

# **Hope and Hype in Alzheimer's Research -A Brave New World!**

## **Uptown Interagency Council**

**Jed A. Levine**

**President Emeritus, Director External Relations CaringKind**

**March 21, 2024**

# Social Work CEU's

- NYS licensed Social Workers can earn 1 CEU.
- Contact Linda Centeno at CaringKind  
[Lcenteno@cknyc.org](mailto:Lcenteno@cknyc.org)  
and request CEU application/form.
- Complete a short questionnaire which will be emailed to you from CaringKind
- Fee for CEU's is being waived by **305 WEST END!! Thank you Melissa 😊**
- All participants will fill out a short evaluation.

# 2023 Alzheimer's Disease Facts and Figures

- Over 55 million citizens of the World live with Alzheimer's (Pop. of Spain or Korea)
- Projected to increase to 152 Million in 2050 (pop. Russia)
- No widely available new treatment since 2003\*
- Major Global health crisis
- Costliest disease in US (\$345B est'd)
- Medicare and Medicaid (LTC) costs (\$239B)

# By 2050 . . .

- Approximately 13 million Americans will have Alzheimer's disease.
- 1:5 New Yorkers will either have or be caring for someone who has AD.

*Hebert, L.E., Weuve, J., Scherr, P.A., & Evans, D.A. (2013)*

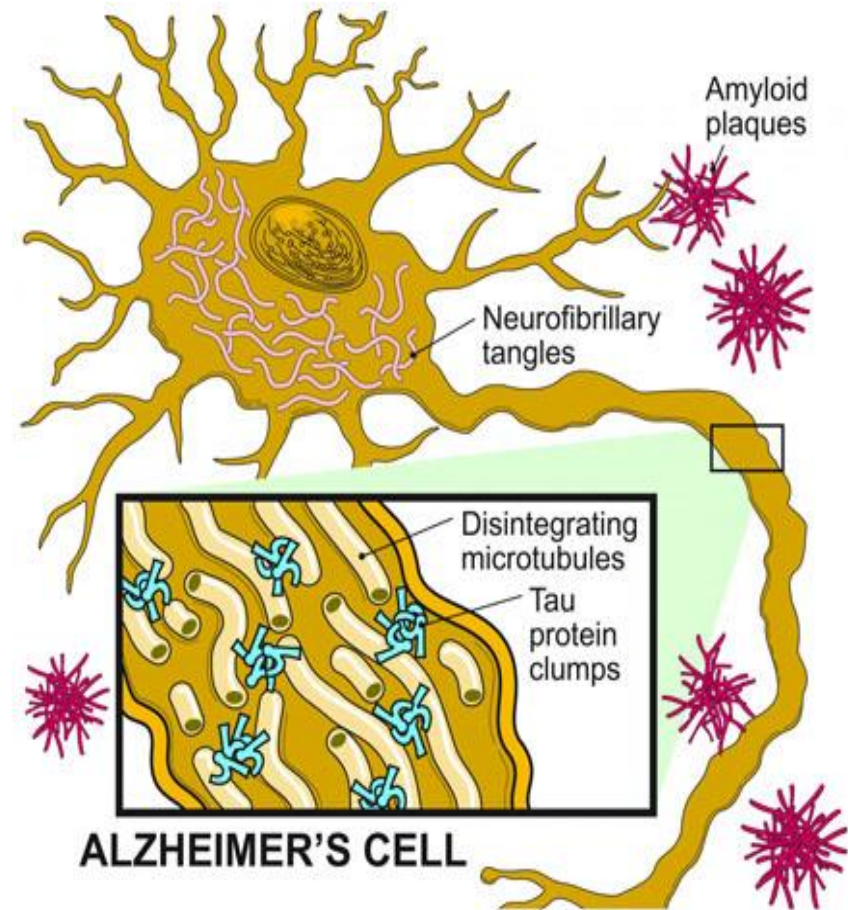
# Alzheimer's Pathology

## Plaques:

Abnormal clusters of the protein **beta amyloid** build up between nerve cells and lead to cell death.

## Tangles:

Strands of protein called **tau**, essential for maintaining cell structure, collapse leading to cell destruction.



# Brain Comparison



Normal

Alzheimer

# Cognitive Changes

Dimmer switch, not an off/on switch!



