



**COVID Impact Pre and Post Pandemic on Dementia Patients**

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1


**Hello!**







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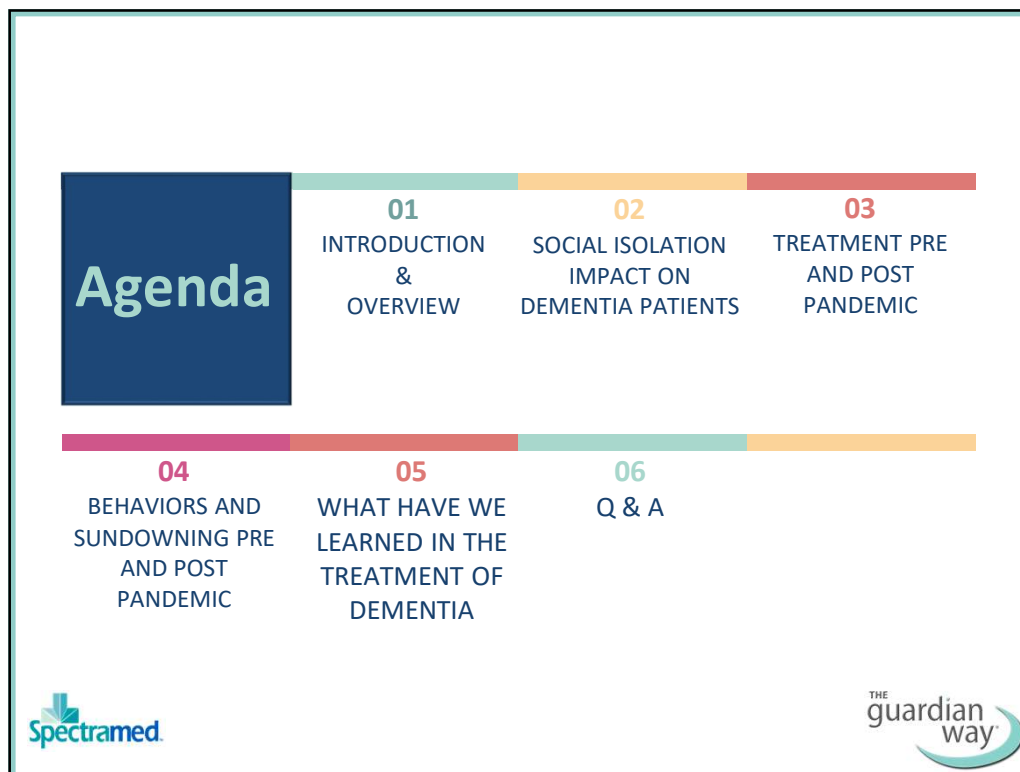
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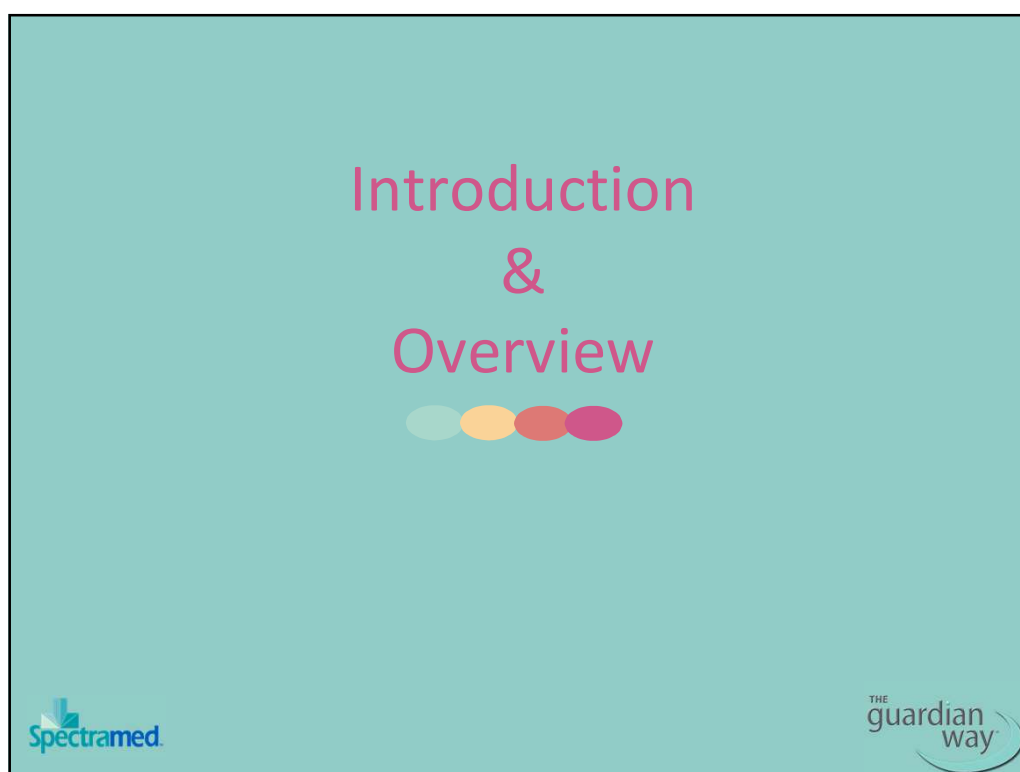
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2



