



MICHIGAN ALZHEIMER'S DISEASE CENTER

# Using Electronic Medical Records in Research Recruitment

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# Overview of U-M Approach

- Epic Systems – University of Michigan (2012)
  - **MiChart** Recruitment Alert
  - Fully integrated – patient centric EHR system
  - Stable & secure platform with over 26,000 Michigan Medicine users
  - Supports research and health information management
  - Available for research purposes at no additional cost
- Recruitment Alert function activated in U-M Cognitive Disorders Clinic in 2013 and Movement Disorders Clinic in 2015



# What is a Recruitment Alert?

- A recruitment strategy that identifies patients in clinic who might qualify for a research study based on screening criteria input into the MiChart system
- Real time: Once clinician clicks on 'Interested,' message is sent directly to shared InBox in MiChart
- Partial IRB waiver to review and screen PHI for recruitment only

# Why use EHR for recruitment?

- Rapid recruitment
  - Phone call ~ 5 days after clinic visit
- Cost effective in managing study coordinator's time
- Clinician discussion of research
  - Reminder is convenient at a busy clinic



# Summary

Pt in  
clinic



MD  
selects  
diagnosis  
in  
MiChart



Alert  
triggers  
MD to  
review  
research  
with pt



Pt  
eligibility  
and  
interest



SC  
notified  
of  
interest

- Cognitive Disorders Clinic
- Movement Disorders Clinic
- e.g. diagnoses: MCI, possible/probable AD, EOAD, DAT, LBD, FTD, PD, PDD, HD, etc. (ICD-10-CM-Diagnosis codes)



# Physician's View

The screenshot displays a medical software interface for a physician's view. At the top, a patient header for 'Rsch-Jennings\_Stg,Adult-Fe...' includes MRN, DOB, and other identifiers. Below this, a navigation bar shows tabs like 'BestPractice', 'Visit Diagnoses', and 'Patient Instructions'. The main content area is divided into several sections. A dark blue callout box labeled 'The study is noted' points to a section titled 'Research for Orders Only' which contains a form for 'Respond to Study' with options like 'Interested', 'Declined', and 'Ineligible'. Another dark blue callout box labeled 'Recruitment Alert pops up' points to a 'Recruitment Alert' section on the right. A third dark blue callout box labeled 'Selects diagnosis' points to the 'Visit Diagnoses' section, which shows a list of diagnoses including 'Early onset Alzheimer's dementia without behavioral disturbance'. The interface also includes a 'New Reading' section at the bottom right and a 'Patient Instructions' section at the bottom left.

Rsch-Jennings\_Stg,Adult-Fe... MRN: 800007674 DOB: 12/07/1992 FYI: None PCP: Punch, Margaret R... Infection: None Last Ht: None Pref Lang: English BPA: BestPracti... Portal: Inactive  
Preferred Name: None CSN: 8000073006 Age/Sex: 25 y.o. / F Allergies: Not on File REF: None Isolation: None Last Wt: None Interpreter: No HM: Due Research: None  
Primary Cvg: BCBS/BCBS MICHIGAN P... ENC DEP: Eaa Geriatric... My Sticky Note: Last BSA: None CrCl: <No order fou... BMI: None Adv Dir: NONE TXP: None

9/21/2018 visit with Hrs Back - Faculty Research for Orders Only

Chart Review Print A/S Request Outside Records

CareWeb Chart

Results Revi...

Synopsis

Appt Desk

Review

Orders Only

Order Entry

Sign Visit

Travel Screen...

Patient Station

Contacts BestPractice Visit Diagnoses Patient Instructions Routing SmartSets MAPS Report MAPS Attestation

in participating in a Research study.

Respond to Study Do Not Respond RESEARCH, MAP-UM M

☐ Interested

☐ Declined

☐ Ineligible - did not meet f

Accept

Visit Diagnoses

alheimers disease + Add Previous Problems

Common Anxiety Essential hypertension Dizziness

Parkinson disease (...)

