The UC San Diego Health (UCSD) Department of Pharmacy offer a one-year specialty residency in oncology pharmacy practice beginning August 1.

**Purpose**

Post Graduate Year 2 (PGY2) pharmacy residency programs build on Doctor of Pharmacy (PharmD) education and PGY1 pharmacy residency programs to contribute to the development of clinical pharmacists in specialized areas of practice. PGY2 residencies provide residents with opportunities to function independently as practitioners by conceptualizing and integrating accumulated experience and knowledge and incorporating both into the provision of patient care or other advanced practice settings. Residents who successfully complete an accredited PGY2 pharmacy residency are prepared for advanced patient care, academic, or other specialized positions, along with board certification.

Pharmacy residents completing the UCSD PGY2 Oncology Pharmacy Practice Residency will be described as advanced practitioners who are equipped to be fully integrated members of the interdisciplinary hematology/oncology team and able to make complex medication recommendations in this environment, especially regarding oncology treatment. The resident will engage in various learning experiences, allowing them to understand and appreciate the implications of medication therapy used in various disease states commonly encountered in this patient population. At the completion of the UCSD PGY2 Oncology residency, the resident will have mastered the skills of writing and evaluating a chemotherapy order, in addition to managing preparation, distribution, and disposal of hazardous medications. They will demonstrate leadership and practice management skills, and develop proficiency in communication through educating other health care professionals, patients, and students on hematology/oncology issues. Graduates of our program will have developed the skills necessary to conduct a hematology/oncology pharmacy research project, precept students/residents, and serve on a multidisciplinary committee.

**Program Description**

UC San Diego Health PGY2 Oncology Pharmacy Residency Program prepares its graduates to assume positions in oncology areas such as (but not limited to) an inpatient or outpatient clinical specialist or as assistant professor at a college of pharmacy. Graduates will be prepared to sit for the Board Certification Oncology Pharmacy exam. UC San Diego Health is a university teaching hospital providing the unique capability to engage each of our residents in direct patient care activities across a vast array of disease states, research, administration and project management, and multidisciplinary teaching skills.

PGY2 residents will gain the skills to function as the primary oncology pharmacist during their required core rotations. Primary responsibilities vary based on rotation and include rounding with the oncology/hematology/bone marrow transplant disease specific teams (inpatient and outpatient), designing, recommending, monitoring, and evaluating patient-specific therapeutic regimens that incorporate the principles of evidence-based medicine, addressing all pharmacokinetically-monitored medications, acting as secretary of the hematology/oncology Pharmacy & Therapeutics subcommittee, validating pharmacy orders for oncology patients (including chemotherapy), and overseeing and directing PGY1 resident and pharmacy student activities. This integration of staffing and clinical services prepares residents for any type of practice environment they may encounter in their future jobs by emphasizing the development of essential skills required for an advanced pharmacy practitioner: independent practice skills, multi-tasking and prioritization.

Teaching activities include regular didactic presentations, leading oncology topic discussions for fourth year pharmacy students, involvement with UCSD SSPPS courses (e.g., conference leader for third year therapeutics course, lecturer for oncology elective and therapeutics course (if available)), and as warranted experiential preceptorship of PGY1 pharmacy practice residents and fourth-year UCSD
pharmacy students. The ability to work independently and to supervise pharmacy students and residents will be emphasized. The resident will also be involved in a research project. Scientific writing is strongly emphasized and the preparation of a manuscript suitable for publication will be expected, and submission to a journal is strongly encouraged.

