

It starts with sleep:

Unlocking better days
through restorative nights



Jeff McSpadden
Co-Founder & CEO



Composure



Over 70% of older adults with dementia experience chronic sleep issues



Poor health



Risk of falls



Staff burden



Cost of care

Sound Blanket™

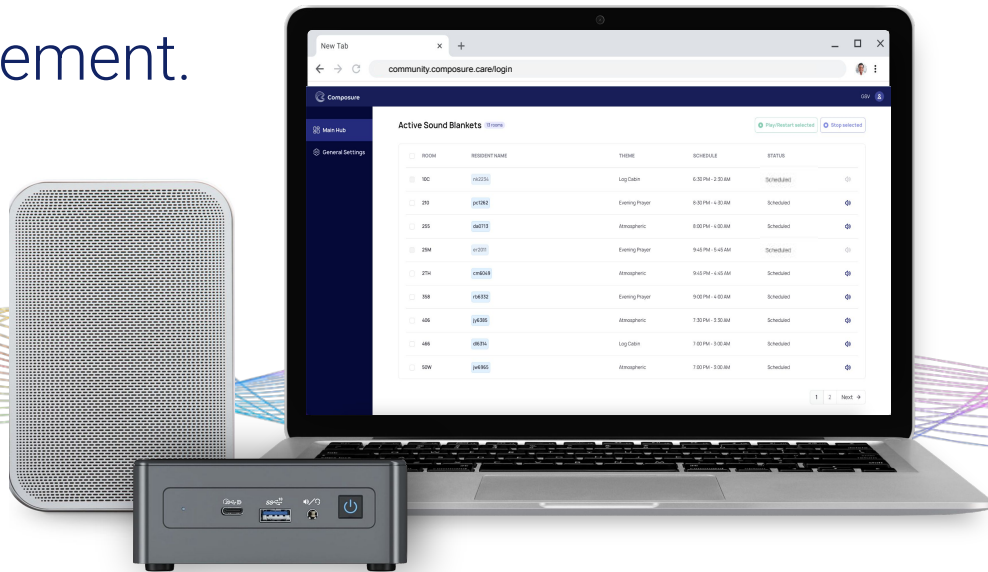
by **Composure**



Managed audio system built for long-term care.

Sound-based sleep enhancement.

www.composure.care





Room installed. Personalized. Scalable.

