Clinical Informatics:

Basic Concepts and Practical Application

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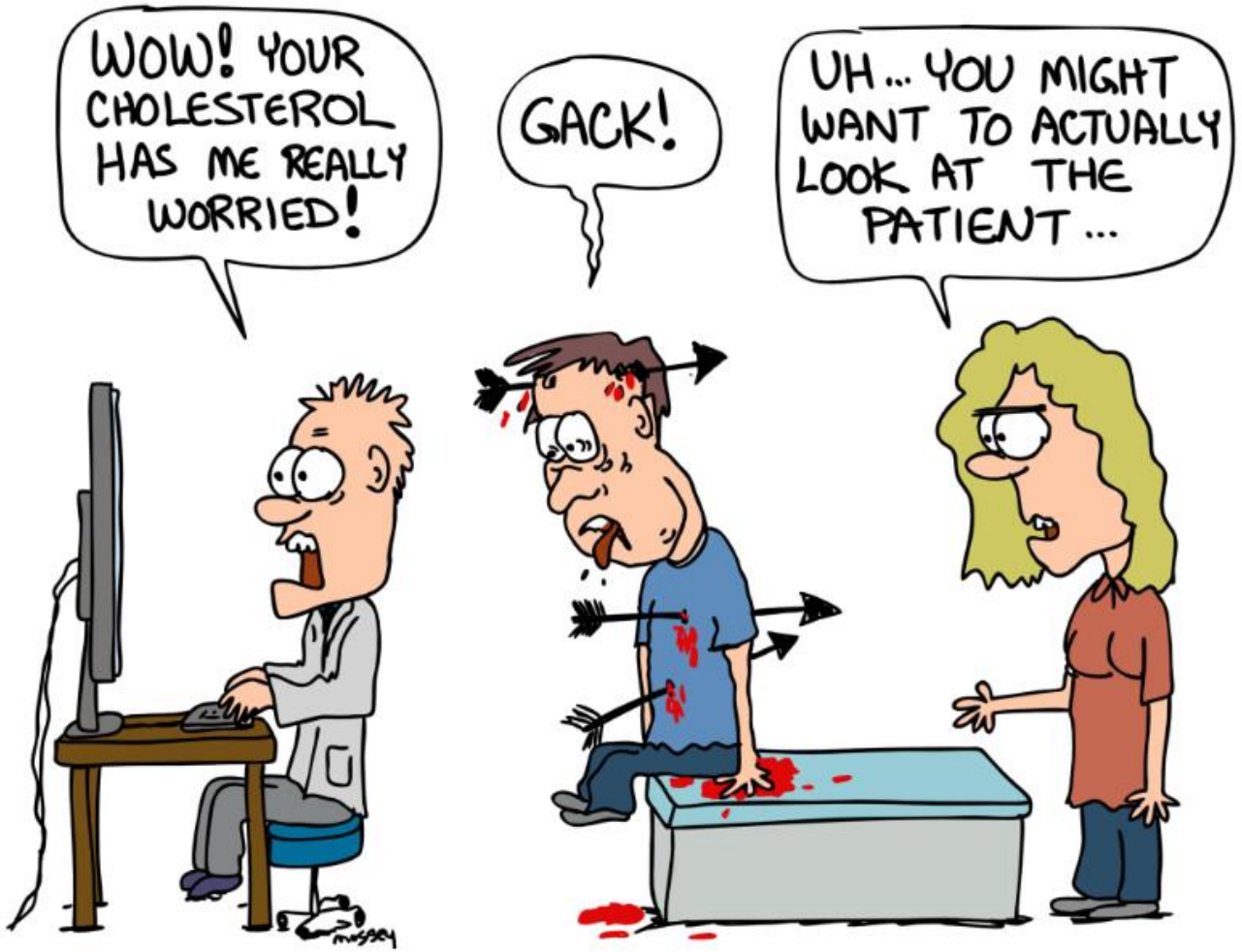
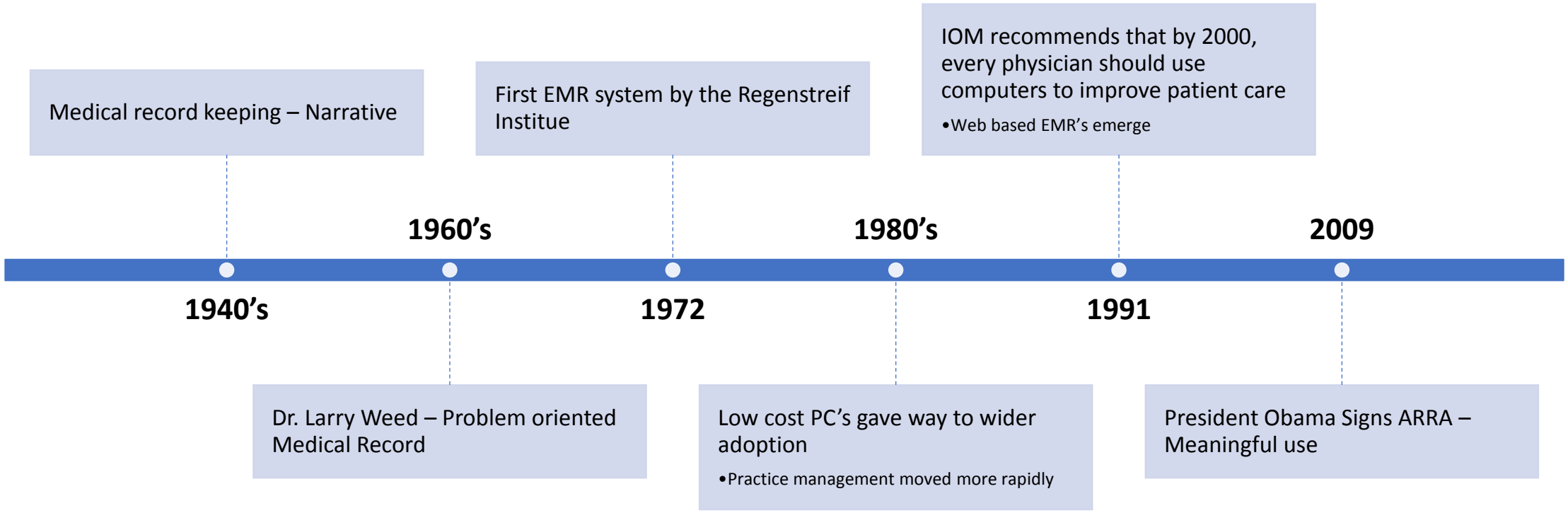
Agenda

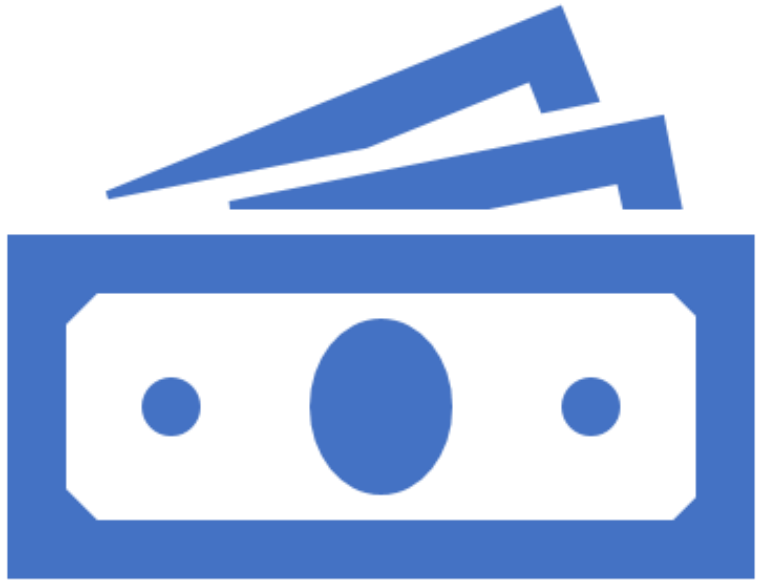
- EHR Past and Present
- Clinical Decision Support
- Health Information Exchange
- Opioid Epidemic Response
- Secure Messaging
- Common Errors in Cerner/Tips and tricks

The EHR


WOW! YOUR CHOLESTEROL HAS ME REALLY WORRIED!
GACK!
UH... YOU MIGHT WANT TO ACTUALLY LOOK AT THE PATIENT...



EHR Timeline



American Recovery and Reinvestment Act of 2009 (ARRA)

- $831 Billion stimulus package
  - Healthcare overall $155 Billion
    - Medicaid $88 Billion
- HITECH Act $25 Billion
  - Meaningful use program

Stage 1

2011-2012

Data capture and sharing

Meaningful use criteria focus on:

- Electronically capturing health information in a standardised format
- Using that information to track key clinical conditions
- Communicating that information for care coordination processes
- Initiating the reporting of clinical quality measures and public health information
- Using information to engage patients and their families in their care

Stage 2

2014

Advance clinical processes

Meaningful use criteria focus on:

- More rigorous health information exchange (HIE)
- Increased requirements for e-prescribing and incorporating lab results
- Electronic transmission of patient care summaries across multiple settings
- More patient-controlled data

Stage 3

2016

Improved outcomes

Meaningful use criteria focus on:

- Improving quality, safety and efficiency, leading to improved health outcomes
- Decision support for national high-priority conditions
- Patient access to self-management tools
- Access to comprehensive patient data through patient-centred HIE
- Improving population health

The three stages of Meaningful Use (37)

90.4% of the 5,011 eligible hospitals;

69.6% of the estimated 527,200 eligible professionals

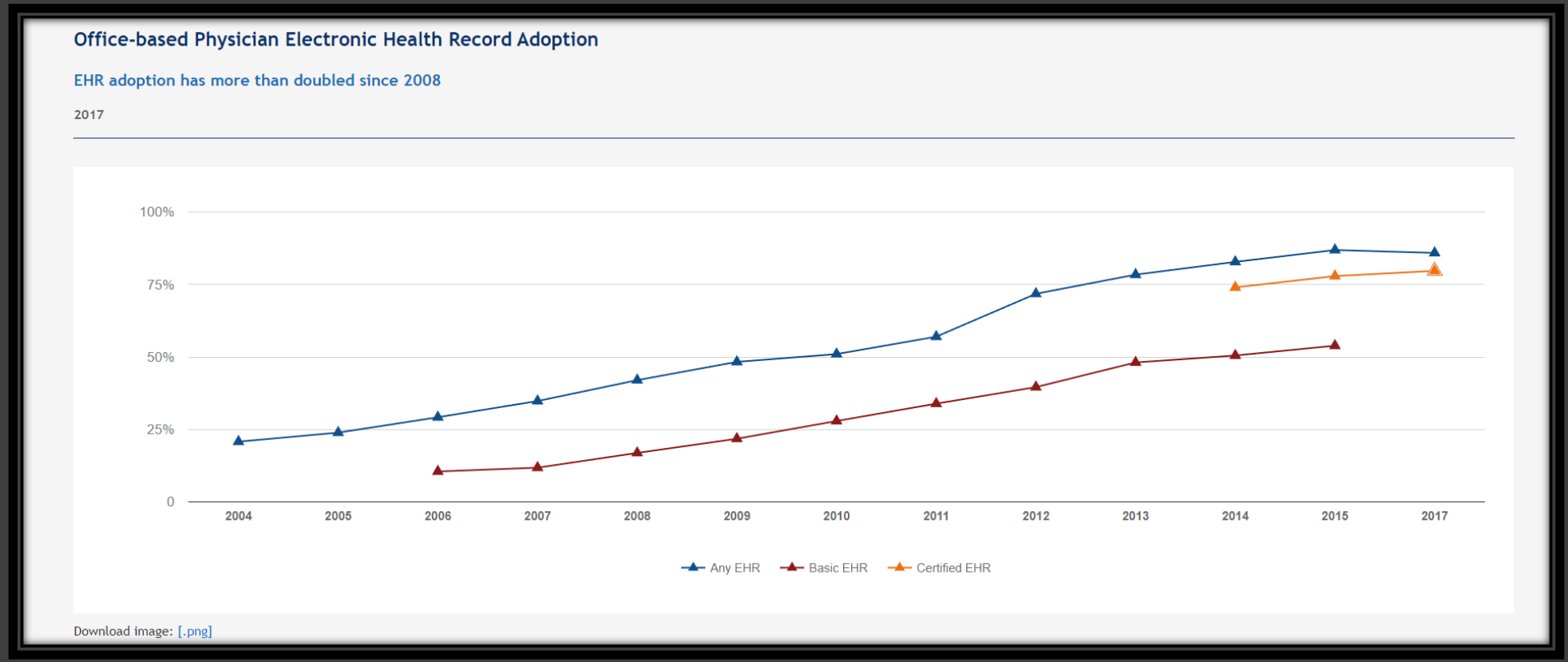
2014 - $22.5 billion in combined Medicare and Medicaid EHR Incentive Program payments have been made

Payments

Medicare Incentives

Max payout in a year	First year of participation				No adoption
	2011	**2012**	**2013**	**2014**	**2015**
2011	$18,000				
2012	$12,000	$18,000			
2013	$7,840	$11,760	$14,700		
2014	$3,920	$7,840	$11,760	$11,760	
2015	$1,960	$3,920	$7,840	$7,840	-1%
2016		$1,960	$3,920	$3,920	-2%
Total	**$43,720**	**$43,480**	**$38,220**	**$23,520**	**$0**

The Office of the National Coordinator for Health Information Technology | Health IT Dashboard



EHR Adoption

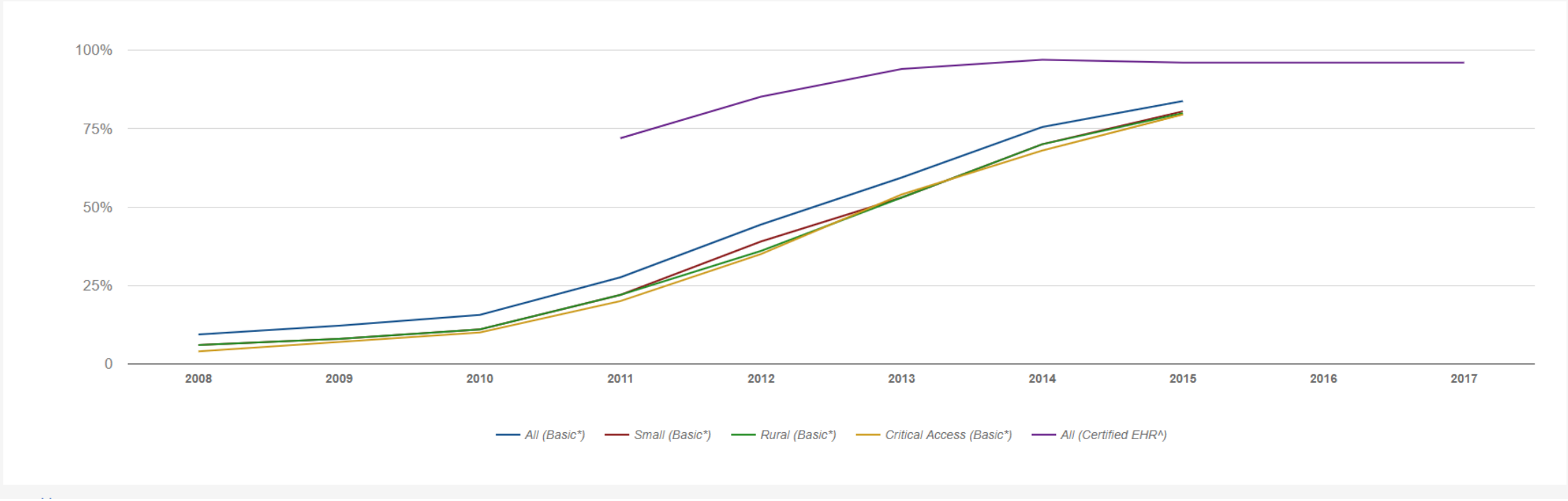
- As of 2017, nearly 9 in 10 (86%) office-based physicians had adopted any EHR

The Office of the National Coordinator for Health Information Technology | Health IT Dashboard

Non-federal Acute Care Hospital Electronic Health Record Adoption

Four out of five hospitals have a Basic EHR system

2017



Top 10 ambulatory EHR vendors

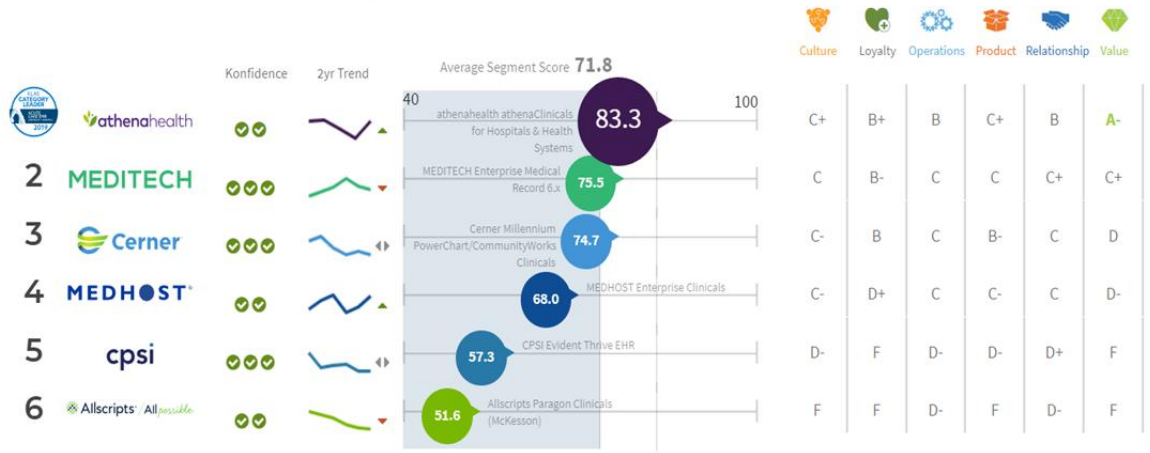
Rank	Vendor	Market Share
1.	Epic	33.4%
2.	Cerner	24.9%
3.	MEDITECH	10.6%
4.	Evident, a CPSI Company	7.9%
5.	Allscripts	5.0%
6.	athenahealth	3.2%
7.	eClinicalWorks	3.0%
8.	Netsmart Technologies	0.9%
9.	NextGen Healthcare	0.8%
10.	Indian Health Service	0.5%

Top 10 Inpatient EHR Vendors

Rank	Vendor	Market Share
1.	Epic	30.9%
2.	Cerner	25.1%
3.	MEDITECH	14.7%
4.	Evident, a CPSI Company	8.1%
5.	Allscripts	5.7%
6.	MEDHOST	5.5%
7.	Netsmart Technologies	1.5%
8.	athenahealth	1.3%
9.	Harris Healthcare	0.8%
10.	Indian Health Service	0.5%

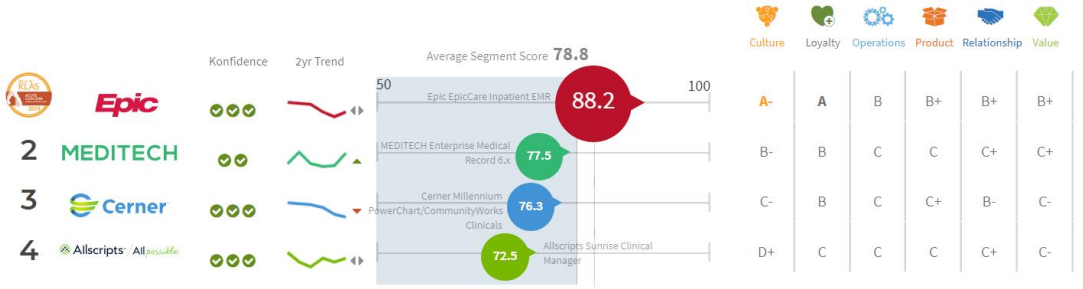
Acute Care EMR (Community Hospital)

How do vendor solutions compare?



