Appendix E Oncology

PGY2 Oncology Pharmacy Residency Program Overview

National Matching Service Code: 619860
https://health.ucsd.edu/specialties/pharmacy/residency/Pages/hem-onc.aspx

The UC San Diego Health (UCSD) Department of Pharmacy offers 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 various 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 Certified Oncology Pharmacist 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 Skagg’s School of Pharmacy and Pharmaceutical Sciences (SSPPS) courses (e.g., conference leader for third year therapeutics course, lecturer for oncology elective and therapeutics course (as 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)
   - 3 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>Learning Experience</th>
</tr>
</thead>
<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>
</tr>
<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>
</tr>
</tbody>
</table>

If the program has 2 residents then one resident will be outpatient while the other is inpatient then they will swap.

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 develop 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 in April-May prior to the 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 at UCSD (which includes 1 minor holiday weekend and 1 major holiday (Thanksgiving, Christmas, or New Year’s)). Although subject to change this will be set up as inpatient staffing while on inpatient portion of the year and outpatient staffing while on outpatient portion of the year. Most months the resident will staff once, although some months will have two weekends scheduled due to training or major/minor holiday. There will be 1-2 weekends that may be exchanged for weekday staffing. Weekday staffing would be inpatient or outpatient 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.
**Example Staffing Calendar:**

<table>
<thead>
<tr>
<th>Month</th>
<th>Learning Experience</th>
<th>Staffing Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>Outpatient Infusion Center (O)</td>
<td>Outpatient x2</td>
</tr>
<tr>
<td>September</td>
<td>Pain &amp; Palliative Care (E)</td>
<td>Outpatient</td>
</tr>
<tr>
<td>October</td>
<td>Outpatient Clinic (C)</td>
<td>Outpatient</td>
</tr>
<tr>
<td>November</td>
<td>Outpatient Clinic (C)</td>
<td>Outpatient</td>
</tr>
<tr>
<td>December</td>
<td>Inpatient Orientation (O)</td>
<td>Outpatient + Inpatient major holiday weekend</td>
</tr>
<tr>
<td>January</td>
<td>Inpatient Oncology (C)</td>
<td>Inpatient</td>
</tr>
<tr>
<td>February</td>
<td>Research (R)</td>
<td>Inpatient + 4h Outpatient staffing q Friday</td>
</tr>
<tr>
<td>March</td>
<td>Inpatient BMT (C)</td>
<td>Inpatient</td>
</tr>
<tr>
<td>April</td>
<td>Inpatient BMT (C)</td>
<td>Inpatient</td>
</tr>
<tr>
<td>May</td>
<td>Outpatient Clinic (C)</td>
<td>Inpatient</td>
</tr>
<tr>
<td>June</td>
<td>Inpatient Oncology (C)</td>
<td>Inpatient</td>
</tr>
<tr>
<td>July</td>
<td>Elective (E)</td>
<td>Inpatient + Outpatient minor holiday weekend</td>
</tr>
</tbody>
</table>

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](https://ucsd.co1.qualtrics.com/jfe/form/SV_28XYFXGDFnhj0wd)

**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 Residency Program Director (RPD).

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 PGY2 Oncology residents from the San Diego VA and Kaiser Permanente, along with the UCSD SSPPS/Pfizer fellows, which gives the residents/fellows the opportunity to network with other oncology pharmacists in the area.

**Drug/Disease Review:**
During outpatient blocks resident will go through various classes of anti-neoplastic agents and disease states. This will be an informal presentation to inpatient/outpatient preceptor(s). The drug topic discussions will focus on: mechanism of action, pharmacokinetics, adverse effects, drug interactions, counseling pearls, etc. Disease topic discussions will focus on: treatment algorithms, epidemiology, diagnosis, 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. All meeting attendance must be approved by the RPD.

**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 the final 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 ongoing, 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>Summative-preceptor</th>
<th>Summative-self</th>
<th>Resident Assessment of Preceptor and Learning Experience</th>
<th>Custom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation Inpatient</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MCC Infusion Center</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Outpatient Clinic #1</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Outpatient Clinic #2</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Outpatient Clinic #3</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Inpatient Oncology</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Inpatient BMT</td>
<td>Midpoint (informal) and Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Research Month</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pain &amp; Palliative Care</td>
<td>Final</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
### PGY2 Oncology Competency Areas, Goals and Objectives

- **Competency Areas**: Broad categories of the residency graduates’ capabilities.
  - **Required**-
    - Competency Area R1: Patient Care
    - Competency Area R2: Advancing Practice and Improving Patient Care
    - Competency Area R3: Leadership and Management
    - Competency Area R4: Teaching, Education, and Dissemination of Knowledge
    - Competency Area R5: Oncology Investigational Drugs
  - **Elective** (optional competency areas)
    - Competency Area E1: Teaching and Learning
    - Competency Area E2: Initiating an Oncology Pharmacy-Related Service
    - Competency Area E3: Oncology Credentialing
    - Competency Area E4: Publishing
    - Competency Area E5: Management of Oncology Medical Emergencies
    - Competency Area E6: Specialty Pharmacy

- **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 - Effective 2016) [https://www.ashp.org/-/media/assets/professional-development/residencies/docs/pgy2-newly-approved-oncology-pharmacy-2016.ashx?la=en&hash=0897D1F3D3A0F3F2E9009DB480812AE90218594](https://www.ashp.org/-/media/assets/professional-development/residencies/docs/pgy2-newly-approved-oncology-pharmacy-2016.ashx?la=en&hash=0897D1F3D3A0F3F2E9009DB480812AE90218594)

- 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.

If not completed during a UC San Diego PGY1 residency program, residents will be required to complete a Research Primer Course and demonstrate competence as defined by the Research Council. If necessary, a remediation plan will be designed for residents who do not demonstrate competence.

Staffing 16 weekends per year or equivalent as approved by RPD

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

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.