



## Revenue Cycle Management and Revenue Calculations



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### Agenda

#### Part I: Revenue Cycle Management

- The Cycle
- New Challenges in RCO

#### Part II: Net Revenue & Reserves

- Difference Between Gross and Net
- Setting Reserve Levels
  - »Contractual Allowances
  - »Denials
  - »Charity Care
  - »Bad Debt

## RCO Mission and Vision

### RCO Mission:

Ensure a *high performing revenue cycle* that delivers simplified administrative processes for patients, families, and providers to support the Partners Mission (Teaching, Research, Clinical, Community)

#### **Mission:**

Why we exist:  
What the world needs now, and how we provide it or attend to it.

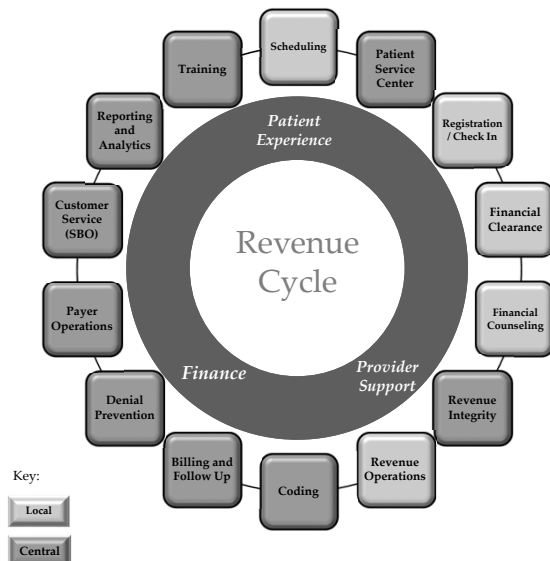
### RCO Vision:

Talented people coordinating best-in-class revenue cycle processes that deliver a *seamless and exemplary experience* to our customers.

#### **Vision:**

What the world will look like when we excel, achieve our goals, and do our best.

## PHS Revenue Cycle Model



Our PHS RCO model is primarily centralized shared services:

- Patient Service Center
- Revenue Integrity
- Coding
- Central Business Office
- Denial Prevention
- Payer Operations
- Customer Service (SBO)
- Reporting and Analytics
- Training

Patient and Provider facing functions located onsite at facilities

## Central RCO Statistics



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Central Teams

721

Onshore FTEs

125

Offshore FTEs

15%

Connected Workers

18

Facilities/Entities (incl. POs)

593k

Patient Calls, Reg., CS\*

3.8M

Claims Billed\*

1.9M

Statements Mailed\*

\$59M

Average Daily Revenue

\*FY18 YTD

## FY19 RCO Goals

### 1. Optimize Performance

Refining our processes so as to optimize the work we do for best desired outcome

A

*KPIs*

B

*PeC and Technology*

C

*Productivity /QR*

### 2. Improve Efficiency

Achieving maximum productivity with minimum wasted effort or expense

A

*Partners 2.0*

B

*Vendor Management*

C

*RPA*

### 3. Enhance Patient Experience

Encompasses the range of interactions that patients have with the health care system

A

*Patient Transparency*

B

*Paperless Billing*

C

*Patient Estimates*

### 4. Develop Talent

Recruit, hire, retain, and develop the most talented and superior employees available

A

*Employee Engagement*

B

*Diversity and Inclusion*

C

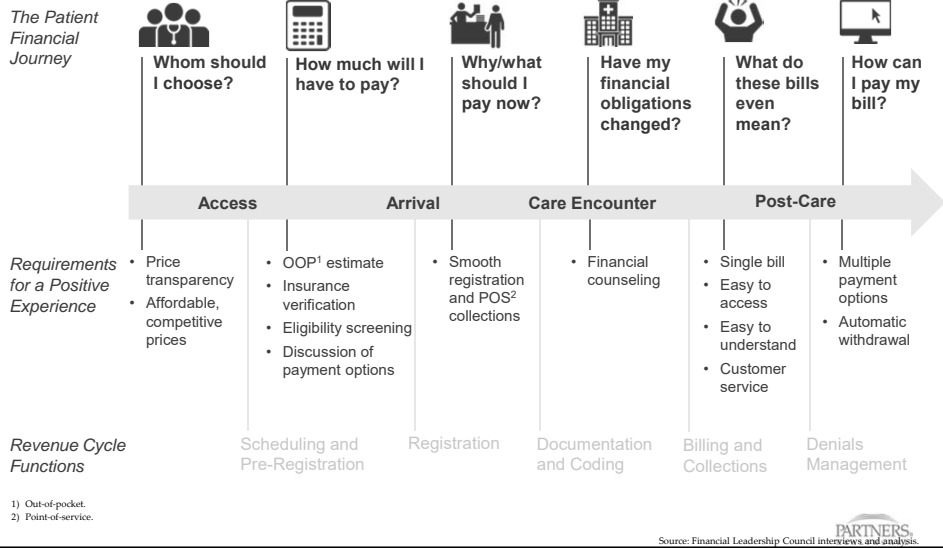
*Professional Development*

### Mission

Ensure a *high performing revenue cycle* that delivers simplified administrative processes for patients, families, and providers to support the Partners Mission (Teaching, Research, Clinical, Community)

