

2019 Crowe Healthcare Virtual Symposium

Using AI in the Emergency Department

February 28, 2019

Colleen Hall

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- Please submit questions through the Q&A function on your screen.
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Today's speakers



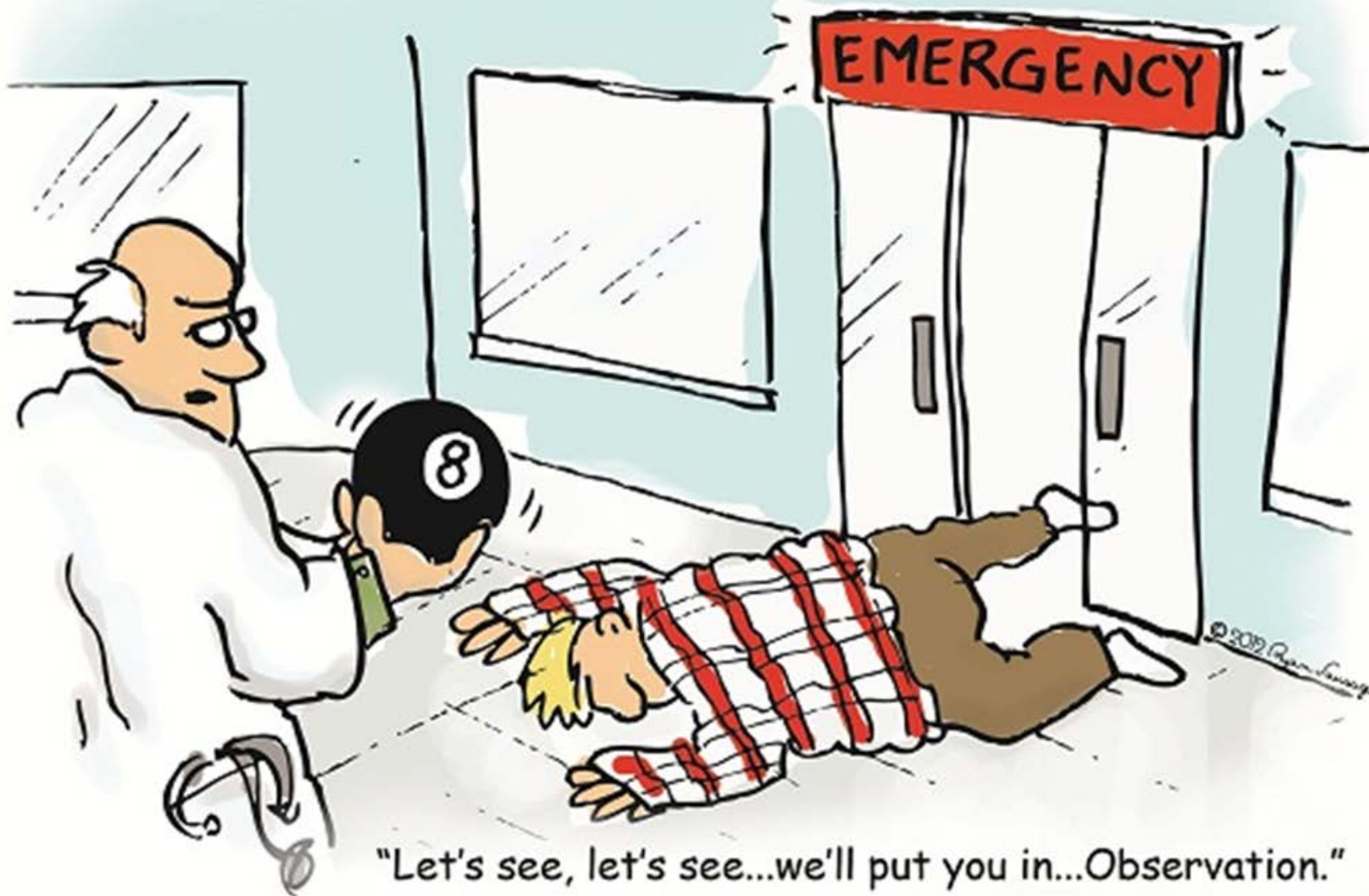
Colleen Hall
Healthcare Advisory Consultant



Agenda

- Current Issues with Patient Statusing in the Emergency Department
- Addressing the Current Issues with Statusing
- KPIs and Metrics to Track and Monitor Improvements
- How AI is Bridging the Gap





"Let's see, let's see...we'll put you in...Observation."



