A HEALTHIER WORLD THROUGH BOLD INNOVATION

UC**DAVIS**
HEALTH SYSTEM

Pathology & Laboratory Medicine
Strategic Plan 2016-2020

UPDATE: Spring 2017
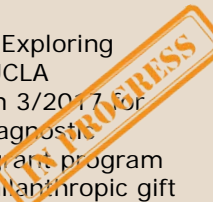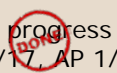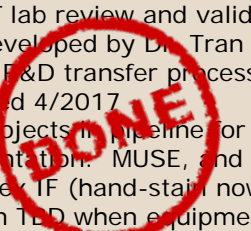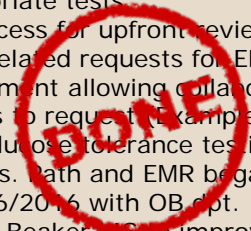
UCDHS GOAL: LEAD PERSON-CENTERED CARE

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.

Rev. 3/22/2018

DEPT GOALS	ACTION ITEMS	DEPT LEAD	STATUS
A. Create and apply innovative diagnostic testing and test strategies that are tailored to the prevention and mgt. of disease.	1. Update and replace obsolete/inefficient suboptimal tests or processes.	Tran, Khan, Borowsky, Romanelli	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 opt. c) Use new Beaker LIS to improve test menu and review: awaiting CP go-live 8/2017
	2. Develop a plan for Lab Developed Tests (test development & implementation) in alignment with new FDA guidelines	Borowsky, Tran	a) New LDT lab review and validation policy developed by Dr. Tran – includes R&D transfer process. Completed 4/2017 b) 2 LDT projects in pipeline for clinical implementation: MUSE, and multi=plex IF (hand-stain now, autostain TBD when equipment arrives)
	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	Hogarth, Seibert, Dougherty, Howell, Diaz-Khansefid	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.

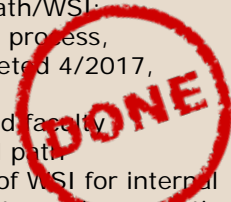# UCDHS GOAL: LEAD PERSON-CENTERED CARE, Con't

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.

DEPT GOALS	ACTION ITEMS	DEPT LEAD	STATUS
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

UCDHS GOAL: REIMAGINE EDUCATION

Objective 2.1: Welcome, inspire, and nurture diverse learners/scholars at all stages of development.

Objective 2.2: Implement innovative approaches to engage all in active learning and wellness throughout their lives.

Objective 2.3: Apply technological advances to transform the learning environment.

Objective 2.4: Revolutionize education through active interprofessional learning focused on clinical and research excellence and systems improvement across settings.

Objective 2.5: Incentivize Faculty/Staff development, mentorship, and coaching to ensure educational innovation and effective use of technology in teaching and learning.

Rev. 3/22/2018

DEPT GOALS	ACTION ITEMS	DEPT. LEAD	STATUS
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.	Olson, Gandour-Edwards, Rashidi, Green, Department mentoring directors (Jensen, Jin)	a) 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. **DONE** b) 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 **IN PROGRESS**
	2. Med students: Re-institute 3rd year pathology elective for medical students.	Huang, Gandour-Edwards, ACE	Elective implemented in winter 2017; all 3rd year electives later placed on hold by SOM.
	3. CLS and CT programs	Sharon Wahl and CLS oversight committee	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 **DONE** b) Expand training program at Marshall Hospital: 3/2017: Affiliation approved by NAACLS, MLS student enrolled 2/2018
	Cross-referenced from UCDHS Goal Person-Centered Care: 1.2.A.3.d	Hogarth, Seibert, Dougherty, Howell, Diaz-Khansefid	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. **DONE**

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.

Rev. 3/22/2018

GOALS	ACTION ITEMS	DEPT LEAD	STATUS
A. Foster high-impact collaborative inter-disciplinary research.	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.	Clinical Research Oversight Committee (CROC) formed: Caynak, Cox, Diaz-Khansefid, Gandour-Edwards, Gosselin, Green, Gregg, Huang, Okimura, Polage, Sharma, Tran, Wan,	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. *DONE*
	2. Foster basic/translational research: • Recruit physician-scientists to grow basic science research and collaborate across depts and centers. • Organize networking events to promote interdisciplinary research collaborations across center and campuses. • Promote financial viability/sustainability of existing core and clinical facilities by promoting utilization and assisting recognition as UC Davis Research Office-sponsored core facilities • Develop P awards and other big grants in collaboration with centers and others to create impact and sustainability for junior faculty.	Advisory Committee on Research (ARC) Bishop, Gandour-Edwards, Levenson, Wan, Hogarth, Green, Jin, Diaz-Khansefid, M. Chen, Tran, Luciw, Martinez-Cerdeno, Barry, Polage	• Recruitments: - Searches for two clinician-scientists (ped path, neuropath) launched in 2016-18, will continue in 2017-18. - Stowell Chair for Experimental Pathology: Partnership with CCM, reconsidering focus of CCM portion. To launch in 2017-18. *IN PROGRESS* - New FTE recruitment: Ped pathologist or Immunopathologist, will seek partnership with Cancer Center for resources. • Campus financial support negotiated for Flow cyto core for 2016-17, will transition to new academic home for 2017-18. New financial support received for biorepository • 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. *DONE*

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.

Rev. 3/22/2018

GOALS	ACTION ITEMS	DEPT LEAD	STATUS
A. Foster high-impact collaborative inter-disciplinary research.	3. Become an institutional leader in imaging technologies and advanced informatics • Develop and use novel technology and computational tools to accelerate 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.	Levenson, Hogarth, and others	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. **IN PROGRESS**
	4. Align pathology tools and assays to support and advance tumor immunotx 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.	Levenson, Borowsky, others.	• 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)* **IN PROGRESS**

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.

