A Message from Chad Hatfield, Chief Pharmacy Officer

It is my distinct pleasure to present our Fiscal Year 2023 Pharmacy Annual Report for University Of California Davis Health. This annual report highlights the exceptional work that UC Davis staff has accomplished and the successful initiatives that transform the quality of pharmaceutical care for our patients. These exceptional accomplishments are detailed in the report under the respective service areas and program categories.

This year has found us coming out of the grasp of COVID and into a new reality of healthcare of which once again our staff have excelled at. The staff continue to ensure we deliver care as if each one of our patients is our very own family member. This year we continue to grow the pharmacy enterprise with many new operational construction projects that will help our patients gain better access to care. Outside of facility projects, we have further enhanced our clinical services and building upon our foundations, while ensuring we remain fiscally viable as an organization.

I encourage you to take some time to read through the FY23 annual report and celebrate the accomplishments of our department and your peers. We will continue to be challenged this year to deliver on the values of UC Davis Health, but together we shall succeed. I would like to thank each and every member of the staff for their commitment to the profession and dedication to the care of UC Davis patients.

Chad Hatfield PharmD, MHA, BCPS Chief Pharmacy Officer
VISION
Providing patient-centered, proactive, and innovative pharmaceutical care.

MISSION
Provide the highest quality and most cost-effective pharmaceutical care in an environment that fosters efficient patient-focused care, education, and research.

STRATEGIC PILLARS
Clinical Services
Operational Excellence
People
Financial Stability
Innovation

VALUES
Kindness
Trust
Inclusion
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Acute Care Clinical Services

Provide care to adult patients on medical and surgical units throughout the hospital including, general medicine, women’s health, hospital medicine, neurology, trauma, orthopedics, neurosurgery and more. Pharmacists hold board certifications in multiple specialties (BCPS, BCGP, AAHIVP, BCIDP, CDCES, BCADM) and provide representation among various committees (UC Transition of Care Collaborative, Pharmacy Research Oversight Committee, Clinical Practice Council, Antimicrobial Stewardship Committee, Pain and Sedation Committee, NICHE committee). Pharmacists provide order verification, comprehensive monitoring, and participation in multidisciplinary care & discharge rounds in support of health system initiatives.

Internal Medicine and Surgery

- 2 pharmacist driven medication optimization protocols
- 3 peer-reviewed publications
- UCDH Research Preceptor of the Year
- UCSF Preceptor of the Year
- developed discharge medication reconciliation initiative
Critical Care

The critical care pharmacy team provides clinical and operational support for a range of patient populations. Team initiatives included VTE chemoprophylaxis (trauma), bivalirudin dosing/monitoring standardization, fixed-dose Kcentra, operationalized MAR-based insulin calculator, and supported launch of new liver transplant service.
Pediatrics

The Children’s Hospital Pharmacy Team supports the 121 bed Children’s Hospital which includes:

- 24-bed pediatric & cardiac ICU
- 49-bed level four neonatal ICU
- Children’s Surgery Center
- Pediatric Emergency Department

Subspecialties include:

- Anticoagulation
- Antimicrobial stewardship
- Oncology/chemotherapy
- Parenteral nutrition.

The pharmacists participate in multidisciplinary rounds, optimizing medication therapy for neonatal/pediatric patients.

12 Guidelines, Policies, Procedures Developed and Reviewed

15 Institutional Committees

5 Departmental Committees

10 Order Sets Built and Optimized

6 Monographs presented at Pharmacy & Therapeutics Committee

Quality Improvement Highlights

- Bolus from Pump
- Pediatric Pulmonary Hypertension
- Palliative Care
- Opioid Stewardship
- Comfort Commitment
- Oncology Direct Admits
Emergency Medicine (EM)

The Emergency Medicine Pharmacy team is comprised of highly committed, residency trained pharmacists providing care to both pediatric and adult patients. They enjoy collaborating with medical and nursing staff and colleagues to optimize medication use among a high-risk, vulnerable patient population. Many of our staff members have dual appointments including UCSF School of Pharmacy and UC Davis School of Medicine and actively seek out opportunities to give back to the profession.

- 282 antibiotic adjustments via the Culture Callback Program
- 2 resident research awards
- 4 UCDH Nursing Excellence Awards
- 14 EMR ordersets/order panels reviewed and adjusted
- 5 manuscripts reviewed for Annals of EM
- 139 discharge prescription adjustments via the Prescription Clarification Program
- 173 state-funded naloxone kits dispensed
Infectious Disease (ID)

ID pharmacists provide patients with personalized, optimal medication therapy with respect to pharmacokinetics, pharmacodynamics, spectrum of activity, feasibility, evidence-based medicine, and cost. The ID team also serves as advisors and educators to the health system’s pharmacists, physicians, other multidisciplinary healthcare professionals, and learners. They provide focused educational experiences to pharmacy interns, PGY1 & PGY2 pharmacy residents, including PGY2 residents specializing in ID. The team’s pharmacists maintain stringent control over the antimicrobial formulary, review new agents, create, and update ID-related institutional guidelines and policies.

100% PGY2 - trained Infectious Diseases Pharmacists. 3 with BCIDP Certification

80.1% OPAT cases requiring ID pharmacist intervention patients (833)

1,560 Patients cared for on ID consult service

>90% Intervention acceptance rate

<1 Standardized antimicrobial administration ratio (SAAR) national benchmark maintained

1 of 163 IDSA center of excellence

Antimicrobial stewardship OPOPAT cost savings through early discharge & central line avoidance hospital days (127) central lines (8)

$1.4M
The Cardiology Pharmacy team is responsible for the daily rounding and pharmacotherapeutic services of seven medical and surgical services caring for patients in critical care and acute care areas. Cardiology pharmacists have been instrumental in optimizing medication therapy for patients with various cardiac conditions. Over the past year the team has played a vital role in improving the cardiovascular well-being of our patients through a range of initiatives and achievement.