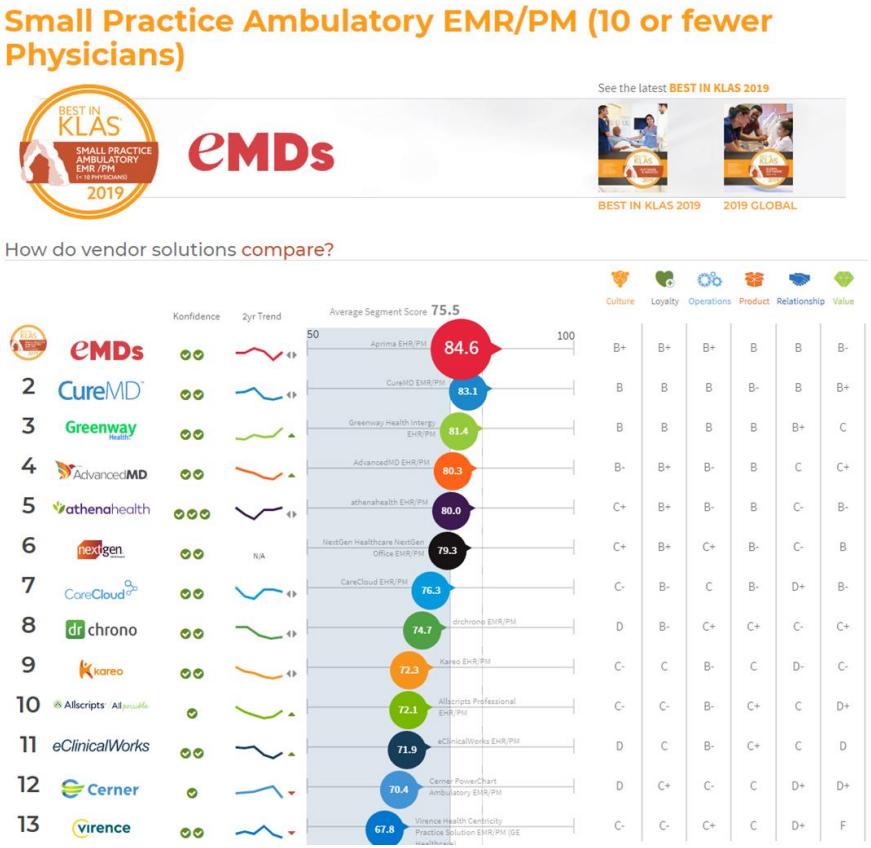
Acute Care EMR (Large Hospital / IDN)

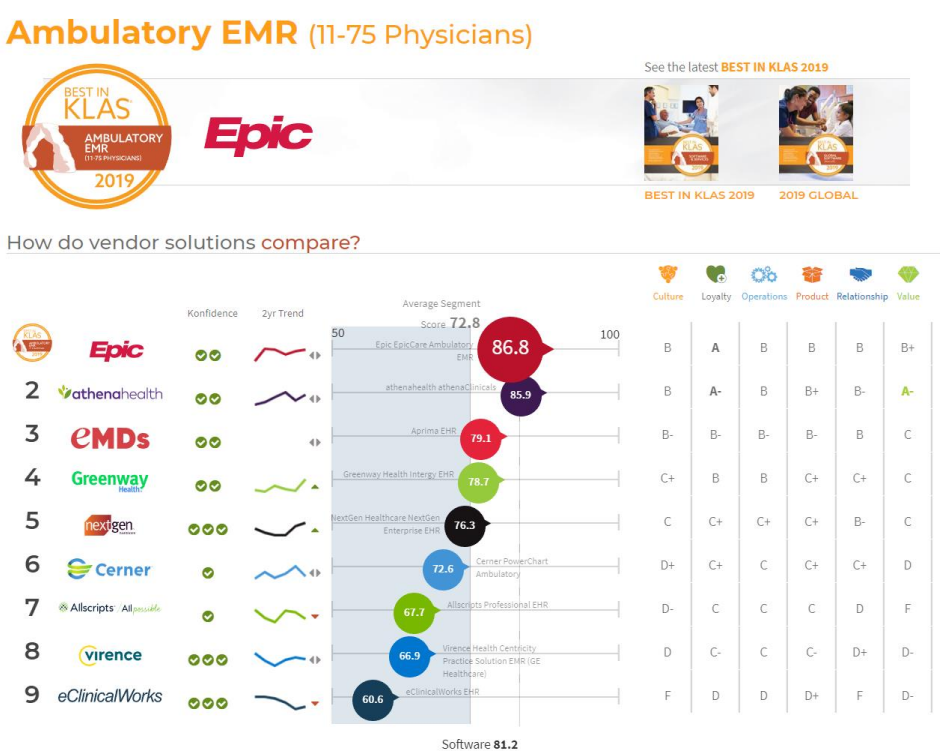
How do vendor solutions compare?



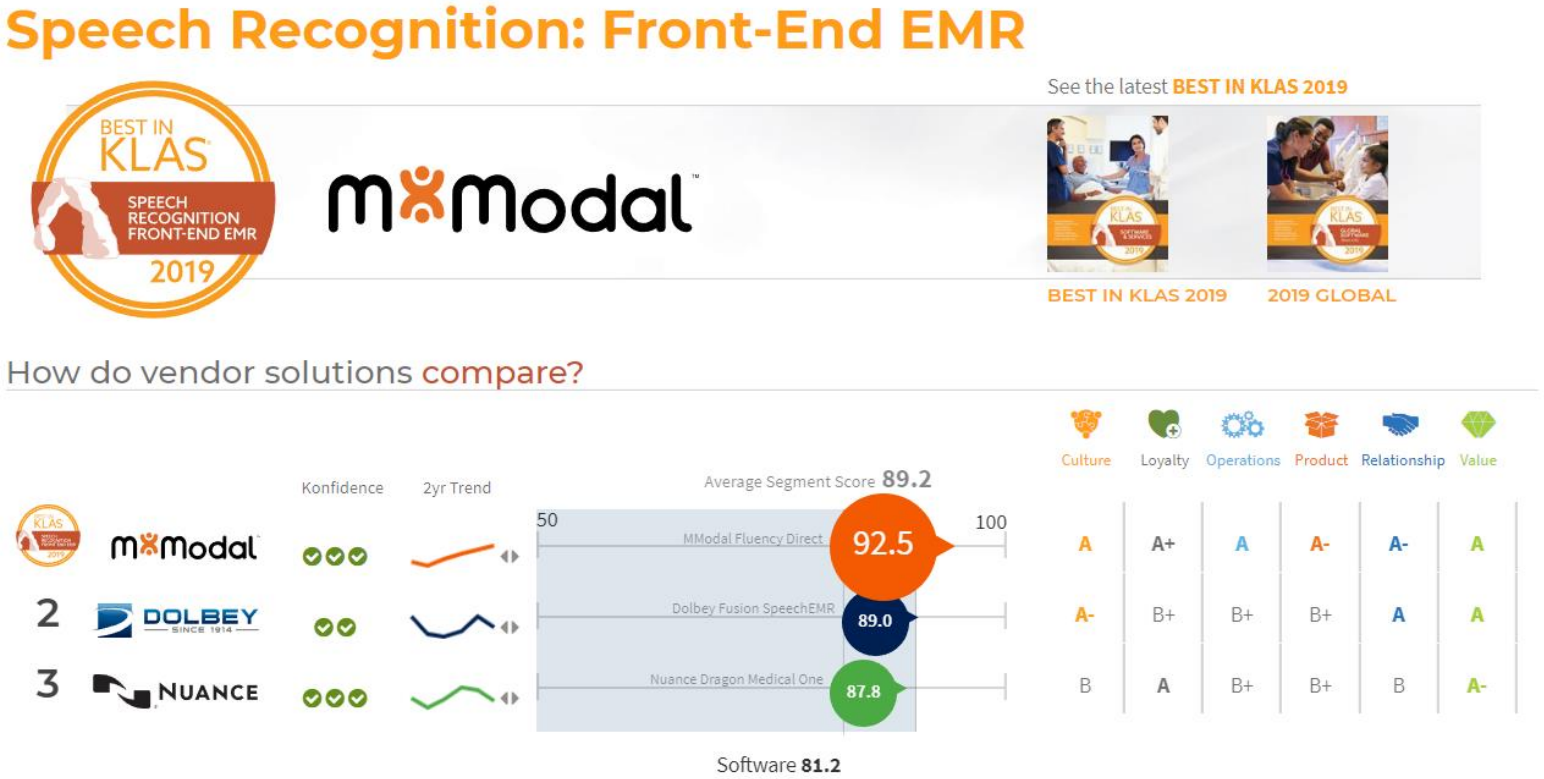
Software **81.2**

KLAS Report 2019





KLAS Report 2019



KLAS Report 2019

March
2018

How Doctors Feel About Electronic Health Records

National Physician Poll
by The Harris Poll

Stanford MEDICINE The Harris Poll

Background, Objectives, and Methodology

Stanford MEDICINE

New research from Stanford Medicine, conducted with The Harris Poll examined perceptions of EHR systems among primary care physicians (PCPs). The research will inform a white paper drafted by Stanford Medicine, one that is focused on identifying what problems doctors are encountering with EHRs, and then implementing solutions.

Qualified respondents were:

- ✓ PCPs (Primary medical specialty defined as Family Practice, General Practice, or Internal Medicine)
- ✓ Licensed to practice in the United States
- ✓ Using their current EHR system for a least one month

Method Statement (to be included in all materials for public release):

The survey was conducted online by The Harris Poll on behalf of Stanford Medicine between March 2 and March 27, 2018 among 521 PCPs licensed to practice in the U.S. who have been using their current EHR system for at least one month. Physicians were recruited via snail mail from the American Medical Association (AMA) Masterfile. Figures for years in practice by gender, region, and primary medical specialty were weighted where necessary to bring them into line with their actual proportions in the population of PCPs in the U.S.

Throughout this report:

- Percentages may not add up to 100% due to weighting and/or computer rounding and the acceptance of multiple responses.
- Unless otherwise noted, results for the Total (all responding PCPs) are displayed.

Key Takeaways

Stanford MEDICINE

The Harris Poll, on behalf of Stanford Medicine, conducted a comprehensive survey of over 500 primary-care physicians (PCPs) on electronic health records (EHRs). Some key findings include:

1. Doctors see value in EHRs, but want substantial improvements.

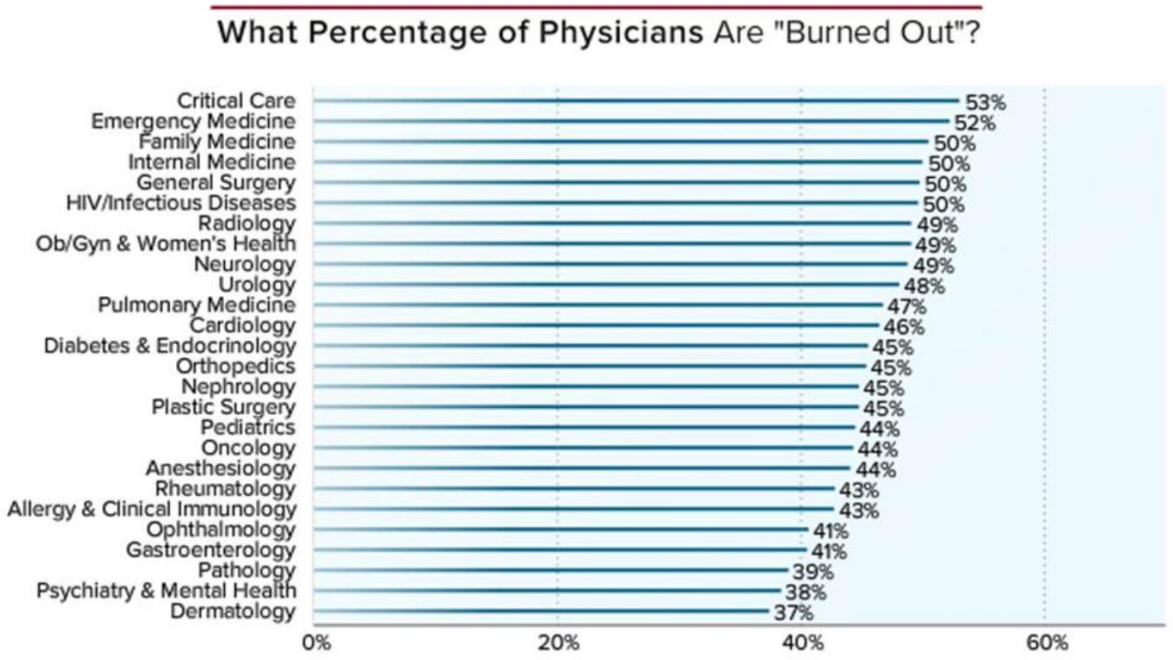
- While roughly two-thirds of PCPs think EHRs have generally led to improved care (63%) and are at least somewhat satisfied with their current EHR systems (66%), they continue to report problems
- Four in 10 PCPs (40%) believe there are more challenges with EHRs than benefits
- 62% of time devoted to each patient is being spent in the EHR and half of office-based PCPs (49%) think using an EHR actually *detracts* from their clinical effectiveness
- Seven out of 10 physicians (71%) agree that EHRs greatly contribute to physician burnout
- Six out of 10 physicians (59%) think EHRs need a complete overhaul

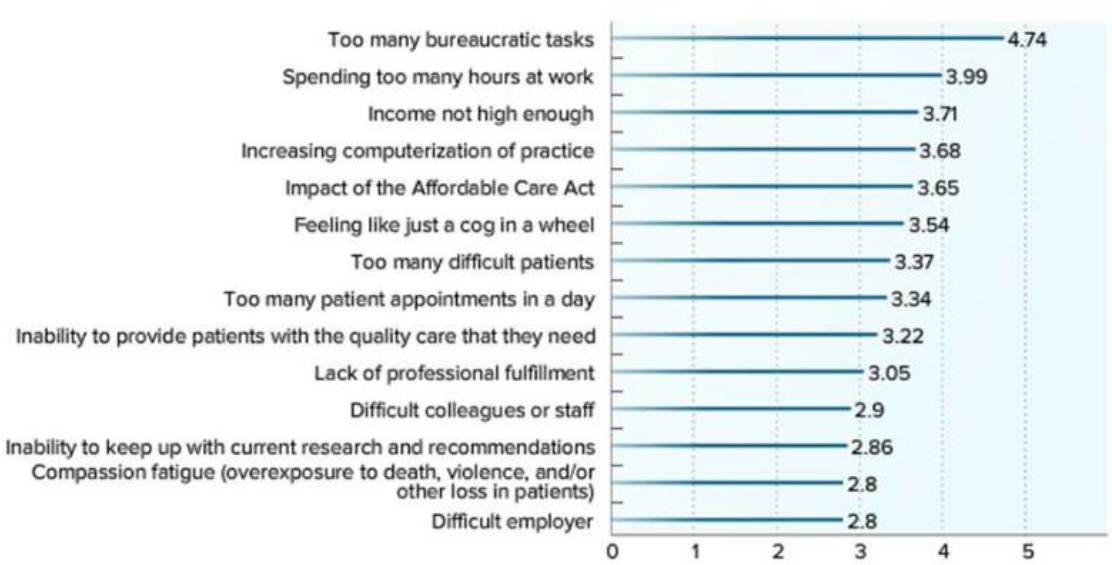
2. EHRs aren't seen as powerful clinical tools; their primary value, according to PCPs, is data storage (44%).

- Only 8% say the primary value of their EHR is clinically related

3. Physicians agree on what needs to be fixed right away, and what needs to be fixed over the next decade:

- Nearly three out of four PCPs (72%) think that improving EHRs' user interfaces could best address EHR challenges in the immediate future
- Seven out of 10 PCPs (67%) think solving interoperability deficiencies should be the top priority for EHRs in the next decade—and 43% want improved predictive analytics to support disease diagnosis, prevention, and population health management





Source: Physician Lifestyle Report 2015 – Health, Wealth, Weed, Medscape

Burnout

1 BEFORE EXAM

- Your Medical Assistant brings the patient to the exam room, enters the patient's medical history and vitals into your EMR.
- Your **Virtual Scribe**, connected to the exam room remotely through secure, HIPAA-compliant VOIP and RDP/VPN connections, reviews the patient's file.
- Physician enters the exam room.

2 DURING EXAM

- Your **Virtual Scribe** listens to and documents the doctor-patient encounter in real-time.
- Your **Virtual Scribe** will be busy entering notes, CPT and ICD codes, eRx, orders, and other relevant data directly into the patient's chart -- while the doctor is busy seeing and providing care to the patient.
- Your **Virtual Scribe** ensures the patients' charts meet requirements for PQRS, MU, MACRA, and/or other quality measures with which your clinic needs assistance.
- Doctor does not perform data entry during the exam.

3 AFTER EXAM

- Doctor reviews the day's charts with your **Virtual Scribe** via the secure VOIP connection, vocalizes any edits needed to the patient charts, and then signs off.
- Your **Virtual Scribe** generates referral letters and performs other tasks, as directed.

PhysiciansAngels

Benefits of Using Virtual Medical Scribes

	Per 8-hr day (Avg 9-10 scribe hours)	Per week @ 4 days/wk	Per month	Per year @ 11 mos/yr
Revenue generated by seeing 8 add'l Medicare/ Medicaid patients per day	$688	$2,752	$11,008	$121,088
Avg cost of 2 scribes @ $14/hour – full-time plan	($252)	($1,008)	($4,032)	($44,352)
Total Net Benefit	**$436**	**$1,744**	**$6,976**	**$76,736**

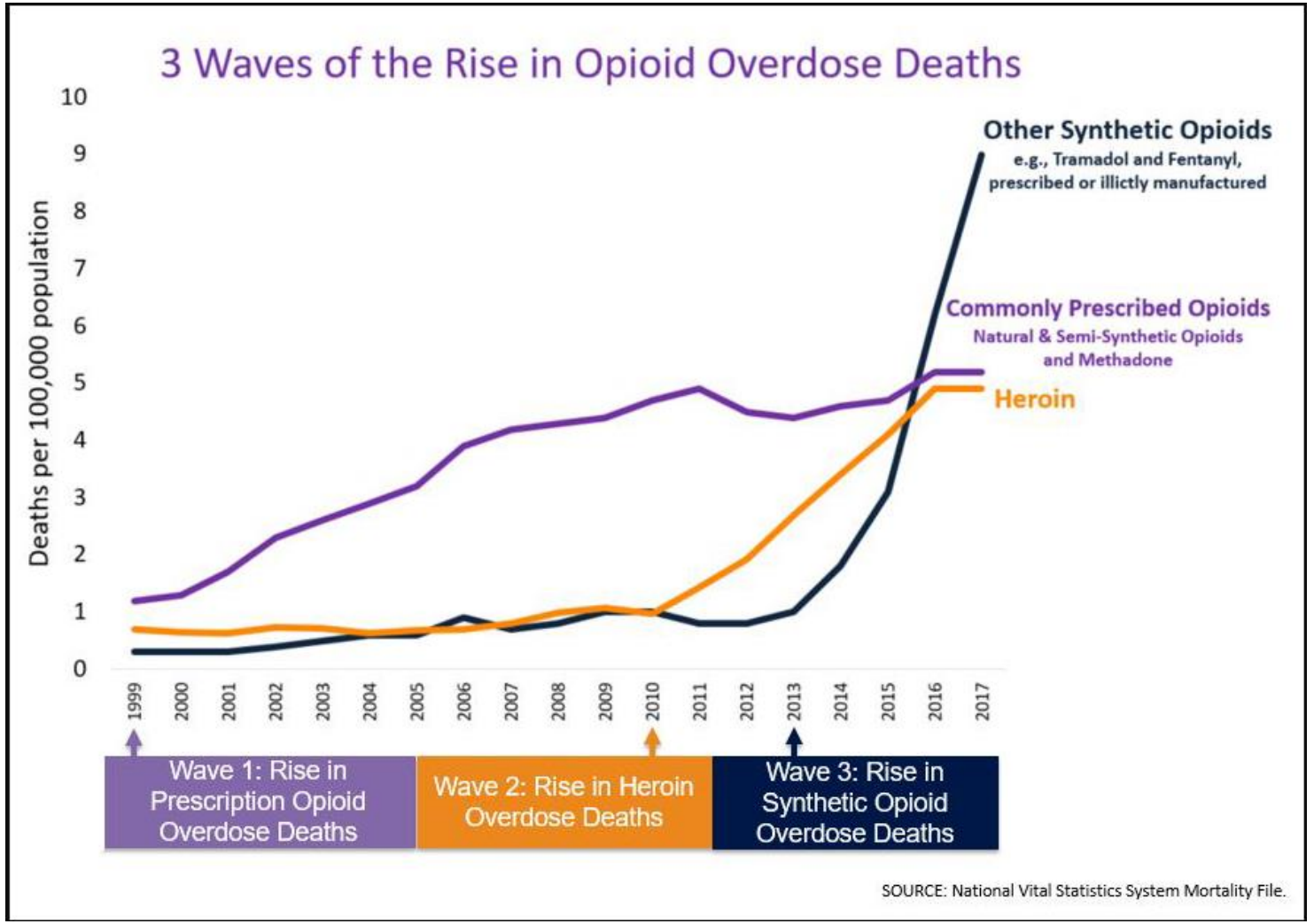
Virtual Scribe

The EHR – Not Just Record Keeping

- Collects Quality Metrics
- Changes Prescriber Behavior
- Monitors Security and Access
- Gathers Outside Records
- Clinical Decision Support Systems
- Guides Legal/Compliant Practices

EHR modifications – Opioid Epidemic

Opioid Epidemic



Understanding the Epidemic

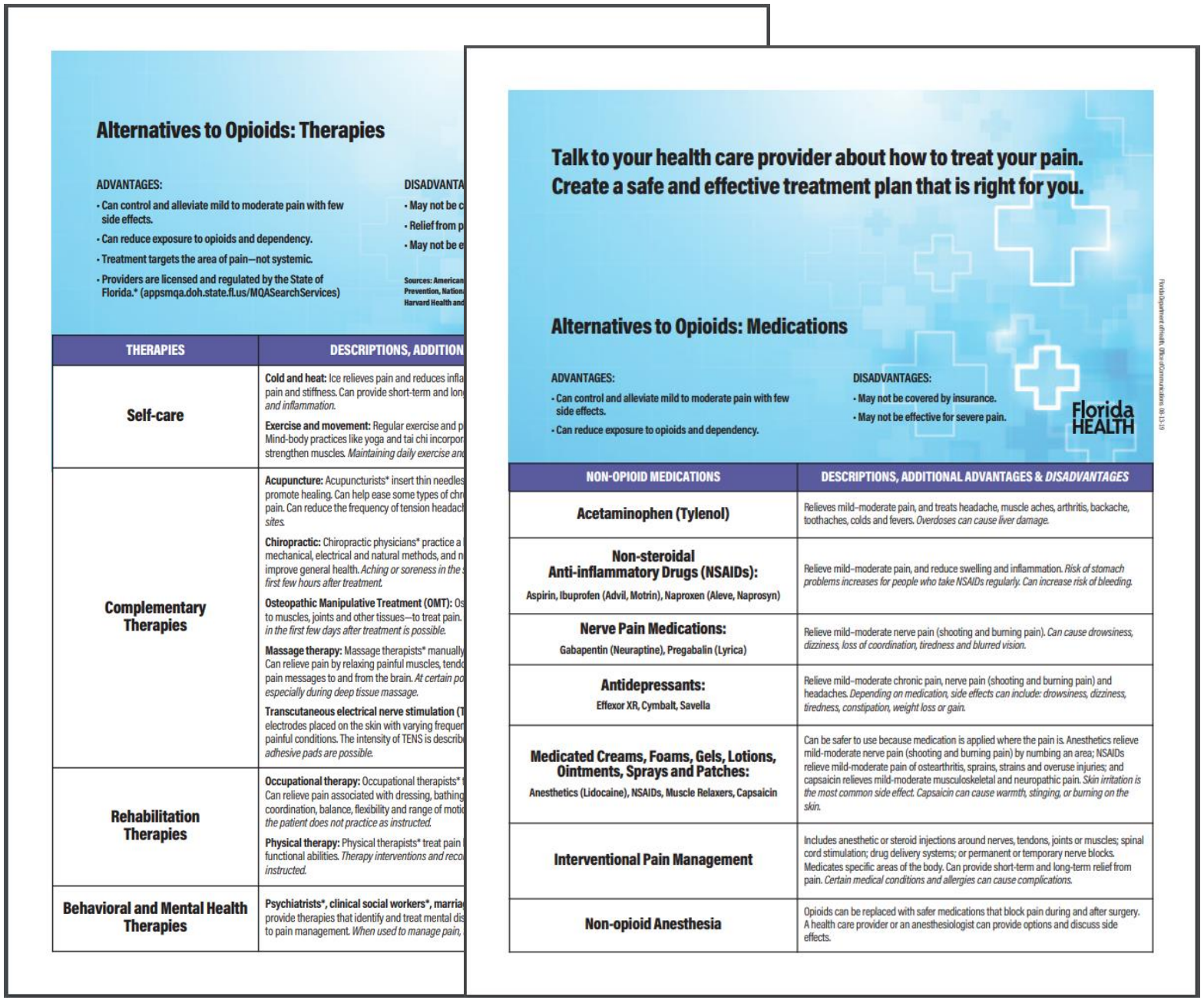
Drug overdose deaths continue to increase in the United States.