Sound Blanket™ Cloud



Installed Speaker



Room 1
9:00 pm
"Version 1"
Vol. Level: 8



Room 2
10:30 pm
"Version 2"
Vol. Level: 5



Room 3
7:45 pm
"Version 3"
Vol. Level: 9



Composure Local Server



www.composure.care



Steve Lindsey, President & CEO
Garden Spot Communities



Tara Johnson, Administrator
Grace Garden at LifeSpring Community



Grace Garden







GARDENSPOT
COMMUNITIES

Why sleep matters



Evolution of sleep science



Features
Functions
Architecture
Disorders

Pre-2015

1/3rd of
our lives
are spent
sleeping



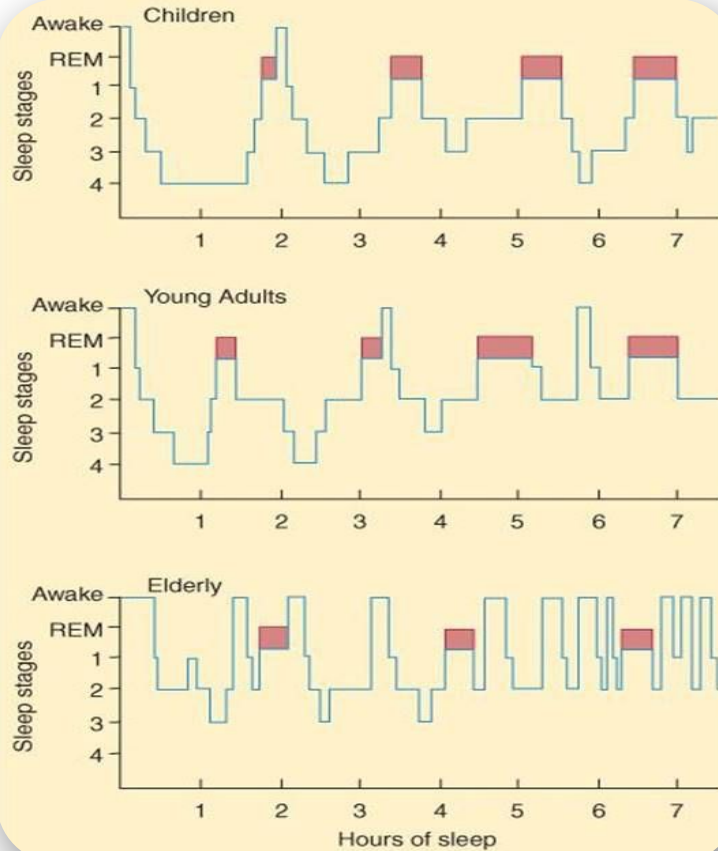


What we know about sleep

Features
Functions
Architecture
Disorders

- **NREM Stage 1 (N1):** Light sleep, transition from wakefulness. ~5% of *TST* (*Total Sleep Time*)
- **NREM Stage 2 (N2):** Deeper light sleep, most time spent here. ~45–55% of *TST*
- **NREM Stage 3 (N3):** Deep, **slow-wave sleep**, crucial for restoration. ~13–25% of *TST*
- **REM Stage:** Dreaming, rapid eye movement, muscle paralysis. 20–25% of *TST*

Pre-2015



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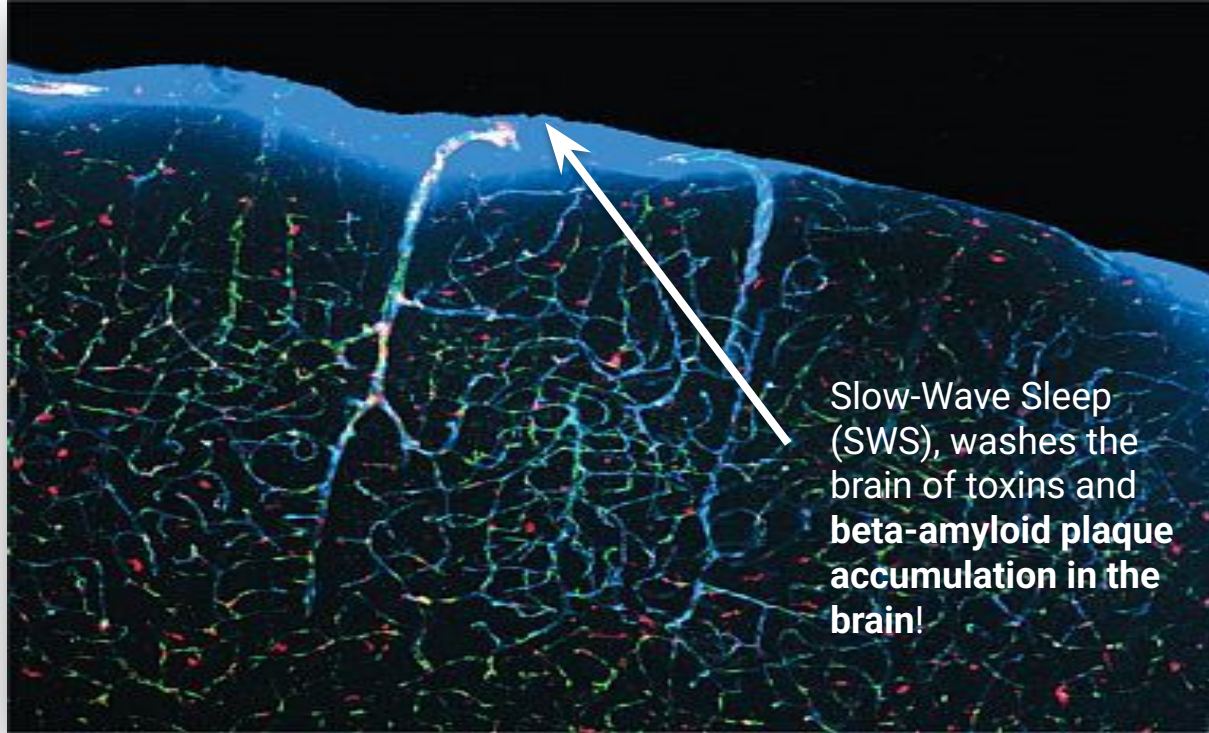
REM Stage: Dreaming, rapid eye movement, muscle paralysis. 20–25% of *TST*