# The Patient Financial Journey

Meeting Patients' Expectations Requires a New Approach to Revenue Cycle



## RCO Key Performance Metrics (KPIs)

Metric	Acutes		Sub Acutes		Total		2017 PWC Consortium Average
	FY18 Q2	FY17 YE	FY18 Q2	FY17 YE	FY18 Q2	FY17 YE	
Net AR Days	44.3	44.4	42.8	42.5	44.2	44.3	↓ 49.9 days
Gross AR Days	46.9	58.2	67.6	68.4	48.0	49.3	not reported
AR > 90 Days	18.6%	18.4%	23.1%	23.0%	18.9%	18.7%	↓ 28.3%
Cash Collection % (Cash/NPSR)	95.6%	94.3%	95.8%	95.5%	95.6%	94.4%	↑ 95.4%
Bad Debt Writeoff Rate	0.56%	0.58%	0.44%	0.45%	0.55%	0.58%	↓ 2.02%
Denial Writeoff Rate (at Net)	1.54%	1.41%	1.05%	0.49%	1.50%	1.34%	↑ 1.16%
Discharged Not Final Billed - Days	5.57	5.55	4.45	4.63	5.51	5.50	↓ 6.73 days
Credit Days	0.74	0.70	1.67	2.88	0.79	0.82	↑ 0.64 days
Self Pay >90 days	2.5%	2.9%	1.2%	0.3%	2.5%	2.7%	↓ 5.9%

FY18 Q2 3/31/18 vs FY17 YE 9/30/17

## Impact of Epic on the Revenue Cycle

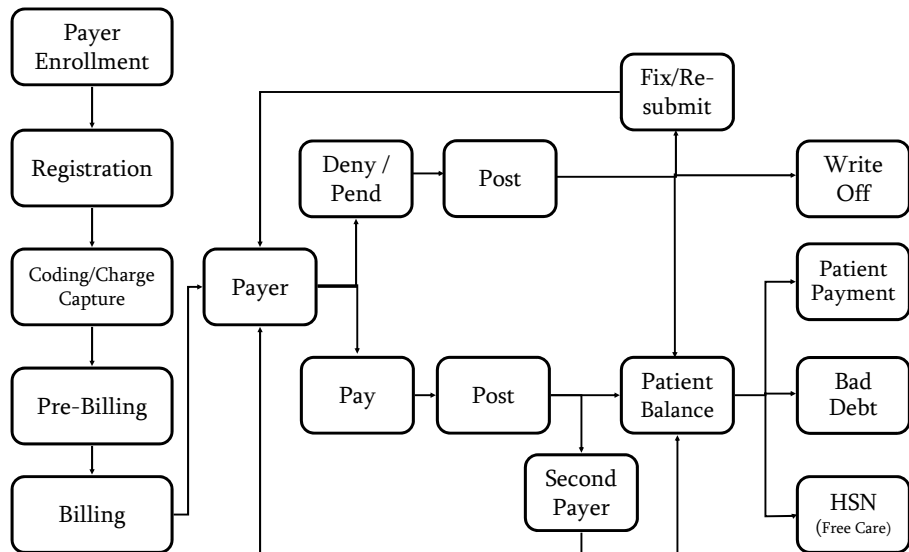
### Epic Improvements

- One patient friendly statement/customer service team
- Data integrity (enterprise patient demographic updates)
- Exception based workflows
- More efficient and standard charging practices
- Transparency of revenue cycle metrics
- Standard billing workflows; clearer handoffs between teams
- Ease and flexibility meeting payer rules and eliminating manual work

### Benefits Realization

- Improved patient engagement (registration, self-directed patient estimates, collections, results, communication, etc.)
- More effective capture of complex charging, such as infusion (still enhancing this workflow)
- Staff efficiencies and lower cost long term
- Smaller hospitals will benefit from all the editing and work listing functionality
- Simplicity of meeting future regulatory and payer changes

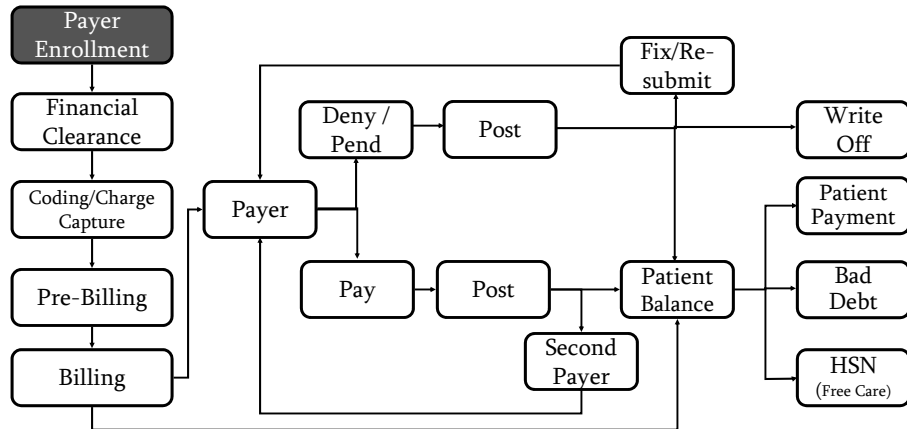
## The Revenue Cycle from 30,000 feet . . .



