Due to the Shelter-in-Place Order, this meeting will not be held in person. You can access the meeting remotely by using the information on page 2 of this agenda.

**JOINT CONFERENCE COMMITTEE**

**AGENDA**

April 6, 2020, from 2:00 – 3:00 pm

<table>
<thead>
<tr>
<th>Tab #</th>
<th>AGENDA ITEM</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
</table>
| 1     | CALL TO ORDER and INTRODUCTIONS  
Meeting Chair- Supervisor John Gioia, District I | Inform/ Action |
| II.   | APPROVAL OF MINUTES - January 30, 2020; February 3, 2020  
Supervisor Gioia | Inform/ Action |
| III.  | PUBLIC COMMENT  
Supervisor Gioia  
At this time, members of the public may comment on any item not appearing on the agenda. It is recommended that you keep your comments to two minutes or less.  
Under State law, matters presented under this item cannot be discussed or acted upon by the Board at this time. For items appearing on the agenda, the public will be invited to make comments at the time the item comes up for Board consideration. | Inform |
| IV.   | ADMINISTRATIVE UPDATE  
Samir Shah MD, Acting Chief Executive Officer  
A. CONSENT AGENDA: Disaster Privileging  
B. CONSENT AGENDA: Grandfathering in Providers  
C. CONSENT AGENDA: Annual Medical Error Reduction Plan (MERP) and Medical Errors  
D. COVID 19 PREPAREDNESS  
Sergio Urcuyo, Hospital Medical Director  
Gabriela Sullivan, Ambulatory Medical Director | Inform/ Action |
| VI.   | SAFETY AND QUALITY UPDATES  
Sonia Sutherland MD, Medical Director of Quality and Safety | Inform/ Action |
| VII.  | ADJOURN to Professional Affairs Committee | |

Joint Conference Committee observes Ralph M. Brown Act open meeting law procedures. Reasonable accommodations will be provided for persons with disabilities planning to attend. Contact the staff person listed below at least 72 hours before the meeting. Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the County to a majority of members of the Joint Conference Committee prior to that meeting are available for public inspection at 2500 Alhambra Avenue during normal business hours. Public comment may also be submitted via electronic mail at least one full work day prior to the published meeting time. For information contact Wendy Katchmar - wendy.katchmar@cchealth.org - phone 925-370-5208.
REMOTE MEETING INSTRUCTIONS FOR JCC

Join Zoom Meeting
https://zoom.us/j/987039324

Meeting ID: 987 039 324

One tap mobile
+16699009128,,987039324# US (San Jose)
+13462487799,,987039324# US (Houston)

Dial by your location
+1 669 900 9128 US (San Jose)
+1 346 248 7799 US (Houston)
+1 253 215 8782 US
+1 301 715 8592 US
+1 312 626 6799 US (Chicago)
+1 646 558 8656 US (New York)
877 853 5247 US Toll-free
888 788 0099 US Toll-free

Meeting ID: 987 039 324
Find your local number: https://zoom.us/u/anLi3CZ48

If you have any difficulty connecting, go to this link:
https://support.zoom.us/hc/en-us
APPROVAL OF MINUTES
# JOINT CONFERENCE COMMITTEE

## MINUTES

January 30, 2020 – 1:00 pm  
651 Pine Street, Room 101, Martinez

### ATTENDANCE

**VOTING MEMBERS PRESENT:** Supervisor John Gioia, District I; Supervisor Karen Mitchoff, District IV; Courtney Beach, Chair, Hospital Medicine; Andrea Sandler MD, Chair, Family Medicine. **VOTING MEMBERS ABSENT:** None. **NON-VOTING MEMBERS PRESENT:** Kristin Moeller MD, Medical Staff President. **NON-VOTING MEMBERS ABSENT:** Anna Roth RN, Health Services Director; Pat Godley, Health Services COO CFO; Jaspreet Benepal RN, Acting Chief Executive Officer; Samir Shah MD, Chief Medical Officer. **GUESTS PRESENT:** Sergio Urcuyo MD, Hospital Medical Director; Catherine Beller Esq, CCRMC Counsel, Appellee; John Cowan Esq, Appellant Counsel; Walter Walters MD, Appellant; Rebecca Hooley, JCC Counsel; Elizabeth Wood, Court Reporter.

### AGENDA ITEM

<table>
<thead>
<tr>
<th>I. CALL TO ORDER and INTRODUCTIONS</th>
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<tbody>
<tr>
<td>Meeting Chair- Supervisor John Gioia, District I</td>
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<tr>
<th>II. APPROVAL OF MINUTES</th>
<th>RECOMMENDATION</th>
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<tbody>
<tr>
<td>Supervisor Gioia</td>
<td>Deferred</td>
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<tr>
<th>III. PUBLIC COMMENT</th>
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<tbody>
<tr>
<td>Supervisor Gioia</td>
<td>No Public Comment</td>
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<tr>
<th>IV. CONSIDER APPEAL OF W. WALTERS MD OF JUDICIAL REVIEW COMMITTEE REPORT SUSTAINING SUSPENSION OF PRIVILEGES</th>
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<tbody>
<tr>
<td>Joint Conference Committee Voting Members with County Counsel present</td>
<td>Inform</td>
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**Joint Conference Committee (JCC) serving as Appeals body of the JRC hearing appeal of JRC decision.**

#### A. Motion and vote for JCC to extend the hearing date to today.

**Motion:**  
By Gioia to approve  
Seconded by Radhakrishna  
**Ayes:**  
Gioia, Mitchoff, Mbanugo, Radhakrishna  
**Absent:** None  
**Abstain:** None

#### B. This Appellate Review is to decide whether there are grounds for appeal.

- **If there are not grounds for appeal, the merits will be considered – affirm or modify.**
- **Determine whether the notice showed substantial compliance with the law.**
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<tr>
<th>AGENDA ITEM</th>
<th>RECOMMENDATION</th>
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| C. Affirmation of the Judicial Review Committee (JRC) Decision | Motion and vote on support of JRC decision.  
- The standard is met to support the JRC decision.  
- There was compliance with the procedures required by the Bylaws/applicable law by the JRC.  
- The decision of the JRC was supported by substantial evidence based upon the hearing record or such additional information as may be permitted. |
| D. Final Decision Document | Designate Chair to write Final Decision document with JCC Counsel and direct distribution.  
| | Write document:  
Gioia (Chair)  
Hooley (JCC Counsel) |

**ADJOURNMENT**

Minutes approved by Chair, Supervisor John Gioia, District I

 Supervisor John Gioia  
Date

*Minutes by Wendy Katchmar*
# JOINT CONFERENCE COMMITTEE

## MINUTES

February 3, 2020, from 1:00 – 2:00 pm

Contra Costa Regional Medical Center, 2500 Alhambra Ave, Martinez – Bldg. One 1st floor conf. room

### ATTENDANCE

VOTING MEMBERS PRESENT: Supervisor John Gioia, District I; Supervisor Karen Mitchoff, District IV; Courtney Beach, Chair, Hospital Medicine; Andrea Sandler MD, Chair, Family Medicine. VOTING MEMBERS ABSENT: None. NON-VOTING MEMBERS PRESENT: Anna Roth RN, Health Services Director; Pat Godley, Health Services COO CFO; Jaspreet Benepa RN, Acting Chief Executive Officer; Samir Shah MD, Chief Medical Officer; Kristin Moeller MD, Medical Staff President. NON-VOTING MEMBERS ABSENT: None. GUESTS PRESENT: Jeanette Black, Director of Inpatient Nursing Operations; Leah Carlon, Health Care Risk Manager; Shannon Dickerson, Quality Management Coordinator; Ngozi Emenalam, Nurse Program Manager; Will Harper, Communications Officer; Nancy Hendra, Ambulatory Director of Nursing; Helena Martey RN, Acting Chief Nursing Officer; Jill Ray, Board of Supervisors District II; Ira Sabio, Director, Safety and Performance Improvement; Kristina Serrano, Mental Health Program Supervisor; Gabriela Sullivan MD, Ambulatory and Specialty Medical Director; Sonia Sutherland MD, Medical Director of Quality and Safety; Suzanne Tavano, Behavioral Health Director; Sergio Urucuo MD, Hospital Medical Director; Matthew P. White, Acting Director of Mental Health Services.

### AGENDA ITEM

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<th>RECOMMENDATION</th>
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<tr>
<td><strong>I. CALL TO ORDER and INTRODUCTIONS</strong></td>
<td><strong>Meeting Chair- Supervisor John Gioia, District I</strong></td>
</tr>
<tr>
<td><strong>II. APPROVAL OF MINUTES</strong></td>
<td><strong>Supervisor Gioia</strong></td>
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<tr>
<td>In open session, voting members of Contra Costa Regional Medical Center Joint Conference Committee voted to accept the December 9, 2019, Joint Conference Committee minutes.</td>
<td>Motion: By Sandler to approve Seconded by Beach Ayes: Gioia, Mitchoff, Beach, Sandler Absent: None Abstain: None</td>
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<tr>
<td><strong>III. PUBLIC COMMENT</strong></td>
<td><strong>Supervisor Gioia</strong></td>
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<tr>
<td>No Public Comment.</td>
<td>No Public Comment</td>
</tr>
<tr>
<td><strong>IV. BUSINESS OF JOINT CONFERENCE COMMITTEE</strong></td>
<td><strong>Kristin Moeller MD, Medical Staff President</strong></td>
</tr>
<tr>
<td>Nomination and election of 2020 JCC Chair by JCC voting members (Bylaws Article IV Section 1.a.1)</td>
<td>Motion: By Beach to nominate Gioia Seconded by Sandler Ayes: Gioia, Mitchoff, Beach, Sandler Absent: None Abstain: None</td>
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<tr>
<td>The JCC Voting Members nominated and elected Supervisor John Gioia as 2020 JCC Chair.</td>
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### AGENDA ITEM

**V. JOINT CONFERENCE REPORT**  
Patrick Godley, Health Services CFO/COO

*The Joint Conference Report was presented, including budget, patient volume and average length of stay. Some non-acute patients with limited placement options have a longer length of stay. Sergio Urcuyo MD, Hospital Medical Director, is leading intervention efforts.*

*Discussed reporting on area Emergency Department census patterns.*

*In open session, voting members of Contra Costa Regional Medical Center Joint Conference Committee voted to accept the Joint Conference Report.*

**RECOMMENDATION**

**Motion:**  
By Sandler to approve  
Seconded by Beach  
**Ayes:** Gioia, Mitchoff, Beach, Sandler  
**Absent:** None  
**Abstain:** None

### VI. ADMINISTRATIVE UPDATE

Jaspreet Benepal RN, Acting Chief Executive Officer

**A. Update: Collaboration with Nursing on CCRMC 24/7 Welcoming Policy Issues**  
Nancy Hendra RN, Director of Infection Prevention and Control

*Nursing administration met recently with Nursing staff to discuss concerns. Staff were given information about their role and resources in managing situations, and about support animal policy.*

*The Supervisors are requesting that Nurse Leadership Council and the actual departments have ongoing discussion on this topic.*

**Provide requested follow-up reporting.**  
N. Hendra

**B. Psychiatric Emergency Services Workplace Safety**  
Sonia Sutherland MD, Medical Director of Quality and Safety

*Data was presented on Psychiatric Emergency Services (PES) increase in patient volume and increase in patient aggression. Presented actions being taken to address escalating patient aggression.*

*The Supervisors requested additional information be provided at the next JCC.*

**Provide requested follow-up reporting.**  
S. Sutherland

**C. Psychiatric Emergency Services – Remodel**  
David Runt, Chief Operating Officer

*Presented several plans for expansion of PES unit. In addition to providing for increasing numbers of patients, there would be a separate unit for minors. Outpatient and community services can impact PES volume.*

*Additional information was requested.*

**Provide requested follow-up reporting.**  
D. Runt

**D. 2019-nCoV (Corona Virus)**  
Kathy Ferris RN, Infection Prevention and Control

*The Supervisors requested that this presentation be brought to the Board tomorrow.*

**Present to Board tomorrow.**  
K. Ferris
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<th>RECOMMENDATION</th>
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<tbody>
<tr>
<td>VII. SAFETY AND QUALITY UPDATES</td>
<td>Motion: By Mitchoff to approve&lt;br&gt;Seconded by Beach&lt;br&gt;Ayes: Gioia, Mitchoff, Beach, Sandler&lt;br&gt;Absent: None&lt;br&gt;Abstain: None</td>
</tr>
<tr>
<td>Sonia Sutherland MD, Medical Director of Quality and Safety</td>
<td>Presented improvement highlights of the Patient Safety and Performance Improvement Committee. In open session, voting members of Contra Costa Regional Medical Center Joint Conference Committee voted to accept the Safety and Quality report.</td>
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<tr>
<th>CONSENT AGENDA</th>
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</table>

| VIII. Medical Staff membership of American Osteopathic Association graduates | Motion: By Mitchoff to approve<br>Seconded by Beach<br>Ayes: Gioia, Mitchoff, Beach, Sandler<br>Absent: None<br>Abstain: None |
| It is recommended that applicants who come from an American Osteopathic Association approved postgraduate residency program be allowed to apply for Medical Staff Membership. | In open session, voting members of Contra Costa Regional Medical Center Joint Conference Committee voted to accept the Consent Agenda Medical Staff membership recommendation. |

| IX. ADJOURN to Professional Affairs Committee |
| Minutes approved by Chair, Supervisor John Gioia, District I |

_________________________  ___________________  
Supervisor John Gioia  Date

Minutes by Wendy Katchmar
CONSENT AGENDA

DISASTER PRIVILEGING
PRACTITIONER CREDENTIALING DURING THE COURSE OF THE COVID-19 NATIONAL EMERGENCY

Whereas, the COVID-19 pandemic has created a national emergency and exceptional circumstance creating an urgent demand for health care practitioners beyond the capacity of many hospitals and their medical staff;

Whereas, the COVID-19 national emergency has created extraordinary circumstances that disrupt the normal credentialing processes by which practitioners are granted medical staff privileges at the Contra Costa Regional Medical Center and Health Centers (“CCRMC”);

Whereas, the Medical Staff Bylaws Rules & Regulations (“Bylaws”) and the medical staff and hospital policies and procedures, including the delineation of privilege forms, (“Policies and Procedures”) set forth the requirements and procedures for granting clinical privileges to practitioners and the process for reappointment of practitioners to the medical staff when such privileges expire;

Whereas the current national emergency may require granting clinical privileges to practitioners who do not meet all current eligibility requirements or who may not undergo all the documentation and assessment requirements and steps, as outlined in the Bylaws and Policies and Procedures;

Whereas, the current national emergency may require practitioners who have been granted clinical privileges to provide services at CCRMC (“privileged practitioners”) to be shifted between CCRMC and other County health facilities in order to meet patient needs on an urgent basis; and

Whereas, during the current national emergency it may be necessary for some privileged practitioners to care for patients who have clinical needs beyond scope of the practitioner’s current grant of privileges.

Now, therefore be it resolved that for the duration of the COVID-19 national and state emergency, notwithstanding anything to the contrary in the Bylaws or other policies and procedures of the Health Services Department:

1. all privileges currently granted to a practitioner at CCRMC and Health Centers may be exercised at any appropriate location that has been requisitioned by Contra Costa Health Services (tents, schools, etc.) to provide patient care in order to best allocate privileged personnel to meet patient needs during the current crisis;
2. any privileged practitioner may provide care beyond his or her delineation of privileges as previously granted by the Board provided it is care consistent with the practitioner’s professional license and he or she has been directed to provide such care by a medical staff officer, department or service line chair, or hospital or health system physician executive in order to serve urgent patient care needs; and
3. the requirement that a privileged practitioner seek reappointment by a certain date and expiration of the privileges, as set forth in Article 5 of the Bylaws, of any practitioner
who was appointed with privileges at CCRMC or Health Centers as of March 13, 2020 (the date the COVID-19 national emergency was declared) are waived. This extension of clinical privileges will last for the duration of the national emergency, after which the practitioner must be seek to be reappointed in accordance with the Medical Staff Bylaws and other medical staff and hospital policies and procedures as soon as practicable as determined by the Hospital CEO and Medical Staff President or Chief of Staff.

ADOPTED by the Joint Conference Committee, April _____ 2020.

Signature _______________________, on behalf of the Joint Conference Committee.
## COVID-19
### Disaster Privileges Agreement

<table>
<thead>
<tr>
<th>Name of Provider</th>
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<tbody>
<tr>
<td>Email Address</td>
<td></td>
</tr>
<tr>
<td>Primary Office Address</td>
<td></td>
</tr>
<tr>
<td>Cell Phone</td>
<td></td>
</tr>
<tr>
<td><strong>Type of Licensure</strong></td>
<td></td>
</tr>
<tr>
<td>☐ Physician</td>
<td></td>
</tr>
<tr>
<td>☐ Psychologist</td>
<td></td>
</tr>
<tr>
<td>☐ Nurse Practitioner</td>
<td></td>
</tr>
<tr>
<td>☐ Physician Assistant</td>
<td></td>
</tr>
<tr>
<td>☐ Other ____________________________</td>
<td></td>
</tr>
<tr>
<td><strong>State of Licensure</strong></td>
<td>Not required if copy of license is provided and attached</td>
</tr>
<tr>
<td>License #</td>
<td>Not required if copy of license is provided and attached</td>
</tr>
<tr>
<td>NPI #</td>
<td></td>
</tr>
<tr>
<td><strong>Do you have a current DEA certificate?</strong></td>
<td></td>
</tr>
<tr>
<td>☐ Yes</td>
<td></td>
</tr>
<tr>
<td>☐ No</td>
<td></td>
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<tr>
<td><strong>Practice Specialty</strong></td>
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I certify that the above information is correct and that I have no restrictions on my license to practice in the State listed above or any other State.

I also certify that I have the training, knowledge and competency to practice in my specialty and have no restrictions on clinical privileges at any hospital/facility where clinical privileges have been or are currently granted.

I volunteer to provide clinical services to ____________________________________________ Name of Organization during this disaster and agree to practice as directed and under the supervision of an assigned practitioner. I agree to wear my Disaster Privileges ID Badge at all times when functioning under these disaster privileges to enable staff and patients to readily identify my status.

I agree to maintain confidentiality of patient information, per current HIPAA requirements related to the protection and confidential handling of protected health information.

I understand that I will be notified when the organization’s emergency plan is no longer in effect and I understand that the disaster privileges at this organization will immediately terminate. I also agree that these privileges may be terminated at any time without cause or reason during the disaster and that I have no right to a hearing or review.

______________________________  ______________________
Signature of Provider          Date
INTERNAL USE ONLY

Checklist (please obtain copies if possible and attach to this document):

☐ Government-Issued ID (Driver’s License or Passport)

AND – ONE OF THE FOLLOWING

☐ Current picture ID from a healthcare organization
☐ Current license to practice
☐ DMAT (Disaster Medical Assistance Team)
☐ MRC (Medical Reserve Corps)
☐ ESAR-VHP (Emergency System for Advance Registration of Volunteer Health Professionals)

The above documentation was obtained and/or viewed by

_________________________________________________________________________________

Name

Date

___________________________________________

Title

The information provided by the Provider has been reviewed and will be verified, as soon as possible, as outlined in the Medical Staff Bylaws and related policies and procedures. On this basis, this Provider is granted disaster privileges to treat patients as directed by his/her supervising provider during this emergency.

___________________________________________________

Signature of Individual Designated Authority to Grant
Disaster Privileges

Date

Provider Responsible for Supervision

☐ Provider issued Disaster Privileges ID Badge
☐ Data entered into provider credentialing database
☐ License verified
☐ After 72 hours: Privileges continued or discontinued
CONSENT AGENDA

GRANDFATHERING IN PROVIDERS
Committee Name: MEC  
Meeting Date: 3/16/2020

<table>
<thead>
<tr>
<th>Issue Name:</th>
<th>Presenter(s):</th>
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| “Grandfathering in” current physician providers at CCRMC without Board Certification/Board Eligibility | Guenter Hofstadler, MD  
Credentialing Committee Chair |

<table>
<thead>
<tr>
<th>Situation:</th>
<th>Background:</th>
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<tbody>
<tr>
<td>Why is this on the agenda?</td>
<td>Background: as we are moving to core privileging, new privileging forms will state that Board certification or Board eligibility (BC/BE) is required in order to qualify for clinical privileges at CCRMC/Health Centers. There are currently a small number of physician providers at CCRMC/Health Centers who are not Board certified or Board eligible (BC/BE).</td>
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<tr>
<th>Assessment:</th>
<th>Recommendation:</th>
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<tr>
<td>Therefore, what? What is the presenter’s overall judgment?</td>
<td>Motion to “grandfather in” all current physician providers who are not Board certified/Board eligible (BC/BE), effective immediately after approval by BOS/JCC.</td>
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<th>Who</th>
<th>What</th>
<th>When</th>
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<tbody>
<tr>
<td>Approved by MEC 3-16-2020</td>
<td>Approved by BOS/JCC</td>
<td>Effective after approval by BOS/JCC</td>
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CONSENT AGENDA

ANNUAL MEDICAL ERROR REDUCTION PLAN (MERP) AND MEDICAL ERRORS
PRESCRIBING

- New Processes:
  o Continue monitoring for duplications in therapy and optimize order sets/order panels as needed.
  o Continue to optimize order sets and panels involving insulin to further prevent hypoglycemic events.

