

# Innovation at Crowe: An Introduction to the Crowe Status Predictor

Healthcare Summit 2018:  
Simplifying Healthcare

September 18, 2018

Colleen Hall, Crowe

Karen Kennedy, Martin Health System

# Your Presenters



## **Karen Kennedy**

**Director, Corporate Business Services at Martin Health System**

Karen has worked in the provider side of healthcare for 23 years encompassing both clinical and financial perspectives. Her undergraduate degree is in medical laboratory technology and she is a licensed clinical laboratory supervisor in the state of Florida. She also holds an MBA and has worked as a healthcare financial analyst, cost accountant, and PFS Manager. She currently is the Director of Corporate Business Services at Martin Health System, a multi-campus integrated healthcare delivery system in Martin and St. Lucie Counties of Florida. She is responsible for patient access, utilization review, hospital and physicians billing and collections. Karen is an active participant in HFMA, the Florida Hospital Association and is the President of the Florida Sunshine Chapter of AAHAM.



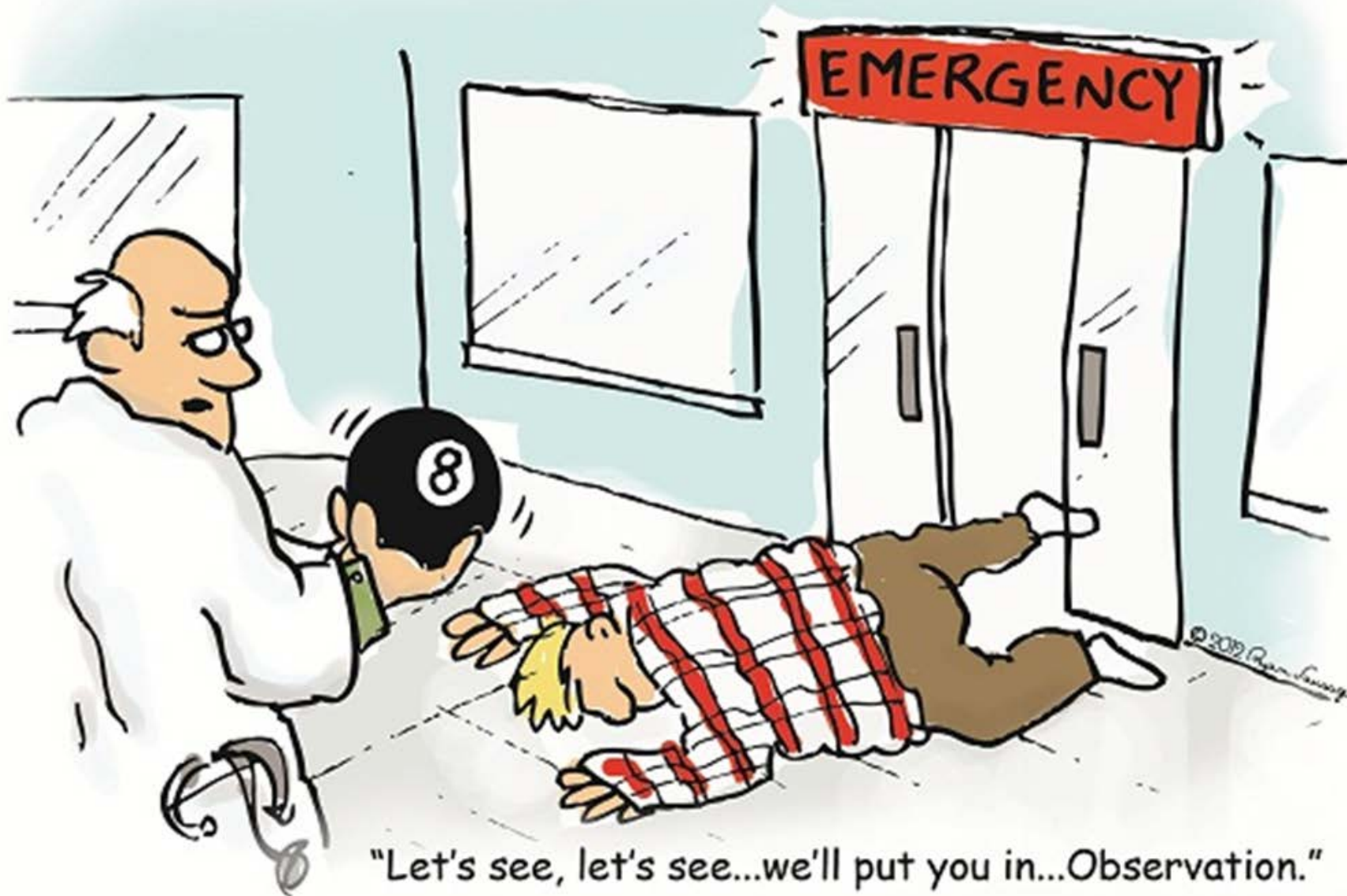
## **Colleen Hall**

**Principal, Crowe LLP**

Colleen is a Principal within Crowe's Healthcare Performance practice and leads the Clinical Revenue Management service line. She has over 15 years of experience in both the provider and consulting settings within healthcare. Colleen has her undergraduate degree in Health Services Management and has also obtained her Master's in Business Administration. She also holds several coding certifications which include Certified Professional Coder (CPC), Certified Professional Medical Auditor (CPMA) and Certified Interventional Radiology and Cardiology Coder (CIRCC). Colleen has led the development of the Crowe Status Predictor.

- Observation vs. Inpatient – Why it Matters
- Martin Health System Pilot
- The Crowe Status Predictor Solution

# Agenda



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



	<b><u>Observation Status</u></b>	<b><u>Inpatient Status</u></b>
--	----------------------------------	--------------------------------

<b>Chest Pain</b>	<b>\$2,600</b>	<b>\$4,200</b>
<b>COPD</b>	<b>\$2,600</b>	<b>\$4,673</b>
<b>Respiratory Failure</b>	<b>\$2,600</b>	<b>\$5,531</b>



