Pathology & Laboratory Medicine
Strategic Plan 2016-2020

UPDATE: Spring 2017

Rev. 3/22/2018
<table>
<thead>
<tr>
<th>DEPT GOALS</th>
<th>ACTION ITEMS</th>
<th>DEPT LEAD</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Create and apply innovative diagnostic testing and test strategies that are tailored to the prevention and mgt. of disease.</td>
<td>1. Update and replace obsolete/inefficient suboptimal tests or processes.</td>
<td>Tran, Khan, Borowsky, Romanelli</td>
<td>a) Review standing orders for inappropriate tests; b) New process for upfront review of all testing related requests for EMR enhancement allowing collaborative solutions to request (Example: New 2-step glucose tolerance testing by the PCN’s. Path and EMR began test build in 6/2016 with OB dpt. c) Use new Beaker LIS to improve test menu and review: awaiting CP go-live 8/2017</td>
</tr>
<tr>
<td></td>
<td>2. Develop a plan for Lab Developed Tests (test development &amp; implementation) in alignment with new FDA guidelines</td>
<td>Borowsky, Tran</td>
<td>a) New LDT lab review and validation policy developed by Dr. Tran – includes R&amp;D transfer process. Completed 4/2017; b) 2 LDT projects in line for clinical implementation: MUSE, and multi=plex IF (hand-stain now, autostain TBD when equipment arrives)</td>
</tr>
<tr>
<td></td>
<td>3. Create/optimize dx info delivery tools (Path, Rad, genomics) to support the best care at best time. a) Implement new Beaker LIS b) Develop integrated reporting/services. c) Create a Center for Applied Clinical Informatics to complement Public Health informatics program. Include a new Clinical Dx Informatics fellowship</td>
<td>Hogarth, Seibert, Dougherty, Howell, Diaz-Khansefid</td>
<td>a) New Beaker LIS: In progress and on time; Go-live: CP 8/17, AP 1/18. b) New integrated Path-Rad IT team to support integrated reporting/services: Exploring collaboration with UCLA; c) Concept launched in 3/2017 for Collaborative for Diagnostic Innovation: Seed grant program implemented via philanthropic gift and contributions from 18 units, 17 awards announced in 1/2018. Planning underway for year 2.</td>
</tr>
</tbody>
</table>
### UCDHS GOAL: LEAD PERSON-CENTERED CARE, Con’t

<table>
<thead>
<tr>
<th>DEPT GOALS</th>
<th>ACTION ITEMS</th>
<th>DEPT LEAD</th>
<th>STATUS</th>
</tr>
</thead>
</table>
| **A. Create and apply innovative diagnostic testing and test strategies that are tailored to the prevention and mgt. of disease.** | 4. Develop and implement digital pathology services to expand consultative services and expertise that will improve patient care.  
   a) Digitize the tumor boards  
   b) Implement UCLA – UCD digital pathology consultation service Use live robotic telepathology and/or whole slide scanning for frozen section consults  
   c) Integrate whole slide imaging with Beaker (this would be a project after go-live in two years) | Gui, Bishop | a) Tumor boards: digital path currently used for ~50% of tumor boards; goal = 90-100% by 7/2017 -- completed.  
   b) Consult service: SOP in place, validation in process. Goal = 2/3 of consult cases to UCLA to be digital.  
   c) Live robotic telepath/WSI:  
     • System upgrade in process, completion=completed 4/2017, including  
     • Training of staff and faculty  
     • Validation for renal path  
     • Champions in use of WSI for internal consults: IT department is supporting 5 laptops that are given to pathologist “champions” (Bishop, Darrow, Jen, Jin, Olson, Huang).  
   d) e-Slide database complete, 4/2017 |

---

**Objective 1.1:** Increase shared decision-making, incorporating patient values and preferences, and using evidence-based, innovative practices.

**Objective 1.2:** Enhance timeliness of care to maximize quality of life for each individual.

**Objective 1.3:** Efficiently apply appropriate resources and technology to bring our expertise to the patient.

**Objective 1.4:** More expert coordinated care achieves optimal outcomes.
A. Be a leader in educating and training health care professionals and the community

1. Housestaff:
   - Monitor housestaff development plans and nurture their career goals through an integrated combination of formal mentorship and monitoring of ACGME milestones.
   - Integrate active learning methods into resident curriculum.

