

Project Title: Reducing preventable emergency room or hospital admissions for oncology patients within 30-days of receiving outpatient chemotherapy

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Institution: UCDH Comprehensive Cancer Center

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## Institutional Overview

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- UCDH is a 625-bed multispecialty academic medical center located in Sacramento, California
- NCI-designated comprehensive cancer center serving 6 million people in California's Central Valley and inland Northern California.
- Cancer Care Network includes affiliates in Yuba City, Merced, Ridgecrest and South Lake Tahoe
- Provide care for more than 10,000 unique adult and children each year, and offer more than 400 adult and pediatric clinical trials

# Team Members

Name	Role	Department
Nico Cacho Buan-Lagazo, MSN, RN, OCN, BMTCN	QTP Team Member	Stem Cell Transplant Program quality specialist
Ngoctran Tran, Pharm D	QTP Team Member	Outpatient oncology specialty pharmacist
Debbie Burgess, BSN, MHA, RN, CSSGB	QTP Team Leader	Cancer Center quality specialist
Devika Das, MD, MSHQS	Coach	ASCO
Aaron Steele, Pharm D	UCDH team member	Oncology specialty pharmacist
Devon Trower, BSN, RN, OCN	UCDH team member	Nurse Manager, Adult Infusion Room
Melissa Soderlund, MS, RN	UCDH team sponsor	Interim Clinical Director UCDH Cancer Center Nurse Manager, Adult Clinic

# Problem Statement

During July 2020 to June 2021 14.25% of UCDH Comprehensive Cancer Center patients receiving outpatient chemotherapy had a *preventable admission*\* within 30-days of administration contributing to poor patient outcome, possible treatment delays/dose reduction and increase the cost to provide care. The rate for GYN oncology patients was 20.86%.

*\*preventable diagnosis defined by CMS core measure OP-35*

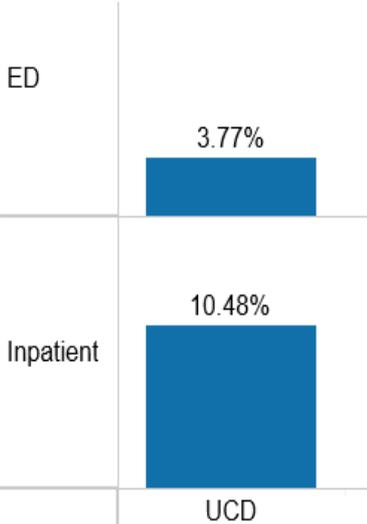
# Measure Summary

Item	Description
Measure:	OP-35 reduce preventable ED/Hospital admission for oncology patients undergoing outpatient chemotherapy
Patient population: (Exclusions, if any)	Adult patients receiving chemotherapy at UCDH Cancer Center who have ED/hospital admit within 30-days of administration for a possibly preventable diagnosis, excludes patients with leukemia
Calculation methodology: (i.e. numerator & denominator)	Numerator = Number of ED/Hospital admissions with preventable diagnosis Denominator = Number of unique patients receiving outpatient chemotherapy
Data source:	UC Health Data Base and UCDH EPIC/BEACON data
Data collection frequency:	UCHealth monthly rolling 12-month cycle / UCDH ad hoc reporting
Data quality/limitations: (if applicable)	Local source for real-time reporting for preventable admission diagnosis

# Baseline Data

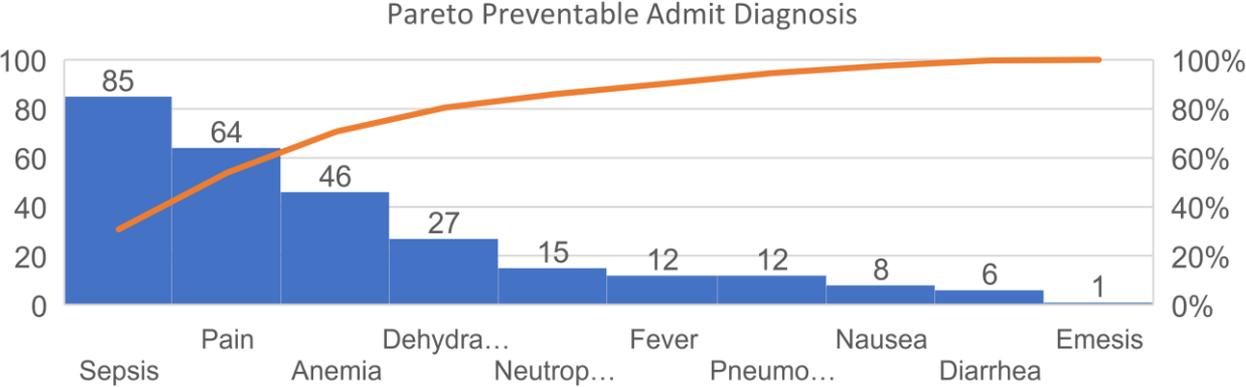
UNIVERSITY OF CALIFORNIA  
HEALTH

FY 2021 Overall rate 14.25% for all cancer types - 1937 unique patients  
276 ED/Hospital admits - 73 ED (3.76%) / 203 Hospital (10.48%)



Preventable diagnosis

Diagnosis	UCD	ED	Inpatient
Pain	UCD	2.22%	1.08%
Fever	UCD	0.41%	0.21%
Anemia	UCD	0.41%	1.96%
Dehydration	UCD	0.31%	1.08%
Nausea	UCD	0.21%	0.21%
Pneumonia	UCD	0.10%	0.52%
Diarrhea	UCD	0.10%	0.21%
Sepsis	UCD		4.39%
Neutropenia	UCD		0.77%
Emesis	UCD		0.05%