### Current Services
- Cardiac Surgery
- Thoracic Surgery
- Pulmonary & Critical Care Consult
- Acute Care Cardiology - Gold
- Acute Care Cardiology - Platinum
- Advanced Heart Failure & Left Ventricular Assist Device
- Vascular Surgery
- Pulmonary Hypertension

### Expanded Services & Process Improvements
- Left Ventricular Assist Device Clinic
- Pulmonary Hypertension Service support
- LVAD & Heart Transplant Selection Committee
- Heparin Order Panel
- Bivalirudin Order Panel
- New Start Dofetilide Order Panel
- Bicarbonate Purge Solution for Impella Device
- Antibiotic Dosing Guide in ECLS

### Professional Development
- 5 Health System Committees (Thrombosis, Nutrition, ECLS, VTE Initiative, VAD & Heart Transplant Selection)
- 3 Dept of Pharmacy Committees (CPC, PRAC, PROC)
- 1 UCOP SIG Anticoagulation
- 9 Pharmacotherapy Board Certifications (BCPS, BCCP, CNSC)
- 9 Volunteer Clinical Faculty Positions
Behavioral Health (BH)

Since the initiation of the Behavioral Health Pharmacy team in August 2021, the team has expanded patient care services in both acute and ambulatory care settings. Dedicated pharmacists collaborated closely with interdisciplinary teams to tailor treatment plans and optimize medication regimens, resulting in improved patient outcomes.

- Expansion of service to 6 days per week in acute care setting
- Three publications in peer reviewed journals
- Development of ambulatory care clinic with direct patient care services 4 days per week
- Attended over 160 Behavioral Escalation Support Team interventions per year resulting in patient de-escalations, reduced AMA discharges, and improved patient quality of care

Growth of Clinical Service
- Psychiatry Consult Liaison
- Emergency Psychiatry Services
- Outpatient Adult Psychiatry
- Outpatient Child Psychiatry
- MIND Institute

Professional Committees Involvement
- PROC, PEDC, DEI, Psychiatry CQI, MIND CQI, AAPP Committees
- Expansion of pharmacy residency learning experience to both acute and ambulatory experience
Inpatient Oncology

The Inpatient oncology team consists of 8 clinical pharmacists, including 7 Board-Certified Oncology Pharmacists (BCOPs). Additionally, the team comprises 8 pharmacy technicians and 4 Post-Graduate Year 2 (PGY2) oncology pharmacy residents. These dedicated professionals collaborate closely with other healthcare providers to ensure the optimal use of medications for patients receiving cancer treatment within the hospital, clinics, and infusion service areas.

The oncology team’s responsibilities encompass a wide range of critical tasks. They actively participate in the development and maintenance of Computerized Physician Order Entry (CPOE) order sets specific to oncology. Furthermore, they rigorously evaluate new medications for potential inclusion in the hospital’s formulary, a crucial aspect of ensuring the availability of cutting-edge treatments. In addition, the team plays a pivotal role in promoting guidelines aimed at promoting cost-effective and evidence-based cancer treatments.

Moreover, the oncology pharmacy team excels in the realm of medication management for cancer patients. Their expertise is instrumental in the safe and effective administration of medications vital to patients’ well-being throughout the course of their treatment.

Inpatient Oncology Services

- Inpatient Hematology/Oncology
- Stem Cell Transplant (SCT)
- Gynecologic Oncology
- Hospital (AIM) Infusion
- 1361 inpatient admissions
- 134,002 verified inpatient orders
- 12905 AIM Infusion orders
- 10461 hazardous CSPs
- 118 inpatient cell therapy procedures
- 172 SCT procedures
Infusion pharmacists are an integral part of the inter-professional teams providing care to adult and pediatric patients with cancer at UC Davis Health. Infusion pharmacy services are supported by 18 clinical pharmacists (10 BCOPs) and 13 technicians. The pharmacists work collaboratively with other health care providers to optimize drug therapy for patients undergoing cancer treatment in clinics and infusion service areas. The infusion pharmacists develop and maintain Beacon order sets, review new medications for formulary consideration, create guidelines for cost-effective, evidence-based treatment, and facilitate medication management for patients undergoing cancer treatment.

**Infusion Pharmacy Services**

- UC Davis Comprehensive Cancer Center
- Adult and Pediatric Infusion services
- Placer Center for Health Infusion
- 139,163 patient visits
- 125,764 verified med orders
- 45,193 Infusion visits
- 67,359 CSPs
- 29,010 hazardous CSPs
- Charge for single-use vial waste program implemented: ~$5 million revenue generated
- Vial Use Reduction - Dose Rounding program implemented: ~$2 million in cost-savings
Investigational Drugs Services (IDS)

The UC Davis IDS Pharmacy team provides oversight and distribution of investigational products for all UC Davis Health and UC Davis Comprehensive Cancer Center Clinical Trials involving the administration of investigational drugs. The team is comprised of 6 highly skilled pharmacy technicians and 9 clinical pharmacist.

**DS Pharmacy Services**
- Develop protocol-specific order templates and EMR drug entries
- Participate in protocol development by writing/reviewing the drug information content.
- Coordinate the procurement and dispensing of investigational and study-provided commercial agents
- Perform subject randomization/treatment assignment
- Provide education/training to pharmacy staff and study team members related to the investigational agents.
- Assess concomitant medication for trial eligibility and/or drug-interactions
- Participate in sponsor monitoring and regulatory audit.

106 Opened Protocols

108 Closed Protocols

360 Active Protocols

~5000 Doses of IDS product dispenses

Major Accomplishments in FY23
- Graduated the 1st PGY-2 IDR Pharmacy Resident; the first PGY-2 IDSR program on the West Coast!
- Served as the highest enrolling site for SRP-9001 (delandistrogene moxeparvovec), the first FDA-approved gene therapy treatment for Duchenne’s Muscular Dystrophy.
- Participated as an instructor in the CTSC Clinical Research Foundation Training program.
- IDS pharmacy renovations included new flooring, new furniture and reconfiguration of workspace.
Nutrition Support Pharmacists provide parenteral nutrition services for admitted adult patients and primary service line coverage for colorectal surgery, bariatric surgery, and gastrointestinal surgery.