P

1. Early onset Alzheimer's dementia without behavioral disturbance

ICD-10-CM ICD-9-CM PL

G30.0 ... 331.0 ... Change Dx X

New Reading

Time taken: 1511 9/21/2018

Show: ☐ Row Info ☐ Last Filed ☐ All Choices

Responsible + Create Note

MAPS Attestation

I have reviewed the MAPS Report in this encounter

STG

Search

artSets Clear Selection

Recruitment Alert pops up

The study is noted

Selects diagnosis

# Physician's View

STG

Rsch-Jennings\_Stg,Ad... X

**Rsch-Jennings\_Stg, Adult-Fe...** MRN: 800007674 DOB: 12/07/1992 FYI: None PCP: Punch, Margaret R... Infection: None Last Ht: None Pref Lang: English BPA: BestPracti... Portal: Inactive  
Preferred Name: None CSN: 8000073006 Age/Sex: 25 y.o. / F Allergies: **Not on File** REF: None Isolation: None Last Wt: None Interpreter: No HM: **Due** Research: None  
Primary Cvg: BCBS/BCBS MICHIGAN P... ENC DEP: Eaa Geriatric... My Sticky Note: Last BSA: None CrCl: <No order fou... BMI: None Adv Dir: NONE TXP: None

9/21/2018 visit with Um\_Rsch, Faculty\_Research for Orders Only

Chart Review Images References Media Manager Preview A/S Print A/S Request Outside Records

CareWeb Chart

Results Revi...

Synopsis

Appt Desk

Review

**Orders Only**

Order Entry

Sign Visit

Travel Screen...

Patient Station

Contacts **BestPractice** Visit Diagnoses Patient Instructions Routing SmartSets MAPS Report MAPS Attestation

in participating in a Research study.

Respond to Study Do Not Respond RESEARCH, MAP-UM M

☐ Interested

☐ Declined

☐ Ineligible - did not meet fi

Accept

SmartSets

BestPractice Advisory - Rsch-Jennings\_Stg,Adult-Female

Research (1)

✓ Patient may meet HUM00000382 research requirements please ask if they are inter Research study.

Respond to Study Do Not Respond RESEARCH, MAP-UM/MEMORY & AGING PROJECT

☐ Interested

☐ Declined

☐ Ineligible - did not meet full criteria

Accept Dismiss

Visit Diagnoses

alheimers disease + Add Previous Problems

Common Anxiety Essential hypertension Dizziness

Parkinson disease (...)

P

1. Early onset Alzheimer's dementia without behavioral disturbance

ICD-10-CM ICD-9-CM PL

G30.0 ... 331.0 ... Change Dx X

New Reading

Time taken: 1511 9/21/2018

Show: ☐ Row Info ☐ Last Filed ☐ All Choices

Responsible + Create Note

MAPS Attestation

I have reviewed the MAPS Report in this encounter

Bookmark

If interested, alert is sent to shared Inbox

# Study Coordinator's View

**Top Navigation Bar:** Epic, Patient Station, Chart, Remind Me, UMHS Links, Schedule, Patient Lists, In Basket, Print, Log Out, Secure.

**Left Sidebar:**

- In Basket**
  - New Msg
  - Patient Msg
  - Refresh
  - Edit Pools
  - Settings
  - Search
  - Manage QuickActions
  - Attach
  - Out
  - Properties
- My Messages**
  - Chart Completion (3)
  - Patient Call Encounters (1)
  - My Incomplete Notes (1)
  - My Open Non-Visit Encounters (2)
  - Cosign Notes (2)
  - Communications (2)
  - Cosign - Clinic Orders (7)
  - Research HUM00000382 (1)**
  - Research PT-ED/JP (1)

**Main Content Area:**

**> Research HUM00000382 1 unread, 1 total**

Status	Comm	Visit	Patient	Age/Sex/DOB	Chief Compl...	Diagnosis	Department	Provider
? New		09/21/2018	Rsch-Jenni...	25 y.o. fema...		Early onset ...	Michigan M...	Um_Rsch, F...

