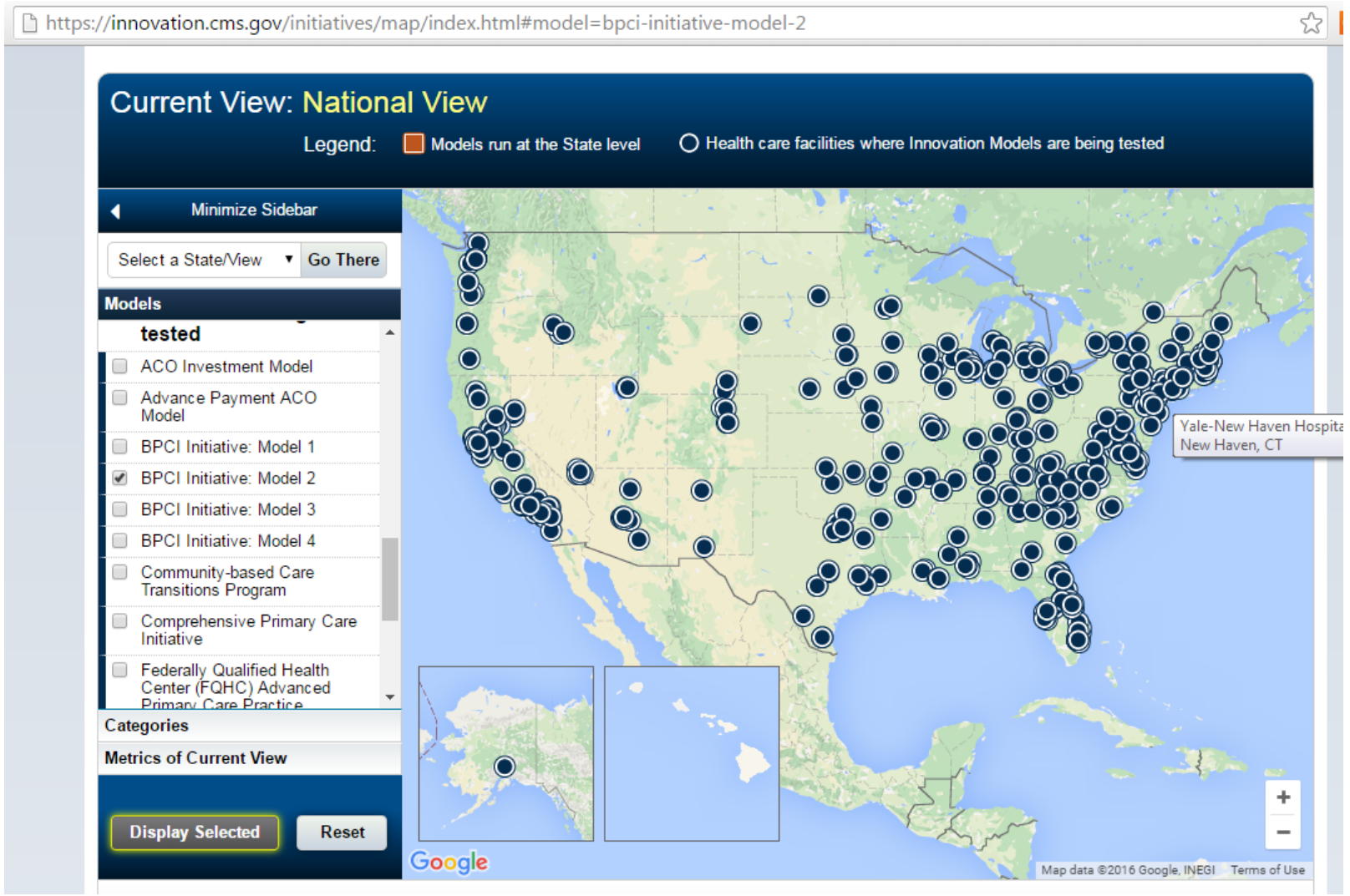
Bundled Payments for Care Improvement Initiative (BPCI)