Sleep and Human Aging:

<https://www.sciencedirect.com/science/article/pii/S0896627317300880>



Strong connection between sleep and dementia

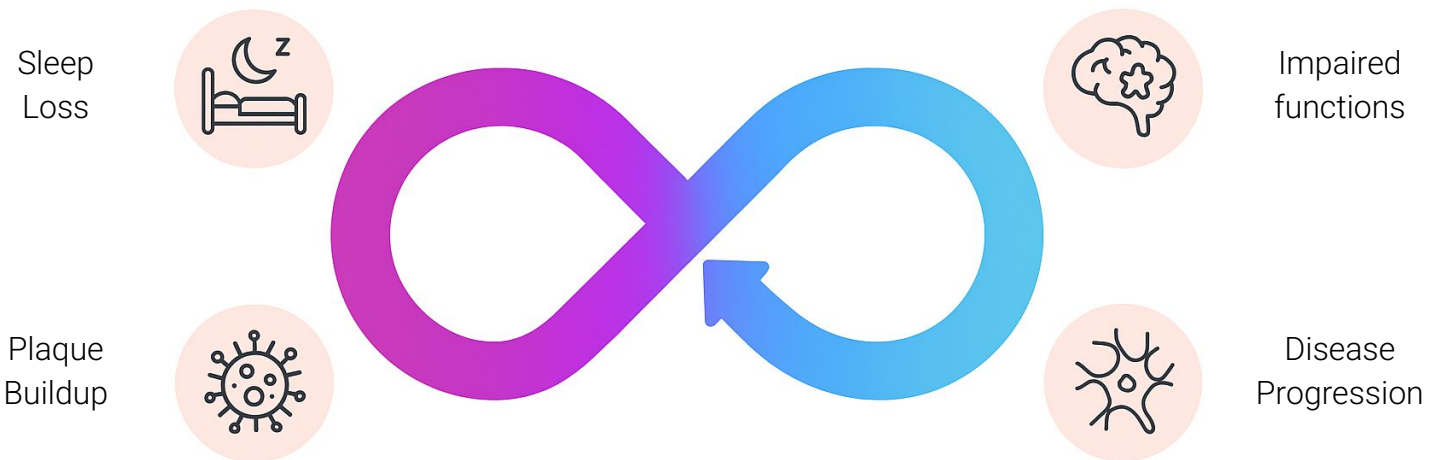




The Sleep ↔ Dementia Connection

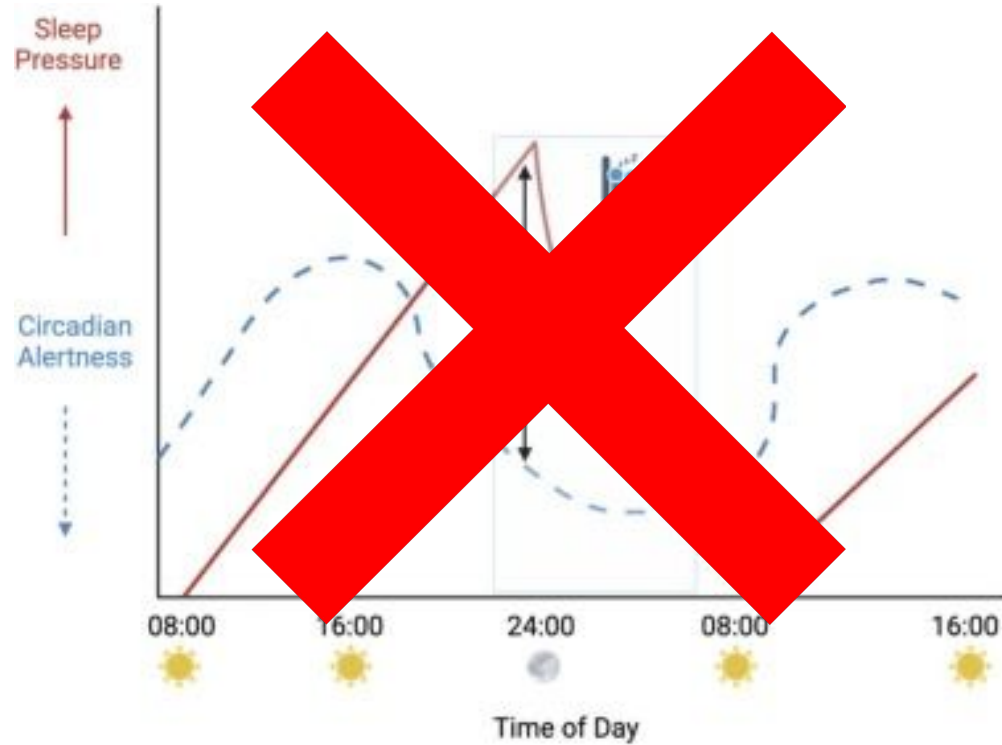
Sleep loss **increases** dementia risk.

Dementia **decreases** restorative sleep.





Broken Circadian Rhythm



Evolution of sleep science



Features
Functions
Architecture
Disorders

Modifiable
Risk Factor

Pre-2015

2015-2020



Evolution of sleep science



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Research article | [Open access](#) | Published: 03 May 2023

NREM sleep as a novel protective cognitive reserve factor in the face of Alzheimer's disease pathology

[Zsófia Zavecz](#) , [Vyoma D. Shah](#), [Olivia G. Murillo](#), [Raphael Vallat](#), [Bryce A. Mander](#), [Joseph R. Winer](#), [William J. Jagust](#) & [Matthew P. Walker](#) 

[BMC Medicine](#) **21**, Article number: 156 (2023) | [Cite this article](#)

24k Accesses | **34** Citations | **746** Altmetric | [Metrics](#)

Targeted
Therapeutic

2020 and beyond



How do we create real **opportunity** for restorative sleep when **ability** is compromised and the **need** is high?

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by **Composure**



Peer-reviewed Research



The screenshot shows the Sage Journals website interface. At the top, there's a navigation bar with 'Sage Journals' in the center, and icons for Menu, Search, Access, and Cart on the right. Below the navigation bar, the journal title 'HERD: Health Environments Research & Design' is displayed. A dark blue banner below the journal title contains the text 'Journal'. A light blue box highlights the journal's metrics: 'Impact Factor: 1.7' and '5-Year Impact Factor: 2.3'. Below this, a lock icon indicates 'Restricted access' for a 'Research article'. The publication date 'First published online November 26, 2023' is shown. The article title is 'An Auditory Sonic Sleep Treatment for Individuals Living With Dementia in a Memory Care Setting: A Quality Improvement Program Evaluation'. The authors are listed as 'Addie Abushousheh, PhD, EDAC ID', 'Ellen Taylor, PhD, AIA, MBA, EDAC ID', and 'Michael J. Brondino, PhD', with a link to 'View all authors and affiliations'. The volume and issue information 'Volume 17, Issue 2' is provided, along with the DOI link 'https://doi.org/10.1177/19375867231207651'.