Number of residency positions available: 1 resident is typically accepted each year

House Officer Details:
The annual stipend is currently $54,000. Benefits include medical, dental, and vision insurance. In addition, vacation, sick and professional leave are provided. Please visit the UC San Diego Health Pharmacy Residency webpage for more information about duty hours, leave, benefits, position description, terms of dismissal, and more. Click on the House Officer Policy and Procedure Document: https://health.ucsd.edu/specialties/pharmacy/residency/Pages/Salary-and-Benefits.aspx

Requirements:
All applicants will be contacted for a preliminary phone interview in early January. On-site interviews will be held during late January through early March. This specialty residency program participates in the ASHP Resident Matching Program. All applicants must be enrolled in the Resident Matching Program. To facilitate this enrollment process and for further information, please visit the following website: www.natmatch.com/ashprmp

If matched with the UC San Diego Residency Program, matched candidates must have all of the following:
1. Graduated from an accredited school of pharmacy with a Doctor of Pharmacy degree
2. Successfully completed an ASHP accredited PGY1 pharmacy practice residency
3. Obtained California pharmacy licensure prior to beginning residency (absolute deadline to start = November 1st). The residency offer may be rescinded if the resident does not take the CPJE prior to August 1st.

Application:
Applications each year will be accepted beginning in December. Deadline for application is December 31. Applications should be submitted through PhORCAS and include the following:
1. Letter of intent
2. Current Curriculum Vitae
3. Three electronic references are required

Program Structure

Rotations:
Descriptions of each learning experience can be found in PharmAcademic

Half of the year will focus on outpatient and half will focus on inpatient.

1 week of orientation
5 months inpatient
   ▪ 1 month inpatient staffing orientation (serves as training for inpatient staffing; CORE required)
   ▪ 2 months inpatient hematology/oncology consult (CORE required)
   ▪ 2 months inpatient hematopoietic stem cell transplant (CORE required)
4 months outpatient
   ▪ 1 month outpatient infusion center (serves as orientation to outpatient staffing; CORE required)
   ▪ 2 months outpatient clinics (CORE required)
2, 1 month long electives
Approximately 4 weeks of research time

Elective Choices:
Descriptions of each learning experience can be found in PharmAcademic
There will be a total of 5 rotations that the resident can choose their 2 electives from. Any of the required rotations could be repeated again as an elective.
- Pain Management & Palliative Care (highly recommended)
Rotation Schedule Example:
O=orientation, E=elective, C=core required rotation, R=research

<table>
<thead>
<tr>
<th>Month</th>
<th>Rotation</th>
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<tbody>
<tr>
<td>August</td>
<td>Outpatient Infusion Center (O)</td>
</tr>
<tr>
<td>September</td>
<td>Pain &amp; Palliative Care (E)</td>
</tr>
<tr>
<td>October</td>
<td>Outpatient Clinic (C)</td>
</tr>
<tr>
<td>November</td>
<td>Outpatient Clinic (C)</td>
</tr>
<tr>
<td>December</td>
<td>Inpatient Orientation (O)</td>
</tr>
<tr>
<td>January</td>
<td>Inpatient Oncology (C)</td>
</tr>
<tr>
<td>February</td>
<td>Research (R)</td>
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<tr>
<td>March</td>
<td>Inpatient BMT (C)</td>
</tr>
<tr>
<td>April</td>
<td>Inpatient BMT (C)</td>
</tr>
<tr>
<td>May</td>
<td>Outpatient Clinic (C)</td>
</tr>
<tr>
<td>June</td>
<td>Elective (E), such as IDS</td>
</tr>
<tr>
<td>July</td>
<td>Inpatient Oncology (C)</td>
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Research Project:
The resident will be involved with 2 projects throughout the academic year. The idea is that they will be completing an ongoing project which will be presented at the either Western States Conference or at a national oncology meeting (i.e. Hematology/Oncology Pharmacy Association (HOPA), American Society of Clinical Oncology (ASCO), etc) as well as initiating a second project. This initiation phase will be to define the study design, write up the protocol and begin the IRB approval phase for the incoming PGY2 Oncology’s research project. The idea here is that the incoming oncology resident will then finish the project that they chose and that was started by the outgoing oncology resident. A list of project ideas will be generated from the core preceptors and the selection of a project will need to be completed within 1-2 months of incoming residents start date.