- From 1999 to 2017, more than 700,000 people have died from a drug overdose.
- Around 68% of the more than 70,200 drug overdose deaths in 2017 involved an opioid.
- In 2017, the number of overdose deaths involving opioids (including prescription opioids and illegal opioids like heroin and illicitly manufactured fentanyl) was 6 times higher than in 1999.
- On average, 130 Americans die every day from an opioid overdose.[1]

Florida Laws

- HB 21 July 2018
  - Must check PDMP
  - Max acute pain = 3 day supply
  - Acute pain exception up to 7 days
  - Dispensers must report to database
- HB 451 July 2019
  - Alternatives to opiates must be explained before prescribing
  - Pamphlet must be given to patient (made by DOH)

Pamphlet



Alternatives to Opioids: Therapies

ADVANTAGES:

- Can control and alleviate mild to moderate pain with few side effects.
- Can reduce exposure to opioids and dependency.
- Treatment targets the area of pain—not systemic.
- Providers are licensed and regulated by the State of Florida.* (appsmqa.doh.state.fl.us/MQASearchServices)

DISADVANTA

- May not be c
- Relief from p
- May not be e

Sources: American Prevention, Nation Harvard Health and

THERAPIES	DESCRIPTIONS, ADDITION
Self-care	**Cold and heat:** Ice relieves pain and reduces infla pain and stiffness. Can provide short-term and lon *and inflammation.* **Exercise and movement:** Regular exercise and p Mind-body practices like yoga and tai chi incorpor strengthen muscles. *Maintaining daily exercise an*
Complementary Therapies	**Acupuncture:** Acupuncturists* insert thin needles promote healing. Can help ease some types of chr pain. Can reduce the frequency of tension headac *sites.* **Chiropractic:** Chiropractic physicians* practice a mechanical, electrical and natural methods, and n improve general health. *Aching or soreness in the first few hours after treatment.* **Osteopathic Manipulative Treatment (OMT):** Os to muscles, joints and other tissues—to treat pain. *in the first few days after treatment is possible.* **Massage therapy:** Massage therapists* manually Can relieve pain by relaxing painful muscles, tend pain messages to and from the brain. *At certain po especially during deep tissue massage.* **Transcutaneous electrical nerve stimulation (T** electrodes placed on the skin with varying frequer painful conditions. The intensity of TENS is describ *adhesive pads are possible.*
Rehabilitation Therapies	**Occupational therapy:** Occupational therapists* t Can relieve pain associated with dressing, bathing coordination, balance, flexibility and range of moti *the patient does not practice as instructed.* **Physical therapy:** Physical therapists* treat pain functional abilities. *Therapy interventions and reco instructed.*
Behavioral and Mental Health Therapies	**Psychiatrists*, clinical social workers*, marria** provide therapies that identify and treat mental dis to pain management. *When used to manage pain,*

Talk to your health care provider about how to treat your pain. Create a safe and effective treatment plan that is right for you.

Alternatives to Opioids: Medications

ADVANTAGES:

- Can control and alleviate mild to moderate pain with few side effects.
- Can reduce exposure to opioids and dependency.

DISADVANTAGES:

- May not be covered by insurance.
- May not be effective for severe pain.

Florida HEALTH

Florida Department of Health, Office of Communications 08-13-19

NON-OPIOID MEDICATIONS	DESCRIPTIONS, ADDITIONAL ADVANTAGES & *DISADVANTAGES*
Acetaminophen (Tylenol)	Relieves mild–moderate pain, and treats headache, muscle aches, arthritis, backache, toothaches, colds and fevers. *Overdoses can cause liver damage.*
Non-steroidal Anti-inflammatory Drugs (NSAIDs): **Aspirin, Ibuprofen (Advil, Motrin), Naproxen (Aleve, Naprosyn)**	Relieve mild–moderate pain, and reduce swelling and inflammation. *Risk of stomach problems increases for people who take NSAIDs regularly. Can increase risk of bleeding.*
Nerve Pain Medications: **Gabapentin (Neuraptine), Pregabalin (Lyrica)**	Relieve mild–moderate nerve pain (shooting and burning pain). *Can cause drowsiness, dizziness, loss of coordination, tiredness and blurred vision.*
Antidepressants: **Effexor XR, Cymbalt, Savella**	Relieve mild–moderate chronic pain, nerve pain (shooting and burning pain) and headaches. *Depending on medication, side effects can include: drowsiness, dizziness, tiredness, constipation, weight loss or gain.*
Medicated Creams, Foams, Gels, Lotions, Ointments, Sprays and Patches: **Anesthetics (Lidocaine), NSAIDs, Muscle Relaxers, Capsaicin**	Can be safer to use because medication is applied where the pain is. Anesthetics relieve mild-moderate nerve pain (shooting and burning pain) by numbing an area; NSAIDs relieve mild-moderate pain of osteathritis, sprains, strains and overuse injuries; and capsaicin relieves mild-moderate musculoskeletal and neuropathic pain. *Skin irritation is the most common side effect. Capsaicin can cause warmth, stinging, or burning on the skin.*
Interventional Pain Management	Includes anesthetic or steroid injections around nerves, tendons, joints or muscles; spinal cord stimulation; drug delivery systems; or permanent or temporary nerve blocks. Medicates specific areas of the body. Can provide short-term and long-term relief from pain. *Certain medical conditions and allergies can cause complications.*
Non-opioid Anesthesia	Opioids can be replaced with safer medications that block pain during and after surgery. A health care provider or an anesthesiologist can provide options and discuss side effects.

Checklist from Floridahealth.gov

Alternatives to Opioids

Health Care Provider Checklist

INFORM

- ☐ Non-opioid alternatives for pain treatment, which may include non-opioid medicinal drugs or drug products are available.
- ☐ Non-opioid interventional procedures or treatments which may include: acupuncture, chiropractic treatments, massage, physical or occupational therapy, or other appropriate therapy are available.

DISCUSS

- ☐ Advantages and disadvantages of non-opioid alternatives.
- ☐ Patient's risk or history of controlled substance abuse or misuse and patient's personal preferences.

DOCUMENT IN PATIENT'S RECORD

- ☐ Non-opioid alternatives considered.

Florida HEALTH

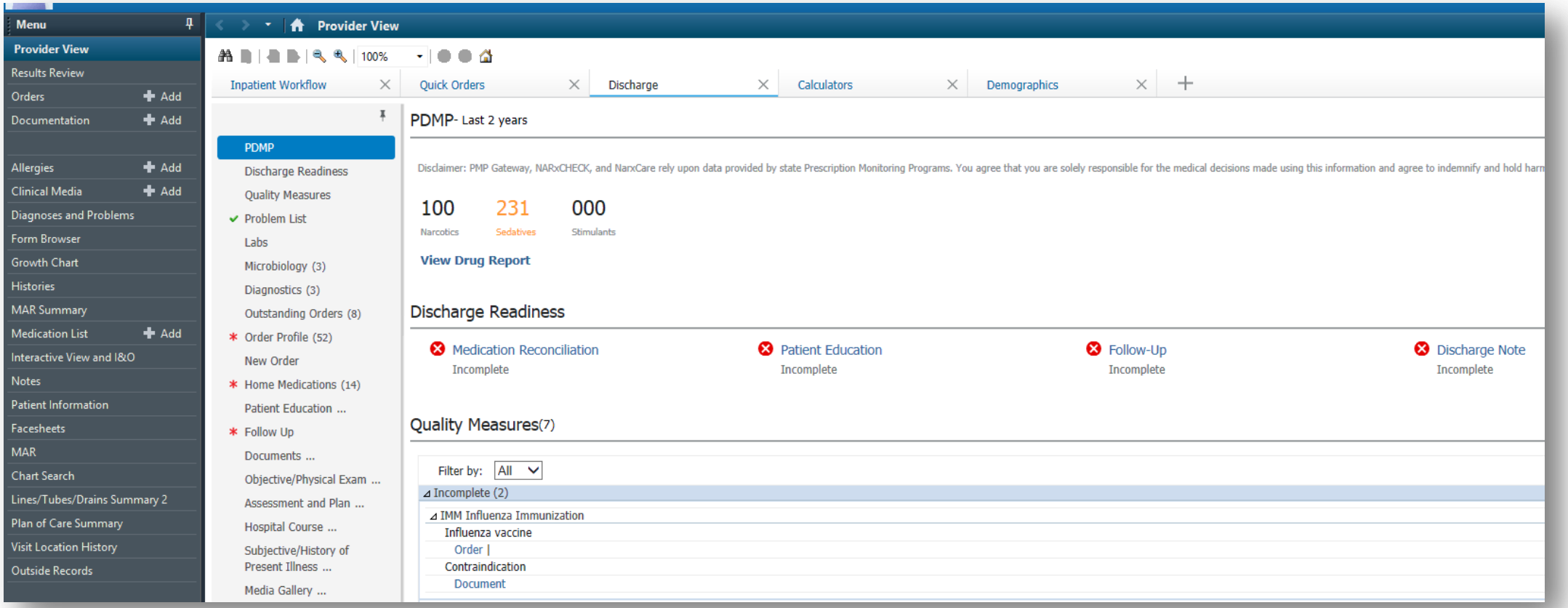
Cerner Changes

- Auto-text built .fldiscussnonopioid
  - Discussed with patient non-opioid alternatives for pain treatment. Discussed the advantages and disadvantages of the use of non-opioid alternatives. Non-opioid alternatives that were considered were [_____].
- Anesthesia power-note modified
- Opiate pamphlet to all patients at registration
- Opioid education added to discharge instructions
- Clinical Decision Support Rule with Powerform approved and being built

NarxCare

PDMP Connection NarxCare

- Integration with Florida E-forsce
- No login required
- Narx score included
- Project kicked off and go live October 2019


Menu
Provider View
Results Review
Orders
Add
Documentation
Add
Allergies
Add
Clinical Media
Add
Diagnoses and Problems
Form Browser
Growth Chart
Histories
MAR Summary
Medication List
Add
Interactive View and I&O
Notes
Patient Information
Facesheets
MAR
Chart Search
Lines/Tubes/Drains Summary 2
Plan of Care Summary
Visit Location History
Outside Records
Provider View
100%
Inpatient Workflow
Quick Orders
Discharge
Calculators
Demographics
PDMP
Discharge Readiness
Quality Measures
Problem List
Labs
Microbiology (3)
Diagnostics (3)
Outstanding Orders (8)
Order Profile (52)
New Order
Home Medications (14)
Patient Education ...
Follow Up
Documents ...
Objective/Physical Exam ...
Assessment and Plan ...
Hospital Course ...
Subjective/History of Present Illness ...
Media Gallery ...
PDMP- Last 2 years
Disclaimer: PMP Gateway, NARxCHECK, and NarxCare rely upon data provided by state Prescription Monitoring Programs. You agree that you are solely responsible for the medical decisions made using this information and agree to indemnify and hold harm
100
Narcotics
231
Sedatives
000
Stimulants
View Drug Report
Discharge Readiness
Medication Reconciliation
Incomplete
Patient Education
Incomplete
Follow-Up
Incomplete
Discharge Note
Incomplete
Quality Measures(7)
Filter by:
All
Incomplete (2)
IMM Influenza Immunization
Influenza vaccine
Order |
Contraindication
Document

No prescription data is available from your state PMP for this patient.

Ninthfloor Zzzprodfreeze, 40

Powered by NarxCare™

Narx Report | Resources

Date: 09/16/2019

Ninthfloor Zzzprodfreeze

Risk Indicators

NARX SCORES

Narcotic	Sedative	Stimulant
000	000	000

Explanation and Guidance

OVERDOSE RISK SCORE

000

(Range 000-999)

Explanation and Guidance

ADDITIONAL RISK INDICATORS (0)

Explanation and Guidance

This NarxCare report is based on search criteria supplied and the data entered by the dispensing pharmacy. For more information about any prescription, please contact the dispensing pharmacy or the prescriber. NarxCare scores and reports are intended to aid, not replace, medical decision making. None of the information presented should be used as sole justification for providing or refusing to provide medications. The information on this report is not warranted as accurate or complete.

Graphs

RX GRAPH ⓘ Narcotic Sedative Stimulant Other

*Per CDC guidance, the MME conversion factors prescribed or provided as part of the medication-assisted treatment for opioid use disorder should not be used to benchmark against dosage thresholds meant for opioids prescribed for pain. Buprenorphine products have no agreed upon morphine equivalency, and as partial opioid agonists, are not expected to be associated with overdose risk in the same dose-dependent manner as doses for full agonist opioids. MME = morphine milligram equivalents. LME = Lorazepam milligram equivalents. MG = dose in milligrams.

Summary

Summary

Total Prescriptions:	0
Total Prescribers:	0
Total Pharmacies:	0

Narcotics* (excluding buprenorphine)

Current Qty:	0
Current MME/day:	0.00
30 Day Avg MME/day:	0.00

Sedatives*

Current Qty:	0
Current LME/day:	0.00
30 Day Avg LME/day:	0.00

Buprenorphine*

Current Qty:	0
Current mg/day:	0.00
30 Day Avg mg/day:	0.00

Rx Data

PRESCRIPTIONS

Total Prescriptions: 0
Total Private Pay: 0

Fill Date	ID	Written	Drug	Qty	Days	Prescriber	Rx #	Pharmacy	Refill	Daily Dose *	Pymt Type	PMP

*Per CDC guidance, the MME conversion factors prescribed or provided as part of the medication-assisted treatment for opioid use disorder should not be used to benchmark against dosage thresholds meant for opioids prescribed for pain. Buprenorphine products have no agreed upon morphine equivalency, and as partial opioid agonists, are not expected to be associated with overdose risk in the same dose-dependent manner as doses for full agonist opioids. MME = morphine milligram equivalents. LME = Lorazepam milligram equivalents. MG = dose in milligrams.

PROVIDERS

Total Providers: 0

Name	Address	City	State	Zipcode	Phone

PHARMACIES

Total Pharmacies: 0

Name	Address	City	State	Zipcode	Phone

Prescription Drug Monitoring - NarxCheck

- Score ranges from 0-999
  - Higher score = greater potential for abuse
  - Last digit = number of active prescriptions

EPCS

Electronic Prescribing of Controlled Substances

Electronic Prescribing of Controlled Substances (EPCS)

- January 2020, many pharmacies will no longer accept paper scripts
  - Walmart Nationally stops on January 1st
- All states allow electronic prescriptions of controlled substances.

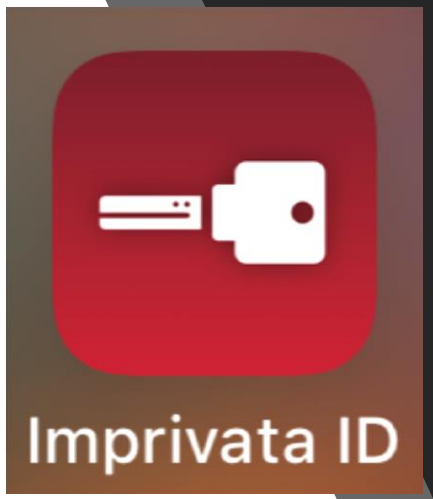
Walmart's Opioid Stewardship Initiative

The health and safety of our patients is a critical priority. Walmart Inc., including Walmart and Sam's Club pharmacies in the United States and Puerto Rico, has taken the following actions in our pharmacies to be part of the solution to our nation's opioid epidemic.

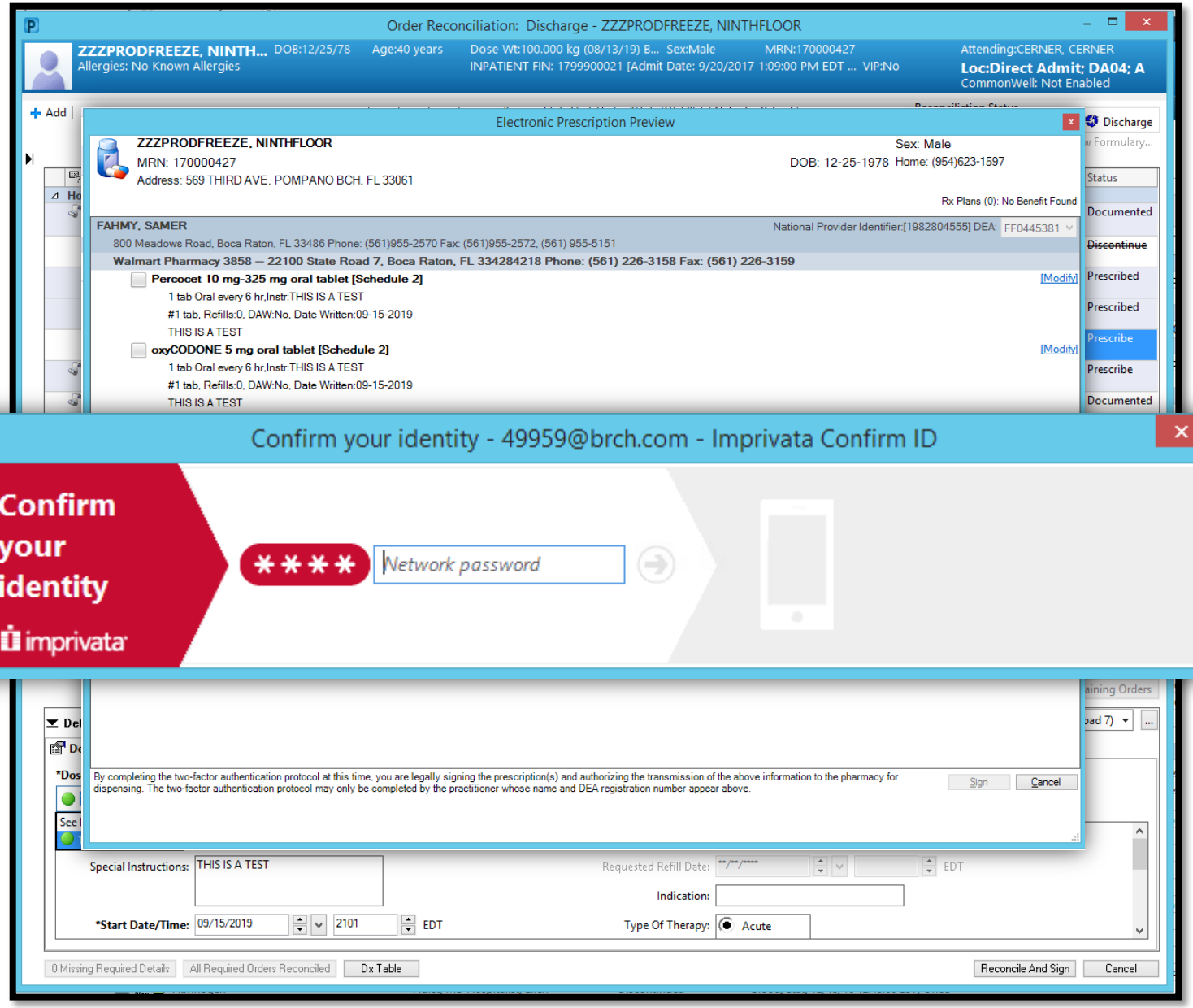
Implement Policies and Tools that Help Pharmacists Spot Fraudulent or Inappropriate Opioid Prescriptions

- Last year, Walmart and Sam's Club made a commitment to move to electronic prescribing (e-prescribing) for controlled substances by 2020. We recognize not all provider networks and prescribers will have the technology and systems in place to accommodate this requirement. We will work collaboratively with prescribers to encourage their use of e-prescribing for controlled substances by 2020, so that patients are not unintentionally negatively affected by this process. E-prescribing has the potential to reduce errors, misuse, abuse and diversion of prescription medications.