3



4

## Dementia by the Numbers

7,918 individuals turn 65 daily  
 330 individuals turn 65 per hour  
 10 million baby boomers will develop dementia  
 At age 85, the chance of developed dementia increases to 50%  
 Every 71 seconds someone is dx with AD  
 Midcentury every 33 seconds someone will be dx with AD  
 Currently, there are 40 million people diagnosed with AD  
 In 2019 Alzheimer's will cost the healthcare system \$290 Million  
 By 2050 that cost will increase to 1.1 Trillion



5

## COVID-19 Mortality Rates by Underlying Condition

Dementia, 32.1 percent  
 Chronic kidney disease, 28.9 percent  
 End-stage renal disease, 27.3 percent  
 Immune deficiency, 26.1 percent  
 Severe neurological condition, 24.7 percent  
 Cancer, 24.3 percent  
 Cardiac disorder, 24.2 percent  
 Other respiratory disease, 24.2 percent  
 Chronic obstructive pulmonary disease (COPD), 21.4 percent  
 Diabetes, 20.7 percent  
 Hypertension, 15.8 percent  
 Obesity, 15.7 percent  
 Breast/prostate cancer, 15.4 percent  
 HIV/AIDS, 14.9 percent



6

## Dementia and COVID by the Numbers

Data from the Office of National Statistics (ONS) from March 7 to May 1 2020 showed that dementia and Alzheimer's Disease and symptoms, signs and ill-defined conditions', mainly indicating old age, account for **two-thirds of the total number of COVID-19 deaths.**

The leading Alzheimer's research charity has emphasized that more research is needed to help understand why there has been such a significant increase in the number of people dying from dementia.