Observation Status

Inpatient Status

Chest Pain	\$2,600	\$4,200
COPD	\$2,600	\$4,673
Respiratory Failure	\$2,600	\$5,531

Polling Question

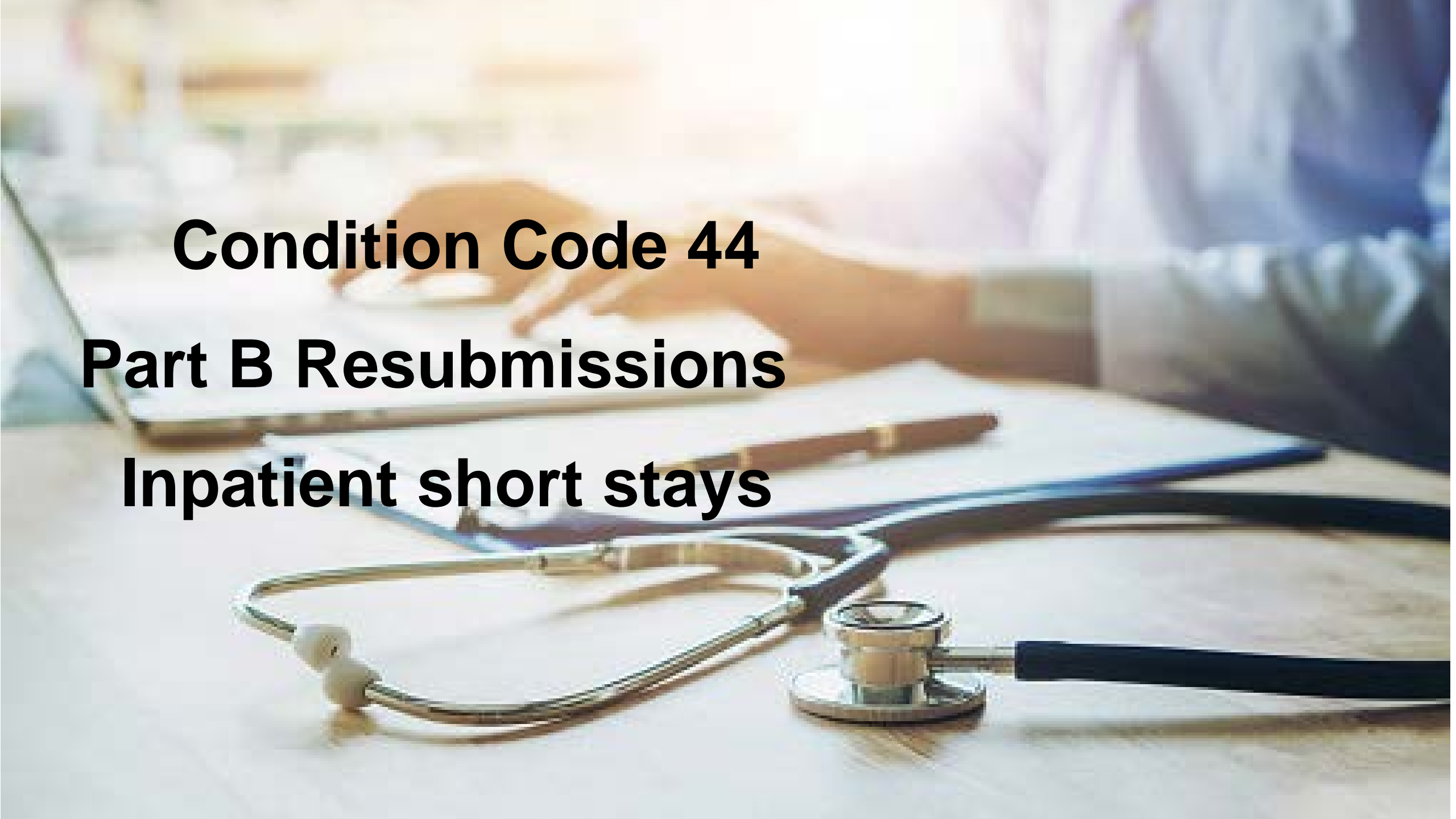
My organization has a designated group of clinicians working clinical denials.

