

MSOS Member Briefing November 2022

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Moderated by: E. Robert Feroli, PharmD, FASHP



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REMS Medication Infrastructure & Education

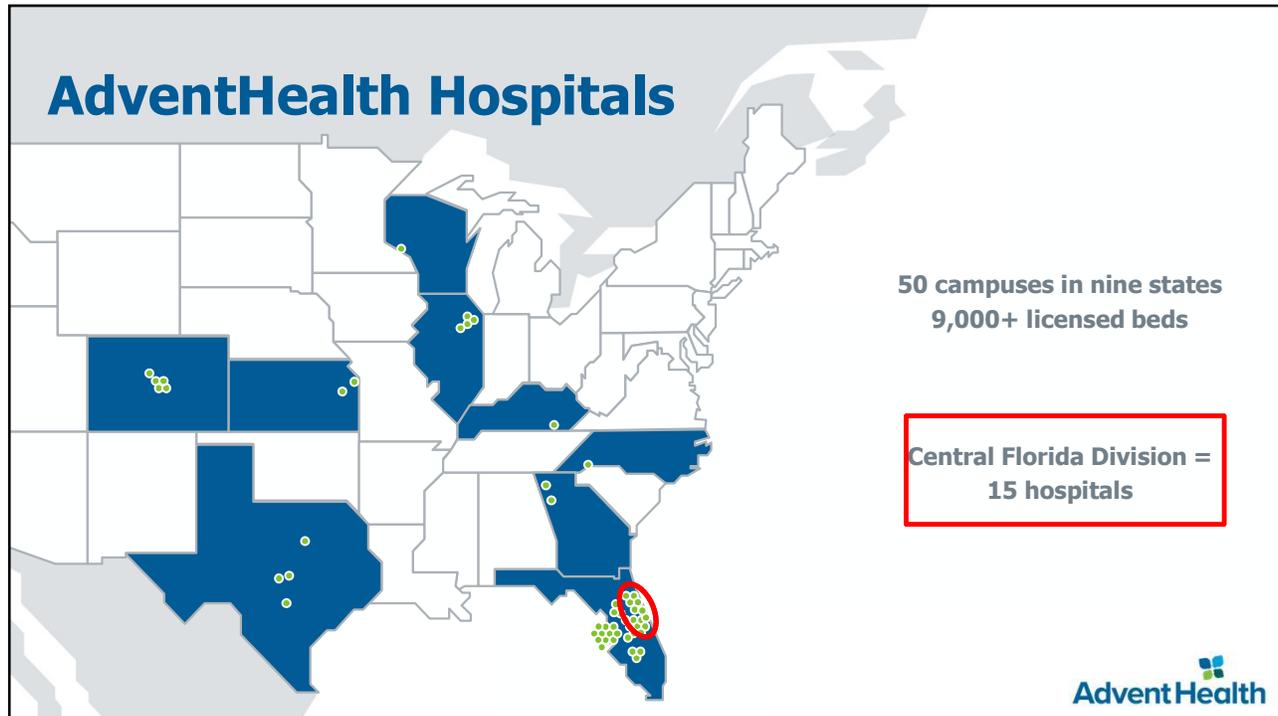
Stacy L. Carson, PharmD, BCPS, FISMP
Medication Safety Officer
AdventHealth

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Historical REMS Process

- Policy and procedures to obtain and document required information for each REMS medication in patient chart
- Developed documentation solution in Cerner
 - Pop-up alert for Providers
 - PowerForm documentation for Pharmacists
 - Education task for Nurses

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Cerner PowerForm

- Fires a task with each REMS medication order
- Pharmacists required to fill out PowerForm to document required information
- Based on drug selected, certain fields are required

Risk Evaluation and Mitigation Strategy (REMS)

Consult Type: New Follow-up care

Prescriber:

All Patient's REMS Meds:

Associated Order: [Rt. Click on Box Below for ReferenceText Hyperlink to FDA REMS website](#)

<input type="radio"/> Alemtuzumab (Lemtrada)	<input type="radio"/> Lomitapide (Lipiodol)	<input type="radio"/> Riociguat (Adempas)
<input checked="" type="radio"/> Ambrisentan (Letairis)	<input type="radio"/> Macitentan (Opsumit)	<input type="radio"/> Sodium Oxylate (Xyrem)
<input type="radio"/> Bosentan (Tracleer)	<input type="radio"/> Metoprolol (Toprol XL)	<input type="radio"/> Suboxone/Subutex
<input type="radio"/> Brodalumab (Siliq)	<input type="radio"/> Mifepristone (Mifeprex)	<input type="radio"/> Testosterone Undecanoate (Aveed)
<input type="radio"/> Buprenorphine Hydrochloride (Probuphine)	<input type="radio"/> Mipomersen Sodium (Kynamro)	<input type="radio"/> Thalidomide (Thalomid)
<input type="radio"/> Clozapine	<input type="radio"/> Mycophenolate	<input type="radio"/> Vandetanib (Caprelsa)
<input type="radio"/> Collagenase Clostridium Histolyticum (Xiaflex)	<input type="radio"/> Natalizumab (Tysabri)	<input type="radio"/> Vigabatrin
<input type="radio"/> Eculizumab (Soliris)	<input type="radio"/> Olanzapine (Zyprexa Relprevv)	
<input type="radio"/> Fibanserin (Addyi)	<input type="radio"/> Parathyroid hormone (Natpara)	
<input type="radio"/> Isotretinoin (PLEDGE)	<input type="radio"/> Phentermine and Topiramate (Qsymia)	
<input type="radio"/> Lenalidomide (Revimid)	<input type="radio"/> Pomalidomide (Pomalyst)	

Patient Enrolled in REMS Program: Yes No (contact prescriber to enroll pt) No (patient is male)

Enrollment #:

Prescriber Enrolled in REMS Program: Yes (called REMS to verify) No (home med) No (contact prescriber)

Pregnant: No (verified negative test result) No (nonreproductive potential female) Yes Unknown (contact prescriber) Lab result pending (check daily)

Female of Nonreproductive Potential (FNRP) Verified (pre-pubertal, post-menopausal, medical reasons for permanent irreversible infertility, or consent form on file w/REMS Program): Verified

If Pregnant, New Start?: Yes No

Pharmacist Action (New Start): Rejected order & contacted prescriber

Pharmacist Action (Current Med): Rejected order, contacted prescriber & reported status change on manufacturer website

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REMS Audits

- Received citations for not having documented education for all required parties after updates made to REMS program
 - Nurses, pharmacists, and providers
- **ACTION:**
 - Develop and launch REMS education to: providers, nurses, and pharmacists to get us into compliance.
 - Add education as a referenced document to REMS Policy and update twice per year



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Creation of REMS Education Document

- Contains inpatient formulary REMS medications
- Plan to update twice per year
- Education assigned to nurses, providers, pharmacists initially for full document and then education on changes twice annually thereafter
 - Nurses & Pharmacists: Online learning module with quiz
 - Providers: Official email sent out with attachments
 - Embed into new hire orientation requirement



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Snapshot of the REMS education document