- Continue the following:
  o Continue all Pharmacy Monitors, including but not limited to DDI checks, clinical conditions, lab monitors and reviewing therapeutic appropriateness via data mining software and various EPIC reports [i.e. crystal, dashboard, system lists]). Monitors will be optimized as needed.
  o Continue all processes under the Antimicrobial Stewardship Program (ASP), including collaboration with the ID physicians and PCP&E privileges given to pharmacy staff to optimize antimicrobial use.
  o Continue reviewing all order sets on a multidisciplinary note in ccLink as opportunities for improvement are identified, and work on new order sets as needed.
  o Continue reviewing external resources (ex: ISMP newsletters and self-assessments, FDA alerts, etc.), to analyze current practice at CCRMC and improve processes according to the most recent guidelines and literature.
  o Continue to optimize SubQ insulin prescribing through ongoing provider education. Continue the physician oversight process in which all hypoglycemic events for patients on insulin at CCRMC are reviewed to ensure that appropriate actions are taken, and education provided when needed. Multi-disciplinary insulin task force to continue meeting regularly to optimize current processes for SubQ insulin management.
  o ADC access:
    ▪ Continue to monitor and trend medication overrides and provide feedback to the end users.
    ▪ Continue to monitor ADC access to ensure that unauthorized personnel (i.e. upon departure or termination of employment of nursing/anesthesiology/pharmacy staff, etc.) are removed from the system upon leaving the facility to prevent unauthorized access to medications.
  o Continue to utilize the rescue medication report as an educational tool for medical staff.
  o Multimodal pain management strategies to continue to be optimized via various means (order set/ EHR updates, formulary additions, etc.) as a part of ERAS (early recovery after surgery).
  o Opioid stewardship committee to continue meeting quarterly to ensure appropriate use of opiates.

PRESCRIPTION ORDER COMMUNICATION

- New Processes:
  Continue monitoring for duplications in therapy and optimize order sets/order panels as needed to ensure effective prescription order communication of PRN medications.

- Continue the following:
  o Continue reviewing all order sets on a multidisciplinary note in ccLink as opportunities for improvement are identified, and work on new order sets as needed.
  o Continue the Transitions of Care (TC) Program to 1) Minimize medication transcribing errors upon admission and discharge with effective communication with “High Risk” patients (as defined by CCRMC) and to retail pharmacies and 2) Ensure medication understanding and adherence by educating patients.
  o Multimodal pain management strategies to continue to be optimized via various means (order set/ EHR updates, formulary additions, etc.) as a part of ERAS (early recovery after surgery)
  o Opioid stewardship committee to continue meeting quarterly to ensure appropriate use of opiates through various means (i.e. order set modification, education, etc.)
PRODUCT LABELING, PACKAGING AND NOMENCLATURE

- **New Processes:**
  - 28-day and 90-day expiration calendar tools updated to give staff visual examples to assist with correct MDV expiration labeling.

- **Continue the following:**
  - In the face of drug shortages, appropriate assessment of products available to be conducted and information relayed to the appropriate disciplines (pharmacy staff, nursing staff, medical staff, etc.). Appropriate changes to be made in the electronic health record to avoid transcribing errors, order set errors and medication order errors.
  - Pharmacy and nursing to continue assessing compliance with accurate labeling per nursing of IV solutions retrieved from Medline carts, along with MDVs expiration labeling.
  - Continue reviewing external resources to analyze current practice at CCRMC and improve processes according to the most recent guidelines and literature.
  - Continue Kit Check labeling and barcoding to optimize PAR levels of medications in anesthesia workstations in the OR and crash carts.
  - MDV expiration labeling errors discussed at organizational safety huddle in 2018. Plan to continue monitoring MDV expiration labeling.

COMPOUNDING

- **New Processes:**
  - Physical remodeling of the inpatient compounding environment to be completed.

- **Continue the following:**
  - Continue to review and assess USP 797 for adequate compliance per CCRMC policy in accordance with the CA State Board of Pharmacy.
  - Continue to review and assess USP 800 & NIOSH guidelines for adequate compliance per CCRMC policy in accordance with the state and federal regulations.
  - Continue end-product testing to assure integrity and sterility of compounding environment.
  - Continue sending samples of purchased goods from compounding pharmacies and CCRMC compounded products to a tertiary lab to assure sterility and potency via random sampling.
  - Continue usage of barcoding technology in the inpatient and outpatient IV sterile compounding environments.
  - CCRMC master formula is reviewed and updated on a routine basis.
  - Continue auditing IV room medication compounding within the monthly Pharmacy Dispensing Audit by pharmacy.
  - Continue IV admixture training for nursing staff, and extensive IV competency training for pharmacists and technicians on an annual basis.
MERP PLAN FOR THE YEAR 2020

DISPENSING

- **New Processes:**
  - Implementation of “Dispense tracking,” to allow nursing and pharmacy to track the medications from the time of verification to the unit.
  - Implement barcode scanning in the willow ambulatory environment.
  - Explore ways to implement barcode scanning upon return to pharmacy stock.
  - Create a pharmacy barcode scanning compliance report for QA.

- **Continue the following:**
  - Continue monitoring all dispensing areas of Pharmacy Dept.
  - Continue monitoring the KPI report for pharmacy turn-around-time for order verification.
  - Continue reviewing external resources to analyze current practice at CCRMC and improve processes according to the most recent guidelines and literature.
  - Continue to optimize inventory of the medication repackager in the inpatient pharmacy.
  - Opioid stewardship committee to continue meeting quarterly to ensure appropriate use of opiates.
  - Continue barcode scanning of medications dispensed (IV medications since inception of EPIC, PO cart fill and first dose medications initiated in 2018).

DISTRIBUTION

- **New Processes:**
  - New task to be added to the task list for OR and L&D OR to ensure that the anesthesiologist completes post case dose reconciliation for controlled substances prior to closing the case.
  - New PCA iSite report to assist with accountability and documentation issues.
  - Explore ways to implement barcode scanning upon return to pharmacy stock as the majority of wrong medications being stocked in Omnicell bin errors are due to medications being returned to stock to the wrong bin in pharmacy.
  - Conduct gap analysis with ISMP Guidelines for safe use of automated dispensing cabinets.

- **Continue the following:**
  - Controlled Substances: continued monitoring of controlled substance transactions and documentation processes in the Nursing and Anesthesiology departments by Pharmacy department for quality assurance.
  - Continue to monitor and trend medication overrides and provide feedback to the end users.
  - Continue performing Malignant Hyperthermia (MH) mock codes to ensure proper use of MH cart.
  - Continue detailed daily review of D50 usage via in-basket message to clinical pharmacy dept. (assess for appropriateness of events).
  - Continue Kit Check labeling and barcoding to ensure adequate PAR levels of medications in anesthesia workstations in the OR and crash carts.
  - Pharmacy to continue reviewing the Omnicell Par vs. usage report for proper inventory management.
  - Continue to monitor ADC access to ensure that unauthorized personnel (i.e. upon departure or termination of employment of nursing/anesthesiology/pharmacy staff, etc.) are removed from the system upon leaving the facility to prevent unauthorized access to medications.
  - Continue reviewing external resources to analyze current practice at CCRMC and improve processes according to the most recent guidelines and literature.
  - Pharmacy to continue assessing compliance with accurate expiration labeling of MDVs by nursing.
  - Ongoing pharmacy staff education to ensure accurate filling of Omnicell.
ADMINISTRATION

- **New Processes:**
  - “Dispense tracking,” will be implemented to allow nursing and pharmacy to track medications from the time of verification to the unit.
  - New epidural pumps to be utilized for administration of epidurals by anesthesia dept.
  - Create new alert in Alaris pump to remind nurses to ensure that the IV line is unclamped.
  - Continue to work on phase 2 of 3 of the Alaris interface project with scheduled completion in 2021.

- **Continue the following:**
  - Controlled Substances: continued monitoring of controlled substance transactions and documentation processes in the Nursing and Anesthesiology departments by Pharmacy department for quality assurance.
  - Continue evaluating Alaris Pump infusion knowledge portal and CQI reports and use this for nursing education and modification of drug library.
  - Continue assessment of in-basket messages sent to pharmacy by the nursing department and improve system as necessary. This is an active PI for the pharmacy department for the year 2020.
  - Continue to monitor and trend medication overrides and provide feedback to the end users.
  - Continue reviewing external resources to analyze current practice at CCRMC and improve processes accordingly.
  - Continue the Medication Pass audit by Pharmacy and Nursing Departments to assure safe medication practices.
  - Continue to optimize nursing workflow in ccLink in relation to medication management based on routine review of medication errors and MSC feedback.
  - Continue to in-service nursing staff as needed.
  - Continue to monitor barcoding compliance in the nursing environment to achieve the goal of greater than 90% compliance.
  - Continue monitoring for appropriate use of EnFit syringes in accordance with assembly bill 444.
  - Continue to review and assess implement USP 800 & NIOSH guidelines for adequate compliance per CCRMC policy in accordance with the CA State Board of Pharmacy.
  - Multimodal pain management strategies to be optimized via various means (order set/ EHR updates, formulary additions, etc.) as a part of ERAS (early recovery after surgery)
  - Continue to increase awareness and educate staff to prevent missed doses (ex: ensure lines are unclamped).
MONITORING

- **New Processes:**
  - The heparin taskforce will reconvene to address the issues surrounding the heparin infusion calculator.

- **Continue the following:**
  - Continue all Pharmacy Monitors, including but not limited to DDI checks, clinical conditions, lab monitors and checking for therapeutic appropriateness via data mining software and various EPIC reports [i.e. crystal, dashboard, system lists]. Monitors will be optimized as needed.
    - Monitors in the inpatient setting: vancomycin, heparin infusion, insulin, psychiatric medications, etc.
    - Monitors in the ambulatory setting: Diabetes Care Management Clinic, HTN Clinic, ESA Clinic, Transitions in care services, etc.
  - Continue reviewing external resources to analyze current practice at CCRMC and improve processes according to the most recent guidelines and literature.
  - Continue all processes under the Antimicrobial Stewardship Program (ASP), including collaboration with the ID physicians and PCP&E privileges given to pharmacy staff to optimize antimicrobial use.
  - Pharmacy and nursing to continue their separate monthly medication pass audits, including audits of several administration processes (ex: barcode scanning, transdermal patch documentation, etc.) to ensure safe medication practices.
  - Continue monitoring of ADEs (ADRs and medication errors) retrospectively to assess for appropriateness of medication use and monitoring.
  - Continue retrospective review of different systems, reports and processes (ex: rescue medication report, medication error report, ADC utilization report, etc.) for appropriateness of medication use and monitoring from different disciplines (medical staff, nursing, pharmacy, etc.), and implement educational plans for medication monitoring as needed.
  - Continue the physician and NPM oversight process for all hypoglycemic events (BG < 70 mg/dl) for patients on insulin at CCRMC to ensure that appropriate actions are taken, and education provided when needed.
  - Optimize all order sets according to available and most recent guidelines.
  - ***Controlled Substances: continued monitoring of controlled substance transactions and documentation processes in the Nursing and Anesthesiology departments by Pharmacy department for quality assurance.
  - Pharmacy leadership discussed the vancomycin trough errors at the organizational safety huddle in 2018. Continue to increase awareness and educate staff.
EDUCATION

- New Processes:
  o Provide further education to all nursing, medical and pharmacy staff regarding the heparin infusion calculator.
  o Provide re-education to nurses about ensuring IV lines are unclamped to prevent missed doses. Educate nurses about the new alert in the Alaris pump that will serve as a reminder for the nurse to unclamp the IV line.

- Continue the following:
  o Continue all Pharmacy Monitors, including but not limited to DDI checks, clinical conditions, lab monitors and checking for therapeutic appropriateness via data mining software and various EPIC reports [i.e. crystal, dashboard, system lists]). Monitors will be optimized as needed.
    ▪ Monitors in the inpatient setting: vancomycin, heparin infusion, insulin, psychiatric medications, etc.
    ▪ Monitors in the ambulatory setting: Diabetes Care Management Clinic, HTN Clinic, ESA Clinic, Transitions in care services, etc.
  o Continue reviewing external resources to analyze current practice at CCRMC and improve processes accordingly by optimizing operations and educating staff.
  o Continue to work with the Profession Development Department to educate staff on the USP 800 requirements.
  o Continue to in-service nursing staff as needed.
  o Malignant Hyperthermia: Continue Mock MH drills, collaborating with the Professional Development Dept.
  o Continue formal pharmacist training and competency assessment for participation in the ASP program, DCM, and ESA Clinics, and all clinical processes upon hire.
  o Continue competency assessments for pharmacists and pharmacy technicians during orientation for new hires.
  o IV competency training is completed by pharmacists, technicians and nursing staff. Pharmacy will review the common compounding errors on an annual basis during the educational sessions for nursing and pharmacy staff.
  o Continue the Transitions of Care (TC) Program and provide education to patients to promote safe medication use.
  o Continue retrospective review of different systems, reports and processes (ex: rescue medication report, medication error report, ADC utilization report, etc.) for appropriateness of medication use and monitoring from different disciplines (medical staff, nursing, pharmacy, etc.), and implement educational plans for medication monitoring as needed.
  o Continue evaluating Alaris Pump infusion knowledge portal and CQI reports and use this for nursing education and modification of drug library.
  o Continue to optimize educational efforts to ensure safe and appropriate prescribing and administration of SubQ insulin at CCRMC.
USE

- **New Processes:**
  - “Dispense tracking” will be implemented to allow nursing and pharmacy to track the medications from the time of verification to the floor.

- **Continue the following:**
  - Controlled Substances: continued monitoring of controlled substance transactions and documentation processes in the Nursing and Anesthesiology departments by pharmacy department for quality assurance.
  - Continue evaluating Alaris Pump infusion knowledge portal and CQI reports and use this for nursing education and modification of drug library.
  - Continue reviewing external resources to analyze current practice at CCRMC and improve processes accordingly by optimizing operations and educating staff.
  - Focus on high risk areas and review external resources to optimize the operation and educate Pharmacy Staff.
  - Malignant Hyperthermia: Continue Mock MH drills, collaborating with the Professional Development Dept.
  - Continue pharmacy monitors/programs, including but not limited to anticoagulants, high alert medications, therapeutic drug monitoring, antimicrobial stewardship program (in conjunction with ID physician), transitions of care services, DCM Clinic, ESA Clinic etc. with the utilization of technological tools such as system lists and dashboard reports via EPIC as well as data mining software (i.e. Vigilanz*).
  - Continue assessment of in-basket messages sent to pharmacy by the nursing department and improve system as necessary. This is an active PI for the pharmacy department for the year 2018.
  - Continue Kit Check labeling and barcoding to ensure adequate PAR levels of medications in anesthesia workstations in the OR and crash carts.
MERP PLAN FOR THE YEAR 2020

TECHNOLOGY

- **New Processes:**
  - “Dispense tracking” will be implemented to track the medications from the time of verification to the floor.
  - Start barcode scanning in the willow ambulatory environment.
  - Explore ways to implement barcode scanning upon return to pharmacy stock.
  - Begin using new epidural smart pumps for epidural administration by Anesthesia dept.
  - Create Isite report to track and trend pharmacy barcode scanning as a quality assurance measure.
  - Continue to work on phase 2 of 3 of the Alaris interface project with scheduled completion in 2021.

- **Continue the following:**
  - Continue evaluating Alaris pump infusion knowledge portal and CQI reports and use this for nursing education and modification of drug library.
  - Continue BCMA monitoring and tracking to achieve the goal of greater than 90% compliance.
  - Continue on reviewing all order sets on a multidisciplinary note in ccLink as opportunities for improvement are identified, and work on new order sets as needed.
  - Continue to improve and enhance technological tools (i.e. ccLink, Alaris) as a result of medication error trending and analysis.
  - Continue with all processes under the Antimicrobial Stewardship Program (ASP), including collaboration with the ID physicians and PCP&E privileges given to pharmacy staff to optimize antimicrobial use.
  - Continue Kit Check labeling and barcoding to ensure adequate PAR levels of medications in anesthesia workstations in the OR and crash carts.
  - Optimize inventory of the medication repackager in the inpatient pharmacy.
  - Pharmacy to continue reviewing the Omnicell par vs. usage report for proper inventory management.
  - Continue to promote safe and appropriate use of SubQ insulin via technology (i.e. order set optimization, BPA alerts, in basket messages, etc.)
  - Multimodal pain management strategies to be optimized via various means (order set/ EHR updates, formulary additions, etc.) as a part of ERAS (early recovery after surgery)

TRANSITIONS IN CARE

- **New Processes:**
  - “Dispense tracking” will be implemented to track the medications from the time of verification to the floor.

- **Continue the following:**
  - Continue the Transitions of Care (TC) Program and provide education to patients to promote safe medication use, including admission medication reconciliation for “High Risk,” patients as defined by CCRMC. Admission medication reconciliation for “High risk,” patients was initiated in December 2018.
  - Continue to provide necessary medications with appropriate quantity for homeless patients.
  - Continue to educate nurses during nursing orientation that medications must be transferred with patient from one unit to the next.
MEDICATION ERROR REDUCTION PLAN

I. PURPOSE:

To outline the Medication Error Reduction Plan & the Annual review of the MERP plan

II. REFERENCES:

TJC Standards LD.01.03.01, LD.03.01.01, LD.03.02.01, LD.03.05.01, LD.04.04.01, MM.06.01.01, MM.07.01.03, MM.08.01.01, PI.01.01.01, PI.02.01.01, PI.03.01.01

CMS CoP § 482.11(a), 482.12(b)(d)(f), 482.21(a)(b)(c)(d)(e), 482.23(c), 482.25(a)(b), 482.41(c), 482.42(b)

California SB 1875

III. POLICY:

SB1875 requires an annual review of all MERP elements for efficacy. There are twelve different ‘elements’ to the medication management process that require monitoring: Prescribing, Prescription Order Communication, Product Labeling, Packaging, and Nomenclature, Compounding, Dispensing, Distribution, Administration of Medications, Monitoring, Education, Use, Technology, and Transitions in Care.

IV. PROCEDURE:

Below is a breakdown, by element, of the monitors in place at CCRMC. This is a multidisciplinary process, with many departments involved/responsible for the monitor/audit/report.

1. Prescribing:

- Medication errors: review and analysis of all medication errors involving prescribing
- Adverse Drug Events: review and analysis of all reported adverse drug events
- Pharmacy interventions: review and analysis of all reported pharmacist interventions with providers
- Antibiotic stewardship: report on appropriate prescribing and monitoring of antibiotic therapy
• Fentanyl patch: review of all fentanyl patch orders for appropriateness of therapy and monitor of provider prescribing process
• Rescue medications: review of 100% of all doses of rescue medications administered to patients
• Antimicrobial stewardship: report on appropriate prescribing and monitoring of antibiotic therapy
• LASA review: review of latest literature on LASA and report on all CCRMC medication errors involving look-alike-sound-alike errors

2. Prescription Order Communication:
• Medication errors: review and analysis of all medication errors involving order communication

3. Product Labeling, Packaging, and Nomenclature:
• Medication errors: review and analysis of all medication errors involving labeling, packaging, and nomenclature
• IV labeling: monthly audit by Pharmacy of proper labeling of IV solutions on the floors
• Internal pharmacy audit: monthly audit of pharmacy-dispensed doses, looking for proper labeling, ingredients, cart fill check, etc
• LASA review: review of latest literature on LASA and report on all CCRMC medication errors involving look-alike-sound-alike errors

4. Compounding:
• Medication errors: review and analysis of all medication errors involving compounding
• Internal pharmacy audit: monthly audit of pharmacy-dispensed doses, looking for proper labeling, ingredients, cart fill check, etc.
• End product testing

5. Dispensing:
• Medication errors: review and analysis of all medication errors involving dispensing
• Internal pharmacy audit: monthly audit of pharmacy-dispensed doses, looking for proper labeling, ingredients, cart fill check, etc
• Turn-Around Time: monitor of pharmacy TAT
• LASA review: review of latest literature on LASA and report on all CCRMC medication errors involving look-alike-sound-alike errors
6. Distribution:

- Medication errors: review and analysis of all medication errors involving distribution.
- Internal pharmacy audit: monthly audit of pharmacy-dispensed doses, looking for proper labeling, ingredients, cart fill check, etc.
- High risk/high alert: review of latest literature on high risk medications and report of all medication errors involving high risk medications.
- LASA review: review of latest literature on LASA and report on all CCRMC medication errors involving look-alike-sound-alike errors.

7. Administration of Medications:

- Medication errors: review and analysis of all medication errors involving administration of medications.
- Bar code report: report on medications being administered without proper barcoding.
- Alaris pump report: report on improper use of Alaris pump.
- Med pass audits: two reports in this area. One done by Nursing, one done by Pharmacy.
- Override report: monitor of medications removed from the automated dispensing machine using the override function.
- LASA review: review of latest literature on LASA and report on all CCRMC medication errors involving look-alike-sound-alike errors.

8. Monitoring:

- Medication errors: review and analysis of all medication errors involving monitoring of medications.
- Antibiotic stewardship: report on appropriate prescribing and monitoring of antibiotic therapy.
- Pharmacist-managed Diabetes Care Clinic: review and analysis of patient outcomes for pharmacist-managed diabetes patients vs provider-managed diabetes patients.
- Pharmacy interventions.
- D50 Use Review.
- Review of Rescue medications.
- Adverse Drug Events: review and analysis of all reported adverse drug events.
- Antimicrobial stewardship: report on appropriate prescribing and monitoring of antibiotic therapy.
9. Education:

- **Medication errors**: review and analysis of all medication errors with regards to competency of staff
- **Patient education on fentanyl patch**: review and monitor for documentation of patient education for all patients being discharged on fentanyl patch
- **Professional Development Department provides ongoing education for nursing staff**
- **Transitions of Care program by pharmacy department**: Admission medication reconciliation and discharge medication reconciliation for patients deemed as “High Risk,” per defined criteria.

10. Use:

- **Medication errors**: review and analysis of all medication errors related to medication use
- **Antibiotic stewardship**: report on appropriate prescribing and monitoring of antibiotic therapy
- **Fentanyl patch**: review of all fentanyl patch orders for appropriateness of therapy and monitor of provider prescribing process

11. Technology:

- **Medication errors**: review and analysis of all medication errors related to technology
- **Alaris pump report**: report on improper use of Alaris pump
- **ccLink**: reports on system changes made in response to system issues

12. Transitions in Care:

- **Medication errors**: review and analysis of all medication errors related to transitions in care
- **Transitions of Care program by pharmacy department**: Admission medication reconciliation and discharge medication reconciliation for patients deemed as “High Risk,” per defined criteria.