Rev. 3/22/2018

DEPT GOALS	ACTION ITEMS	DEPT LEADS	STATUS
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: TRANFORM OUR CULTURE

Objective 5.1: Promote cross-pollination in departments and programs to emphasize collaboration.
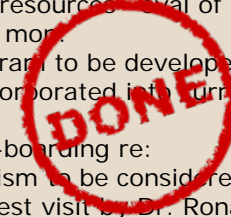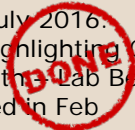
Objective 5.2: Embrace change to increase nimbleness and efficiency.

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.

Rev. 3/22/2018

DEPT GOALS	ACTION ITEMS	DEPT. LEAD	STATUS
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.	Diaz-Khansefid, Huang, Olson, Cox, Okimura	Job descriptions reviewed – modifications added (Fall 2017). *DONE*
	2. Create an on-boarding program for new faculty and staff to communicate values regarding clinical care, research, education, and professionalism.	ACE, Gandour-Edwards, Cox, Okimura, Olson, Barnhard	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) *DONE*
	3. Enhance communication through social media, and lab section meetings using "stories of excellence."	Howell, Cox, Okimura, Olson	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. *DONE* / *IN PROGRESS*

UCDHS GOAL: TRANSFORM OUR CULTURE, Con't

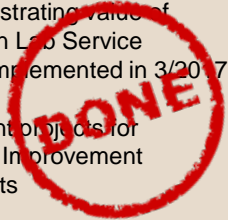**Objective 5.1:** Promote cross-pollination in departments and programs to emphasize collaboration.

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.

Rev. 3/22/2018

DEPT GOALS	ACTION ITEMS	DEPT LEAD	STATUS
B. Raise awareness of the value and role of pathologists & laboratorians in disease diagnosis and monitoring health	Internal awareness campaign for clinicians focusing on eliminating orders for obsolete tests or obsolete testing strategies.	Tran, Diaz-Khansefid, Olson	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
C. Create a people-friendly work environment that facilitates recruitment, retention, and mentorship	Identify at least one area for improvement from Faculty Forward Survey.	Howell, Rashidi, Barnhard, Borowsky, Matsukuma, Afify, Romanelli, Diaz-Khansefid, Wan	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 "early detection" (?confidential reporting) and process for intervention, potentially involve a faculty member's mentorship team. 3) Consider doing "exit" or "STAY" interviews: S_ questions incorporated into annual faculty ca_ mtgs.
D. *Cross-referenced from UCDHS Goal Accelerating Innovative Research* *3.2.A.2 Basic and translational research:*	Organize networking events to promote interdisciplinary research collaborations with faculty across both campuses	Howell, Wan, ARC	*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.*

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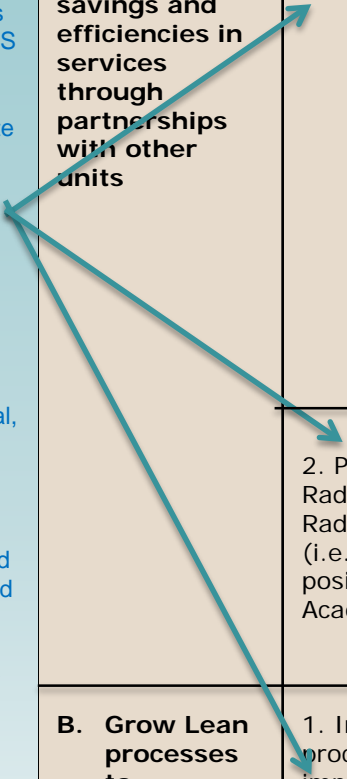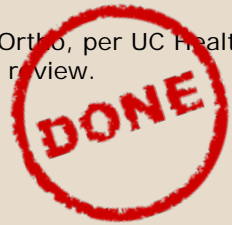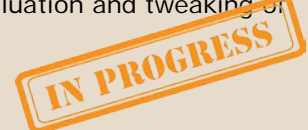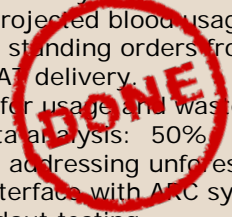
Objective 6.5: Increase transparency in decision-making and feedback in the use of resources and outcomes.

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

DEPT GOALS	ACTION ITEMS	DEPT LEADS	STATUS
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 mgt: • 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 and waste 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
	2. Partner with Radiology to create a Rad-Path "cluster", (i.e., shared position) in Academic Personnel	Radiology and Path CAOs (Diaz-Khansefid)	a. Complete: Cluster analyst in place in fall 2017. On-going evaluation and tweaking of service in progress.
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.

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

Rev. 3/22/2018

DEPT GOALS	ACTION ITEMS	DEPT LEADS	STATUS
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. **DONE** - Renal pathologist Kuang-yu Jen joined faculty in summer 2017. - 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 *IN PROGRESS* b. Leverage new EHR-hosted sites for outreach business opportunities: To be developed following LIS installation in August 2017. *IN PROGRESS*
Cross-referenced from UCDHS Goal Accelerating Innovative Research **1A. Foster basic/ translational 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. **DONE**
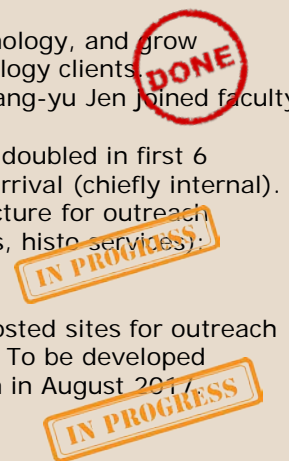
Great accomplishments to date – but what's next?

- 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