



Wake Forest Claude D. Pepper Older Americans Independence Center (P30 AG021332)

Open House - January 21, 2021

The Purpose of the OAIC Program:

“... to increase scientific knowledge leading to better ways to maintain or restore independence in older persons.”

“... to develop or strengthen awardee institutions' programs that focus on and sustain progress in a key area in aging research related to the mission of the OAIC program.”



Current Centers:

Boston, Duke, Johns Hopkins, Mt. Sinai, Northwestern, UCSF,
U Florida, U Maryland Baltimore, U Mich, U Pitt , UT Heath Science,
UT Medical Branch, Wake Forest, Yale

Wake's Theme:

Integrating pathways affecting physical function for new approaches to disability treatment and prevention.

WF OAIC's Evolution

'92 – '02

- P60 focused on Knee OA
- FAST (Aerobic versus Resistance Training); ADAPT (2x2 RCT weight loss / Exercise); OASIS (Observational Study)

'02 – '07

- P30 – “Muscular Approach to Disability”
- Sarcopenia Focused; Body Composition Core; Initiated IASDR (Integrated Aging Studies Data and Sample Repository)

'08 – '13

- “Integrating pathways affecting physical function for new approaches to disability treatment and prevention “– Focus on Adipose Tissue, Obesity Treatment, Behavioral Intervention Trials

'13 – '18

- “Integrating pathways affecting physical function . . .”
- Continuation + Positioning for Geroscience-Guided Trials; Putting Discoveries to Work; Advocating for Aging Outcomes in Clinical Trials including Older Adults

'18-'23

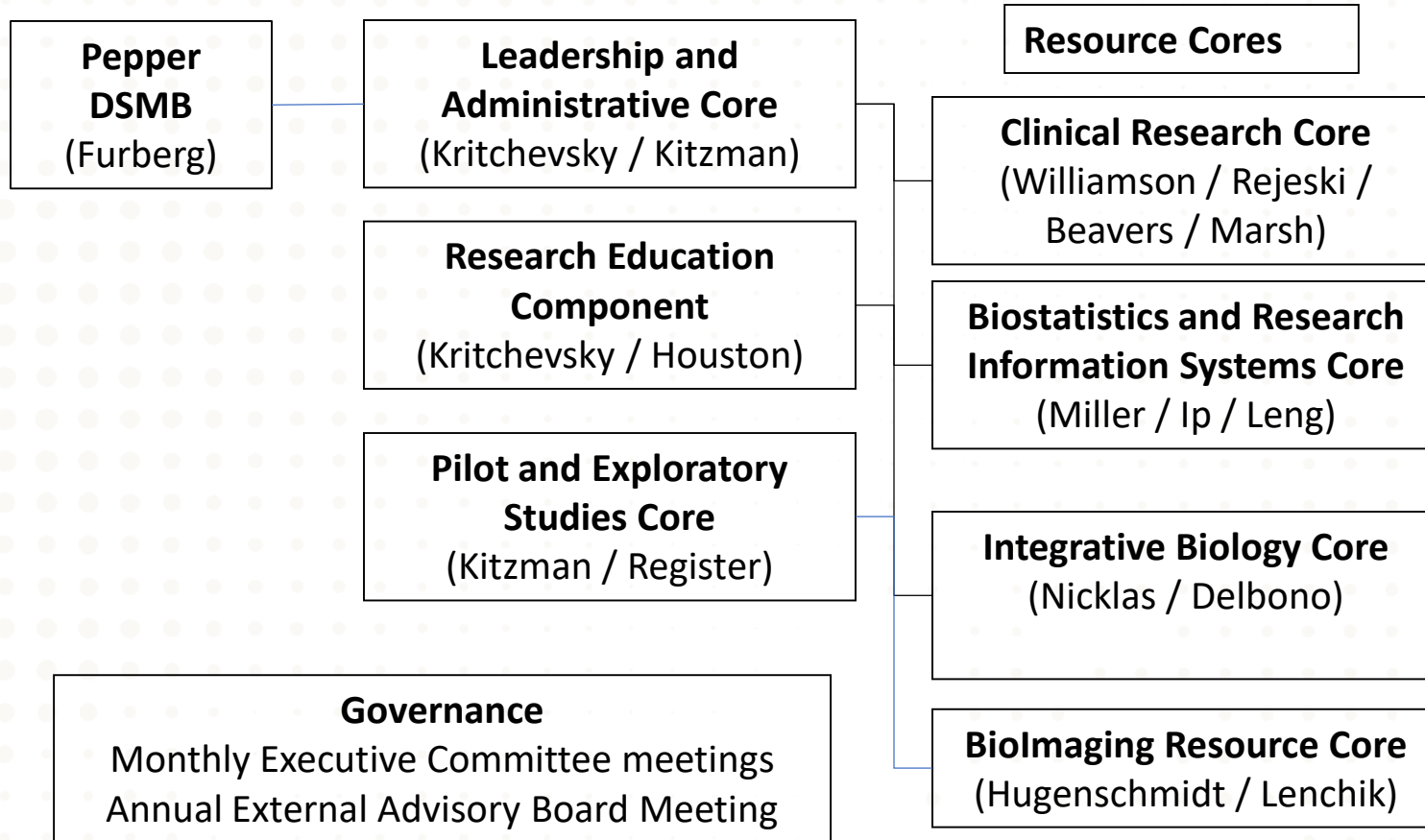
- “Integrating pathways affecting physical function. . . “
- Integrating the Brain and the Body; Integrating Geroscience Trials;