An annual report on the effectiveness of the plan, illustrated by the annual medication errors and metrics associated with each element is prepared and presented to the Medication Safety Committee, Patient Care Policy & Evaluations Committee and the Performance Improvement Committee, and the Medical Executive at the end of the MERP year. The plan is then modified, based on the findings, for the following year and adopted by the organization.
V. Attachment:

Annual MERP Review
MERP Plan 2020

VI. RESPONSIBILITY:

Director of Pharmacy Services

Revised: 3/14, 3/16, 3/18, 3/19, 3/20
The Medication Error Reduction Plan submitted to CDPH in 2001 as a facility plan to eliminate or substantially reduce medication-related errors (by authority of SB1875/801) and Health & Safety code 1339) has been incorporated in this policy.

Annual review of the effectiveness of the plan will be performed depicted in the MERP grid. If the plan is not effective in reducing medication errors, MERP will be revised to redesign actions and achieve goals.

**Background**

CDPH shall monitor the implementation of the plan upon licensure visit every three years.

CCRMC cycles per CDPH audits: started in 2009 and repeats every three years.
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I. INTRODUCTION

The following is Contra Costa Regional Medical Center and Clinic’s plan to eliminate or substantially reduce medication-related errors as part of Senate Bill 1875/801 and Health & Safety Code 1339.

A. CONTRA COSTA REGIONAL MEDICAL CENTER AND CLINICS MERP

Contra Costa Regional Medical Center is a 167 bed county hospital located in Martinez California. We are directed and guided by established policies and procedures, protocols and guidelines to minimize medication errors and adverse drug events. Events are reported through an electronic event reporting system (SERS), a voluntary, non-punitive reporting system for all problems/risk issues identification, and preventive action designed for implementation to reduce errors or potential risks. Medication safety initiatives were developed in 2001. Over the years we have incorporated into our medication safety and quality system risk reduction requirements from Federal and State Laws, including but not limited to CMS, CDPH, FDA, other governmental agencies, TJC standards; National Patient Safety Goals & TJC Booster Pack, applicable clinical practice guidelines and recommendations from nationally recognized organizations (e.g., ISMP, The Medical Letter, etc...), professional societies and associations (e.g., ASHP, CSHP, APhA, ADA, etc...) as well as shared learnings from any external resources with successful medication practices demonstrated in reducing medication errors and adverse drug events.

B. VISION

To be the health care system of choice in Contra Costa County where partnerships with patients and employees exist to promote individuals and community wellness.

C. MISSION
The mission of Contra Costa Health Services is to care for and improve the health of all people in Contra Costa County with special attention to those who are most vulnerable to health problems.

- We provide high quality services with respect and responsiveness to all.
- We are an integrated system of health care services, community health improvement and environmental protection.
- We anticipate community health needs and change to meet those needs.
- We work in partnership with our patients, cities and diverse communities, as well as other health, education and human service agents.
- We encourage creative, ethical and tenacious leadership to implement effective health policies and programs.
- We have a department-wide goal to reduce health care disparities and health disparities by addressing issues of diversity and linguistic and cultural competence

D. VALUES

Respect, Safety, Learning, Honesty, Excellence, Functional, Communication, Stewardship, Creativity, and Compassion.

E. STRATEGIC DIRECTIVES

CCRMC and Clinics use a system-wide approach to identify high risk and problem prone patient and care processes, redesign unsafe care processes, implement best practices, and adopt successful practices from other organizations that will improve and ensure patient safety. Our goal is to increase the safety of patients receiving medications at CCRMC and Clinics.

II. OVERVIEW OF CCRMC’s MERP

A. SCOPE OF THE MEDICATION ERROR REDUCTION PLAN

1. Ensuring provision of pharmaceutical services meet the patient’s therapeutic goal by improving safe medication use processes that optimize therapeutic outcomes

2. Ensuring the safe administration of medications according to physician’s orders

3. Ensuring compliance with regulatory requirements related to medication safety and security throughout the hospital
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4. Reviewing, analyzing, and trending medication errors and adverse drug events (i.e., Adverse Drug Reactions as well as medication errors), and identifying processes and practices which require improvement

5. Implementing evidence-based practices in medication administration, medication safety and security, and improved technologies and pharmaceuticals

B. GOAL AND OBJECTIVE

Our objective is to increase effectiveness in the implementation of evidence-based medication practices shown to reduce preventable adverse medication events. Medication safety will be improved through compliance with medication error reduction standards and safety practice implementation required by CMS, CDPH, FDA, Board of Pharmacy, TJC and its National Patient Safety Goals as well as Booster Pack.

- Development and revision of policies and procedures and protocols to minimize Adverse Drug Events (ADE) will be based on review of facility reported adverse drug events, medication use evaluation, chart reviews, observed medication passes, accepted professional principles, incorporation of Federal & State laws and regulations, TJC medication management standards and National Patient Safety Goals, its Booster Pack as well as its Sentinel Event Reports, other external alerts and/or recommendations from national associations including but not limited to the Institute For Safe Medication Practices (ISMP), National Coordination Council for Medication Error Reporting and Prevention (NCCMERP), Institute of Healthcare Improvement (IHI), other governmental agencies such as FDA Medwatch program, as well as clinical practice guidelines and standards of practice from nationally recognized professional organizations (e.g., American Pharmaceutical Association (APhA), American Society of Healthcare Systems Pharmacists (ASHP), California Society of Healthcare Pharmacists (CSHP), etc.
Our processes include but are not limited to the following:

1. Identify the causes of preventable Adverse Drug Events (ADE)
2. Identify the causes of preventable Rescue medications
3. Implement selected short-term changes, as well as
4. Identify, evaluate and implement long-term strategies that require operational and capital expenditures that will ensure safe medication processes and systems with or without technology.

C. ACTION PLANS AND INITIATIVES

See MERP Grid for an updated medication safety QA/PI project list, demonstrating numerous medication safety goals, initiatives, and medication related best practices. Our priority is to achieve continual implementation of safe medication practices to substantially reduce medication errors and/or proactively prevent adverse events by addressing issues, actual or potential risk points or deficiencies associated with CDPH MERP elements.

III. ORGANIZATIONAL RESPONSIBILITY AND ACCOUNTABILITIES

(DHS-CDPH guiding principle #1-Establish an organized quality system that addresses the issue of a facility wide reduction of medication errors)

1. CCRMC has an ongoing approved and leadership-supported Medication Error Reporting Program with policies and procedures which clearly establish organizational structure in providing the leadership and quality system in advancing patient safety, risk management, and error reduction. Approved policies and procedures establishing our medication management and quality system are continually addressing issues in improving and refining processes, based on what went wrong, to design corrective actions for implementation and prevent re-occurrence.

2. Under the oversight of the PCP&E, a multidisciplinary Medication Safety Committee was formed in 2001. The Medication Safety Committee (MSC), run by the Department of Pharmacy (SEE
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Addendum I), has oversight on all medication management processes, system wide. MSC is a subcommittee of the Patient Care Policy and Evaluation Committee (PCP&E) and reports to PCP&E, PS&PIC, and MEC on a monthly basis. MSC oversees/addresses ALL medication errors and meets on a multidisciplinary note, every month, to discuss in detail all medication errors that occurred during that month. Medication errors are trended using NCCMERP ratings and through ongoing data aggregation analysis and preventative action design. In addition, at CCRMC, Pharmacy Dept trends near misses as well as harm index (see SBARs in MERP binder or electronic MERP document).

3. This committee is co-chaired by the Director as well as the Assistant Director of Pharmacy Dept. The quality of different services in ensuring compliance with all MERP elements and established hospital policies is assessed and monitored via data collection. (See Annual Medication Error Reports in the MERP binder).

4. MSC has oversight on all medication related processes and generates many reports, including but not limited to Medication Errors, Rescue Meds, CSPs (Compounding Sterile Products), Clinical Monitors, Alaris® pump, Overrides, Pharmacy Department’s Performance Improvement projects, ADRs, and ISMP reports.

5. Medication error reports and adverse drug reaction reports with executive summary and pertinent data feedback relative to the user/user department are sent/referred to relevant medical staff, nursing unit/departments. Action response is requested from unit management/department head before SERS is closed.

6. Feedbacks on medication safety initiatives are reported to the Medical staff as well as Nursing staff through leadership of these departments.
7. A summary of all MSC agenda items are reported to PCP&E, PS&PIC as well as MEC. The Director of Pharmacy Department is a member of all these committees and presents the report on all pertinent information on a monthly basis to the aforementioned committees.

8. Implementation of our MERP is integrated into the facility-wide quality assurance/performance program.

9. Ongoing educational efforts are in place to heighten the awareness of medication safety to our patients.

IV. REPORTING SYSTEMS AND MONITORING

(DHS-CDPH guiding principles #2-Develop effective reporting mechanisms to ensure medication related errors are reviewed)

Reduction of medication errors and adverse reactions can be achieved by effective reporting systems that proactively identify causative factors and are used to implement corrective actions to reduce or prevent reoccurrences. To facilitate reporting, CCRMC adopted a medication error definition that is broad enough in scope to capture actual, potential, or “near miss” events and an adverse drug reaction (ADR) definition to capture suspected as well as actual ADRs.

CCRMC conducts proactive identification of adverse drug events or unsafe care processes including concurrent and retrospective review of patient’s clinical records, monitoring of targeted high-risk drugs with pertinent lab results, observing medication passes, conducting drug use evaluation and drug regimen review for high-risk patients for drug and or dosage adjustment to prevent potential adverse drug events, as well as performing other QA/PI initiatives as listed in MERP grid.
At CCRMC the Pharmacy Department believes in transparency and uses our event reporting system (SERS) to place in all near misses as well as discrepancies. Pharmacy Department believes that SERS is a means of trending and alerting healthcare members of the ongoing challenges in the system. In addition, Pharmacy Department uses analyzed data as a means of identifying QA and PI projects. See MERP Grid for examples of system enhancement projects using this methodology by the Pharmacy Department.

Pharmacy Department is the biggest contributor to SERS entry in the organization. All relevant data from our monitors and reports are entered into this system on a concurrent and retrospective basis. Through subsequent follow up with Nursing, Medical Staff, and Quality departments, we have been able to overcome many medication safety challenges in the past few years.

A. CCRMC has a voluntary, non-punitive reporting system to monitor and report Adverse Drug Events (ADE) via a long-standing effective medication error reporting as well as an Adverse Drug Reaction program (ADR) with data collection, aggregation, analysis, and special emphasis on designing and implementation of preventative actions on an ongoing basis.

B. Medication events, actual, potential, or near misses are reviewed and trended to evaluate changes in our systems that could improve patient safety. Evaluation and implementation of medication safety initiatives follow our continuous quality improvement process using the PDSA (Plan-Do-Study-Act) model, the Rapid Cycle Improvement techniques, the Failure Mode and Effect Analysis (FMEA), and the Root Cause Analysis (RCA) model for sentinel event or “near misses” in conjunction with our Quality department / Risk management & Patient Safety Officer.
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A. ASSESSMENT

(DHS-CDPH guiding principle #3- Establish a baseline assessment and then, at a minimum annually review the effectiveness of the plan to reduce medication-related errors)

Baseline assessment of medication related problems and annual review of the effectiveness of the plan are performed using an objective based critical review. If the plan is not effective in reducing medication errors, MERP will be revised to redesign actions to achieve goals.

B. CDPH REQUIREMENT IN ASSESSING EFFECTIVENESS OF MERP IMPLEMENTATION:

Evaluate, assess, and include a method to address each of the procedures and systems listed under 1339, H&S, subdivision (d) to identify weaknesses or deficiencies that could contribute to errors in the administration of medications. CDPH categorized and focused on evaluating twelve elements on MERP implementation for ongoing improvement.

At CCRMC we use our medication error reports to trend challenging elements. Medication errors are reviewed periodically (i.e., monthly, quarterly, and annually).

The following year’s plan is drafted after meticulous review of all Medication Errors, analyzing the cumulative data using monthly, quarterly, and annual Med Error patterns. Subsequently thereafter, plans are implemented to reduce the likelihood of the errors in those certain areas.

Pharmacy Dept uses the above Run Chart methodology to graph each MERP element to assess the effectiveness of the instituted plans and whether those plans were adequate in reducing medication errors over time.
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Run Charts are cumulative; using Median Line, we can detect any trends, shifts, or astronomical data points. We also insert annotations on the aforementioned run charts to be able to describe the cause and effects concerning any peaks or trough vs any observed isolated incidents.

Pharmacy Dept works very well with ALL departments (Nursing, medical, or ancillary departments) in conjunction with Quality Managers and the Professional Development Department (PDD) to apply corrective actions. Success is measured by following SERS in the affected areas to see if the action plan was proven effective or not and reflected on the run charts as cited above.

Education and Information dissemination

1. CCRMC disseminates information to hospital leadership, physicians, nurses, pharmacists, and quality managers. The following activities are currently underway to increase awareness of patient safety:
   a. Data feedback to physicians by Pharmacy Department’s leadership on medication errors, adverse drug reaction reporting and medication use quality assurance and use audits.
   b. Data feedback to nursing by Pharmacy Department’s leadership on medication errors, rescue meds, adverse reactions, and quality audits.

At CCRMC we have actively received and used new information and notices related to:

- Medication errors
- Processes for avoiding errors
- Recalls
Problem prone medications and

Resources related to adverse events associated to medications.

A monthly memo is generated by the Pharmacy Department with all the PCP&E updates. In addition, a memo is generated and sent to the Medical Staff president regarding “Preventable ADRs as well as Preventable Rescue Meds as a learning and educational opportunity.

Technology Strategies

(DHS-CDPH guiding principle #4-Technology implementation shall be part of the plan)

Technology will be used whenever possible to improve effectiveness and efficiency in the medication use processes to make errors difficult to commit and to promote a culture of safety and quality in the workplace. Listed below are technological applications completed at CCRMC.

Technology action plan:

1. Automated Dispensing Cabinets (i.e, Omnicell)
   - Continue using the alerts, reports, and paging system available by the Omnicell software

2. Continue using Repackager (Omnicell) to minimize medication errors in form of medication Unit Dosing and distribution to Nursing units

3. Provide ongoing support to maintain quick access and availability to medical information or current IV administration guidelines, online:
   - Micromedex-available to all staff
   - Lexicomp- available to all staff
MEDICATION ERROR REDUCTION PLAN-ANNUAL MERP REVIEW
CONTRA COSTA REGIONAL MEDICAL CENTER (3/2018-3/2021 cycle)

4. Expanding reporting capabilities of EPIC (our EHR) to generate more and more meaningful reports in form of system lists, workbench reports, or crystal reports.

5. Usage EHR, i.e, ordersets, Best Practice Alerts (BPA’s), First Data Bank (FDB) warnings (i.e., concerning allergy, Drug-Drug Interaction, high dose, etc…) enables us to ensure safe medication practices at CCRMC.

6. Utilizing different software and technologies to extract data and trend values

7. VigiLanz (A data mining system)
   - VigiLanz is programmed to include many monitors. It filters the data and reports all monitors that need to be addressed by the pharmacists on a daily basis

8. SERS (Safety Event Reporting System)
   - Electronic event reporting system with the built in reporting mechanism

9. Alaris® Pump (i.e, Smart pump)
   - Smart pump has been programmed to match our EHR rates of administration for all formulary drugs. The use of basic infusion is monitored and use of guardrail is encouraged. Alaris® committee is a subcommittee of MSC that meets every month. Data is trended using its report functionality. Rounds are made by Pharmacy and Nursing to assure compliance with set safety parameters.

10. Kitcheck®
    - Kit check® uses the RFID technology. Pharmacy Dept uses this technology to improve the efficiency of monitoring the expired medications in variety of kits and carts.
Kit Check® technology was instituted in Anesthesia Workstations to better manage the inventory of the trays.

11. HER (ccLink)
   - Barcoding technology
     - Introduced globally as BCMA
     - Introduced departmentally in most areas of the Pharmacy dept
   - Antimicrobial Stewardship (ASP) module

12. Central Temperature monitoring software

C. Literature review for ongoing review of the plan

(DHS-CDPH guiding principle #5- Review pertinent literature related to the reduction of medication related errors in the development and ongoing review of the plan.)

Pertinent literature related to the reduction of adverse drug events has been and will continue to be reviewed in the development and review of the plan. The ultimate goal is to deliver safe medication practices at CCRMC and Clinics.

Literature for ongoing learning and sharing are readily obtained from any of our resources at CCRMC. We have a very generous library of resources made available to staff, electronically. A few examples would be Micromedex, Up-To-Date, Krames (patient education), many journals and ebooks through our library. In addition to that, we benefit from nationally recognized entities and their publications such as IHI, FDA Medwatch alerts, etc… (SEE Goal and Objective section above)

D. CCRMC participates in the following medication safety collaborative for learning from errors and sharing of best practices:
MEDICATION ERROR REDUCTION PLAN-ANNUAL MERP REVIEW
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• East Bay Society of CSHP (California Society of Healthcare Pharmacists): Collaboration of all East Bay Pharmacy Leadership

• South Bay Society of CSHP (California society of Healthcare Pharmacists): Collaboration of all South Bay Pharmacy Leadership

• ARC-Gordon and Betty Moore foundation: Avoid Readmission Coalition. Pharmacy Director has done a number of presentations for this organization and currently is the expert speaker/presenter for Avoid Readmission Campaign in the East Bay

• ISMP Canada: Pharmacy Director has been invited to ISMP in Canada to share the Medication Reconciliation Process at CCRMC as IHI model hospital

• Sharing ADE data with Vizient Hospital Innovation Improvement Network (HIIN) to assess how CCRMC ADEs compares with other hospitals in that network

VI. MERP ELEMENTS OF THE PLAN TO MONITOR AND EVALUATE SAFE MEDICATION PRACTICES IN ERROR REDUCTION:

The main section of this report will be categorized by the twelve elements of medication practices: Prescribing, Dispensing, Distribution, Administration, Competency related to medication use, Product-labeling, Packaging and Nomenclature, Compounding, Prescription Order Communication, Monitoring, Use, and Transition of Care.

The annual MERP program assessment review and effectiveness evaluation in support of identifying plan weaknesses and deficiencies for change implementation and MERP program modification are highlighted in our MERP Grid.

Processes to Reduce Medication Errors:

Methodologies to reduce medication errors include on-going proactive surveillance and retrospective tools to identify the root causes of variation or deviation in medication management.
process and system performance. Examples of on-going proactive surveillance tools include the use of trigger tool to identify areas for improvement in clinical care and patient safety, the reviews of medication usage evaluations, and daily monitoring of Automated Dispensing Cabinets medication overrides.

Data from comprehensive review of reported medication events and on-going proactive and retrospective reviews of system performance will be utilized to determine and evaluate medication safety systems related to, but not limited to: prescribing, prescription order communication, product labeling, packaging and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, medication use and storage of medications.

Corrective actions are promptly initiated to address each of the eleven processes and systems once a significant trend or pattern has been identified through the on-going monitoring methodologies as described above. Corrective actions may include changes in systems, procedures, staff and management in-services, and revision in policies and procedures. Should the corrective actions as implemented prove to demonstrate a decrease or reduction in medication errors overtime, then the specific hospital policy and corresponding procedures will be revised and forwarded to the Medication Safety Committee (MSC) as well as the oversight committees (i.e, PCP&E, etc…) for review and approval.

Annually, all the revised and changed procedures and systems will be reviewed and evaluated by the MSC as well as PCP&E to determine if the changes undertaken have been effective, or not; and whether the ongoing indicator should continue to be monitored for the forthcoming year.
MEDICATION ERROR REDUCTION PLAN-ANNUAL MERP REVIEW
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Frequency of monitoring for the specific indicator that has demonstrated a reduction in medication errors will also be revisited and determined by the Medication Safety Committee and approved by the PCP&E Committee.

VII. MERP GRID:

See MERP binder and/or electronic files with hyperlinks to data analysis and reports.

VIII. Effectiveness of the Plan:

The program has been effective in detecting medication errors and in developing corrective actions for the past year (see MERP grid).
Addendum I- Pharmacy Department’s QA/PI collaborative structure

Medication Safety Committee/MERP
QA/PI
ADEs (ADR/Med errors)

RCA/Sentinel Event
Risk management/ Patient Safety Officer
Medical staff leadership
Nursing Leadership

MSC Co Chairs:
Shideh Ataii, Pharm.D., APH, Director of Pharmacy Dept and Adeebeh Fakurnejad, Pharm.D., Assistant Director of Pharmacy Dept, CCRMC and Clinics

Reporting to PS&PIC
Reporting to MEC
Reporting to PCP&E

(Policy: 5013)
Agenda Item: Medication Error Data Analysis, 2019 Annual Report

Committee Name: Medication Safety Committee  
Meeting Date: Feb 21, 2020  
Preparation Date: January 2020

<table>
<thead>
<tr>
<th>Issue Name:</th>
<th>Medication Error Data Analysis, Annual Summary</th>
<th>Presenter: Pharmacy</th>
</tr>
</thead>
</table>

**Situation:** Medication Error Report, Summary

**Background:** Beginning in 2010, CCRMC began categorizing medication errors into one of eleven different categories. Those categories (known as 'Elements') were defined by the California Department of Public Health (CDPH). In June 2012, these elements were redefined and expanded into twelve different “Event Categories.” The event categories are as follows:

<table>
<thead>
<tr>
<th>Event Category</th>
<th>Event Category</th>
<th>Event Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12. Transitions in Care</td>
</tr>
</tbody>
</table>

These event categories and subcategories have been programmed into SERS (Safety Event Reporting System).