7

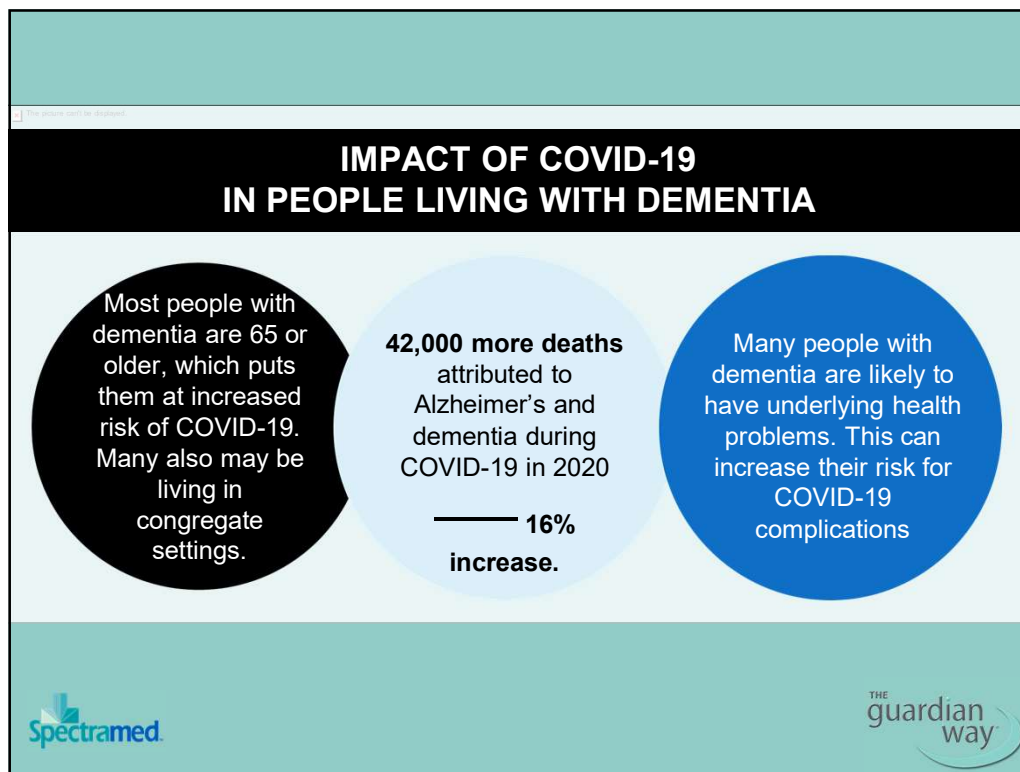
## Dementia and COVID by the Numbers

Figures from the Office for National Statistics have shown that dementia and Alzheimer's disease were the two most common pre-existing conditions found among deaths involving COVID-19. The findings highlighted that they were linked to 6,887 deaths, which amounted to 20.4% of all deaths involving COVID-19.

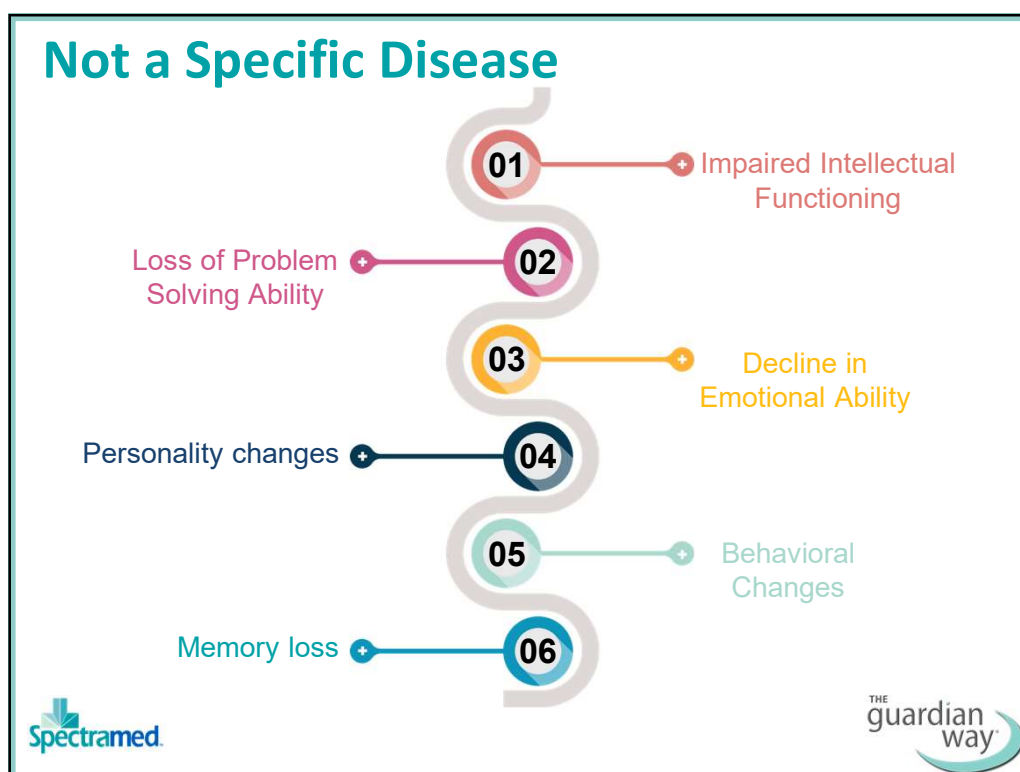
They also showed that compared with the five-year average, the rate of deaths due to dementia and Alzheimer's disease was significantly higher in April 2020.