- a. Yes
- b. No
- c. N/A



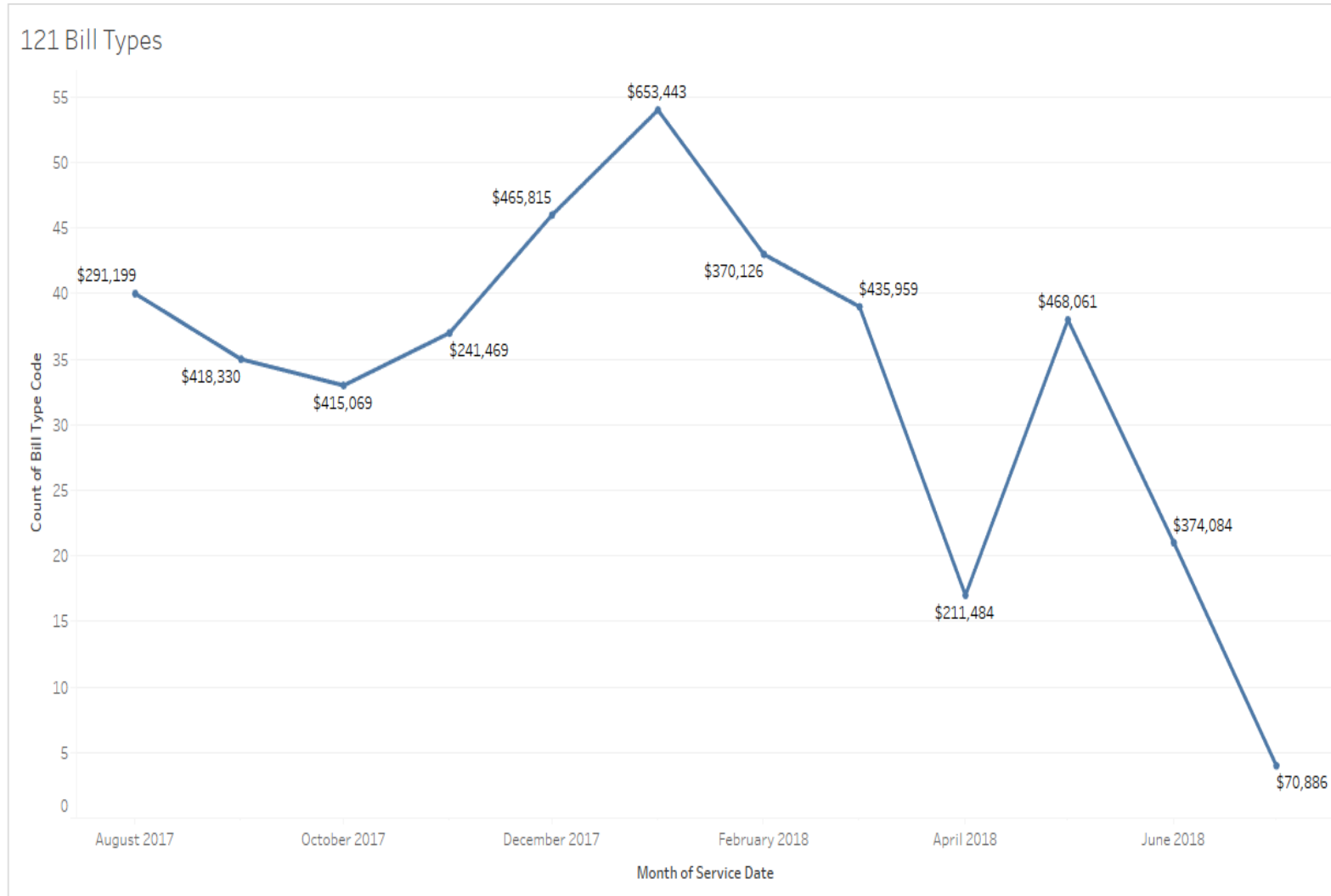
**A Centralized Appeal Success \$3.5 million
Rate is a 45% denials**





Condition Code 44
Part B Resubmissions
Inpatient short stays

BILL TYPE 121 – MEDICARE AND MEDICARE HMO BILLED AS 'PROVIDER LIABLE' WHEN INPATIENT STATUS NOT JUSTIFIED POST-DISCHARGE



Polling Question

What is the frequency of which you are reviewing reporting related to level of care monitoring?