WF OAIC 2018-2023

Aims:

- **Discover new pathways** contributing to age-related declines in physical function and disability risk;
- **Develop, evaluate and refine strategies** for disability prevention and treatment;
- **Translate proven strategies beyond** traditional research environments;
- **Train the next generation of research leaders** focused on disability treatment and prevention

WF OAIC Organizational Structure



Leadership Development: Klepin, Ding, Beavers, Justice, Weaver

Strategies for an Aging Society: The Geroscience Hypothesis

Target a specific
disease



Delay the Targeted
Disease

OR

Delay aging
(by targeting basic
molecular processes
of aging)



Delay multiple age
related diseases



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Research paper

Senolytics in idiopathic pulmonary fibrosis: Results from a first-in-human, open-label, pilot study



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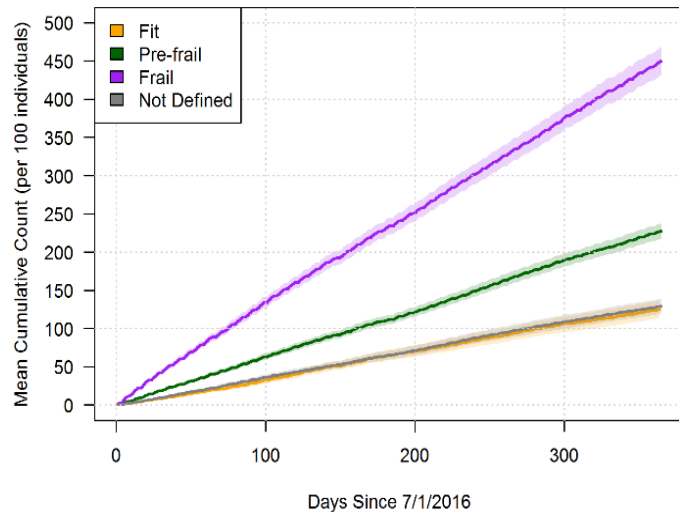
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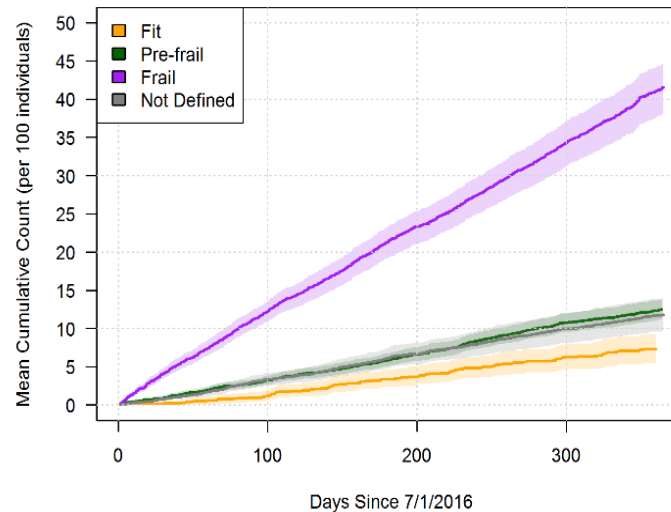
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eFI and incident healthcare outcomes (Pajewski & Callahan)