BRRH Rollout



- DEA requirement
  - Must be present in person and show ID
  - Dual factor Authentication require
- 9/23/19 registration begins in Medical Library
  - Fingerprint
  - Phone app


Order Reconciliation: Discharge - ZZZPRODFREEZE, NINTHFLOOR
ZZZPRODFREEZE, NINTH... DOB:12/25/78 Age:40 years
Allergies: No Known Allergies
Dose Wt:100.000 kg (08/13/19) B... Sex:Male MRN:170000427
INPATIENT FIN: 1799900021 [Admit Date: 9/20/2017 1:09:00 PM EDT ... VIP:No
Attending:CERNER, CERNER
Loc:Direct Admit; DA04; A
CommonWell: Not Enabled
Electronic Prescription Preview
ZZZPRODFREEZE, NINTHFLOOR
MRN: 170000427
Address: 569 THIRD AVE, POMPANO BCH, FL 33061
Sex: Male
DOB: 12-25-1978 Home: (954)623-1597
Rx Plans (0): No Benefit Found
FAHMY, SAMER
National Provider Identifier:[1982804555] DEA: FF0445381
800 Meadows Road, Boca Raton, FL 33486 Phone: (561)955-2570 Fax: (561)955-2572, (561) 955-5151
Walmart Pharmacy 3858 — 22100 State Road 7, Boca Raton, FL 33428218 Phone: (561) 226-3158 Fax: (561) 226-3159
Percocet 10 mg-325 mg oral tablet [Schedule 2]
[Modify]
1 tab Oral every 6 hr,Instr:THIS IS A TEST
#1 tab, Refills:0, DAW:No, Date Written:09-15-2019
THIS IS A TEST
oxyCODONE 5 mg oral tablet [Schedule 2]
[Modify]
1 tab Oral every 6 hr,Instr:THIS IS A TEST
#1 tab, Refills:0, DAW:No, Date Written:09-15-2019
THIS IS A TEST
Confirm your identity - 49959@brch.com - Imprivata Confirm ID
Confirm your identity
imprivata
****
Network password
By completing the two-factor authentication protocol at this time, you are legally signing the prescription(s) and authorizing the transmission of the above information to the pharmacy for dispensing. The two-factor authentication protocol may only be completed by the practitioner whose name and DEA registration number appear above.
Sign
Cancel
Special Instructions: THIS IS A TEST
*Start Date/Time: 09/15/2019 2101 EDT
Requested Refill Date:
Indication:
Type Of Therapy: Acute
0 Missing Required Details
All Required Orders Reconciled
Dx Table
Reconcile And Sign
Cancel

Clinical Decision Support

Many Forms

ALERTS

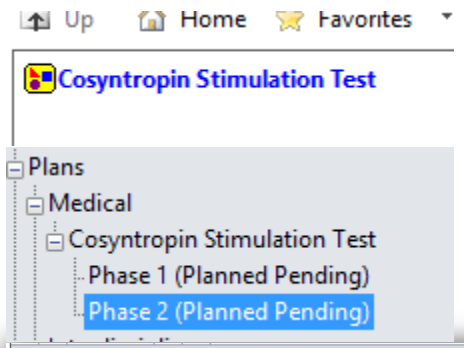
POWERPLANS
(ORDERSETS)

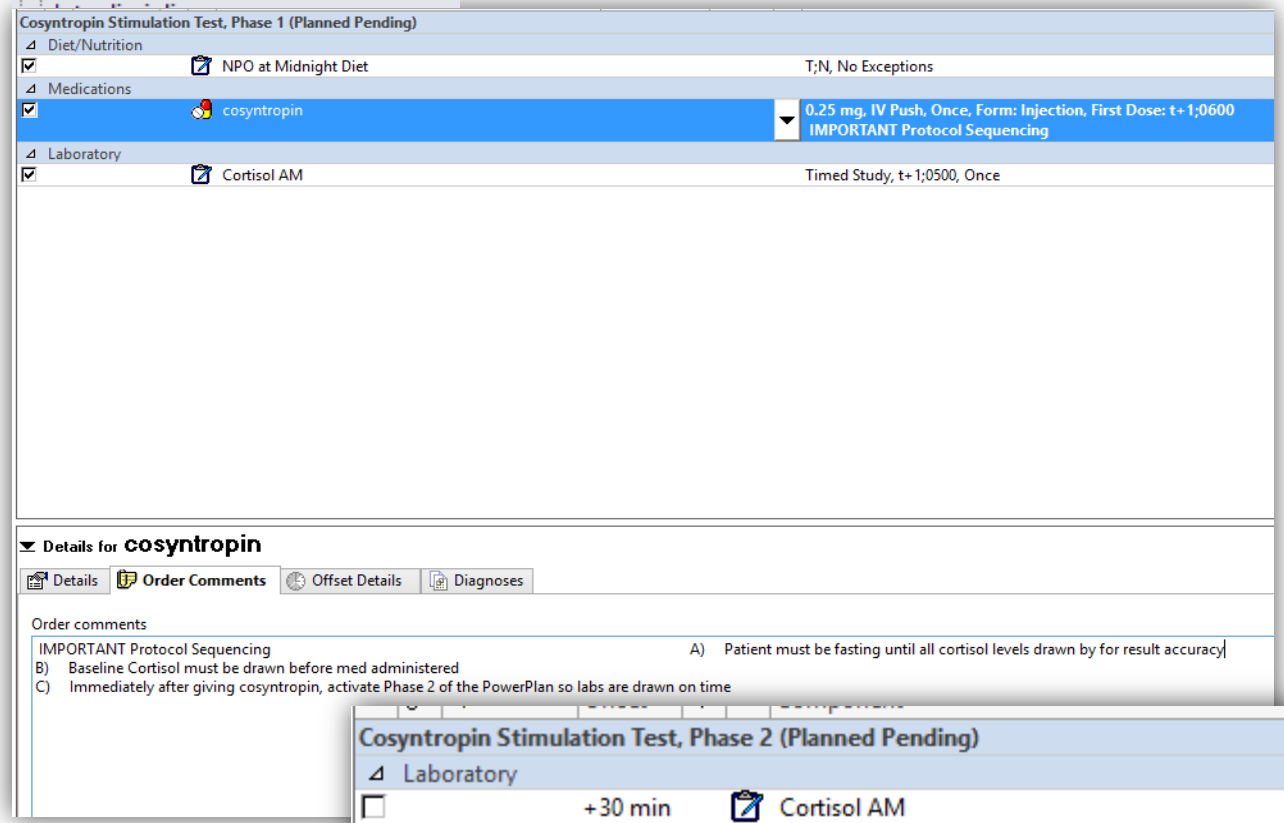
LIMITS

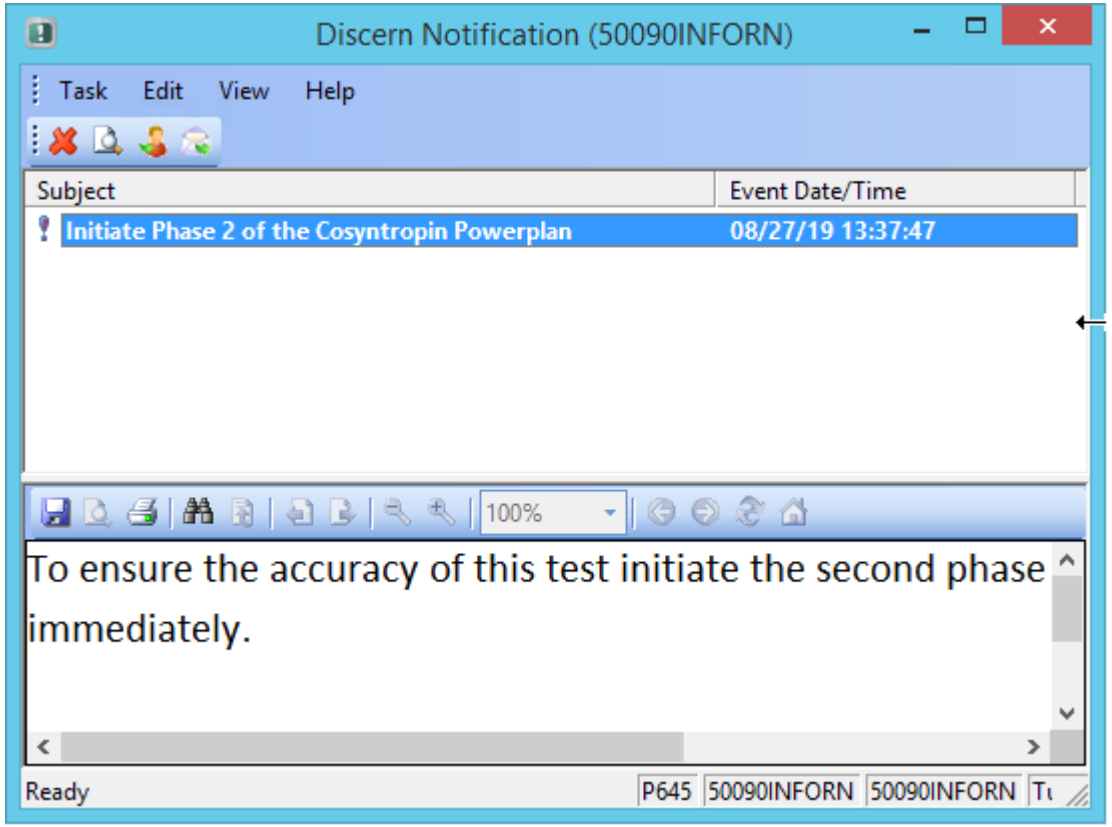
DOCUMENTATION

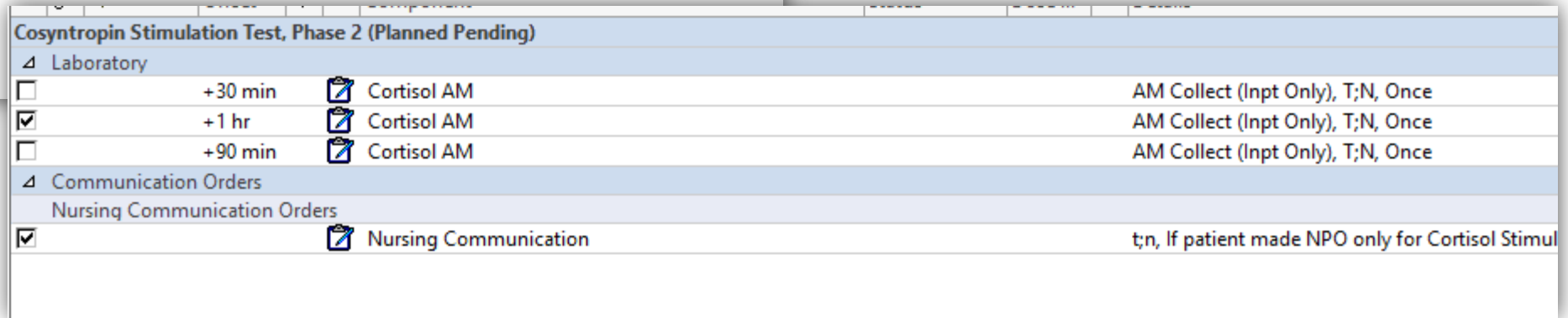
Clinical Decision Support

- the right information
- to the right person
- in the right intervention format
- through the right channel
- at the right time in workflow

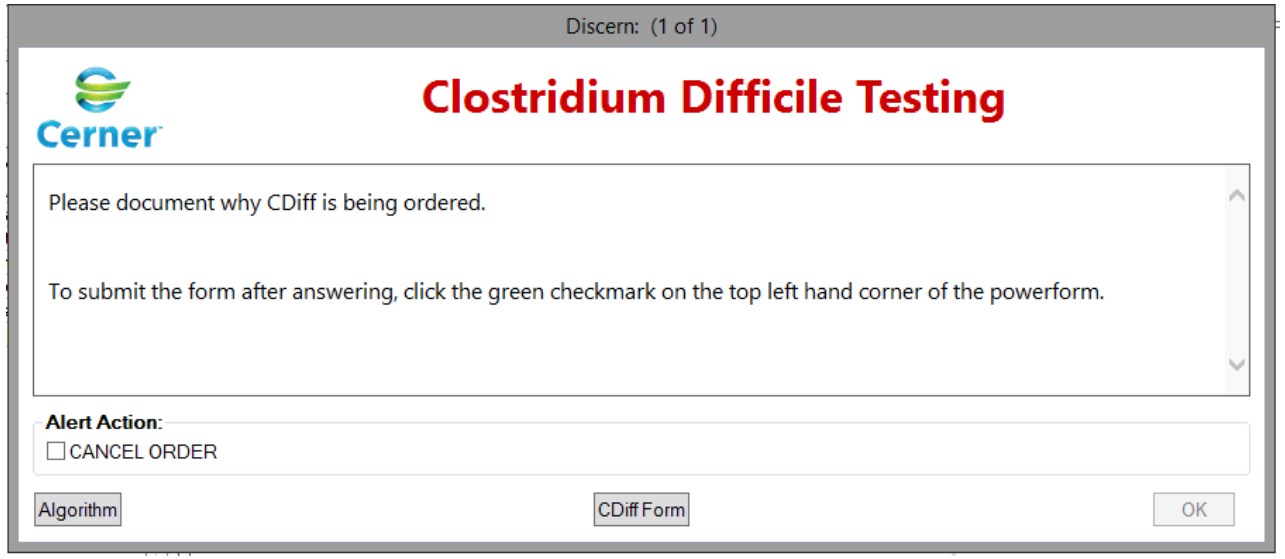

Up
Home
Favorites
Cosyntropin Stimulation Test
Plans
Medical
Cosyntropin Stimulation Test
Phase 1 (Planned Pending)
Phase 2 (Planned Pending)

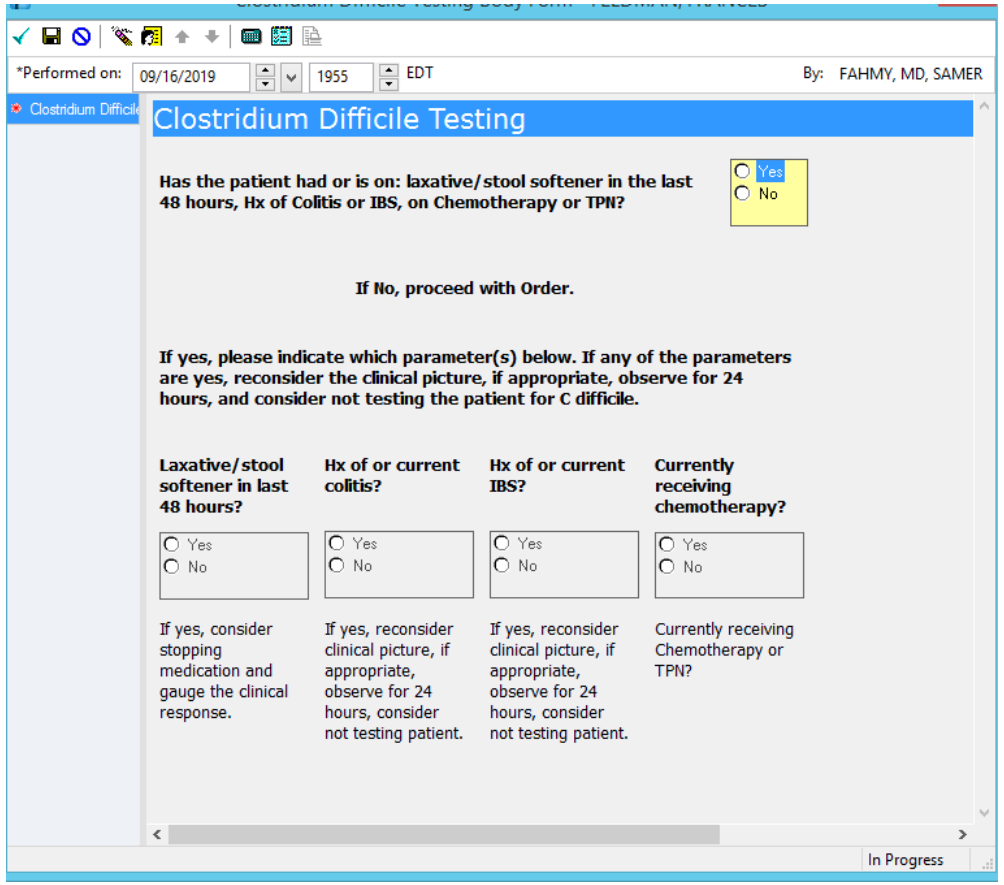

Cosyntropin Stimulation Test, Phase 1 (Planned Pending)
Diet/Nutrition
NPO at Midnight Diet
T;N, No Exceptions
Medications
cosyntropin
0.25 mg, IV Push, Once, Form: Injection, First Dose: t+1;0600
IMPORTANT Protocol Sequencing
Laboratory
Cortisol AM
Timed Study, t+1;0500, Once
Details for cosyntropin
Details
Order Comments
Offset Details
Diagnoses
Order comments
IMPORTANT Protocol Sequencing
A) Patient must be fasting until all cortisol levels drawn by for result accuracy
B) Baseline Cortisol must be drawn before med administered
C) Immediately after giving cosyntropin, activate Phase 2 of the PowerPlan so labs are drawn on time

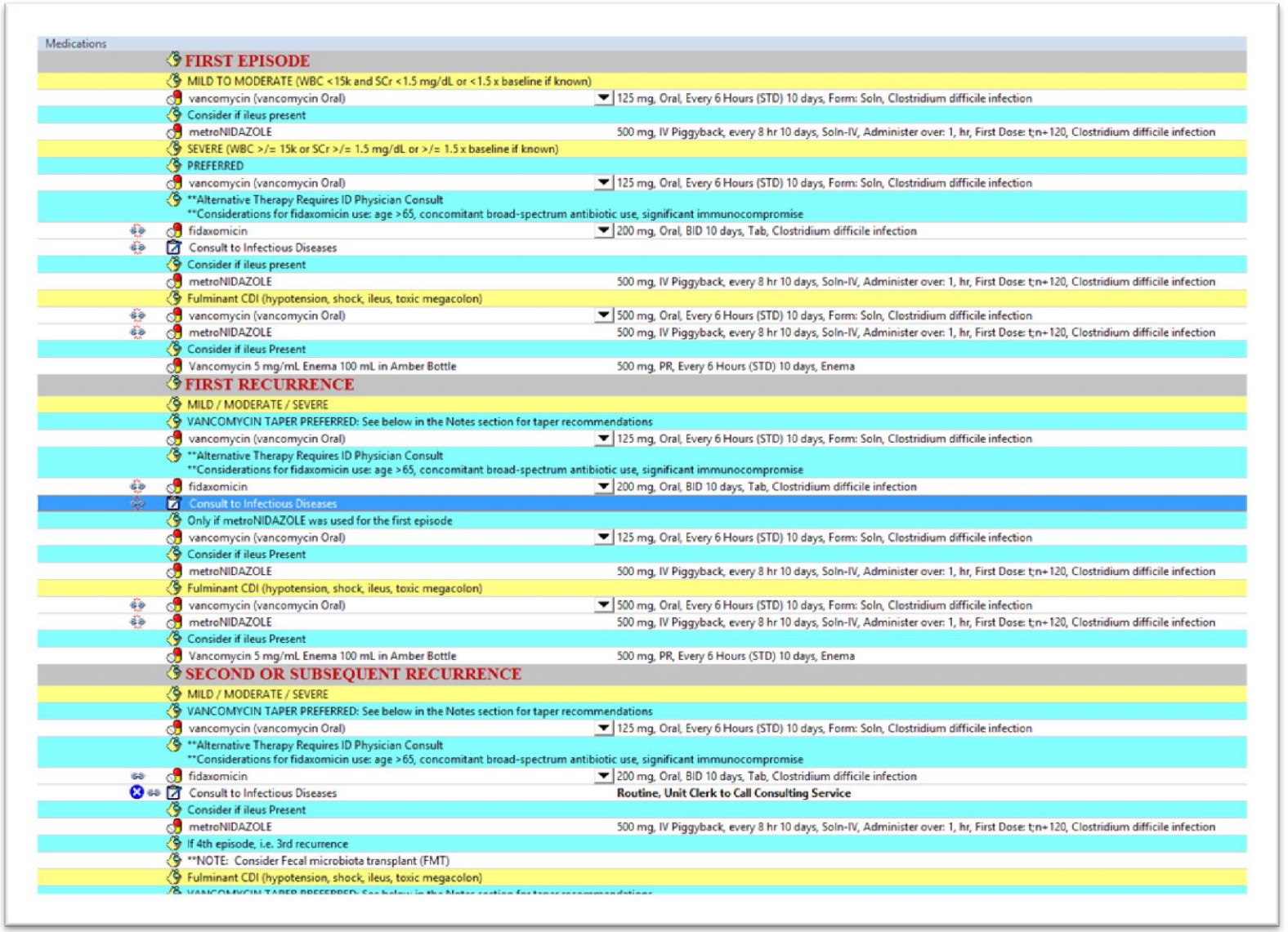

Discern Notification (50090INFORN)
Task
Edit
View
Help
Subject
Event Date/Time
Initiate Phase 2 of the Cosyntropin Powerplan
08/27/19 13:37:47
100%
To ensure the accuracy of this test initiate the second phase immediately.
Ready
P645
50090INFORN
50090INFORN