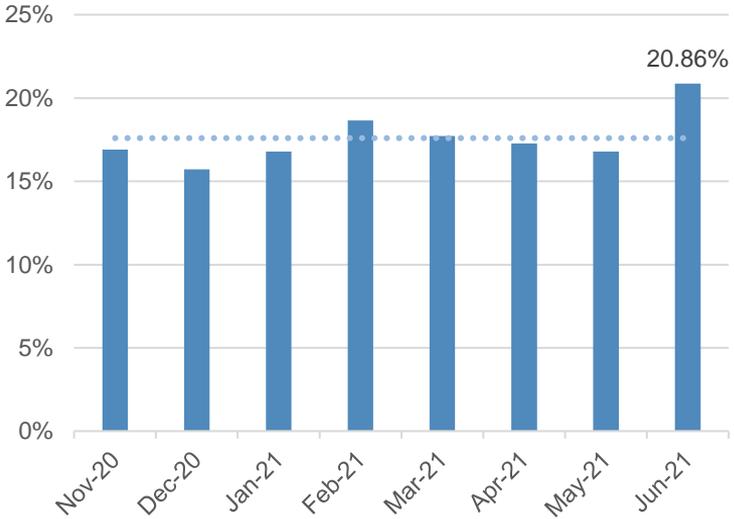
# Baseline Data

## FY 2021 GYN Oncology

- Cancer specific rate 20.86%
- 139 unique patients
- 23 PA admits -15 hospital / 8 ED

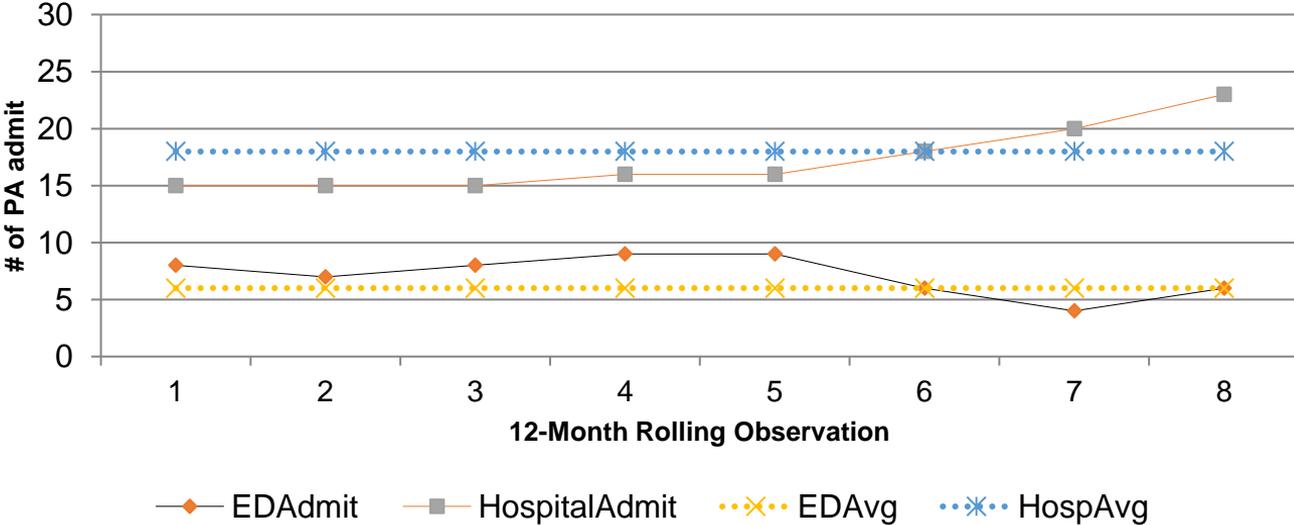
Cancer Service Line	Rate Name	UCD
Gyn Onc Cancer	ED	4.32%
	Inpatient	16.55%