# Medications

## 1993 - 2021

- Manage symptoms, but DO NOT modify disease
  - 1. Cholinesterase inhibitors**
    - ✓ Aricept/donepezil
    - ✓ Exelon/rivastigmine
    - ✓ Razadyne/galantamine
  - 2. Glutamate pathway modifier**
    - ✓ Namenda/memantine
  - 3. Combination therapy**
    - ✓ Namzaric/donepezil & memantine
- Side effects - gastrointestinal, vivid dreams



# New Drug “Aduhelm” Approved June 7, 2021

- First new drug in 18 years
- Infusion therapy
- First disease modifying drug approved
- FDA approved under an “accelerated approval” (non-clinical endpoints, i.e. removal of amyloid plaque)
- Controversial approval by FDA
- Aduhelm taken off market January 2024

# Side Effects

- ADUHELM (and other MAB's against AD) can cause serious side effects including amyloid related imaging abnormalities or ARIA. (rare)
- ARIA - Brain bleeding and swelling
- ARIA is a common side effect that does not usually cause any symptoms but can be serious. ADUHELM can cause serious allergic reactions. The most common side effects include ARIA, headache and fall.

# CMS Coverage Decision

## April 2022

- Will cover Aduhelm under CED (Coverage with Evidence Development)
- Patients (MCI or Mild AD Dementia) must enroll in CMS approved trials, or trials supported by NIH
- Greatly restricts access to a whole class of drugs
- Discriminatory against African Americans and Latinos?
- New FDA fully approved monoclonal antibodies directed against amyloid will be covered, but patients need to be in a registry.

# Lecanamab (Leqembi) approved 1/6/23

- FDA approved under “accelerated” approval, i.e. biological affect, i.e. reduction of amyloid
- Approved for “traditional” approval July 6, 2023
- Slowed rate of cognitive decline by 27%
- Slowed rate of functional decline by 37%
- Projected to delay progression to next stage by 2.5 – 3 years.

# Lecanamab - Leqembi

- Indicated for MCI and Early-Stage Alzheimer's dementia, not for other dementing disorders.
- Infusion q. 2 weeks
- PET scan or CSF needed to establish amyloid burden
  - CMS removed PET scan restrictions for AD Oct '23
- MRI needed before tx and multiple times during treatment to detect ARIA.
- Adverse effects – ARIA, and Infusion related reactions, i.e. fever, flu-like sx, mostly mild.
- Special consideration for those on blood thinners.

# Leqembi – Full Approval

- July 6, 2023 – FDA grants **traditional** approval for lecanemab, a treatment for early-stage AD. (Not for related disorders, i.e. LBD, FTD, etc)
- CMS approved broader Medicare Coverage for those
  - Enrolled in Medicare
  - Diagnosed with MCI or mild AD dementia with evidence of beta-amyloid plaque on the brain
  - Physician participates in a qualifying registry.
- FDA recommends genetic testing, not mandated (those with double A4 profile are at greater risk of ARIA)
- Black Box Warning - APoE 4 Homozygotes

# Leqembi – additional considerations

- Raises issues of early diagnostic evals – waiting lists
- Patient/health care provider discussion re: risk v. benefit
- PET scans were limited to 1 per lifetime for amyloid screening in a research setting, that restriction now lifted!
- Cost set at \$26,500 a year, might be reduced to \$8,900 a year.
- 20% co-pay for Medicare beneficiaries if they don't have supplemental insurance

# Barriers to implementation

- Most effective when started VERY early – at the onset of symptoms when it is hardest to diagnose
- Waiting lists of a year – Time is BRAIN
- Huge capacity issues at memory disorders centers and other medical facilities
- Process/scheduling/coordinating testing and treatment is complex, burdensome and expensive.
- We've been trying to get info on who is doing it in NYC. Hard to reach providers to get answers.
- Relatively few individuals are on treatment

Reference: Suzanne Schindler, MD, PhD, Washington University



# Diversity and Ethnic Inclusion Considerations

## Lecanemab Trials

“In the pivotal clinical trial for the drug, Black patients globally accounted for only 47 of the 1,795 participants — about 2.6 percent. For U.S. trial sites, the percentage was 4.5 percent.”