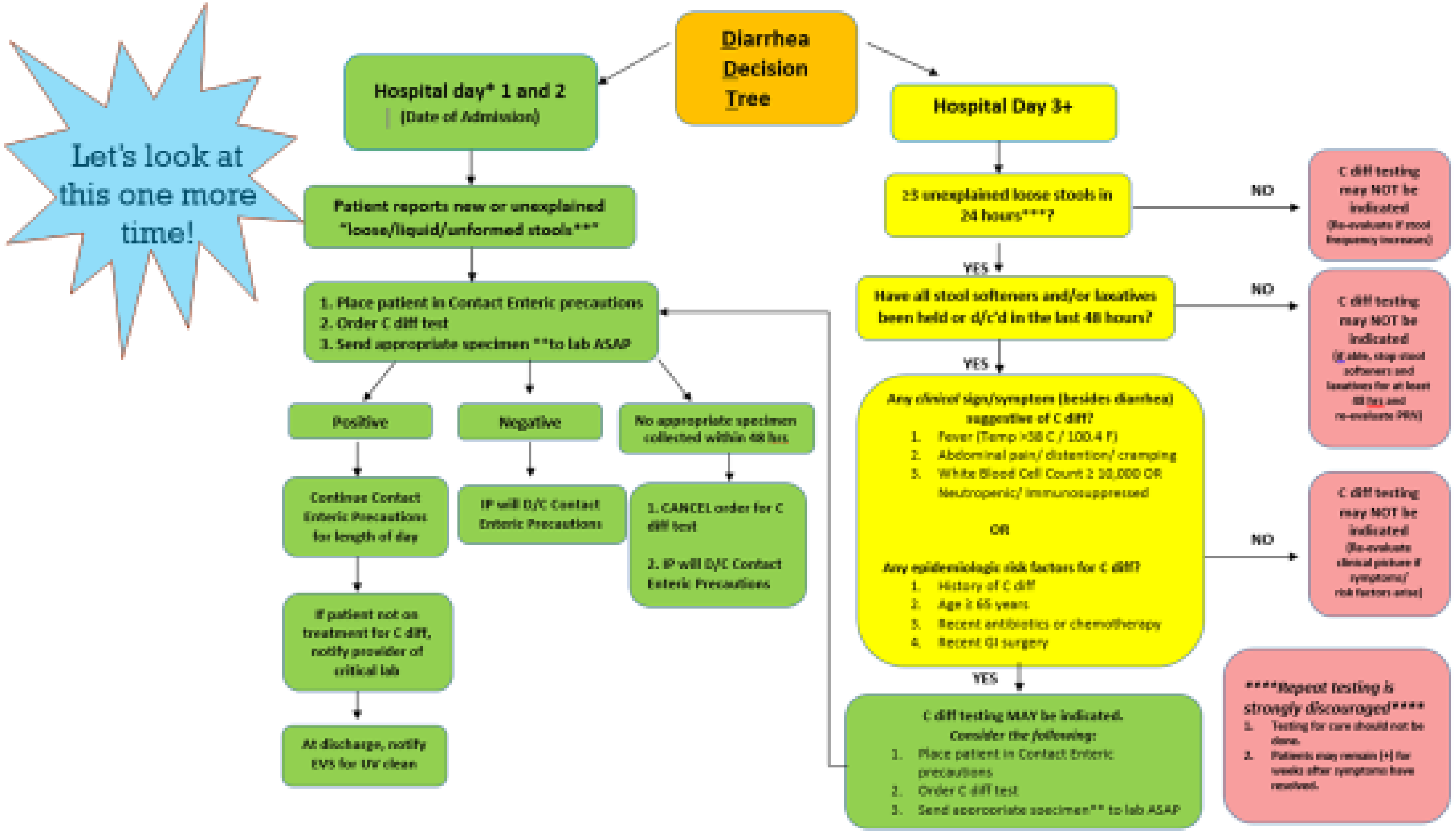

Cosyntropin Stimulation Test, Phase 2 (Planned Pending)
Laboratory
+30 min
Cortisol AM
AM Collect (Inpt Only), T;N, Once
+1 hr
Cortisol AM
AM Collect (Inpt Only), T;N, Once
+90 min
Cortisol AM
AM Collect (Inpt Only), T;N, Once
Communication Orders
Nursing Communication Orders
Nursing Communication
t;n, If patient made NPO only for Cortisol Stimul

C Diff Alerting






Medications
FIRST EPISODE
MILD TO MODERATE (WBC <15k and SCr <1.5 mg/dL or <1.5 x baseline if known)
vancomycin (vancomycin Oral) 125 mg, Oral, Every 6 Hours (STD) 10 days, Form: Soln, Clostridium difficile infection
Consider if ileus present
metroNIDAZOLE 500 mg, IV Piggyback, every 8 hr 10 days, Soln-IV, Administer over: 1, hr, First Dose: t;n+120, Clostridium difficile infection
SEVERE (WBC >/= 15k or SCr >/= 1.5 mg/dL or >/= 1.5 x baseline if known)
PREFERRED
vancomycin (vancomycin Oral) 125 mg, Oral, Every 6 Hours (STD) 10 days, Form: Soln, Clostridium difficile infection
**Alternative Therapy Requires ID Physician Consult
**Considerations for fidaxomicin use: age >65, concomitant broad-spectrum antibiotic use, significant immunocompromise
fidaxomicin 200 mg, Oral, BID 10 days, Tab, Clostridium difficile infection
Consult to Infectious Diseases
Consider if ileus present
metroNIDAZOLE 500 mg, IV Piggyback, every 8 hr 10 days, Soln-IV, Administer over: 1, hr, First Dose: t;n+120, Clostridium difficile infection
Fulminant CDI (hypotension, shock, ileus, toxic megacolon)
vancomycin (vancomycin Oral) 500 mg, Oral, Every 6 Hours (STD) 10 days, Form: Soln, Clostridium difficile infection
metroNIDAZOLE 500 mg, IV Piggyback, every 8 hr 10 days, Soln-IV, Administer over: 1, hr, First Dose: t;n+120, Clostridium difficile infection
Consider if ileus Present
Vancomycin 5 mg/mL Enema 100 mL in Amber Bottle 500 mg, PR, Every 6 Hours (STD) 10 days, Enema
FIRST RECURRENCE
MILD / MODERATE / SEVERE
VANCOMYCIN TAPER PREFERRED: See below in the Notes section for taper recommendations
vancomycin (vancomycin Oral) 125 mg, Oral, Every 6 Hours (STD) 10 days, Form: Soln, Clostridium difficile infection
**Alternative Therapy Requires ID Physician Consult
**Considerations for fidaxomicin use: age >65, concomitant broad-spectrum antibiotic use, significant immunocompromise
fidaxomicin 200 mg, Oral, BID 10 days, Tab, Clostridium difficile infection
Consult to Infectious Diseases
Only if metroNIDAZOLE was used for the first episode
vancomycin (vancomycin Oral) 125 mg, Oral, Every 6 Hours (STD) 10 days, Form: Soln, Clostridium difficile infection
Consider if ileus Present
metroNIDAZOLE 500 mg, IV Piggyback, every 8 hr 10 days, Soln-IV, Administer over: 1, hr, First Dose: t;n+120, Clostridium difficile infection
Fulminant CDI (hypotension, shock, ileus, toxic megacolon)
vancomycin (vancomycin Oral) 500 mg, Oral, Every 6 Hours (STD) 10 days, Form: Soln, Clostridium difficile infection
metroNIDAZOLE 500 mg, IV Piggyback, every 8 hr 10 days, Soln-IV, Administer over: 1, hr, First Dose: t;n+120, Clostridium difficile infection
Consider if ileus Present
Vancomycin 5 mg/mL Enema 100 mL in Amber Bottle 500 mg, PR, Every 6 Hours (STD) 10 days, Enema
SECOND OR SUBSEQUENT RECURRENCE
MILD / MODERATE / SEVERE
VANCOMYCIN TAPER PREFERRED: See below in the Notes section for taper recommendations
vancomycin (vancomycin Oral) 125 mg, Oral, Every 6 Hours (STD) 10 days, Form: Soln, Clostridium difficile infection
**Alternative Therapy Requires ID Physician Consult
**Considerations for fidaxomicin use: age >65, concomitant broad-spectrum antibiotic use, significant immunocompromise
fidaxomicin 200 mg, Oral, BID 10 days, Tab, Clostridium difficile infection
Consult to Infectious Diseases Routine, Unit Clerk to Call Consulting Service
Consider if ileus Present
metroNIDAZOLE 500 mg, IV Piggyback, every 8 hr 10 days, Soln-IV, Administer over: 1, hr, First Dose: t;n+120, Clostridium difficile infection
If 4th episode, i.e. 3rd recurrence
**NOTE: Consider Fecal microbiota transplant (FMT)
Fulminant CDI (hypotension, shock, ileus, toxic megacolon)



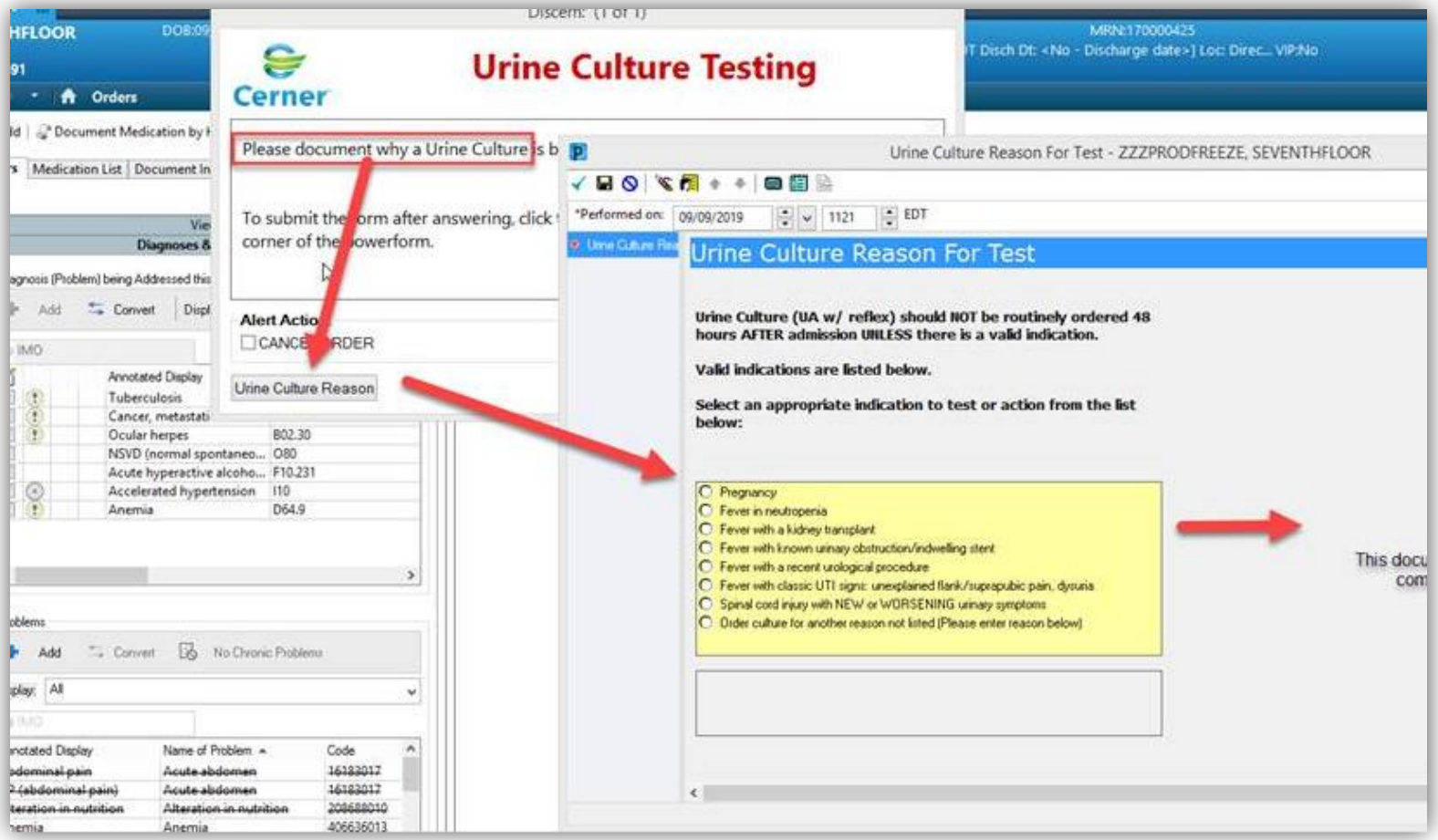
*Hospital day 1 starts the day the patient arrives on the inpatient unit (Even if they are in observation)

**Loose stool is defined as any stool consistent with Bristol Type 5, 6, or 7

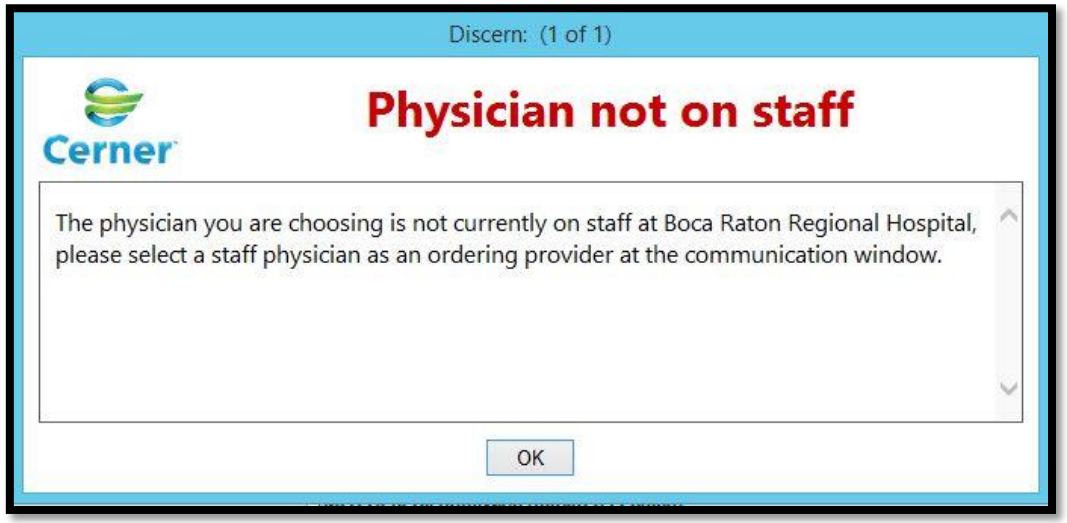
***Rarely (in <1% of cases), a symptomatic patient with C diff will present with ileus and colonic distention with minimal or no diarrhea

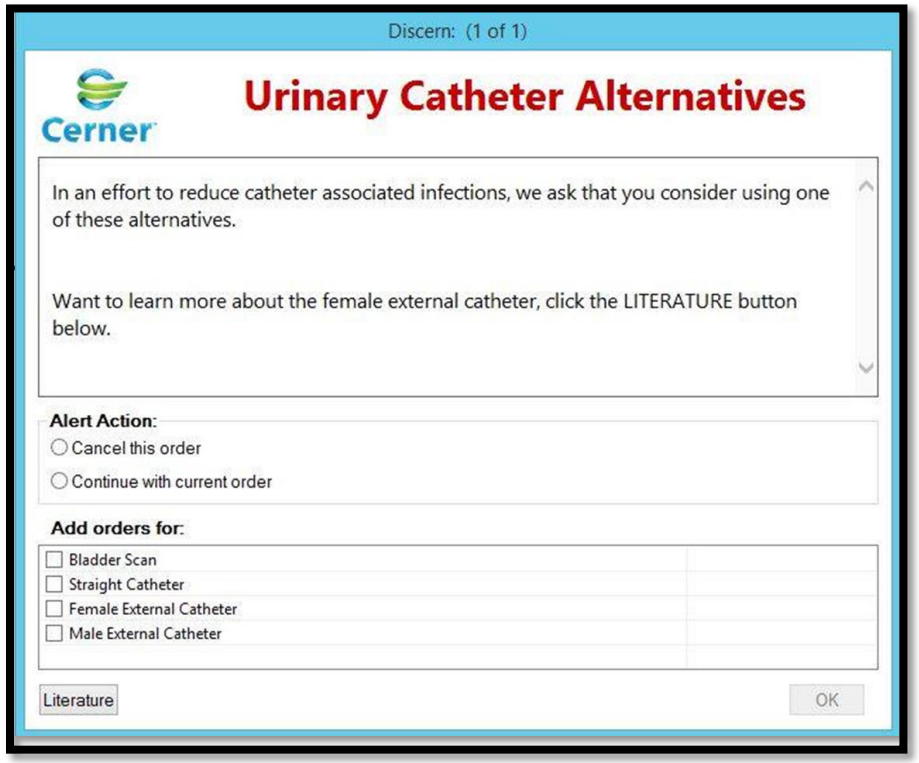
Infection Prev. x4376

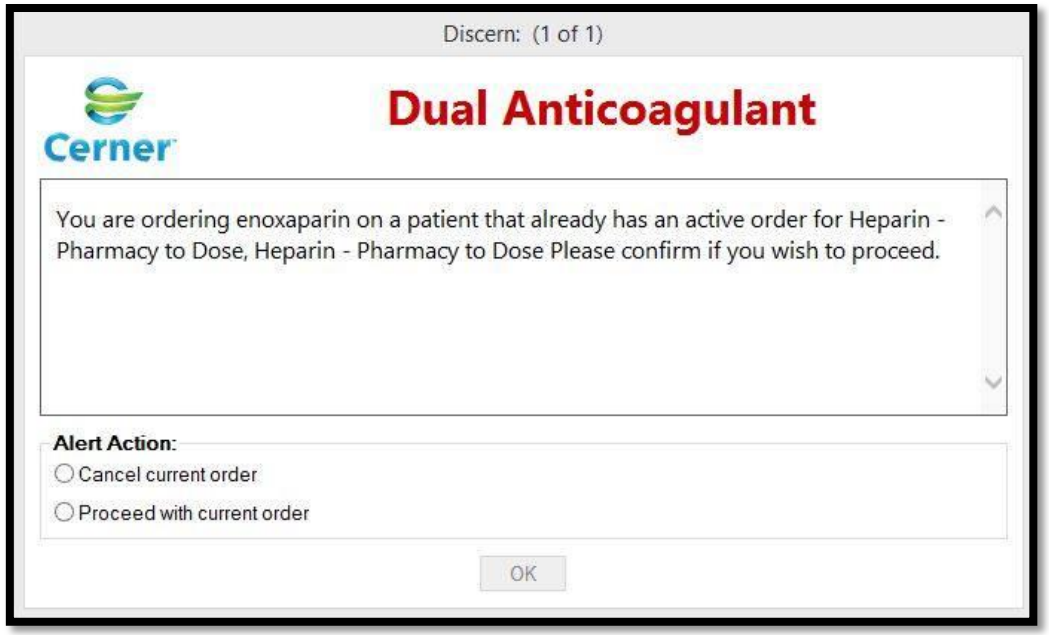
CAUTI Reduction

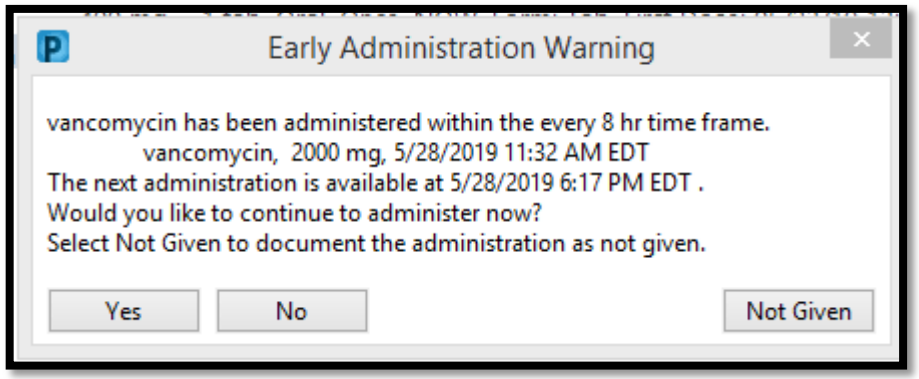


- Urinalysis on admission from ED now reflexes culture
- UA on inpatient powerplans
- Culture alone should be a rare order