Generic (Brand) Name	Dosage Form	REMS Purpose	Last Update	REMS Elements to Assure Safe Use (ETASU)	Recent Updates	Notes
ambrisentan	Tablet	Mitigate risks of embryo-fetal toxicity	6/8/21	<ul style="list-style-type: none"> • Prescriber to be registered for all new start patients • Dispensing pharmacy registered by authorized representative • Staff involved in dispensing complete education • Verify the female patient is under the care of a certified prescriber and that she is or will be enrolled to the REMS program prior to discharge • Confirmation of negative pregnancy test • Counsel patient on risk of embryo-fetal toxicity • Do NOT distribute, transfer loan, or sell REMS drug except to certified dispensers 	<div style="background-color: #e6f2ff; padding: 2px;">Provision for prescribers to authorize > 30-day supply for females of reproductive potential due to travel or personal extenuating circumstances</div> <div style="background-color: #fff9c4; padding: 2px;">No recent updates, refer to Guidance Document (in Notes section) for full information</div> <div style="background-color: #e6ffe6; padding: 2px;">Modified to align inpatient and outpatient pharmacy requirements within Prescriber and Pharmacy guide</div>	<ul style="list-style-type: none"> • Formulary • Shared system REMS • Guidance document

Updates pertaining to:

- Physician
- Nurse
- Pharmacist



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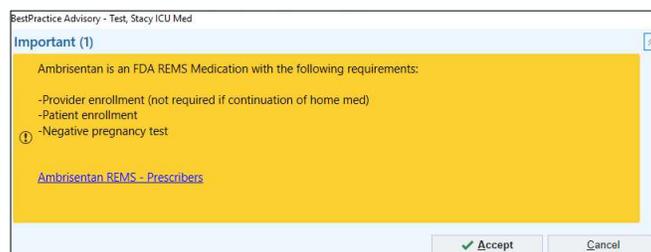
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Transitioned to Epic EHR in 2022



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Provider Alerted When Ordering REMS Medication



Pharmacists have note during order verification of REMS medication

- Also, part of clinical monitoring dashboard

Note to pharmacy:
Pharmacist to enter REMS intervention



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UPDATED REMS Pharmacist workflow in Epic

The screenshot shows the Epic Clinical Overview for three patients: Bigfoot, Laverne-IPharm; Bigfoot, Jordan-IPharm; and Bigfoot, Sujata-IPharm. The interface includes a table of patient data with columns for Patient, Room/Bed/Service, RX Info, and Clinical Score. A red box highlights the 'Intervention Needed' status for the first patient. A yellow box highlights the 'REMS Patient List Filter' in the Radar Sidebar. A pink box highlights the 'Active REMS Meds' section, and a purple box highlights the 'i-Vents' section. The 'Open Interventions' table at the bottom shows an intervention for bosenstan (Tracleer) tablet 62.5 mg.

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iVent Smart Text Templates for Pharmacist Documentation

The SmartText Lookup window displays a list of matches for the term 'rems'. The first match is 'RX REMS AMBRISANTAN (LETAIRIS)'. The preview pane shows the following text: 'Ambrisentan (Letairis) is part of the Risk Evaluation and Mitigation Strategy (REMS). As part of the ordering process, it is required to meet certain requirements. Is this a new start medication? (New start?:29254) Patient enrollment in REMS program: (Patient Enrollment:29251) Enrollment number: Provider enrollment in REMS program: (Prescriber Enrollment:29252) Pregnancy 1. Pregnant? (YES NO:27836) 2. Female of Non-reproductive Potential (FNRP) Verified (pre-pubertal, post-menopausal, medical reasons for permanent irreversible infertility, or consent form on file w/REMS Program): (YES/NA/NO:23853) 3. If pregnant, pharmacist action (RX REMS Pharmacist Action:29255) All REMS Requirements Met: (RX REMS Requirements Met:29256) Aurora, Harley-RX, RPH'. The 'Accept' button is highlighted with a pink box.

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Documented Nurse Education Task (for specific meds)



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Next Steps

- Resident assigned medication use evaluation on Epic REMS pharmacist documentation for this year
- Roll out to the whole company as Epic is implemented (SOP, education document, and Epic workflow)
- Determine workflow for non-formulary REMS medications, especially for outpatient infusion centers



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Thank you!
Questions?

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Flatlining QT alerts: Tackling the highest firing drug-drug interaction to decrease alert fatigue

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When the Stars Align...

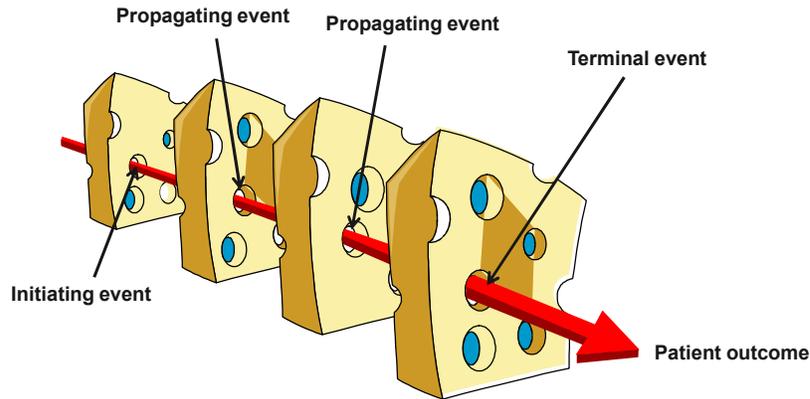


Figure provided courtesy of E. Robert Feroi, PharmD, FASHP, retired Medication Safety Officer, The Johns Hopkins Hospital; MPSC Board of Directors; Faculty Medication Safety, Armstrong Institute for Patient Safety and Quality

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Warnings Report

New Warnings (1 unfiltered, 3 filtered) Show filtered (3)

Drug-Drug: ondansetron (PF) and haloperidol lactate

The use of ondansetron in patients maintained on agents that prolong the QTc Interval may result in potentially life-threatening cardiac arrhythmias, including torsades de pointes (1-3)

High

Details Override reason

ondansetron (PF) (ZOFTRAN) injection 2 mg/mL Hospital medication. New. Remove

haloperidol (HALDOL) injection 5 mg/mL Hospital medication. New. Remove

How does this medication warning tie back to the patient?



