

ADC Digital Pathology Working Group Update



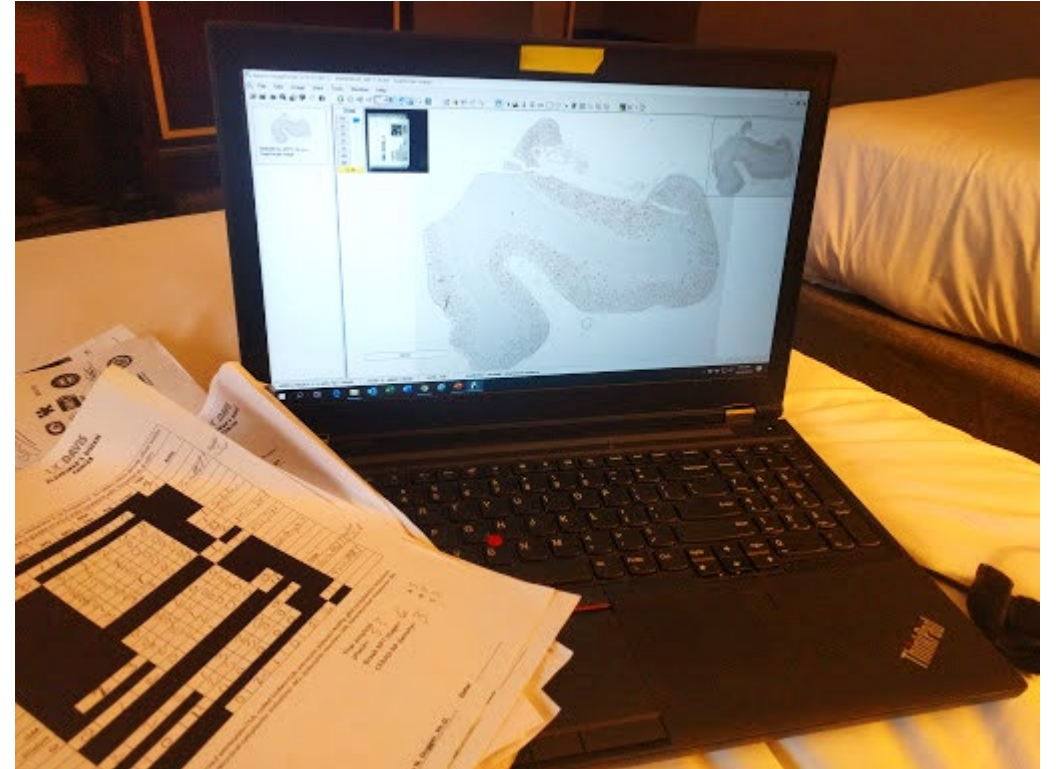
[Image from: https://www.webdonuts.com/2012/12/slide/](https://www.webdonuts.com/2012/12/slide/)

ADC Fall Meeting

Oct 11, 2019

Potential benefits of Digital Pathology

- Preservation/Archiving
- Educational resource
- Consultation
- Collaboration
- Research
 - “deeper” phenotyping of specimens



History of the ADC Digital Pathology Working Group

- Spring 2019 -Dr. Andrew Lieberman sent email to ADC Neuropathology Core Leaders soliciting for interested personnel.
- Early May 2019- Confirmation of interested personnel and solicitation to other key personnel
 - Formed list of discussion topics
- June 17, 2019-1st group meeting
 - Met on monthly basis



Group Members

Dr. Brittany Dugger	UC Davis
Dr. Melissa Murray	Mayo Clinic
Dr. Dirk Keene	U Washington
Dr. Andy Lieberman	U Michigan
Dr. Pete Nelson	U Kentucky
Dr. Nina Silverberg	NIA
Dr. John Crary	Mt. Sinai
Dr. David Irwin	U Penn
Dr. Alifiya Kapasi	Rush
Dr. Julia Kofler	Univ Pitt
Dr. Gary Chan	U Wash/NACC
Dr. Charles White	UTSW
Dr. Bud Kukull	U Wash/NACC
Dr. Julie Schneider	Rush
Dr. Richard Perrin	U Wash St. Louis



Goals of the group

- Assess needs and potential uses of digital neuropathology within the ADCs
- Evaluate feasibility of implementation of technology across centers
- Develop recommendations for the use of digital pathology by ADC Neuropathology cores

First milestone:

- Survey current benchmarks in ADC Neuropathology Cores regarding digital pathology- Big THANK YOU to Elizabeth Robichaud at NACC!!!
 - Sept 9, 2019 Survey distributed
 - Oct 2, 2019 Compiled survey results