- a. Daily
- b. Weekly
- c. Monthly
- d. Quarterly
- e. Other
- f. N/A



TWO MIDNIGHT RULE COMPARISON

EDI Account Number	CPT	Price	APC Payment
0201XXXXXX	93306	\$ 1,359.00	\$ 486.69
0201XXXXXX	71046	\$ 155.25	\$ 62.12
0201XXXXXX	96374	\$ 91.00	\$ 191.09
0201XXXXXX	96372	\$ 52.00	\$ 58.20
0201XXXXXX	99283	\$ 276.00	\$ 219.10
			\$ 1,017.20

- + Length of stay = 6 days
- + Admit Date: 1/9/18
- + Discharge Date: 1/14/18
- + Total Charges on 131/121 Bill: \$6,370.07
- + Estimated Payment Received: \$1,017.20

MSDRG Grouping Results

Age	71
Sex	Male
Discharge Status	01-Home, Self Care
Admit Date	2018-10-09
Discharge Date	2018-10-12
ICD-10 CM	E11.649 D64.9 D69.6 E03.9 E11.22 E66.9 E87.70 F32.9 I10 I13.0 I25.2 I50.9
ICD-10 Procedures	
Medicare MSDRG Assigned	638 DIABETES W CC
MDC	10 ENDOCRINE, NUTRITIONAL & METABOLIC DISEASES & DISORDERS
Provider Number	140239
Grouping Version used	HAF36-10/18
MSDRG Weight	0.8722
GLOS	2.9
ALOS	3.6
Approximate Facility Reimbursement	6,300.44
Outlier Cutoff Days	0
Actual LOS	3
Number Of Outlier Days	0

- + MSDRG of 638 estimated payment of \$6,300.44

Reimbursement Difference of \$5,283.24

CONCURRENT REVIEW – ONE DAY STAYS

Actual

EDI Account Number	CPT	Price	APC Payment
S2713XXXXXX	36415	\$ 34.00	
S2713XXXXXX	73590	\$ 220.00	\$ 59.86
S2713XXXXXX	80048	\$ 97.00	
S2713XXXXXX	80048	\$ 97.00	
S2713XXXXXX	83036	\$ 66.00	
S2713XXXXXX	83605	\$ 73.00	
S2713XXXXXX	83605	\$ 73.00	
S2713XXXXXX	83735	\$ 46.00	
S2713XXXXXX	84100	\$ 32.00	
S2713XXXXXX	85027	\$ 90.00	
S2713XXXXXX	85610	\$ 27.00	
S2713XXXXXX	85610	\$ 27.00	
S2713XXXXXX	85652	\$ 19.00	
S2713XXXXXX	85730	\$ 42.00	
S2713XXXXXX	85730	\$ 42.00	
S2713XXXXXX	86140	\$ 32.00	
S2713XXXXXX	86140	\$ 64.00	
S2713XXXXXX	93971	\$ 440.00	\$ 112.73
S2713XXXXXX	96372	\$ 52.00	\$ 53.17
S2713XXXXXX	99285	\$ 606.00	\$ 488.74
S2713XXXXXX	J0690	\$ 45.25	
S2713XXXXXX	J0690	\$ 45.25	
S2713XXXXXX	J1815	\$ 82.40	
S2713XXXXXX	J1815	\$ 190.95	
		\$ 2,542.85	\$ 714.50

Leading Practice

EDI Account Number	CPT	UNM Price	APC Payment
S2713XXXXXX	36415	\$ 34.00	
S2713XXXXXX	73590	\$ 220.00	\$ 59.86
S2713XXXXXX	80048	\$ 97.00	
S2713XXXXXX	80048	\$ 97.00	
S2713XXXXXX	83036	\$ 66.00	
S2713XXXXXX	83605	\$ 73.00	
S2713XXXXXX	83605	\$ 73.00	
S2713XXXXXX	83735	\$ 46.00	
S2713XXXXXX	84100	\$ 32.00	
S2713XXXXXX	85027	\$ 90.00	
S2713XXXXXX	85610	\$ 27.00	
S2713XXXXXX	85610	\$ 27.00	
S2713XXXXXX	85652	\$ 19.00	
S2713XXXXXX	85730	\$ 42.00	
S2713XXXXXX	85730	\$ 42.00	
S2713XXXXXX	86140	\$ 32.00	
S2713XXXXXX	86140	\$ 64.00	
S2713XXXXXX	93971	\$ 440.00	\$ 112.73
S2713XXXXXX	96372	\$ 52.00	\$ -
S2713XXXXXX	99285	\$ 606.00	\$ -
S2713XXXXXX	J0690	\$ 45.25	
S2713XXXXXX	J0690	\$ 45.25	
S2713XXXXXX	J1815	\$ 82.40	
S2713XXXXXX	J1815	\$ 190.95	
S2713XXXXXX	G0378	\$ 1,156	\$ 2,349.82
		\$ 3,699.01	\$ 2,522.41