5,738 total PN orders
417 PN pharmacist consults
138 discharge PNs facilitated
4 board certified pharmacists

UCDH Committee Involvement
- Inpatient Clinical Practice Council
- Nutrition Subcommittee
- Pharmacy and Therapeutics
- Drug Shortages
- Employee Wellness

Professional Involvement
- ASPEN23 meeting attendance
- ASPEN Education & Professional Development committee member
- ASPEN Clinical Practice Committee member
- ASPEN Conference Monitoring and Advisory Panel
The Opioid Stewardship Program (OSP) provides focused efforts to optimize patient care related to opioid use throughout the continuum of care. The opioid stewardship pharmacist plays a key role in the surveillance of inpatient opioid use, review and development of institutional policies, education of patients and care team members, analysis of reported patient safety events, and representation on multidisciplinary committees for pain management, substance use disorder, and opioid safety.

The Pain Consult Service provides focused assessment and recommendations to care teams on multi-modal management of pain for hospitalized patients. The team’s individualized pain management regimens mitigate adverse events, optimize non-opioid and opioid therapies, and ensure the achievement of functional pain management goals.

Opioid Care Honor Roll – UC Davis Health Achieves Highest Rating: Superior Performance

UCDH recognized for implementing advanced, innovative opioid stewardship strategies across multiple service lines, consistently achieving the highest level of performance, as well as actively measuring and monitoring performance for the purpose of continued quality improvement.
The Medication Safety, Medication Policy, and Medication Security teams are focused on continuously improving the safe and optimal use of medications at University of California, Davis Health. Our team’s goal is to use standards set forth by key regulatory agencies to impact change on a system-level and reduce the risk of harm to our patients.

- Policies and guidelines reviewed: 215
- Formulary evaluations and drug class reviews completed: 161
- Medications added/removed from formulary: 89/16
- Medication Management surveys completed: 1854
- Drug waste avoided: $553,366
- Medication cold storage assets monitored: 152
- Med Safety continuing education hours provided: 29
- Good Catches awarded to pharmacy staff for preventing medication errors: 51
- Pump library changes completed: 98
Diversion, Automation, Informatics, and Analytics

Our team is dedicated to using data and technology to enhance the medication use system. Significant milestones continue to be achieved and we remain committed to pioneering solutions that empower patient care and improve operational excellence by enhancing efficiency, accuracy, and data-driven decisions at UCDH.

System Implementations

- **Carousel**
  - Central pharmacy modernization

- **Compounding and Repackaging**
  - Expansion into nonsterile compounding services

- **DrFirst**
  - Integration of medication reconciliation and adherence into EMR

- **Asana**
  - Streamlining task management

- **25 New Pyxis Devices**
  - 13% increase in pyxis machines

Developing Best Practices

- **4.4M ADC Dispenses**
  - 16% increase in automated dispensing cabinets (ADC) utilization

- **Pyxis Performance**
  - 89% of eligible adult med dispenses
  - 7,000 PAR adjustments
  - 0.57% stockout

- **10,000+ ControlCheck Reconciliations**
  - Controlled substance incidents reviewed

- **New Data Sources**
  - Developed and validated with Pharmacy Domain Specific Unit (DSU)

- **Tableau Dashboards**
  - Analytics support for clinical, financial services

Professional Leadership

- **National Appointment**
  - Ryan Cello, ASHP Director-at-Large Section of Pharmacy Informatics & Technology

- **Presentations**
  - Epic eXpert Group Meeting (XGM) 2023
  - Vizient Pharmacy Network 2022
  - ASHP Midyear Clinical Meeting 2022

- **Publications**
  - Formulary management guiding principles for automated systems
  - Advancing Medication Safety Through Technology Innovations

- **Vizient Pharmacy Vision Awards**

Mark A. Johnson
Excellence in Pharmacy Analytics
Acute Care Operations

The Acute Care Operations Pharmacy team is a fundamental component of the patient care we provide across the institution. Our team of ~90 pharmacy technicians and ~35 pharmacists service all inpatient areas, several mixed-use areas (ED/OR), and select ambulatory/outpatient clinics across the health system. The continued vision of our team includes strategizing the introduction of state-of-the-art technology in our IV room(s) / nonsterile compounding areas, Pharmacy remodels, Ambulatory Surgery Center expansions, and other EPIC enhancements to improve workflow, quality, and patient safety.

High Value Pharmacy Enterprise Gap Closures

- Two carousels implemented in Central Pharmacy August 2022 that moved the needle to ~90% gap closure. 6th Floor Pediatric Satellite Carousel implemented September 2023
- CIVA PLX Implementation Project aligned all inpatient areas to be fully integrated onto Pharmalogistics (PLX) which allows for transparency of current on hand drug inventory and fiscal accountability of inventory

Pharmacy Revenue and Accountability

- One-time inventory adjustment based on 5-day min/10-day max using average daily utilization over 6 months. Total Max Reduction = $280,859
- Conversion from 503B Norepinephrine to Baxter Norepinephrine: Anticipated savings: ~$100,000

Operational Optimizations

- There has been a decrease in turnaround time for central pharmacy from ~2.5 hours to ~1 hour over the course of 2023.

Central Pharmacy Renovations

- Central pharmacy is currently in the beginning phases of a multi-year renovation project that will happen in several phases throughout the entirety of the space. Once completed, it will feature a third carousel, a more streamlined central workspace, an updated non-sterile compounding area, a larger staff breakroom, a hazardous drug holding room for contingency planning and an additional set of administrative offices for new hires / project days
Perioperative Services (OR) Pharmacy Team

The Perioperative Pharmacy team currently includes 9 pharmacists and 8 technicians. The perioperative space operates as a mixed-use area servicing inpatients and outpatients. The OR team is responsible for covering the Main Hospital OR areas, ambulatory surgery centers, Pre-Op Clinic (PAC Clinic) and various procedural areas which can provide services to >250 patients on a normal operating day.