## Provider Enrollment

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## Provider Enrollment



All providers must be enrolled (credentialed) with Third Party Payers in order for physician services to be billed

## Provider Enrollment

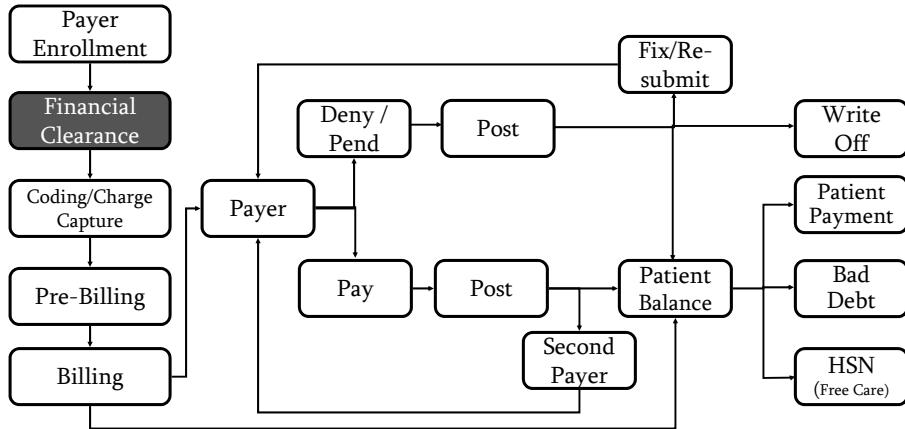
- Providers must be enrolled with all payers before we can bill their services
- This function is currently decentralized and managed by each hospital
- For some payers, the hospitals are delegated, which means that the payer delegates the full enrollment responsibility to the Hospital. Once a provider is credentialed with the hospital, they become immediately enrolled with the payer.



- A provider can be enrolled but still be out of network with a specific employer group or be considered a higher tier or copayments

## Patient Access

## Pre-Service Financial Clearance



Tools:	Critical Functions:
<ul style="list-style-type: none"> <li>• Electronic Eligibility Check</li> <li>• Payer Web Sites</li> <li>• Telephone Call</li> <li>• Patient Estimator</li> </ul>	<ul style="list-style-type: none"> <li>• Registration/Insurance Verification/ Financial Counseling</li> <li>• Referrals/Clinical Authorizations/Pre-certifications</li> <li>• Pre-Service Payments</li> </ul>

## Financial Clearance

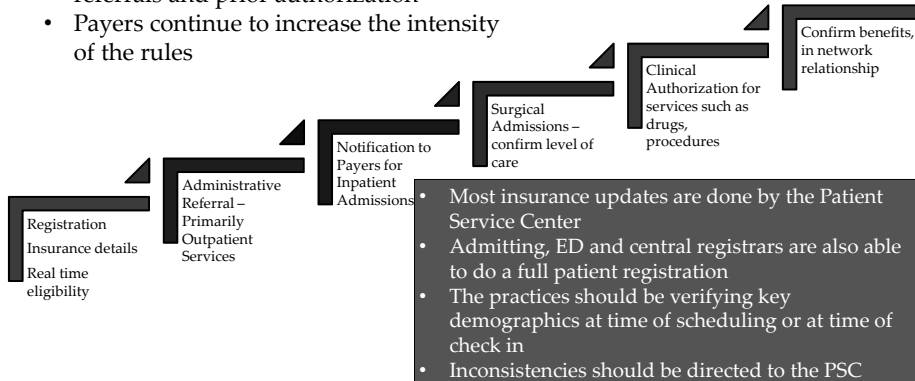
- Most critical set of processes in the revenue cycle
- If financial clearance is not done well, there is no chance of getting paid
- Consists of registration, notification, referrals and prior authorization
- Payers continue to increase the intensity of the rules

### Prior Authorization

Some plans require that certain medical services are approved in advance, to ensure you are receiving medically necessary care that is compliant with their guidelines.



DEFINITION



- Most insurance updates are done by the Patient Service Center
- Admitting, ED and central registrars are also able to do a full patient registration
- The practices should be verifying key demographics at time of scheduling or at time of check in
- Inconsistencies should be directed to the PSC



## Real Time Eligibility (RTE)



- We use Cognizant- TriZetto (CTZ) for our daily RTE transactions
- Partners Healthcare was a founding member of NEHEN in 1998
- On a weekly basis, we conduct between 1.8 - 2.1 million Real Time Eligibility transactions



## Top Workqueue Edits

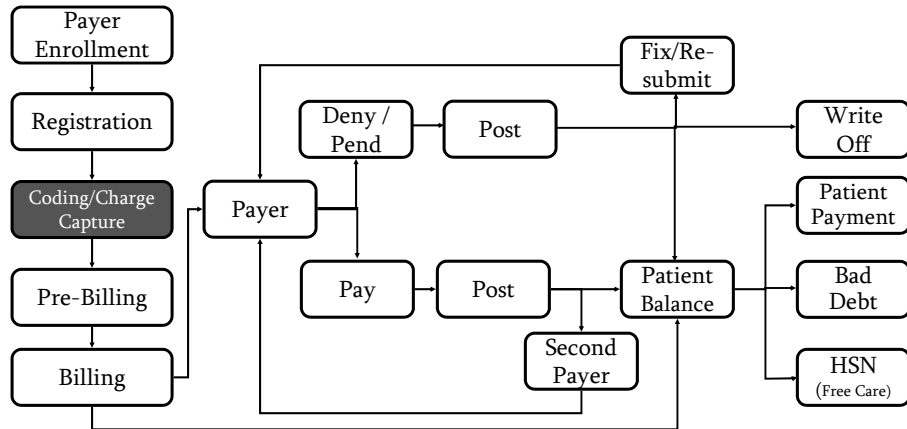
- Business Model → Exception Based
- In our “Eligibility Needs Review” workqueues, we capture RTE statuses that comeback in a “Needs Review” status
- We have our RTE set up to fire a “needs review” status when any of these data elements do not match:
  - Subscriber DOB
  - Subscriber Name
  - Subscriber ID/Member ID
  - Plan Mismatch
- These Eligibility Needs Review WQs generate more than 15,000 accounts a week
- We have more than 25 dedicated work queue users within central registration that work more than 9,500 accounts a week