### GYN Oncology - Percentage of PA ED/Hospital Admits



# Diagnostic Data – GYN Onc Cancer

Possibly Preventable ED/Hospital Admits  
GYN Onc Cancer Nov 2020 - June2021

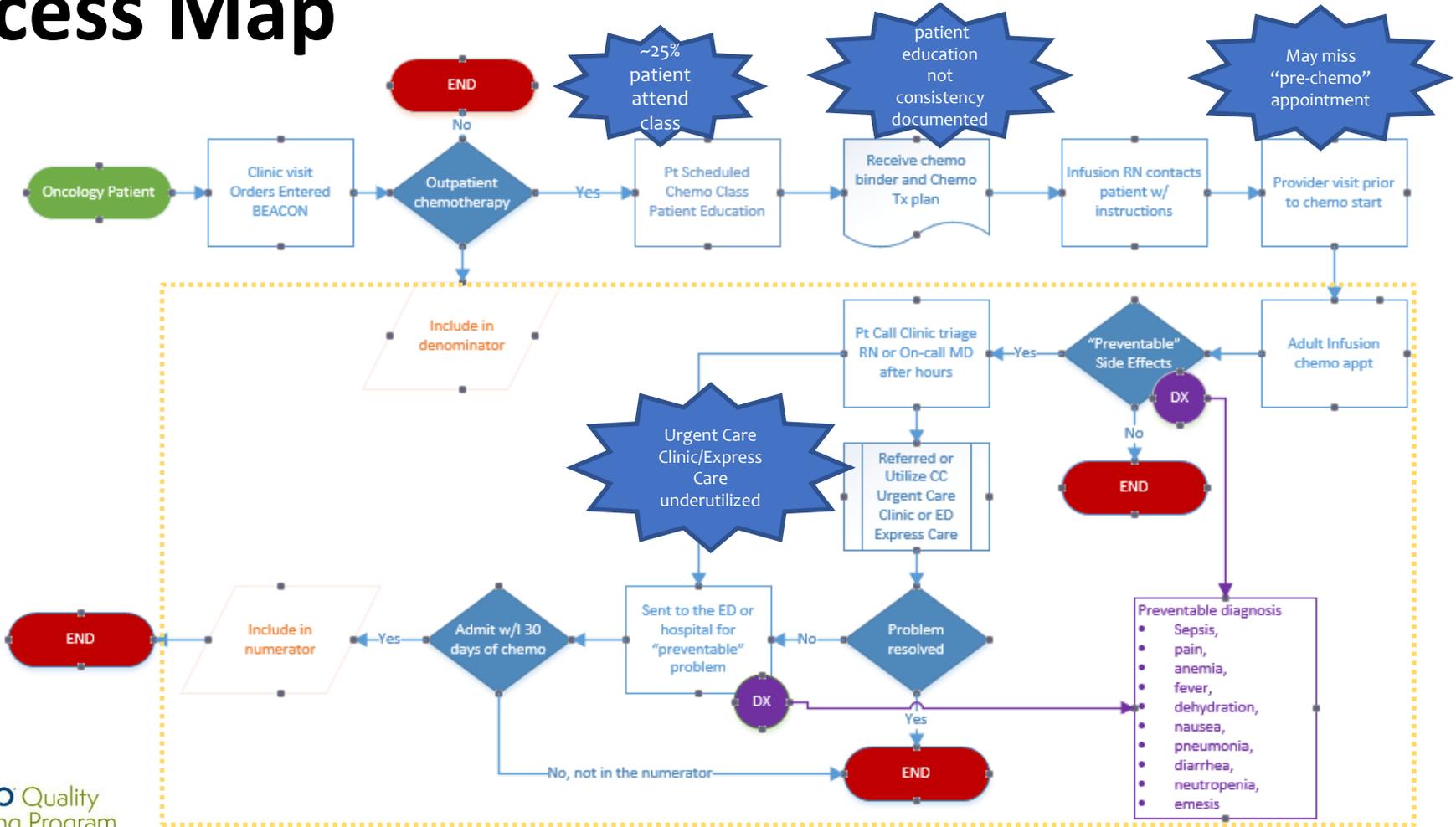


# Aim Statement

Reduce the incidence of ED and/or hospital admission for GYN Oncology patients treated at the UCDH Cancer Center 2% to 18.9% by December 2021 attributed to one or more of 9 preventable diagnosis that occur within 30-days of administration of outpatient chemotherapy.

Baseline: 20.86% for GYN Onc patients receiving OP chemotherapy

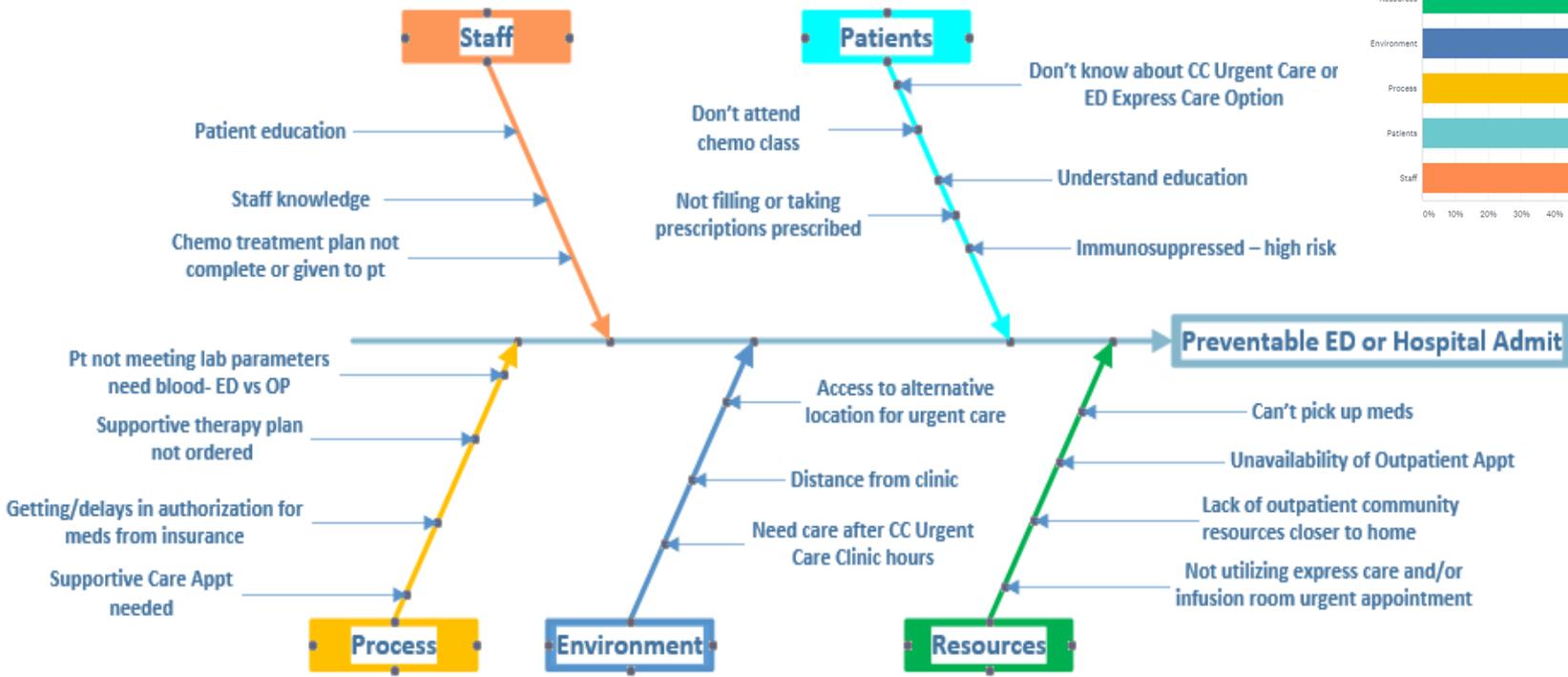
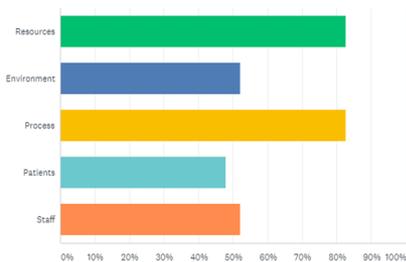
# Process Map



# Cause & Effect Diagram

What are some categories of barriers that can Prevent ED or Hospital Admissions for the oncology patient population at UC Davis Health Cancer Center?