FY23 Major Accomplishments:
• The OR team effectively expanded to include decentralized clinical pharmacists working in the University Tower Surgery Suites PACU and in the Pavilion Surgery Center PACU.
• The team expanded into the Ambulatory Care space to include a pharmacist at the Pre-Anesthesia (PAC) Clinic in the ACC Building supporting nurse practitioners.

October '23 Advanced Prep Implementation:
• Enhancing OR efficiency and patient safety by implementing Epic Advanced Prep tools and shifting medication compounding from inside of the OR into pharmacy-run spaces.

The Medication Error Reduction Committee awarded one of our OR Pharmacists the Medication Safety Catch of the Year 2023!!
Education & Training Programs

Domini Hood, PharmD, Manager, Education Enterprise
Tiffany Pon, PharmD, BCPS, Co-Director, UCSF Greater Sacramento Area Experiential Program
Shannan Takhar, PharmD, BCACP, Co-Director, UCSF Greater Sacramento Area Experiential Program
Nikki Fairbanks, CPhT, Supervisor Central Operations

➢ ~70% retention rate of PGY1 & PGY2 residents
➢ Hosted the 6th Annual UC Pharmacy Collaborative Conference
➢ Two successful Technician Extern Program graduates
➢ 95% residency match rate of UCSF Greater Sacramento Area Students
➢ Provided 22 hours of Continuing Pharmacy Education to staff
➢ Residents provided 1028 teaching hours to colleagues and students
➢ Learners completed 985 medication histories and 543 Anticoagulation Educations

2023-2024 Resident Class

Major Accomplishments in FY23

Residency Program Directors & Coordinators
Primary Care Clinical Services

Diabetes Management
Hypertension Management
Pain/Opioid Stewardship
Substance Use Disorder Treatment
Geriatrics Medication Management
Medication Reconciliation
Medication cost/access

16 UC Davis Health Clinics
>18,500 Patient Care Encounters
>400 Medication Financial Assistance cases supported
50% HTN control disparity gap reduction
1st & 3rd Most impactful projects, UC Collaborative Research Conference
Ambulatory Care Clinical Services
Our Ambulatory Care Clinical team operates under 24 CPAs with various service lines throughout ambulatory care.
### Refill and Prior Authorization
- 22,500 patients with 1,200 refill encounters per week
- 64,000 refills/year with an average turnaround time of 33 hours
- Refill support for six primary care and specialty clinics by end of FY23
- Submitted 24,688 PAs with an approval rate > 75%
- Submitted 693 appeals

### Anticoagulation
- Manages 725 patients/year
- 370 pharmacist encounters/week and ~ 24,000 encounters yearly
- Time in therapeutic range (TTR) is 70.3%
- Anticoagulation clinic initiates pharmacist DOAC transitions, education, financial assistance and overall clinic support
**Population Health and Accountable Care**

### Population Health – Transitions of Care

- Clinical pharmacy support for Skilled Nursing Facility Care Collaboration and Care Transitions program
  - 514 Patient encounters
  - 859 Admission and Discharge medication reconciliations
  - 283 Post-discharge follow-ups
  - 63% of errors identified were either Serious or Life-threatening
- Incentive-based Programs
  - Quality Incentive Program – support UCDH & Sac County Health Center for medication metrics
  - STARS – achieved 5-star rating for 3/4 medication metrics

### Accountable Care

- Utilization Management
  - Reviews medical necessity for 42,000 Managed Care patients over 6 payor contracts
  - Referral volume: 6,600
  - Turn Around Time: 90% within goal
- Emerging Therapy
  - Assess risk and coordinate operational logistics of high-cost therapies (e.g., >$300,000 per patient per year)
  - 4th site in the nation to infuse Elevidys, a new gene therapy for Duchenne Muscular Dystrophy

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Retail Pharmacy Services

Retail pharmacies provide traditional outpatient pharmacy services to patients and employees, including screening prescriptions for appropriateness, insurance billing, dispensing, and providing consultation to patients and staff.

We operate five locations, including two locations that dispense specialty drugs, across the hospital campus in Sacramento and in Davis. We strive to meet the needs of our customers by providing exceptional service and ensuring the safe use of medications to provide the best possible patient outcomes.

- **Pavilion Pharmacy: 170,939 (+8.7%)**: Only pharmacy in the main hospital, serving discharge and ED patients 7 days a week

- **ACC Pharmacy: 55,723 (+15.9%)**: Serving primary care and specialty clinics, and Same Day Surgery

- **Cancer Center Pharmacy: 35,541 (+12.7%)**: Serving oncology and hospice

- **Cypress Pharmacy: 104,624 (+10.9%)**: Serving patients receiving specialty drugs

- **UC Davis Clinic Pharmacy: 30,508 (+1.6%)**: Serving patients of UC Davis Medical Group, staff at main academic campus, and the surrounding community

- 10% increase in total prescription dispensed
- 28% increase in total operating revenue
- Fully implemented Willow Inventory with inventory management and 340B qualification and billing logic
- Implemented prior authorization program for discharge prescriptions
- Recouped $650,000 in revenue through claims review and billing audits
- Achieved $3.6 million in revenue enhancements through better payer contracting
- Implemented limited formulary of OTC products for sales to employees and patients at all locations
- Achieved 99.75% accuracy in claims billing based on audits of claims totaling $5.5 million
340B Program

This federal program, guided by Health Resources and Services Administration (HRSA) and the Office of Pharmacy Affairs (OPA), requires drug manufacturers to provide discounted medication to entities who provide services to a disproportionate share of the underserved population. The primary goal is to ensure continuous compliance, while maximizing savings and opportunities to ensure that UCDH meets the intent of this important program: to stretch scarce federal resources as far as possible, reaching more eligible patients and providing more comprehensive services.