Model 1:
Retrospective Acute Care Hospital Stay Only

Model 2:
Retrospective Acute Care Hospital Stay plus Post-Acute Care

Model 3:
Retrospective Post-Acute Care Only

Model 4:
Prospective Acute Care Hospital Stay Only

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CMS CJR 2016 Final Rule – Mandatory Bundled Payments

Episode Definition

- MS-DRG 469 (Major joint replacement or reattachment of lower extremity with Major Complications or Comorbidities (MCC))
- MS-DRG 470 (Major joint replacement or reattachment of lower extremity without MCC)
- Episode services include hospitalizations and 90-day post-discharge (including readmissions)

Hospitals held financially accountable for quality and cost of CJR episodes

Episode Payment and Pricing

- Retrospective Model
- Two-Sided Risk Model
- Payment Caps and Risk Limits
- Reconciliation Adjustments Solely with Hospitals
- Hospitals may establish financial arrangements (Gainsharing) with Collaborators
- Minimum Quality Requirements

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The Model for a Patient-Centered Episode (PCE)

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Inpatient Prospective Payment System (IPPS)

Payment based on a Categorical Clinical Model

- Since the DRGs were developed as groups of clinically similar patients, a language was created that linked the clinical and financial aspects of care. The simple categorical nature of DRGs created a powerful communications tool that was essential to achieving the behavior changes that resulted in the savings achieved by IPPS.

Separate Methodology for Computation of Payment Weights

- The categorical nature of DRGs permitted the separation of the computation of the relative payment weights and the definition of the DRG categories. The independence of the clinical model and payment weights allowed the DRGs to remain a stable clinical language while the payment weights changed to reflect changing treatment processes.

Outlier Payment Specific to the Patient's Condition

- If a patient's resource use exceeded a DRG-specific outlier amount, the hospital was provided additional payment. Outliers are in essence an insurance mechanism that protects hospitals from excessive losses on any one patient.

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Disease-Centered versus Patient-Centered Episodes

Disease-centered

- Focus on the resources needed to treat a specific disease
- Must separate services into those related and those unrelated to the disease

Patient-centered

- Focus on the individual patient's total disease burden
  - All of an enrollee's comorbidities are taken into account
- Focus on all services related to a health care event
- No need to exclude services not directly related to health care event that initiated the episode

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Elements of Patient-Centered Episodes

Episode Trigger

- The event (e.g., hospitalization, ambulatory surgery) that precipitates the episode. This could be an inpatient admission (as defined by selected DRGs), a significant outpatient procedure or treatment in a clinic or physician's office

Episode Acuity

- The acuteness of the patient's conditions at the time of the episode trigger hospitalization (i.e., the severity of illness of the patient during the hospitalization).

Episode Window

- The number of days pre-hospitalization and post-hospitalization that are encompassed by the episode. Post-hospitalization windows of 15, 30, 45, 60, 75, and 90 days have been tested.