**Callout Boxes:**

- InBox labeled**: Points to the 'Research HUM00000382 (1)' item in the sidebar.
- New alert in shared Inbox**: Points to the 'New' status in the alert table.
- These categories are customizable**: Points to the 'Visit' and 'Patient' columns in the alert table.
- The opened alert**: Points to the detailed view of the alert below.

**Opened Alert Details:**

**Rsch-Jennings\_Stg, Adult-Female - 09/21/18**

**Adult-Female Rsch-Jennings\_Stg**

Description: 25 year old female Provider: Um\_Rsch, Faculty\_Research Department: Eaa Geriatric Neuro

**Assessment**

**Plan**

**Patient Demographics**

Patient Name	Sex	DOB	SSN	Address	Phone
Rsch-Jennings_Stg, Adult-Female	Female	12/7/1992	xxx-xx-1000	12 Research Lane ANN ARBOR MI 48105	734-737-1000 (Home)



In Basket New Msg Patient Msg Refresh Edit Pools Manage Pools Settings Search Manage QuickActions Attach Out Properties

My Messages

Search Results

Ad Hoc (Search Results)

My Open Non-Visit Encounters (2)

Research HUM00000382 (4)

Ad Hoc (Search Results) > Research HUM00000382 4 unread, 4 total

Done Comment

Status	Comm	Visit	Patient	Age/Sex...	Chief Co...	Diagnosis	Departm...	Provider	Recipient
? New		09/21/2018	Rsch-Je...	25 y.o. fe...		Early ons...	Michigan...	Um_Rsc...	UM_RES HUM00000382
? New		04/13/2018	Babb-Stg...	66 y.o. fe...		Early ons...	Michigan...	Um_Rsc...	UM_RES HUM00000382
? Pend		04/11/2018	Rsch-Ba...	25 y.o. fe...		Early ons...	Michigan...	Um_Rsc...	UM_RES HUM00000382
Done		12/07/2017	Michart-R...	59 y.o. fe...		Early ons...	Michigan...	Um_Rsc...	UM_RES HUM00000382

InBox items are automatically marked 'New'

A status marked 'Done' is removed automatically when system refreshes (every few minutes)

A status is changed to 'Pend' when comments are added

Research HUM00000382 2 unread, 4 total

Comm	Visit	Patient	Age/Sex...	Chief Co...	Diagnosis	Departm...	Provider	Recipient
	09/21/2018	Rsch-Je...	25 y.o. fe...		Early ons...	Michigan...	Um_Rsc...	UM_RES HUM00000382
	04/13/2018	Babb-Stg...	66 y.o. fe...		Early ons...	Michigan...	Um_Rsc...	UM_RES HUM00000382
Yes	04/11/2018	Rsch-Ba...	25 y.o. fe...		Early ons...	Michigan...	Um_Rsc...	UM_RES HUM00000382
	12/07/2017	Michart-R...	59 y.o. fe...		Early ons...	Michigan...	Kleavela...	UM_RES HUM00000382