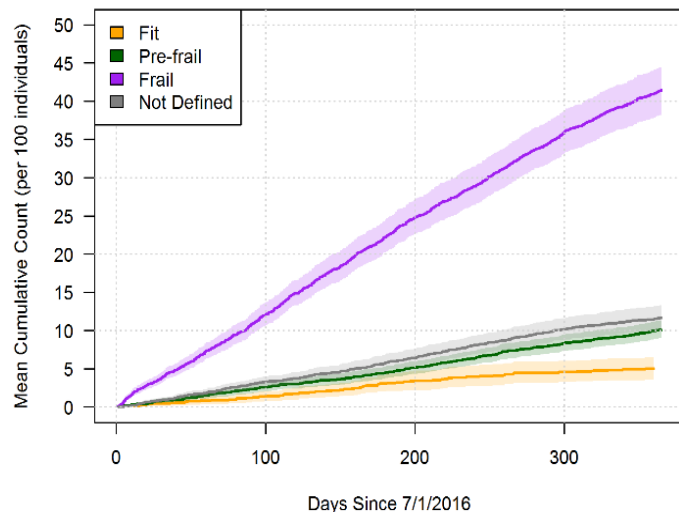
(A) Healthcare Encounters



(B) Emergency Department Visits



(C) Inpatient Hospitalizations



(D) Injurious Falls

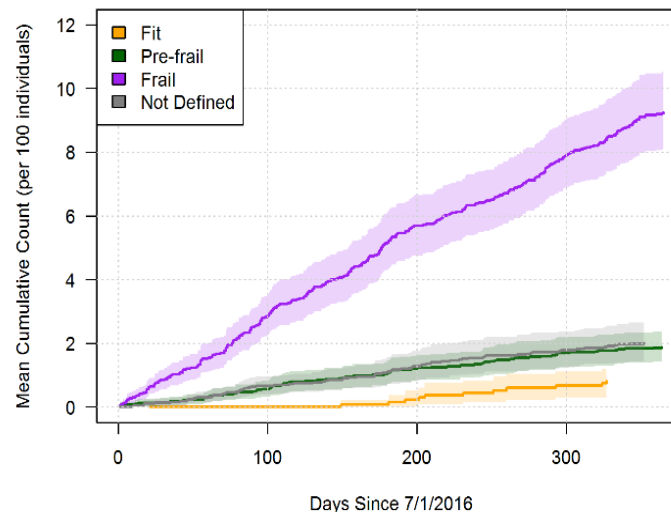


FIGURE. eFI and incidence of:
(A) healthcare encounters
(B) ED visits
(C) inpatient hospitalizations
(D) injurious falls

Frailty status based on the eFI was defined as
Fit ($eFI \leq 0.10$)
Pre-frail ($0.10 < eFI \leq 0.21$)
Frail ($eFI > 0.21$) or
Not Defined.
Shaded areas denote 95% point-wise confidence intervals.