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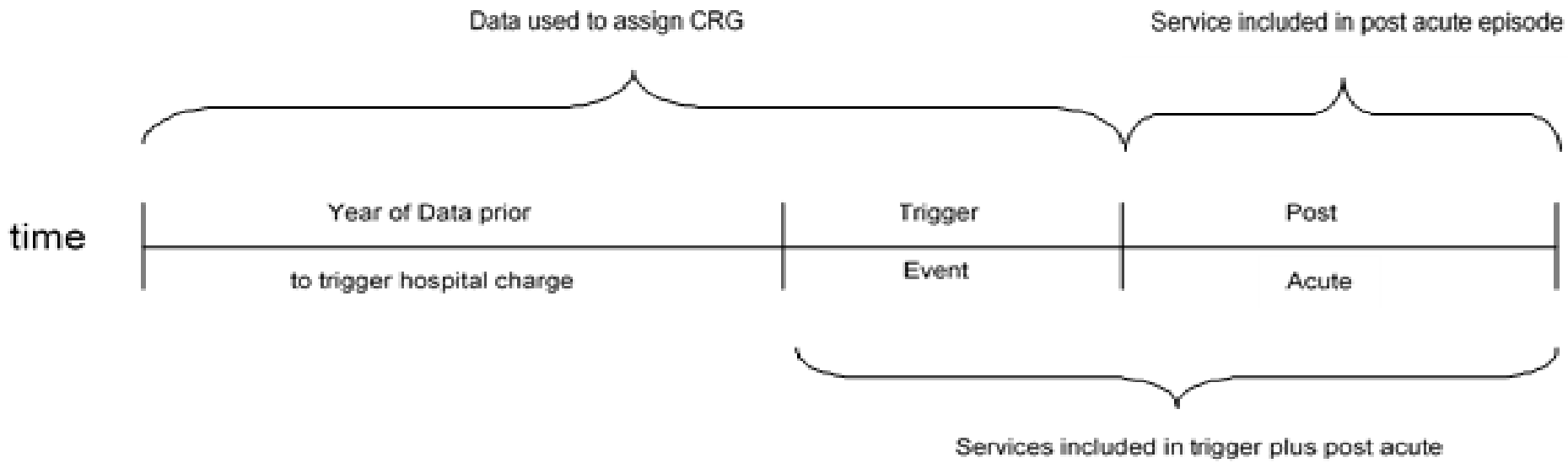
Elements of Patient-Centered Episodes (cont.)

Episode Service Scope

- The services included in the episode (e.g., physician office visits, skilled nursing facilities, etc.).

Chronic Disease Burden

- The extent of the patient's co-morbid chronic diseases at the beginning of the episode. This will be measured using a collapsed version of Clinical Risk Groups (CRGs).



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Chronic Disease Burden – Clinical Risk Groups

CRGs are a categorical clinical model that uses historical claims data to assign patients to a single mutually exclusive category that predicts the level of expected future resource use.

Like DRGs, each CRG is composed of a base CRG that describes the patient's most significant chronic conditions and a severity of illness level (e.g., a patient with diabetes and congestive heart failure at severity level 3).

CRGs are a 3rd generation risk adjustment system.

		Severity Level					
CRG Status		1	2	3	4	5	6
1.	Healthy	1					
2.	History of Significant Acute Disease	1					
3.	Single Minor Chronic Disease	1	1				
4.	Minor Chronic Disease in Multiple Organ Systems	1	1	1	1		
5.	Single Dominant or Moderate Chronic Disease	2	2	2	2	3	3
6.	Dominant or Moderate Chronic Disease in Multiple Organ Systems	4	5	6	7	8	8
7.	Dominant Chronic Disease in Three or More Organ Systems	9	10	11	12	13	13
8.	Dominant and Metastatic Malignancies	14	14	14	15	15	16
9.	Catastrophic Conditions	17	17	17	18	18	19

Table 4.1: Mapping of ACRGs to 19 PCE categories

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Bundling Post-Acute Care Services into MS-DRG Payments

- 167 MS-DRGs of the 744 V.27 MS-DRGs
- high volume and reasonably stable post-acute care pattern of care
- 73.4 percent of Medicare inpatient admissions
- 3,173 possible Patient Centered Episodes (PCEs)
  (167 MS-DRGs x 19 CRG categories = 3,173 possible PCEs).
- Of the 3,173 possible PCEs, 3,010 PCEs where actually used.

