

NACC and ADRC Collaborative Neuroimaging Efforts

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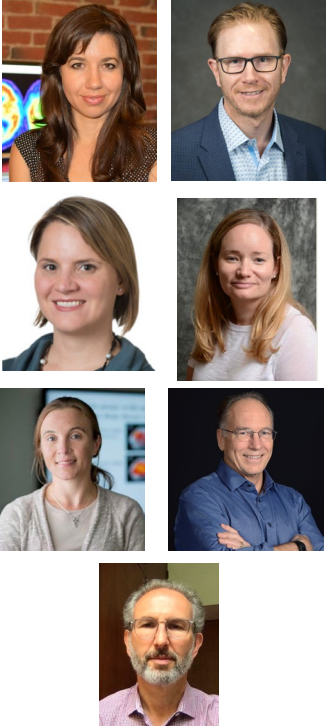


Brief History: Transition to Standardized Imaging

- **2005-2017:** ATN imaging becomes central to many ADRD research efforts; yet uniform imaging is not routinely captured and shared in the ADRC program.
 - **2017:** ADRC workgroup recommends the collection and sharing of standardized PET and MRI data in the ADRC program.
 - **2020:** SCAN funded to promote standardized PET/MRI acquisitions and analyze this data.
 - **2021:** ADRCs begin contributing standardized PET and MRI data to SCAN.
 - **2023:** Sharing of ADRC-SCAN data will begin!
- **Key opportunity to share and link standardized imaging data to extensive clinical/postmortem/genetic/proteomic data in a large-scale multi-etiology cohort.**

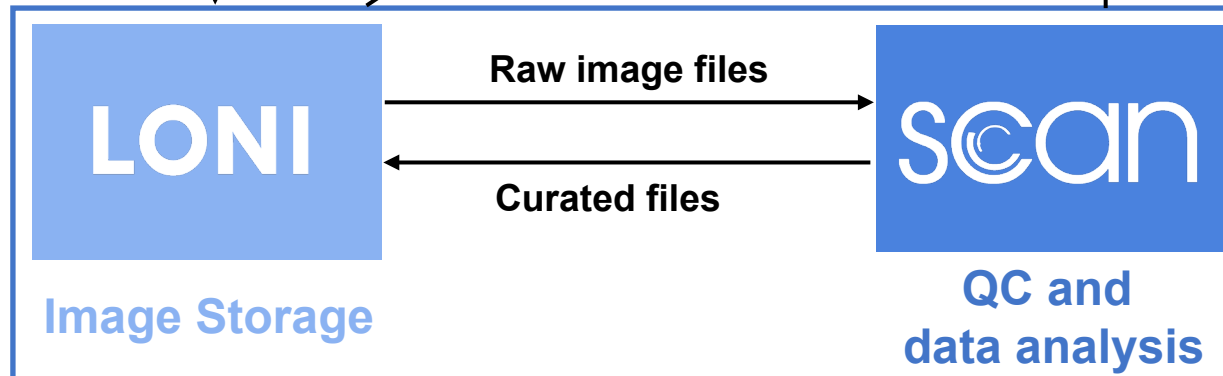
Collaborative ADRC Imaging Infrastructure

Imaging Core Steering Committee



Directors, Core Leaders

Bud Kukull, Sarah Biber



Arthur Toga

Bill Jagust, Cliff Jack

Data returned to sites

Raw image files

Site reporting

Summary & analysis data

- MRI measurements (e.g. volume)
- PET measurements (e.g. SUVR for amyloid and tau)