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HERD: Health Environments Research & Design
Journal

Impact Factor: 1.7
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Restricted access | Research article

First published online November 26, 2023

An Auditory Sonic Sleep Treatment for Individuals Living With Dementia in a Memory Care Setting: A Quality Improvement Program Evaluation

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[Volume 17, Issue 2](#)
<https://doi.org/10.1177/19375867231207651>



Behavior Variable	T1–T0 <i>p</i> Value	T1–T2 <i>p</i> Value	T0–T2 <i>p</i> Value
Bed mobility	0.733	0.408	0.907
AM rising and PM retiring activities	0.619	0.396	1.000
Appetite	0.175	0.825	0.273
Bathing self-performance	0.494	0.248	1.000
Toilet use	0.747	0.752	0.752
No. of falls	0.840	0.838	1.000
Cooperation with care	0.025*	0.471	0.397
Following requests and instructions	0.257	0.797	0.192
Nighttime insomnia	0.245	0.766	0.128
Daytime drowsiness	0.011*	0.859	0.886

*Statistical significance $\leq .05$.

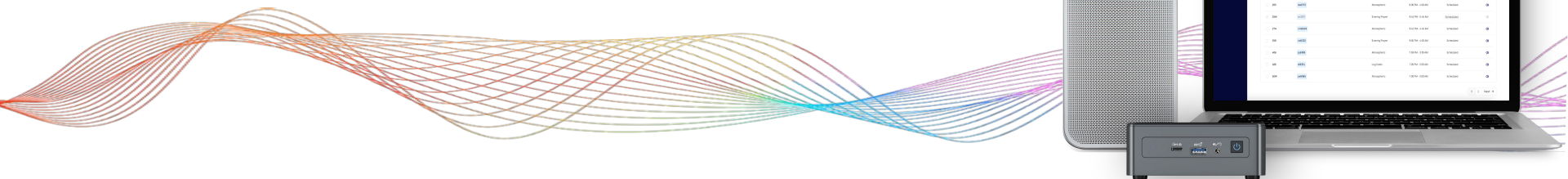
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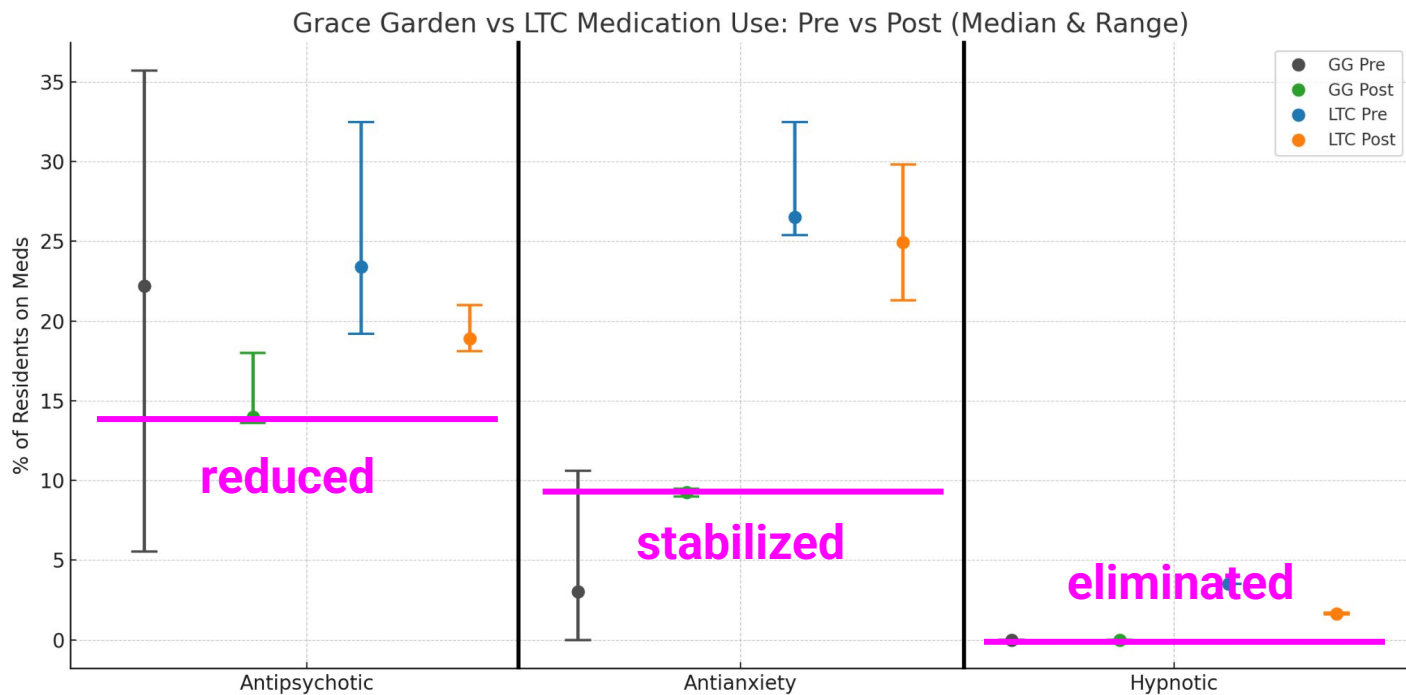
Case Study Highlights