CONTRACTS
- Added 15 new contract pharmacies

LDDs
- Gained access to several Limited Distribution Drugs (LDDs)

CLAIMS
- Manually reviewed and qualified claims
340B Highlights

- Gained access to lenalidomide and pomalidomide at a designated contract pharmacy
- Transitioned management of retail/specialty 340B program to Epic Willow Ambulatory
- Onboarded TPA for management of Home Infusion Pharmacy
- Converted contrast agents to a non-covered outpatient drug status to mitigate 340B and billing compliance
- Collaborated with Purchasing and Pharmacy Billing to decrease Inpatient WAC spend from 8% to 7%
- Initiated 340B billing audit for retail Medi-Cal claims
- Lobbied with lawmakers to protect the 340B program
- Conducted review of radiopharmaceuticals for 340B compliance
- Audited over 12,000 transactions for 340B compliance
Home Infusion Services

Our mission is to provide user friendly home infusion and our vision is to be the preferred home infusion provider for UC Health patients. The UC Davis Health at Home team consists of highly trained billers, nurses, pharmacists, and pharmacy technician navigators.

45 Average Patient Census  25 Therapies Offered
10 Counties Served  2 Active Accreditations

Looking forward:
• Begin servicing acute therapies in Spring 2024
• Implementing 4 infusion suites at new pharmacy location
• Enhance nursing partnerships throughout rural California counties
• Continue to add therapies to meet the needs of all UC Davis patients and providers
Pharmacy Business Services

Pharmacy Business Services, is a High Value Pharmacy Enterprise domain that encompasses Pharmacy Finance, Revenue Cycle, Supply Chain Services, and provides enterprise oversight for pharmaceutical financial management.

Since 2021, +8 FTEs; 3 FTEs (finance) – project policy analysts in pharmacy finance, revenue cycle, strategic sourcing, and 5 FTEs (pharmacy supply chain).

Pharmacy Dept
Affordability $20M+

Revenue Charge
Capture & NTAP
$10M+

Contracting &
Capital Managed

Vizient Pharmacy
Vision Award 2023
Pharmacy Supply Chain Services

As a part of UCDH Pharmacy Business Services, Pharmacy Supply Chain Services are improving lives and transforming health care through supply chain risk management of essential pharmaceuticals and services required by UC Davis Health. Our services enhance enterprise adaptability to disruptions, maximize operational resilience to enable clinical strategic expansions, and develop dynamic partnerships, trust, and growth.

Major Accomplishments & Strategic Initiatives

- Since 2021, +5 FTEs
  - 2 pharmacist specialist
  - 2 procurement analysts
  - 1 procurement analyst lead
- Conversions, reductions, inventory $3M
- Visual drug shortage database (Asana & Sharepoint)
- Pharmacy Supply Chain Shared Services coming FY24!
- DSCSA compliance and implementation 11/2023
UC Davis Health launched its specialty pharmacy program in 2010. It provides clinical pharmacy services in the following areas: Allergy, Cardiology, Dermatology, Endocrinology, Gastroenterology, Hepatology, Infectious Diseases, Neurology, Oncology, Pulmonology, Rheumatology, Solid Organ Transplant. Our team is made up of 35 pharmacists, 46 technicians, 2 analyst and 7 leaders.

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| **29%** |
| Revenue Increase from FY22 |

| **1872** |
| Patients received financial assistance for medications due to SP Staff efforts |

| **2nd** |
| Ranked Nationally in Patient Satisfaction Survey in NASP |

| **9** |
| New Manufacturer limited distribution drugs acquired |

| **97.7%** |
| Total Patient/Provider Satisfaction |

| **133,981** |
| Total Rx Dispensed |

| **28,526** |
| Patient Calls |

| **6,981** |
| Total Prior Authorizations |

| **18,500** |
| Total Specialty Rx |

| **99.2%** |
| Calls Answered in <30 seconds |

| **2.5 days** |
| Overall Rx Turn Around Time |

| **84,532** |
| Total Rx Deliveries |

| **$13,379,538** |
| Total Financial Assistance Provided |
Specialty Pharmacy Services

Specialty Pharmacy implemented Compass Rose, a patient management software embedded in Epic, to manage our patients within our therapy areas. This new software will allow us to track and automatically create tasks to ensure more thorough care for our patients.

Specialty Pharmacy achieved 2 accreditation milestones in 2023. We earned a new accreditation with The Joint Commission (TJC) earlier this year, and our URAC reaccreditation for the next 3 years. Both accreditors visited us within a week of each other, and there were no major findings for either of them!

Cypress Pharmacy underwent major decluttering and reorganization during the 5S project. This event resulted in improved safety, reduced clutter, and reduced amount of motion for our staff.
Oncology Specialty

The Oncology Specialty Pharmacy Team was established in collaboration with the Department of Hematology/Oncology in October 2013. The pharmacists and pharmacy technicians work with the care team to create individually tailored therapies designed to help patients achieve the best possible clinical outcomes.

Solid Organ Transplant

The Solid Organ Transplant Team comprises of both inpatient & ambulatory care pharmacists that provide comprehensive medication management services for kidney, liver, and heart transplant patients. The team has continued to grow with the launch of the liver transplant program in July 2023 and the expected launch of heart transplant program in December 2023.
PUBLICATIONS, PRESENTATIONS, AWARDS & COMMITTEE APPOINTMENTS 22/23

https://doi.org/10.1016/j.vaccine.2021.10.013


https://doi.org/10.1016/j.japh.2022.09.015


https://doi.org/10.1007/s10787-023-00692-6


Colleen McCann, Natalie Kamiyama, Debra Burgess, Angela E. Usher, Jeffrey Fine, Machelle Wilson, Andrea Iannucci, Gary S. Leiserowitz, and Marcio Malogolowkin. Documentation of Infertility Risk Discussion in Cancer Patients Receiving Cancer-Directed Therapy: The UC Davis Cancer Center Experience. Journal of Adolescent and Young Adult Oncology. http://doi.org/10.1089/jayao.2023.0034