	2/20/2021 2016	2/20/2021 2322	5/26/2021 1429	7/15/2021 1833	7/30/2021 1933
EKG					
Atrial Rate	104*	84*	92*	89*	101*
P Axis	80*	74*	-11*	67*	75*
PR Interval	158*	144*	172*	172*	142*
QRS Duration	112*	114*	120*	116*	112*
QT Interval	404*	482*	464*	448*	418*
QTc Calculation	531*	569*	573*	545*	542*
R Axis	58*	11*	43*	23*	30*
T Wave Axis	210*	197*	202*	199*	-79*
VENT RATE	104*	84*	92*	89*	101*
EKG, 12-LEAD					

	7/13/2021 1011	7/15/2021 1929	7/16/2021 0045	7/16/2021 0616	7/30/2021 2025
CHEM PROFILE					
SODIUM_S	139*	139		137	134
Potassium	2.6*	2.8	2.7*	2.5*	2.4*

Problem List [Read-Only]

- Problem List is currently read-only.
- Diagnosis Hospital Print
 - Non-Hospital (Problems not being addressed during this admission)
 - Essential hypertension
 - Hypertensive urgency
 - Dyslipidemia
 - Cardiomyopathy due to hypertension, with heart failure (HCC)
 - Dilated cardiomyopathy (HCC)
 - Acute systolic congestive heart failure (HCC)
 - Hypertensive emergency
 - Pneumonia of left lower lobe due to infectious organism
 - Shortness of breath
 - AKI (acute kidney injury) (HCC)
 - Tropoin level elevated
 - Uncomplicated asthma, unspecified asthma severity, unspecified whether persistent
 - Chronic anemia
 - Leukocytosis, unspecified type
 - VHD (valvular heart disease)
 - Myocardial infarction type 2 (HCC)
 - Stage 4 chronic kidney disease (HCC)
 - Hypokalemia
 - Electrolyte imbalance
 - Hypomagnesemia
 - Hypokalemia (Resolved)
 - Chest pain (Resolved)
 - Other
 - Hypertension (From Hx)
 - Asthma (From Hx)
 - CHF (congestive heart failure) (HCC) (From Hx)
 - Renal disorder (From Hx)

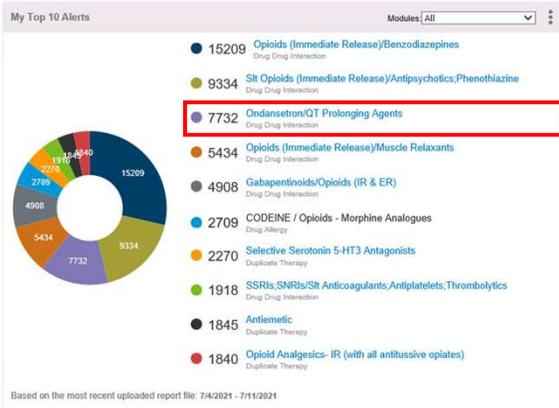
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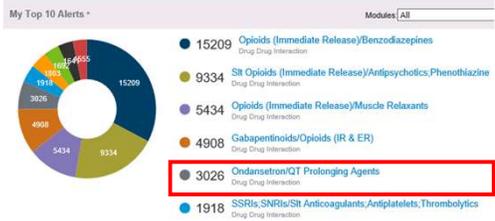
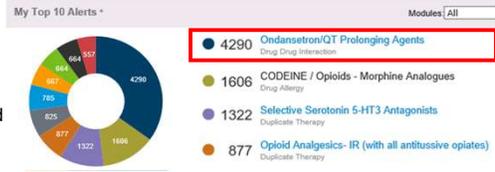
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Medication Warnings Overview



Providers:
Severe and contraindicated DDIs

Pharmacists:
Moderate, severe and contraindicated DDIs



Data from July 4, 2021 – July 11, 2021

Imported from third-party vendor, First Databank (FDB)

Types: Drug-Drug, Duplicate Therapy, Drug-Disease, Dosage Range Check, Geriatric Precautions, Lactation Precautions, Pregnancy Precautions, Pediatric Precautions

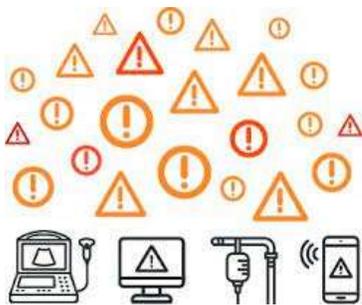
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Alert Fatigue is Real!



Case A. False alarms & alert fatigue: The hidden cost of bad design on the healthcare system. Available at caseorganic.medium.com/false-alarms-alert-fatigue-the-tragic-design-of-hospital-alerts-8c78dc8bb512. Published Oct 31, 2018. Accessed Sep 14, 2022.

Andrews C. End alarm fatigue with CA application performance management. Available at <https://www.broadcom.com/sw-tech-blogs/aiops-blog/end-alarm-fatig>. Published Dec 5, 2017. Accessed Sep 14, 2022.

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QTc Prolongation Drug-Drug Interaction Warnings

Previous State

- **Ondansetron QTc prolongation is the top firing drug-drug interaction alert to providers, yet of low clinical relevance**
 - Override reason requirement depends on severity category of alerts
- **Does not take any patient-specific risk factors into account**

Proposed State

- **Goal:** Increase clinical relevance of QTc prolongation alerts, driving the user to take appropriate action based on relevant patient-specific data points
- **“Rights” of decision support:**
 - Right information
 - Right person
 - Right time in the workflow
 - Right action/intervention (alert, order set, etc.)
 - Right context/channel

Osheroff, Teich, Levick et al., 2012. Improving outcomes with CDS: an implementer's guide, Second Edition.

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Building a Better Mouse Trap

Development and Validation of a Risk Score to Predict QT Interval Prolongation in Hospitalized Patients

James E. Tisdale, PharmD¹, Heather A. Jaynes, MSN¹, Joanna R. Kingery, PharmD¹, Noha A. Mourad, MS¹, Tate N. Trujillo, PharmD¹, Brian R. Overholser, PharmD¹, and Richard J. Kovacs, MD⁵

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²Department of Medicine, School of Medicine, Indiana University

³Department of Pharmacy, Indiana University Health Methodist Hospital

⁵Krannert Institute of Cardiology, Indianapolis, IN

Effect of Replacing Vendor QTc Alerts with a Custom QTc Risk Alert in Inpatients

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² Department of Pharmacy Services, Michigan Medicine, Ann Arbor, Michigan, United States

³ Department of Internal Medicine-Cardiology, Michigan Medicine, Ann Arbor, Michigan, United States

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Appl Clin Inform 2022;13:19-29.

Address for correspondence: Christopher Zimmerman, PharmD, Health Information and Technology Services, Michigan Medicine, Suite 500, 510-05, 777 E. Eisenhower Parkway, Ann Arbor, MI 48108-3273, United States (e-mail: chriscim@med.umich.edu).

Effectiveness of a Clinical Decision Support System for Reducing the Risk of QT Interval Prolongation in Hospitalized Patients

James E. Tisdale, PharmD, Heather A. Jaynes, MSN, Joanna R. Kingery, PharmD, Brian R. Overholser, PharmD, Noha A. Mourad, MS, Tate N. Trujillo, PharmD, and Richard J. Kovacs, MD

Department of Pharmacy Practice, College of Pharmacy, Purdue University, Indianapolis, IN (J.E.T., H.A.J., B.R.O., N.A.M.); Department of Medicine, School of Medicine, Indiana University, Indianapolis (J.E.T., B.R.O., R.J.K.); Department of Pharmacy, Indiana University Health Methodist Hospital, Indianapolis (J.R.K., T.N.T.)