## Top Workqueue Edits

- Our “No Coverage” WQs capture patients that do not have any insurance coverage on their account
- The weekly volume of these WQs is over 10,000
- We have 25 users that add coverage or mark the patients as self pay for over 6,000 of these accounts per week

## Charge Capture

## Charge Capture/Coding



Charge Description Master (CDM): A price needs to be determined for each service  
Charge Capture: Charges come from primarily Epic clinical modules; outputs of clinical activity  
Coding: Coding is performed by certified coders for Inpatient Cases and procedures

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## Revenue Integrity/Charging

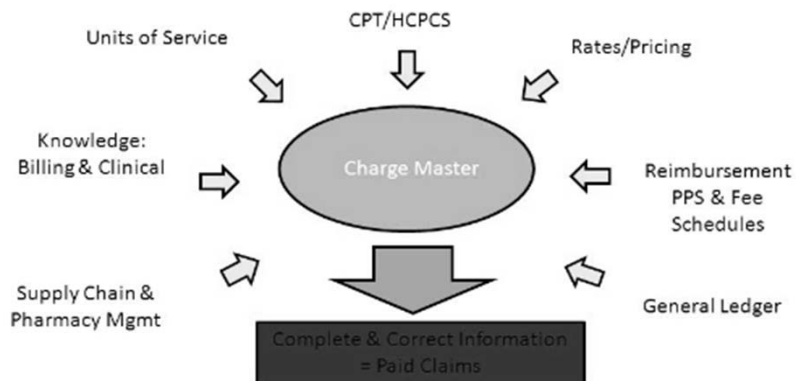
- The goal is to ensure that all services that are performed are captured appropriately in Epic
- The revenue integrity team is responsible for all charging decisions, policies and the QA of the charging build in Epic
- Services can be billed:
  - Hospital Global
  - Hospital Split (health centers)
  - PO/Hospital Split
- Revenue Capture:
  - Most services are billed through selection of codes on a preference list
  - OR services are charged using a combination of team size and time
  - Pharmacy is charged using a mark up of cost +
  - Room and Board is calculated based on the patients who are in beds at midnight
  - Many hospital procedures are generated once the tech completes the exam (cardiology procedures)

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## Charge Codes

- The charge description master (CDM) houses all the charge codes for hospital services
- Charge codes are built in Epic and linked to cost centers
- Each charge code has a number of characteristics, such as revenue code and CPT code
- A separate Masterfile in Epic details all cost centers (Cost Center Assignment Table)
- The linkages of these two tables allows CPT codes to be used in specific cost centers
- When we transitioned to Epic, we also moved to one charge master
- The charge router can manipulate charge and cpt codes:
  - 5 cpt codes can be rolled up into one panel to meet specific payer rules
- If changes to codes need to be made, the teams reverse the wrong code and add the new code

## Components of Revenue Integrity/Charging



## Coding

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## Coding

### Coding for Inpatient Services

- All services are coded by a certified hospital coder
- They code using the DRG (Diagnosis Related Grouper) terminology; to calculate DRG, they identify the:
  - Admission diagnosis
  - Principal diagnosis
  - Secondary diagnosis(es)
  - Comorbidity
  - Complication
  - Principal procedure
  - Secondary procedure(s)

### Coding for Outpatient Services

- Primarily exception based review of edits
- Generally medical necessity or diagnosis based edits

### Risk Coding

- Capture of chronic diagnosis codes

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## History of DRGs

A **Diagnosis-Related Group (DRG)** is a statistical system of classifying any inpatient stay into groups for the purposes of payment. The **DRG** classification system divides possible diagnoses into more than 20 major body systems and subdivides them into almost 500 groups for the purpose of Medicare reimbursement.

A DRG, or diagnostic related grouping, is how Medicare and some health insurance companies categorize hospitalization costs and determine how much to pay for a patient's hospital stay. Rather than paying the hospital for what it spent caring for a hospitalized patient, Medicare pays the hospital a fixed amount based on the patient's DRG or diagnosis.

If the hospital treats the patient while spending less than the DRG payment, it makes a profit.

If the hospital spends more than the DRG payment treating the patient, it loses money.

## History of DRGs

In **October 2007**, Medicare Severity DRGs (MS-DRGs) were implemented for Medicare inpatient discharges. CMS replaced 538 DRGs with 745 new DRGs. Every DRG was re-categorized and had different meanings.

MS-DRGs moved from a two tier (CC/no CC) method of determining severity of illness to a three tier method which expanded the ability to effectively demonstrate severity of illness. The three tier method of Major Complication or Co-Morbid Condition (MCC), Complication or Co-Morbid Condition (CC), or no MCC/CC, provided 3 levels of severity determination for reimbursement.

With implementation of ICD-10 in October 2015, CMS and 3M developed and tested new grouper versions for MS-DRGs and APR-DRGs for use with ICD-10 diagnosis and procedure codes.