Hospital-Acquired Diabetic Ketoacidosis. Dahlia Zuidema, PharmD, Berit Bagley, MSN, and Charity L Tan MSN. PSNet. February 1, 2023. Hospital-Acquired Diabetic Ketoacidosis. | PSNet (ahrq.gov)


Low Rates of Primary Medication Non-Adherence in Patients Prescribed Oral Oncology Agents Across Health-System Specialty Pharmacies, Authors: Autumn Zuckerman, PharmD, BCPS, AHAIP, CSP, Jared Crumb, PharmD, Huda Marie Kandah, PharmD, BCPS, CSP, Thom Platt, PharmD, PhD, MBA, BCPS, Debbye Duckworth, PharmD, CSP, Kristina Lo, PharmD, BCOP, David Mitchell, PharmD, MBA, CSP, FCPHA, Erica Diamantides, PharmD, MHA, BCPS, Caitlin Murphy Streck, PharmD, Josh DeClercq, MS, Leena Choi, PhD, Ruchik Patel, PharmD. Journal: JMCP, 2023; 29(7); 740-748 https://doi.org/10.18553/jmcp.2023.29.7.740


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Neurologic Examination Facilitated by Reversal of Rocuronium with Sugammadex. Falksen JA, Schomer KJ. Journal of Pharmacy Practice. 2023;0(0). https://doi.org/10.1177/08971900231194564


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Graboyes SDT, Kline TM, Harris TN, Iyer PS, Hollis IB. Safety and Efficacy of Prophylactic Amiodarone After Left Ventricular Assist Devic e. ASAIO J. 2023;69(1):96-100. https://doi.org/10.1097/mat.0000000000001663


Aaron Roberts, PharmD, BCPS-AQ Cardiology, AACC
- When the Blood Bank Runs Dry: Use and Stewardship of Concentrated Clotting Factors. 57th ASHP Midyear Clinical Meeting & Exhibition. Las Vegas, NV Dec 7, 2022
- Exploring devices that influencing anticoagulant or antiplatelet therapy. 37th Pharmacy Innovations Conference on Antithrombotic Therapy (PICAT) Advances and Updates in Antithrombotic Therapy 2022. Virtual Conference, Dec 3, 2022

Brent Hall, PharmD, BCPS
- “How Did I Get Here?” Presentation to California SCCP chapter, November 30, 2022
- “Which path is right for me?? Pediatric Residency Training Options: A Panel Discussion.” Presented to students from the ACCP Pediatric PRN and Pediatric Pharmacy Association, October 6, 2022

Brittany Verkerk, PharmD, BCCCP
- Hofstra University Cardiovascular Sciences and Perfusion Medicine, Pharmacology Class: Drugs Used in Disorders of Coagulation, 2022.
- ACCP Global Conference on Clinical Pharmacy, Pulmonary PRN Focus Session: Respiratory Devices for Inpatient Management: A Primer for Clinical Pharmacists, 2022.

Charity Hale, PharmD.

David Li, PharmD, BCCCP, CNSC

David G. Mitchell, PharmD, MBA, CSP, FCPhA
- Low Rates of Primary Medication Non-Adherence in Patients Prescribed Oral Oncology Agents Across Health-System Specialty Pharmacies, Authors: Autumn Zuckerman, PharmD, BCPS, AAHIVP, CSP, Jared Crumb, PharmD, Huda Marie Kandah, Pharm.D., BCPS, CSP, Thom Platt, PharmD, PhD, MBA, BCPS, Debbie Duckworth, PharmD, CSP, Kristina Lo, PharmD, BCOP, David Mitchell, PharmD, MBA, CSP, FCPhA, Erica Diamantides, PharmD, MHA, BCPS, Caitlin Murphy Streck, PharmD, Josh DeClercq, MS, Leena Choi, PhD, Ruchik Patel, PharmD. Post Presented at AMCP 2023

Domini Hood, PharmD
- Vizient Pharmacy Network Meeting: Precepting Made Easy - Creating a Standard Approach to Prevent Burnout, 2022

Iris Zhao, PharmD, BCOP, BCPS, APh
- 2023 Forbidden City International Pharmacist Forum: "Navigating Care for Patients on Oral Oncolytics"

Jennifer Murphy, PharmD, BCOP
- Research Pharmacy Summit: Know your Worth: Billing and Metrics in the IDS World, 2022;
- Horizon CME Oncology 101: Targeted Therapies, 2022 and 2023
- HOPA: Core Competency IDS Module, 2023

Jennifer Craven, PharmD, BCPS
Jeremiah Duby, PharmD, BCPS, BCCCP, FCCM  

Jessica Ma, PharmD, BCPS  

Jin A. Lee, PharmD, BCCCP  

Joy Dray, PharmD, BCACP, AAHIVP  

Joyce Lee, PharmD, BCOP, BCPS  
- Invited speaker. Advanced Practice Provider Clinical Research Workshop at Southwest Oncology Group (SWOG) Fall Meeting 2022  

Kassi Bugg, PharmD, BCACP  
- CSHP Seminar 2022 Poster: Implementation of Epic Turbocharger Refill Protocols at a pharmacist-run refill clinic  
- CSHP Seminar 2023 Poster: Implementation of a Comprehensive Medication Review Video Visits Within a Centralized Pharmacist Refill Service  
- Anticoagulation Forum 2023 Poster: Evaluating the Process of Transitioning Atrial Fibrillation (AF) Patients from Warfarin to a Direct Oral Anticoagulant (DOAC) in a Pharmacist-led Anticoagulation Clinic  

Monica Donnelley, PharmD, BCIDP, BCPS, AAHIVP  
- Critical Care Congress, HABP/VABP: Strategies for Early Effective Therapy in Critically Ill Patients, January 2023  
- Shah, M, Horton, M, Donnelley MA. Establishing Pharmacokinetic Profile of β-lactams in Critically Ill Patients on Continuous Sustained Low-efficiency Dialysis (C-SLED) ID Week October 2022, Washington, DC. [Poster]  