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Risk Score

Risk Factor	Number of Points
Age ≥ 68 years	1
Female gender	1
Loop diuretic	1
Serum potassium ≤ 3.5 mEq/L	2
Admission QTc ≥ 450 ms	2
Acute myocardial infarction	2
Sepsis	3
Heart failure	3
At least one QT prolonging medication	3
Two or more QT prolonging medications	3
Maximum Risk Score	21

Risk Category	Number of Points
Low risk	< 7
Moderate risk	7–10
High risk	≥ 11

Tisdale JE. *Circ Cardiovasc Qual Outcomes*. 2013;6(4):479-87.

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Risk Score Alert

The alert fires on patients

EITHER

- With a most recent QTc result ≥ 500 ms

OR

- With a QT prolongation risk score of 11 points or greater

QTc Prolongation Alert

This patient **EITHER** has a QTc >= 500 ms **OR** is at **HIGH** risk for QTc prolongation (see risk factors below), which may increase their risk for torsades de pointes.
Tisdale JE. *Circ Cardiovasc Qual Outcomes*. 2013; 6(4): 479-487. **EXAMPLE**

QT prolongation risk factors this patient meets:

High Risk	11 Total Score
1	Loop diuretic active OR given in last 48 hrs
2	Most recent K <= 3.5 mEq/L or Mg <= 1.8 mg/dL in last 72 hrs
2	Most recent QTc interval >= 470 ms
3	At least one QTc prolonging medication active OR given in last 48 hrs
3	2+ QTc prolonging medication(s) active

Most recent labs:

QTC Calculation	Date/Time	Value	Ref Range	Status
	04/10/2022 03:13 PM	475	MS	Final

Potassium	Date/Time	Value	Ref Range	Status
	04/12/2022 02:47 AM	3.7	3.5 - 5.1	Final

Magnesium	Date/Time	Value	Ref Range	Status
	04/12/2022 02:47 AM	1.8	1.6 - 2.6	Final

Active medication(s) with risk of QT prolongation

Start	Stop	Medication
04/08/22 1500	--	niCARDIPINE (CARDENE) infusion 25 mg/250 mL NS (100 mcg/mL) STANDARD 0-15 mg/hr Intravenous, Continuous
04/08/22 1500	--	propofol (DIPRIVAN) 10 mg/mL infusion 0-50 mcg/kg/min, Intravenous, Continuous
04/08/22 1437	--	ondansetron (PF) (ZOFTRAN) injection 2 mg/mL 4 mg, Intravenous, Every 8 hours PRN

Review the MAR for recently administered QT prolonging meds.

Remove the following orders?

Remove	Keep	Order
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ciprofloxacin (CIPRO) IVPB 400 mg/200 mL (premix) 400 mg Intravenous, at 200 mL, Every 12 hours, First Dose today at 1300 Reason for Ordering: Antimicrobial: CAP (ICU) - Community Acquired Pneumonia Expected days of therapy: 3

Apply the following?

Order	Do Not Order	Order
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ECG 12 lead unit performed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Telemetry monitoring

Acknowledge Reason

Benefit > risk, will monitor

Accept Cancel

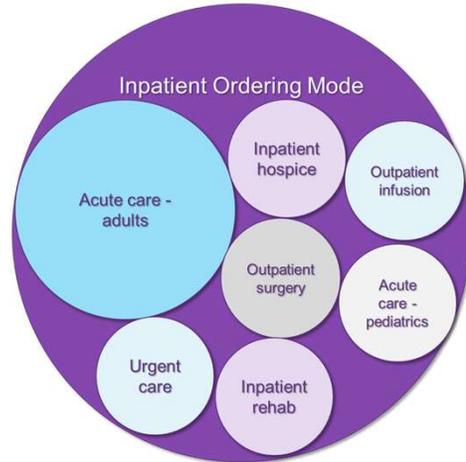
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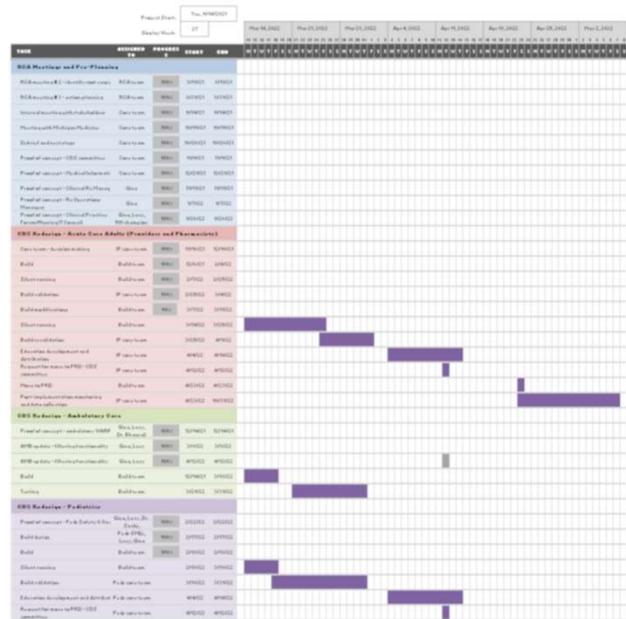
One Size Does NOT Fit All!

- Depending on the patient's age and care setting, an alert fires upon ordering and/or verifying QT prolonging medication(s):
 - Risk score alerts:** Adult patients in hospital or outpatient infusion
 - Non-risk score alerts:**
 - Adult patients in other care settings
 - Pediatric patients



Strategy

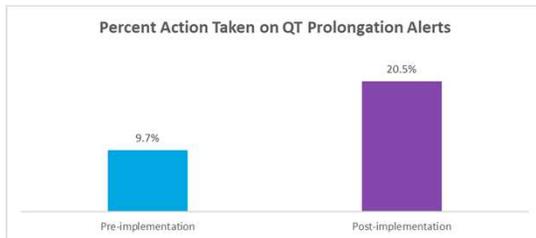
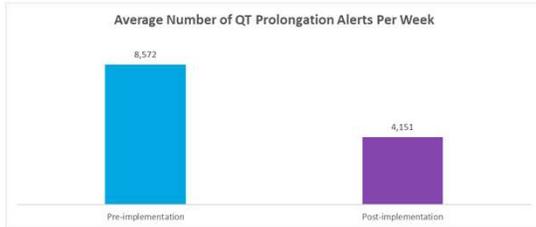
- Assess impact
- Define scope
- Form a multidisciplinary team
- Set milestones
- Communicate progress
- Socialize change



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Preliminary Results



Override Reason	Percent Overrides
Benefit outweighs risk	83.1%
Patient being monitored	9.4%
Previous use tolerated	3.0%
Notified provider, ordered to continue	2.8%
Previously addressed	1.8%

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Pearls

- Get as close as possible to the workflow with leadership support
- Maximize internal and external collaborations
- Keep detailed and accurate notes on all decisions
- Roll with the curveballs, but be mindful of scope and timeline
- Prepare for the worst
- Develop plans for post-implementation monitoring and sustainable maintenance
- It takes a village!