2. Med students:
   - Re-institute 3rd year pathology elective for medical students.

3. CLS and CT programs
   - Expand resident mentoring program into a team-based model with brief form describing the general topics discussed and action plan items. Review and discuss in biannual individual resident-program director mtgs, including general effectiveness of the mentor-mentee relationship.
   - Integrate online sessions in resident’s curriculum to enhance active learning; using self-assessment modules like HematologyOutlines to educate, enhance and assess the skills and knowledge. Progress to be evaluated and monitored thru self-assessment quiz and written responses to questions during these experiences.
   - HemeOutlines and Quiz app implemented as pilot
   - Surg path Quiz app in development; go-live 2018

   Elective implemented in winter 2017; all 3rd year electives later placed on hold by SOM.

   a) Integrate more molecular path training into CT program, in collaboration with Univ. of Nebraska
      - UCD lectures via video conf to entire Nebraska program (UCD & Nebraska CT students): implemented 3/2017
      - Expand molecular training for UCD CT student: Student Scott Trujillo rotated in molecular 3/2017, joining CLS for 6 hr molecular lectures in 4/2017

   b) Expand training program at Marshall Hospital:
      - Affiliation approved by NAACLS, 1st CLS student enrolled 2/2018

   Cross-referenced from UCDHS Goal Person-Centered Care: 1.2.A.3.d

   Work with new CMIO Jeff Wajda to establish a Clinical Diagnostic Medicine Informatics fellowship thru the Center... Application approved by ACGME, first fellow in recruitment.
**UCDHS GOAL: ACCELERATING INNOVATIVE RESEARCH**

**Objective 3.1:** Enhance and improve core foundational infrastructure needed to support innovative research (discovery).

**Objective 3.2:** Optimize and recruit a sustainable pool of research talent.

**Objective 3.3:** Lead a culture of transparency, teamwork, and engagement in support of the research mission.

**Objective 3.4:** Integrate research (discovery) into the fabric of our institution.

**Objective 3.5:** Maintain an active creative dialogue with the external environment to stimulate exchange of ideas.

---

**A. Foster high-impact collaborative interdisciplinary research.**

<table>
<thead>
<tr>
<th>GOALS</th>
<th>ACTION ITEMS</th>
<th>DEPT LEAD</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Foster clinical research: Create and implement a Clinical Research Oversight Committee (CROC): to improve researchers’ access to and service from clinical lab by collaboratively creating with best practices/processes.</td>
<td>Clinical Research Oversight Committee (CROC) formed: Caynak, Cox, Diaz-Khansefid, Gandour-Edwards, Gosselin, Green, Gregg, Huang, Okimura, Polage, Sharma, Tran, Wan,</td>
<td>Implemented in 5 pilot depts with input on the following: 1) Forms. 2) Decision tree re: processes. 3) Turnaround time. 4) Dedicated e-mail contact. 5) Key elements for website.</td>
<td></td>
</tr>
<tr>
<td>2. Foster basic/translational research:</td>
<td>Advisory Committee on Research (ARC) Bishop, Gandour-Edwards, Levenson, Wan, Hogarth, Green, Jin, Diaz-Khansefid, M. Chen, Tran, Luciw, Martinez-Cerdeno, Barry, Polage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Recruit physician-scientists to grow basic science research and collaborate across depts and centers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Organize networking events to promote interdisciplinary research collaborations across center and campuses.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Promote financial viability/sustainability of existing core and clinical facilities by promoting utilization and assisting recognition as UC Davis Research Office-sponsored core facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Develop P awards and other big grants in collaboration with centers and others to create impact and sustainability for junior faculty.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

*Rev. 3/22/2018*
### UCDHS GOAL: ACCELERATING INNOVATIVE RESEARCH

**Objective 3.1:** Enhance and improve core foundational infrastructure needed to support innovative research (discovery).

**Objective 3.2:** Optimize and recruit a sustainable pool of research talent.

**Objective 3.3:** Lead a culture of transparency, teamwork, and engagement in support of the research mission.

**Objective 3.4:** Integrate research (discovery) into the fabric of our institution.

**Objective 3.5:** Maintain an active creative dialogue with the external environment to stimulate exchange of ideas.

---

#### GOALS

**A. Foster high-impact collaborative interdisciplinary research.**

---

#### ACTION ITEMS

3. Become an institutional leader in imaging technologies and advanced informatics
   - Develop and use novel technology and computational tools to accelerate diagnostics, decrease turn-around time and inefficiencies, lower costs and improve patient experience.
   - Strengthen connections and collaboration with Cancer Center Imaging program Dept. of Radiology,
   - Develop and apply natural language processing to improve utility of the EMR.