**Clinical Denial Appeal Success  
Rate is less than 45%**

**An average sized hospital loses  
\$3.5 million annually to clinical  
denials**



**Condition Code 44**

**Part B Resubmissions**

**3 day qualifying stay**

**Inpatient short stays**

# By The Numbers

---

KPI Category	Monthly Average	
Inpatient Discharges	2211	
Observation Patients	830	
Observation:Inpatient	37.5%	1
Medicare Inpatient Short Stays	43	2
Observation Long Stays	82	
Average Observation Hours	30	3
Condition Code 44s issued	17	4
Resubmissions for Part B	24	
Inpatient Medical Necessity Denials	56	5



# KPI Comparisons to Leading Practices

---

- 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



# 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

1

## Patient arrives in the ED

Hospital staff use Epic workflows to enter demographic, insurance, vitals, procedures and diagnosis information

3

## Get a prediction

Parse HL7 messages, run information through the historical model, get a prediction from the model



## Receive information from Epic

There will be a threshold of information gathered before HL7-structured messages are sent from the client


## Send prediction back

Build prediction into an HL7-structured message, and send back to client. They will have a location within their interface for our prediction to be seen by physicians.

2

4

# 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

# Martin Health System Pilot

**Adt, Noa Two**  
Female, 08/15/1987, 31 y.o.  
Race: White or Caucasian

Location: MC IMAGING...  
CSN: 116186565  
MRN: M1104221

Allergies: Unknown: N...  
Height: None  
Weight: None  
Last BMI: None

CrCl: <No order found.>  
Hospital,  
Saphenofemoral venous re  
Primary Ins.: UHC

Admission Date: 10/30/2015  
Discharge Date: None  
PCP: Tiffany A Weakley, MD  
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

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...)  
 Height: 6' 4" (1.93 m)  
 Weight: 222 lb (100.7 kg)  
 Last BMI: 27.0

CrCl: None  
 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

ED to Hosp-Admission (Current) from 1/15/2015 in ...

	1/15/15	8/29/18
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**

**Come join our ideation  
session in the Blue Sky  
Lab tomorrow between  
10:00 and 1:00!**







# Thank you