Comment

In progress

Clear Accept Cancel

Encounter Summary

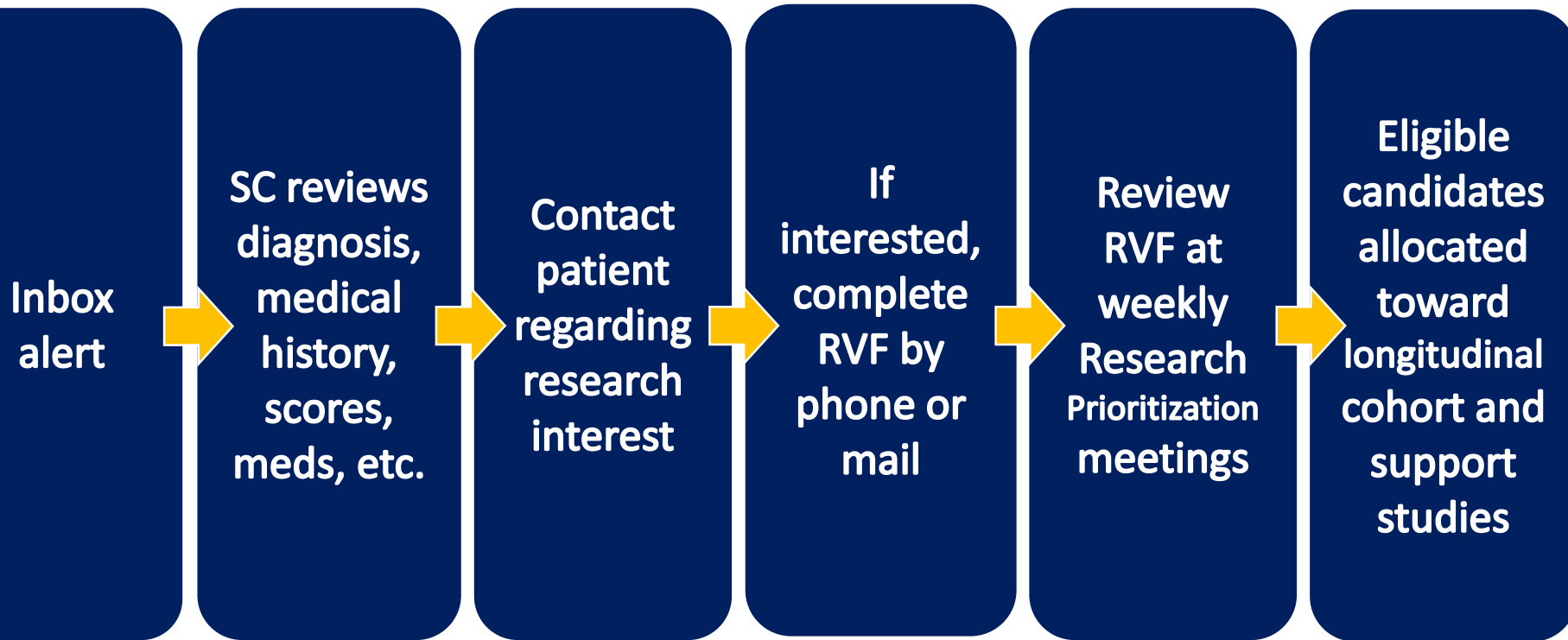
Rsch-Babb\_Stg, Adult Female

Adult Female

Description: 25 year old fe