Answered: 23 Skipped: 0



Majority of causes are process/resource related problems

# Cause & Effect Diagram-Barriers/Gaps

## Patient

- Not aware of alternative Cancer Center or Express Care option
- Knowledge deficient or understanding of how to prevent harmful side-effects
- Not attending chemo/biotherapy education class
- Not picking up or taking prescribed medications prior/after receiving infusion
- Insurance authorization delays

## Resources

- No outpatient appointment (ie. hydration, blood, other, office visit)
- Lack of community services closer to home
- Lack of alternative urgent care location
- Not using CC urgent or Express Care

## Process

- Not meeting chemo parameters
- Insurance authorization for medications when needed

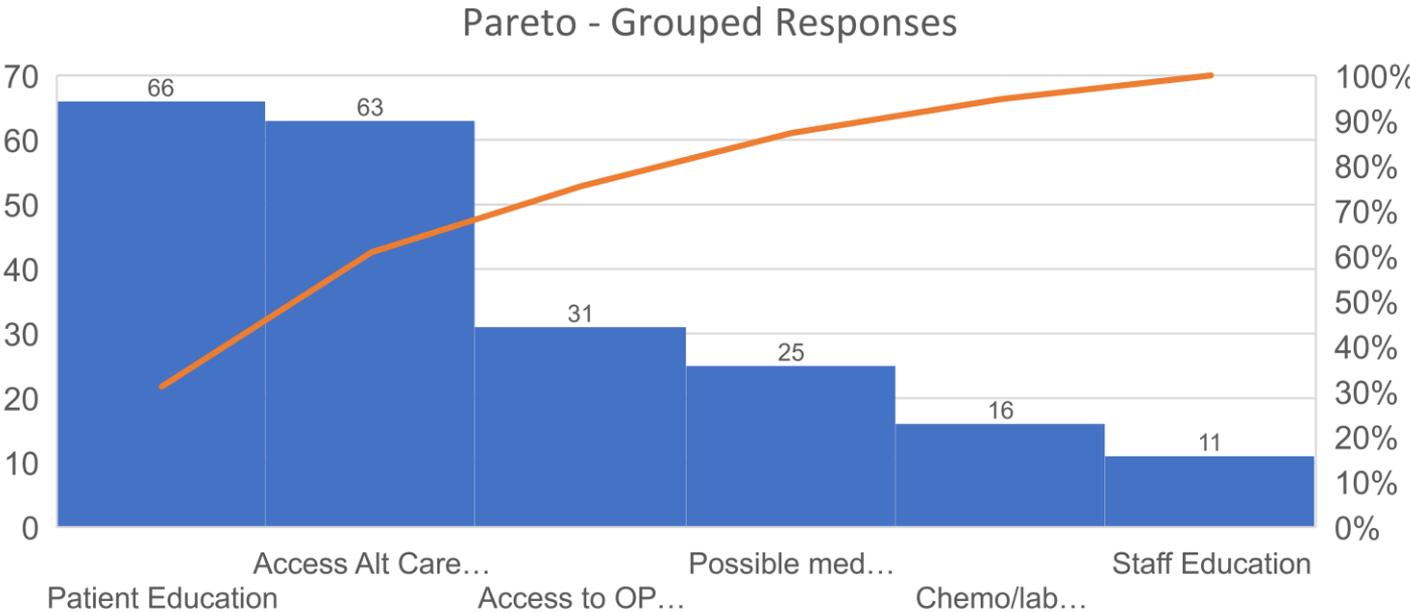
## Environment

- Access to alternative care location
- Appointment needed after normal business hours

## Staff

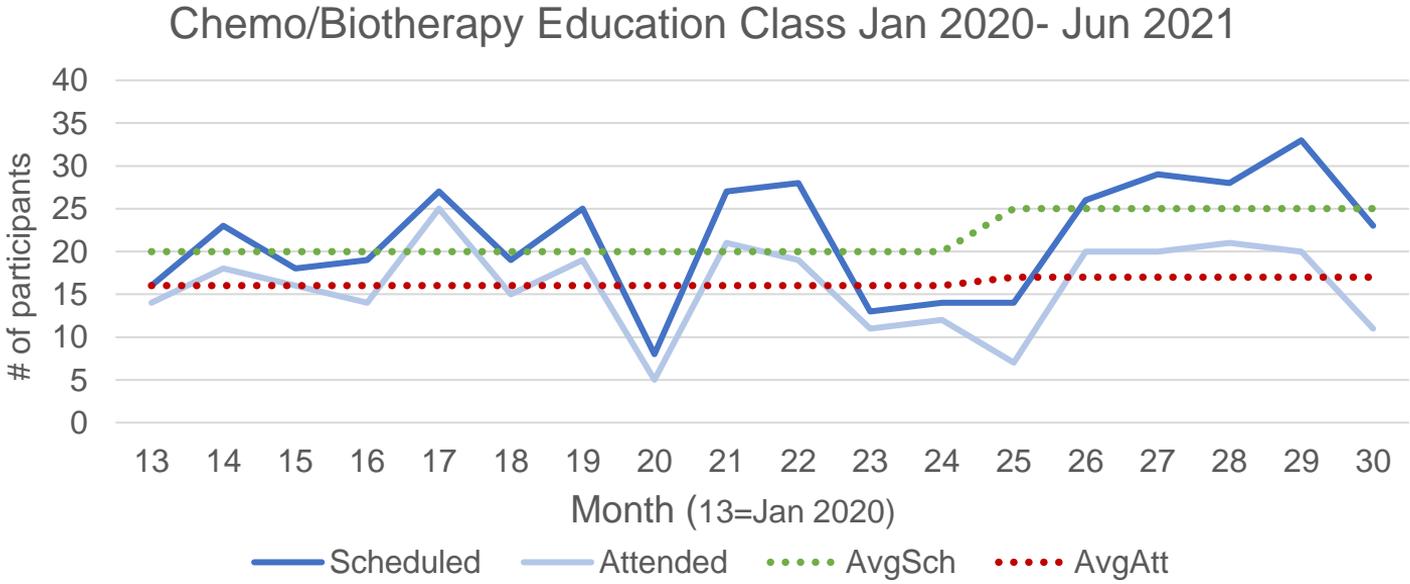
- Patient education practices
- Chemo treatment plan not documented or given to patient
- MDs not promoting alternative options