Bundling Post-Acute Care Services into MS-DRG Payments;
James C. Vertrees, Richard F. Averill, Jon Eisenhandler, Anthony Quain, James Switalski;
3M Health Information Systems
Medicare & Medicaid Research Review 2013: Volume 3, Number 3

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Exhibit 3. R^2 for Different Episode Windows and Service Scopes

	Services Included									Charges								Payments							
										MS-DRG only				PCE= MS-DRG + ACRG				MS-DRRG only				PCE= MS-DRG + ACRG			
										Window				Window				Window				Window			
	Hosp Part A	Hosp Part B	Other Part B	Hosp Outpat	DME	Home Health	SNF	Hospice	Readmission	15	30	60	90	15	30	60	90	15	30	60	90	15	30	60	90
Hosp + Post Acute	X	X								38.4	38.4	38.4	38.3	41.0	40.9	40.9	40.9	59.6	60.7	60.1	59.5	60.8	61.9	61.2	60.7
	X	X	X							38.2	38.1	37.7	37.4	40.9	40.7	40.5	40.4	58.2	59.0	55.5	51.9	59.5	60.4	57.2	54.2
	X	X	X	X						37.9	37.5	36.2	34.7	40.9	41.0	41.4	42.0	57.4	57.3	52.1	47.1	59.0	59.6	56.0	53.2
	X	X	X	X	X					37.9	37.5	36.2	34.7	41.0	41.1	41.4	42.0	57.3	57.2	51.8	46.6	59.0	59.5	55.8	52.9
	X	X	X	X	X	X				38.0	37.5	36.2	34.6	41.0	41.1	41.4	41.9	56.6	56.0	50.7	45.2	58.3	58.4	54.7	51.4
	X	X	X	X	X	X	X			37.6	36.8	35.1	33.5	40.7	40.5	40.4	40.6	53.6	48.0	38.6	33.3	55.5	50.8	42.5	38.2
	X	X	X	X	X	X	X	X		37.6	36.8	35.1	33.4	40.7	40.5	40.4	40.5	53.5	47.9	38.5	33.2	55.5	50.7	42.5	38.3
	X	X	X	X	X	X	X	X	X	32.4	28.9	23.1	21.5	35.5	32.4	27.7	27.5	46.7	39.2	29.8	24.7	48.8	42.0	33.7	29.6
Post Acute Only				X						4.8	6.4	7.8	8.6	20.8	28.3	35.1	37.8	3.7	4.9	6.7	7.7	15.5	20.8	28.0	32.3
			X	X						5.0	6.6	8.0	8.9	20.2	27.2	33.5	36.7	3.5	4.9	6.1	6.6	12.6	18.2	23.1	26.0
			X	X	X					5.0	6.6	8.0	8.9	20.2	27.3	33.6	36.8	3.4	4.8	6.1	6.7	12.5	18.1	23.1	26.1
			X	X	X	X				4.9	6.6	8.0	9.0	19.1	26.4	33.1	36.2	5.8	6.6	7.2	7.3	10.6	15.0	20.6	23.5
			X	X	X	X	X			8.0	9.6	10.3	10.6	17.7	23.2	29.0	32.3	19.5	18.7	16.4	14.8	23.1	23.1	21.8	21.3
			X	X	X	X	X	X		8.1	9.8	10.5	10.8	17.8	23.3	29.1	32.3	19.7	18.9	16.7	15.2	23.3	23.4	22.3	21.9
			X	X	X	X	X	X	X	1.9	2.8	3.4	4.8	4.5	6.5	8.7	12.3	9.1	10.4	10.4	9.8	11.6	14.0	15.1	15.4

SOURCE: Medicare Claims Data, April 2006–June 2009.

Bundling Post-Acute Care Services into MS-DRG Payments; James C. Vertrees, Richard F. Averill, Jon Eisenhandler, Anthony Quain, James Switalski; Medicare & Medicaid Research Review 2013: Volume 3, Number 3

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3M Patient Focused Episodes (PFEs) Model
Two tier categorical clinical model

- Tier 1: Identify type of episode
  - Use existing classification systems
    - Inpatient: APR DRGs
    - Outpatient: EAPGs

- Tier 2: Determine chronic illness burden of the beneficiary with CRGs
  - Categories of chronic illness burden provide risk adjustment
  - Categories of chronic illness burden are used to establish price levels within each type of episode