Once medication events have been categorized into one of the above event categories, they are assessed for severity level (per NCC MERP scale) as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Circumstances or events that have the capacity to cause error</td>
</tr>
<tr>
<td>B</td>
<td>An error occurred but the error did not reach the patient</td>
</tr>
<tr>
<td>C</td>
<td>An error occurred that reached the patient but did not cause patient harm</td>
</tr>
<tr>
<td>D</td>
<td>An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm to the patient and/or required intervention to preclude harm</td>
</tr>
<tr>
<td>E</td>
<td>An error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention</td>
</tr>
<tr>
<td>F</td>
<td>An error occurred that may have contributed to or resulted in temporary harm to the patient and required initial or prolonged hospitalization</td>
</tr>
<tr>
<td>G</td>
<td>An error occurred that may have contributed to or resulted in permanent patient harm</td>
</tr>
<tr>
<td>H</td>
<td>An error occurred that required intervention necessary to sustain life</td>
</tr>
<tr>
<td>I</td>
<td>An error occurred that may have contributed to or resulted in the patient's death</td>
</tr>
</tbody>
</table>

This report highlights the medication error trends that occurred in 2019, along with the etiologies of the error trends and system improvements made as a result of the errors. The specifics of these trends will be presented by run charts.

**Data Source:**
Medication errors are voluntarily reported by staff who become aware of errors using the SERS reporting system. The pharmacy department uses various methods including ccLink reports, clinical monitors, automated dispensing cabinet audits, and other fact-finding strategies to detect medication errors and enter them in SERS. **Pharmacy department promotes transparency and awareness in the organization and uses SERS as an approach to identify areas for improvement so that strategies could be implemented to correct these issues. Pharmacy department generates the most SERS of the organization in order to support this methodology for improvement.** Reports are reviewed, referred for further input, and analyzed by the Medication Safety Advocates. The medication error review process is multi-disciplinary, with at least one physician present at all times, and 100% of all errors are reviewed. Data is tabulated and trended monthly and annually.
Data Highlights and Totals:

- There were 879 medication related SERS reported in 2019, compared to 1,115 in 2018, 979 in 2017 and 780 in 2016. There was a 21% decline in SERS reported in 2019 vs. 2018, which in large part can be attributed to the reduction in controlled substance discrepancies in 2019 vs. 2018. The decrease is as a result of the ongoing efforts by Pharmacy, Nursing and Anesthesiology to minimize controlled substance discrepancies (technological enhancements, education, etc.) along with oversight from the Opioid Stewardship Program Committee. It is important to note that 100% of controlled substance discrepancies are investigated and resolved.

- The organization promotes transparency and encourages staff to report medication errors, including near miss medication events. The majority of errors reported did NOT result in harm (median harm index of 0.00009%). Specifically, in 2019, 99% of errors reported did NOT result in harm. Additionally, there was a 47% reduction in the number of Level E errors in 2019 compared to 2018.

- Pharmacy leadership continues to promote reporting of medication events for system and process improvement reasons. There was a total of 1,861 near miss medication events in 2019 (530 events reported via SERS and while not discussed in this annual SERS report, 1,331 near misses captured via the Alaris pump), vs 1862 near miss medication events in 2018 and 1667 events in 2017.

- **Medication errors by drug class:** Controlled substances and antimicrobials have persistently been the top medication classes involved in medication errors at CCRMC since 2010.

  - There were 449 medication errors with controlled substances in 2019 (558 in 2018 and 546 in 2017). The large number of SERS are generated due to the controlled substance discrepancy monitoring program by pharmacy, which utilizes SERS as a method to report and resolve discrepancies. In 2019, there was a 21% decrease compared to 2018 in the number of controlled substance discrepancies. As noted above, this decline is due to the ongoing efforts by Pharmacy, Nursing and Anesthesiology to minimize controlled substance discrepancies at CCRMC via technological enhancements and education, along with oversight from the Opioid Stewardship Program Committee.

  - There were 75 medication errors involving antimicrobials in 2019, a 26% reduction compared to 2018 (101 in 2018 and 73 in 2017).

    - The top error type involved missed doses. Specifically, missed doses due to clamp errors (14 errors in 2019, vs. 15 in 2018 and 8 in 2017). Over half (53%) of the missed doses due to clamp errors in 2019 occurred within 1 hour of shift-change times, vs. 46% in 2018 and 25% in 2017.

    - 9 errors involved vancomycin trough monitoring (vs. 15 errors in 2018 and 6 errors in 2017). 5 of 9 errors (56%) in 2019 involved a missed vancomycin trough due to the order not being released by nursing and 3 of the 9 (33%) errors involved the trough order being released at the wrong time resulting in an inaccurate vancomycin trough level (ex: drawn after the dose was hung).

- **“High Alert” Medication Error trends are as follows:**

  - The number of high alert medication errors decreased from 95 errors in 2018 to 74 errors in 2019 (22% reduction) as a result of the ongoing efforts by the organization to reduce errors surrounding these high alert medications. The median harm index (Level E and higher events) for four of the five high alert categories has been 0 since Q1 of 2015 (Anticoagulants, Chemotherapeutics, Fentanyl patch, PCA). While insulin’s median harm index has been at 2 errors per month since Q1 2018 (due to increased vigilance and reporting by pharmacy), the percent rate of severe hypoglycemia (BG ≤ 50 mg/dl) has declined from 3.5% in 2017 to 1.2% since February 2019.

  - **Insulin errors:** The number of insulin errors decreased from 40 errors in 2018 to 34 errors in 2019 (15% reduction). The top error type involved MDV labeling errors by nursing staff in 2019, which accounted for 13/34 (38%) of errors. Following MDV labeling errors, the error type that peaked involved insulin management at times of nutritional status changes (ex: NPO for procedure, TPN→ regular diet, patient eating < 50% of meal after mealtime insulin administered, etc.), which is also what peaked in 2018. In 2018, a multi-disciplinary task force was created and began meeting regularly to address the issues surrounding SubQ insulin management. Several optimizations were made in ccLink, along with education and increased awareness among staff. A daily physician oversight process was also implemented in 2019, resulting in all cases of severe hypoglycemia being reviewed by a physician to ensure the appropriate steps were taken to prevent any further hypoglycemic events and to communicate any additional actions needed to the primary team. Education was also optimized and provided to medical staff via. E. Learning. Going forward in 2020, the hyperkalemia order panel will be further optimized to ensure that appropriate monitoring and prevention strategies are taken when insulin is administered to patients for treatment of hyperkalemia, especially for patients without diabetes. Pharmacy will continue to tabulate and interpret data and the Insulin taskforce will continue to meet, review data and optimizes processes as needed.

  - **PCA errors:** There were 6 errors involving PCAs in 2019, compared to 7 errors in 2018 and 3 errors in 2017. None of the errors resulted in patient harm (Level E or higher). 3 of the 6 errors involved the Alaris pump not matching the order in EPIC (different category or a different setting not adjusted in Alaris pump when the EPIC order was updated), which is consistent with the top error type in 2018. These 3 errors could have been prevented with an interface between EPIC and Alaris pump. Education was provided to staff involved in all cases.

  - **Anticoagulant errors:** There were 24 errors involving anticoagulants in 2019, vs. 32 errors in 2018 and 38 in 2017. There was a 25% reduction in errors from 2018 to 2019. The majority of errors since 2017 have involved heparin infusion errors (ex: rate not adjusted in a timely manner, wrong rate, etc.). In 2017, a multi-disciplinary task force was initiated to address
the issues surrounding heparin infusion. In 2018, several improvement actions took place. In 2019, a heparin calculator went live in ccLink. While, the top error type from 2017 of heparin infusion rate not being adjusted in a timely manner was resolved (3 delay in rate change errors in 2018 and 0 in 2019), there was an increase in lab timing errors by nursing and lab (ordered for wrong time, lab order communication errors, delays in lab results) and the new heparin calculator also introduced new error types. Going forward in 2020, the heparin multidisciplinary task force will begin meeting again regularly to address the errors surrounding lab orders and the shortcomings of the heparin infusion calculator.

- Chemotherapeutic errors: There were 8 errors reported in 2019, vs. 13 in 2018 and 1 in 2017. There was a 38% reduction in errors from 2018 to 2019. From May 2018- June 2019, the infusion pharmacy was closed for construction at CCRMC. In the interim, chemotherapy compounds were outsourced to a compounding pharmacy, which caused new errors to arise (communication errors, product packaging errors). These errors were minimized in 2019 as a result of pharmacy working with the outsourced compounding pharmacy to implement the necessary process changes. Additionally, in 2019, several actions were taken to ensure compliance with the USP 800 standards. In 2019, 2 of the errors involved CADD pump malfunctions. Going forward in 2020, the old CADD pumps will be replaced with new CADD smart pumps.
- Fentanyl patch errors: There were 0 fentanyl patch errors reported in 2019, vs. 3 errors in 2018 and 4 errors in 2017.

- **MERP Element Trends for 2019:** In 2019, all elements except for “Prescribing,” had medians that have been stable or have decreased. The number of prescribing errors increased from a median of 3 errors per month to a median of 7 errors per month starting in May 2019. “Distribution,” and “Use,” had stable medians both at 34.5 since September 2018 (due to controlled substance discrepancy monitoring) and “administration,” had a median stable at 30.5 errors per month, which is consistent with national data, while the other elements remained stable with a median ≤ 7.5 errors per month. **Below are the elements that did have a change in median:**
  - **Prescribing:** The number of errors per month increased from a median of 3 to 7 in May 2019. There were 70 total errors reported in 2019, vs. 75 in 2018 and 52 in 2017. This increase over the years can be attributed to Pharmacy’s increased vigilance for and reporting of prescribing errors involving medication management, notably for patients with multiple PRN medications with the same indications in 2019. Several actions were taken to minimize these errors including the creation and optimization of order panels and order sets along with provider, pharmacy and nursing education.
  - **Distribution:** The median number of errors per month decreased from 50.5 to 34.5 (31% reduction) in September 2018 due to the ongoing efforts surrounding controlled substance discrepancy monitoring and reporting at CCRMC. There were 490 total errors reported in 2019 vs. 615 in 2018 and 581 in 2017.
  - **Use:** The median number of errors per month decreased from 53.5 to 34.5 (36% reduction) in September 2018 due to the ongoing efforts surrounding controlled substance discrepancy monitoring and reporting at CCRMC. There were 460 total errors reported in 2019, vs. 582 in 2018 and 541 in 2017.

- **RXe-Source Pharmacy (After hours pharmacy) medication errors trend:**
  - In 2019, RXe-Source pharmacy contributed to 18 errors vs. 14 errors in 2018 and 11 errors in 2017. 10 of the 18 errors (56%) in 2019 involved RXe-Source pharmacist verification of PRN medication orders leading to duplication in therapy of PRN medications with the same indication. The RXe-Source director was contacted to provide education to all staff to minimize this type of error. All errors involving RXe-Source were also communicated to the RXe-Source director to ensure pharmacist education.

**Conclusion:** The MERP program has been effective in detecting medication errors and in developing corrective actions taken for the past year. The annual SERS review was completed in February 2020.
APPENDIX A: PERCENT MEDICATION ERROR RATE GRAPH

Percent Medication Error Rate: Number of Errors in CCRMC Hospital & Clinics / Total Number of Medication Doses Dispensed

Note: In November 2017, pharmacy staff were encouraged and reminded to report any errors, including near misses, in an effort to advocate for increased transparency and improve processes based on the errors reported. This increased reporting, with a majority being near miss errors, caused an increase in the overall error rate median. Additionally, the majority of these near miss errors were categorized under the "distribution," and "use" elements, leading to an increase in those elements medians also.

Medication errors are underreported nationwide. At CCRMC, as risks are identified and issues resolved, staff is encouraged to report any new medication errors or potential medication errors, even if it may be over reporting, in an effort to promote transparency and initiate improvement processes. This increase is mainly categorized as "distribution," errors, with a majority being "near miss," or Level B events.

The Epic Report "Rx Narcotics with Unreconciled Dispenses became active for the OR rooms from 4/3/16-6/6/16., which reflected discrepancies of controlled substances removed from ADS with no administration recorded in EPIC. However, this return was turned off per the request of the Anesthesiology Dept. The report was re-activated on 10/25/16 and 11/16 was the first full month of anesthesiologist discrepancies reported in SERS, causing an increase in the medication error rate.

Median 0.07%

Median 0.06%

Median 0.08%

Median 0.095%

Harm Index (% of medication errors causing harm to patients - Level E and above)

Median Harm Index 0.0009

Median Harm Index 0.0015

Median Harm Index 0.0009

**Note: As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
APPENDIX B: NEAR MISS MEDICATION ERROR GRAPH & SEVERITY GRAPH

Near Misses that did NOT reach a Patient (Includes Alaris Pump and Medication Error Near Misses)

Efforts are being made to increase reporting of near miss events. Pharmacy dept. uses this as a strategy to apply improvement strategies to all MERP elements.

**See Alaris quarterly SBAR for details of Alaris Pump Near Misses (categorized as low risk, medium risk and high risk) and see monthly medication error report for Medication Error Near Misses**
Began incorporating "Near miss" Alaris pump errors in 2015. These are near miss nurse programming errors that did not reach the patient.

- "Near miss" errors that did not reach the patient (Alaris near misses, NCC MERP rating level A and level B)
- Median "Near miss" errors
- Errors that reached the patient, but no harm (NCC MERP rating Level C & D)
- Median number of errors that reached the patient, but no harm
- Errors that reached the patient, that may have resulted in harm (NCC MERP rating Level E and higher)
- Median number of errors that reached the patient and may have contributed to harm

median = 492.5 "NEAR MISS" errors
median = 401 errors that reached a patient, no harm
median = 11.5 errors that may have contributed to harm
In 2017, there was an increase in the insulin errors reported. The majority involved subQ insulin management. Upon investigation, it was found that there was an increase in severe hypoglycemic events (BG ≤ 50 mg/dl) due to inappropriate management of patients on SubQ insulin during times of nutritional status changes (i.e. NPO for procedure, TPN → regular diet, patient eating < 50% of meal after insulin administered, etc.). A task force was created in 2018 and continued meeting regularly in 2019 to address the issues surrounding subQ insulin management via technological enhancements and education. The harm index median increased as a result of increased vigilance and reports of hypoglycemic events. See the 2019 Annual SERS Report for more details. Going forward in 2020, the task force will continue to meet.

The increase in Q2 2018 & Q4 2019 can be attributed to inappropriate expiration date labeling of insulin multidose vials by nursing. This issue was brought up at the organization’s safety huddle and several actions were taken to resolve the issue (See 2019 Annual SERS report for full details).
In 2018, 53% of anticoagulant errors were attributed to errors surrounding heparin infusion. See next graph specific to heparin infusion errors and for the actions taken. Going forward in 2019, anticoagulant related errors will continue to be trended and reported.

7 out of the 14 errors in Quarter 2, 2018 involved heparin infusion due to increased vigilance and reporting.

4 of the 9 errors involved heparin infusions and 2 of the 4 heparin infusion errors involved the heparin infusion calculator which went live on July 30th, 2019. Additionally 4 of the 9 errors involved missed doses by nursing (in all cases the medications were sent up by pharmacy).
The majority of anticoagulant errors can be attributed to errors surrounding heparin infusion. Towards the end of 2017, a multidisciplinary task force was initiated to address the issues surrounding heparin infusion. The main heparin infusion error type identified was a delay in the heparin infusion rate adjustment from the time of aPTT result being available. Upon further investigation, it was found that there was nothing in place to trigger/remind nurse when the aPTT result was available. In 2018, a new aPTT order was created, specifically for patients on heparin drip. This new order considers any result a “critical,” result, which triggers the lab technician to call the nurse once the aPTT has been resulted. Additionally, several tools were created or enhanced to assist nursing staff, including updating the heparin infusion administration instructions and sidebar instructions to be more clear, and creating a heparin report tool to provide an overview of the previous rate changes and lab results. As a result of these efforts, the delay in heparin infusion rate adjustment was resolved. However, the taskforce also requested for ccLink IT to build a heparin calculator to assist nursing with heparin infusion titrations. This went live on July 30th, 2019, which caused a new set of user errors while using the calculator. The heparin infusion task force will resume meeting in 2020 to address these new error types.
From May 2018 - June 2019, the infusion pharmacy was closed for construction to become compliant with USP 800 requirements. In the interim to allow the infusion clinic to remain open, CCRMC purchased patient specific chemotherapy from an outsourced compounding pharmacy, which created a new set of errors while the chemotherapy was being outsourced (i.e. chemotherapy bag damage during transportation, order communication errors). In 2019, 2 of the errors involved CADD pump malfunctions. Going forward in 2020, new CADD pumps will be purchased and used in the infusion clinic to minimize technological errors.

Additionally in 2019, the pharmacy department took several actions in preparation to comply with the USP 800 standards. Pertinent staff was trained on using the closed system transfer device (Equashield®), the CCRMC Assessment of Risk for Hazardous Drugs table was completed, distributed and made available as an Isite link in ccLink, the chemotherapy spill kit contents were optimized to be compliant with USP 800, appropriate staff were mask fit tested for a USP 800 compliant mask, and MAR icons were created to assist nurses in appropriate administration and disposal procedures for medications. Going forward in 2020, audits will take place to ensure that the appropriate procedures are being followed.
Fentanyl patch errors have decreased from 2015 to 2019. There were no fentanyl patch errors reported in 2019. This can be attributed to the robust processes that have been developed over the years at CCRMC to ensure safe and appropriate use of fentanyl patch. Going forward in 2020, staff will continue to be vigilant with all processes surrounding fentanyl patch.

The two errors were self-reported by a pharmacy technician on the same day which involved expired 75 mcg fentanyl patches found in two different Omnicells. None of the affected patches reached any patients and pharmacy staff was educated.

Harm Index median = 0
In 2018, there was an increase in Alaris programming errors (Alaris pump programming not matching EPIC order). In 2019, this was also the top error type. These errors could be prevented if the interface functionality was turned on between EPIC and Alaris pump. There was no trend in patient care area identified and nurses were educated in all cases. CCRMC has been working on implementing an interface between cCLink and Alaris pump. The project is in phase 2 of 3 and going forward phase 3 will be initiated with an anticipated completion in 2021.
APPENDIX D: MERP ELEMENT GRAPHS

Prescribing

In August 2019, there was an increase in prescribing errors due to the increased vigilance and reporting by pharmacy of duplications in therapy for PRN medications with the same indication. Several actions were taken including education to medical staff and creation/optimization of order sets and panels to minimize duplications in therapy for PRN medications.

** Note: As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
APPENDIX D: MERP ELEMENT GRAPHS

Prescription Order Communication

2 of the 4 errors that occurred were in Infusion Clinic in October 2019. In one case, the provider instructed a nurse to hold the weekly dose of omeprodin due to order parameters not being met, but this was not documented appropriately so the subsequent nurse thought that the dose was unintentionally missed. The second error involved a patient going to infusion clinic to receive an iron sucrose infusion but the medication order had not been placed leading to a 5 day delay in treatment. Education was provided to all staff involved.

Median = 1

Month/Year

**Note:** As the Pharmacy Department learns more about the CPOE system, issues are reported via SEIRS to improve system workflow and compliance with workflow.
Product Labeling, Packaging, and Nomenclature

In April 2018, there was an increase in errors reported that involved multidose vials being labeled incorrectly (i.e., missing expiration date, wrong expiration date, etc.). Pharmacy administration brought this up during the daily safety huddles. Several actions were taken, including the purchase of new labels, utilization of a calendar tool to calculate 28 days out, and education.

**Note:** As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
Compounding

Due to ongoing shortages, pharmacy began compounding fentanyl/bupivacaine epidural bags. There was 1 compounding error by pharmacy which involved fentanyl/bupivacaine epidural bag being compounded with ropivacaine. This was a near miss that did not reach a patient. Barcoding was supposed to be done but was not enabled in EPIC for this compound. Going forward, barcoding was implemented.

There was 1 compounding error by a nurse who compounded diltiazem infusion incorrectly outside of pharmacy hours. The nurse admixed diltiazem 100 mg in 50 ml instead of in 100 ml. There was no harm to the patient and nurse was educated.

There was 1 compounding error by pharmacy which involved ziprasidone 20 mg vial not being reconstituted correctly (found with half of the volume expected). Error did not reach the patient.

There was 1 compounding error by nursing in which the nurse reconstituted a ziprasidone 20 mg vial for IM administration with 4 ml of sterile water instead of 1.2 ml (larger volume than necessary).

The 3 errors that occurred in August, September and October 2019 all involved nurses in 8D compounding after pharmacy hours. In all 3 cases, the nurses diluted the medication in the wrong amount of diluent (ex: adding medication to 100 ml NS instead of 50 ml NS as ordered). The NPM was notified of the three errors and education was provided in all 3 cases. eLink was contacted to explore implementing barcode scanning for every component of a compound however this functionality is not available in eLink. This was recorded as an official request for an EPIC enhancement in the future.

Month / Year

** Note: As the Pharmacy Department learns more about the CPDE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
**Note:** As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
Distribution

In June 2017, there were increases in reporting related to packaging medications, and removal related issues.

In addition to the controlled substance discrepancies reported by pharmacy staff, in December 2017, pharmacy staff reported several near miss distribution errors that did not reach any patients. There was no trend among these errors.

There was a reduction in the median number of controlled substance discrepancies reported per month due to ongoing vigilance and reporting by pharmacy along with ongoing education of nursing and anesthesia staff.

Median = 50.5

Median = 34.5

**Note:** As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
APPENDIX D: MERP ELEMENT GRAPHS

**Note:** As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
**Note: As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.**
Education

In 2017, several errors involved education issues, but were classified under other elements. In 2018, pharmacy department began classifying errors in which education would have especially helped under the element, Education, along with the other elements that contributed to the error.

Median = 7.5

Median = 0

**Note: As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.**
APPENDIX D: MERP ELEMENT GRAPHS

Use

There was a reduction in the median number of controlled substance discrepancies reported per month due to the ongoing vigilance and reporting by pharmacy along with ongoing education of nursing and anesthesiology staff.

In December 2017 and January 2018, a marked increase in non-narcotic discrepancy errors was observed. We will continue to monitor for continuing trends.

Median = 38.5
Median = 34.5
Median = 53.5
Median = 48.5

Month / Year

**Note:** As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.
APPENDIX D: MERP ELEMENT GRAPHS

Technology

In May 2018, 4 of the 6 errors reported were due to 
Dosage errors. 2 of these 
errors included wrong 
miscarriage on Gerinol fish. Pharmacy staff was educated.