Other Projects:
The resident will be asked to complete multiple mini-projects throughout the PGY2 year. Some will focus on formulary management & quality improvement; others may be to initiate new protocols or guidelines. These projects will be formulated through their involvement in the Hematology/Oncology Subcommittee of the Pharmacy & Therapeutics Committee or during their inpatient/outpatient months.

Staffing/Benefits/Licensure Requirements:
The PGY2 resident will be required to staff 16 weekends (which includes 1 minor holiday weekend and 1 major holiday (Thanksgiving, Christmas, or New Year’s) at UCSD, and the possibility of a weekday-staffing component during certain rotations. The weekday staffing would be inpatient staffing after rotation, one day per week, to allow the resident to gain more experience with chemotherapy order evaluation and to experience the differences between weekday and weekend staffing. To help provide more formative feedback, residents are expected to seek feedback from at least one staff member each weekend they staff. The feedback will be solicited via an online survey https://ucsd.co1.qualtrics.com/jfe/form/SV_28XYFXGDFnhj0wd
Completion of PGY2 pharmacy residency requires a minimum of 90% of residency required objectives marked “Achieved for Residency (ACHR)” with 100% of Competency Area R1: Patient Care marked “ACHR”.

Presentations and Teaching
The residents will be required to give many educational lectures to their colleagues throughout their residency year. The following details some of these events:

Grand Rounds:
The resident will be delivering a 1-hour CE lecture to the pharmacy staff regarding a new drug, new guidelines, controversial topic in hematology/oncology or other topic approved by PGY2 Onc Director.

If there are 2 hematology/oncology PGY2 resident(s), they can present individual topics at separate times of the year or they could present a controversial topic together (taking opposing stances). The idea behind a joint presentation isn’t to antagonize each other but to deliver an unbiased complete presentation of the controversial topic diving into the pertinent literature that supports their viewpoint and counters their opponents. The residents will have rehearsed their presentation together ahead of time in order to provide a seamless educational lecture.

Monthly Didactic Forums – BCOP Lecture Series:
In addition to the grand rounds, the resident(s) will be required to research and deliver two or three 45-60-minute lectures on various didactic topics throughout the year. These topics will be related to the BCOP Preparatory Review Course and will be relevant to the patient population they are currently involved with from a rotational perspective when possible. All parties are welcome to attend but the core hematology/oncology staff are strongly recommended to attend. This lecture series is held in conjunction with the San Diego Veteran’s Affairs and Kaiser Permanente PGY2 Oncology residents, along with the UCSD Skaggs School of Pharmacy/Pfizer fellows, which gives the residents/fellows the opportunity to network with other oncology pharmacists in the area.

Drug Review:
During outpatient blocks resident will go through various classes of anti-neoplastic agents. This will be an informal presentation to inpatient/outpatient preceptor including mechanism of action, pharmacokinetics, adverse effects, drug interactions, counseling pearls, etc.

Journal Club:
We will also be conducting a hematology/oncology journal club where the resident(s) will be required to present 4 articles by the end of the year. These meetings will be scheduled during the inpatient (2 articles) and outpatient (2 articles) rotation blocks and the date/location will be announced during the preceding week or so.

Skagg’s School of Pharmacy and Pharmaceutical Sciences (SSPPS):
The resident’s involvement with UCSD’s School of Pharmacy will vary depending on requests from SSPPS but possible activities include writing up hematology/oncology cases for student case conference, co-leading a case conference section with another PGY1 or PGY2 resident, preparing exam questions based on the hematology/oncology lectures presented, and/or presenting a formal lecture on hematology/oncology or another topic. Involvement beyond this would be directly related to precepting a student if they are on a rotation with the resident.