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Future Directions

- Review firings for potential optimization opportunities:
 - Top offending medications?
 - Default checked medications in order sets?
 - Lookback times on comorbidities?
 - Other?
- Add most recent QTc result to order composer
- Explore the utility of a MAR infographic for ongoing monitoring
- Evaluate impact on patients' clinical outcomes

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Acknowledgements

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- Elena Levenfeld, MSChE, RT(T)
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- Maria Paradisis, MD
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- Ashley Hall, PharmD
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- Nirali Naik, PharmD, BCPS
- Shirmil White, PharmD, BCPS
- Mnesha Patel, PharmD, MBA
- Timothy Coyle, PharmD
- Leslie Busby, BSN, RN
- Pooja Mistry, RN

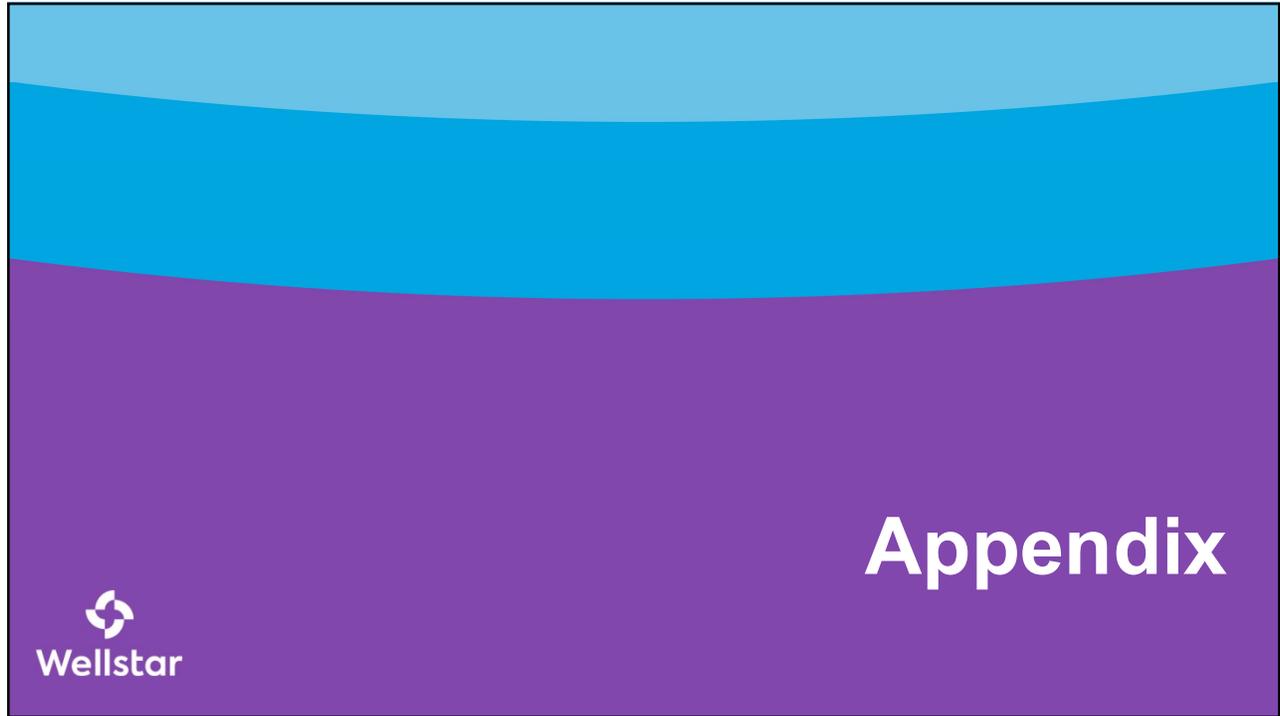
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EXAMPLE

Infographic on MAR

insulin lispro (HumaLOG) (prandial) injection [Ⓜ] Dose: 5 Units : Subcutaneous : 3 Times daily with meals :

1300 Due

Admin Instructions:
HOLD IF NPO.

Product Instructions:
Place waste in BLACK hazardous container.
Caution: Sound alike/look alike medication.

Ordered Admin Dose: 0.05 mL = 5 Units of 100 Units/mL

Dispense Location:

******Hold dose, patient has active NPO order******

Recent Result Components

GLUCOSE:	200 mg/dL (A) †	collected at 01/26/22 0201
BEDSIDE	(Final)	
	212 mg/dL (A) †	collected at 01/26/22 0021
	(Final)	
	240 mg/dL (A) †	collected at 01/25/22 1952
	(Final)	

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Flatlining QT alerts: Tackling the highest firing drug-drug interaction to decrease alert fatigue

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Pharmacy Informatics Specialist
Epic Willow Analyst, Clinical Decision Support IT Lead
Wellstar Health System – Marietta, GA



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Inpatient Pharmacist Discharge Order Verification

Geisinger

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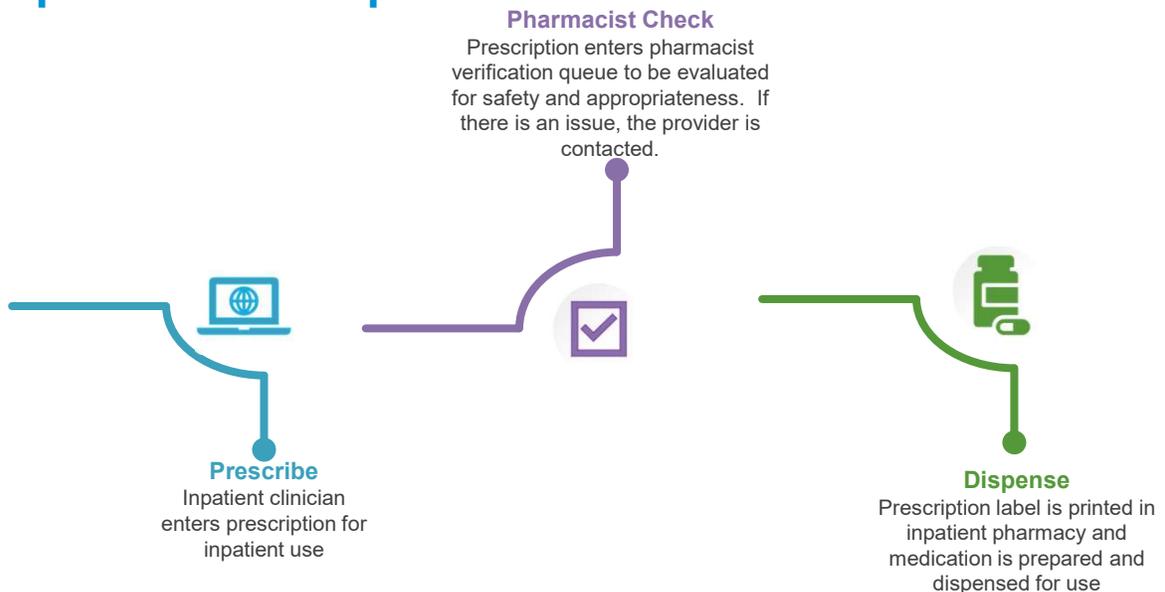
Geisinger



- Geisinger Medical Center
 - 550 bed hospital in Danville, PA
 - Includes Janet Weis Children’s Hospital
- Geisinger Shamokin Community Hospital
 - 30 bed hospital in Shamokin, PA