*Data on New Alzheimer's Drug and black participants is sparse.  
Washington Post, 1/29/24*

Black participants “less likely” to have elevated level of amyloid vs white participants?

- Will drug work as well in Blacks? We think so, but don't know.
- Misdiagnosed ? Vascular dementia ? Many questions

# Diversity and Ethnic Inclusion Considerations

- Were diagnostic tests performed across racial and ethnic groups?
- Were treatments tested across racial and ethnic groups?

## Historical barriers to participating in research/clinical trials

- Generational mistrust of medical research
- Persistent myths and misunderstandings of Alzheimer's disease and other dementias
- “White People's disease” Misinformation in the community
- Lack of access to diagnosis and treatment
- Lack of awareness of warning signs, (Mama's just getting old!)
- Lack of diversity in the health care provider network
- Generational exposure to racism, poverty, inferior education, housing, etc.

# Donanemab – Phase 3 trials results

## May 3, 2023

- 47% of participants on donanemab showed no decline on CDR-SB, a key measure of disease severity at 1 year (compared to 29% of participants on placebo,  $p < 0.001$ ).
- 52% of participants completed their course of treatment by 1 year and 72% completed by 18 months as a result of achieving plaque clearance.
- Participants on donanemab had 40% less decline in ability to perform activities of daily living at 18 months [as measured by Alzheimer's Disease Cooperative Study – instrumental Activities of Daily Living Inventory (ADCS-iADL),  $p < 0.0001$ ].
- Participants on donanemab experienced a 39% lower risk of progressing to the next stage of disease compared to placebo (CDR-Global Score,  $HR = 0.61$ ;  $p < 0.001$ ).

Source: Lilly Press release 5/3/23

# Donanemab cont'd.

- Risk of side effects similar to other MAB's against AD.
- Symptoms mild
- 1.6% of brain swelling was serious
- Requires thoughtful discussion with health care provider
- Monthly infusion vs. biweekly (Leqembi)

# Donanemab updated data

## JAMA 7/17/23

- The beneficial treatment effect continued to increase relative to placebo over the course of the trial, with the largest differences versus placebo seen at 18 months.
- Study participants at the earliest stage of disease had greater benefit, with 60% slowing of decline compared to placebo. Significant benefits were also seen in more advanced patients.
- Nearly half (47%) of study participants at the earliest stage of disease who received donanemab had no clinical progression at one year.
- Possibility of completing treatment at 6 months
- Possible FDA approval Q2 2024? Delay in approval, due to advisory board convening. Novel trial design

# New Approaches in the Pipeline

- Monoclonal Antibody drugs against amyloid
  - Gantamerab – negative findings, not a failure
  - Crenezumab did not slow or prevent cognitive decline in people with a specific genetic mutation which causes early-onset Alzheimer's disease

More innovative approaches in the pipeline - this is just the beginning!!

- Modulating gut biome
- Aging research – biology of aging
- Light and sound therapy- regulate gamma wave patterns
- Possible vibration (tactile) therapy
- Metformin – reduced risk of dementia in diabetic pts
  - Trials underway with lifestyle + Metformin

# Blood test approved 2/24

- Alzheimer's blood test performs as well as FDA-approved spinal fluid tests
- Could make early Alzheimer's diagnosis, treatment accessible to more people
- Critically important as new treatments become available
- Multiple blood tests available – Most tests are good at determining amyloid status
- Insurance typically doesn't pay. Clinicians need training to interpret findings.

# Research

- For every \$1 on research, \$261 on care
- The cost of dementia will exceed \$1 TRILLION by 2050!
- Clinical Trials
- Advocacy
- Federal Funding about \$600M in 2015
- Federal funding now \$3.2B (*Halloween spending is \$10B a year!*)
- Cost to bring a drug to market is \$2.6B



# Drug Development

- 3,352 AD trials in ClinicalTrials.gov (3/20/24) including completed and withdrawn
- 1757 Trials in the US (pharma and non-pharma)

# Innovative Medical Devices

- Neuronix – TransCranial Magnetic Stim + Cognitive Stim
- Gamma Wave regulation – light boxes (MIT)
- BioEye – tracking eye activity
- AI assisted diagnostic and supportive tools
  - Mapping, tracking while out
  - Cognitive care and stimulation through technology
  - Alexa never gets frustrated!
  - Companion – anti-loneliness
  - Falls detection