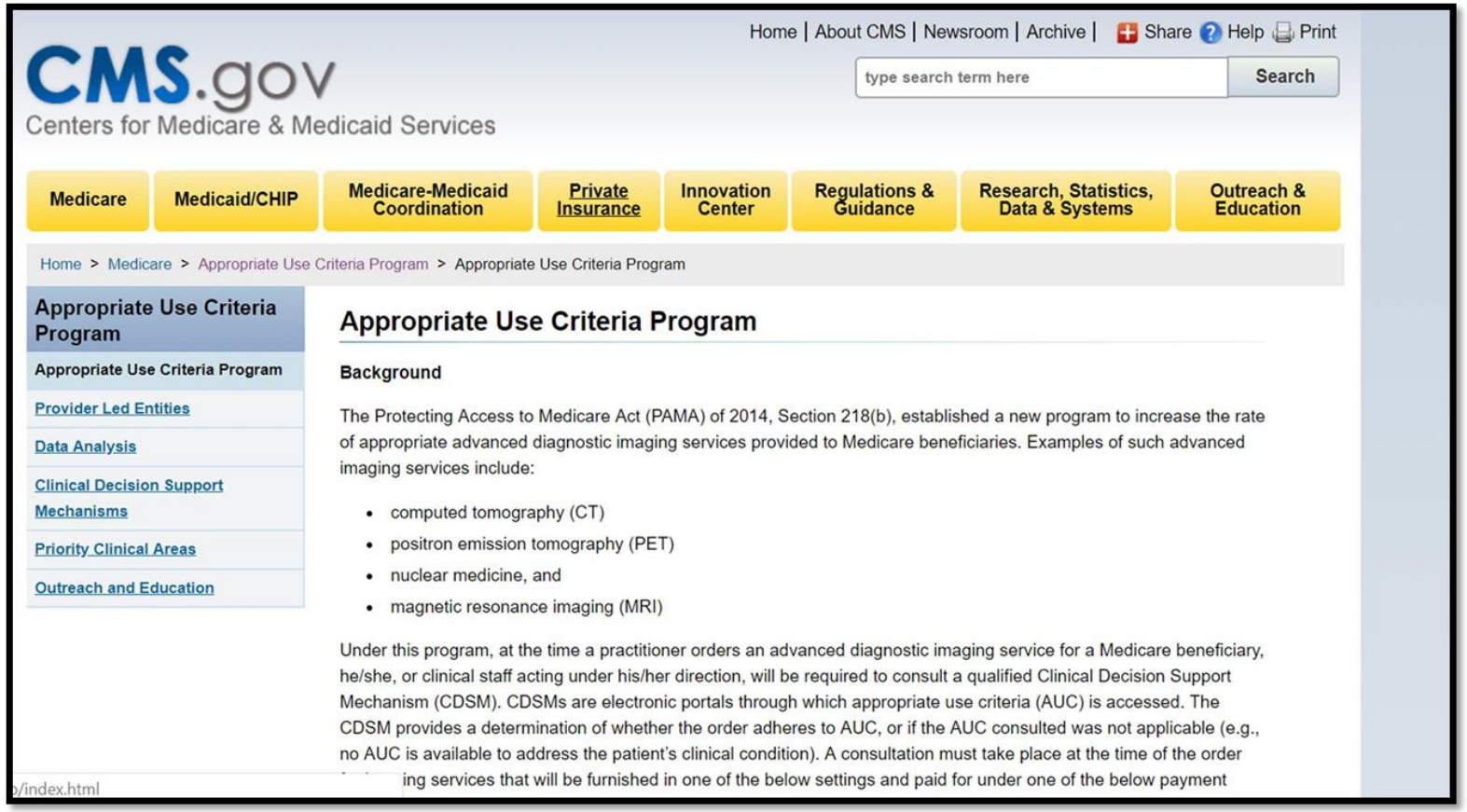

Discern: (1 of 1)
Cerner
Physician not on staff
The physician you are choosing is not currently on staff at Boca Raton Regional Hospital, please select a staff physician as an ordering provider at the communication window.
OK

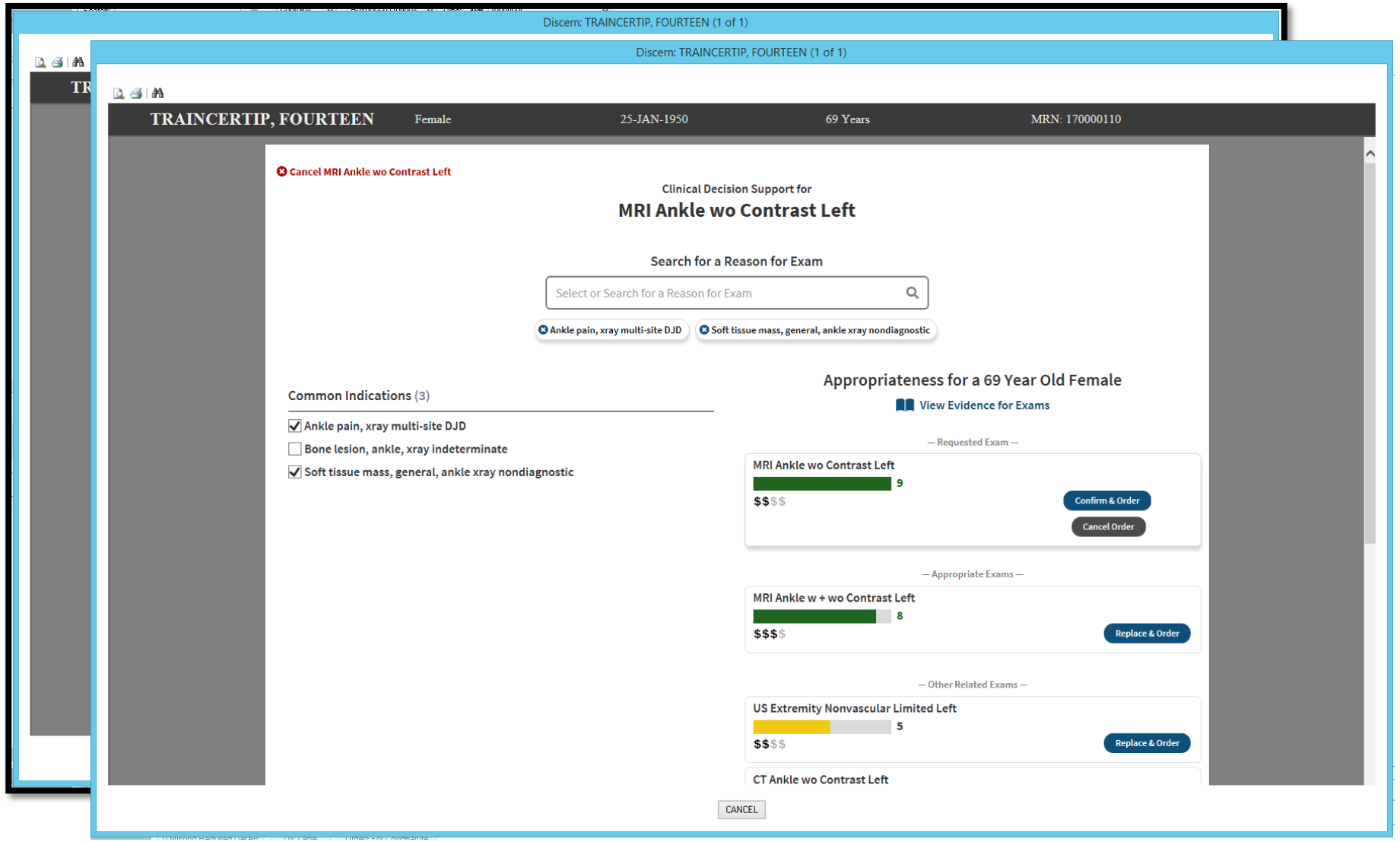

Discern: (1 of 1)
Cerner
Urinary Catheter Alternatives
In an effort to reduce catheter associated infections, we ask that you consider using one of these alternatives.
Want to learn more about the female external catheter, click the LITERATURE button below.
Alert Action:
Cancel this order
Continue with current order
Add orders for:
Bladder Scan
Straight Catheter
Female External Catheter
Male External Catheter
Literature
OK


Discern: (1 of 1)
Cerner
Dual Anticoagulant
You are ordering enoxaparin on a patient that already has an active order for Heparin - Pharmacy to Dose, Heparin - Pharmacy to Dose Please confirm if you wish to proceed.
Alert Action:
Cancel current order
Proceed with current order
OK


Early Administration Warning
vancomycin has been administered within the every 8 hr time frame.
vancomycin, 2000 mg, 5/28/2019 11:32 AM EDT
The next administration is available at 5/28/2019 6:17 PM EDT .
Would you like to continue to administer now?
Select Not Given to document the administration as not given.
Yes
No
Not Given

Appropriate Use Criteria




Discern: TRAINCERTIP, FOURTEEN (1 of 1)
Discern: TRAINCERTIP, FOURTEEN (1 of 1)
TRAINCERTIP, FOURTEEN
Female
25-JAN-1950
69 Years
MRN: 170000110
Cancel MRI Ankle wo Contrast Left
Clinical Decision Support for
MRI Ankle wo Contrast Left
Search for a Reason for Exam
Select or Search for a Reason for Exam
Ankle pain, xray multi-site DJD
Soft tissue mass, general, ankle xray nondiagnostic
Common Indications (3)
Ankle pain, xray multi-site DJD
Bone lesion, ankle, xray indeterminate
Soft tissue mass, general, ankle xray nondiagnostic
Appropriateness for a 69 Year Old Female
View Evidence for Exams
— Requested Exam —
MRI Ankle wo Contrast Left
9
$$$$
Confirm & Order
Cancel Order
— Appropriate Exams —
MRI Ankle w + wo Contrast Left
8
$$$$
Replace & Order
— Other Related Exams —
US Extremity Nonvascular Limited Left
5
$$$$
Replace & Order
CT Ankle wo Contrast Left
CANCEL

Pilot group of 125 resident physicians live since July 8th, 2019

Hospital wide expansion planned in October 2019

Includes all payer types

Includes all patient admissions (Obs, Inpatient, Outpatient in a bed, etc.)

CareSelect Project

Health Information Exchange

Exchanging Data in Cerner

Direct Exchange

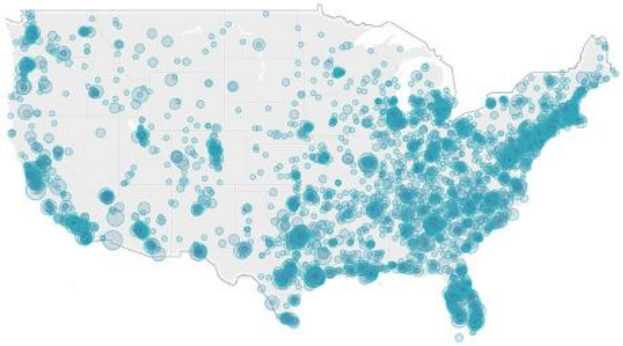
- Technical standard used for exchanging PHI in a trusted Network
- Each provider has a Direct address
  - BRRH address: BocaRatonRegionalHospital@brrh.cernerdirect.com
  - Can obtain from EHR company
  - “TOC” Transition of Care documents

CommonWell Alliance

- Started 2012 – Dr. Mostashari
- Non profit Health information exchange organization
- Greenway founding member
- 10,000 to 100,000 yearly dues

CareQuality

- Similar to Commonwell
- Epic is a participating provider
- Not yet available at Boca Regional Hospital
  - soon to come



This map illustrates the sites of care supported by current Carequality implementers, once they achieve full rollout.

Carequality Enables
Nationwide Care Coordination

600K
Care Providers

40,000
Clinics

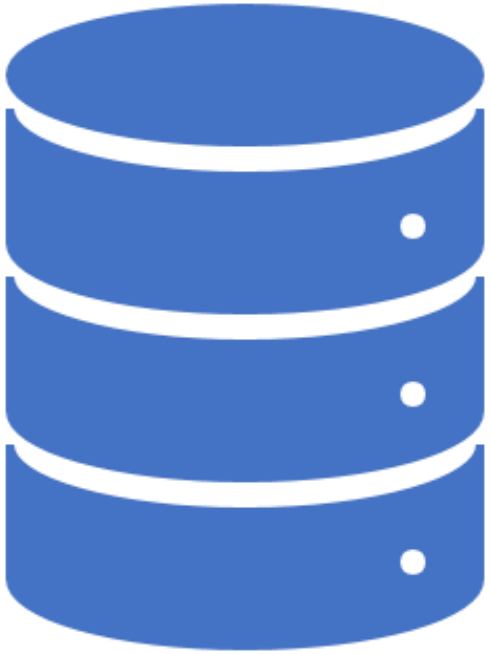
1,400
Hospitals

Learn More

Show 100 entries

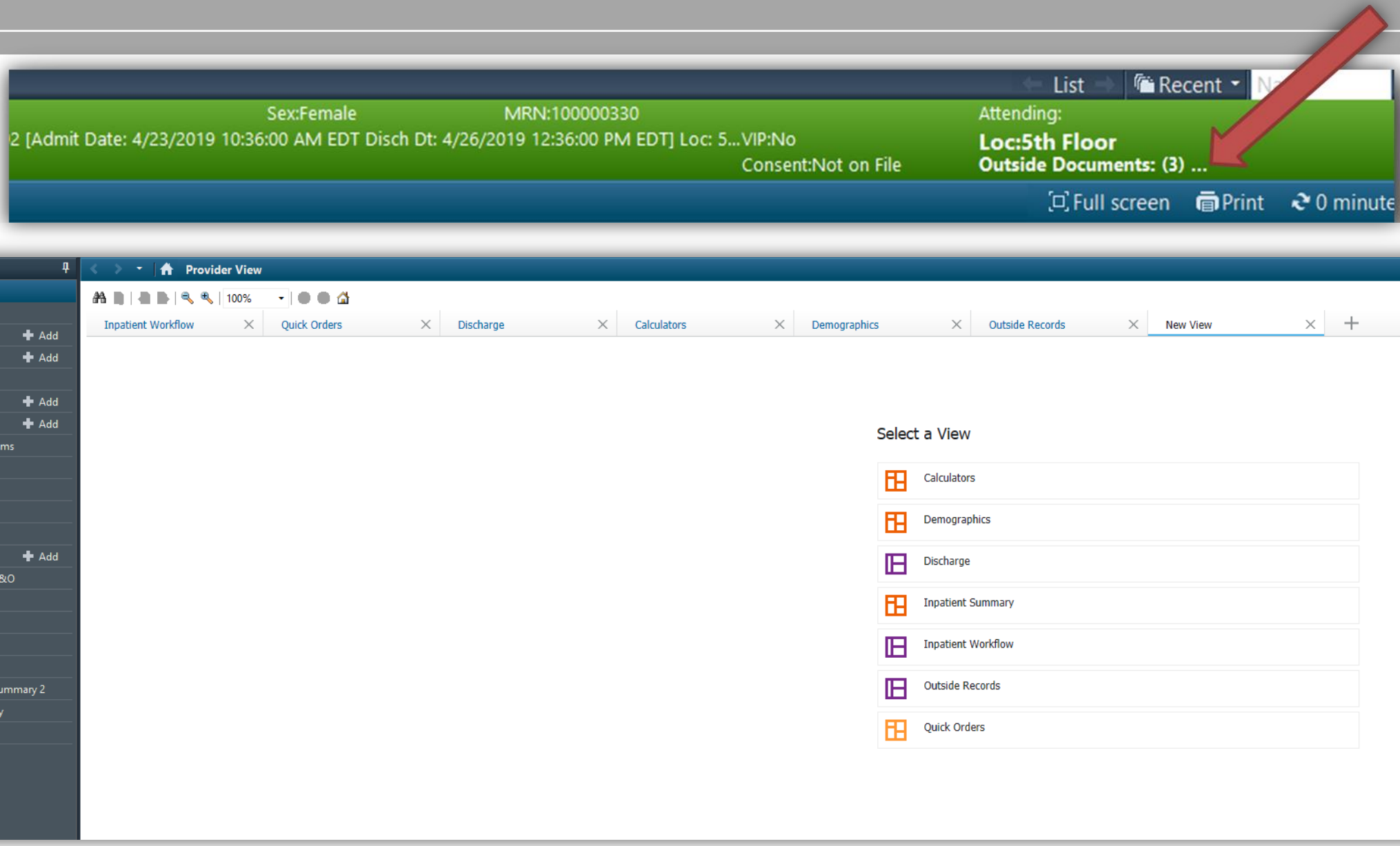
DOWNLOAD

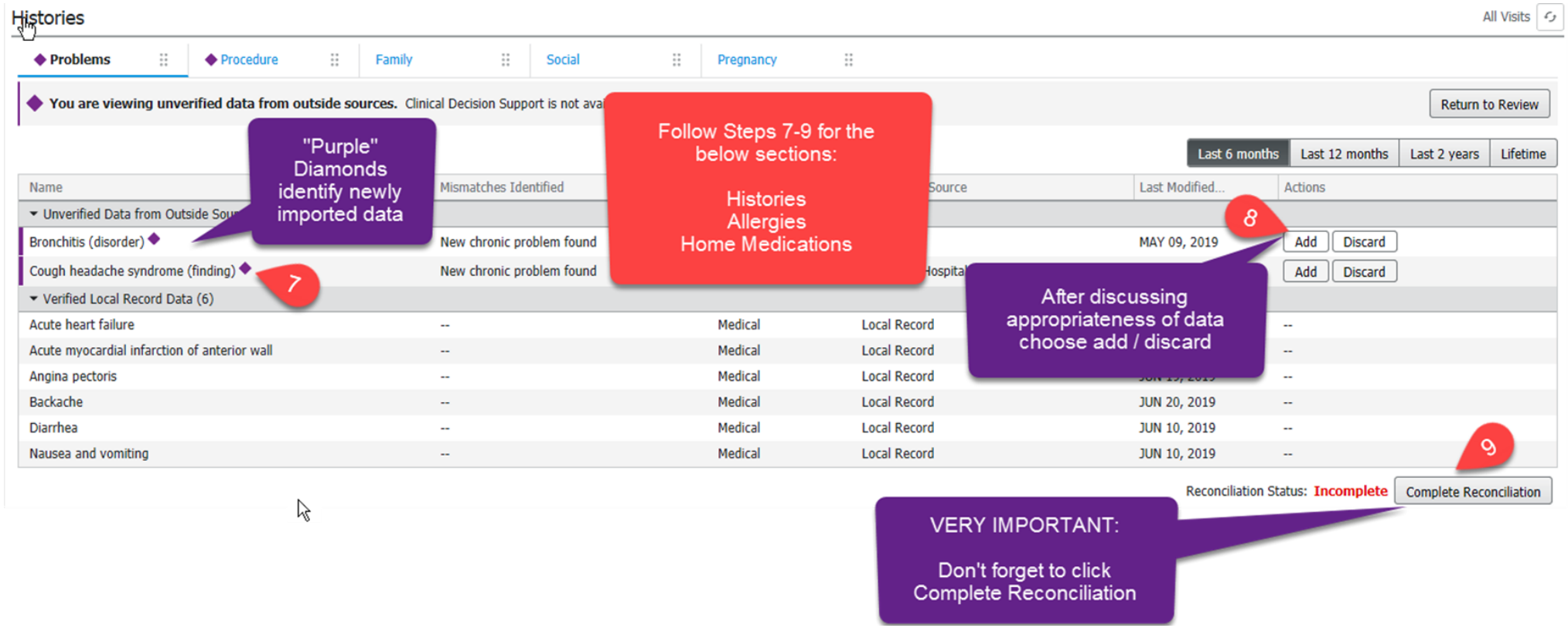
Provider Name	Category	City	State	Zip Code
Adam Shestack MD	ambulatory	DELRAY BEACH	FL	33445
Alley and Alley Internal Medicine, P.A.	ambulatory	BOCA RATON	FL	33431-6466
Angelica Ramirez MD	ambulatory	BOCA RATON	FL	33486
Boca General and Family Medicine	ambulatory	BOCA RATON	FL	33486
Boca Integrative Health	ambulatory	BOCA RATON	FL	33433
Boca Medical Care	ambulatory	BOCA RATON	FL	33434
Boca Raton Regional Hospital	acute	BOCA RATON	FL	33487
Broward Health Imperial Point	acute	FORT LAUDERDALE	FL	33308-1427
Broward Health North	acute	POMPANO BEACH	FL	33064-3502
Coresmart Inc	ambulatory	BOCA RATON	FL	33486
Dr Mark Scheinberg	ambulatory	DEERFIELD BEACH	FL	33442
Dr. Yoel Vivas	ambulatory	DELRAY BEACH	FL	33484
East Pompano Pediatrics	ambulatory	POMPANO BEACH	FL	33064
FAU Community Health Center	ambulatory	BOCA RATON	FL	33431
FAU Memory Wellness Center	ambulatory	BOCA RATON	FL	33431
FL - Bassett Medical Center - Startup	ambulatory	DELRAY BEACH	FL	33484-6597
FL - Family Medicine Of Boca Raton	ambulatory	BOCA RATON	FL	32477
FL - Medical Consultants of So. Florida	ambulatory	POMPANO BEACH	FL	33067-2063
FL - Pompano Beach Internal Medicine	ambulatory	POMPANO BEACH	FL	33060-6768
Florida Woman Care, LLC	ambulatory	BOCA RATON	FL	33431
GastroCare	ambulatory	POMPANO BEACH	FL	33067
Groene, Linda	ambulatory	FORT LAUDERDALE	FL	33308-1414
HCA - Glades Medical Group	ambulatory	BOCA RATON	FL	33431
HCA - Karin Blumofe, MD	ambulatory	BOCA RATON	FL	33487
HCA - Neil Schultz	ambulatory	POMPANO BEACH	FL	33063
HCA - South Florida Center for Gynecologic Oncology	ambulatory	BOCA RATON	FL	33487
HCA - South Palm Beach Surgical Associates, PL	ambulatory	BOCA RATON	FL	33487
Hillsboro Urgent Care	ambulatory	DEERFIELD BEACH	FL	33442
Levey, David	ambulatory	BOCA RATON	FL	33496-2660
Mark Paris MD	ambulatory	DELRAY BEACH	FL	33483
Metzger Jr, Charles	ambulatory	BOCA RATON	FL	33496-2658
North Broward Radiologist Pa	imaging	POMPANO BEACH	FL	33060
PLATINUM ENT	ambulatory	DELRAY BEACH	FL	33446
Publix Deerfield Beach Associate Health Center	ambulatory	DEERFIELD BEACH	FL	33442
Scott D Beede	ambulatory	BOCA RATON	FL	33428
Silverman, Joel	ambulatory	BOCA RATON	FL	33433-3455
South Florida Allergy and Asthma Spec	ambulatory	BOCA RATON	FL	33486
South Palm Cardiovascular Associates, LLC	ambulatory	DELRAY BEACH	FL	33446
Sunshine State Womens Care, LLC	ambulatory	BOCA RATON	FL	33431
Tenet Physician Resources-FL	ambulatory	FORT LAUDERDALE	FL	31895