Mackenzie Pierce, PharmD, BCPS, BCPP  
- AAPP Annual Meeting: Implementation of Psychiatric Pharmacists at Academic Medical Center [poster], 2023  

Maki Usui, PharmD, BCPS  
- Evaluation of hypersensitivity reactions with intravenous vs intramuscular pegaspargase after diphenhydramine premedication in leukemia patients. Children's Oncology Group, 2022  

Ryan Beechinor, PharmD, BCPS, BCOP  
- Hematology/Oncology Pharmacy Association 2023 Annual Meeting, Practical Management of AML with a BCL-2 Inhibitor, March 2023  


Ryan Cello, PharmD

- Formulary Management Best Practice. May 2022. BD Pyxis - Epic Bimonthly Thought Leader Call
- Data Analytics: Development of Analytics Teams, Dashboards, and Visualizations. September 2022. BD Pyxis - Epic Bimonthly Thought Leader Call

Rachelle Firestone, PharmD, BCCCP

- Gen Z, The Next Generation – Where No Preceptor Has Gone Before
  National Pharmacy Preceptors Conference, American Society of Health-System Pharmacists (October 2022)
  Pacific Coast Preceptor Conference, California Society of Health-System Pharmacists (May 2022)

Sarah Cummins, PharmD

- Massachusetts Society of Health-System Pharmacists: Barriers to Overcoming Financially Disadvantaged Backgrounds and Pursuing Higher Education, 2022
- CSHP Seminar: Optimizing Residency Rubrics and Recruitment Strategies to Increase Diversity, Equity, and Inclusion, 2022

Sydney Graboyes, PharmD, MBA, BCCP

- Touro University School of Pharmacy: Anticoagulation Reversal - Acute Care Elective

Selina Somani PharmD, MHA, BCPS


Selena Warminski, PharmD, BCPPS


Tiffany Pon, PharmD, BCPS

- It Takes a Village: Structure and Outcomes of a Master Preceptor Program, 2022 CSHP Pacific Coast Preceptors Conference AND 2022 ASHP National Pharmacy Preceptors Conference
- Impact of pharmacist-led discharge medication reconciliation on error and patient harm prevention, 2022 Vizient Pharmacy Network Resident Poster Session. Co-presented with Linda Zheng (first author), Sarah Bajorek, Kathie Le, Becky Hluhanich
- Impact evaluation of an interprofessional chronic illness teaching series, 2023 Society of Teachers of Family Medicine Annual Conference Poster Session. Co-presented with Ellen Berkley, Rebecca Howe, MD, Dylan Sabb, MD, and Shreeya Raman, MD

Jin A. Lee, PharmD, BCCCP


Zachary Carlson, PharmD

- UC Pharmacy Collaborative Conference 2023: Impact of Combination Therapy with Ceftaroline and Daptomycin in MRSA Bacteremia at a Major Academic Medical Center
FRIENDS OF NURSING – UC DAVIS HEALTH

Nursing Excellence Award
Christopher Adams, PharmD, BCCCP
Senior Emergency Medicine Pharmacist

Nursing Excellence Award
Haley Burns, PharmD, BCem
Emergency Medicine Pharmacist

Safety Catch of the Year - Nursing Excellence Award
Jenny Zhao, PharmD
OR Pharmacist

Nursing Excellence Award
Jessica Falksen, PharmD
Critical Care Pharmacist

Nursing Excellence Award
Joy Dray, PharmD, BCACP, AAHIVP
Senior Ambulatory Care Pharmacist

Nursing Excellence Award
Kristine Markham, PharmD, BCPPS
Pediatric Pharmacist

Nursing Excellence Award
Richard Haftmann, PharmD, BCPPS
Pediatric Pharmacist

Nursing Excellence Award
Rachelle Firestone, PharmD, BCCCP
Senior Critical Care Pharmacist

Nursing Excellence Award
San Hua, PharmD
Senior Medication Security Pharmacist

PHARMACY SCHOOLS

Rho Chi Distinguished Guest Lecturer, Spring 2023
Annie Cabri, PharmD
Informatic & Analytic Pharmacist

UCSF Preceptor of the Year 2022-2023
Bo Liu, PharmD, BCPS
Internal Medicine Pharmacists

UCSF Apples for Preceptor Award
Jeremiah Duby, PharmD, BCPS, BCCCP, FCCM
Critical Care Pharmacist

MOST DEDICATED PROFESSOR JUNE 2023
Monica Donnelley, PharmD, BCPS, AQ-ID, AAHIVP
Infectious Disease Pharmacist

UCSF APPLES FOR PRECEPTOR AWARD
Robyn Stoianovici, PharmD, BCCCP
Critical Care Pharmacist

UCSF APPLES FOR PRECEPTOR AWARD
Sierra Young, PharmD
Critical Care Pharmacist

UCSF APPLES FOR PRECEPTOR AWARD
Samantha VanAcker, PharmD, BCNSP
Nutrition Support

UCSF APPLES FOR PRECEPTOR AWARD
Svetlana Goldman, PharmD, BCACP, CDCES
Ambulatory Cardiology Pharmacist

UC DAVIS HEALTH

AACP Preceptor of the Year 2022-2023
Brent Hall, PharmD, BCPPS
Pediatric Pharmacist

POP Award
Michael Pitner
Specialty Technician III

UC Davis Excellence Award
Monica Donnelley, PharmD, BCPS, AQ-ID, AAHIVP
Infectious Disease Pharmacist

2022-2023 Residency Preceptor of the Year
Sydney Graboyes, PharmD, BCCP, MBA
Cardiology Pharmacist

EXTERNAL

Presidential Citation, Society of Critical Care Medicine
Jeremiah Duby, PharmD, BCPS, BCCCP, FCCM
Critical Care Pharmacist