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Inpatient Prescriptions

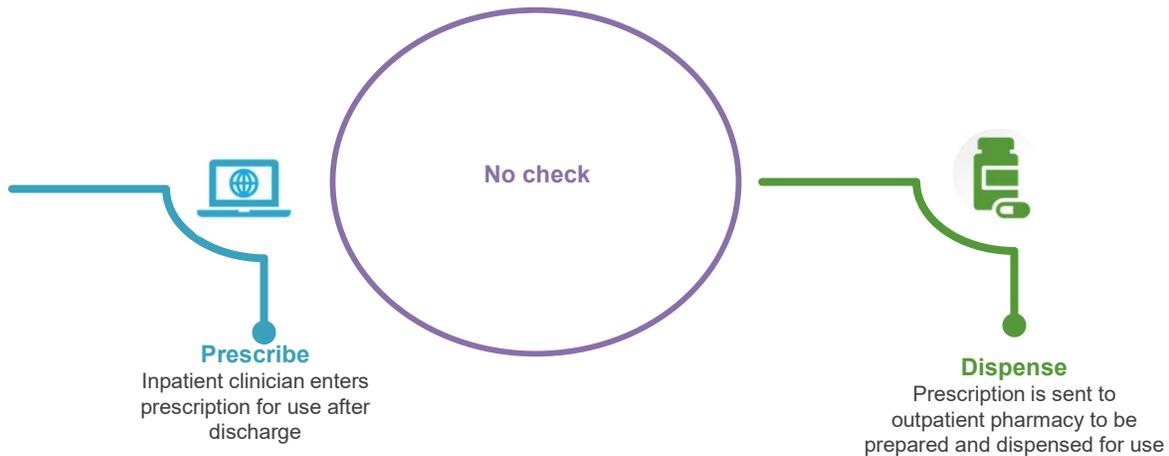


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Discharge Prescriptions



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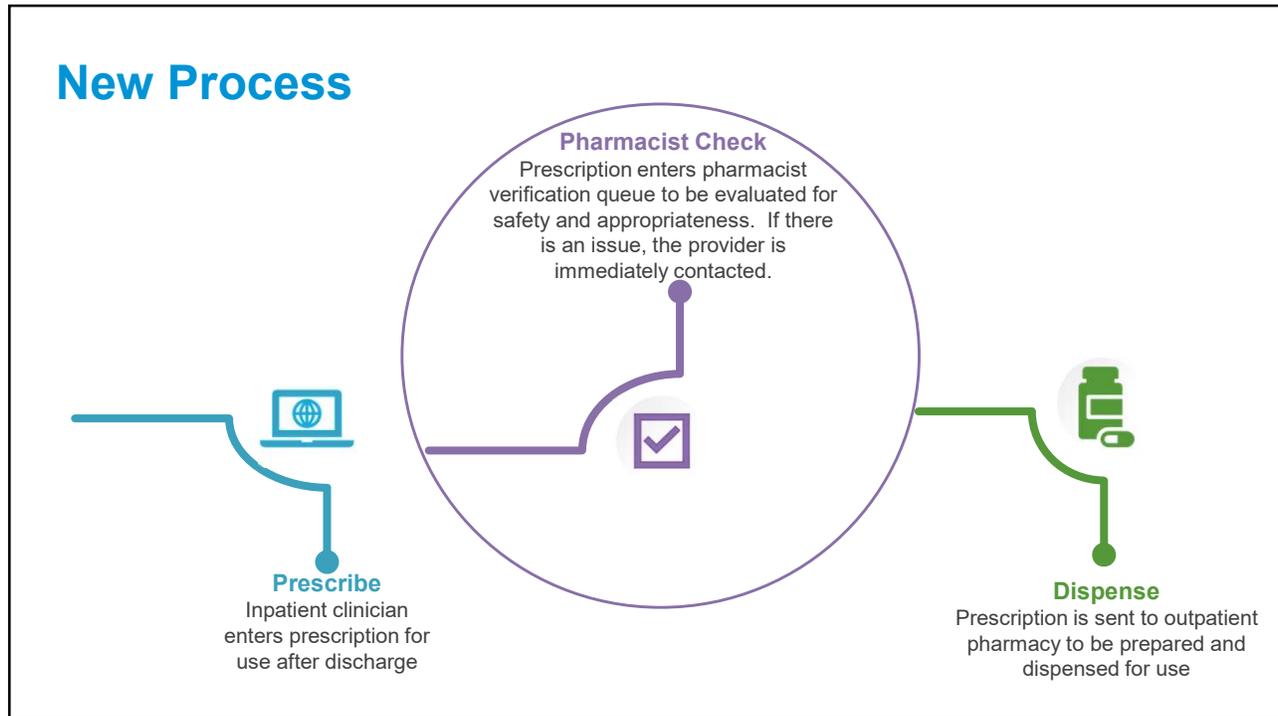
Problem

- Receiving reports of inappropriate discharge prescriptions
 - Insufficient quantities (ex. not enough tablets for prednisone tapers)
 - Incorrect packaging (ex. enoxaparin vials vs syringes)
 - Inappropriate tablet strengths (ex. risperidone 4mg tablets sig: Take 3mg (0.75 tablet) by mouth daily)
 - Unnecessarily replacing home medications with hospital formulary products (ex. on Advair (fluticasone/salmeterol) at home, interchanged with Breo Ellipta (fluticasone/vilanterol) during admission, then prescribed Breo Ellipta at discharge)
 - Pediatric dosing errors (ex. sildenafil suspension 50mg by mouth TID for patient who had been receiving 4.2mg during admission. Provider had meant to order 5mg by mouth TID)
- Pharmacists at outpatient pharmacies unable to quickly contact provider to resolve issue

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New Process

- Phased in on different units throughout 2021
- Included: Adult and pediatric inpatient units
- Excluded: Emergency department and same day surgery units
- Clinicians' discharge prescriptions flow into the same pharmacist verification queue as inpatient prescriptions
- Discharge prescriptions will not e-prescribe or print until pharmacist verification
- Inpatient pharmacist will review new prescriptions and entire discharge medication list
- Pharmacist can text clinician about inappropriate prescriptions and have either the clinician re-write the prescription or take a verbal to re-write it themselves
- Pharmacist places an I-Vent in EPIC to indicate they reviewed the discharge medication list and whether they had to make any changes

Pharmacist Check
Prescription enters pharmacist verification queue to be evaluated for safety and appropriateness. If there is an issue, the provider is immediately contacted.