# Cause & Effect Diagram



Majority of causes are process/resource related problems

# Diagnostic Data



Average ~35 new chemo starts/week  
Averaged ~20-25 scheduled & Averaged ~16-17 attendees/month

# Process Solutions

## Interventions

- Access
  - Promote CC Urgent Care
  - Socialize ED express care video visit
- Education
  - Change format chemo/biotherapy class
  - Update education materials
- Pilot navigation program for GYN Onc
- Review of emetogenic drugs

## GYN Pilot - 30 patients

- Emetogenic med review
- Patient Education
- Post chemo admin calls
- Review of lab parameters
- Real-time communication with MDs, nurses, pharmacist
- Universal scheduling (clinic/chemo appts)

# Prioritized List of Changes (Priority/Pay –Off Matrix)

<b>Impact</b>	<b>High</b>	<ul style="list-style-type: none"><li>• Collaboration with ED Express Care</li><li>• Expand CC Same-day Urgent Care Access</li></ul>	<ul style="list-style-type: none"><li>• Review emetogenic drug protocols embedded in BEACON/ update as needed based on guidelines</li><li>• Pilot GYN navigation process</li><li>• Data collection/reporting</li></ul>
	<b>Low</b>	<ul style="list-style-type: none"><li>• Conversion from live to video class</li><li>• Update education materials</li></ul>	
		<b>Easy</b>	<b>Difficult</b>
		<b>Ease of Implementation</b>	

# PDSA Plan (Test of Change)

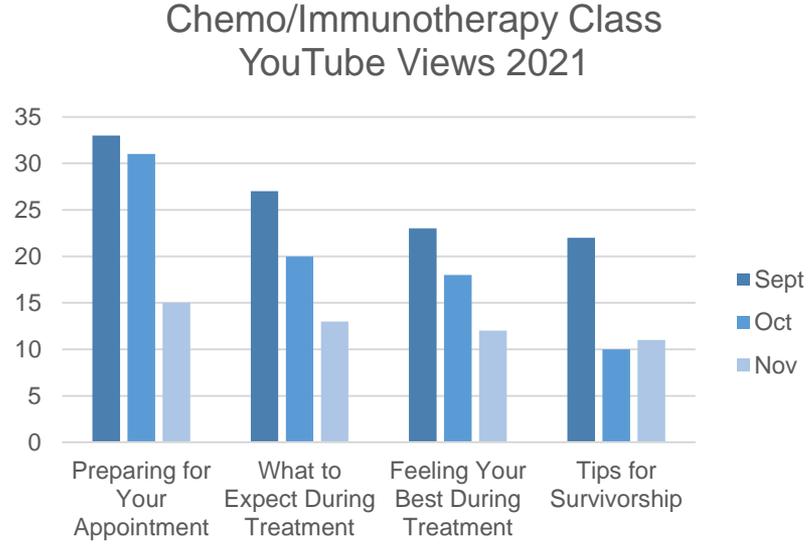
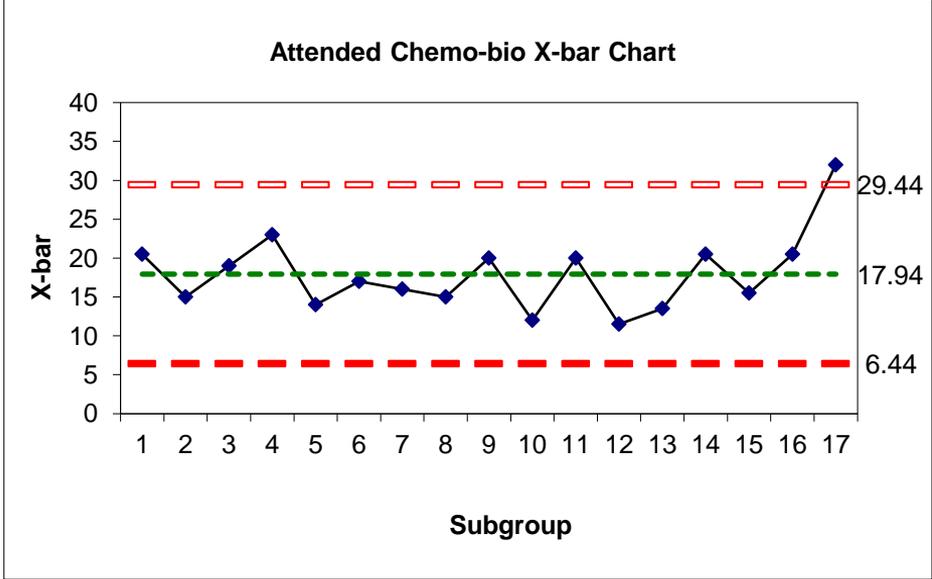
Date of PDSA Cycle	Description of Intervention	Results	Action Steps
July-Dec 2021 GYN Onc pilot	<ul style="list-style-type: none"> <li>- Included GYN Onc pts starting new treatment plan combining education, pharmacy navigation and care team communication</li> </ul>	Total of 30 pts -6 pts PA admit -3 ED/3 Hospital	<ul style="list-style-type: none"> <li>- Onc PharmD navigation</li> <li>- Review Emetogenic drugs</li> <li>- Post chemo phone call</li> <li>- Weekly team meeting</li> </ul>
Sept-Dec 2021 Developed video education series	<ul style="list-style-type: none"> <li>- 4 chemo/bio therapy video classes posted on UCDH website &amp; YouTube</li> <li>- Distributed via MYChart to patients</li> <li>- Chemo/Bio resource binder with treatment plan distributed prior to starting therapy</li> </ul>	Posted to CC Website Sept 2021. Patient Eval added October 2021	<ul style="list-style-type: none"> <li>- Update class material</li> <li>- Identify presenters</li> <li>- Record sessions</li> <li>- Post/upload website</li> <li>- Track usage/views</li> <li>- Survey for feedback</li> </ul>
May-Dec 2021 Socialized ED Express Care appointment to providers/patients	<ul style="list-style-type: none"> <li>- Availability for oncology patients to contact Express Care service for video appointment for routine/urgent needs</li> <li>- Labs, tests, prescriptions, arrange OP services ie. blood, hydration, pain mgt</li> </ul>	CC program adoption Apr-Jun 2021	<ul style="list-style-type: none"> <li>- EPIC slicer dicer report</li> <li>- Provide info to MDs</li> <li>- Educate patients</li> </ul>