Utilization management should ensure that inpatient encounters are reviewed no more than 12 hours after the order is placed

Leading Practice KPIs

- 1 Leading practice Observation to Inpatient Ratios are less than 25%
- 2 Inpatient short stays should be less than 2% of total inpatient encounters
Observation long stays should be less than 5% of total observation encounters
- 3 Average observation hours should be less than 28
- 4 Condition code 44 volume should be greater than Part B resubmissions
- 5 Less than 1% of your inpatient encounters should be denied for medical necessity

Crowe Status Predictor



Polling Question

My organization would benefit from the use of machine learning to assist with status determinations:

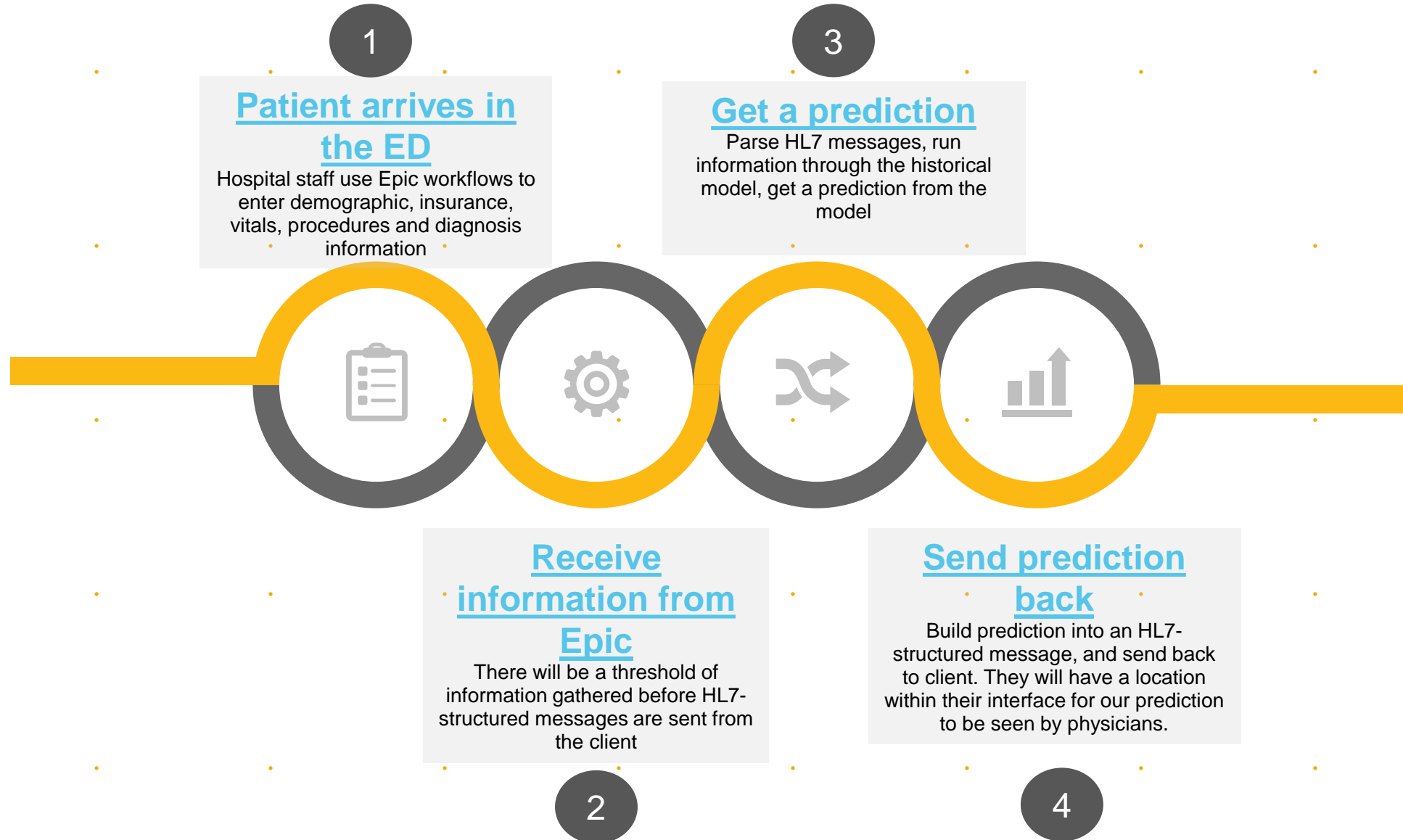
- a. Yes
- b. No
- c. N/A



Why is a Solution Necessary?