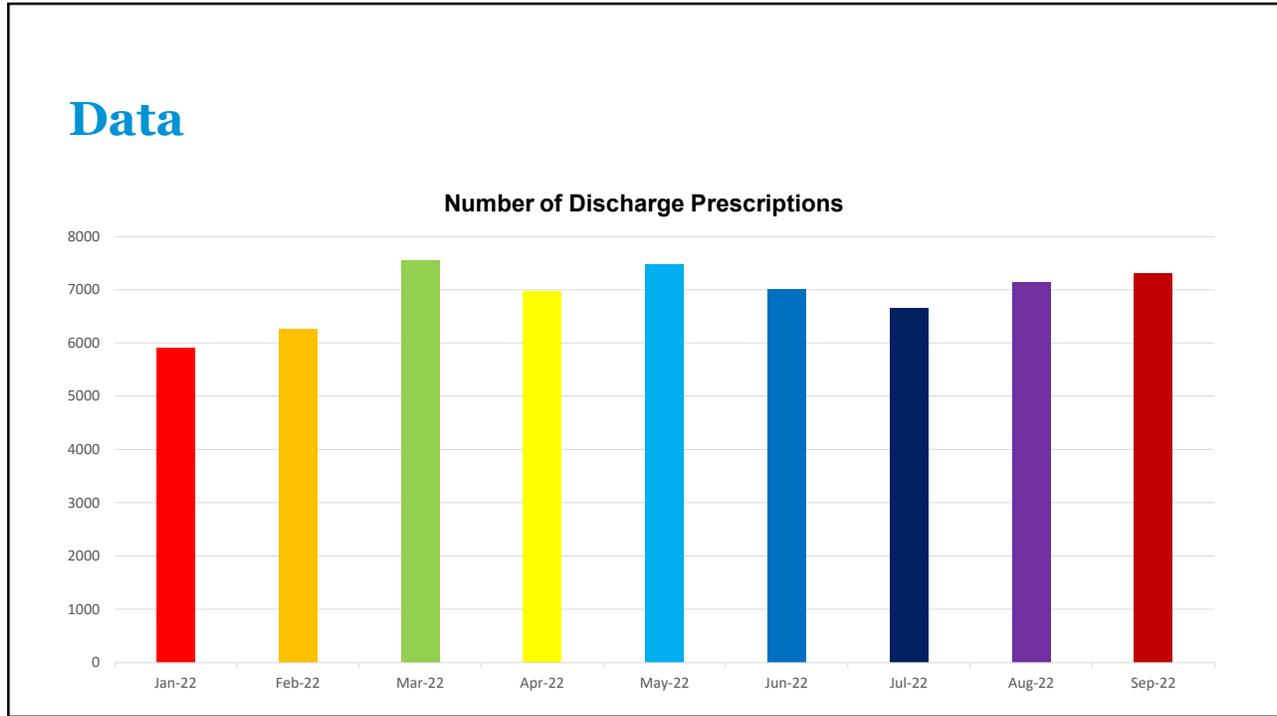
Prescribe
Inpatient clinician enters prescription for use after discharge

Dispense
Prescription is sent to outpatient pharmacy to be prepared and dispensed for use

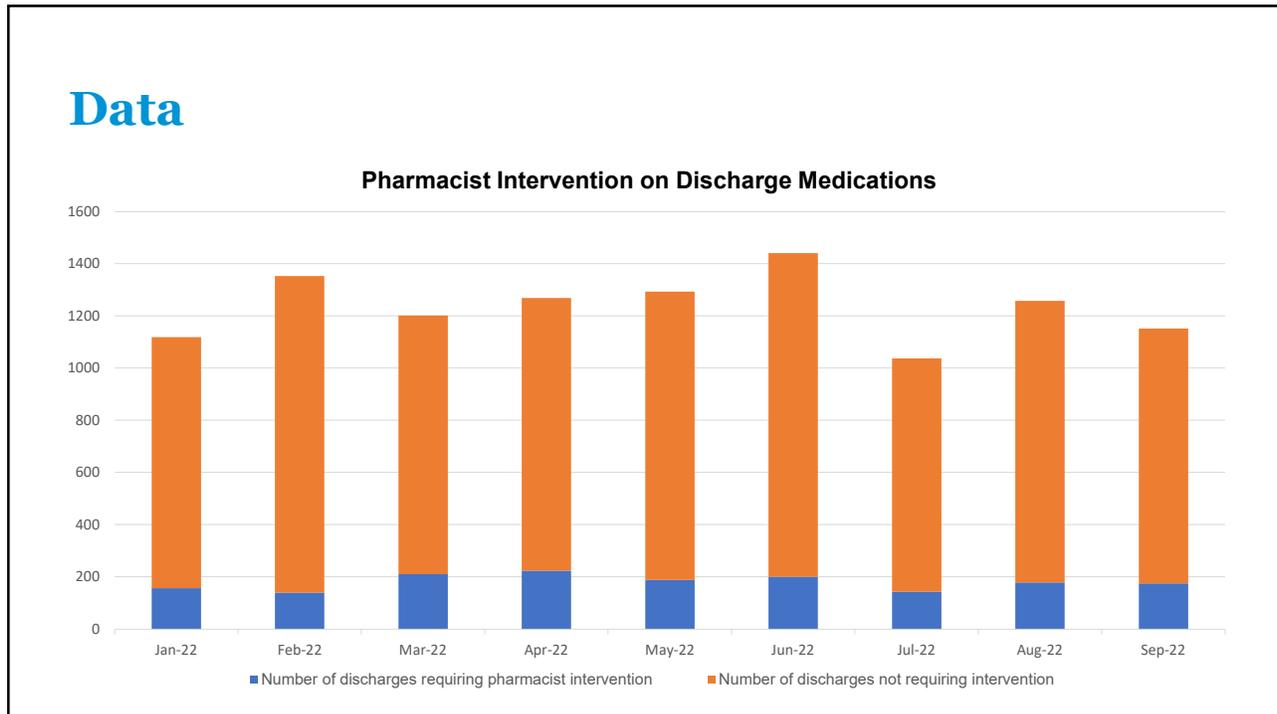
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Challenges

- No hard stop on printing after visit summaries if the pharmacist hasn't yet verified the prescriptions
 - May lead to incorrect information on medication list
- Team must wait for pharmacy verification to get prescriptions printed
 - May hold up discharge
- Significant number of prescriptions added to pharmacist's workload

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Great Catches

- Clinician ordered 5 day supply of morphine sulfate extended release (MS Contin) 15mg tablets "take 1 tablet every 8 hours as needed for pain"
 - Pharmacist reached out to confirm formulation and confirmed clinician really meant to order morphine sulfate immediate release tablets
- Clinician ordered sacubitril/valsartan (Entresto) 49-51mg tablets, but left lisinopril on medication list
 - Pharmacist reached out due to duplicate medication therapy and provider discontinued lisinopril prescription
- Clinician ordered cefepime and tobramycin for pediatric patient and had e-prescription destination set for the hospital outpatient pharmacy
 - Pharmacist knew outpatient pharmacy does not dispense IV antibiotics and re-routed prescription to appropriate home infusion pharmacy

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Questions?