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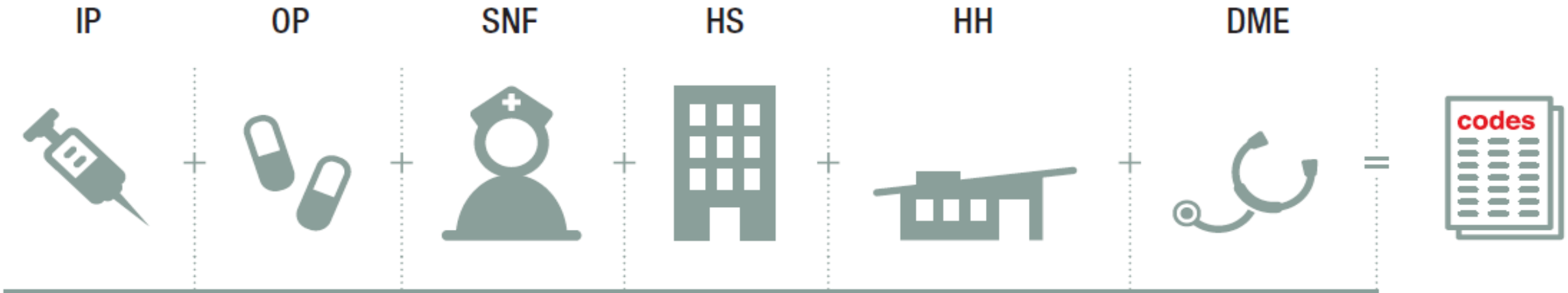
Collecting Data

The information that defines episodes exists on claims from the billable activities related to the patient's care. Aggregated, the claims data provide the essential diagnosis codes, procedure and/or revenue codes, start and end dates, service payments and patient characteristics.



Claims data used to define episodes include a variety of care settings and services:

- Inpatient hospital (IP)
- Skilled nursing facility (SNF)
- Outpatient surgery (OSC)
- Pharmacy (RX)
- Radiology (RD)
- Outpatient hospital (OP)
- Extended care facility (ECF)
- Home health (HH)
- Durable medical equipment (DME)
- Hospice (HS)
- Emergency outpatient (EOD)
- Professional services (PS)
- Laboratory (LAB)

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3M Patient Focused Episodes Software

- With 262 unique hospital episodes, 194 outpatient procedure episodes, 9 outpatient medical episodes and 156 disease cohorts, the 3M software encompasses a broad spectrum of care
- The patient-centered model accounts for all co-morbidities that contribute to an episode, allowing a holistic, preventive approach to caring for patients with multiple conditions
- Relative weights are assigned to each episode, allowing payment to be calculated, independent of the clinical model
- Patient groups link the clinical and financial elements of an episode, supporting analysis into how changes in care delivery affect both costs and outcomes
- Risk-adjustment provides a fair basis for measuring patient outcomes

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3M Patient Focused Episodes Software

- Assigns a 3M CRG based on data prior to the start of an episode (prospective) or during the period before the episode end date (retrospective)
- Produces a financial summary by patient and for each event type
- Computes relative weights for all event-based episodes and cohort episodes applicable to each patient

The User will

- Define the number of days before and after a trigger event to include in the event-based episode window
- Choose which services to include in cost calculations
- Select preferences for trimming or capping outliers
- Evaluate patients in a cohort over an extended period of time (e.g., 180 or 365 days)

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The Patient Focused Episodes Grouper

Helps improving patient care

- by identifying opportunities to lower resource utilization, coordinate care and reward quality improvements

Supports bundled payment

- with sophisticated algorithms that include risk adjustment, outlier thresholds and empirically derived relative payment weights based on actual historical expenditures

Compares provider costs

- by calculating expected resource use with consideration for the clinical risk of a patient's chronic illness and co-morbid conditions

Expresses episodes and health risk in a clinically meaningful way

- so that clinicians and other health professionals can understand and act on information

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Thank you

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