8



9



10

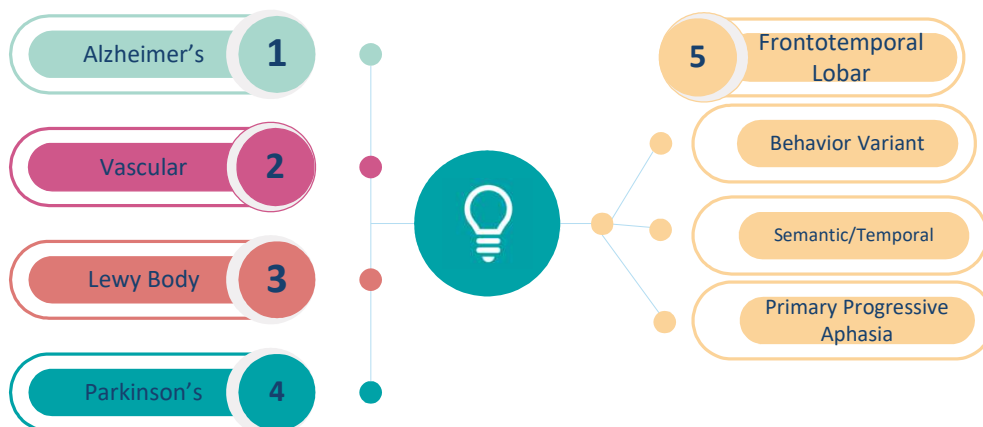
## D-E-M-E-N-T-I-A-S

**D**egenerative, Depression, Drugs  
**E**ndocrine  
**M**etabolic, Myelin  
**E**pilepsy  
**N**eoplasm, Nutrition  
**T**oxic, Trauma  
**I**nfection, Inflammation, Inherited, Infarction  
 (TB, Lime Disease, Lupus, CVA)  
**A**therosclerotic, Vascular  
 (Blood flow, Vascular Disease)  
**S**tructural, Systemic



11

## Common Types of Progressive Dementia



12

## DEMENTIA IS A SYNDROME

- Dementia is a collection of symptoms related to cognitive decline
- Can include cognitive, behavioral and psychological symptoms
- Due to biological changes in the brain
- Alzheimer's is most common cause
- Mixed dementia is very prevalent
- Some causes of cognitive decline are reversible and not truly dementia

**Dementia**  
An 'umbrella' term used to describe a range of symptoms associated with cognitive impairment

Cause	Prevalence
Alzheimer's	60%-80%
Vascular	10%-40%
Lewy Bodies	10%-25%
Frontotemporal	~10%

Mixed Dementia = > 1 Neuropathology Prevalence ~50%

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13

## The Five A's of Dementia

- 01 - AMNESIA
- 02 - APHASIA
- 03 - APRAXIA
- 04 - AGNOSIA
- 05 - ATTENTION/CONCENTRATION

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14

# Social Isolation and the Impact on Dementia Patients



15




***Journal of Psychiatry. October 2020***

*The available evidence suggests that the COVID-19 pandemic has a wide negative impact on the mental well-being of older adults **with and without dementia**. Viral infection and the consequent social isolation to limit its spreading have a range of neuropsychiatric consequences.*



16





Isolation exacerbates **hyperactivity** up to twice as normal in patients with Alzheimer's disease, and also causes the appearance of strange behaviors.