# Materials Developed

- Series of 4 video chemo classes
  - Preparing for you appointment
  - What to expect during treatment
  - Feeling your best during treatment
  - Tips for survivorship
- Disseminated via EPIC MyChart
- Posted to UCDH Website & YouTube
- Revised class materials
- Revising cancer resource binder

The screenshot shows the UC Davis Comprehensive Cancer Center website. The header includes the UC Davis Health logo, the Comprehensive Cancer Center name, a phone number (800-770-9261), and links for News, Careers, Giving, and Health. A search bar is present. The main navigation menu includes Patients, Specialties, Referring Clinicians, Community, Research, Visiting, and About, with a 'DONATE NOW' button. The 'Specialties' menu is expanded, listing various services such as Supportive Oncology and Survivorship, Adolescent and Young Adults, Chemotherapy and Immunotherapy Education, Fertility Preservation, From Cancer to Health, Insurance & Disability, Leukemia and Lymphoma Navigation, Lesbian, Gay, Bisexual, Transgender Individuals with Cancer, Nutrition, Our Team, Parenting with Cancer, Patient and Family Learning Center, Pediatric Support Resources, Psychiatry, Seniors with Cancer, Sexual Health and Cancer, Social Work, Stop Tobacco Program, and Support for Caregivers. The main content area is titled 'Chemotherapy and Immunotherapy Education' and features a 'Download the Chemotherapy and Immunotherapy Education Class handout' link. Below this is a call to action: 'Please help us improve this chemotherapy and immunotherapy education course by completing this survey after you've watched the classes.' A section titled 'Preparing for Your Appointment' includes a video player with a collage of images showing patients and healthcare providers. The video player has a play button and a 'Watch on YouTube' button. The footer of the page includes the UC Davis Health and Comprehensive Cancer Center logos.

# Change Data – Participation in Education



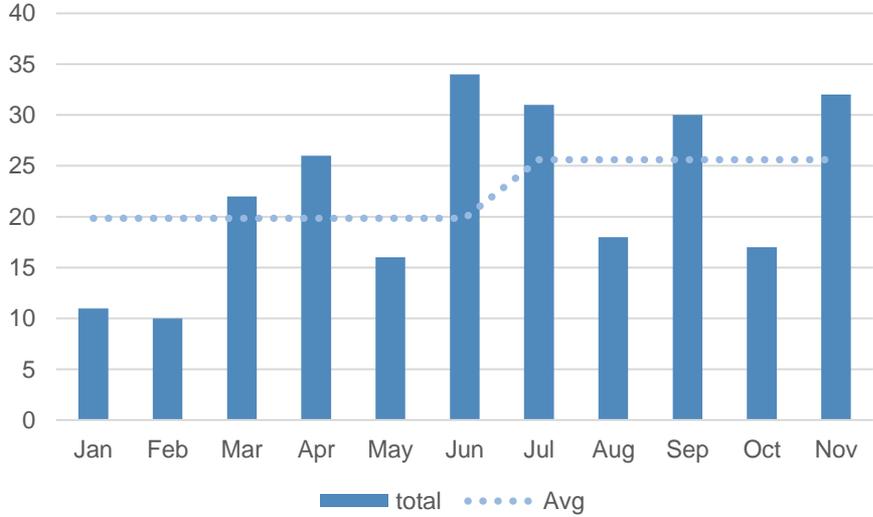
# Change Data

## Urgent Care NP visit option

Visit Urgent Care	2020	2021	Grand Total
MYC VIDEO VISIT		1	1
OFFICE VISIT	215	246	482
TELEPHONE VISIT		2	2
Grand Total	226	384	631

\*Total includes volume for same-day chemo appointments (41) and 5+pain management (80) for 2021

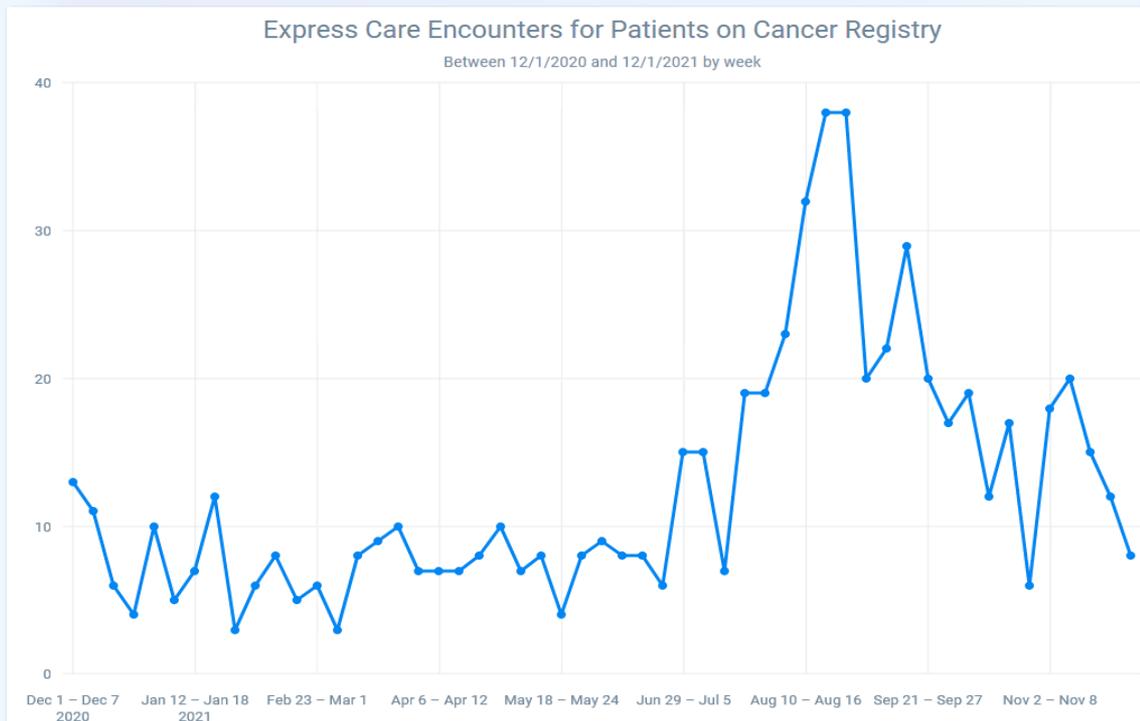
## Same-day NP Visits - Infusion Clinic 2021