4. Align pathology tools and assays to support and advance tumor immunotherapy research and clinical use.
   - Develop and apply multiplexed quantitative IHC and other techniques to assess patient tumor microenvironment.
   - Connect with researchers in the Cancer Center and other UCD sites to further research in this area.

---

#### DEPT LEAD

Levenson, Hogarth, and others

---

#### STATUS

Launched new Collaborative for Diagnostic Innovation – Seed grant program implemented via philanthropic gift and contributions from 18 units, 17 awards announced in 1/2018. Planning underway for year 2.

- Multiplex IF in development as lab developed test – Spectra microscope jointly purchased with Cancer Center (fall 2017); dept purchased autostainer (winter/spring 2017)
- MUSE purchased by Cancer Center, programs in development with Cancer Center researchers for potential clinical trials (Spring 2017). (Cross-reference: Goal 1.3.A.2.b)
### UCDHS GOAL: IMPROVE POPULATION HEALTH

**Objective 4.1:** Identify key populations:
- UCDHS patients
- Our local community
- The broader region
- UC Health
- The Nation
- Internat’l populations
- The global community

**Objective 4.2:** Assemble collaborative, multidisciplinary teams and novel tools.

**Objective 4.3:** Expand infrastructure to seamlessly collect, structure and analyze big data.

**Objective 4.4:** Provide access to stakeholders in all missions.

**Objective 4.5:** Develop initiatives and interventions with measurable outcomes.

**Objective 4.6:** Measure outcomes and impact to inform future actions.

<table>
<thead>
<tr>
<th>DEPT GOALS</th>
<th>ACTION ITEMS</th>
<th>DEPT LEADS</th>
<th>STATUS</th>
</tr>
</thead>
</table>
| A. Become an institutional leader in biobanking to support personalized population health. | Develop infrastructure and processes for banking remnant clinical blood samples and tissue, and link with associated clinical and lab information. | Tran, Diaz-Khansefid | • Collaborate on global consenting process (“BURRITO” approach): Approved in late fall 2016.  
• Pilot remnant blood collections in Burn Center as part of existing grant-funded project: Pilot initiated Winter 2017  
• Leverage installation of new clinical automation line (2016-2018) and implement the line’s biobanking capabilities, and growth of banked remnant blood specimens.  
• Pursue funding for biobank from CTSA R21 program – grant to be submitted in June 2017 |
| B. Become an institutional leader in microbiome-related research for personalized health. | 1. Develop an institutional microbiome biobank.  
2. Convene an inter-dept microbiome research interest group to grow collaborations and new grant applications.  
3. Form a bioinformatics group for microbiota research to share and teach skills. | Wan | • Microbiome biobank established with Division of GI Medicine – seeking funding.  
• Other steps to be developed. |
**UCDHS GOAL: TRANSFORM OUR CULTURE**

**Objective 5.1:** Promote cross-pollination in departments and programs to emphasize collaboration.

**Objective 5.2:** Embrace change to increase nimbleness and efficiency.

**Objective 5.3:** Improve communication for transparency of information.

**Objective 5.4:** Eliminate barriers to diversity and inclusion.

**Objective 5.5:** Foster mutual respect, integrity, and accountability for all.

**Objective 5.6:** Promote a flexible work environment and develop a fully engaged workforce.

### DEPT GOALS

**A. Develop a culture of excellence, service, and continuous quality improvement.**

1. **Modify job descriptions and evaluations for clinical staff to include expectations for excellence and participation in research and education.**
   - **DEPT. LEAD:** Diaz-Khansefid, Huang, Olson, Cox, Okimura
   - **STATUS:** Job descriptions reviewed – modifications added (Fall 2017).