Publication
Scientific writing is strongly emphasized and the preparation of a manuscript suitable for publication will be expected, and submission to a journal strongly encouraged. The purpose of this requirement will be the development of scientific writing skills and communication skills. The types of publishable literature can include any of the following types of manuscripts:

- Case reports with a review of the literature
- Primary research /original research
- Medication Use Evaluation
- Meta-analysis of a disease state or therapy
- Review article
Meetings

Professional Meetings:
The resident will attend a profession meeting during their PGY2 year. The UCSD program will grant the resident a travel stipend to be used as reimbursement for attendance at a specialty meeting (i.e. annual meetings for HOPA, ASCO, ASH, NCCN, etc.) or the resident may choose to attend California Society of Health System’s Pharmacist (CSHP), American Society of Health Systems Pharmacists (ASHP) midyear meeting or Western States Conference. Their research project must be presented at either the specialty meeting or Western States Conference. A resident may, upon request, be granted the opportunity to attend more than 1 of the meetings above but any reimbursement beyond the travel budget will be the responsibility of the resident.

Hematology/Oncology Subcommittee of Pharmacy & Therapeutics Committee:
The resident will attend and take minutes for the monthly Hem/Onc P&T Subcommittee which meets on the first Friday of every month from 7-8am. This meeting will introduce the resident to healthcare professionals within UCSD, allow the resident to see policy making from infancy to mature product, and generate mini-projects for the resident to gain involvement in. Drug monographs will be presented to this committee.

Weekly Residency Program Director (RPD) Meetings:
The resident will meet on a weekly basis with the RPD to review progress on learning experiences, projects, and upcoming commitments.

Assessment Strategy – PharmAcademic
The PGY2 Oncology Specialty Residency Program uses the ASHP on-line evaluation tool called PharmAcademic, which is available for all ASHP-accredited pharmacy residency programs. This system, which is technologically supported by the McCreadie Group, supports the ASHP Residency Learning System (RLS).

Residents who are matched with this PGY2 specialty program are entered into PharmAcademic prior to their arrival in August. The incoming resident completes two pre-residency questionnaires that help the RPD design a residency year that is tailored to the specific needs and interests of the resident:
- ASHP Standard Entering Interests Form
- Goal-Based Entering Interests Form

Residents' schedules and assigned RLS Goals are entered into PharmAcademic. We have chosen to use the PharmAcademic evaluation tools for our Learning Experiences. For each Learning experience, the following Assessments are completed:
- Preceptor Assessment of Resident: Summative (for each Learning experience)
- Resident Self-Assessment: Summative-self (for each Learning experience)
- Resident Assessment of the Learning Experience
- Resident assessment of Preceptor

Preceptors and residents are encouraged to exchange in on-going, daily verbal feedback throughout each rotation experience. The resident and preceptors are trained and reminded throughout the year to complete evaluations in a thorough (quantitative and qualitative) and timely manner. To this end, evaluations may be used, not only as assessment tools, but also as tools that preceptors may turn to for help in guiding residents to improve, grow and achieve the residency programs and the residents’ goals and objectives for the residency year. The RPD reviews all evaluations and solicits verbal feedback from preceptors and residents to provide guidance to help the resident maximize the residency experience.

The residents discuss their program goals and interests quarterly (Quarterly Update and Customized Training Plan) with the RPD to evaluate where they are in meeting the residency goals and to set or modify goals for the remaining months of the residency program. Residents may meet as needed as their interests change throughout the year. The resident may request schedule modifications throughout the
residency year and the RPD will make all efforts to accommodate these requests. Assessment tools will be adjusted as changes are made.

The resident completes the ASHP PharmAcademic exit evaluation. Residents also are requested to complete a yearlong evaluation of the Residency Program by indicating pros/cons of each rotation. This document is to be updated at the end of each rotation rather than at the end of the year.

The results of these year-end Program evaluations are reviewed by the RPD for potential merit and potential action plans are developed in an effort to achieve continuous quality improvement.

Assessment Overview
(PGY2 Oncology)
It is the resident's responsibility to ensure the timely completion of all evaluations.
Self-reflection is encouraged to be included in Summative Evaluation of Resident for each rotation.

