

# The National Centralized Repository for Alzheimer's Disease and Related Dementias (NCRAD)

Indiana University School of Medicine

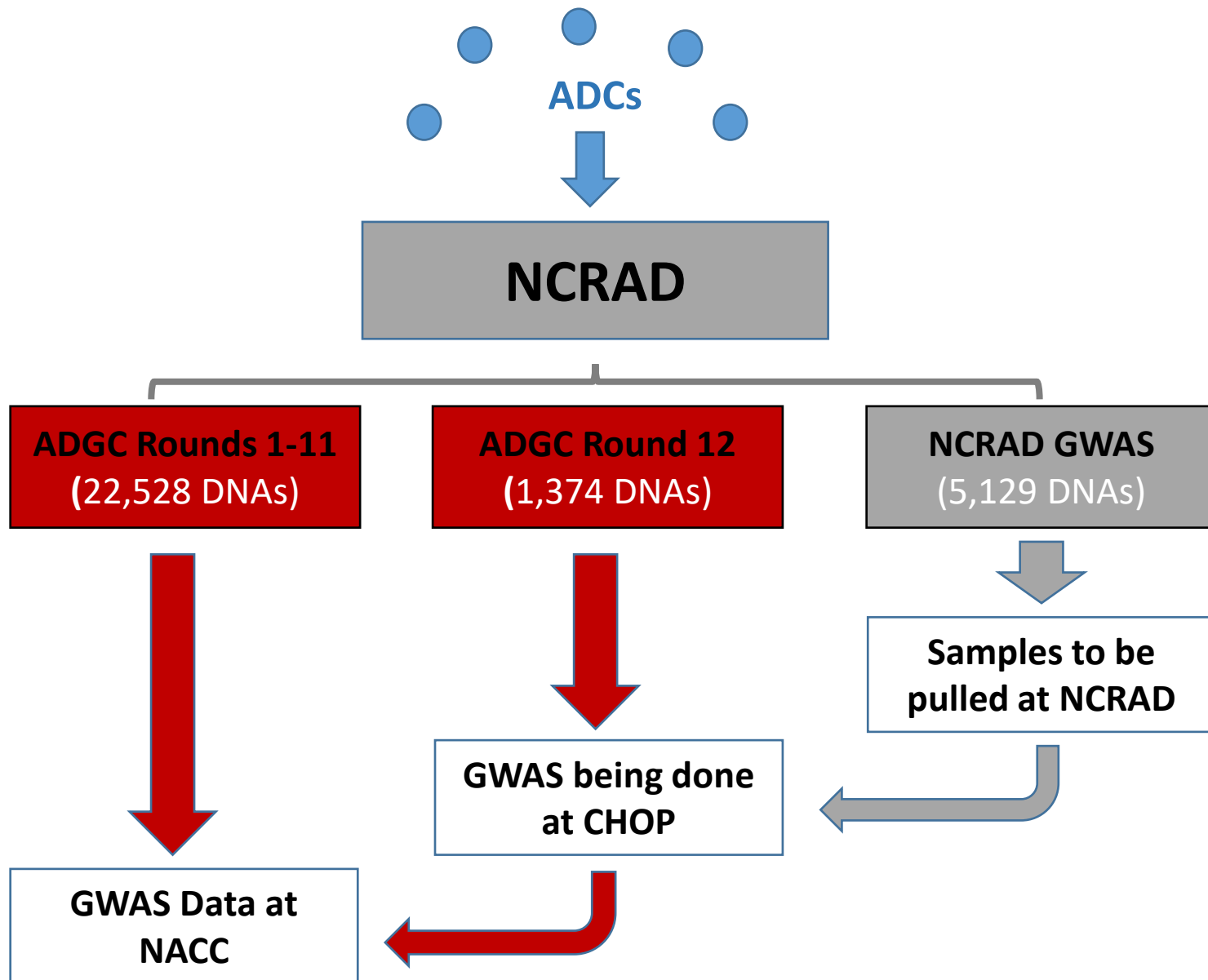
U24AG21886

# NCRAD and the ADCs

- ADRCs.....
- ADCFB
- ADNI-3
- ADNI-DoD
- ADNI-D
- 4RTNI-2
- ABC-DS
- ALLFTD
- BI-FB
- BioSTAC
- I-CONNECT
- DIAN
- LEADS
- LIFE-DSR
- NAPS
- NIA LOAD Family Study
- StEP AD
- T2 Protect AD