4/11/2018 Orders Only MRN: 800007672

# Alert Follow-Up

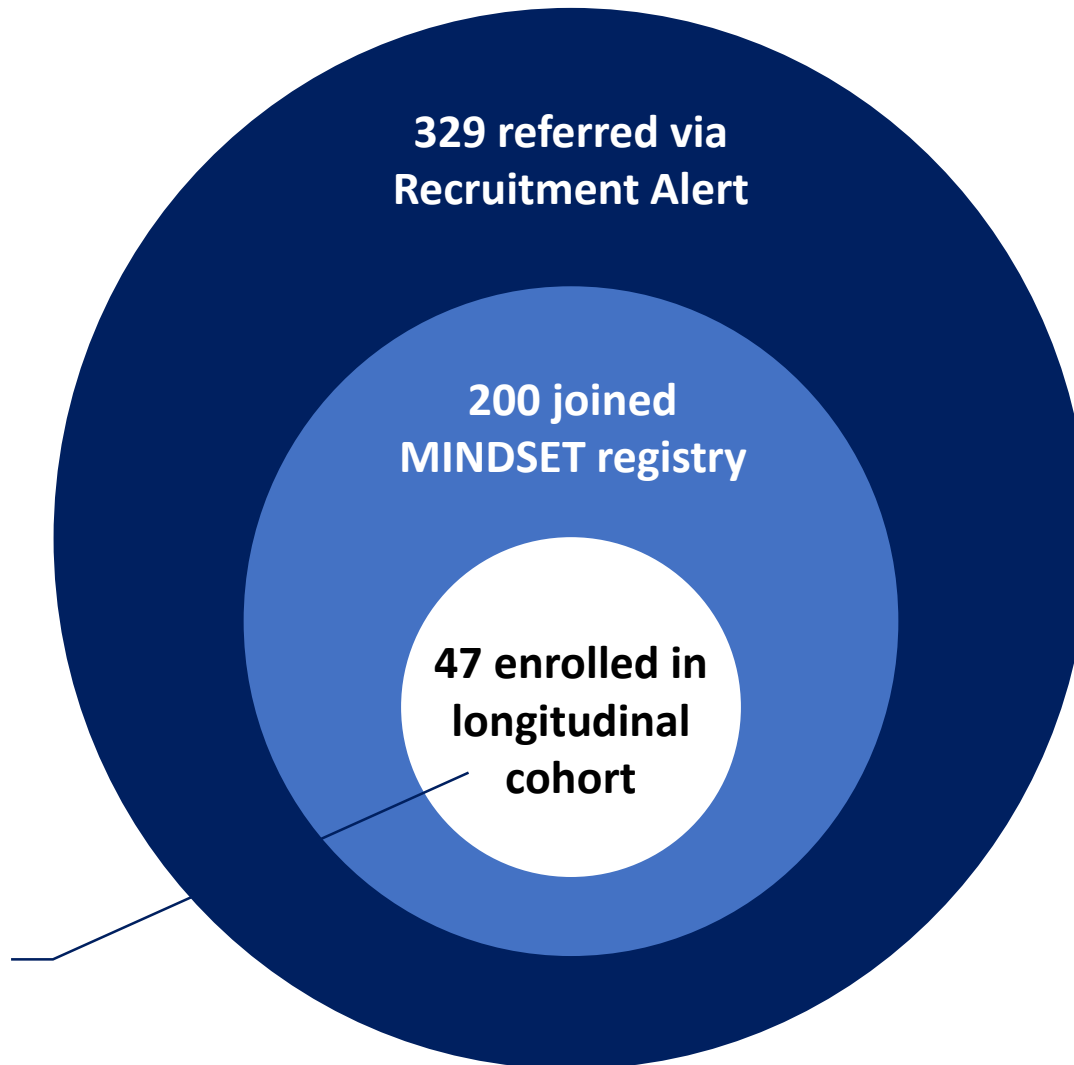


Timeline from MiChart notification to enrollment:

~ 2-6 weeks

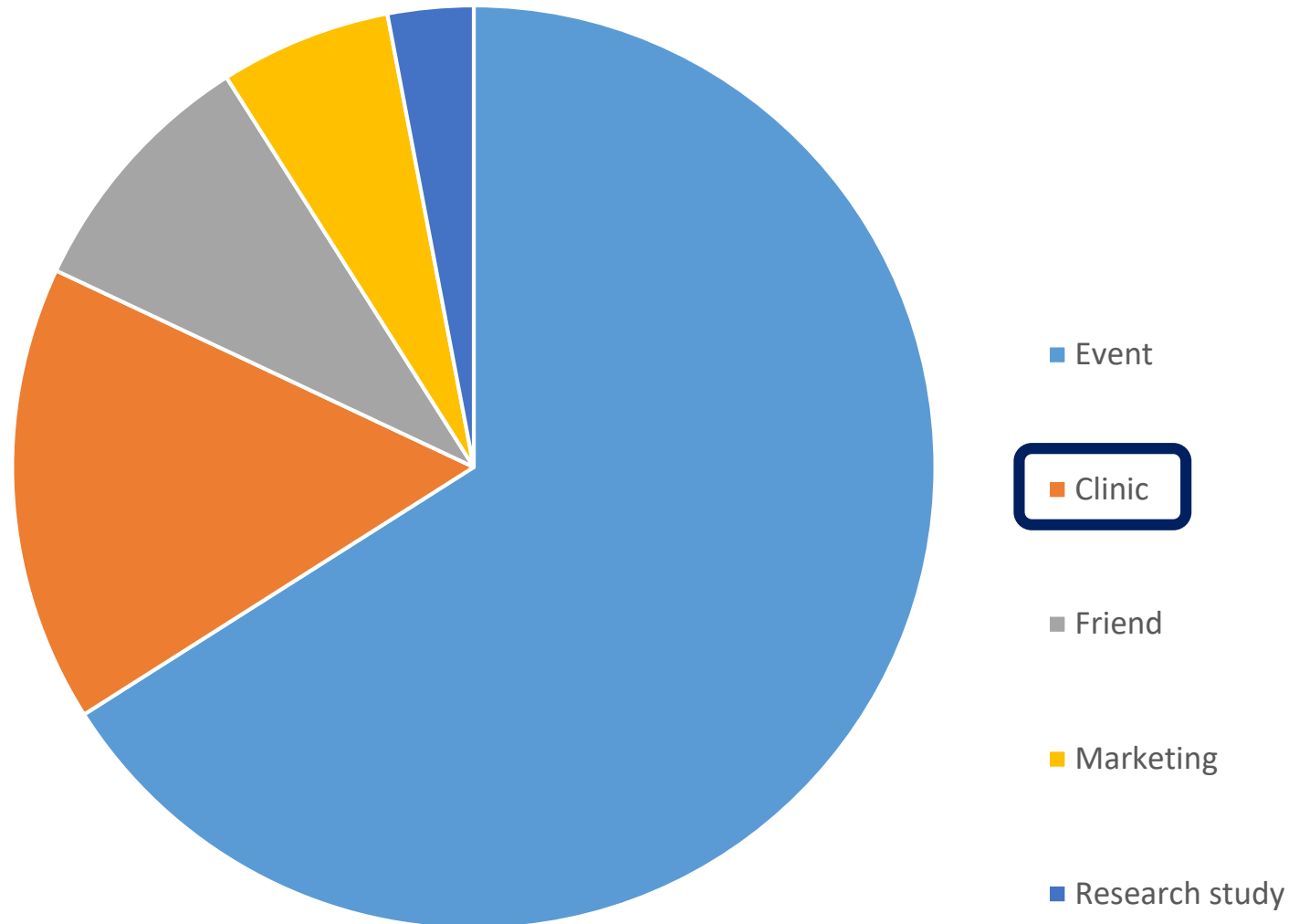
Typically 5-8 alerts per week

# Recruitment results from EHR (5/17 – 8/18)



# Other Recruitment Channels

Longitudinal Cohort 5/17 – 8/18 (n=326)



# Positive Feedback

- Pros of this system
  - Doesn't affect clinical practice
  - Easy to edit / update with clinician feedback
  - Quick turnaround and contact of patient

Additional assets of the Clinical Core include... the presence of a best practice alert within the electronic medical record to facilitate recruitment of research volunteers across a wide spectrum of cognitive impairment,”

– Sanjay Asthana, MD, FACP,  
Chair, MADC EAB



# Challenges

- Buy-in from key stakeholders (clinic directors, MiChart review board, IRB, etc.)
- Annual training of new clinicians and residents
- Peer-pressure to express interest at clinic, then lack of interest upon follow-up
- Timely follow-up after clinic visit (phone tag)
- Confusion between clinic and research (oftentimes, same clinician)
- Lost interest upon review of RVF and commitment

# Future Directions

- Integration of InBox with MADC supported studies
- Integration of research visit scheduling system into MiChart

**BE A LINK: VOLUNTEER FOR RESEARCH**

[Clinical Drug Trials](#)

**PRESENCE:** Evaluating the safety and efficacy of LY3154207 (positive allosteric modulator of the D1 receptor) on cognition in patients with mild-moderate Parkinson's disease dementia. Study is looking for adults with Parkinson's disease and dementia age 40-85, with well-controlled blood pressure and a reliable caregiver who is able to be present for certain visits. Contact Braden DeWeese at [deweeseb@med.umich.edu](mailto:deweeseb@med.umich.edu) or 734-615-5495 for more information.