In October 2019, 6 errors included barcode 
scanning issues. 7 of the 8 incidents reported 
were because of the same issue (Phillip's 
kit was not scanning. Pharmacy worked with 
tech and resolved the barcode issue).

**Note: As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.**
Transitions in Care

In March 2019, 8 of the 8 errors reported involved medications not being transported with patients being transferred from 3B ED to another nursing unit. Education was provided in all cases. Additionally, the pharmacy department's performance improvement project focused on minimizing medication transfer non-compliance from 3B to other nursing units. A warning was created in Clink to remind nurses to check the refrigerator and medication bins prior to transporting patients. Pharmacy technicians were also educated to check in with the charge nurse to ensure the patient is still in 3B when delivering medications. Finally, going forward in 2020, Disperse Tracking will be implemented which will allow pharmacy and nursing to view the medication's location.

**Note:** As the Pharmacy Department learns more about the CPOE system, issues are reported via SERS to improve system workflow, and compliance with workflow.

**Appendix D: MERP Element Graphs**
APPENDIX E - MEDICATION ERRORS BY TYPE

Top 10 Medication Errors by Type 2019
Event Date is within Calendar 2019
(General Event Type is equal to "MEDICATION") and (File State is equal to "New") or (File State is equal to "In Progress") or (File State is equal to "Closed")
and ((General Event Type is equal to "ADVERSE DRUG REACTION") or (General Event Type is equal to "MEDICATION"))
## CCRMC Timeline of Efforts Made to Reduce Severe Hypoglycemia (BG ≤ 50 mg/dL)

<table>
<thead>
<tr>
<th>Date</th>
<th>Action Taken</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2017</td>
<td>As a result of multiple level E events in one patient, the plan of correction was to create a BPA, which went into effect in October 2017. The BPA reminds physicians to reduce the insulin dose in the scenario if all of the following is true: 1) patient has had more than one day in the hospital. 2) Diet order changed from non-NPO to NPO. 3) On long acting insulin or insulin infusion. If all 3 are true, POP-UP will alert the physician to consider decreasing the insulin regimen.</td>
<td>Completed</td>
</tr>
<tr>
<td>February 2018</td>
<td>The pre-checked dextrose fluid for patients who become NPO in the SubQ insulin order sets was unchecked and hidden due to a technological glitch in the programming. This was fixed in February 2018.</td>
<td>Completed</td>
</tr>
<tr>
<td>March 2018</td>
<td>The BPA regarding NPO status was not coded correctly and was programmed to not fire within 24 hours of patient being in the ED (including boarder patients who may be in the ED for longer than 24 hours). BPA was updated to fire for ED boarder patients in March 2018.</td>
<td>Completed</td>
</tr>
<tr>
<td>March 2018</td>
<td>Administration instructions were added to scheduled mealtime insulin in March 2018: “If scheduled mealtime insulin already administered and patient does not eat, check BG 30 minutes after insulin administration.”</td>
<td>Completed</td>
</tr>
<tr>
<td>March 2018</td>
<td>Updated BG goals were added to the SubQ insulin order sets in March 2018, consistent with ADA Diabetes Care Guidelines.</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td><em>Goal blood glucose is 140-180 mg/dL for non-pregnant adult inpatients.</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>More stringent goal blood glucose (110-140 mg/dL) may be appropriate for selected patients if this can be achieved without significant hypoglycemia.</em></td>
<td></td>
</tr>
<tr>
<td>March 2018</td>
<td>Conducted DUE for SubQ insulin and severe hypoglycemia ≤50 mg/dl. Continued to do so and findings shared with multidisciplinary insulin taskforce</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
## APPENDIX F - INSULIN INFUSION ACTIONS TAKEN

<table>
<thead>
<tr>
<th>Month</th>
<th>Action Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2018</td>
<td>Vigilanz activation for pharmacy for insulin and BG ≤ 70 mg/dl was activated by June 2018.</td>
<td>Completed</td>
</tr>
<tr>
<td>July 2018</td>
<td>SQ insulin sidebar report was made and is available for inpatient nurses in July 2018.</td>
<td>Completed</td>
</tr>
<tr>
<td>September 2018</td>
<td>Multidisciplinary meetings to begin in the 4th Quarter 2018 in order to continue to address the issues surrounding insulin and hypoglycemia.</td>
<td>Completed</td>
</tr>
<tr>
<td>October 2018</td>
<td>New system list created for nutrition dept. for any patient on insulin (previously had a list of patients on long acting insulin only). This was completed in October 2018.</td>
<td>Completed</td>
</tr>
<tr>
<td>November 2018</td>
<td>PRN fluid changed from D5W to D5NS per request of medical staff and admin instruction changed from for NPO patients with BG &lt; 250 mg/dl, to start upon patient becoming NPO. This was completed in November 2018.</td>
<td>Completed</td>
</tr>
<tr>
<td>November 2018</td>
<td>Hyperkalemia treatment- Insulin +D50 order panel created, which includes POCT BG checks before administration, then hourly after administration x 6 hours. This was completed in November 2018.</td>
<td>Completed</td>
</tr>
<tr>
<td>January 2019</td>
<td>5D Pilot project to improve percent eaten documentation initiated</td>
<td>Ongoing</td>
</tr>
<tr>
<td>January 2019</td>
<td>Multidisciplinary meeting to explore barcoding meal trays to help with amount eaten documentation</td>
<td>Not started due to technological limitations with EPIC</td>
</tr>
<tr>
<td>January 2019</td>
<td>MAR updated to allow RN to view previous % eaten documentation under insulin order in the administration screen</td>
<td>Completed January 2019</td>
</tr>
<tr>
<td>January 2019</td>
<td>Drug utilization evaluation of insulin and BG ≤ 50 mg/dl conducted, and findings shared with multidisciplinary insulin committee</td>
<td>Completed</td>
</tr>
<tr>
<td>Date</td>
<td>Action Description</td>
<td>Status</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>February 2019</td>
<td>Physician oversight/QA process initiated in February 2019 for any patients with severe hypoglycemia</td>
<td></td>
</tr>
<tr>
<td>February 2019</td>
<td>RN education plan to educate nurses to administer rapid acting insulin with first bite of meal (0-15 minutes before eating).</td>
<td></td>
</tr>
<tr>
<td>February 2019</td>
<td>SubQ insulin guideline sidebar to be updated to include specific instructions and to match MAR administration instructions.</td>
<td>Finalized in May 2019</td>
</tr>
<tr>
<td>February 2019</td>
<td>SubQ insulin administration instructions updated</td>
<td>Finalized in May 2019</td>
</tr>
<tr>
<td>February 2019</td>
<td>Vigilanz alerts for BG &lt; 70 mg/dl to 5D charge nurses and certain providers</td>
<td></td>
</tr>
<tr>
<td>February 2019</td>
<td>Requested PRN POCT BG Q6 Hours while NPO order to be placed into the SubQ insulin order sets</td>
<td>Completed</td>
</tr>
<tr>
<td>March 2019</td>
<td>Hypoglycemia smart phrase created so that physician oversight/QA process could be standardized with plan to start running reports on this.</td>
<td>Smart phrase was created. Pending- create way to run reports</td>
</tr>
<tr>
<td>March 2019</td>
<td>NPO for diabetic order panels (including dextrose fluid and POCT BG Q6 hours) were built out.</td>
<td>Completed</td>
</tr>
<tr>
<td>March 2019</td>
<td>eLearning for providers regarding insulin management</td>
<td>Completed in May 2019</td>
</tr>
<tr>
<td>March 2019</td>
<td>Charge nurses requested to have option in EPIC to add a column for POCT BG orders to their system list.</td>
<td>Completed</td>
</tr>
<tr>
<td>March 2019</td>
<td>New vigilanz alerts for pharmacists:</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>- Incremental BG decline</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New BPA for providers for SCr &gt; 1.5 mg/dl and BG &lt; 110 mg/dl</td>
<td></td>
</tr>
<tr>
<td>April 2019</td>
<td>Nourishment room updates- PARs of certain food items increased based on need of each nursing unit to ensure that snacks are available for diabetic patients at all times.</td>
<td>Completed</td>
</tr>
<tr>
<td>May 2019</td>
<td>Update SubQ insulin order sets to include a whole separate section for NPO patients (with Q6 hour correctional dose insulin).</td>
<td>In process</td>
</tr>
<tr>
<td>May 2019</td>
<td>Informational BPA to provider if patient has NPO status ordered but has TID AC/HS correctional dose lispro or vice versa</td>
<td>Completed</td>
</tr>
<tr>
<td>December 2019</td>
<td>Haiku alert for BG &lt; 80 mg/dl to doctor first contact went into production</td>
<td>Completed</td>
</tr>
<tr>
<td>December 2019</td>
<td>Ensure that all pre-procedure order sets have a dextrose containing fluid and hypoglycemia protocol for diabetic patients</td>
<td>In process</td>
</tr>
<tr>
<td>Action Taken</td>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Heparin Multidisciplinary task force began meeting</td>
<td>June 2018</td>
<td></td>
</tr>
<tr>
<td>Heparin Infusion PDSA initiated in 3D</td>
<td>June 2018</td>
<td></td>
</tr>
<tr>
<td>Administration instructions on MAR updated to be clearer, along with heparin Sidebar table</td>
<td>August 2018</td>
<td></td>
</tr>
<tr>
<td>“Heparin aPTT,” lab order created, to differentiate aPTT results for patients on heparin infusion. With this new lab, all results are considered “critical,” which prompts a phone call from lab to nurse caring for patient or charge nurse regarding aPTT result.</td>
<td>January 2019</td>
<td></td>
</tr>
<tr>
<td>Isite report enhanced to track heparin aPTT lab orders (time of order, time of result, time of MAR action)</td>
<td>January 2019</td>
<td></td>
</tr>
<tr>
<td>Heparin activity report created so that nursing could easily view past actions taken in regard to heparin infusion.</td>
<td>January 2019</td>
<td></td>
</tr>
<tr>
<td>BPA to direct nurse to order “Heparin aPTT,” instead of the regular aPTT was pushed to production.</td>
<td>February 2019</td>
<td></td>
</tr>
<tr>
<td>Heparin infusion calculator built and being tested</td>
<td>March 2019</td>
<td></td>
</tr>
<tr>
<td>aPTT baseline order in Heparin Infusion order Set not defaulted to “NOW.” This was fixed in ccLink</td>
<td>June 2019</td>
<td></td>
</tr>
<tr>
<td>Heparin infusion calculator went live</td>
<td>July 30, 2019</td>
<td></td>
</tr>
<tr>
<td>BPA to direct nurse to order “Heparin aPTT,” was not working. The glitch with the BPA was fixed.</td>
<td>July 2019</td>
<td></td>
</tr>
<tr>
<td>It was found that the administration instructions for when to give a bolus dose of heparin with the infusion were left off of the MAR with the new calculator. These were added back in.</td>
<td>September 2019</td>
<td></td>
</tr>
<tr>
<td>Heparin Infusion Order Set Updates were made:</td>
<td>December 2019</td>
<td></td>
</tr>
<tr>
<td>- If there is a aPTT result within the 72 hours lookback, the result will display and the baseline aPTT order will be unchecked.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- If there is not an aPTT result within the 72-hour lookback, the result will not display and the aPTT order will be checked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration instructions were added to the heparin infusion baseline aPTT order: &quot;Draw baseline aPTT before starting the heparin infusion but do not delay start of infusion if unable to obtain aPTT lab draw in a timely manner. Do not wait for aPTT result to start the infusion. Do not draw the baseline aPTT after the heparin infusion has been started.&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX H- ACTIONS TAKEN TO PREVENT THERAPEUTIC DUPLICATION OF PRN MEDICATIONS

<table>
<thead>
<tr>
<th>Action Taken to prevent therapeutic duplication of PRN medications</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Post-Anesthesia Orders”: Post-anesthesia order set contained PRN orders for fentanyl, morphine and hydromorphone with the same indication based on patient’s pain score. To prevent duplication of PRN orders with the same indication, the post-anesthesia order set was revised to include instructions for the nurse as to which opioids is to be given first, second and third. The ordering provider must choose the opioid to be given as first, second and third choice at the time of ordering. This will provide clear instructions for the nurse how to administer the 3 PRN opioids medications ordered for pain management.</td>
<td>Q1, 2018</td>
</tr>
<tr>
<td>Ticket 424475- Acetaminophen PO/IV order panels. Administration instructions were added.</td>
<td>7/1/2019</td>
</tr>
<tr>
<td>Ticket 424756- Constipation medications order panel and antiemetic medications order panel created. All single order medications in these panels removed from orderable in EPIC.</td>
<td>7/1/2019</td>
</tr>
<tr>
<td>Email sent to RXe-Source regarding therapeutic duplication of PRN orders.</td>
<td>7/6/2019 and again on 8/1/2019</td>
</tr>
<tr>
<td>CIWA order set with multiple lorazepam PRN orders with same indication. Administration instructions were added to clarify when to give which order of lorazepam.</td>
<td>7/8/2019</td>
</tr>
<tr>
<td>Ticket 425262- Acetaminophen PO/Rectal order panel removed from order sets.</td>
<td>7/8/2019</td>
</tr>
<tr>
<td>Memo from Pharmacy director distributed to medical staff regarding prevention of therapeutic duplication of PRN medications. Director of Pharmacy also met with residents with the support of the residency director to discuss this issue.</td>
<td>7/16/2019 &amp; 8/5/2019</td>
</tr>
<tr>
<td>Ticket 428004-Post-partum C-section order set constipation section was updated to have clear instructions.</td>
<td>7/17/2019</td>
</tr>
<tr>
<td>Ticket 428321- Promethazine IM/PO/Gel. IM route was removed. Administration instructions were added to the gel and the PO tablet to provider instructions to nurse to initiate therapy with topical and then switch to PO if topical ineffective.</td>
<td>7/23/2019</td>
</tr>
<tr>
<td>Meetings with Chair of the psychiatry department and nurse program manager. Plan to optimize order sets to eliminate duplicate PRN medications.</td>
<td>Meeting on 8/1/19 and 8/8/19</td>
</tr>
<tr>
<td>Ticket 429490- Hydrocodone/APAP and oxycodone/APAP orders in ccLink had an option to use for mild pain (1-3). This option was removed so that these would only be used for moderate/severe pain and promote use of non-narcotic options for mild pain. This also prevents duplication of therapy between analgesics.</td>
<td>8/7/2019</td>
</tr>
<tr>
<td>Pharmacy department also requested a new I-vent category to be created (“Duplication of PRN reason”). Going forward, interventions will be documented under the new I-vent category. Additionally, SERS are submitted for errors found, and variance reports are also submitted to RXe-Source pharmacy to ensure education of all staff involved.</td>
<td>8/15/19</td>
</tr>
</tbody>
</table>
MEDICATION ERRORS BY DRUG CLASS:

Below are the medication classes that have persistently caused the highest number of medication errors per year:

CONTROLLED SUBSTANCES

DATA HIGHLIGHTS:

449 errors involved controlled substances (0.36% of total controlled substance transactions in 2019) vs. 558 (0.4%) in 2018, and 546 (0.36%) in 2017.

355/449 (79%) of errors did not reach the patient (Level B and lower), and 100% of errors did not cause harm (Level D and lower).

TRENDS NOTED:

• The #1 error type reported in 2019 was related to controlled substance discrepancies, which is consistent with 2018, and 2017. There was a 21% reduction in controlled substance discrepancies in 2019 compared to 2018.
• There were 386 errors reported in 2019 (0.32%, 400/121,714 of controlled substance transactions in Omnicell, vs. 486 (0.36%) in 2018, and 483 (0.32%) in 2017.
  ➢ The breakdown of the different controlled substance discrepancy types are as follows:
    o “Unreconciled Narcotic Discrepancy” (n=299 discrepancies/121,714 controlled substance transactions= 0.25% in 2019, vs. 0.29% in 2018, and 0.25% in 2017)
    o "Narcotic waste not reconciled" (n= 86 discrepancies/121,714 controlled substance transactions= 0.07% in 2019, vs. 0.06% in 2018 and 0.06% in 2017)
    o “Missing narcotic from Pharmacy return bin” (n=1 discrepancies/121,714 controlled substance transactions=0.0008% in in 2019, vs. 0% in 2018, and 0.001% in 2017)
    o “Cycle count errors” (n = 0 discrepancies/121,714 controlled substance transactions= 0%, a decrease from 0.003% in 2018 and 0.005% in 2017.
• There was no trend among the other errors involving controlled substances.

MAIN ACTIONS TAKEN:

• Controlled substance discrepancy monitoring was pharmacy’s performance improvement (PI) project from March 2014 through to December 2015. The reports used by pharmacy to capture discrepancies were optimized in 2017 to include anesthesiologists. In 2017, an FTE was also hired and began reviewing all anesthesiologist transactions on a daily basis. The pharmacy continues monitoring and reporting of controlled substance discrepancies on a daily basis as a quality assurance measure. Going forward, in an effort to further reduce the amount of anesthesiologist discrepancies, ccLink will be optimized to prompt the nurse in the OR to ensure that the anesthesiologist has resolved any discrepancies prior to closing the case.
• With the California Code of Regulations, title 16, section 1715.65, the pharmacy department implemented a quarterly inventory count for all Schedule II medications at CCRMC in 2018. This report includes any discrepancies noted with
APPENDIX I- SUPPORTING DOCUMENTS

comments and explanations as needed. This is in addition to the monthly inventory Omnicell report and oversight of controlled substance transactions.

- The multidisciplinary Opioid Stewardship Committee was created in 2016 and continues to meet on a quarterly note to review guidelines and regulations, and optimize pain management strategies at CCRMC. The committee works to ensure the quality and safety of care provided at CCRMC.

ANTIMICROBIALS

DATA HIGHLIGHTS:

75 errors (0.07% of antimicrobial orders) in 2019 vs. 101 errors (0.08%) in 2018, and 73 errors (0.08%) in 2017. 22/75 errors (29%) reported were near misses that did not reach the patient (Level B and lower) and 100% of errors did not cause harm (Level D and lower).

TRENDS NOTED:

- Breaking down the errors by event type, the top 3 event types were as follows:
  
  ➢ The main cause of antimicrobial errors overall was missed doses with 25/75 errors (33%) vs. 23/101 (23%) in 2018, 27/73 (37%) in 2017 and 27/63 (43%) in 2016.
    
    o TREND: 14/25 (56%) of missed dose errors involving antimicrobials were due to incorrect tubing connections/ nursing forgetting to unclamp the secondary line, a reduction from 15/23 (65%) in 2018 but an increase from 8/27 (30%) in 2017.
      
      a. A breakdown by nursing unit reveals that 7 errors occurred in 5D, 2 in 3D, 2 in 4A, 2 in 5C, 1 in 3E and 1 in 5A. TREND: 5D had the highest number of clamp errors in 2018 and 2019 (6 and 7 errors respectively)
      
      b. A breakdown by nursing shift reveals that 7 errors occurred during day shift, 5 during PM shift and 3 during night shift.
      
      c. TREND: Upon investigating the timing of the errors, it was found that 8 of the 15 errors (53%) occurred within ~1 hour of a shift change time.

    o TREND: 1/25 (4%) of these errors were due to medication not being activated when hung. This is a decrease from 9% in 2018, and 19% in 2017.

  ➢ Issues with vancomycin trough monitoring accounted for 9/75 errors (12%), a reduction from 15/101 errors (15%) in 2018, but an increase from 6/73 (8%) in 2017. In 2019, the following trends could be noted:
    
    o TREND: 5 errors involved the vancomycin trough order not being released by the nurse despite instructions in MAR note and active order placed by pharmacist.
    
    o TREND: 3 errors involved wrong time (i.e. MAR note cleared at wrong time, vancomycin trough drawn after dose was started)
    
    o The last error involved the trough not being drawn despite order being released by nurse.
    
    o A breakdown by nursing unit reveals that 3 errors occurred in 3D, 3 errors occurred in 4B, 2 errors occurred in 3B, and 1 error occurred in 3D.

  ➢ Delays in antimicrobial administration accounted for 6/75 errors (8%) in 2019 vs. 7/101 (7%) in 2018 and 11/73 (15%) in 2017.
    
    o TREND: 4 of the 6 (67%) errors were due to nursing delays in administration.
    
    o TREND: 2 of the 6 (33%) errors were due to pharmacy delays in dispensing.

MAIN ACTIONS TAKEN:
Regarding the nurses forgetting to unclamp the secondary line, there are several processes in place from previous years which had previously contributed to the downturn of clamp errors and maintaining a low number of errors, including pharmacy department audits of medication administration, nursing audits of medication administration, and education by the professional development department for orienting nurses. The number of clamp errors in 2019 was similar to 2018.

In 2019, the number of vancomycin trough monitoring errors decreased from 15 errors in 2018 to 9 errors in 2019 (40% reduction). Several actions have been taken over the past several years in an effort to ensure appropriate vancomycin trough monitoring.

- In 2018, the vancomycin trough monitoring issues were discussed during one of the organization’s safety huddles to educate staff and minimize this type of error.
- Pharmacy continues to educate nursing staff regarding the vancomycin trough monitoring process upon hire, during the nursing orientation.
- Pharmacy continues to educate new pharmacist hires on the pharmacy vancomycin dosing protocol. New hires also take a baseline competency test and a post-training competency test to ensure adequate understanding of CCRMC monitoring protocols, including the vancomycin monitoring protocol.

CCRMC has had a robust Antimicrobial Stewardship Program (ASP) in place through the Pharmacy Dept for years. A Formal ASP committee and team was formed in early 2015 and meets quarterly. A pharmacist and ID physician meet daily to conduct a stewardship review of select patients and make recommendations when appropriate. The acceptance rate of interventions is monitored and trended. Additionally, the committee reviews antibiotic usage trends, and conducts further drug utilization evaluations to assess for appropriateness of therapy when necessary (See the Antimicrobial Stewardship SBARs for full details). Pharmacy continues previous efforts, including: discontinued antibiotic order renewal reminders, renal dose adjustment monitor, IV to PO conversion, culture and sensitivity reporting, assessing completed antibiotics, and aminoglycoside monitoring. In 2019, a gap analysis was conducted using the CDC’s Core Elements of Hospital Antimicrobial Stewardship Programs and CCRMC was found to be compliant with all elements.