www.composure.care/case-studies





Pre/Post Outcomes: **Medication Use**



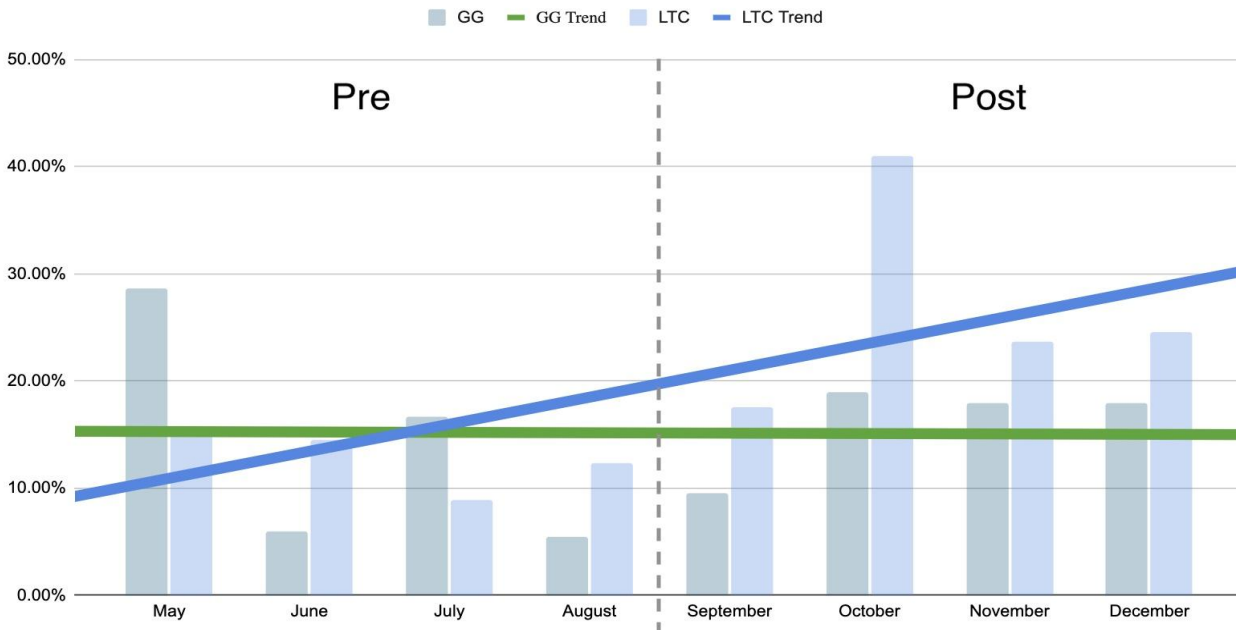
<https://www.composure.care/2021/06/07/empowering-memory-care-a-sleep-centered-approach-at-grace-garden/>



Pre/Post Outcomes: **Falls**

Falls Data: Pre/Post Group Comparison

% of residents with falls per month



2 of 4 months

GG had more falls than LTC

All 4 months

GG had fewer falls than LTC

<https://www.composure.care/2021/06/07/empowering-memory-care-a-sleep-centered-approach-at-grace-garden/>