# Research into Risk Factors

- **Multifactorial disease** – develops because of complex interactions among genes and other risk factors
- **Age, family history and heredity** - risk factors we cannot change
  - Aging is the greatest risk factor
  - First-degree relative with AD increases risk
  - Deterministic genes vs. Risk genes
  - Race: African Americans have twice the risk; Latinos are 1.5 times the risk
  - Genetics is not always destiny

# Research into Risk Factors

**Lifestyle factors** - can be controlled

- Heart health is brain health
- Plant based/Mediterranean Diet
- Keep MOVING!! EXERCISE is key
- Remaining socially active and engaged
- Sleep hygiene
- Dental/Oral hygiene – dementia has strong correlation to periodontal disease
- Hearing loss – use hearing aids
- Purpose/Meaning to life as an elder
- BLUE ZONE lessons!

# THE \$64,000 QUESTION?

## PHYSICAL EXERCISE

*At least 10,000 –  
15,000  
steps per day  
and resistance training*

## GET EIGHT HOURS OF SLEEP PER NIGHT:

*Deep sleep consolidates  
memory: System back-up*

*Deep sleep clears debris from  
brain: “Mental floss”*

## HEALTHY DIET:

*Mediterranean diet:  
fruits, veggies, nuts, olive  
oil, lean proteins*

## SOCIAL ENGAGEMENT & LEARN NEW THINGS:

*Better than  
brain games*

## STAY HEALTHY

*Avoid head injury,  
smoking and excessive  
alcohol.  
Avoid isolation*

## REDUCE EMOTIONAL STRESS

*and practice meditation, yoga*

# Impact on Caregivers

## Emotional and Financial

- Anxiety, depression, **social isolation**
- Stress – higher when compared to other caregivers
- Grief response – chronic sadness, “frozen grief”
- Family conflict
- Worried about finances

## Physical

- Fatigue, reduced immune function, new hypertension and new heart disease.
- More MD visits, more likely to report that health is fair or poor, more emergency room visits and hospitalization.
- Older spousal caregivers might pre-decease the PWD

# Caregiver Support Research

**Decades of evidence shows that Caregiver Supports can**

Lower anxiety, reduce depression,

- **Increase sense of community and belonging**
- Reduce self reported stress
- Provide tools to reduce and cope with family conflict
- Teach skills, provide sense of mastery
- Improve confidence in ability to provide care
- Respite Care proven to decrease:
  - Depression
  - Burden
  - Anger

Personalized support using multiple domains can increase coping ability, knowledge and reduce depression

In the absence of an effective  
therapy.....

The best treatment is good care.



# Until there's a cure.... We'll be... **caringkind**

## Programs, Services and Education for:

- People with Alzheimer's or ANY form of dementia
- Family members, Partners, Friends providing care or support
- Care staff, healthcare/aging/dementia service professionals
- Community, Residential, Cultural organizations

## Delivered Virtually and In-Person through:

- 1:1 Sessions
- Small group programs
- Education seminars & webinars
- Trainings
- Special events

Services provided  
**FREE of CHARGE**  
Available in English,  
Spanish, Chinese

For more information, call our Helpline:  
646-744-2900

[www.caringkindnyc.org](http://www.caringkindnyc.org)

# Helpline

- 646-744-2900
- Talk with a caring professional about concerns
- Understand more about memory loss, dementia and AD
- Get connected and discover resources

## Memory Loss

CaringKind Helpline  
646-744-2900

### Services and Support for You and Your Family

- Talk with a caring professional about your questions and concerns.
- Learn about education programs for people with memory concerns, caregivers, family and friends.
- Understand more about memory loss, dementia and Alzheimer's disease.
- Get connected with others experiencing the challenges associated with memory loss.
- Discover resources available in the community.

All services are offered free of charge.

**caringkind**

*The Heart of Alzheimer's Caregiving*

CaringKind Helpline: 646-744-2900  
[www.caringkindnyc.org](http://www.caringkindnyc.org)

360 Lexington Avenue, 3rd Floor  
New York, New York 10017

[f /caringkindnyc](https://www.facebook.com/caringkindnyc) [t @caringkindnyc](https://twitter.com/caringkindnyc)



Formerly known as the  
Alzheimer's Association, NYC Chapter.