The NIA Alzheimer's Disease Centers Program

National Alzheimer's Coordinating Center

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What's New

Digital Neuropath Survey: RESULTS (Powerpoint file)

ADRC data webinar series — see the videos

New JOB OPPORTUNITIES page

Request a new QUICK-ACCESS Full Data File, with [complete](#) UDS and NP data

GWAS QUICK

ADC ADMINISTRATORS

People	+
ADC progress reports	+
ADC Meetings & events	+
NACC Funding	+
More information	+

CLINICIANS & INTERVIEWERS

NACC Forms & documentation	↗
Online tools & calculators	+
Look at UDS data	🔒 ↗
Enter UDS data with e-forms	🔒 ↗
Training	↗

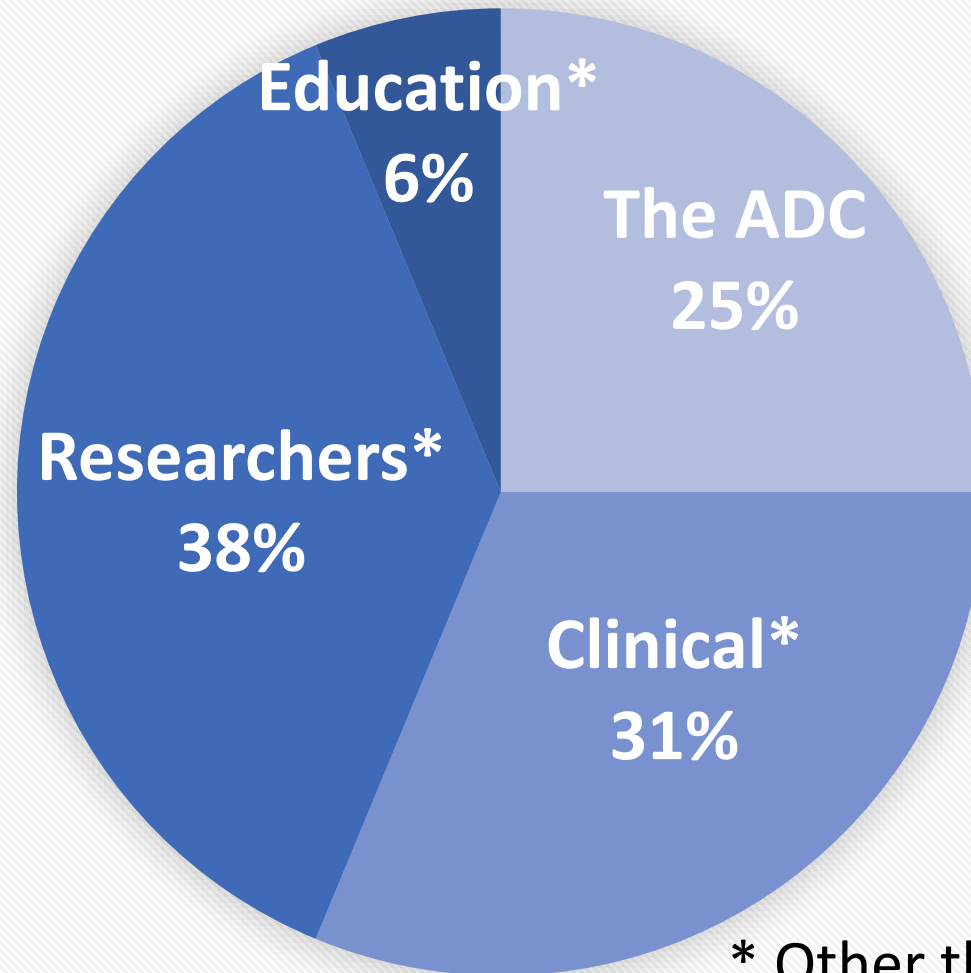
63% of ADCs completed survey

79% of individuals who completed the survey were NP Core Leaders

Current Status of Digital Pathology within ADCs

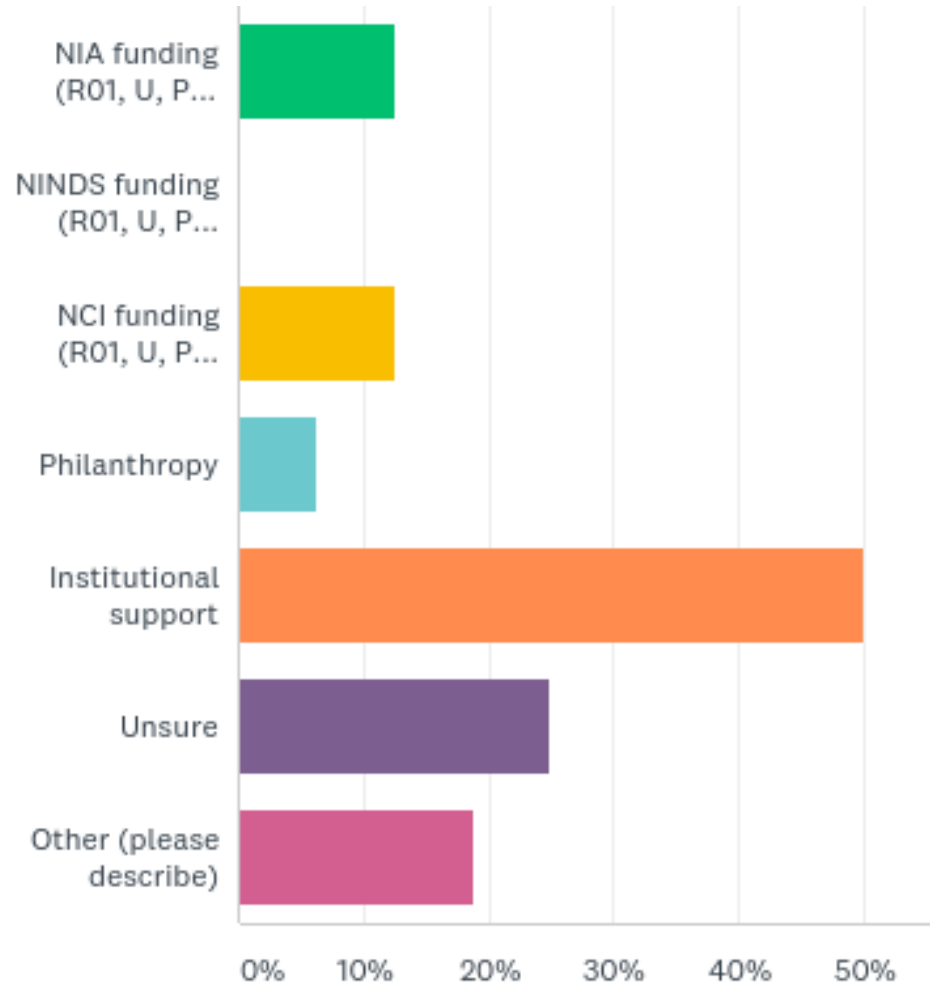
- 84% of individuals **have access** to a digital slide scanner
- 69% have access to an **Aperio/Leica**
- 25% stated there is a **fee for service** for the ADC to use the slide scanner
 - Cost/slide (such as \$5/slide)
 - Fees for storage

Main user of the digital slide scanner



* Other than those in the ADC

Funding for Digital slide scanners



50% of individuals with slides scanners had **institutional support** for equipment

Other funding sources:

- National Institute on Aging
- National Cancer Institute
- Departmental funds for recruitment
- s10 Large Instrument Grant

Current Infrastructure/Workflows for digital pathology within ADCs

- 70% have scanned in **less than 10%** of their current ADC slide inventory
- 50% were **unsure of storage space** scanned slide files occupy
- 47% would find the option of a **centralized scanner service useful**
- 47% **did not have any of their ADC's budget** allocated to digital pathology and/or machine learning

Reaching out to the wider community to aid in digital pathology and/or machine learning/artificial intelligence

- 56% have **not shared digital slide files** with persons outside of their department/institution
- 75% were **aware of other departments at their institution** working with digital pathology and/or machine learning/AI
 - Pathology, Radiology, Computational neuroscientists, biomedical engineers, Psychiatry, Computer science, Ophthalmology, Urology, Neurosurgery
- 75-85% were **unaware of** any digital pathology and/or machine learning/AI **multi-university or industry partnerships** with their institution

Discussion

- Potential funding opportunities to start or enhance your ADC's digital pathology core?
 - Institutional support
 - Partnerships with other centers/departments
 - s10 Large Instrument Grant
 - Grant supplement
- Many ADCs have capability to scan slides but do not share the digital images
 - Why not? Hurdles to sharing digital images? Not being asked?
- Logistics of file storage and management
 - Who is in charge of storing the files & managing the data?
 - What other ADC cores should be involved in these endeavors?
 - Centralized scanner service?