Raw image files

Curated files

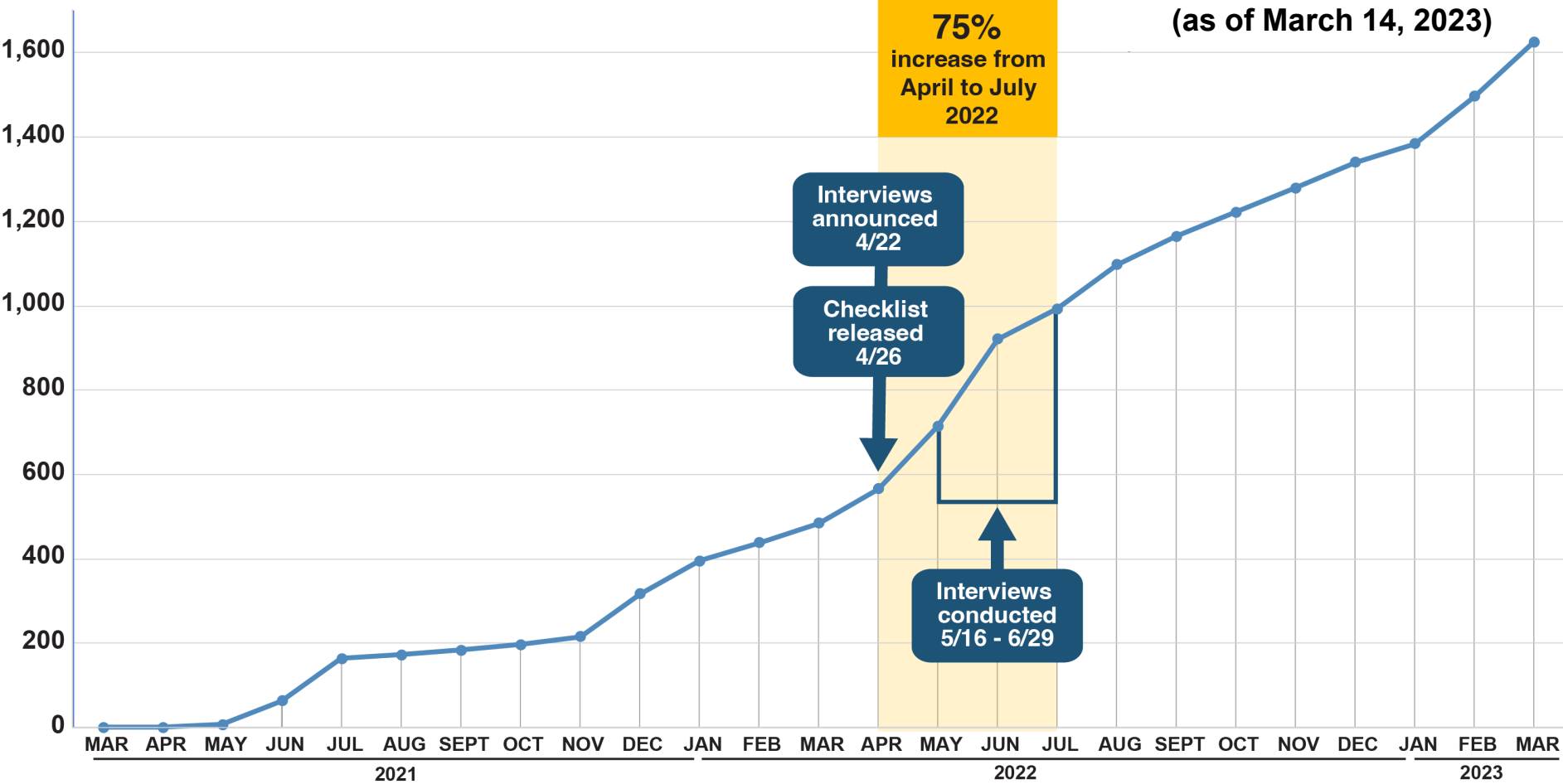
SCAN: PET Update

**1,626 PET scans
collected from 18 sites
(as of March 14, 2023)**

PET Scans

Cumulative number of PET scans submitted to SCAN

Cumulative # PET scans



NACC Data Front Door: SCAN Dashboard (Public)

- Tracks each ADRC's SCAN readiness and participation
- Self-service tool for sites to update their readiness and track their SCAN submissions
- Provides researchers with up-to-date information on the number of standard images that are available for analysis

SCAN Dashboard

This dashboard tracks the number of SCAN-compliant MRI/PET images and the number of participants that images have been submitted for by each ADRC to LONI/NACC. [Learn more about the Dashboard.](#)

Institution (ADRC)	SCAN Readiness	SCAN Participation					
	Current SCAN readiness status	Total # of Participants	MRI			PET	
			# MRI participants	# MRI exams submitted	# MRI series submitted	# PET participants	# PET scans submitted
ADRC 0	Ready to Submit Data	256	236	251	567	117	237
ADRC 1	Ready to Submit Data	108	106	112	222	79	79
ADRC 2	Ready to Submit Data	25	25	25	64	0	0
ADRC 3	Ready to Submit Data	119	111	137	430	105	105
ADRC 4	Ready to Submit Data	96	96	96	288	0	0
ADRC 5	Ready to Submit Data	62	62	63	1033	0	0

ADRC Portals: SCAN QC Dashboards (Private)

Features:

- Sites can track the QC status of their PET submissions allowing them to rapidly address errors
- Serves as an auditable record of all SCAN PET data submitted to date – downloadable as a csv file

PET Example

[Site-Specific Dashboard](#) > Western Iowa PET Data

Alert: PLEASE NOTE THAT THIS EXAMPLE DATA HAS BEEN FABRICATED AND DOES NOT REPRESENT ANY REAL ADRC, PARTICIPANT, OR DATA.