- Observation status is a consistent pain point for our current clients. Reimbursement is less than an inpatient stay and Commercial and Governmental insurers are pushing to have patients treated in an Observation status rather than an Inpatient Status
- There is significant misunderstanding of the guidelines to determine the patient's status, often resulting in denied accounts and lost revenue
- Physicians and UM nurses often make the wrong status determination which costs the organization significant reimbursement
- It is difficult to staff the Utilization Management Departments at the leading practice level (24/7) plus presence within the Emergency Departments
- Utilization Management nurses are challenged to meet all the demands of their job which leaves reviewing patient encounters for status decisions last on the list

How It Works



Benefits of the Crowe Status Predictor

- Reduce burden on Utilization Management
- Allow for the status upon transition from the ED to be accurate
- Reduce FTE requirements
- Decrease inpatient medical necessity denials
- Increased and more timely reimbursement



- Continually teach the machine on outcomes
- Allows for UM to better communicate with Physicians on more complicated cases
- Payer trending identified and can be used for managed care contract negotiations
- Reduce reliance on Physician Advisors
- Begin to predict LOS and identify outliers



Health System Pilot

Adt, Noa Two Location: MC IMAGING... Allergies: Unknown: N... CrCl: <No order found.> Admission Date: 10/30/2015
Female, 08/15/1987, 31 y.o. CSN: 116186565 Height: None Hospital, Discharge Date: None
Race: White or Caucasian MRN: M1104221 Weight: None Saphenofemoral venous re PCP: Tiffany A Weakley, MD
Last BMI: None Primary Ins.: UHC Attending: WEAKLEY, T

Flowsheets

File Add Rows LDAAvatar Cascade Add Col Insert Col Data Validate Hide Device Data

PA-DO NOT USE Data EKOS/ TPA Procedure CRRT Palliative Care Scree... Pain Assessment Pain Re-Ass

Jump To (Alt+Comma) Hide All Show All

Utilization Management

UR Flag

Admission (Current) from 8/29/18

1400

Utilization Management

Admit Date		
Type		
Financial Class		
Reviewed by:		
SI		
IS		
HPI		
UR Flag		
UR Flag		
UR Notes		
Crowe Data	Inpatient - 85%	

Johnhdil, Yoltavi X

Johnhdil, Yoltavi X
Male, 03/08/1951, 67 y.o.
Race: White or Caucasian

Room and Bed: NMICU...
Location: None
CSN: 112009942
MRN: 2356531

Allergies: Penicillins (R...)
CrCl: None
Height: 6' 4" (1.93 m)
Weight: 222 lb (100.7 kg)
Last BMI: 27.0

Hospital: Cirrhosis of liv...

Admission Date: 01/15/...
Discharge Date: None
UR Flag: Inpatient JH [...]
Pt Class: Inpatient

Attending: SARDINA, E
PCP: No Local Pcp
FYI
Code: FULL

Pref Language, Need Interp: Engli...
MyChart: Inactive
Hospice Status: Hospice
HAR: 61655527

Registries: None
Service: Medical ICU

Flowsheets

Utilization Management
UR Flag

Mode: Accordion Expanded View All

1m 5m 10m 15m 30m 1h 2h 4h 8h 24h Based On: 0700 Reset Now

	1/15/15	8/29/18
ED to Hosp-Admission (Current) from 1/15/2015 in ...	1533	1726
		1500

Utilization Management

Procedure (Retired)		ZFT AAH
Admit Date	1/15/2015	
Type	ER	
Financial Class	Commercial	
Reviewed by:	LO	DK
SI	ML SKHDL, K...	IFGHOPOECM...
IS	STX	VB
HPI		

UR Flag

UR Flag		
UR Notes		
Crowe Data		Inpatient - 75%

08/29/18 1500

Crowe Data

Inpatient - 75%

Comment (F6)

Value Information

Inpatient - 75%

Taken by:
Florence Young, MA at 08/29/18 1500 (today)

Recorded by:
Florence Young, MA at 08/29/18 1503 (today)

Last Filed Values (24 hours)

Inpatient - 75%

by Florence Young, MA at 08/29/18 1500

First Filed Value

Inpatient - 75%

by Florence Young, MA at 08/29/18 1500

The machine will predict the patient's status with a higher level of accuracy than a human

Polling Question

I am interested in learning more about the status predictor and how it can be applied in my organization

- a. Yes
- b. No
- c. N/A



Thank you

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