Connecting the Brain and Body

Close collaboration with the WF-ADRC

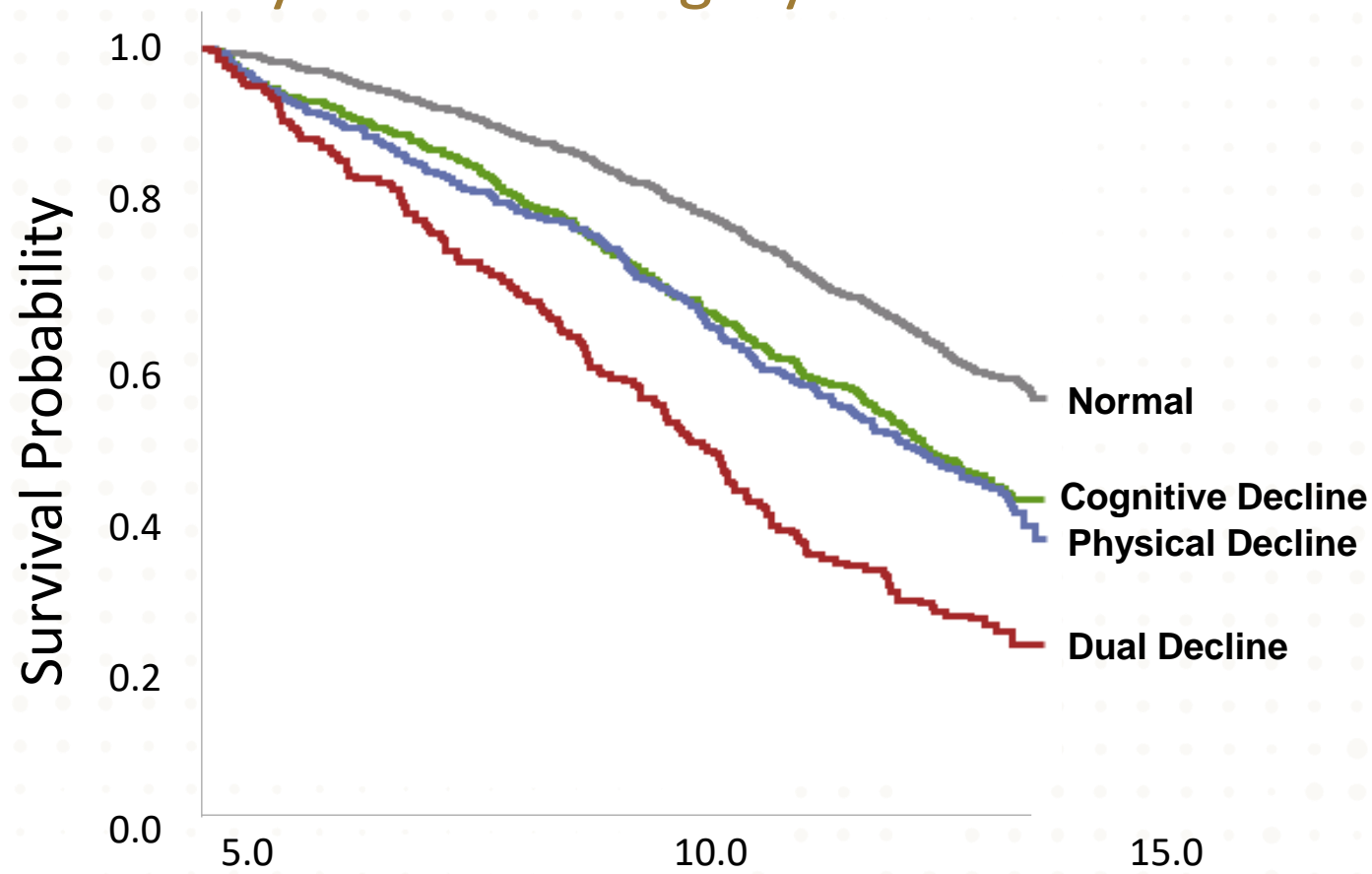
- Shared Governance
- Collaboration on Outreach and Recruitment
- OAIC added cognitive measures; ADRC added physical function measures
- Working on MRI analysis pipelines

Supplements

- Synergy (Tau PET imaging and mobility function)
- Amyloid PET imaging in B-NET

Training (Lockhart; Handing)

Kaplan-Meier Curve for Survival by Decline category: Health ABC



| Category | Main Risk Factors | Main Protective Factors |
|-------------------------|--------------------|----------------------------|
| Cognitive Decline (445) | Self-Rated Health | Grip, DSST, Albumin |
| Physical Decline (407) | White | Vitamin D, 400 M Walk Time |
| Dual Decline (211) | Depressive Sx, Age | DSST, 400 M Walk Time |

What the OAIC Supports

- **People** - any scholar who wishes to improve the functioning of older adults or better understand the aging process.
- **Discovery** – Pilot funds, research development projects
- **Learning** – Salary & research expenses and learning activities for early career researchers
- **Grant Development** – Advice on gerontologizing studies, sample size, power, design, preliminary data, boiler plate, prep
- **Research Conduct** – Administrative & coordinator support, recruitment, assessment, data management and analysis
- **Sponsorship and Connection** to an international community of aging researchers.
- **Collaboration** between departments and centers/institutes; between clinical, basic, epidemiological scientists; between institutions/programs.