MEDICATION ERRORS BY SEVERITY LEVEL:

- The majority of errors reported did not result in patient harm (Level A-D). The harm index median has been consistently low over the years and has been marginally above 0 (0.0009%) since January 2019 (See Appendix B for graph).
- Percentage of medication errors that did not result in any patient harm by year:
  - 2011= 97.8% (Level A-D (no harm))= 547/ 559 SERS; Level E= 12)
  - 2012= 99.4% (Level A-D (no harm))= 537/ 540 SERS; Level E= 3 )
  - 2013= 99.1% (Level A-D (no harm))= 846/ 853; Level E=7 )
  - 2014= 98.5% (Level A-D (no harm))= 977/ 992; Level E= 14; Level F= 1)
  - 2015=98% (Level A-D (no harm))= 798/814; Level E= 15; Level F = 1)
  - 2016=99% (Level A-D (no harm))= 769/780; Level E= 8; Level F = 3)
  - 2017=99.1% (Level A-D (no harm))= 970/979; Level E= 8; Level F = 1)
  - 2018=98% (Level A-D (no harm))= 1098/1,115; Level E= 17)
  - 2019=99% (Level A-D (no harm))= 86/878; Level E= 9)

- In 2019, Level A-D, which did not cause any harm accounted for the majority of the errors. There were 9 level E events (1%), meaning that intervention was required or there was temporary harm. There were 0 errors that were level F-I in 2018 and 2019.
The near miss errors reported (Level A, Level B), continues to account for the majority of errors reported with 530/878 (60% of errors reported), consistent with 670/1,115 (60%) in 2018, and an increase from 518/979 (53%) in 2017 and 319/780 (41%) in 2016.

Level E errors (9 errors total):
- There were 9 level E errors in 2019 compared to 17 level E errors in 2018 (a 47% reduction)
- Of the 9 errors, the following was noted:
  - TREND: 6 of the 9 errors (67%), involved diabetic patients who became hypoglycemic.
    - TREND: 4 of the 6 (67%) patients became NPO (3 patients did not receive a dextrose containing fluid and 1 patient's insulin glargine dose was not reduced upon becoming NPO.
    - TREND: 5 of the 6 (83%) patients had SubQ insulin orders on board. The other patient had taken SubQ insulin at home, was NPO for a procedure but the dextrose fluid had not been started.
    - 2 of the 6 (33%) patients had impaired kidney function.
  - There was no trend among the remaining errors.
- The number of errors involving insulin decreased from 9 errors in 2018 to 6 errors in 2019 (33% reduction). A multidisciplinary task force was formed to address the issues surrounding SubQ insulin management and began meeting regularly in 2018. The committee continued to meet regularly in 2019. See “High-Alert medication errors,” section for specific actions involving insulin.
- Education was provided to staff in all of the events and process changes were implemented as necessary.
HIGH-ALERT MEDICATION ERRORS (74 ERRORS REPORTED IN 2019):

High-Alert medications have an increased risk of causing significant harm to a patient when used in error. High-Alert medication errors are trended and analyzed by the pharmacy department in an effort to enhance or implement specific safeguards to reduce errors and reduce the risk of harm. This analysis is also conducted to ensure that pharmacy is compliant and proactive in regard to CCRMC’s policy #3701 “High Risk/High Alert Medication Management.” High alert medications included in this policy are: anticoagulants, insulin, chemotherapy, PCA medications and fentanyl patch.

The number of high-alert medication errors decreased by 22% from 95 errors in 2018 to 74 errors in 2019. The median harm index (Level E and higher events) for 4 of the 5 high alert categories has been 0 since Q1 2015, meaning that none of the errors contributed to patient harm (anticoagulants, chemotherapeutics, fentanyl patch and PCAs). While insulin’s median harm index has been at 0 errors per month since Q1 2018 (due to increased vigilance and reporting by pharmacy), the percent rate of severe hypoglycemia (BG ≤ 50 mg/dl) has declined from 3.5% in 2017 to 1.2% since February 2019. See the Insulin SBAR for full details. Below are actions taken in 2019 and plans for 2020 (See Appendix B for graphs).

Anticoagulants:

24 (0.07% of all anticoagulant orders) errors involved anticoagulants in 2019, vs. 32 (0.09% of all anticoagulant orders) in 2018 and 38 (0.11% of all anticoagulant orders) in 2017.

10 of the 24 errors (42%), involved heparin infusion. Towards the end of 2017, a multidisciplinary task force was initiated to address the issues surrounding heparin infusion. While, the top error type from 2017 of heparin infusion rate not being adjusted in a timely manner was resolved (3 delay in rate change errors in 2018 and 0 in 2019), there was an increase in lab timing errors by nursing and lab (ordered for wrong time, lab order communication errors, delays in lab results). The new heparin calculator was also built out in ccLink per the request of the multidisciplinary task force to assist the nurses with heparin infusion titrations. This new calculator went live on July 30th, 2019 and introduced a new set of errors. Going forward in 2020, the heparin multidisciplinary task force will begin meeting again regularly to address the errors surrounding lab orders and the shortcomings of the heparin infusion calculator. See Appendix G for full list of actions taken. It is important to note that while the reporting of heparin infusion errors has increased, none of the errors have resulted in harm (level E or greater) since 2016.

Insulin:

34 errors (0.14% of all insulin orders) involved insulin in 2019, vs. 40 errors (0.15% of all insulin orders) in 2018 and 29 (0.1% of all insulin orders) in 2017.

Note: Excluding MDV labeling errors from the count, there were 21 insulin errors which count for 0.09% of all insulin orders.

Of the 34 errors, 12 involved inappropriate management of patients on SubQ insulin (down from 17 errors in 2018). The top error type that peaked occurred at times of change in nutritional status (ex: NPO for procedure, TPN → regular diet, patient eating < 50% of meal after mealtime insulin administered, etc.) and patient not being managed appropriately (i.e. dextrose fluid not ordered or not started, insulin dose not reduced appropriately). In 2018, there was increased vigilance surrounding hypoglycemic events. A multidisciplinary task force was formed in 2018 and continued to meet regularly in 2019 to address the issues surrounding SubQ insulin management. Through this committee, several actions have taken place including 1) Changes in ccLink (optimization of order sets and panels, creation of best practice alerts, etc.) 2) Optimization of pharmacy monitoring process to ensure uniform review of patients (See Appendix D for full list of actions taken) and identification of high risk patients (ex: patients with worsening renal function). 3) A quality assurance physician oversight process was created in 2019 which involves a medical staff physician reviewing the cases of severe
hypoglycemia (BG ≤ 50 mg/dl), providing feedback to the primary team, and documenting interventions via a “Hypoglycemia prevention,” progress note in the patients chart. See appendix F for a full list of all actions taken. 13 of the errors involved inappropriate expiration date labeling of insulin multidose vials by nursing (no expiration label after opening, wrong expiration date written, etc.). This is down from 19 errors reported in 2018. The multi-dose vial labeling issue was brought up at the organization's safety huddle and several actions were taken to resolve the issue in 2018, including the purchase of new expiration labels, adoption of a calendar tool to help with a calculation of 28 days out, and education of nursing staff. In 2018, a cycle count was implemented for charge nurses to conduct, however this was not enforced and was not being done 100% of the time. Going forward in 2020, the pharmacy department will reinforce the cycle count of MDVs by charge nurses. Data will continue to be trended and reported in 2020.

Chemotherapeutics:

8 errors (0.29% of all chemotherapy orders) involved chemotherapeutic agents in 2019, vs 13 errors (0.47% of all chemotherapy orders) in 2018 and 1 (0.04% of all chemotherapy orders) in 2017.

In 2019 there was a 39% reduction in errors involving chemotherapeutics compared to 2018. The remodeled USP 800 compliant infusion pharmacy opened in June 2019, so CCRMC Infusion pharmacy was able to begin compounding chemotherapy in house rather than outsourcing to the offsite compounding pharmacy. This eliminated errors that happened while the chemotherapy orders were being outsourced (i.e. chemotherapy bag damage during transportation, order communication errors). Of note, 4 errors involved oral chemotherapeutic agents but there was no trend among the type of errors and none of the errors caused harm. 2 of the 8 errors involved patients with CADD pumps (1 patient had a leak and 1 patient’s CADD pump did not start). Going forward in 2020, the infusion clinic plans to purchase new CADD pumps to help minimize errors due to technological limitations. Additionally, in 2019 the pharmacy department took several actions in preparation to comply with the USP 800 standards. In 2019, pertinent staff was trained on using the closed system transfer device (Equashield®) and were mask fit tested for USP compliant masks, the chemotherapy spill kit contents were optimized to be compliant with USP 800, and the CCRMC Assessment of Risk for Hazardous Drugs table was completed and distributed to staff. The table was also made available as an Isite link in ccLink and the administration and disposal instructions were illustrated on the MAR via MAR icons to assist nursing staff. Going forward in 2020, internal audits will take place to ensure that the appropriate procedures are being followed.

Fentanyl Patch:

There were 0 errors involving fentanyl patch in 2019 (0% of all fentanyl patch orders), vs. 3 errors in 2018 (1.2% of all fentanyl patch orders) and 4 (1.47% of all fentanyl patch orders) in 2017.

There were no fentanyl patch errors reported in 2019 compared to 3 in 2018. This is as a result of the robust processes surrounding fentanyl patch at CCRMC. Several efforts are in place to ensure safe use of fentanyl patch at CCRMC, including a thorough initial screening for appropriateness by the clinical pharmacy department along with a daily clinical monitor and patient education. Additionally, separate monthly audits by pharmacy and by nursing to ensure accurate documentation of application and removal of patches by nurse are conducted. Going forward in 2020, staff will continue to be vigilant to ensure safe and appropriate use of fentanyl patch at CCRMC.

PCA:

6 errors involved a PCA in 2019 (1.6% of all PCA orders), vs. 7 errors in 2018 (1.2% of all PCA orders) and 3 (0.9% of all PCA orders) in 2017.

3 out of the 6 errors involved Alaris programming not matching the order in EPIC (i.e. bolus missing, wrong basal rate, etc.). This was the top error type in 2018 as well. There was no trend among the remaining 3 errors in 2019. All cases were resolved, and education was provided to staff in all cases. None of the errors resulted in patient harm (Level E or higher). In 2019, the nursing documentation of
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PCA administration was optimized via ccLink flowsheet enhancements. Going forward in 2020, PCA errors will continue to be monitored and any trends will be reported. The pharmacy will continue to review patients on PCAs daily and conduct monthly medication pass audits of nursing for patients on a PCA.

ERRORS BY MERP ELEMENTS IN 2019:

The breakdown of these 879 medication errors into MERP elements, in order of most errors reported can be seen below. The error rate is a calculation of the # of errors/ # of doses dispensed (1,272,407):

- Distribution: 490 = 0.039% error rate vs. 0.056% in 2018, and 0.053% in 2017
- Use: 460 = 0.036% error rate vs. 0.053% in 2018, and 0.049% in 2017
- Administration: 299 = 0.023% error rate vs. 0.032% in 2018 and 0.031% in 2017
- Education: 87 = 0.007% error rate vs. 0.005 in 2018, and 0.00009% in 2017
- Prescribing: 70 = 0.006% error rate vs 0.007% in 2018, and 0.005% in 2017
- Dispensing: 46 = 0.004% error rate vs. 0.005% in 2018, and 0.004% in 2017
- Technology: 31 = 0.002% error rate vs. 0.003% in 2018 and 0.002% in 2017
- Product Labeling, Packaging and Nomenclature: 26 = 0.002% error rate vs. 0.004% in 2018, and 0.001% in 2017
- Monitoring: 23 = 0.001% error rate vs. 0.004% in 2018 and 0.002% in 2017
- Transitions in Care: 10 = 0.0008% error rate vs. 0.002% in 2018 and 0.001% in 2017
- Prescription Order Communication: 7 = 0.0006% error rate vs. 0.0007% in 2018 and 0.001% in 2017
- Compounding: 3 = 0.0002% error rate vs. 0.0003% in 2018 and 0.00009% in 2017

While several errors involved education in 2017, they were classified under other elements that also applied to these errors. In 2018, pharmacy increased classifying errors under "Education," along with the other elements that applied to those errors.
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Element #1. PRESCRIBING

TRENDS NOTED:

- “Prescribing” accounts for 70 medication errors in 2019. This calculates to a 0.006% (# of errors/# of doses dispensed) error rate vs 0.007% in 2018, and 0.005% in 2017.
- Breaking down the events by Specific Event Type, the top 3 event types were as follows:
    - TREND: all errors were due to overrides without orders. See “administration,” section for more information on overrides and actions taken.
  - Duplications in therapy accounted for 13 errors in 2019 (vs. 3 errors in 2018)
    - TREND: 9 of the 13 errors (69%) involved medications being prescribed with duplicate PRN indications. In 2019, several efforts were made to minimize therapeutic duplication of PRN medications. The pharmacy department's increased vigilance led to an increase in reporting of medications with duplicate PRN reasons.
  - Inappropriate insulin management accounted for 5 errors (vs. 6 errors in 2018)
    - TREND: 3 of the 5 errors involved type 2 diabetic patients with impaired renal function and insulin doses not being adjusted accordingly.
    - TREND: 2 of the 6 errors involved NPO patients. In one case the insulin was not adjusted accordingly and the dextrose fluid that was ordered was not started. In the second case, the dextrose fluid was not ordered.
- Breaking down “Prescribing” errors by drug class, the following was noted:
  - 12 errors involved analgesic medications (TREND: 4 of the 12 cases involved duplications in therapy)
  - 9 errors involved anti-infectives (TREND: 2 of the 9 cases involved duplications in therapy and 3 involved an extra dose almost being/being administered)
  - 5 errors involved insulin (Trends noted above under “inappropriate insulin management”)
- Breaking down “Prescribing” errors by MERP severity rating, we see that there were:
  - 42 level C errors
  - 19 level B errors
  - 5 level E errors (see "Medication Errors by Severity Level," section for more detail)
  - See “Percent Medication Error Rate” graph with harm index (Appendix B)
  - NOTE: Out of the 5 level E errors, 4 (80%) involved management of patients on insulin resulting in hypoglycemia requiring treatment (BG < 70 mg/dl) as discussed above.

MAIN ACTIONS TAKEN:

- NPMs investigated 100% of SERS for overrides, and all were appropriate per NPM, and were either resolved, or orders were back-charted. See the “administration,” section for actions taken involving overrides.
- In an effort to minimize therapeutic duplication of PRN medication orders at CCRM, several order sets have been optimized and order panels have been created with clear instructions for nurses to make selections between drugs prescribed for the same indication (See Appendix H). Additionally, the pharmacy department monitors for therapeutic duplication 1) upon verification of orders and 2) via a retrospective review of the dashboard report “Rx Multiple Order with same PRN Reason.” Any interventions made by pharmacy are documented via “i-vents” under the category “duplicate therapy.”
- In regards to the errors involving inappropriate insulin management, see the “high alert medication errors” section for actions taken.
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ANALYSIS: In 2019, overrides accounted for the majority of prescribing errors, which is consistent with previous years, but the total number of override errors has remained stably low since 2017. The number of errors decreased from 48 errors in 2016 to 19, 21 and 15 in 2017, 2018 and 2019 respectively. Other errors that peaked in 2019 involved therapeutic duplications of PRN medications and inappropriate insulin management. In 2019, to minimize therapeutic duplication of PRN medication orders, several actions were taken including enhanced monitoring and reporting by the pharmacy department and the optimization of several order sets/creation of new order panels. Going forward in 2020, pharmacy will continue to monitor for therapeutic duplication of PRN medications and pertinent order sets will be optimized as needed. The multidisciplinary insulin taskforce that was created in 2018 continued to meet regularly in 2019 to address the issues surrounding insulin management. See the “High Alert medication errors,” section for more detail. In 2020, the task force will continue to meet regularly and investigate ways to further improve insulin management at CCRMC.

Element #2. PRESCRIPTION ORDER COMMUNICATION

TRENDS NOTED:

- “Prescription Order Communication” accounts for 8 total medication errors in 2019. This calculates to a 0.0006% error rate (# of errors/# of doses dispensed) vs. 0.0007% in 2018 and 0.001% in 2017
- Breaking down the events by Specific Event Type:
  - TREND: There were 3 errors that involved missed doses as a result of a communication error. 2 of the 3 errors involved electronic prescriptions being sent to retail pharmacies (1 of the two cases involved a technology error, while the other was a user error).
  - TREND: 2 of the errors occurred in infusion clinic. In one case, the provider instructed a nurse to hold the weekly dose of romiplostin due to order parameters not being met, but this was not documented appropriately so the subsequent nurse thought that the dose was unintentionally missed. The second error involved a patient going to infusion clinic to receive an iron sucrose infusion, but the medication order had not been placed leading to a 5-day delay in treatment. Education was provided to all staff involved.
  - There was no trend noted among the remaining errors.
- When reviewing the errors by drug class, there was no trend by drug class.
- Breaking down “Prescription Order Communication,” errors by MERP severity rating, there were:
  - 5 level C errors
  - 1 level B errors
  - 2 level D errors
  - Therefore, none of the errors resulted in harm. See “Percent Medication Error Rate” graph with harm index (Appendix B)

MAIN ACTIONS TAKEN:

Education was provided to staff involved in all cases. In regards to the technological error with the electronic prescribing, the CcLink/ Clinical informatics team continues to monitor for these types of errors with the “ePrescribe” system.

ANALYSIS: Looking back in 2019, there was no trend in errors, aside from the 3 involving missed doses (2 of which were ePrescriptions being sent to retail pharmacies). Going forward in 2020, pharmacy will continue to monitor prescription order communication errors for any trends and act accordingly.
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Element #3. PRODUCT LABELING, PACKAGING & NOMENCLATURE

TRENDS NOTED:

- “Product Labeling, Packaging, and Nomenclature” accounts for 26 medication errors in 2019. This calculates to a 0.002% error rate (# of errors/# of doses dispensed) vs. 0.004% in 2018, and 0.001% in 2017.
- Breaking down “Product Labeling, Packaging, and Nomenclature” by specific event type, the top event types were as follows:
  - TREND: 16 errors (62%) involved Multi-dose vial expiration labeling issues by nursing (28-day expiration date missing, wrong, etc.), a reduction from 19 errors in 2018. These were all “near miss” medication errors that did not reach any patients. These were all “near miss” errors that did not reach any patients.
  - TREND: 3 errors involved incorrect expiration date labeling by pharmacy, a reduction from 7 errors in 2018. These were all “near miss” errors that did not reach any patients.
  - There was no trend among the remaining errors.
- Breaking down “Product Labeling, Packaging and Nomenclature,” by drug class, the top drug class was insulin, which accounted for 12 of the 16 MDV labelling errors (75%). Additionally, insulin glargine accounted for 8 of the 16 MDV labelling errors (50%). The insulin MDVs were either incorrectly labeled or not labeled with beyond use dates after being opened. There was no trend in any other drug class.
- Breaking down “Product Labeling, Packaging, and Nomenclature” errors by MERP severity rating, there were:
  - 25 level B events
  - 1 level D event
  - Therefore none of the events resulted in harm. See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

The multi-dose vial (MDV) expiration labeling errors issue was brought up by pharmacy at the organizational safety huddle. Additionally, in 2018, charge nurses began to receive a list of Omnicell MDVs at their units and then cycle count the MDVs every shift to monitor compliance with MDVs operation. A 28-day calendar tool was also provided by pharmacy to nursing to assist nurses in determining the expiration date. In 2019, it was found that the charge nurses were not doing the cycle counts as intended. Pharmacy will reinforce cycle counts of the MDVs by nursing and will continue to monitor for these errors and report findings to the Medication Safety Committee.

ANALYSIS: Looking back in 2019, 62% of the “Product Labeling, Packaging and Nomenclature,” errors were due to multi-dose vial expiration date labeling by nurses which were addressed as specified above at an institutional level with pharmacy working closely with nursing leadership to resolve the issue. Education was provided in all cases. Going forward, the 28-day and 90-day calendar tools will be optimized to give staff visual examples. Medication errors will continue to be evaluated and trended in 2020.
Element #4. COMPOUNDING

TRENDS NOTED:

- “Compounding” accounts for 3 errors in 2019. This calculates to a 0.0002% error rate (# of errors/# of doses dispensed) vs. 0.0003% in 2018 and 0.00009% in 2017.
- TREND: All 3 errors involved nurses compounding medications required outside of pharmacy hours and using the wrong volume of fluid (2 cases involved 50 units of insulin being added to 100 ml NS instead of 50 ml and 1 case involved acetylcysteine being diluted in a 500 ml bag instead of a 250 ml bag).
- TREND: All 3 errors occurred in the ED.
- There were two level C errors and 1 level D error. None of the errors resulted in harm. See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

Pharmacy reached out to the ED nursing program manager to address the issue and education was provided to all staff. Pharmacy also asked ccLink IT to explore the possibility of nurses barcode scanning each component of a compounded mixture going forward. ccLink IT found that this functionality does not exist in ccLink but forwarded the request to EPIC headquarters as a future enhancement.

ANALYSIS: Education was provided to staff involved in all 3 errors that occurred, in addition to the annual IV admixture training for nursing staff and competency training for pharmacy technicians and pharmacists. Going forward in 2020, pharmacy will monitor for improvement in this area. Medication errors will continue to be evaluated and trended in 2020.