# Change Data

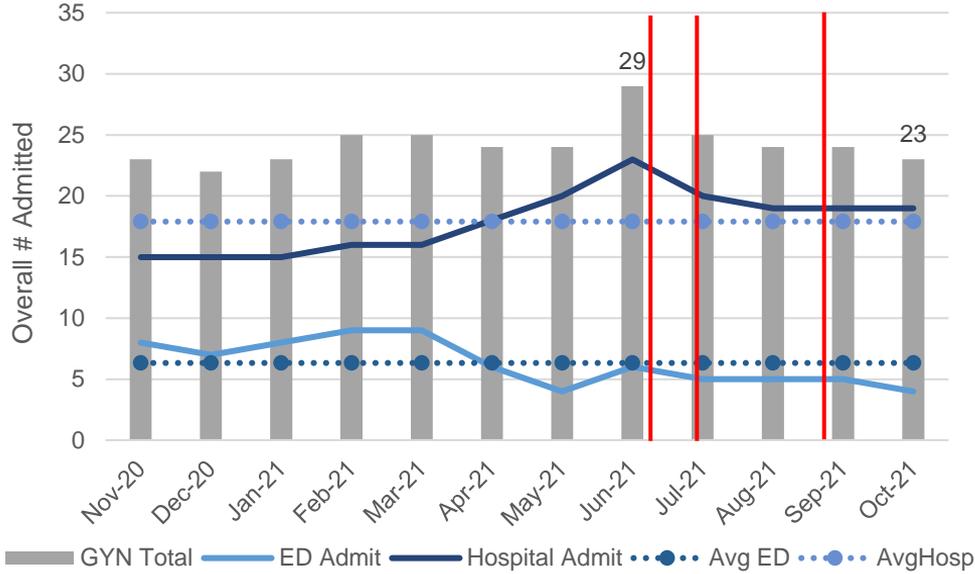
## ED Express Care Video Visits

	Number of Pa...
📅 Dec 2020	38
📅 Jan 2021	30
📅 Feb 2021	26
📅 Mar 2021	33
📅 Apr 2021	37
📅 May 2021	32
📅 Jun 2021	33
📅 Jul 2021	63
📅 Aug 2021	128
📅 Sep 2021	89
📅 Oct 2021	56
📅 Nov 2021	68

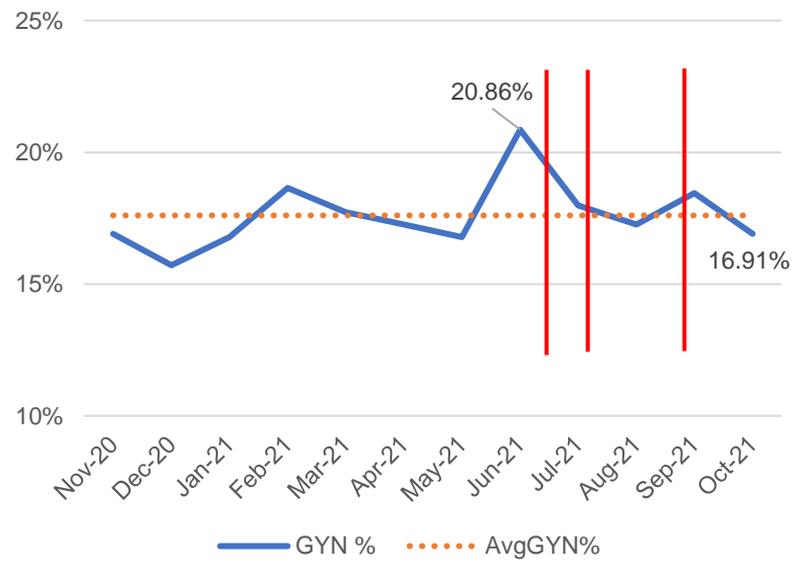


# Change Data

GYN Onc: Preventable ED/Hospital Admits During OP Chemotherapy



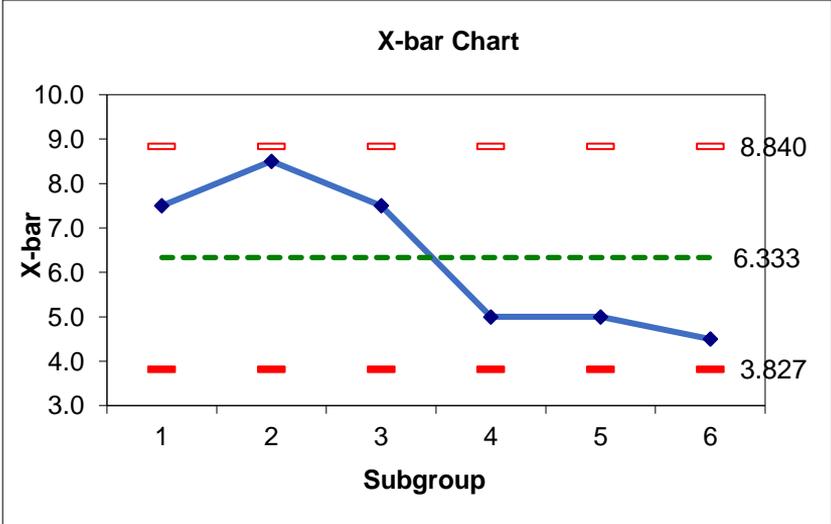
GYN Onc Possibly Avoidable Admits During OP Chemotherapy