This increase was demonstrated consistently in the gross motor skills, related to the movement of arms, legs, feet or the entire body.


Affected fine motor skills, small movements made by hands, wrists, fingers, toes, lips and tongue. Increase in Anxiety and Depression

Concerning because **Anxiety and Depression** are main neuropsychiatric conditions in dementia(s)



17

### What challenges are your patients faced with as a result of COVID-19?



**Isolation** during the pandemic is a heavy burden to be faced with, and many of our patients in memory care facilities have endured an extended time alone

The disruption in **routines** has accelerated stress levels in many dementia patients. Due to memory loss, forgetting why they can't go places causes more pent-up stress, can lead to: ***pacing, picking at skin, more compulsive outlets, more sadness and loneliness if unable to be with family, anger at not being able to do what they want, and increased frustration with reminders about wearing masks.***



18

## What tips do you have for people caring for Alzheimer's and dementia patients during the coronavirus pandemic?

One of the best things you can do is establish a **new routine**.

If patients are used to going out to lunch, have a picnic lunch out in the yard. If they are accustomed to going out shopping, take them for a walk around the block. If they are in a facility and are accustomed to you coming to visit, arrange for visits outside a window or through video chats.

Be patient. Give them the information that you think that they can understand and respond to them on an emotional level.



19

## Treatment Pre and Post Pandemic



20

## Treatment

- Depression
- Anxiety
- Review 24 hour log for sleep (Pending GDS Dementia Stage)
- Sleep hygiene for memory
- Behaviors
- Aggression
- Paranoia
- Visual or Auditory Hallucinations



21

## Treatment

- Education and Medication Review
- Times of day
- Move dosage times
- Depression
- Anxiety
- Impacts on treatment

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22

## Pharmacological Approaches

- Seroquel
- Nuplazid
- Mood Stabilization
- Trazadone
- SSRI
- Benzo
- COVID Vaccination 1<sup>st</sup> Dosage  
2<sup>nd</sup> Dosage  
Booster



23

## Pharmacological Treatments

- All medications used to treat Alzheimer's and other forms of dementia are not designed to slow the progression of the disease rather are designed to help improve cognitive functions, learning and memory.
- There are two types of medications.
  - Cholinesterase Inhibitors (Aricept, Exelon, Razadyne)
  - Memantine (Namenda).
- Medications Impacts
  - Early Stages
  - Middle Stages-Combine Medications
  - Late Stages



24

## Reduction in the Usage of Antipsychotics

- Reduction of 33% usage of Antipsychotics
- Reduction of 42% usage of SSRI
- No change in usage of Sedative Hypnotics
- Improvement in mood
- Improvement in Routine
- Improvement in Socialization
- Family and social visits



25

## Behaviors and Sundowning Pre and Post Pandemic



26

## Sundowning

- The appearance or exacerbation of behavioral disturbances associated with the afternoon and/or evening hours
- Sundowning is broadly used to describe a set of neuropsychiatric symptoms occurring in elderly patients with or without dementia at the time of sunset, at evening, or at night
- Occurs in about 66% of Dementia patients
- Case Studies at Rounding Facilities indicated an Increase to 78.7% since Pandemic.



27

## Challenges

The new coronavirus (COVID-19) poses very unique challenges for people with Alzheimer's disease and other forms of dementia.

Memory Care Placement and Caregiving

Moving and Change/Decline

Does the community/facility meet the level of care needed

Stage 5.0/7.0

Financial \$\$

Isolation

Sundowning

COVID

Masks/PPE

Medications

Vaccinations



28

## Physiological

### Melatonin

- Melatonin level was found to be reduced in post-mortem cerebro-spinal fluid of patients with Alzheimer's disease



29

## Physiological

### Sleep Disturbance

- Disturbances in duration and quality of sleep increase with aging, and occur in approximately 38% of persons over 65 year old (Cohen-Mansfield et al, 2003)
- Almost half of patients with dementia experience clinically relevant sleep-wake disturbances (Hess, 1994)