## Coding

- Clinical documentation is critical to coding processes
- If it is not documented, it did not happen
- Each hospital has a clinical documentation team (comprised of nurses) that work to ensure all Medicare cases are well documented to optimize the DRG payment(s) and the quality metrics under value based incentive programs

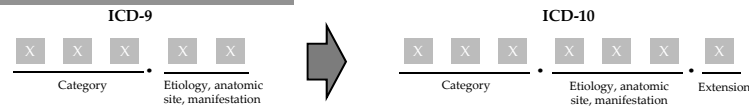
Example 1 – L3-L4 Spinal Fusion with “Anemia”

	Principal Diagnosis ICD-9-CM Code	Secondary Diagnoses ICD-9-CM Code	Operative Procedure ICD-9-CM Code	DRG	Description	DRG Payment
Original Documentation Coding	Lumbar stenosis 724.02	Anemia 285.9	PLIF L3-L4 81.08 81.82 BMP with Interbody Fusion Cages 84.51 84.52	498	SPINAL FUSION EXCEPT CERVICAL WITHOUT CC	\$17,928.00
Revised Documentation Coding	Same	Post operative blood loss anemia 280.0	Same	497	SPINAL FUSION EXCEPT CERVICAL WITH CC	\$22,902.60

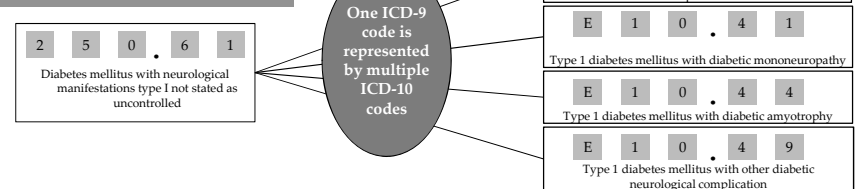
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## The Basics of the ICD-10 Diagnosis Codes

### An Example of Structural Change

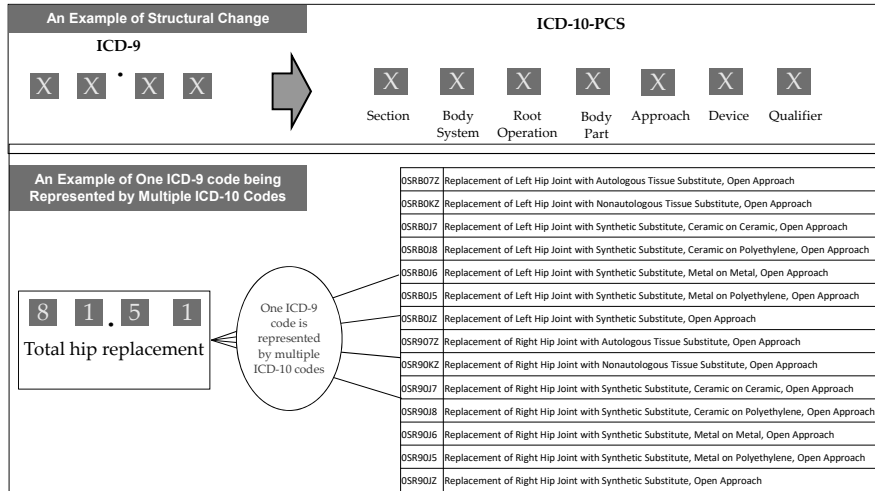


### An Example of One ICD-9 code being Represented by Multiple ICD-10 Codes



## The Basics of the ICD ICD-10-PCS (Procedure codes)

The ICD-10-PCS is an American procedure coding system that represents a significant step toward building a health information infrastructure that functions optimally in the electronic age



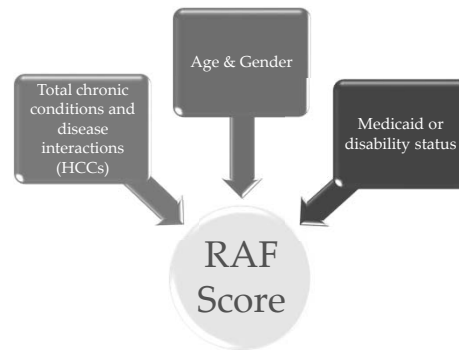
## What is Risk Adjustment?

- Fundamentally, it is an actuarial tool used to calibrate the payments from CMS to Medicare Advantage Plans based on the relative health of their at-risk population
- The goal is to reflect the expected costs of providing care to their patients and to ensure that appropriate compensation for the health status of the patients
- Risk adjustment focuses on a subset of ICD 10 codes which are bucketed into HCCs, or **hierarchical condition categories (HCCs)**
- There are currently 69,823 ICD-10 codes that link to 87 HCCs. These HCCs are ranked from most severe to least severe. The HCCs summarize the patient's diagnostic profile. (There are 70 HCCs of concern to PHS Primary Care.)
- CMS' model is accumulative, meaning that a patient can have more than one HCC category assigned to them and the are additive in that the risk weights of different HCCs are added together to produce a risk score or RAF (Risk Adjustment Factor)
- The HCCs must be captured every calendar year for CMS to impact the risk adjustment and therefore the Medicare Advantage payment
- This model or a similar model is used to risk adjust the Accountable Care Organization, Medicaid and Commercial Risk contracts

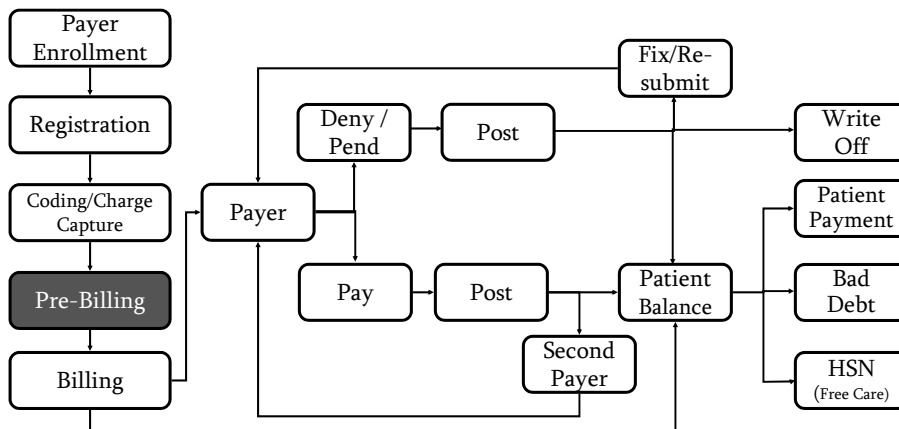


## The RAF Score

- The combination of HCC diagnosis codes with demographic data comprise the Risk Adjustment Factor or **RAF Score**, and this communicates health severity
- The RAF score acts as a multiplier when CMS calculates its payments
- Conditions must be documented and billed at least once per calendar year for inclusion in the risk model
- Variations on the RAF Score are a key part of how risk adjusted panels are calculated by our commercial payers as well