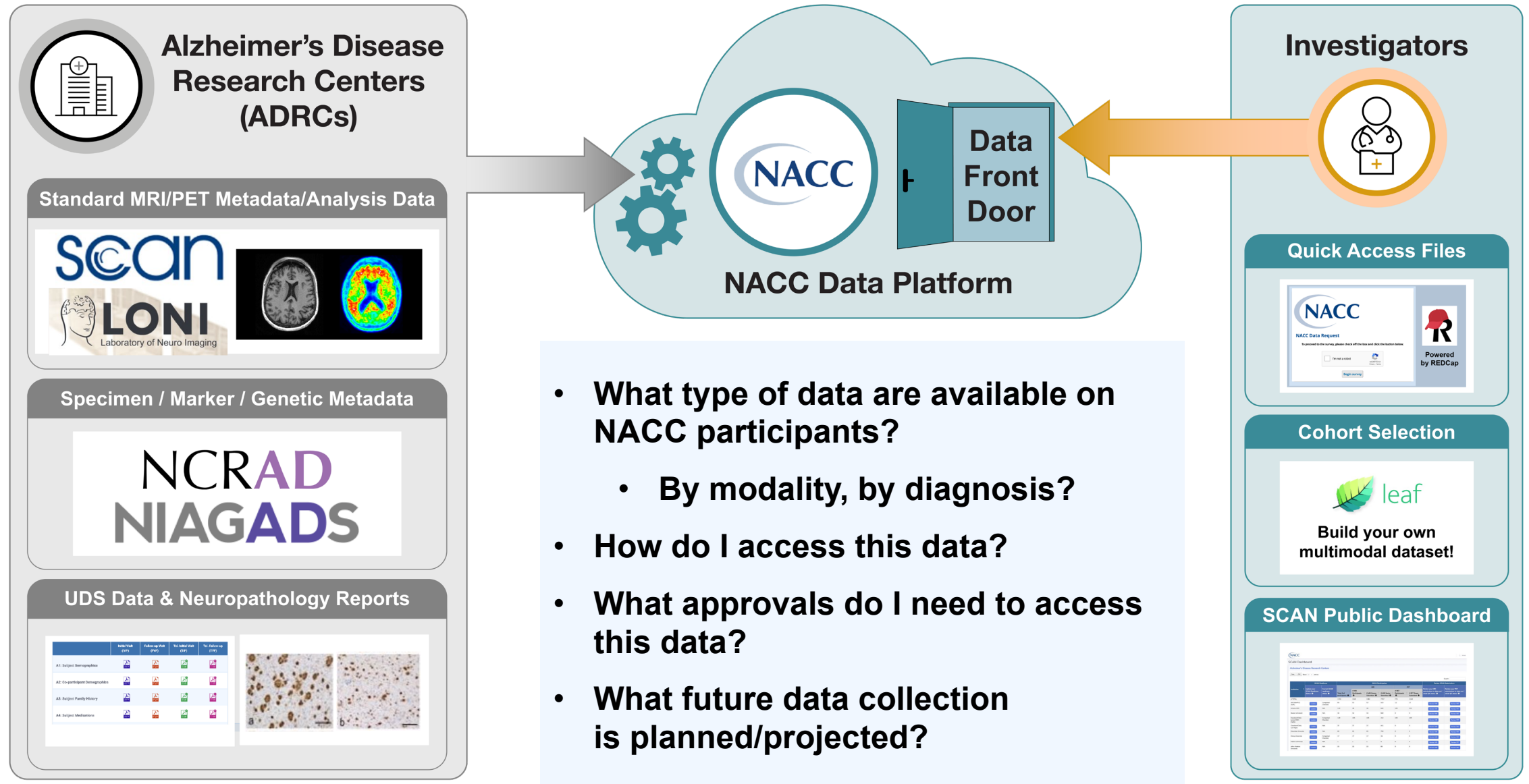
Review PET Data

Copy CSV Show 10 entries

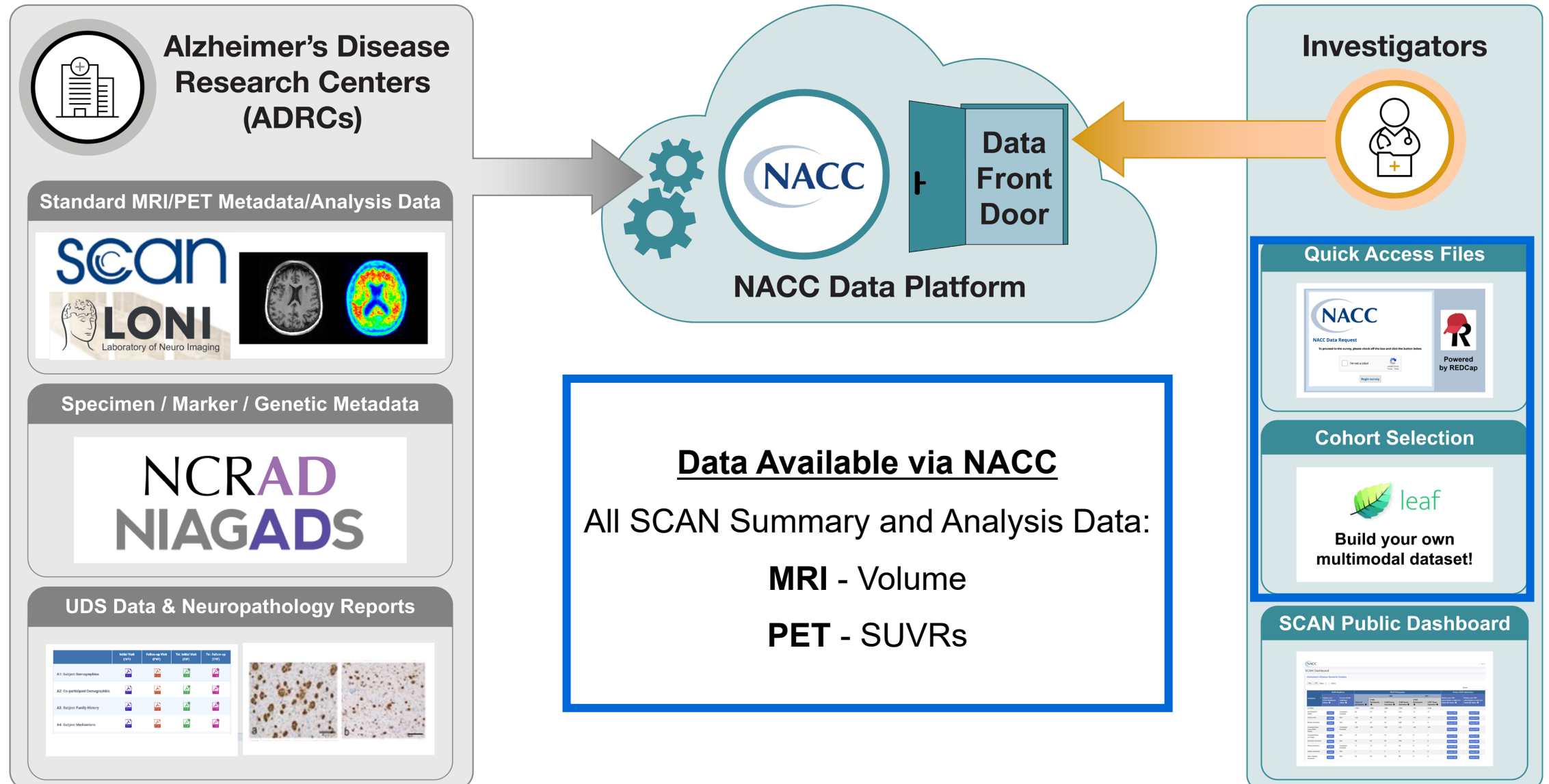
Search:

ADRC ⓘ	NACC ID ⓘ	PTID ⓘ	Study				QC Status ⓘ	If failed, why? ⓘ
			Study Date and Time ⓘ	Image UID ⓘ	Scanner Model ⓘ	PET radiotracer ⓘ		
Western Iowa	NACC462907	188	6/1/2022 0:00	I10160420	Biograph Horizon	Florbetapir	Passed	
Western Iowa	NACC114092	1189	4/1/2022 0:00	I10150975	Biograph Horizon	Flortaucipir	Passed	
Western Iowa	NACC228673	728	6/1/2022 0:00	I10150995	Biograph Horizon	PIB	Passed	
Western Iowa	NACC228673	728	6/1/2022 0:00	I10150996	Biograph Horizon	Flortaucipir	Passed	
Western Iowa	NACC42459	450	7/1/2021 0:00	I10033850	Biograph Horizon	NAV4694	Passed	

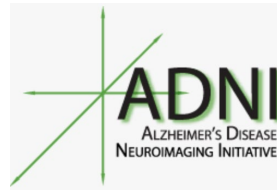
Future NACC Project: Data Front Door



Future NACC Project: Data Front Door



Concluding Remarks



	2005 - 2023	2021 - 2023
Amyloid PET	~3,300 (start 2006)	904
Tau PET	~1,200 (start 2015)	517

- Long road to get to this point!
- Reflects collaborative efforts across all ADRC sites with NACC, SCAN, LONI, and NIA
- Immediate upcoming milestones: dashboards, return data to sites, share with scientific community
- Expect large impact with this new imaging dataset
 - ATN characterization in a multi-etiology cohort
 - Extensive affiliated data (clinical follow up, eventual postmortem data, genetics, plasma)
- Just the beginning—additional imaging in new P30 RFA, CLARiTI(???)

EXTRA

SCAN: MRI Update

MRI Series

Cumulative number of MRI series submitted to SCAN

Cumulative # MRI series

11,896 MRI series collected from 30 sites