30

## Physiological

### Sleep Disturbance

- Restless Leg Syndrome (RLS) and Periodic Leg Movement Syndrome (PLMS) may go undiagnosed in elderly demented patients due to their inability to describe their symptoms and these could be contributing to insomnia and subsequently sundowning symptoms



31

## Physiological

### Sleep Disturbance

- Periodic Leg Movement Syndrome (PLMS) can be a side effect of taking selective serotonin reuptake inhibitor, antipsychotic, and other dopamine depleting medications which these patients may well be taking



32



## Environmental

- Afternoon fatigue
- Caregiver fatigue
- Overstimulation in the environment e.g. shift changes around 3pm
- High levels of morning and during the day activity may cause afternoon and evening fatigue leading to increased irritability and agitation



33

## Other Contributing factors

### Medications

- ‘sundowning may well be a side effect or the “wearing off” effect of various medications’:
- Antidepressants
- Antipsychotics
- Anti-parkinsonian
- Anticholinergic
- Hypnotics and Benzodiazepines



34

## Possible Sundowning Factors

### Melatonin

- Levels reduced in post-mortem cerebrospinal fluid of patients with Alzheimer's disease

### Environmental Fatigue

- Caregiver fatigue
- Overstimulation at shift change
- Too much activity in AM will lead to afternoon fatigue

### Medications

- May be side effect or the "wearing off" effect of various medications



35

## "COVID Fog"

### Normal Causes of "Fog"

Most of them are far less scary than Alzheimer's disease.

Hormone changes during the transition to menopause

Other hormone changes (for example, thyroid problems)

Depression

Stress

Lack of sleep

Vitamin and mineral deficiencies (such as vitamin B12)

**Encephalopathy (i.e., Hepatic Encephalopathy).** Loss of short-term memory, headaches and confusion. At its most severe, it is associated with psychosis and seizures. Typically, if seen at all, it occurs weeks after first showing symptoms of COVID-19.



36

# What Have We Learned?



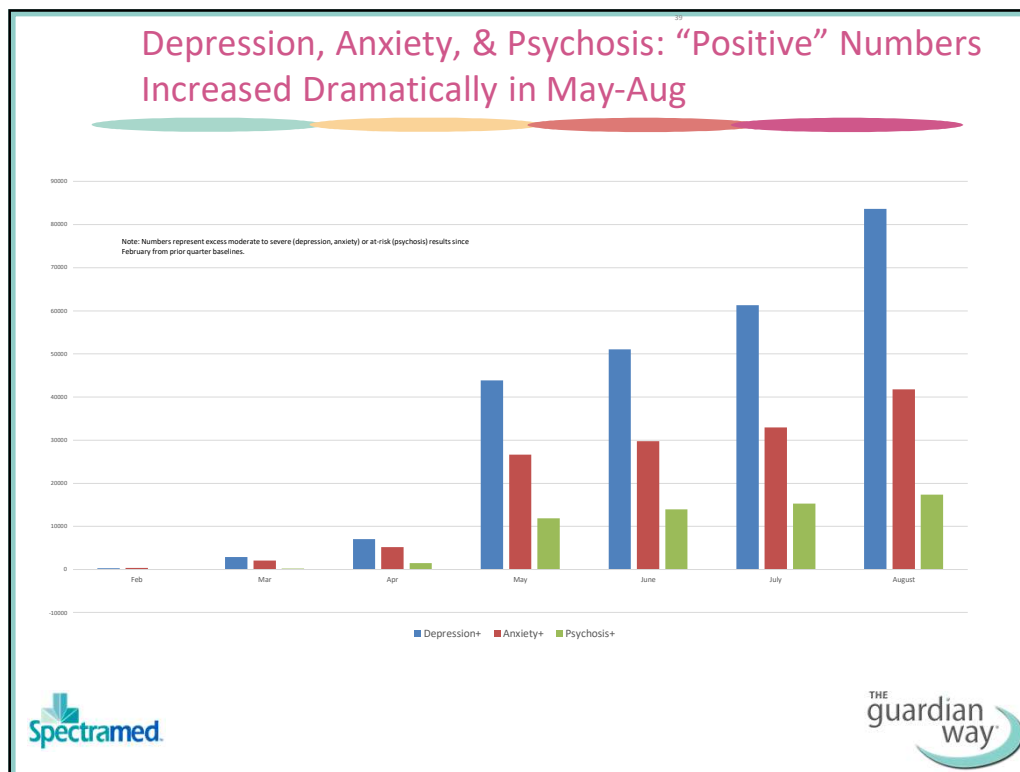
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## Prevention: Have we Increased Dementia due to the Pandemic??