# Early-Stage Programs

- **Cognitive Stimulation Therapy** – Evidence-based small group therapy – 16 sessions
- **Journey Together** - Early-Stage Support Workshop and Early-Stage Support Groups
- **MAP** – Pairing with Volunteer Mentor for those newly diagnosed
- **To Whom I May Concern®** - Writer's Workshop
- **Make it Matter** - Stakeholder Engagement Training

caringkind  
connect 2 culture®



# Engagement Programs

- Connect2Culture
- Connect2Baseball
- 360 Meet-Ups

360° Meet Up! Join Us!



# Family/Partner, Friend Caregiver Services

Helpline – Information, Referrals, Resources and  
Dementia Consultations

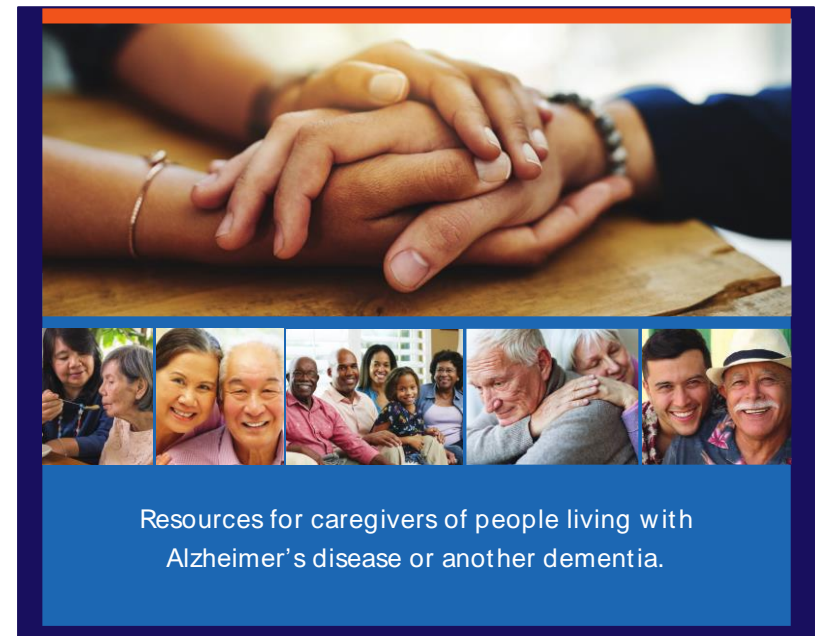
1:1 Coaching Services – Social work led services  
including evidence-based programs

Partnering Together – Support Workshop for New  
and or Early-Stage Family/Friend Caregivers

Support Groups – Spouses/Partner, Adult Children,  
Young Onset, LBD, FTD, LGBTQ+

Family Caregiver Workshop - Education Series

Topical Monthly Webinars



Services available in English, Spanish, Chinese

**For more information,  
call our Helpline: 646-744-2900**

# MAP (Memory Advocate Peer) Program

- Pilot at CaringKind – actively recruiting  
SPECIAL NEED FOR Volunteer MENTOR Candidates
- Goal is to connect newly diagnosed and early stage PLWD and caregiver to experienced mentor (former caregiver)  
Volunteer run program –
- Emotional support
- Community Resources
- Educate about and facilitate participating in AD research

# Education & Training Opportunities

*Direct Caregiver Training*

*Homemaker Companion Training*

*Caregivers of Persons with IDD and Dementia*

*Professional Education Workshops*



# Referrals

## CaringKind Connection Form

➤ <https://www.caringkindnyc.org/ckconnection/>

Send via Email:

[helpline@cknyc.org](mailto:helpline@cknyc.org)

Send via Fax: 212-697-6158

Call Helpline: 646-744-2900



**CaringKind Connection**  
No cover sheet necessary

FAX: 212-697-6158 EMAIL: [Helpline@CaringKindNYC.org](mailto:Helpline@CaringKindNYC.org)

Date: \_\_\_\_\_ HELPLINE: (646) 744-2900

PERSON WITH MCI/DEMENTIA: \_\_\_\_\_  
(Please PRINT first and last name)