Element #5. DISPENSING

TRENDS NOTED:

- “Dispensing” accounts for 46 total medication errors in 2019. This calculates to a 0.004% error rate vs. 0.005% in 2018, and 0.004% in 2017.
- Breaking down the Dispensing errors by Specific Event Type, the top event types were as follows:
  - TREND: 13 errors involved wrong dose, strength, formulation or medication being dispensed (4 involved the wrong dose, 3 involved the wrong dosage form, 3 involved wrong medication/fluid and 3 involved wrong medication in Omnicell bin.)
    - TREND: 4 errors involved barcode scanning. In 3 of the cases, the pharmacist did not barcode scan despite the functionality being available. One case involved a discharge prescription being filled in the willow ambulatory environment with the wrong medication. This environment does not have the barcode scanning functionality.
    - TREND: 3 errors involved wrong medication found in Omnicell bin.
    - TREND: 2 errors involved prescribing errors that were not caught by the pharmacist and were verified inappropriately.
  - TREND: 8 errors involved duplications in therapy being verified.
  - TREND: 4 errors involved issues with expiration dates
  - TREND: 3 errors involved delays in therapy
  - There was no trend in the remaining errors.
- Breaking down the dispensing errors by drug class, the following was noted:
  - 10 errors involved anti-infective medications (TREND: 2 involved wrong time of medication, 2 involved wrong dosage form, 2 involved duplications in therapy and 2 involved delays in therapy.)
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- 6 errors involved psychiatric medications (There was no trend among these errors)
- Breaking down “Dispensing” errors by MERP severity rating, there were:
  - 22 level B events
  - 19 level C events
  - 4 level D events
  - 1 level E event (see “Medication Errors by Severity Level,” section for more detail)
- See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

- In an effort to minimize therapeutic duplication of PRN medication orders at CCRMC, several order sets have been optimized and order panels have been created with clear instructions for nurses to make selections between drugs prescribed for the same indication. Additionally, the pharmacy department monitors for therapeutic duplication 1) upon verification of orders and 2) via a retrospective review of the dashboard report “Rx Multiple Order with same PRN Reason.” Any interventions made by pharmacy are documented via “I-vents” under the category “duplicate therapy.”
- In January 2018, pharmacy began utilizing medication barcode scanning when filling cart-fill and first dose PO medications (Note: IV medications have been barcode scanned since the inception of EPIC at CCRMC). This contributed to the reduction in wrong medication being dispensed from 14 errors in 2017 to 3 errors in 2018 and 4 errors in 2019 (71% improvement). 3 of the 4 errors involved noncompliance with barcode scanning and 1 error involved the willow ambulatory environment lacking barcode scanning functionality. Pharmacy staff was educated to ensure barcode scanning when available. ccLink was contacted to turn on barcode scanning in the Willow Ambulatory environment going forward.
- Pharmacy staff was educated in all cases.

ANALYSIS:

Looking back in 2019, the majority of dispensing errors were due to wrong dose, strength, formulation or medication being dispensed, with the majority due to barcode scanning issues. There were 3 cases where barcode scanning was not completed despite availability and 4 cases in which the functionality was not available (1 in the willow ambulatory environment and 3 due to technological limitations of Omnicell only allowing barcode scanning of the first dose loaded instead of all doses). Going forward in 2020, pharmacy staff was reminded to be vigilant and ensure barcode scanning along with a visual check for accuracy and appropriateness. Additionally, going forward in 2020, barcode scanning will be implemented in the Willow Ambulatory environment.

Element #6. DISTRIBUTION

TRENDS NOTED:

- “Distribution” accounts for 490 total medication errors in 2019. This calculates to a 0.039% error rate (# of errors/# of doses dispensed), vs. 0.056% in 2018, and 0.053% in 2017. In 2019, 83% of the distribution errors were categorized as level A or B events, that did not reach any patient.
- Breaking down “Distribution” errors by Specific Event Type, the top event types were as follows:
  - 386 (79%) distribution errors were due to controlled substance discrepancy errors that were entered by pharmacy department as part of the controlled substance surveillance program at CCRMC. See “Medication Errors by Drug Class- Controlled Substance,” section for more information.
  - 21 errors were due to issues surrounding Omnicell. TREND: Specifically, 16 errors included wrong medication found in Omnicell bin. This is consistent with 16 errors reported in 2018.
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- 19 errors involved multidose vials expiration labeling by nursing of certain medications in Omnicell (TREND). See “See “Product labeling, packaging and nomenclature” section for more details.”
- Other errors were due to miscellaneous causes in which no trend could be noted.

- Breaking down “Distribution” errors by drug class, the following was noted:
  - 395 errors were due to controlled substances (386 were controlled substance discrepancies)

- Breaking down “Distribution” errors by severity rating, there were:
  - 407 level B errors
  - 79 level C errors
  - 2 level A errors
  - 2 level B errors

Therefore, none of the events resulted in harm. See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

- See “Medication Errors by Drug Class- Controlled Substance,” section for in-depth review of controlled substance monitoring and corrective actions.

- Pharmacy staff was educated to ensure accurate filling of Omnicell medications. There is barcode scanning that is utilized in Omnicell, but due to technological limitations, only one tablet of each medication fill is required to be scanned, instead of all of them. CCRMC pharmacy leadership has repeatedly reported this to Omnicell as an issue that needs addressing. In 2019, it was noted that the wrong medications being filled in Omnicell had to do with medications being returned to stock to the wrong medication bin in the pharmacy department and then being pulled to be filled in Omnicell. In an effort to reduce this type of error, the pharmacy department is looking into barcode scanning upon return to stock in pharmacy.

- In regards to the errors involving multidose vial expiration labeling by nursing, see “Product labeling, packaging and nomenclature” section for more details.

ANALYSIS: Looking back in 2019, the majority of distribution errors surrounded controlled substance monitoring. The total number of controlled substance discrepancies decreased from 486 errors in 2018 to 386 errors in 2019 (a 21% reduction). Pharmacy will continue to monitor for controlled substance discrepancies going forward in 2020. Distribution errors also involved wrong medications being found in Omnicell bins. The root cause of these errors was RTS (return to stock) medications being returned by pharmacy staff to the incorrect medication bins in pharmacy, which ultimately led to pharmacy staff pulling and loading the incorrect medications during Omnicell restocks. Going forward in 2020, pharmacy will explore barcode scanning upon return to stock in pharmacy.

Element #7. ADMINISTRATION OF MEDICATION

TRENDS NOTED:

- “Administration” accounts for 299 medication errors in 2019. This calculates to a 0.023% error rate (# of errors/# of doses dispensed), which is decreased from 0.32% in 2018 and 0.031% in 2017.
- Breaking down “Administration,” errors by Specific Event Type, the top event types were as follows:
  - 72 errors were due to overrides (See Appendix C for graphs). When looking at the overrides over the total number of doses dispensed from Omnicell in the year, this calculates to a 0.006% override rate in 2019, a reduction from 0.009% in 2018 and 0.011% in 2017.
Looking at override errors by unit, the following 5 units had the most overrides.

a. 3B (ED)- 19 overrides (vs. 27 in 2018 and 26 in 2017)
b. 2B (OR)- 10 overrides (vs. 22 in 2018 and 44 in 2017)
c. 5A (L&D)- 7 overrides (vs. 7 in 2018 and 12 overrides in 2017)
d. 3D (CCU)- 6 overrides (vs. 12 in 2018 and 13 in 2017)
e. 5C (Post-Partum)- 5 overrides (vs. 0 in 2018 and 1 in 2017)

The medication class that peaked was anesthetic agents (13 overrides, an improvement from 23 in 2018 and 34 in 2017)

a. Of the anesthetic agents, 4 overrides occurred in 2B OR. This is a reduction from 9 in 2018 and 22 in 2017. 2 of the 4 overrides occurred due to the medication ordered not being on the surgeon's preference card. Pharmacy reached out to the NPM to add these medications to the surgeon's preference cards.

b. 4 of the overrides occurred in ED vs. 9 in 2018 (56% reduction). 3 overrides involved lidocaine and 1 involved benzocaine mouth spray.

51 errors involved “missed doses.” When looking at the number of missed doses over the total doses dispensed, this calculates to a 0.004% error rate vs. 47 errors in 2018 (0.004%) and 34 errors in 2017 (0.003%).

a. Of the 51 missed doses, the top error trends were as follows:
   a. Nurse forgot/distracted/busy: 20 errors (TREND: 10 of the 20 errors involved medications being scanned as administered but left at the bedside)
   b. Incorrect tubing connections/ line clamped: 14 errors (TREND: all cases involved antimicrobials and 8/14 [57%) occurred during times of shift change), this is the same as 2018 and an increase from 7 errors in 2017.

b. Breaking down the “missed dose,” errors by location showed that the most errors occurred on 5D (12), followed by 4B(11), 3B (6) and 3D (6). In 2018, the units that peaked were 4B (15 errors), 5D (9 errors) and 3D (7 errors).

36 errors were due to controlled substance discrepancies (i.e. controlled substance being administered but not documented on the MAR, creating a discrepancy).

17 errors were due to transdermal patch errors (i.e. documenting wrong location of patch on MAR, patch not being removed before 2nd patch applied, etc.)

Breaking down administration errors by drug class, the following was noted:

61 controlled substances vs. 80 in 2018 (TREND: the top error types were 36 controlled substance discrepancies, 7 override errors and 4 medication not given as ordered).

52 anti-infectives vs. 56 in 2018 (TREND: the top error types were 25 missed dose errors (15 due to line being clamped), 7 overrides, 6 vancomycin trough errors)

19 analgesic errors (TREND: 6 overrides, 4 medication was not given as ordered, 3 wrong time of medication administration)

Breaking down administration errors by severity level:

202 were level C
66 were level B
24 were level D
5 were level E (see “Medication Errors by Severity Level,” section for more detail)
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- 2 were level A
- See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

- See “Medication Errors by Drug Class- Controlled Substance,” section for in-depth review of controlled substance monitoring and corrective actions taken.
- All administration override issues: NPMs investigated 100% of SERS for overrides, and all were appropriate per NPM, and were either resolved, or orders were back charted. Data from the Annual Override Report is shared with Nursing Leadership.
- In regards to the nurses forgetting to unclamp the secondary line, see above “Antimicrobials,” section for more details on actions taken.

ANALYSIS:

Looking back in 2019, the top errors that peaked were override errors, missed dose errors and controlled substance discrepancies, which is consistent with the previous year. The percent rate of overrides continued to decrease in 2019 as compared to 2018 and 2017. In 2019, the majority of overrides took place in ED, which is consistent with 2018 and 2017. Going forward in 2020, pharmacy will continue to monitor overrides for any trends. In regards to missed doses due to the medication line being clamped, pharmacy will escalate the issue to hospital leadership. Going forward in 2020, an alert will be added to Alaris pump to remind nurses to unclamp the IV line. In 2019, the pharmacy department’s Performance Improvement Project focused on minimizing missed doses due to medication transfer non-compliance from 3B ED to subsequent units. Several actions were taken including nursing education, warnings in ccLink to remind nurses to retrieve the patient’s medications upon transfer and pharmacy technicians double checking that the patient is still in the ED when delivering medications. Going forward in 2020, a Dispense Track system will be implemented to track where a medication has been delivered to in the hospital. Pharmacy will continue to be vigilant in monitoring for controlled substance discrepancies (specific actions taken and to be continued are specified in the “Medication Errors by Drug Class- Controlled Substance,” section).

Element #8. MONITORING

TRENDS NOTED:

- Monitoring accounts for 23 total medication errors in 2019. This calculates to a 0.001% error rate (# of errors/# of doses dispensed) vs. 0.004% in 2018 and 0.002% in 2017.
- Breaking down “monitoring,” errors by Specific Event Type, the most common event types were as follows:
  - 10 errors involved heparin infusion vs 13 errors in 2018. See the “High Alert,” section for more details).
  - 9 errors involved vancomycin trough monitoring errors vs 15 errors in 2018 (see the “Antimicrobial,” section for more details).
  - 1 error involved insulin infusion vs. 7 errors in 2018. The following trends could be noted:
- Breaking down monitoring errors by class, the following was noted:
  - 10 due to anticoagulants (TREND: all 10 (100%) cases involved heparin infusion- see above)
  - 9 due to anti-infectives (TREND: 100% of cases involved vancomycin trough monitoring- see above)
  - 3 involved diabetic patients (NOTE- only one patient received an antidiabetic agent (insulin infusion), the other two patients did not receive any antidiabetic agent prior to error occurring. The second two errors involved the dextrose fluid not being either ordered or started.
- Breaking down Monitoring errors by harm level, there were:
  - 14 level C
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- 7 level D
- 1 level B
- 1 level E (see “Medication Errors by Severity Level,” section for more detail)
- See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

- For heparin infusion errors, see the “High Alert Medication Errors,” section for actions taken. Additionally pharmacy reviews all heparin infusions on a daily basis and communicates with the nurse involved when an action is needed.
- For vancomycin trough errors, see the “Antimicrobials,” section for details of actions taken.

ANALYSIS: In 2019, the majority of monitoring errors were due to issues surrounding heparin infusion followed by issues surrounding vancomycin trough monitoring. Additionally, the number of insulin infusion errors decreased from 7 in 2018 to 1 error in 2019 (86% reduction) due to the optimization of the insulin infusion order sets, nursing education and pharmacy oversight. Pharmacy will continue to educate new nurses on the appropriate processes surrounding vancomycin trough monitoring during the monthly nursing orientation for new nurses. A multi-disciplinary task force began meeting to address the issues surrounding heparin infusion at the end of 2017. Several actions were taken throughout the year (see the “High Alert Medication Errors,” section for details on actions taken and plans for 2020).

Element #9. Education

TRENDS NOTED:

- “Education accounts for 87 errors in 2019. 55 medication errors in 2018. This calculates to a 0.007% error rate (# of errors/ # of doses dispensed), vs. 0.005% in 2018 and 0.00009% in 2017. In 2017, while several errors did involve education, they were classified under other elements that also applied to these errors. In 2018, pharmacy increased classifying errors under “Education,” along with the other elements that applied to those errors. This was continued in 2019.
- The top error types that peaked were:
  - 8 errors involved failure to monitor (TREND: 5 of the 7 errors involved vancomycin trough monitoring errors - in 3 cases the vancomycin trough order was not released by nursing to be drawn, in 2 cases the trough order was released and drawn after the vancomycin had been hung)
  - 5 errors involved missed doses (TREND: 2 errors involved antibiotics not being administered due to the line being clamped)
  - 5 errors involved medication not given as ordered (no trend noted)
  - 5 errors involved delays in medication administration (no trend noted)
- The top drug classes that peaked were:
  - 18 errors involved anti-infectives (TREND: 5 involved vancomycin trough monitoring)
  - 9 errors involved anti-diabetics
    - TREND: 3 errors involved diabetic patients that were NPO who did not have a dextrose fluid running - 2 of the patients had the fluid ordered but not started and 1 patient did not have any dextrose fluid ordered.
    - TREND: 3 errors involved SubQ insulin (1 case involved inappropriate prescribing, 1 case involved nurse not monitoring and administering insulin as ordered and 1 case involved a nurse administering a dose of insulin glargine despite patient with hypoglycemia.)
    - TREND: 2 errors involved multi-dose vial labelling errors by nursing
  - 9 errors involved narcotics (There was no trend among these errors)
APPENDIX I- SUPPORTING DOCUMENTS

- Education was provided to involved staff in all cases.
- Breaking down Monitoring errors by harm level, there were:
  - 43 level C
  - 32 level B
  - 8 level D
  - 2 level E (see “Medication Errors by Severity Level,” section for more detail)
  - 2 level A

  See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN: Education was provided to involved staff or patient (when applicable) to ensure safe medication use. See the “Antimicrobials” section for specific actions taken in regards to the antimicrobial errors. See the “High Alert Medication Errors” section for specific actions taken in regards to the insulin errors. In regards to the errors involving narcotics, education was provided to all staff involved and technological fixes were implemented when possible.

ANALYSIS:

In 2019, there were trends noted in errors involving vancomycin trough monitoring, missed doses due to the IV line remaining clamped and insulin management. See the “antimicrobials,” and “High Alert Medication Errors,” sections for more details on actions taken and plans going forward in 2020. The pharmacy department and insulin multi-disciplinary task force will work with the professional development department going forward in 2020 to minimize these error types.

Element #10. USE

TRENDS NOTED:

- “Use” accounts for 460 total medication errors in 2019. This calculates to a 0.036% error rate (# of errors/# of doses dispensed), a reduction from 0.053% in 2018 and 0.049% in 2017. This is the #2 most common MERP element classification for errors in 2019, which is due mostly to controlled substance discrepancy monitoring by pharmacy department. See “Medication Errors by Drug Class- Controlled Substance,” section for in-depth review of controlled substance monitoring and corrective actions taken/corrective actions.
- Breaking down the “Use,” errors by Specific Event Type, the top errors were as follows:
  - 386 (84%) of errors were due to controlled substance discrepancy monitoring errors that were entered by pharmacy department as part of the controlled substance surveillance initiatives. This is a reduction from 486 errors reported in 2018 (a 21% reduction). See “Medication Errors by Drug Class- Controlled Substance,” section for in-depth review of controlled substance monitoring and corrective actions taken/corrective actions.
  - 7 errors involved labeling issues (TREND: all 7 errors involved multi-dose vial expiration labelling by nursing staff- see the “Product labeling, packaging and nomenclature,” section for more detail.)
  - 6 errors involved delays in therapy (TREND: 3 of the 6 errors involved delays due to medications not being transferred with the patient [1 patient originated from ED, 1 from 5A and one from 5D], and 2 errors involved missing medication being found in the refrigerator on the nursing unit when nursing could not find the dose and called pharmacy for the medication).
- Breaking down the “Use, errors by drug class, the following was noted:
  - 411 errors involved controlled substances (399 controlled substance discrepancies)
7 errors involved anti-diabetic agents (TREND: 5 errors involved multi-dose vial expiration labelling by nursing staff)
7 errors involved anti-infectives (no trend noted)

Breaking down “Use” errors by severity rating, there were:
- 366 level B errors
- 88 level C errors
- 5 level A errors
- 1 level D errors

Therefore, none of the events resulted in harm. See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:
- See “Medication Errors by Drug Class,” section for in-depth review and actions taken in regards to controlled substance discrepancy errors and for errors involving anti-infectives.
- See the “Product labeling, packaging and nomenclature,” section for actions taken in regards multi-dose vial expiration labeling errors by nursing.

**ANALYSIS:** Looking back in 2019, the majority of “use” errors surrounded controlled substance monitoring, which are trended via unit specific controlled substance discrepancy reports. However, the number of discrepancies decreased by 21% compared to 2018 as a result of the ongoing efforts to reduce discrepancies. Going forward in 2020, pharmacy will continue to be vigilant in monitoring for controlled substance discrepancies and continue to report all discrepancies in SERS.

**Element #11. TECHNOLOGY**

**TRENDS NOTED:**
- “Technology” accounts for 31 total medication errors in 2019. This calculates to a 0.002% error rate (# of errors/# of doses dispensed) vs. 0.003% in 2018 and 0.002% in 2017.
- Breaking down the “technology,” errors by “Specific Event Type,” the main error types were:
  - 10 errors involved barcode scanning of medication errors in ccLink (TREND: 7 of the 10 incidents reported involved 1 error in which a midazolam barcode was not scanning, and this was reported under each patient that was seen that day in GI procedures. Pharmacy worked with ccLink and resolved the barcoding issue.).
  - 5 errors involved Omnicell (TREND: 5 errors involved extra medication being dispensed from Omnicell due to dispenser coil issues- the coils for each error reported were replaced).
  - 5 errors involved IV pump issues (TREND: 3 errors involved Alaris pump and 2 involved ambulatory CADD pump malfunctions)
- Breaking down “technology,” errors by drug class, the following was noted:
  - 17 errors involved controlled substances (TREND: 7 of the 10 errors involved the one incident of the midazolam barcode not scanning, 4 errors involved an extra dose being dispensed in Omnicell due to coil issues- the medications were secured and accounted for in all cases)
- 2 errors involved chemotherapy (TREND: Both cases involved CADD pump malfunctions).
- Breaking down “Technology” errors by severity rating, there were:
  - 16 level B errors
  - 11 level C errors
  - 1 level A error
  - 1 level D error
APPENDIX I- SUPPORTING DOCUMENTS

Therefore, none of the events resulted in harm. See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

- In regards to the barcode scanning errors, pharmacy worked with ccLink to resolve the issues and ensure that the barcodes scan appropriately.
- In regards to the dispenser coil issues in Omnicell causing extra medications to be dispensed, each dispenser coil involved in an error was replaced.
- In regards to the IV pump issues, the Alaris pumps were sent to Biomed for further investigation. Pharmacy investigated the options for upgrading the CADD pumps in Infusion Clinic and in 2020 the CADD pumps will be replaced.

ANALYSIS: Looking back in 2019, the most common error involved barcode scanning. Pharmacy continues to work with ccLink IT to ensure that barcodes scan appropriately. Going forward in 2020, data will continue to be trended and processes will be optimized as needed. Additionally, in 2020, the CADD pumps in infusion clinic will be replaced.

Element #12. TRANSITIONS IN CARE

TRENDS NOTED:

- “Transitions in Care accounts” for 10 total medication errors in 2019. This calculates to a 0.0008% error rate (# of errors/# of doses dispensed) which is reduced from 0.002% in 2018 and 0.001% in 2017. In 2018, the increase can be attributed to new errors reported surrounding patient own medications (see below for details).
- Breaking down the “Transitions in Care,” errors by “Specific Event Type,” the main error type was:
  - 9 errors involved medications not being transferred with the patient (TREND: 4 of the 9 errors involved medications not being transferred from 3B ED to the unit that the patient was being transferred to).
- There was no trend in the drug class that was involved in “Transitions in Care” errors.
- Breaking down “Transitions in Care” errors by severity rating, there were:
  - 7 level C errors
  - 3 level B errors

Therefore, none of the events resulted in harm. See “Percent Medication Error Rate” graph with harm index (Appendix B).

MAIN ACTIONS TAKEN:

- Staff was educated in all cases listed above.
- With the aim of minimizing medication transfer non-compliance from 3B unit, the following actions were taken place in 2019: 1) a warning was added to ccLink to reminds nurses to check the refrigerator and medications bins prior to transporting patient(s) to subsequent units (nursing education provided through Professional Developmental Department). 2) Pharmacy technicians began checking with the 3B Charge Nurse to see if patient was still on the unit before delivering incoming medications.
- In 2020, Dispense Track system will be implemented to provide medication’s location with pharmacy and nursing department.