2. **Create an on-boarding program for new faculty and staff to communicate values regarding clinical care, research, education, and professionalism.**
   - **DEPT. LEAD:** ACE, Gandour-Edwards, Cox, Okimura, Olson, Barnhard
   - **STATUS:** a) New on-boarding program launched in July 2016. Includes small group mtgs with colleagues, mtgs with leaders and resources – eval of process in 6 mon.
b) Similar program to be developed for staff and incorporated into current orientation.
c) Resident on-boarding re: professionalism to be considered following guest visit by Dr. Ronald Domen (April 2017)

3. **Enhance communication through social media, and lab section meetings using “stories of excellence.”**
   - **DEPT. LEAD:** Howell, Cox, Okimura, Olson
   - **STATUS:** a) Chair’s blog initiated in July 2016.
b) Create website section highlighting CP and AP section each month – Lab Best Practice blog implemented in Feb 2017.
c) Survey clients and use results to plan interventions – AP client satisfaction survey completed. Interventions to be planned and implemented.
### UCDHS GOAL: TRANSFORM OUR CULTURE, Con’t

**Objective 5.1:** Promote cross-pollination in departments and programs to emphasize collaboration.

**Objective 5.2:** Embrace change to increase nimbleness and efficiency.

**Objective 5.3:** Improve communication for transparency of information.

**Objective 5.4:** Eliminate barriers to diversity and inclusion.

**Objective 5.5:** Foster mutual respect, integrity, and accountability for all.

**Objective 5.6:** Promote a flexible work environment and develop a fully engaged workforce.

#### Pathology & Laboratory Medicine – Strategic Plan 2016 & Beyond

<table>
<thead>
<tr>
<th>DEPT GOALS</th>
<th>ACTION ITEMS</th>
<th>DEPT LEAD</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Raise awareness of the value and role of pathologists &amp; laboratorians in disease diagnosis and monitoring health</td>
<td>Internal awareness campaign for clinicians focusing on eliminating orders for obsolete tests or obsolete testing strategies.</td>
<td>Tran, Diaz-Khansefid, Olson</td>
<td>1) Provide illustrative case studies demonstrating value of pathologist/lab with at least 4 Change in Lab Service notifications – Lab Best Practice blog implemented in 3/2017 (See Goal 5.1.A.3.a – previous page). 2) Submit abstracts on lab QI improvement projects for presentation at annual UCDHS Quality Improvement Symposium, goal = 4 accepted abstracts</td>
</tr>
<tr>
<td>C. Create a people-friendly work environment that facilitates recruitment, retention, and mentorship</td>
<td>Identify at least one area for improvement from Faculty Forward Survey.</td>
<td>Howell, Rashidi, Barnhard, Borowsky, Matsukuma, Affy, Romanelli, Diaz-Khansefid, Wan</td>
<td>Area for improvement = collegiality/professionalism 1) Re-survey faculty to determine current status – Survey developed and implemented by new Workplace Culture committee; results presented to the faculty in March 2017 faculty mtg. 2) Create a mechanism for &quot;early detection&quot; (confidential reporting) and process for intervention, potentially involve a faculty member’s mentorship team. 3) Consider doing “exit” or “STAY” interviews: Stay interview questions incorporated into annual faculty career planning mtgs.</td>
</tr>
<tr>
<td>D. Cross-referenced from UCDHS Goal Accelerating Innovative Research 3.2.A.2 Basic and translational research:</td>
<td>Organize networking events to promote interdisciplinarity research collaborations with faculty across both campuses</td>
<td>Howell, Wan, ARC</td>
<td>See Goal 3.2.A.2: Dept led inter-dept research award program for 2016-17, expanded to 16 units including centers and SVM, $160,000+ contributed and awarded in 1/2017 thru multi-disciplinary seed grants. Excellent feedback from participants.</td>
</tr>
</tbody>
</table>

Rev. 3/22/2018
## A HEALTHIER WORLD THROUGH BOLD INNOVATION

### Pathology & Laboratory Medicine – Strategic Plan 2016 & Beyond

#### UCDHS GOAL: PROMOTE SUSTAINABILITY

**Objective 6.1:** Identify shared goals and balance priorities across UCDHS

**Objective 6.2:** Invest in our workforce and community to promote health and well-being.

**Objective 6.3:** Educate, empower, and reward our workforce and stakeholders at all levels to achieve and exceed our shared goals. (financial outcomes)

**Objective 6.4:** Improve collection and dissemination of relevant clinical, research and education data to maximize efficiency and capacity.