Occupancy





Outcomes via Staff Reports*

40%

shorter
sleep
onset

31%

fewer
residents
waking at
night

43%

reduction
in waking
events at
night

26%

increase
in daytime
alertness

* Survey data compares changes in staff observations at 3 weeks vs 16 weeks



Summary

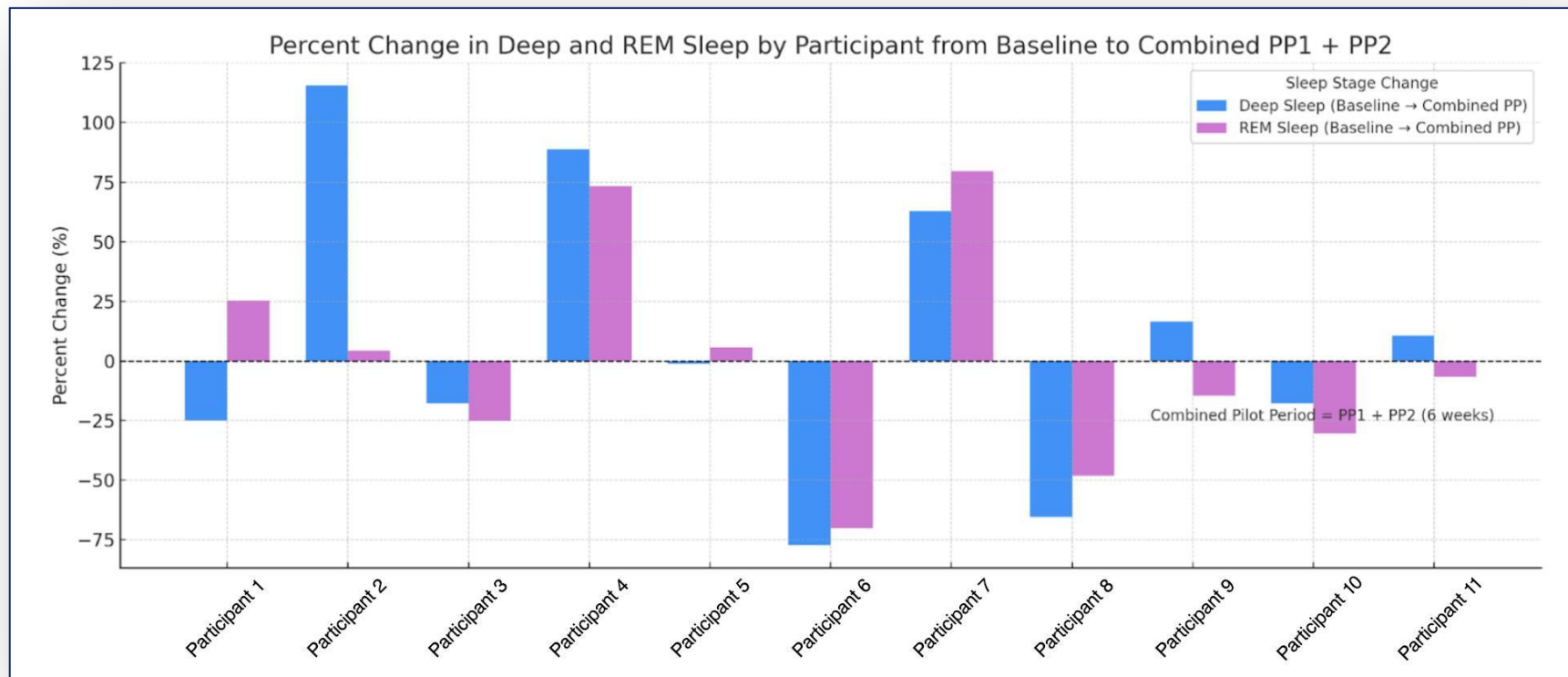
Reduces

- Falls
- Behavioral disturbances
- Psychotropic drug use
- Daytime drowsiness

Increase

- Cognitive functioning
- Alertness
- Engagement
- Overall health

Summary





Strategy of Sleep:

What Works and What Doesn't



Starting Points and Action Steps

- Audit daily routines
- Document the sonic environment
- Be purposeful living “architects”



Thank you



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