Data Exchange

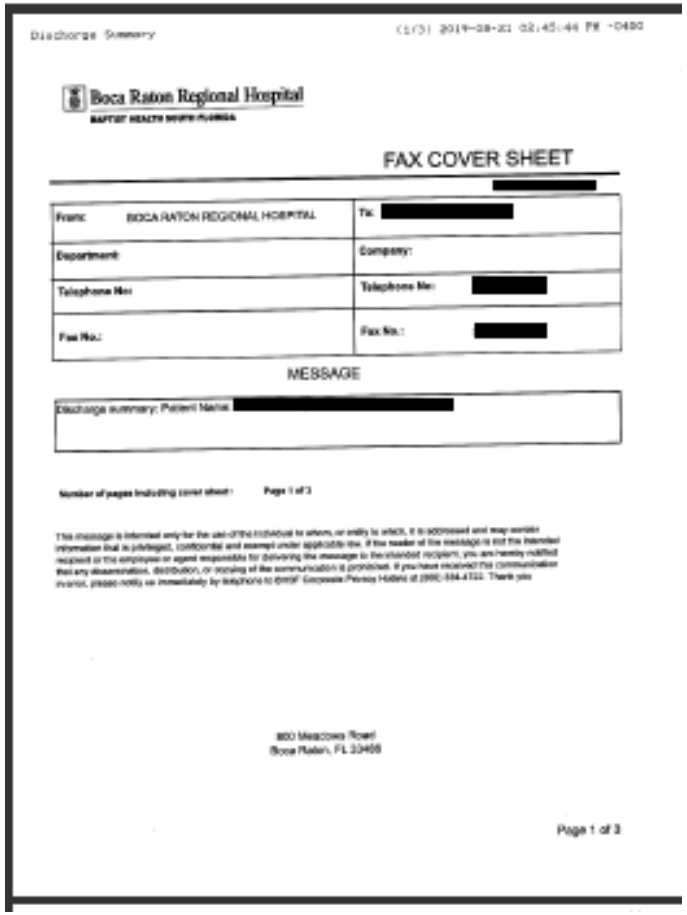
- Follows CCD architecture
- PAMI – Discrete Data
  - Problems, Allergies, Meds, Immunization
- No physician documentation


List
Recent
Sex:Female
MRN:100000330
Attending:
2 [Admit Date: 4/23/2019 10:36:00 AM EDT Disch Dt: 4/26/2019 12:36:00 PM EDT] Loc: 5...VIP:No
Loc:5th Floor
Consent:Not on File
Outside Documents: (3) ...
Full screen
Print
0 minute
Menu
Provider View
Results Review
Orders Add
Documentation Add
Allergies Add
Clinical Media Add
Diagnoses and Problems
Form Browser
Growth Chart
Histories
MAR Summary
Medication List Add
Interactive View and I&O
Notes
Patient Information
Facesheets
MAR
Lines/Tubes/Drains Summary 2
Plan of Care Summary
Chart Search
Provider View
100%
Inpatient Workflow
Quick Orders
Discharge
Calculators
Demographics
Outside Records
New View
Select a View
Calculators
Demographics
Discharge
Inpatient Summary
Inpatient Workflow
Outside Records
Quick Orders


Histories
All Visits
Problems
Procedure
Family
Social
Pregnancy
You are viewing unverified data from outside sources. Clinical Decision Support is not ava
Return to Review
"Purple" Diamonds identify newly imported data
Follow Steps 7-9 for the below sections:
Histories
Allergies
Home Medications
Last 6 months
Last 12 months
Last 2 years
Lifetime
Name
Mismatches Identified
Source
Last Modified...
Actions
Unverified Data from Outside Sou
Bronchitis (disorder)
New chronic problem found
MAY 09, 2019
Add
Discard
Cough headache syndrome (finding)
New chronic problem found
Add
Discard
7
8
Verified Local Record Data (6)
Acute heart failure -- Medical Local Record --
Acute myocardial infarction of anterior wall -- Medical Local Record --
Angina pectoris -- Medical Local Record --
Backache -- Medical Local Record JUN 20, 2019 --
Diarrhea -- Medical Local Record JUN 10, 2019 --
Nausea and vomiting -- Medical Local Record JUN 10, 2019 --
After discussing appropriateness of data choose add / discard
9
Reconciliation Status: Incomplete
Complete Reconciliation
VERY IMPORTANT:
Don't forget to click Complete Reconciliation

Information Overload

- Nurses went live for 2 weeks
- Turned off reconciliation
- Still receiving records



Discharge Summary (1/3) 2019-08-21 02:45:44 PM -0400

Boca Raton Regional Hospital

FAX COVER SHEET

From: BOCA RATON REGIONAL HOSPITAL	To: [redacted]
Department:	Company:
Telephone No:	Telephone No: [redacted]
Fax No.:	Fax No.: [redacted]

MESSAGE

Discharge summary: Patient Name: [redacted]

Number of pages including cover sheet: Page 1 of 3

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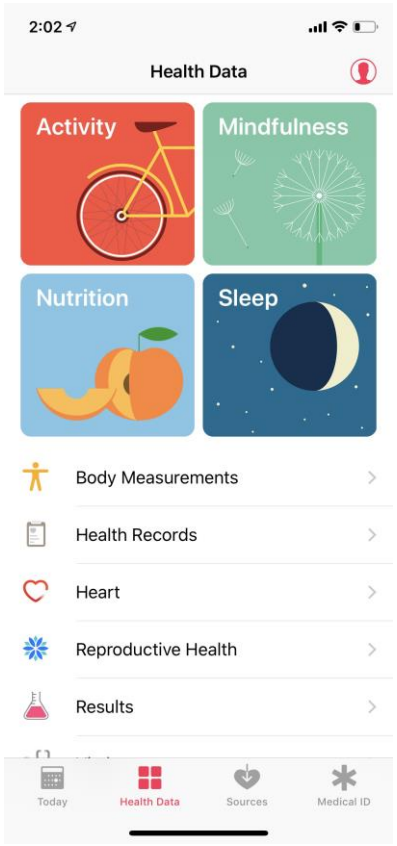
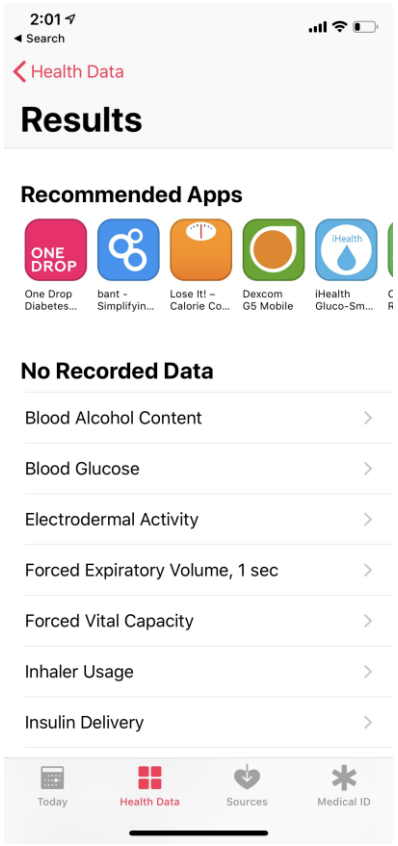
800 Meadows Road
Boca Raton, FL 33486

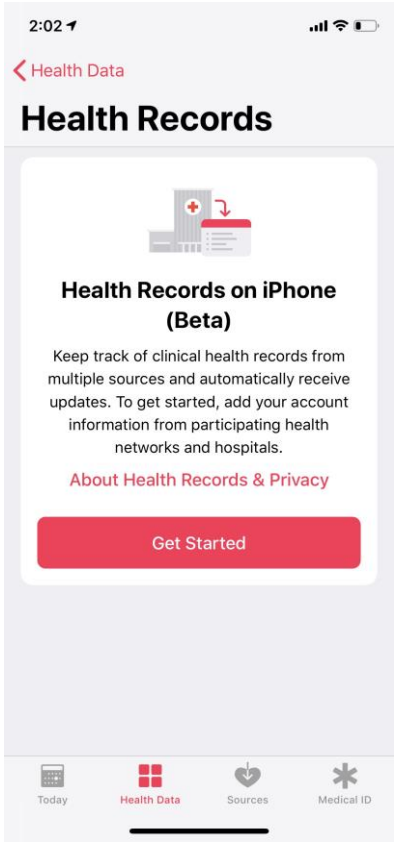
Page 1 of 3

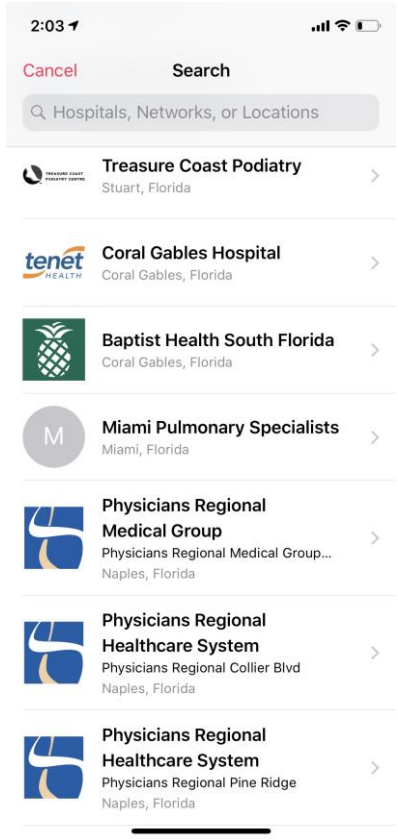
Hospital to PCP communication

- July 1st 2019, **HB 843 mandates**:
  - Patients have the right to request their outpatient specialist and consultants on their case while hospitalized
    - Formal or informal with documentation in the medical record
  - Hospitals must notify PCP of admission and discharge within 24 hours
  - Hospitals must send DC summary to PCP post discharge







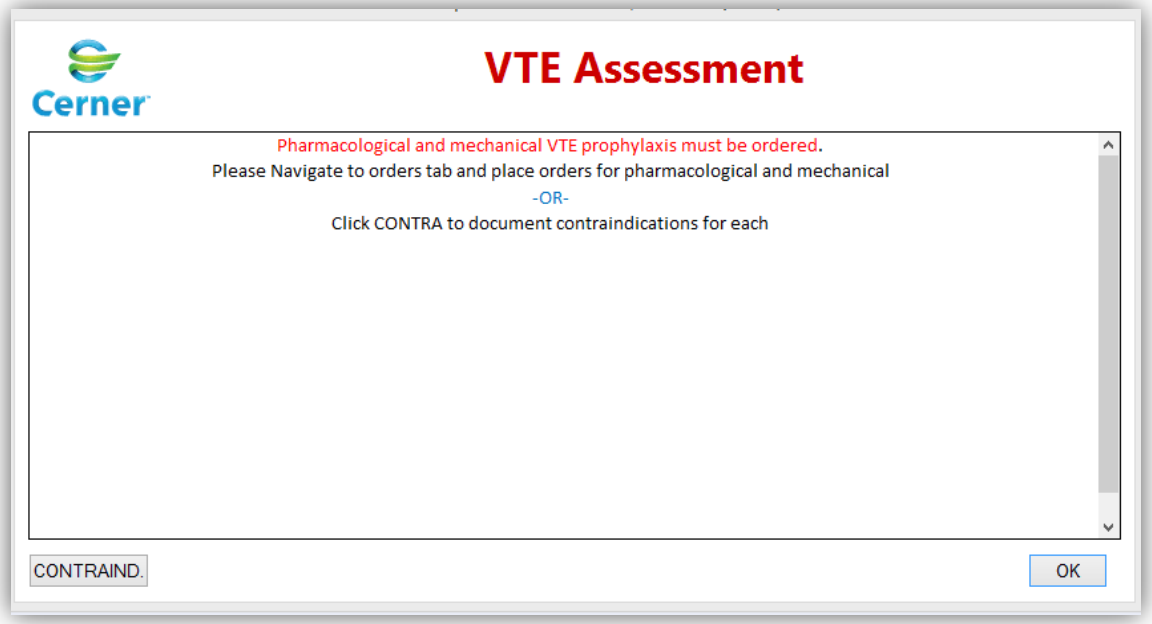


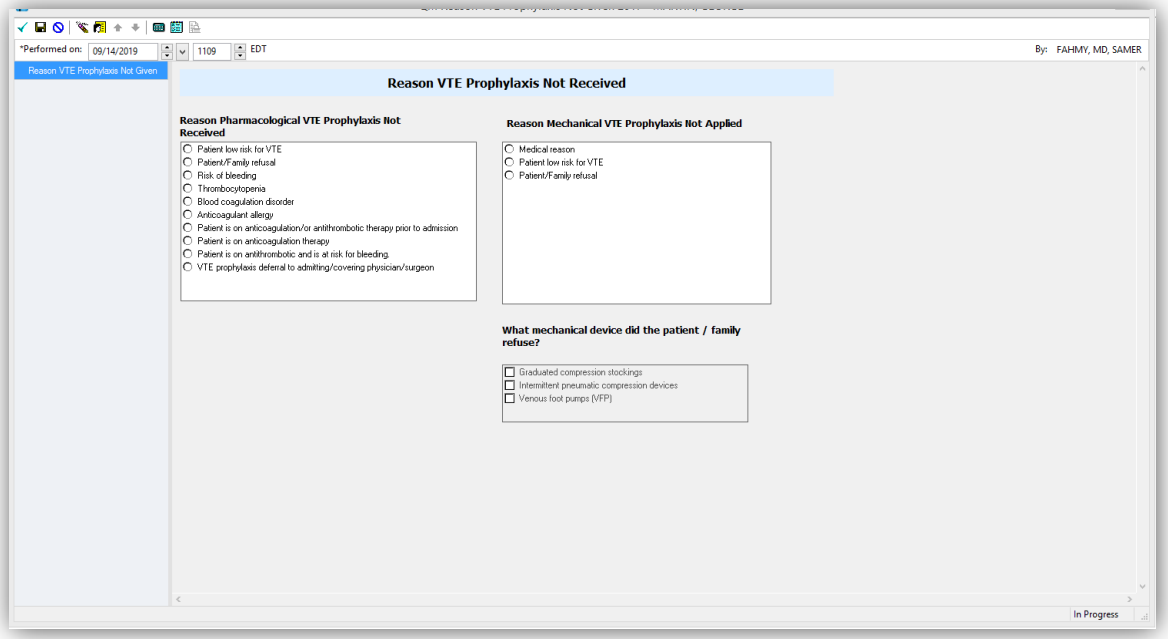
Apple Health

Tips and Tricks

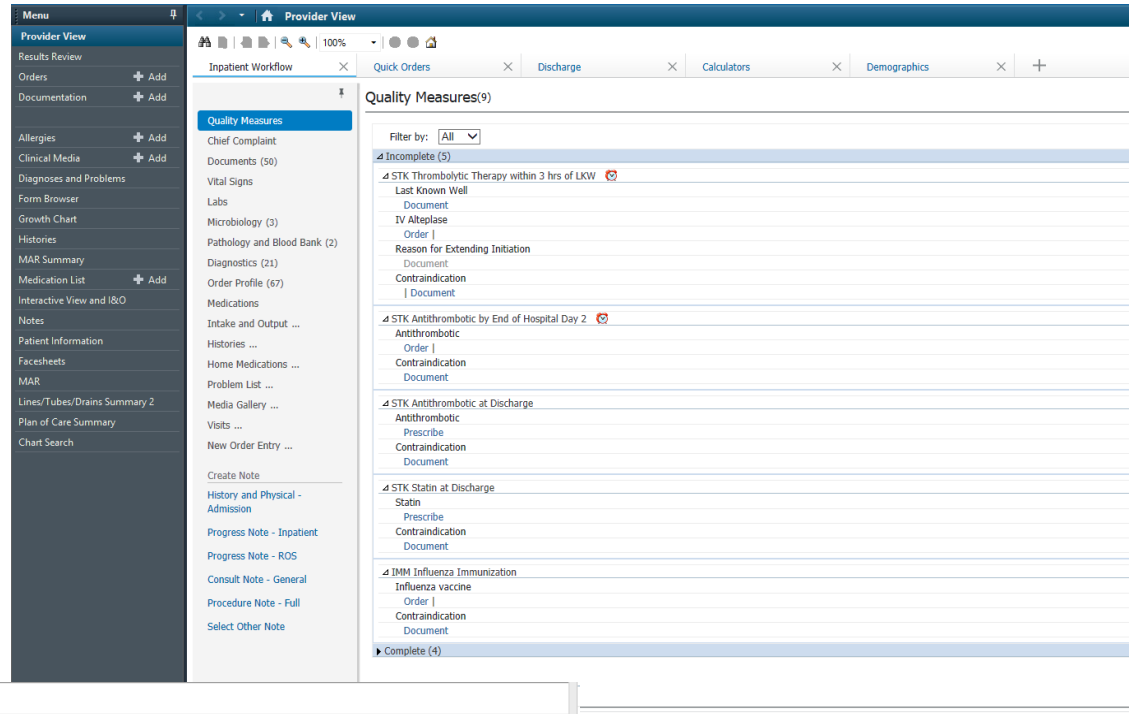
Avoiding Common Errors

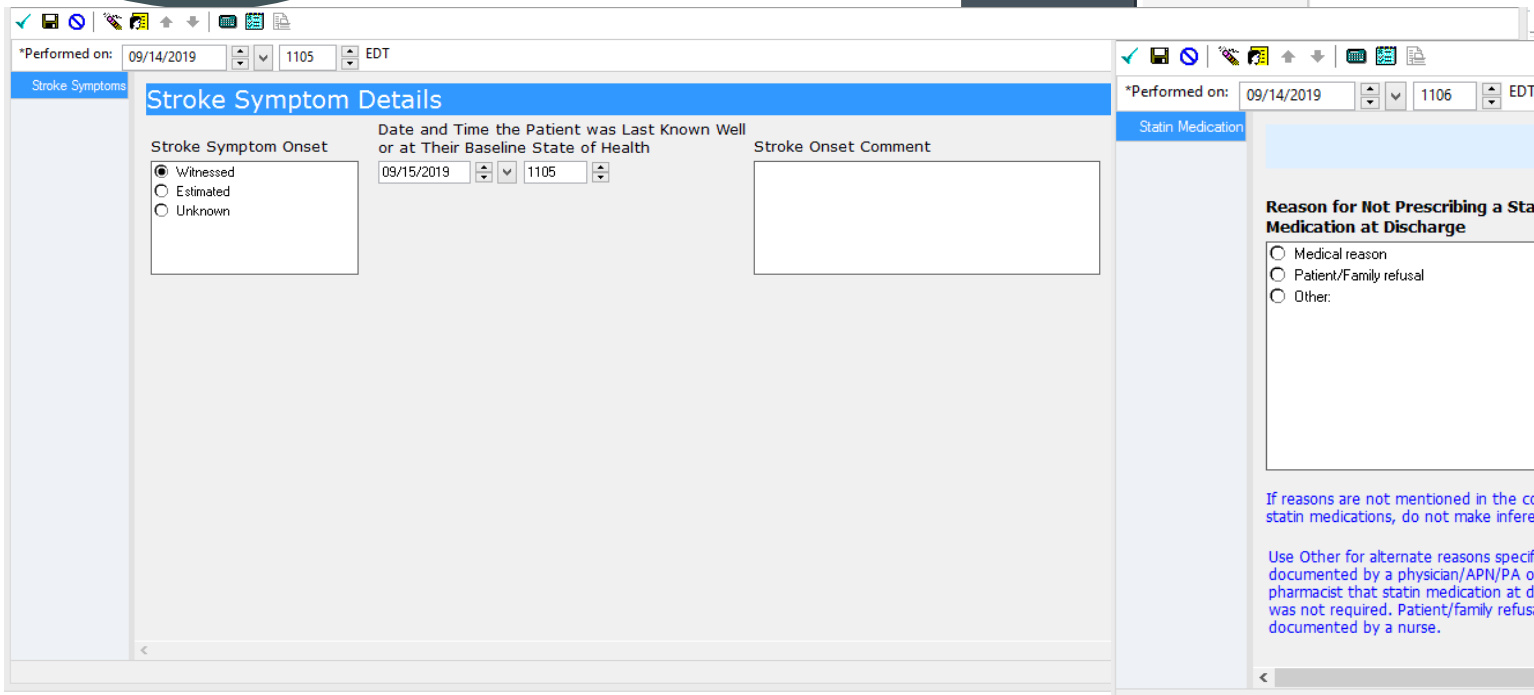
VTE Alert

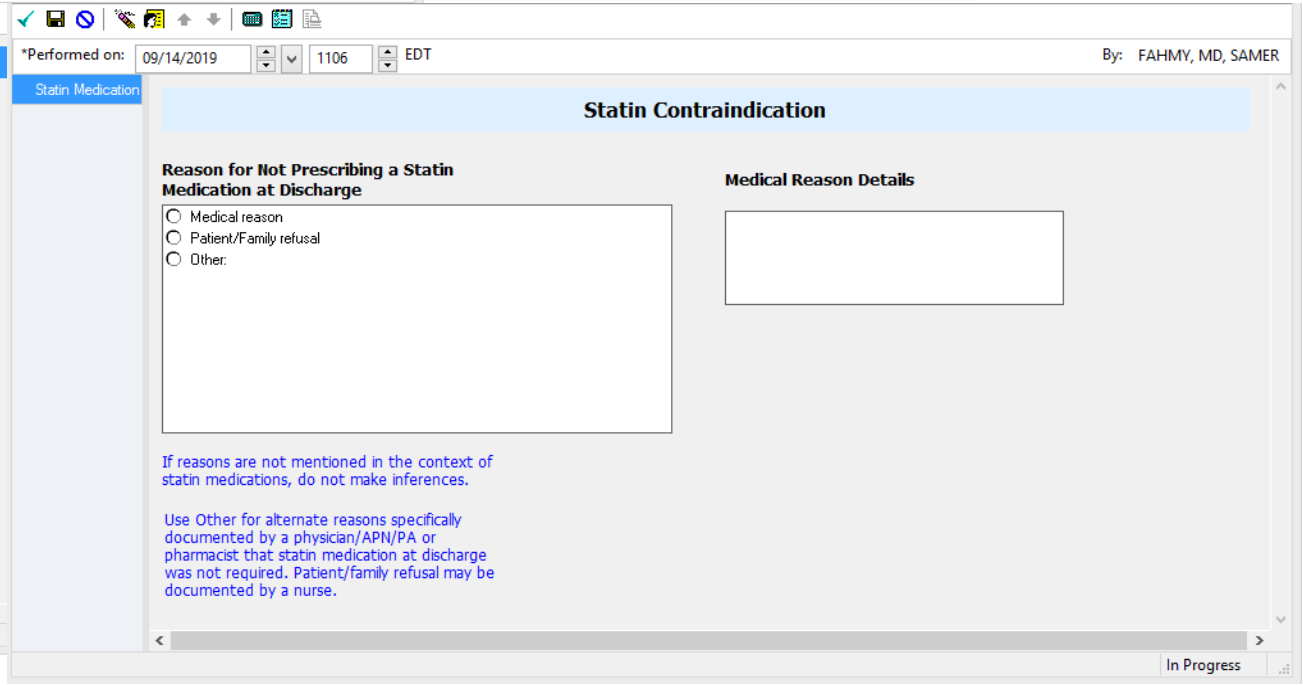

Cerner
VTE Assessment
Pharmacological and mechanical VTE prophylaxis must be ordered.
Please Navigate to orders tab and place orders for pharmacological and mechanical
-OR-
Click CONTRA to document contraindications for each
CONTRAIND.
OK