<table>
<thead>
<tr>
<th>Learning Experience</th>
<th>Frequency</th>
<th>Type of Assessment</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Summative-preceptor</td>
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<tr>
<td>Orientation Inpatient</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>MCC Infusion Center</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Outpatient Clinic #1</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Outpatient Clinic #2</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Outpatient Clinic #3</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Inpatient Oncology</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Inpatient BMT</td>
<td>Midpoint (informal) and Final</td>
<td>X</td>
</tr>
<tr>
<td>Research Month</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Pain &amp; Palliative Care</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>MCC Retail Pharmacy</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Investigational Drug Service</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Cancer Center Administration</td>
<td>Final</td>
<td>X</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>Final</td>
<td>X</td>
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<tr>
<td>Inpatient Staffing</td>
<td>Quarterly</td>
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<tr>
<td>Outpatient Staffing</td>
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<tr>
<td>Presentations</td>
<td>Quarterly</td>
<td>X</td>
</tr>
<tr>
<td>Research Project/Publication</td>
<td>Quarterly</td>
<td>X</td>
</tr>
</tbody>
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PGY2 Oncology Competency Areas, Goals and Objectives
- Educational Outcome: broad categories of the residency graduates’ capabilities.
  - Outcome R1: Serve as an authoritative resource on the optimal use of medications used to treat individuals with cancer.
o Outcome R2: Optimize the outcomes of the care of individuals with cancer by providing evidence-based, patient-centered mediation therapy as an integral part of an interdisciplinary team.

o Outcome R3: Manage and improve the medication-use process in oncology patient care areas.

o Outcome R4: Demonstrate excellence in the provision of training or educational activities for health care professionals or health care professionals in training.

o Outcome R5: Promote health improvement, wellness, and cancer prevention.

o Outcome R6: Sustain the ongoing development of expertise and professionalism in the practice of oncology pharmacy.

o Outcome R7: Conduct oncology pharmacy practice research.

o Outcome R8: Function effectively in oncology settings participating in clinical investigations.

- Educational Goals: Goals listed under each outcome are broad sweeping statements of abilities.
- Educational Objectives: Resident achievement of educational goals is determined by assessment of the resident's ability to perform the associated educational objective below each educational goal.
- The resident is encouraged to read detailed information about each goal at the ASHP website (click on Oncology Pharmacy (PGY2))

https://www.ashp.org/Professional-Development/Residency-Information/Residency-Program-Directors/Residency-Accreditation/PGY2-Competency-Areas

- For information about Goals and Objectives Taught/Taught and Evaluated in Learning Experiences, please visiting PharmAcademic, go the 'Reports' tab, and click on 'Goals and Objectives Taught/Taught and Evaluated in Learning Experiences'.

**PGY2 Oncology Residency Requirements for Completion/Graduation**

- Successful completion of all learning experiences

  - NOTE: Successful completion is defined as all learning experience objectives marked satisfactory progress (SP), ACH or achieved for residency (ACHR) by the final evaluation, of all learning experiences. Any expectations of the residents that are not met or learning objectives with needs improvement (N/I) from an on-demand or scheduled evaluation will result in a meeting between the learning experience preceptor, RPD, and resident and a plan of correction will be formulated. Failure to complete the plan of correction may result in disciplinary action.

  - Minimum 90% of RLS goals marked “Achieved for the Residency” by the end of the year (as evaluated by individual rotation preceptors or by the RPD upon final review of the resident's progress). All patient care goals (Outcome R1: Patient Care) and objectives must be achieved.

  - Residents will be required to complete a Research Primer Course at the beginning of the residency year and demonstrate competence as defined by the Research Council. If necessary, a remediation plan will be designed for residents who do not demonstrate competence.

  - Completion of required presentations: 4 Journal Clubs, 1 Grand Rounds, 2-3 BCOP lectures, 2-3 monographs, 1 in-service

  - Completion of a residency project; including presentation at a suitable conference/meeting

  - Completion of an MUE

  - Submission of a manuscript suitable for publication

  - Participation in Therapeutics Conference as a facilitator

  - Twelve months maximum is allotted to successfully complete the core requirements. If a core rotation must be repeated, then elective time shall be used. If the above requirements are not met in full, the residency certificate may be withheld at the discretion of the residency director.