# **New NCRAD Initiatives**

# Ensuring all ADC participants have GWAS!



# NCRAD and the Alzheimer Disease Center Fluid Biomarker (ADCFB) Initiative

## Request to the ADCs

- NCRAD banking blood samples from 3,000 ADC participants
  - Plasma and DNA from all
  - PBMCs, serum and RNA from subsets
- Key aspects
  - All samples uniformly processed
  - Any ADC participant can be included
  - Samples linked to clinical data at NACC and genetic data at NIAGADS

## Benefits to the ADCs

- ADCs receive from NCRAD:
  - All materials for sample collection, processing and aliquoting
- ADCs receive funding for sample collection
  - Up to \$250/subject
- Reduced ADC burden to store large numbers of samples
  - Portion of each sample type sent to NCRAD reserved for contributing ADC to request

***NCRAD and ADCs together support new efforts for the development and evaluation of blood-based biomarkers***

# NCRAD ADC Catalog

- NCRAD catalog now displays the growing range of samples available from ADC participants
- Easily linked to NACC and UDS data and NIAGADS and genetic data
- Sample requests reviewed by the NCRAD Biospecimen Review Committee

# Coming Soon

- New catalogs with information about samples being distributed by NCRAD
  - New studies: 90+ Study, ANGI
  - iPSCs and fibroblasts
  - Brain tissue

*Thanks to everyone for  
their help as we prepare  
the NCRAD renewal!*



Extra slides

# GWAS Sample: Diagnoses

Primary presumptive etiologic diagnosis	Cognitive status				Total
	Normal	Impaired, not MCI	MCI	Dementia	
AD	0	153	100	881	1134
LBD	0	29	10	435	474
MSA	0	0	0	1	1
CBD	0	2	1	139	142
FTLD with motor neuron disease	0	4	1	142	147
FTLD, other	0	2	0	25	27
Vascular brain injury/dementia	0	9	5	1138	1152
Essential tremor	0	53	28	113	194
Down syndrome	0	0	0	1	1
Huntington's disease	0	0	0	2	2
Prion disease	0	0	5	17	22
TBI	0	10	1	9	20
Normal-pressure hydrocephalus	0	5	3	14	22
Epilepsy	0	0	0	1	1
CNS neoplasm	0	2	1	1	4
Other neurologic, genetic, or infectious condition	0	51	2	46	99
Depression	0	119	12	8	139
Bipolar disorder	0	7	6	3	16
Schizophrenia or other psychosis	0	1	3	2	6
Anxiety disorder	0	11	0	0	11
PTSD	0	3	0	0	3
Other psychiatric illness	0	20	1	4	25
Cognitive impairment due to alcohol abuse	0	5	1	10	16
Cognitive impairment due to system/medical disease	0	50	4	5	59
Cognitive impairment due to medication	0	20	1	1	22
Cognitive impairment for other reason	0	148	18	58	224
Not applicable, cognitively normal	862	0	0	0	862
Missing/unknown	0	85	139	80	304
					5129

Primary presumptive etiologic diagnosis and cognitive status at most recent UDS visit,  
as of Dec 2019 data freeze

# NCRAD Administrative Supplement: ADRC Biomarker Initiative

16 ADCs

Blood collection from 3,000 subjects (all diagnoses)



Volume	Product
2x10 ml	Buffy coat (DNA) + Plasma aliquots
2x10 ml	PBMCs
1x10 ml	Serum aliquots
1x2.5 ml	RNA

- Samples listed in order of preference
- Not all Centers can collect 52.5 ml

Uniformly collected & processed blood samples



**NCRAD** Buffy coat (DNA), plasma, serum aliquots; Blood for RNA, PBMCs

# Reserved Samples for the ADRCs?

- Portion of each sample type sent to NCRAD reserved for contributing ADRC to request (*\*assuming full volume provided to NCRAD\**)
  - Plasma: up to 3 ml
  - PBMC: one vial (3-4 million cells)
  - Serum: up to 1.5 ml
  - RNA: 2 ug