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ISMP Update MSOS Briefing November 2022

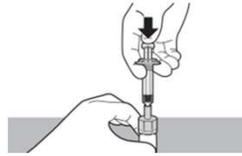
Rita K. Jew, Pharm.D., MBA, BCPPS, FASHP
President, Institute for Safe Medication Practices

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Two Components Vaccines to Single Component



Rotavirus Vaccine



Meningococcal Vaccine



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SAFETY briefs

Using VIGIV for monkeypox? The concentration is not as it may seem. A prescriber ordered Vaccinia Immune Globulin Intravenous (Human) (VIGIV) (NDC 60492-0173-1) 6,000 units/kg for a hospitalized 3.49 kg neonate (total dose of 20,940 units) with monkeypox-like symptoms. A single-dose vial arrived from the national stockpile in an unlabeled carton without a package insert. The immediate vial label displayed, "greater than or equal to 50,000 units per vial," without listing a corresponding volume or concentration (Figure 1). When trying to determine how to prepare this product, a pharmacist found the package insert on DailyMed (www.ismp.org/ext/997), which states that VIGIV is provided in a 20 mL single-dose vial containing antibodies to vaccinia virus at greater than or equal to 50,000 units per vial. The package insert states to remove the entire contents of the vial to obtain the labeled dosage of VIGIV. Practitioners might assume the vial contains a total

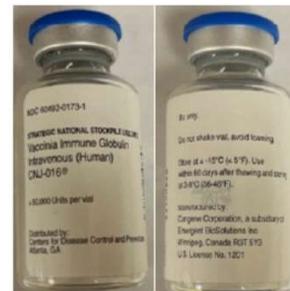


Figure 1. The Vaccinia Immune Globulin Intravenous (Human) CNJ-016 vial label displays greater than or equal to 50,000 units per vial, without a corresponding volume or concentration.



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Reminders

- It's the season – Safety plan to prevent mix up between COVID-19 and influenza vaccines
- Tall man letters survey – deadline December 2, 2022

[ISMP survey on tall man \(mixed case\) lettering to reduce drug name confusion \(alchemer.com\)](https://www.alchemer.com)



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Specialty Pharmacy Medication Safety Membership

- Basic
 - Specialty Pharmacy Resource page
 - Toolkits on website
- Plus
 - Include all offerings in Basic Membership
 - Additional resources
 - ISMP Community/Specialty Pharmacy Newsletter
 - Bi-monthly Specialty Pharmacy user group meeting
 - Proactive Risk Assessment Tool
- Premium
 - Include all offerings in Advanced Membership
 - Risk assessment of new specialty medications as they become available on market



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Highlights of the refreshed certificate

- 1 41 CE Hours**
For pharmacists, physicians, nurses, and pharmacy technicians
- 2 Recertification credit for CPPS**
Credits earned can be applied toward maintenance of the Certified Professional in Patient Safety credential
- 3 100% online, self guided program**
Pass a comprehensive exam to earn an ASHP Professional Certificate



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For ISMP Members/MSOS Learners

1. Use code **MSC22MSOS** during checkout on the ASHP Store.
2. MSC22MSOS allows ISMP/MSOS learners to purchase the Medication Safety Certificate at the **ASHP member price of \$445** (\$545 Non-member)
3. The discount code will be active through December 31, 2022.

DISCOUNT CODE:
MSC22MSOS



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The screenshot shows the ISMP website with a navigation bar at the top containing 'ALERTS', 'ABOUT', 'CONTACT', 'NEWS', and 'DONATE'. Below the navigation bar is a blue header with 'Consulting & Education', 'Tools & Resources', 'Publications & Memberships', and 'Error Reporting'. The main content area features a 'WEBINARS' section with the title 'Transitioning to Ready-to-Administer IV Medications: Can it be Both Safe and Affordable?'. The date is 'Wednesday, November 30, 2022 - 1:00pm to 2:00pm'. There are social media icons for Facebook, LinkedIn, and Twitter, and an email icon. A 'REGISTER NOW' button is visible in a grey box on the right. The footer includes the ISMP logo, a copyright notice '©2022 ISMP | www.ismp.org | 53', and a URL: 'Transitioning to Ready-to-Administer IV Medications: Can it be Both Safe and Affordable? | Institute For Safe Medication Practices (ismp.org)'.

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The screenshot shows the ISMP website with a navigation bar at the top containing 'ALERTS', 'ABOUT', 'CONTACT', 'NEWS', and 'DONATE'. Below the navigation bar is a blue header with 'Consulting & Education', 'Tools & Resources', 'Publications & Memberships', and 'Error Reporting'. The main content area features an 'ASHP SYMPOSIA' section with the title 'Optimizing Sterile Compounding Best Practices: Leveraging Technologies and Removing Barriers to Improve Safety'. The date is 'Monday, December 5, 2022 - 11:30am to 1:00pm'. There are social media icons for Facebook, LinkedIn, and Twitter, and an email icon. A 'REGISTER NOW' button is visible in a grey box on the right. The footer includes the ISMP logo, a copyright notice '©2022 ISMP | www.ismp.org | 54', and a URL: 'Optimizing Sterile Compounding Best Practices: Leveraging Technologies and Removing Barriers to Improve Safety | Institute For Safe Medication Practices (ismp.org)'.

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December 1, 2

ISMP
Institute for Safe Medication Practices
An ECRI Affiliate

ALERTS ABOUT CONTACT NEWS DONATE
Information for consumers

Consulting & Education Tools & Resources Publications & Memberships Error Reporting

Medication Safety Intensive Workshop

Maximize your error prevention efforts!

Workshop dates now available for 2022!

PICK A DATE

f This two-day virtual workshop is designed to help you successfully address current medication safety challenges that impact patient safety. Program faculty will provide you with the specific tools and resources needed to establish and sustain an aggressive, yet focused medication safety program.

in

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e Decades of data and learning from ISMP's Medication Error Reporting Programs make this a unique experience you will not find anywhere else. You will participate in hands-on practice in error analysis, evaluate root causes related to errors, learn how to effectively select high-leverage strategies, and use data to help sustain safety efforts within your organization.

This workshop is for practitioners at every level — including individuals who are new to medication safety roles and those looking to expand their understanding to support an effective medication safety system.

This workshop is conducted in English.

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Walk the Red Carpet with Safety Stars

ISMP 25th Annual Cheers Awards

Join Us on Tuesday, December 6, 2022

ISMP is recognizing medication safety leaders at the 2022 Cheers Awards dinner and we would love to see you there.

This is not only the 25th anniversary of the Cheers Awards, but we are also honoring a true medication safety star, **Michael R. Cohen**, who is this year's Keynote Speaker and Lifetime Achievement Award winner.

Support Cheers During Our Blockbuster Year!

Keynote Speaker and Lifetime Achievement Award Winner:
Michael R. Cohen, RPh, MS, ScD (hon.), DPS (hon.), FASHP

Michael R. Cohen, President Emeritus and co-founder of the Institute for Safe Medication Practices (ISMP), has dedicated his career to advocating for medication error prevention. His passion for medication safety began in 1974 when he saw the value in sharing the story of a serious adverse event that occurred at a local hospital to help prevent the same error from happening again. He founded ISMP in 1994 and launched the first of its newsletters in 1997. ISMP's publications now reach over a million health professionals in the US and over 30 foreign countries. Dr. Cohen also has helped bring about countless changes in clinical practice, public policy, and drug labeling and packaging that have impacted millions of patients and healthcare professionals. He has received numerous awards for his leadership and advocacy in medication safety.

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To register to attend or make a donation to show your support, visit: www.ismp.org/node/73185

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Questions?



- A copy of today's slides will be posted on our website
- Next MSOS Briefing date – January 26, 2022.

https://ecri.zoom.us/webinar/register/WN_Loxe9LQVVSXqXesV-X9yfGA