## Pre-Billing Function

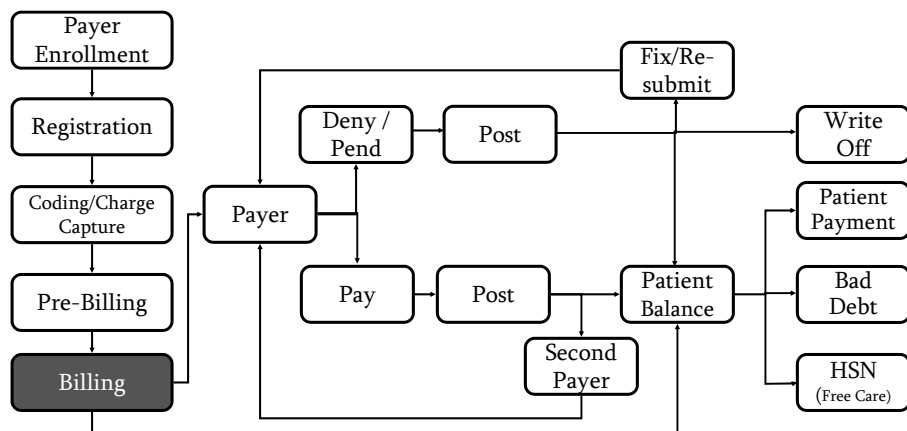


- Pre Claim Editing: PHS uses Ingenix for physician & XClaim for hospital services
- Edits look for:
  - Missing data (diagnosis, doctor number, etc.)
  - Correct coding (e.g., check for medical necessity)
  - Other Payer specific billing requirements

## Pre Billing

- All hospital services run through a number of edits to ensure that claims are clean before they are sent to the payer
- Editing Tools:
  - Epic edits
  - Xclaim edits (Nthrive Product)
- The edits are disbursed to the teams most capable of resolving the edits quickly
- Currently the clean claim rate is around 92% (improved from 86%)

## Billing Process - The easy part!



The goal is to send all claims electronically to all payers.  
However, often still send paper bills when:

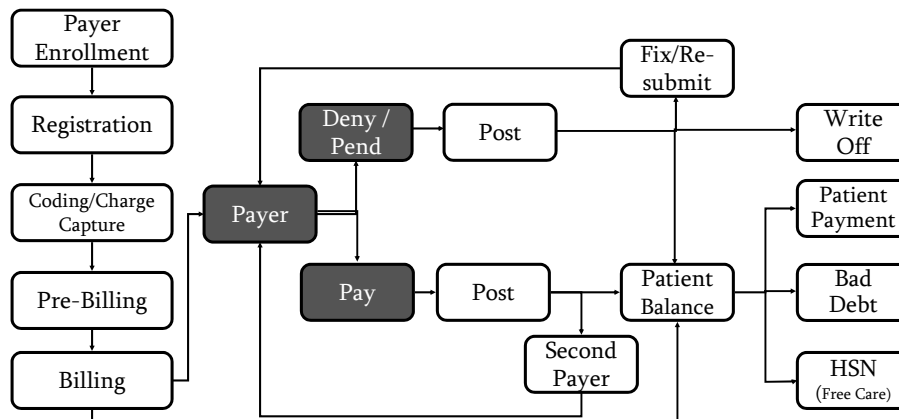
- Medical Records are required
- Billing a Secondary Payer

## Claims Processing

- Claims are sent electronically to the payers via a standard HIPAA transaction (837)
- For inpatient services, we capture all services and combine them onto one claim with to and from dates
- Any outpatient services performed within 72 hours of the inpatient admissions are also combined on the inpatient claim
- Partners uses Nthrive's Xclaim product as the claims clearing house

Total Imports Count	1,280,361
Total Imports Dollars	\$ 5,242,721,669
Total Imported Dirty Count	174,187
Total Imported Dirty Dollars	\$ 1,035,926,615
% Imported Dirty (Count)	14%
% Imported Dirty (Volume)	20%
Annualized Claim Count	5,121,444
Annualized Claim Dollars	\$ 20,970,886,677