ANALYSIS: Looking back in 2019, the errors that peaked involved medications not being transported with the patient upon transfer from one unit to the next (9 out of 10 errors [90%]). 4 out of the 9 errors (45%) involving missed medication transfers occurred upon transfer from 3B ED to the subsequent nursing unit. In 2019, the pharmacy department’s Performance Improvement Project focused on minimizing medication transfer non-compliance from 3B ED to subsequent units. Several actions were taken including nursing education, warnings in ccLink to remind nurses to retrieve the patient’s medications upon transfer and pharmacy technicians double
Overall Summary:

- There was a 21% decline in SERS reported in 2019 vs. 2018, which can be attributed to the reduction in controlled substance discrepancies in 2019 vs. 2018. This is as a result of the ongoing efforts by Pharmacy, Nursing and Anesthesiology to minimize controlled substance discrepancies (technological enhancements, education, etc.) along with oversight from the Opioid Stewardship Program Committee.
- In 2019, 99% of error did not contribute to any patient harm (Level E errors or higher).
- Controlled substances contributed to the highest number of errors. Following controlled substances were anti-infectives. The top error types were missed doses due to IV line remaining clamped and vancomycin trough monitoring errors.
- All MERP elements had medians that remained stable or decreased in 2019, with the exception of prescribing errors. The prescribing error median increased from 3 errors per month to 7 per month in May 2019 due to pharmacy’s increased vigilance for and reporting of errors involving patients with multiple PRN medications with the same indication. Several actions were taken to minimize these errors.
- Pharmacy department promotes awareness and transparency in the organization and uses SERS as an approach to identify areas for improvement so that strategies could be implemented to correct these issues. Pharmacy department generates the most SERS of the organization in order to support this methodology for improvement.

Conclusion: The MERP program has been effective in detecting medication errors and in developing corrective actions taken for the past year. The annual SERS review was completed in February 2020.
COVID19 PREPAREDNESS
COVID-19 Preparedness
CCRM, Health Centers, and Detention Health Update
April 2020
Safety is our First Priority

Making our clinic and hospital spaces as safe as possible to ensure the health of our patients and workforce is our top priority.
Staff Safety

- High risk temp monitoring
- Universal mask use
- Social distancing
- Virtual workforce
COVID Testing at CCRMC, HCs, and Detention

- Testing media availability
- Quest lab and Public Health lab results turnaround time

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<th>*Data as of 3/31/20</th>
<th>Total</th>
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<tbody>
<tr>
<td><strong>Total Tested</strong></td>
<td>992</td>
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<tr>
<td>Confirmed Positive</td>
<td>26</td>
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<tr>
<td>PUI/Pending results</td>
<td>175</td>
</tr>
<tr>
<td>Negative</td>
<td>791</td>
</tr>
</tbody>
</table>

* 1 positive patient currently at CCMRC in ICU since 3/9/20, 1 transferred to UCSF, all others self isolating at home and monitored by Public Health
Infection Control in Ambulatory and Hospital

• Masks for any patient with a cough, including those with chronic cough or those who made it through the robust screening process.
• PPE for all staff who have direct patient care. They will now be offered a mask and be recommended to wear gloves. New data suggests that gloves + mask for all patient encounters is effective against infection in ambulatory staff.
• Hand Hygiene – Hands are washed or sanitized before and after every encounter.
• Workplace Cleaning – Wiping down frequent touch surfaces after every patient visit (doorknobs, chairs, exam tables). Environmental services now cleaning all ambulatory settings three times a day with products effective against the virus.
• TeleHealth – Details in 2 minutes...
• Social Distancing – Staff are utilizing all parts of the clinic in order to maintain social distancing. For example: unused exam room, mobile work stations.
Detention Health, Custody, and Inmate patients have been instructed on infection control practices, including hand hygiene and social distancing.

Detention Health, Custody staff are being provided with appropriate personal protective equipment.

Custody is ensuring sufficient supply of hygiene products and masks for inmate patients.

There are 4 negative pressure rooms in adult facilities and 2 negative pressure rooms in juvenile facilities to house patients needing isolation.
Social Distancing

- We have widely distributed guidelines for social distancing in all settings.
- All meetings are supported by either Zoom or Microsoft Teams and no meetings occur without limiting participants to <10 and with social distancing parameters.
Staff Wellness

**Behavioral Health Support**
- Daytime in-person and telephone support
- Medical Staff Assistance Committee – physician support and referral to treatment
- 24/7 Employee Assistance Program and SAMHSA Disaster Distress Helpline

**COVID Wellness Team**
- Weekly wellness tip newsletters
- Free self-care resources
  - Headspace App
  - Art of health and healing sessions
  - Mindful movement
  - See Wellness Tips Newsletter
Safety – Four Levels of Screening

Level 1: When the Appointment is Scheduled by the Appointment Unit or MyChart. A Positive Screen is directed to Advice Nurse and Telephone provider.

Level 2: Called by Clinic Nurse 1-2 days prior to Appt.

Level 3: Greeter at the Front Door of the Clinic

Level 4: At Registration

*Patients are asked if they have fever, cough or difficulty breathing. At any point, patients are directed to the tents if they screen positive. See attachment A for Testing Guidelines.
Safety Measures - Tents

• **Quick Action:** Immediately opened 3 tent clinics at our largest health care centers at the beginning of the crisis: MHC, WCHC and PHC.

• Tents are staffed Monday thru Friday 8am –5pm with providers, registration and nursing. The ER tent has weekend and evening hours.

• Every person who presents to any clinical setting is screened at the door for symptoms. They are redirected to be evaluated at the tents if the screen is positive.

• Tent workflows ensure appropriate PPE for all staff while maintaining a smooth and efficient workflow for the patient that maintains social distancing.

• After evaluation patients are either swabbed and advised to self-isolate for 14 days or cleared to attend their clinic visit. Some patients have other viral syndromes (like a cold) or illnesses and often have their concerns met by the tent clinic providers.
Martinez Health Center
Tent Clinic
Ambulatory Tent Workflow

Total Clinic Tent Visits

694

Total Swabbed

410

(March 12 – 27, 2020)
Drive up Testing in the Tent Clinics

- “Drive-up” testing initiated at 3 tent sites MHC, WCHC and PHC.
- Patients are prescreened with a provider on the phone before presenting.
- Enables a smooth and safe testing process for both staff and patients.

West County Drive-thru

Martinez Drive-thru
TeleHealth

• In light of the need to shelter in place and practice social distancing, we have developed an entire telehealth platform in a matter of two weeks.

• Most providers are able to do about half of their clinical encounters now in a virtual fashion: either by telephone or by video.

• We are in the process of fully developing this system and we are confident this will lead to more substantive changes which are more in line with how the future of medicine will look.

• We are very proud of all our providers and staff for being so flexible and nimble in this time of rapid change.
Telephone Support

- We have up staffed the telephone support backup system for the advice nurses to meet the increased volume of calls from patients.
- Providers are on-call 24/7 as back up to advice nurses and we have an additional provider on call 7 days a week from 8am-5pm to answer any calls related to COVID19 from patients. These providers also do the screening and send appropriate patients to the tents or drive-up for testing. They have responded to 404 patients (3/12-3/28/2020).
- We have implemented an on-call system for *provider to provider* questions related to the pandemic that is staffed M-F 8-5 pm.
• In planning for increased acuity levels we plan to:
  • Temporarily close small sites like Bay Point and Willow Pass and reduced weekend and evening clinics. We can consolidate our ambulatory structure even further when we get into the "red" zone
  • Deploy trained ambulatory providers who can work in the hospital/ER
  • Transform ambulatory sites like MWC or PHC into higher acuity areas
  • Postpone elective and non-urgent surgeries, procedures and imaging to ensure available staff and space for acute patients
  • Coordinate fully and in concert with inpatient and ancillary off-site surge planning.
Hospital Safety and Security

All visitors are restricted at the hospital.
Patients presenting for care are screened at the 1st and 3rd floor entrances.
ED Tent screening and surge capacity
**Hospital Surge Plan**

- Color coded plan based on current situation
- Utilizes current hospital resources (facility, supplies, staff)
- Prepared 4D as an additional space

<table>
<thead>
<tr>
<th>Patient Acuity</th>
<th>PACU</th>
<th>ICU</th>
<th>IMCU</th>
<th>4A</th>
<th>4B</th>
<th>4D</th>
<th>5C</th>
<th>5D</th>
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<td>2*</td>
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<td>COVID IMCU</td>
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<tr>
<td>COVID CCU</td>
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<td>NON-COVID Med/Surg</td>
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<tr>
<td>NON-COVID CCU</td>
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<td><strong>Total COVID Beds</strong></td>
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<tr>
<td><strong>Total NON-COVID beds</strong></td>
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<td><strong>86</strong></td>
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</table>

48 split in half, 4B 2-12 = COVID, 4B 14-34 = NON-COVID
Safety Measures in Detention Facilities

• Prior to booking, inmates are screened and tested as indicated
• All new bookings are housed separately for 14 days and monitored by health care staff
• Every housed inmate patient is being monitored for symptoms daily. Those who are symptomatic are offered testing and isolated
• Housing medically vulnerable patients together to limit movement on and off modules
Next steps

• Rescheduling patients for chronic care services, Diagnostic Imaging, and other care needs we limited due to the shelter in place order

Challenges

• Personnel challenges prior to COVID19
• Civil Service hiring during emergency
Guidance for Testing in Ambulatory/Triage Setting
Updated: March 31, 2020

If a patient has Fever (including subjective fever OR chills) OR new signs/symptoms of Lower Respiratory Illness (Defined as new cough, shortness of breath, hypoxemia) then please proceed with testing. If patients do not meet these clinical criteria, do not test.

If the patient has any of the below additional risk factors, then order the Public Health Rapid Lab:

- Homeless
- Receiving Dialysis or Chemotherapy
- Healthcare Personnel
- First Responders and Law Enforcement
- Lives or Works in a Congregate Living Environment (Board and Care, SNF, dormitory, senior living, shelter, group home, residential treatment, jails)
- Pregnancy after 36 weeks gestation OR after 32 week gestation and high risk pregnancy

Which Test to Order?

High-risk patient needing testing at Contra Costa Public Health Lab

To order a public health rapid covid test call the on-call hospitalist clinic consult (see amion). Order “COVID-19 Nasopharyngeal PH Lab – Rapid Testing” Nasopharyngeal Swab, Write “NP” on specimen label.

All other patients

Order Quest Test = “COVID-19 Quest Non-Emergent” on EPIC. Nasopharyngeal only (1 swab), write “NP” on specimen label.
COVID WELLNESS TIPS

WE ARE ALL IN THIS TOGETHER

VOL. 1, ISSUE 3

KEEPING OURSELVES HEALTHY AT HOME

• Staying fit and healthy during Shelter-In-Place requires everyone to be creative on how we are going to keep ourselves and our families engaged, resilient, and mentally and emotionally healthy at home to keep our community stronger.

Mr. Scott Kelly, a retired NASA astronaut shared his experience on how he spent his days while at the International Space Station: https://www.nytimes.com/2020/03/21/opinion/scott-kelly-coronavirus-isolation.html?utm_source=pocket-newtab. Very interesting read.

STAFF SHARING: HOW WE STAY HOME, STAY HEALTHY

• I throw air hugs and my family learned foot-foot shake to greet people. (Mary Bautista-Reyes)

• I am doing my best to get regular exercise, e.g. running or free online Scientific 7-Minute Workout Videos, My 2-year old and 5-year old love it too! (Yoshi Laing)

• I play games (e.g. musical chairs, freeze dance, hot potato) with my kids. (Sonia Sutherland)

• I’m distancing myself from others and getting needed housework done. One friend has established a telephone tree to check on and catch up with one another. (Gene Ramos)

WHAT IS THE COVID WELLNESS TEAM ALL ABOUT?
The COVID Wellness Team is dedicated to the wellness and wellbeing of our CCSHS community. We share timely resources through inspirational tips, weblinks, screen savers, broadcasts, and phone support resources to promote and enhance your wellness and well-being during this challenging journey. Team Members: Patricia Hennigan, Brian M. Johnson, Helena Martey, Kristin Moeller, Samir Shah, Sonia Sutherland, and Arlene Trimble.

We care about you. Thank you for all the wonderful things you do here at Contra Costa Health Services.

BRIGHT SPOTS (FREE SELF-CARE RESOURCES TO HELP US RE-CENTER AND STAY HEALTHY)


• Daily 10-Minute Gratitude (“I am so grateful now that…”) Journaling: courtesy of Opal Taylor


We welcome your Bright Spots and heartwarming ideas, including funny, and positive videos or stories that you see here at Contra Costa. Please send them to CovidWellness@cchealth.org.

*COVID Wellness Team Members
Patricia Hennigan, Brian M. Johnson, Helena Martey, Kristin Moeller, Samir Shah, Sonia Sutherland, Arlene Trimble

JCC April 6, 2020 COVID-19 Hospital & Ambulatory Update

ATTACHMENT B
SAFETY AND QUALITY UPDATES
Committee Name: Joint Conference Committee  
Meeting Date: April 6, 2020

Issue Name: Patient Safety & Performance Improvement Committee (PSPIC)  
Presenter(s): Dr. Sonia Sutherland, Chair

Situation: Regular Report  
Background: Patient Safety & Performance Improvement Committee meets monthly.

Quality and Safety Updates

Patient Safety and Performance Improvement Committee  
Meeting Highlights February ‘20 – March ‘20 (Table Attached)

Priority Portfolio:
- Catheter Associated Urinary Tract Infection (CAUTI)
- Central Line Blood Stream Infections (CLABSI)
- Patient Safety SERS Report

Safety, Experience, and Performance Improvement
- Food Safety
- Clinical Dietary Services
- Utilization Review: Inpatient Extended Stay Patients
- Community Connect Tier 3 (T3) Public Health Program
- Rehab Services

Regulatory Reports:
- Medication Error Reduction Plan (MERP)
  - Annual MERP Review (5013-addendum); SERS SBAR 2019 Review with MERP graphs; and MERP Plan (Attached)
- Regulatory Committee Report

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<thead>
<tr>
<th>Who</th>
<th>What</th>
<th>When</th>
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<tr>
<td>Chair PSPIC</td>
<td>Report to the Committee</td>
<td>Regularly</td>
</tr>
<tr>
<td>JCC</td>
<td>Accept Report</td>
<td>Today</td>
</tr>
<tr>
<td>JCC</td>
<td>Accept and Approve MERP Report</td>
<td>Today</td>
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## PSPIC Reports - Feb ‘20 – Mar ‘20

### Executive Dashboard

<table>
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<tr>
<th>Report</th>
<th>Measure</th>
<th>Goal</th>
<th>Current Results</th>
<th>Status</th>
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<tbody>
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<td>Healthcare Associated Infections</td>
<td>Catheter Associated Infections (CAUTI)</td>
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<td>Healthcare Associated Infections</td>
<td>Central Line Blood Stream Infections (CLABSI)</td>
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<td>Zero</td>
<td>Goal Met</td>
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<td>Food Safety</td>
<td>Nourishment Room Audits</td>
<td>90%</td>
<td>97%</td>
<td>Goal Met</td>
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<td></td>
<td>(Temp logs, Equipment; &amp; Cleanliness)</td>
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<tr>
<td>Food Safety</td>
<td>Tray Audits</td>
<td>90%</td>
<td>95%</td>
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<td>(Tray accuracy, temperature, &amp; quality)</td>
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<td>Clinical Dietary Services</td>
<td>Nutrition Care Documentation by Registered Dietitians</td>
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<td>92%</td>
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<td>Utilization Review: Inpatient Extended Stay Patients</td>
<td>Total Med-Surg Non- Acute Days Monthly Median</td>
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<td>Rehab Services</td>
<td>Reduction in No Show Rates Ambulatory Rehab</td>
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<td>Report/Project</td>
<td>Highlights/Next Steps</td>
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<tr>
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<td>PRIORITY PORTFOLIO</td>
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| **Healthcare Associated Infections** (Hospital Acquired) | **Goal:** Promote safe patient care by minimizing/eliminating the risk of a Healthcare Associated Infection when receiving care at Contra Costa Regional Medical Center  
  - Catheter Associated Urinary Tract Infection (CAUTI)  
    o **Goal** – Zero  
    o **Goal Met** – ZERO YTD  
      ▪ Foley Buddy Implemented  
  - Central Line Blood Stream Infections (CLABSI)  
    o **Goal** – Zero  
    o **Goal Met & Sustained** – ZERO since January ‘18  
      ▪ 12% Reduction in Central Line Days 2019 (1558) compared to 2018 (1770) |
| **Patient Safety SERS Report**    | **Goal:** Increase awareness of and identify system-level trends in Safety Events for coordinated approach to improvement  
  - Weekly tracking and reporting of trends in Safety Huddle.  
  - Monthly tracking and reporting of trends in PSPIC  
  - July ’19 – January ‘20 SERS data review continues with majority of reports reflect near-misses. |
| Focused Safety Efforts            |                                                                                                                                                                                                                      |
| **Food Safety**                  | **Goal:** Improve the quality of patient meals by maintaining nourishment room compliance above 90% and increase patient tray audit compliance to 90% by January 2020  
  - **Goal Met** - Nourishment Room Audits 97% Compliance  
  - **Goal Met** - Tray Audits 95% Compliance |
| Clinical Dietary Services | **Goal:** 90% compliance with Nutrition Care documentation by the Registered Dietitians to ensure accurate and timely assessments/interventions and effective communication among the disciplines.  

- **Goal Met** – Nutrition Care Documentation - 92% Compliance |

| Utilization Review: Inpatient Extended Stay Patients | **Goal:** Decrease the number of non-acute patient days by 20% by January 2020 from baseline (1262 days) at CCRMC  

- **Approaching Goal** - Non-Acute Days 1092 Median Days  

**Next Steps:**  
- New Case Management Epic module (Utilization Review Software)  
- Collaboration with Public Health to create pathways for discharge  
- Continue to utilize contracted skilled nursing facility (SNF) beds |

| Community Connect Tier 3 (T3) - Public Health Program | **Goal:** Improve quality of life by clients by preventing non-acute admissions to the hospital through the emergency department while cultivating a sustainable culture of collaboration, trust and respect across health services divisions and departments  

**Actions:**  
- Standardized communication, actions with timely follow-up  
  - Difficult to Discharge Meeting  
  - Weekly SNF and Case Management Meeting  
- T3 Officer of the Day  
- T3 partnership with ED and Inpatient Social Workers to support safe discharges and prevent non-acute hospital admissions  
- IHSS Expedited Intake Assessments for Inpatients at risk for non-medical admission |

| Rehab Services | **Goal:** Improve patient access to Rehab Services  

- Reduction in No Show Rates  
  - **Goal** <13%  
  - **Approaching Goal** - Current Rate 15.7% |
### Note: Overall no show rate for all ambulatory clinics 20.9%

- Time to first appointment for Urgent Referrals
  - **Goal** 50% reduction from baseline of 6-8 weeks
  - **Goal Met**—Median of 2 weeks

Next Steps:
- Driver Diagram for Improving Access to Rehab Service
- Stratify No Show Rates by clinic and specialty
- Continue PRIME Participation—Use of alternate modalities for treatment of chronic pain and Meaningful Activities Program (MAP).

<table>
<thead>
<tr>
<th>REGULATORY</th>
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<tbody>
<tr>
<td><strong>Medication Error Reduction Plan (MERP)</strong></td>
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<td>Annual Medication Error Reduction Plan (MERP) needs acceptance and approval. Reviewed by Medical Staff (PCP&amp;E) and approved in March.</td>
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</table>

- **There were 879 medication related SERS reported in 2019, compared to 1,115 in 2018, 979 in 2017 and 780 in 2016.** There was a **21% decline in SERS reported in 2019 vs. 2018**, which in large part can be attributed to the reduction in controlled substance discrepancies in 2019 vs. 2018. The decrease is as a result of the ongoing efforts by Pharmacy, Nursing and Anesthesiology to minimize controlled substance discrepancies (technological enhancements, education, etc.) along with oversight from the Opioid Stewardship Program Committee. It is important to note that 100% of controlled substance discrepancies are investigated and resolved.

- **The median harm index (Level E and higher events) for four of the five high alert categories has been ZERO since Q1 of 2015** (Anticoagulants, Chemotherapeutics, Fentanyl patch, PCA). While insulin’s median harm index has been at 2 errors per month since Q1 2018 (due to increased vigilance and reporting by pharmacy), the percent rate of severe hypoglycemia (BG ≤ 50 mg/dl) has declined from 3.5% in 2017 to 1.2% since February 2019.

- **Insulin errors:** The number of insulin errors decreased from 40 errors in 2018 to 34 errors in 2019 (**15% reduction**). The top error type involved multidose vial (MDV) labeling errors
by nursing staff in 2019, which accounted for 13/34 (38%) of errors. Following MDV labelling errors, the error type that peaked involved insulin management at times of nutritional status changes (ex: NPO for procedure, TPN → regular diet, patient eating < 50% of meal after mealtime insulin administered, etc.) Improved due to ccLink optimization and physician oversight/review of any hypoglycemic patients.

<table>
<thead>
<tr>
<th>Regulatory Committee</th>
<th>Goal: Guide management and reporting of regulatory affairs for CCRMC &amp; Health Centers</th>
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<tbody>
<tr>
<td></td>
<td><strong>Activity:</strong></td>
</tr>
<tr>
<td></td>
<td>• Ligature Risk Extension Request Monthly until complete – TJC</td>
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<td>• Eco sure/National Safety Federation Inspection – 2/6/20</td>
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<td></td>
<td>• Faculty Site Review West County Health Center – 2/11/20 – DHCS</td>
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<td><strong>Outstanding Self-Reported Incidents:</strong></td>
</tr>
<tr>
<td></td>
<td>• 3 Hospital Acquired Pressure Ulcer (HAPI)</td>
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<tr>
<td></td>
<td>• 1 Retained Foreign Object (RFO)</td>
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