Gender:  F  M Prefer to self-describe: \_\_\_\_\_ Pronouns:  She/Her  He/Him  They/Them DOB: \_\_\_\_\_

Cognitive Status: MOCA: \_\_\_\_\_ MMSE: \_\_\_\_\_ SLUMS: \_\_\_\_\_ Other Testing: \_\_\_\_\_

Diagnosis:  Mild Cognitive Impairment  Alzheimer's Disease  Lewy Body dementia  Vascular dementia

Mixed dementia  Frontotemporal Degeneration  Other: \_\_\_\_\_ Date of Diagnosis: \_\_\_\_\_

Preferred Language:  English  Spanish  Chinese  Other: \_\_\_\_\_ Second Language: \_\_\_\_\_

Living Situation:  Lives alone  Lives w/caregiving partner/spouse  Lives w/other caregiver  Lives w/other non-caregiver

Phone: \_\_\_\_\_ Email Address: \_\_\_\_\_

Street: \_\_\_\_\_ Borough/Town: \_\_\_\_\_ Zip: \_\_\_\_\_

CARE/SUPPORT PARTNER: \_\_\_\_\_  
(Please PRINT first and last name)

Preferred Language:  English  Spanish  Chinese  Other: \_\_\_\_\_ Second Language: \_\_\_\_\_

Relationship:  Spouse/Partner  Daughter/Son  Sister/Brother  Grandchild  Other: \_\_\_\_\_

Phone: \_\_\_\_\_ Email Address: \_\_\_\_\_

Street: \_\_\_\_\_ Borough/Town: \_\_\_\_\_ Zip: \_\_\_\_\_

Best Person to Contact:  Person w/MCI/Dementia  Care/Support Partner. Preferred Method of Contact:  Phone  Email

I give permission to CaringKind and the service provider below to exchange contact and health information for the person with MCI/dementia and/or care/support partner named above in order to provide dementia education, information and support related to the coordination of care. I understand that a CaringKind Specialist will contact me about services and programs that are available. I understand the contact and health information provided will not be disclosed or shared with any other entity unless authorization from the listed parties is obtained. I understand this permission can be revoked at any time by contacting CaringKind and/or the referring provider named below. Person referred provided verbal consent instead of a signature  Yes

Signature (To be signed by the person to be contacted): \_\_\_\_\_

**TO BE COMPLETED BY REFERRING PROVIDER:**

Referring Person/Agency: \_\_\_\_\_

Phone: \_\_\_\_\_ Email Address: \_\_\_\_\_

Specific Needs/Concerns: \_\_\_\_\_

\_\_\_\_\_

**Recommended Programs and Services (check category and/or specific service/program):**

<input type="checkbox"/> MCI/Dementia Client Services & Programs	<input type="checkbox"/> Family Care/Support Partner Education	<input type="checkbox"/> Support Groups, Social Work, Counseling
<input type="checkbox"/> Early-Stage Programs <input type="checkbox"/> Cognitive Stimulation Therapy Class <input type="checkbox"/> SHARE – Self-Directed Care Planning <input type="checkbox"/> Connect2Culture <input type="checkbox"/> Wanderer Safety Program <input type="checkbox"/> MAP Volunteer Matching Program*	<input type="checkbox"/> Understanding Dementia <input type="checkbox"/> Family/Support Partner Education Workshops <input type="checkbox"/> Legal & Financial Seminars <input type="checkbox"/> MAP Volunteer Matching Program*	<input type="checkbox"/> General Information & Referral <input type="checkbox"/> REACH-II, (Evidence-Based Family Caregiver Intervention) <input type="checkbox"/> CK Connects Meeting - Care Consultation

January 2022



# Funding

- 90% Privately supported
- Gala
- CaringKind Alzheimer's Walk – Oct. 2024
- Athletes to End Alzheimer's
  - Marathon
  - ½ Marathon – March 18
  - TD Bike Tour – May 5<sup>th</sup>
  - TriAthlon
  - Pickleball Tournament

# References

- National Institute on Health
- National Institute on Aging
- Alzheimer's Association, 2023 Facts and Figures
- Washington Post

**Questions?**

**JLevine@cknyc.org**

**Helpline@cknyc.org**

**646-744-2900**

THANK YOU!