**Objective 6.5:** Increase transparency in decision-making and feedback in the use of resources and outcomes.

**Objective 6.6:** Create a structure to invest and accept risk as a health system.

**Objective 6.7:** Diversify revenue sources:
- Build philanthropic base ($100 million/year)
- Achieve #25 NIH ranking
- Increase all extramural funding
- Build collaboration with investment partners

<table>
<thead>
<tr>
<th>DEPT GOALS</th>
<th>ACTION ITEMS</th>
<th>DEPT LEADS</th>
<th>STATUS</th>
</tr>
</thead>
</table>
| A. Pursue savings and efficiencies in services through partnerships with other units | 1. Transition to a new blood product vendor as a part of the Leveraging Scale for Value UC Health initiative | Barnhard and Transfusion/Blood Bank team | a. Improved blood supply chain mgmt:
- Adopt ~100% electronic ordering, shipment status monitoring, and returns: Complete; 100% transition to ARC’s BloodHub software.
- Reduce costly STAT delivery via new standing orders using ARC’s projected blood usage software: Increased standing orders (from to 58%) decreasing STAT delivery.
- Use ARC’s e-reports for usage analysis to minimize manual data analysis: 50% complete – currently addressing unforeseen IT discrepancy for interface with ARC system. |
| | | | b. Saving for blood sendout testing:
- Re-negotiate/re-direct ref lab testing; leveraging blood contract |
| B. Grow Lean processes to empower staff and improve efficiency and job satisfaction | 1. Implement Lean process improvement in Blood Bank. | Barnhard and Transfusion/Blood Bank team | Consultative review by Ortho, per UC Health, suggestion provided for review. |
| | | | |

---

**A. Pursue savings and efficiencies in services through partnerships with other units

1. Transition to a new blood product vendor as a part of the Leveraging Scale for Value UC Health initiative

**B. Grow Lean processes to empower staff and improve efficiency and job satisfaction

1. Implement Lean process improvement in Blood Bank.
## UCDHS GOAL: PROMOTE SUSTAINABILITY, Con’t

### Objective 6.1: Identify shared goals and balance priorities across UCDHS

### Objective 6.2: Invest in our workforce and community to promote health and well-being.

### Objective 6.3: Educate, empower, and reward our workforce and stakeholders at all levels to achieve and exceed our shared goals. (financial outcomes)

### Objective 6.4: Improve collection and dissemination of relevant clinical, research and education data to maximize efficiency and capacity.

### Objective 6.5: Increase transparency in decision-making and feedback in the use of resources and outcomes.

### Objective 6.6: Create a structure to invest and accept risk as a health system.

### Objective 6.7: Diversify revenue sources:
- Build philanthropic base ($100 million/year)
- Achieve #25 NIH ranking
- Increase all extramural funding
- Build collaboration with investment partners

---

<table>
<thead>
<tr>
<th>DEPT GOALS</th>
<th>ACTION ITEMS</th>
<th>DEPT LEADS</th>
<th>STATUS</th>
</tr>
</thead>
</table>
| C. Diversify revenue sources | 1. Use outreach services to create new revenue from new clinical clients and outside research contracts | Green, Sharma, Jen | a. In-source renal pathology, and grow external renal pathology clients.  
- Renal biopsy volume doubled in first 6 months of Dr. Jen’s arrival (chiefly internal).  
- Established infrastructure for outreach service (couriers, kits, histo services); 3/2017 |
| Cross-referenced from UCDHS Goal Accelerating Innovative Research | Promote financial viability/sustainability of existing core labs by promoting utilization and recognition as UC Davis Research Office-sponsored core facilities | ARC, Howell, Diaz-Khansefid | Cross-reference: Goal 3.2.a.2:  
- Campus financial support negotiated for Flow cyto core for 2016-17, and 2017-18, will transition to new academic home for 2018-19.  
- New financial support negotiated for Biorepository to partially cover operating deficit for 2017-18. Discussions to continue for long-standing support. |
Great accomplishments to date – but what’s next?

- What new action items can we add that will:
  - Take what we’ve done to the next level?
  - Allow us to expand in new directions?

- How can we partner with other departments, centers or others to have impact?

- We welcome your ideas -- send to:
  - Lydia P. Howell MD, Professor and Chair
  - lphowell@ucdavis.edu