1. Sleep Hygiene
2. Diet
3. Brain digestion of fats and lipids/Eating to close to bedtime
4. Physical Exercise
5. Cognitive Exercise
6. Social Interactions and Connections
7. Mood
8. Smoking
9. Weight
10. Drink in moderation



38



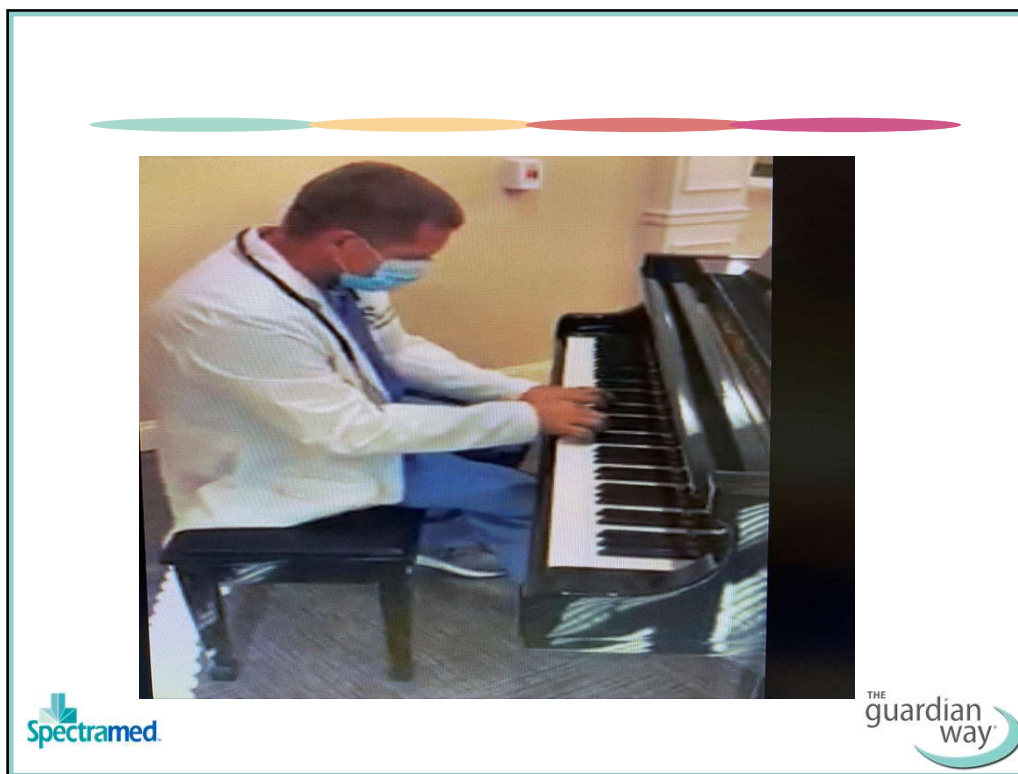
39

### Clinical Approach to Evaluation and Treatment

- Traditional visits to the doctor
  - Concierge Medicine
  - Doctor to home
  - Change in reimbursement to Private Pay Fee Schedule
- Impact on Caregivers (Memory Care, Home Care)
- Caregiver burden decreased by 79%
- ER Visits for Caregivers during Pandemic 42%
- ER Visits for Caregivers post Pandemic 27%
- Reduction of 33% usage of Antipsychotics
- Reduction of 42% usage of SSRI
- Humanity

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40



41



42