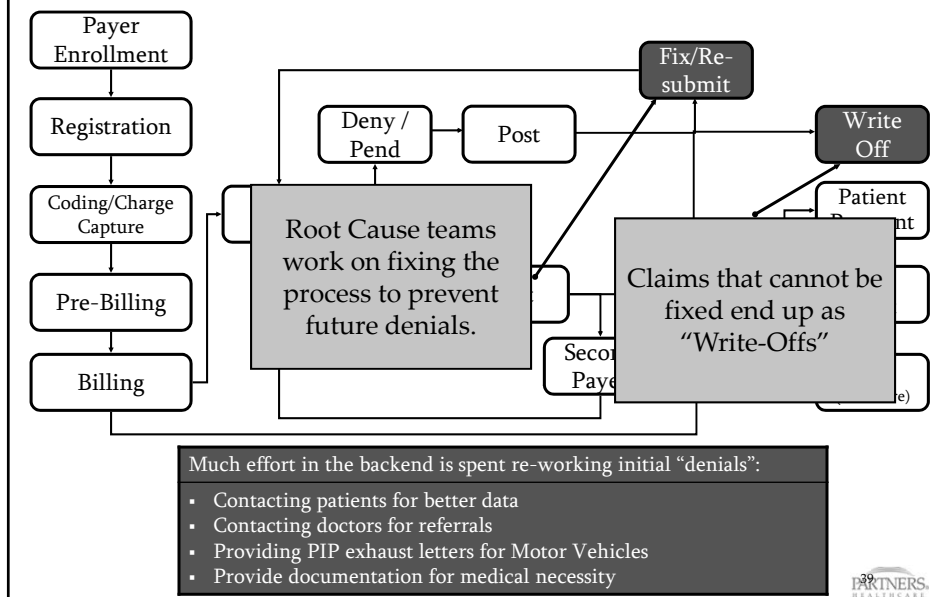
## Why don't the Payers just pay the claims?



### Some Reasons Payers Deny Claims:

- Referral required but not obtained
- Pre-authorization missing or incorrect
- Other insurance involved (e.g., WC, MVA)
- Member no longer eligible
- Service not covered by the plan
- Service deemed not medically necessary
- Filing limit exceeded

## After an initial denial, can the claim be fixed?



## Insurance Follow Up

Responses from payers are posted to Epic through an electronic file, called an 835. The file contains the following information:

- Payment
- Allowed amount
- Rejection code (if the claim doesn't pay or partially pays)
- Patient Liability

Once the detail is posted to Epic, logic determines what the next actions are:

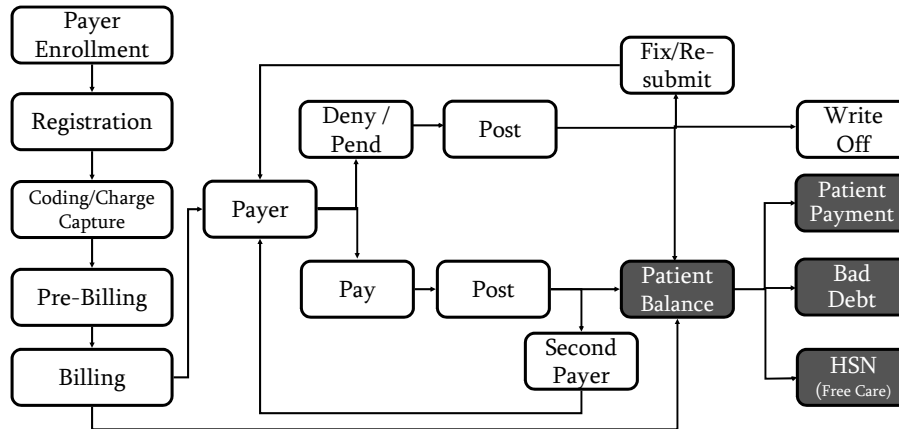
- Patient Liability → bill patient
- Partial Pay (80%) Co-insurance due → bill secondary
- Claim Rejects → file to a work queue for third party reviewer processing

Top rejections:

- Auth/Referral
- Coordination of Benefits
- Patient not covered
- Not Medically Necessary
- Filing Limit



## Patient Responsibility...



Two types of Patient Balances: "True" Self Pay (Uninsured) and Balances After Insurance

Typically, patients get 4 statements / letters and phone calls for larger amounts. Currently stratifying self pay follow-up by propensity to pay. Often, receiving a bill results in a call with updated insurance information... Unpaid balances generally are written off to bad debt.

## Patient Billing Solutions (PBS)

### Customer Service

- PBS is handling ~40,000 calls per month; call abandonment rate of 5-6%

### Collections

- Self Pay balances flow into a series of follow up workqueues for action either through calls or targeted letters
- Accounts are prioritized for action using a Propensity to Pay/Expected Value analysis provided by our contracted vendor, Connance

### Trends in Benefit structures:

- High Deductible plans (\$2K-\$5K)
- Co-insurance plans (80%/20%)
- Working to identify and track patients with these types of plans

## Major Patient Engagement Initiatives

### Technology

- Expand texting and email use for appointment confirmations
- Expand functionality in the PatientGateway
  - Online payments
  - Establish payment plans
  - Check in to appointments
  - Update demographics/insurance
- Expand the use of Epic Welcome Kiosks



### Patient Estimates

- Expand Epic functionality to BWH and FH Financial Counselor teams
- Currently live at MGH and NWH
- Expand to outpatient departments such as Radiology
- Proactively push out estimates to patients for scheduled appointments

### Patient Statements

- Continue to improve the Patient Statement
- Convene annual patient focus groups to capture feedback to ensure that our statements remain patient-friendly



## New Challenges in RCO

- System expansion and integrations
- Medicaid ACOs
- IPPS- Price Transparency
- Clinical Documentation Improvement (CDI)
- RPA/AI



## Agenda

### Part I: Revenue Cycle Management

- The Cycle
- New Challenges in RCO

### Part II: Net Revenue & Reserves

- Difference Between Gross and Net
- Setting Reserve Levels
  - »Contractual Allowances
  - »Denials
  - »Charity Care
  - »Bad Debt

## Financial Reporting

### Gross vs. Net

- Key question: How much of our Gross Revenue do we really expect to collect?
- Start with Gross Revenue; but then need to
  - Deduct: Provision for Contractual Allowances
  - Deduct: Provision for Denials
  - Deduct: Provision for Charity Care
  - Deduct: Provision for Bad Debt



## Income Statement vs. Balance Sheet Model

Two options:

- Income Statement approach looks at new revenue each month and provides a reserve for expected non-collectables
- Balance Sheet approach looks at the AR by Payer and aging bucket each month and estimates how much reserve is required for each “bucket”. Each month, an entry is made to true up the provision to the most current estimated need
- Some entities use both
  - Use Income Statement method each month
  - Then validate with the Balance sheet method on quarterly basis

## Two versions of the Income Statement Approach

- Contractual provisions often determined from:
  - Contract Management System
    - » Each Payer contract modeled and loaded
      - Note need to update the model for contract changes, price increases, etc.
    - » System reviews each claim & models contractual allowance need and “expected net revenue”
  - Historical payment history
    - » Does not model expected payment claims by claim
    - » Uses history of cash collection to estimate future collections
    - » Updated periodically to “true up” estimates to actual cash collections



## Example of Contractuals via Cash Studies

Contractual Provision via historical cash studies  
(Column 1 times Column 3 = Column 5)

Payer	Gross Revenue 1	C/A	Net Cash (from study) 3	C/A Res	Billing Revenue 5
Medicaid	20	70%	30%	14	6
Medicare	25	50%	50%	12.5	12.5
Commercial	15	30%	70%	4.5	10.5
Managed Care	30	40%	60%	12	18
Other	10	10%	90%	1	9
<b>Total</b>	<b>100</b>			<b>44</b>	<b>56</b>

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## Quick Balance Sheet Example – One Payer

1. Start with AR Balance for Payer by aging bucket . . .

Payer	0-60	60-120	120-180	180-365	>365	Total
Managed Care AR	3,000,000	1,600,000	1,000,000	500,000	200,000	6,300,000
Denial Need %	10%	25%	50%	65%	100%	
Need	300,000	400,000	500,000	300,000	200,000	1,700,000

2. Apply estimates of reserve need calculated from historical run outs

Note that the assumed need percentage increases with the age of the receivable. This exercise would be completed for every Payer to determine the total need.

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## How Do You Estimate the “Denial Need”?

### How to Conduct a “Run Out Analysis”

1. Identify all AR accounts as of a point in time
  - » Say, 2 years ago . . .
2. Watch what happens to the AR over time
  - » What transactions hit these accounts?
  - » See how much from each Payer / aging bucket ended up as contractual, bad debt, denial, charity
3. Translate into percentages to use in balance sheet model

## Run Out Example by Aging . . .

	0 - 30	31 - 60	61 - 90	91 - 120
Beginning AR Balance	\$ 243,792,152	\$ 57,877,004	\$ 24,162,335	\$ 15,963,949
Transactions				
2 Allowances - Third Party	\$ (150,370,096)	\$(31,300,795)	\$(10,919,079)	\$ (7,459,102)
3 Denial Writeoffs	\$ (1,731,250)	\$ (522,699)	\$ (542,553)	\$ (502,994)
4 Bad Debt Writeoffs	\$ (2,202,147)	\$ (542,427)	\$ (980,412)	\$ (583,659)
5 Charity Care Writeoffs	\$ (10,220,692)	\$ (3,817,466)	\$ (3,600,592)	\$ (1,548,006)
7 Refund	\$ 464,713	\$ 469,437	\$ 147,135	\$ 131,678
9 Cash - Posted	\$ (78,690,791)	\$(20,818,568)	\$ (6,533,378)	\$ (5,103,258)
Other	\$ 19,106	\$ -	\$ 200	\$ -
Special Billing	\$ (54,503)	\$ (43,943)	\$ (23,196)	\$ (859)
BAD DEBT RECOVERIES	\$ 37,479	\$ 57,986	\$ 43,038	\$ 42,705

	0 - 30	31 - 60	61 - 90	91 - 120
Beginning AR Balance	\$ 243,792,152	\$ 57,877,004	\$ 24,162,335	\$ 15,963,949
Transactions				
2 Allowances - Third Party	-61.7%	-54.1%	-45.2%	-46.7%
3 Denial Writeoffs	-0.7%	-0.9%	-2.2%	-3.2%
4 Bad Debt Writeoffs	-0.9%	-0.9%	-4.1%	-3.7%
5 Charity Care Writeoffs	-4.2%	-6.6%	-14.9%	-9.7%
7 Refund	0.2%	0.8%	0.6%	0.8%
9 Cash - Posted	-32.3%	-36.0%	-27.0%	-32.0%
Other	0.0%	0.0%	0.0%	0.0%
Special Billing	0.0%	-0.1%	-0.1%	0.0%
BAD DEBT RECOVERIES	0.0%	0.1%	0.2%	0.3%

## Quick Note on Third Party Liabilities

- Other adjustments to net revenue may be required due to things like:
  - Risk contracts, e.g., pay for performance
  - Price protected PAF's

## Pulling it Together: A Simple Example

<b>Gross Revenue:</b>		<b>\$50 million</b>
• <i>Set aside 40% for Contractual Allowance</i>	<u>\$20 million</u>	
		\$30 million
Less Other Billing Reserves:		
• <i>Set aside 10% Charity Care</i>	<i>\$ 5 million</i>	
• <i>Set aside 2% Denials</i>	<i>\$ 1 million</i>	
• <i>Set aside 2% Bad Debt</i>	<u><i>\$ 1 million</i></u>	
		<u>\$ 7 million</u>
<b>Subtotal (NPSR)</b>		<b>\$23 million</b>
• 3 <sup>rd</sup> Party: Add P4P	<u>\$ 1 million</u>	
		<u>\$ 1 million</u>
<b>Net Revenue</b>		<b>\$24 million</b>

Questions?

*Thank you for your time!*