[Memory Training Studies](#)

**Promoting adaptive neuroplasticity in mild cognitive impairment (Merit):** Examining the benefits of two types of treatments for memory impairment – cognitive rehabilitation and electrical brain stimulation. Study is looking for adults with mild cognitive impairment over the age of 50. Contact Julia Laing at [laingjul@med.umich.edu](mailto:laingjul@med.umich.edu) or 734-764-4709.

[Neuroimaging and Biomarker Studies](#)

**Examination of the earliest symptoms and biomarkers of FTD MAPT carriers:** Investigating the earliest clinical features of frontotemporal dementia in an effort to improve early detection of the disease. Study is looking for adults age 18 and older with a family member who has frontotemporal dementia. Contact Stephen Campbell at [stepcamp@med.umich.edu](mailto:stepcamp@med.umich.edu) or 734-763-2361.

**Levy Body Dementia Biomarkers:** Investigating new brain imaging approaches that investigators hope will identify protein accumulations in the brain of individual patients with PD-related dementia. This study is looking for adults age 55 and older with Parkinson's disease dementia (PDD), Dementia with Lewy Bodies (DLB), or AD with at least one symptom of DLB. Contact Christine Minderovic at [cminderov@med.umich.edu](mailto:cminderov@med.umich.edu) or 734-998-8420.

**Risk Evaluation and Education of Alzheimer's Disease – the Study of Communicating Amyloid Neuroimaging (REVEAL SCAN):** The purpose of this study is to learn about the best ways to communicate educational information about amyloid imaging brain scans and risk information about the chance of developing AD. Study is enrolling cognitively normal adults ages 65 to 80, have/had at least one first-degree relative (i.e., parent or siblings) with Alzheimer's disease. Contact the study team at [revealstudy@umich.edu](mailto:revealstudy@umich.edu) or 734-615-2422. This study team sees participants in Ann Arbor and Detroit.

[Lifestyle Intervention Studies](#)

**Adaptive Coping Engagement with Caregivers of Black Older Adults with Dementia (ACE Project):** The ACE Project is investigating caregiver mental health, physical health, and social supports with the aim of developing culturally tailored programming. This study is seeking African American/ Black caregivers of persons with dementia or cognitive impairments to complete a survey. Contact Dr. Sheria Robinson-Lane at [grices@med.umich.edu](mailto:grices@med.umich.edu) or 734-764-9280. This study team will meet participants in the home.

**Alzheimer's Disease Neuroimaging Initiative 3 (ADNI 3):** The purpose of this observational study is to determine the relationships among clinical, cognitive, imaging, genetic, and biomarker characteristics of the entire spectrum of AD as it progresses from a preclinical stage to very mild symptoms to mild cognitive impairment (MCI) to dementia. Study is looking for adults age 55-90 with normal cognition, MCI, or mild AD. Contact Lisa Zbizek-Nulph at [lzbizek@med.umich.edu](mailto:lzbizek@med.umich.edu) or 734-232-1199.

**Alzheimer's Prevention Trials (APT) Webstudy:** The APT Webstudy is an online memory and thinking research tool aimed at accelerating enrollment into Alzheimer's clinical trials by identifying and tracking individuals who may be at higher risk for developing Alzheimer's. The study is looking for adults over age 50. Contact the study



# Thank you!



**Scott Roberts**  
Outreach & Recruitment  
Core Leader



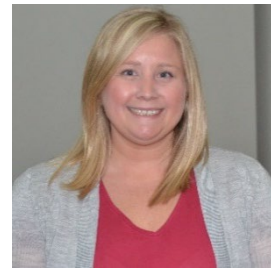
**Kathleen Jennings**  
Senior Business Analyst  
(HITS)



**Nan Barbas**  
Co-Investigator



**Joan Illardo**  
Co-Investigator



**Renee Gadwa**  
Outreach & Recruitment  
Program Manager



**Laura Rice-Oeschger**  
Wellness Coordinator



**Edna Rose**  
Minority Recruitment Specialist



**Holly Bunker**  
Outreach & Recruitment  
Coordinator



**Erin Fox**  
Community Relations &  
Events Coordinator