Fellow of Critical Care Medicine, Society of Critical Care Medicine
Rachelle Firestone, PharmD, BCCCP
Senior Critical Care Pharmacist
**COMMITTEE APPOINTMENT**

<table>
<thead>
<tr>
<th>Name</th>
<th>Appointment</th>
</tr>
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<tbody>
<tr>
<td><strong>Brent Hall, PharmD, BCPPS</strong></td>
<td><strong>Pediatric Pharmacist</strong>&lt;br&gt;ACCP - Pediatric PRN Chair Elect, October 2023&lt;br&gt;ACCP - Pediatric Student Committee - Advisor, October 2022 - present&lt;br&gt;Pediatric Pharmacy Association - Residency Program Director SIG, Chair Elect - May 2023&lt;br&gt;Board of Pharmacy Specialists - Pediatric Pharmacy Specialty Council, Member – 2024 - 2026&lt;br&gt;Wolter/Kluwer Lexi Comp - Consultant - 2020 - present</td>
</tr>
<tr>
<td><strong>Brittany Verkerk, PharmD</strong></td>
<td><strong>Critical Care Pharmacist</strong>&lt;br&gt;Member, Adult Item Writing Committee, SCCM, Feb 2022-Present. (3-yr apt)</td>
</tr>
<tr>
<td><strong>Chang Truong, PharmD, MS, BCPS</strong></td>
<td><strong>Critical Care Pharmacist</strong>&lt;br&gt;Chair, UC Health Pharmacy Purchasing Collaborative, June 2023&lt;br&gt;Member, AmerisourceBergen Corporation Hospital Operational Committee, February 2023</td>
</tr>
<tr>
<td><strong>David G. Mitchell, PharmD, MBA, CSP, FCPhA</strong></td>
<td><strong>Specialty Pharmacist Manager</strong>&lt;br&gt;California Pharmacists Association (CPhA) – Treasurer&lt;br&gt;CPhA Finance and Audit Committee - Chair&lt;br&gt;CPhA Finance and Investment Committee - Member</td>
</tr>
<tr>
<td><strong>David Vermeulen, PharmD, MS</strong></td>
<td><strong>Home Infusion manager</strong>&lt;br&gt;Board of Directors, National Home Infusion Association, April 2023</td>
</tr>
<tr>
<td><strong>Ha-Mill McLearan, PharmD, BCPPS</strong></td>
<td><strong>Pediatric Oncology Pharmacist</strong>&lt;br&gt;Children's Oncology Group PSC - Vice Chair of Career Development, COG, March 2020&lt;br&gt;Children's Oncology Group MECC - Co-Chair, COG, Feb 2021&lt;br&gt;Children's Oncology Group LTC - Disease State Liaison, COG, Oct 2022</td>
</tr>
<tr>
<td><strong>Jeremiah Duby, PharmD, BCPS, BCCCP, FCCM</strong></td>
<td><strong>Critical Care Pharmacist</strong>&lt;br&gt;Board of Pharmacy Specialties (BPS) Council Member – Critical Care Program Committee. Society of Critical Care Medicine.&lt;br&gt;Clinical Practice Guideline: Pain, Agitation, Delirium, Early Mobilization and Sleep. Society of Critical Care Medicine.</td>
</tr>
<tr>
<td><strong>Kofi Andoh, PharmD, MS</strong></td>
<td><strong>Home Infusion Manager</strong>&lt;br&gt;Member, Section of Pharmacy Practice Leaders Advisory Group on Frontline Leaders, ASHP, July 2023</td>
</tr>
<tr>
<td><strong>Rachelle Firestone, PharmD, BCCCP</strong></td>
<td><strong>Senior Critical Care Pharmacist</strong>&lt;br&gt;Co-Lead, UC Critical Care Pharmacy Collaborative&lt;br&gt;Board of Directors, Society of Critical Care Medicine, Northern California chapter&lt;br&gt;Member appointment, Society of Critical Care Medicine, Membership Committee</td>
</tr>
<tr>
<td><strong>Ryan Beechinor, PharmD, BCPS, BCOP</strong></td>
<td><strong>Senior Cancer Center Pharmacist</strong>&lt;br&gt;Planning Committee, Horizon CME Oncology 102, May 2023&lt;br&gt;Chair, Hematology/Oncology Pharmacist Association (HOPA) Education Development Committee 2022</td>
</tr>
<tr>
<td><strong>Ryan Cello, PharmD</strong></td>
<td><strong>Informatic &amp; Analytic Pharmacist</strong>&lt;br&gt;Director-at-Large (Installed 2023), for the Section of Pharmacy Informatics and Technology Executive Committee (2022-2025)</td>
</tr>
<tr>
<td><strong>Samantha VanAcker, PharmD, BCNSP</strong></td>
<td><strong>Nutrition Support Pharmacist</strong>&lt;br&gt;Member, Clinical Practice Committee, American Society for Parenteral and Enteral Nutrition, 2023&lt;br&gt;Member, Education and Professional Development Committee, American Society for Parenteral and Enteral Nutrition, 2023</td>
</tr>
<tr>
<td><strong>Selina Somani PharmD, MHA, BCPS</strong></td>
<td><strong>Transplant Pharmacy Manager</strong>&lt;br&gt;Vizient Professional Development and Workforce Subcommittee Lead</td>
</tr>
<tr>
<td><strong>Sydney Graboyes, PharmD, BCCP, MBA</strong></td>
<td><strong>Cardiology Pharmacist</strong>&lt;br&gt;ACCP Cardiology PRN Communications &amp; Social Media Committee, Work Group Lead 2023 ACCP BCOP Board Prep Chapter Reviewer and Field Tester</td>
</tr>
<tr>
<td><strong>Tiffany Pon, PharmD, BCPS</strong></td>
<td><strong>General Medicine Pharmacist</strong>&lt;br&gt;Member, Clinical Research Challenge Oversight Panel, ACCP, 2018-Present&lt;br&gt;Member, Blue Shield of California Pharmacy and Therapeutics Committee, 2015-Present</td>
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