*Performed on: 09/14/2019 1109 EDT
By: FAHMY, MD, SAMER
Reason VTE Prophylaxis Not Given
Reason VTE Prophylaxis Not Received
Reason Pharmacological VTE Prophylaxis Not Received
Patient low risk for VTE
Patient/Family refusal
Risk of bleeding
Thrombocytopenia
Blood coagulation disorder
Anticoagulant allergy
Patient is on anticoagulation/or antithrombotic therapy prior to admission
Patient is on anticoagulation therapy
Patient is on antithrombotic and is at risk for bleeding.
VTE prophylaxis deferral to admitting/covering physician/surgeon
Reason Mechanical VTE Prophylaxis Not Applied
Medical reason
Patient low risk for VTE
Patient/Family refusal
What mechanical device did the patient / family refuse?
Graduated compression stockings
Intermittent pneumatic compression devices
Venous foot pumps (VFP)
In Progress

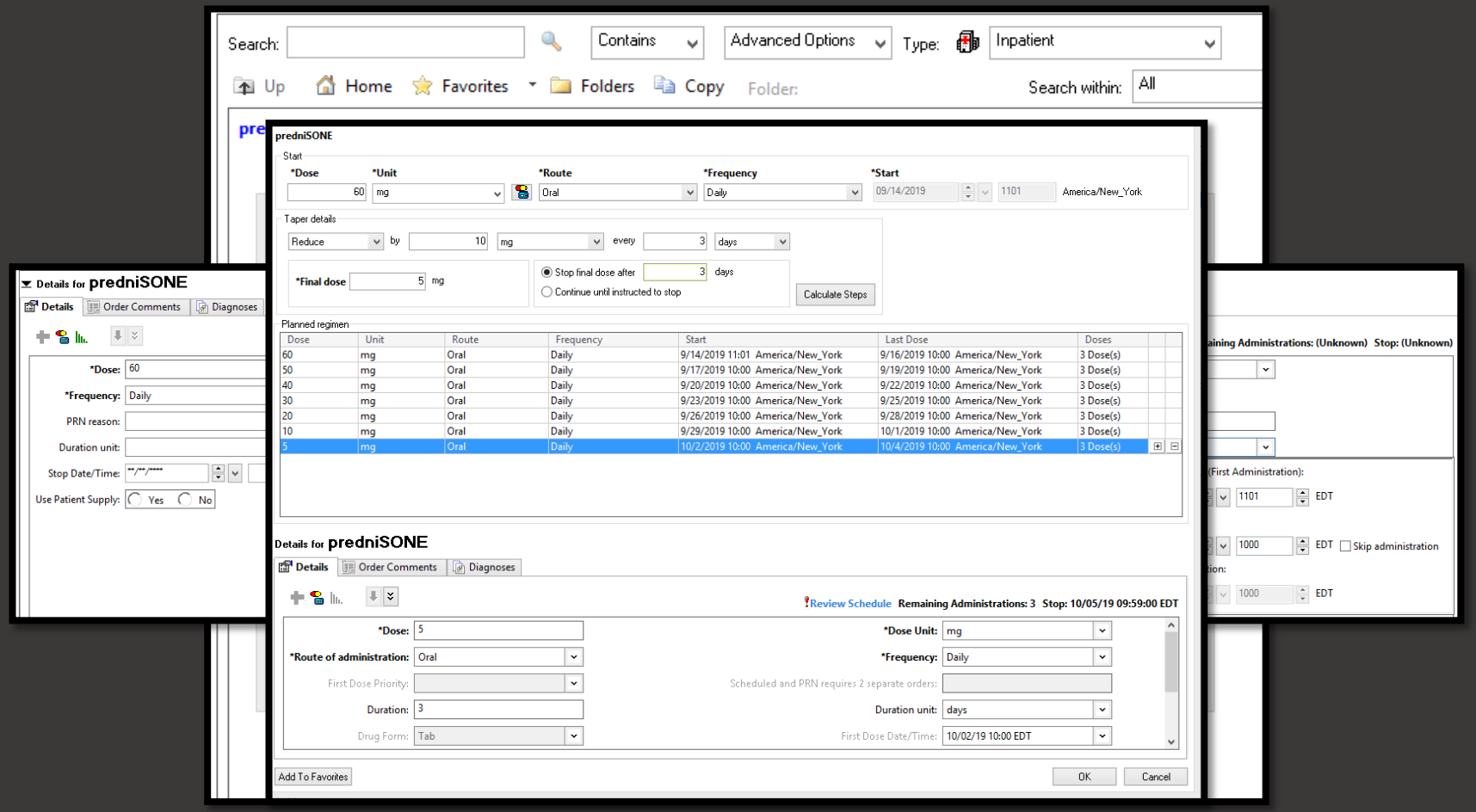
Quality forms



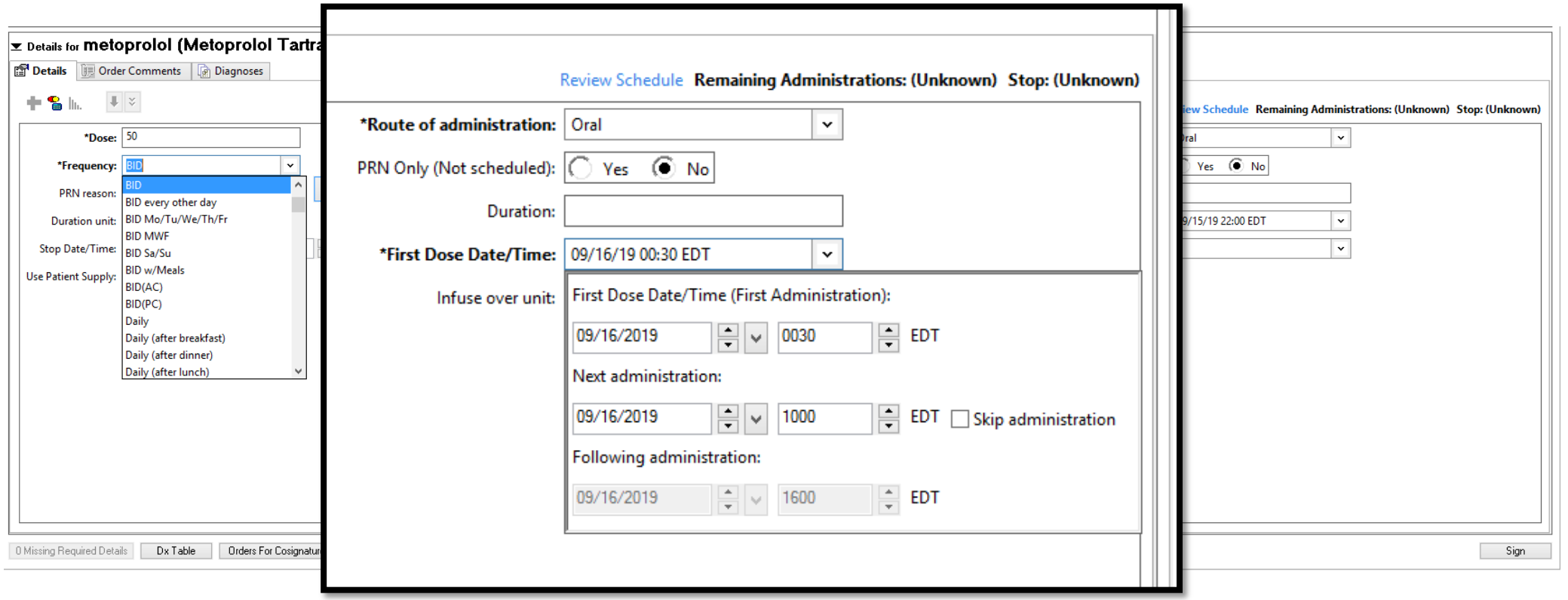




Tapering

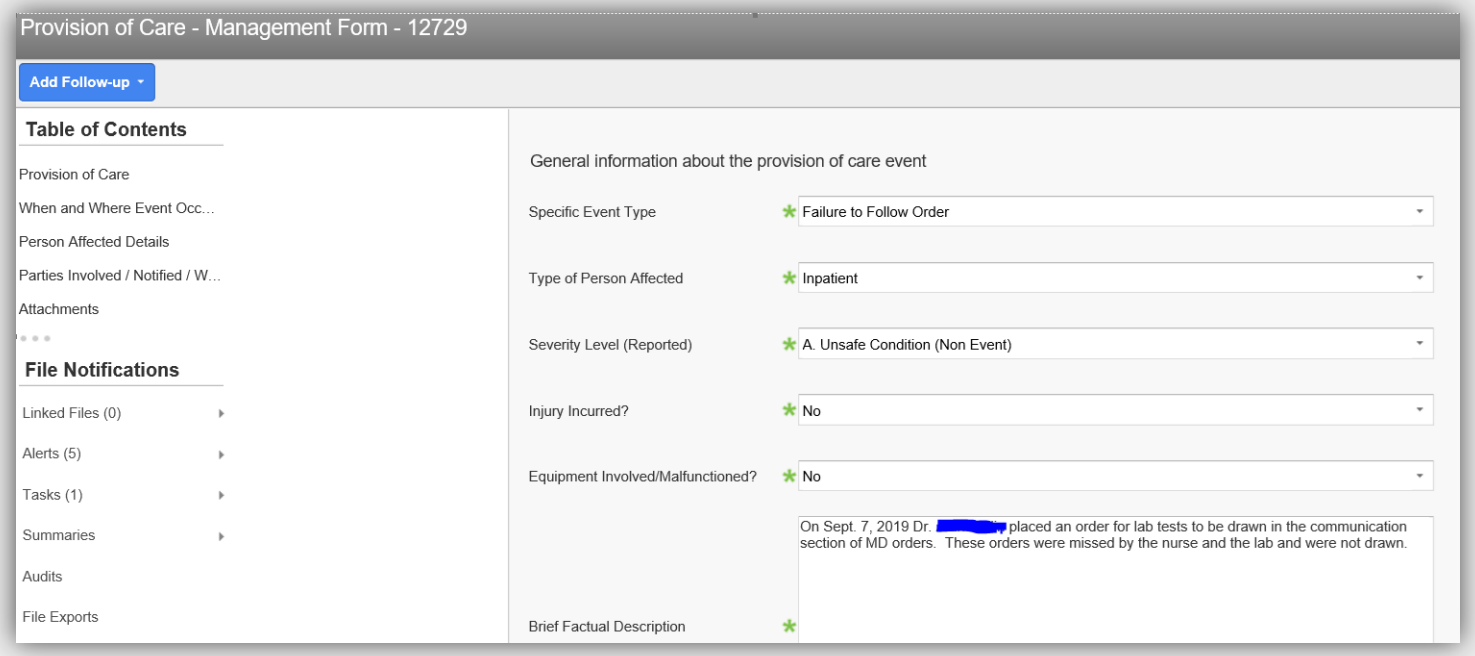

Search:
Contains
Advanced Options
Type:
Inpatient
Up
Home
Favorites
Folders
Copy
Folder:
Search within:
All
predniSONE
Start
*Dose
*Unit
*Route
*Frequency
*Start
60
mg
Oral
Daily
09/14/2019
1101
America/New_York
Taper details
Reduce
by
10
mg
every
3
days
*Final dose
5
mg
Stop final dose after
3
days
Continue until instructed to stop
Calculate Steps
Planned regimen
Dose
Unit
Route
Frequency
Start
Last Dose
Doses
60 mg Oral Daily 9/14/2019 11:01 America/New_York 9/16/2019 10:00 America/New_York 3 Dose(s)
50 mg Oral Daily 9/17/2019 10:00 America/New_York 9/19/2019 10:00 America/New_York 3 Dose(s)
40 mg Oral Daily 9/20/2019 10:00 America/New_York 9/22/2019 10:00 America/New_York 3 Dose(s)
30 mg Oral Daily 9/23/2019 10:00 America/New_York 9/25/2019 10:00 America/New_York 3 Dose(s)
20 mg Oral Daily 9/26/2019 10:00 America/New_York 9/28/2019 10:00 America/New_York 3 Dose(s)
10 mg Oral Daily 9/29/2019 10:00 America/New_York 10/1/2019 10:00 America/New_York 3 Dose(s)
5 mg Oral Daily 10/2/2019 10:00 America/New_York 10/4/2019 10:00 America/New_York 3 Dose(s)
Details for predniSONE
Details
Order Comments
Diagnoses
Review Schedule
Remaining Administrations: 3
Stop: 10/05/19 09:59:00 EDT
*Dose:
5
*Dose Unit:
mg
*Route of administration:
Oral
*Frequency:
Daily
First Dose Priority:
Scheduled and PRN requires 2 separate orders:
Duration:
3
Duration unit:
days
Drug Form:
Tab
First Dose Date/Time:
10/02/19 10:00 EDT
Add To Favorites
OK
Cancel
Details for predniSONE
Details
Order Comments
Diagnoses
*Dose:
60
*Frequency:
Daily
PRN reason:
Duration unit:
Stop Date/Time:
Use Patient Supply:
Yes
No
Administrations: (Unknown)
Stop: (Unknown)
(First Administration):
1101
EDT
1000
EDT
Skip administration
1000
EDT

Review Schedule



Communication Orders

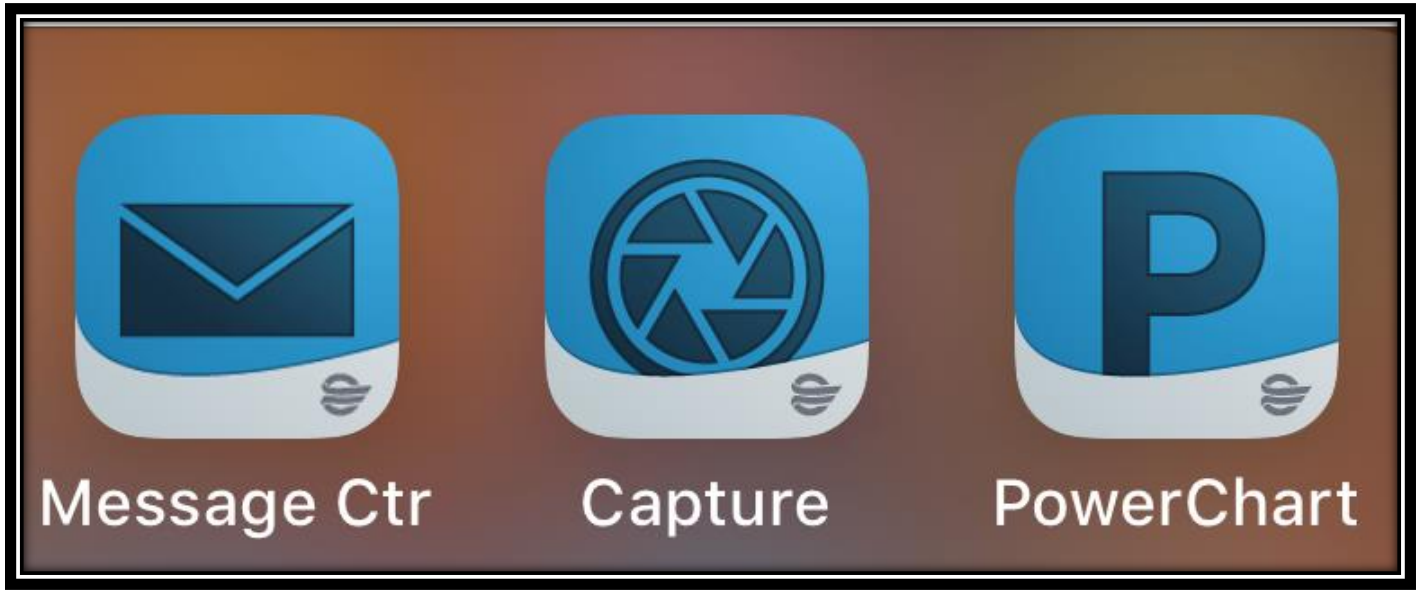
- Bypasses all safety checks in the EHR
- Medications, labs, blood products, radiology CANNOT be ordered
- Pharmacy Consult order available
- Lab Message



Mobile Apps

- PC Touch
- Camera Capture
- Message center

  - Email me for Code if interested - sfahmy@brrh.com



Secure Messaging

CMS Statement

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850

CENTERS FOR MEDICARE & MEDICAID SERVICES

Center for Clinical Standards and Quality/Survey & Certification Group

Ref: S&C 18-10-ALL

DATE: **December 28, 2017**

TO: State Survey Agency Directors

FROM: Director
Survey and Certification Group

SUBJECT: Texting of Patient Information among Healthcare Providers

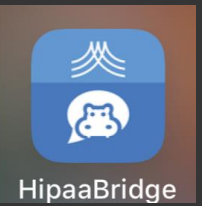
Memorandum Summary

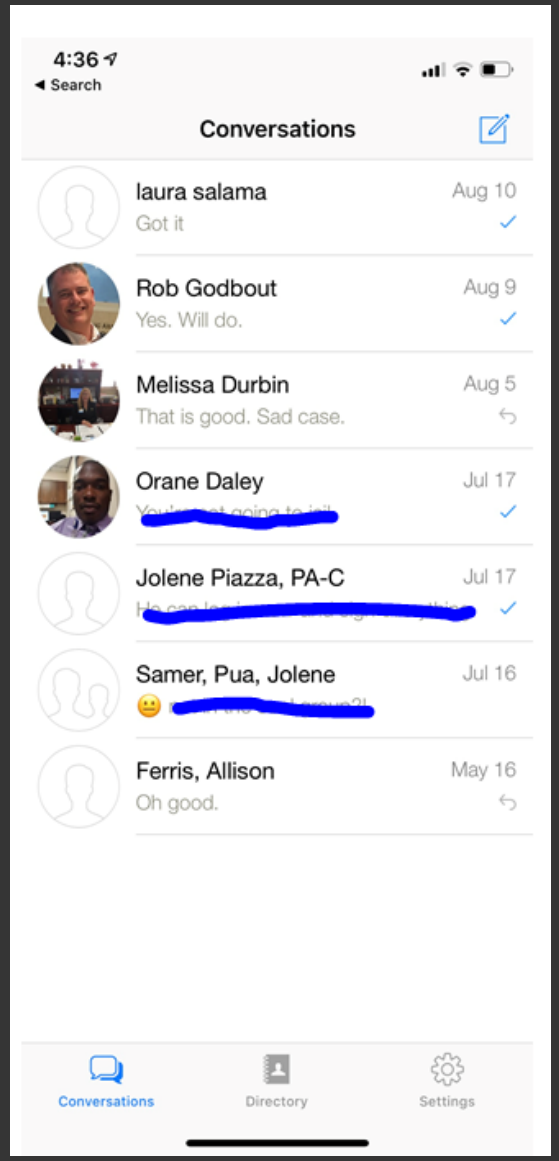
- **Texting patient information** among members of the health care team is permissible if accomplished through a secure platform.
- **Texting of patient orders** is prohibited regardless of the platform utilized.
- **Computerized Provider Order Entry (CPOE)** is the preferred method of order entry by a provider.

CMS recognizes that the use of texting as a means of communication with other members of the healthcare team has become an essential and valuable means of communication among the team members. In order to be compliant with the CoPs or CfCs, all providers must utilize and maintain systems/platforms that are secure, encrypted, and minimize the risks to patient privacy and confidentiality as per HIPAA regulations and the CoPs or CfCs. It is expected that providers/organizations will implement procedures/processes that routinely assess the security and integrity of the texting systems/platforms that are being utilized, in order to avoid negative outcomes that could compromise the care of patients.

HIPPA bridge Secure messaging

- Offered to all physicians, nurses, and staff
- A rich directory of physician contacts
  - Includes all residents
- Adoption campaign launching with EPCS Registration
- Loaded all physician emails provided by Med Staff office
- Download it today!





Questions