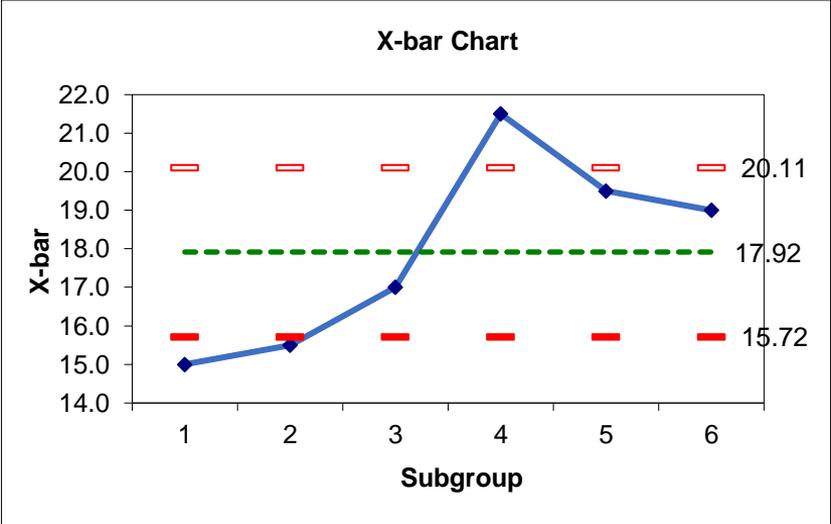
(data based on rolling 12-month calendar year)

# Change Data

## GYN Onc ED Admits



## GYN Onc Hospital Admits



# Conclusions

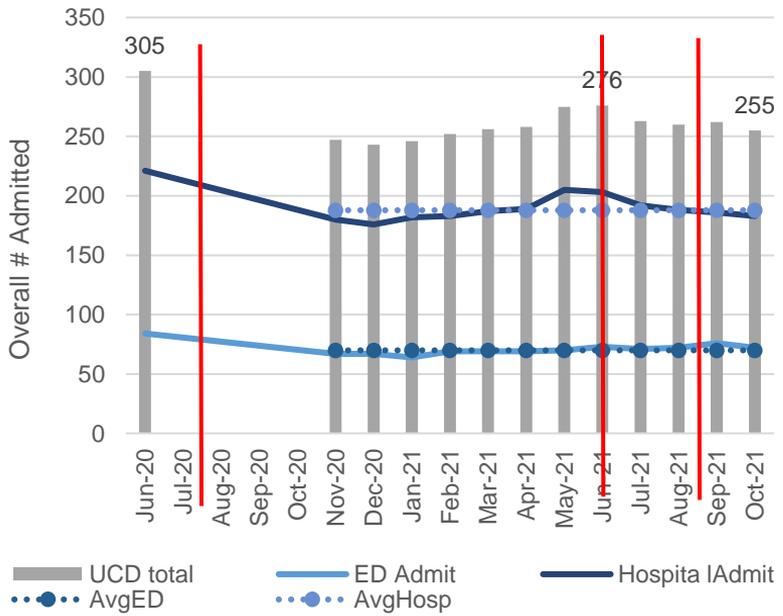
- Process interventions contributed to a 3.95% decrease in preventable ED/hospital admits for GYN oncology patients, and ~1% decrease for all cancer types.
- GYN navigation project providing positive preliminary results to reduce avoidable ED/hospital admits
- Providing alternative urgent treatment/consult options may improve results to lower possibly preventable admissions across all cancer types
- Empowering patient using JIT education to control and manage symptoms that could lead a possibly avoidable ED/Hospital admits is helpful

# Next Steps/Plan for Sustainability

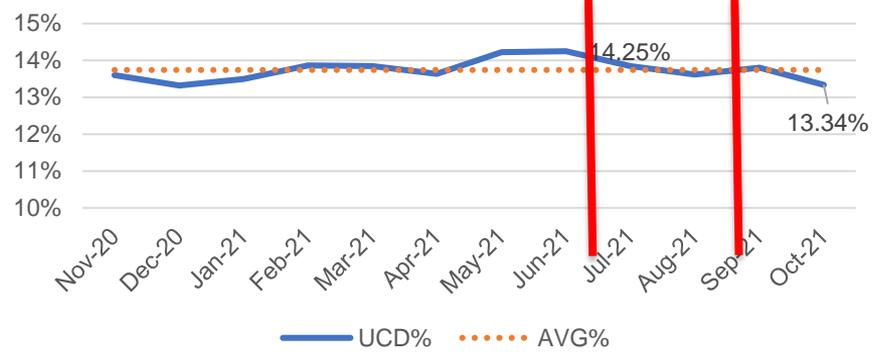
- Work on real-time dashboard reporting and share results
  - Partner with UCD Population Health for improved reporting OMH metrics
- Continue to monitor process improvements
- Link results to an outcome measure
- Expand focus to other cancer diagnosis
- Patient education e-survey on website

# Change Data – UCDH Overall outcomes

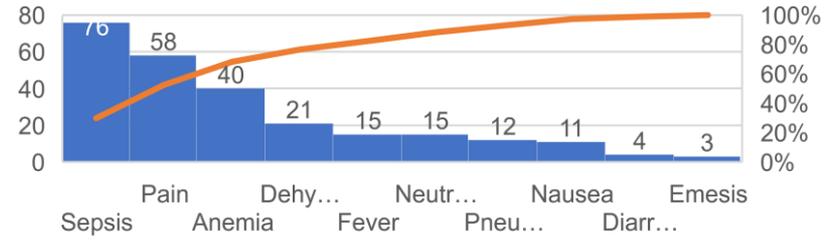
Preventable ED/Hospital Admits During OP Chemotherapy



Chemo Possibly Preventable Admits



Post Project Pareto Oct 2021



(data based on rolling 12-month calendar year)