Restorative Sleep Vitality Program

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Objectives

• Explain the etiology of sleep and wake in humans

• List the top ten disturbances to sleep in humans

• Implement at least ten interventions to reduce disturbances to sleep in skilled nursing homes

• Implement at least five interventions to assist in keeping residents awake and engaged during the day
How’d we get here?

- We completed a three year PIPP Fall Prevention program in 2011 to investigate and identify the root causes of resident falls in 16 skilled nursing facilities.
- From the Fall Prevention Program, we identified that sleep fragmentation at night and the lack of activity during the day were significant conditions that contributed to residents falling.
- We spring boarded off of our previous PIPP Fall Prevention Program into Restorative Sleep.
- We needed to become knowledgeable in the etiology of sleep and wake.
Using root cause analysis to determine reasons for residents falls:

RCA is a process to find out what happened, why it happened, and to determine what can be done to prevent it from happening again.
3 Areas to Investigate for Root Cause Analysis of Falls

1. Environmental / Extrinsic conditions
2. Internal / Intrinsic conditions
3. Operational / Systemic conditions
Causation Findings Identified from Fall Prevention Program

- **External causes:** Noise, busy activity, lack of environment contrasts, placement of furniture, equipment & personal items, inappropriate foot ware

- **Internal causes:** Poor balance, sleep deprivation/sleep fragmentation, medications (type & amt), orthostatic B/P, endurance/strength

- **Systemic causes:** P & P, time of day, shift change & times, break times, days of week, location of fall, type of fall, routine staff assignments, staffing levels
External lesson learned:

if we can stop the noise, then we can reduce the falls.
Internal lesson learned:

if we can stop disturbing sleep then we can reduce the falls.
Internal Evidence & Clues:

Mood status + cognitive changes +
↑ frequent napping, ↑ agitation, ↑ falls

= sleep disturbed / sleep fragmented #1
Background & Process

- Empira awarded 3-year MN DHS PIPP grant, began 10/1/11
  ~ Project: to implement best practices from evidence based research studies in sleep hygiene science
  ~ Goal: Reduce baseline average for 5 CMS QI/QMs and Vital Research Questions, “Can you get up in the morning when you want?” “Can you go to bed when you want?” “Are you bothered by the noise when you are in your room?” “Are there things to do here that you enjoy?”

- 23 SNFs, 4 companies participate in PIPP, RSVP project
- RSVP Leader in each SNF reports to administrator who oversees the program – it’s not a nursing program!
- Project completion date: 10/1/14
Restorative Sleep Vitality Program: Goals

- Undisturbed sleep at night
Restorative Sleep Vitality Program: Goals

• Fully engaged, awake during the day
CMS and LTC providers have never considered sleep as an integral part of the plan of care and services provided for the resident.

MDS 3.0: “Over the last 2 weeks, did the resident have any of the following problems: trouble falling or staying asleep, or sleeping too much?” and “How important is to you to go to bed when you want?”
Empira’s (RSVP) Restorative Sleep Vitality Program

• This program is a combination of nationally recognized evidence-based, sleep hygiene science research studies and the application of cutting edge practices to enhance residents’ sleep & wake

• Empira is challenging some of the standards of practice and operational procedures for providing cares and services in skilled nursing facilities

• Empira staff and corporate representatives attend national & international sleep conferences and conventions to learn and educate membership
So,

*How Do We Sleep?*
*How Do We Wake?*

- The Etiology of Sleep and Wake:
Measurements and Tests for Sleep:

• Sleep, its stages and characteristics, are assessed by tests in sleep labs.

• Tests that identify the sleep and wake cycles include, Polysomnography:
  
  Electroencephalogram (EEG) measuring the electrical activity of the brain, or brain waves
  Electrooculography (EOG) measuring eye movements
  Electromyography (EMG) measuring the skeletal and muscle activity/tonicity

Vital signs

• Actigraphy
Actigraphy:

- Measures Rest and Sleep Quality and Quantity
- Measures Activity and Tonicity levels
- Measures Light Source, Quality and Quantity of Light source
- Worn continuously for multiple days
- Over a 24 Hour period
- Worn on the wrist
- Cost effective
Sleep Cycle

Legend:
- Activity
- White Light
- Red Light
- Green Light
- Blue Light
- Rest
- Sleep
- Excluded
- Custom
- Sleep/Wake
- Off Wrist
- Marker

Minor rest

Major sleep

Onset latency

Snooze

Minor rest

12:00 Noon

12:00 Midnight
GOOD ROBUST SLEEP WAKE CYCLE WITH LIGHT VARIANCE

average 90% sleep efficiency
Sleep Data & Measurement

- Bed Time
- Get Up Time
- Time Spent in Bed at Night
- SE – sleep efficiency (time in bed ÷ time asleep)
- SL – sleep latency (time elapsed from lights out to sleep onset)
- WASO – wake after sleep onset
- TALT – time above light threshold
- Naps – prevalence and duration
- Night Disruptions or Sleep Fragmentation – number of times sleep is disturbed
Sleep Data & Measurement – Baseline Findings

- *Average time in bed at night for sampled NH residents:
  - 35% > 10 hours in bed at night
  - 40% Disturbed 3 – 4 times nightly
  - 14% Disturbed 5 – 6 times nightly
  - 15% Disturbed > 6 times nightly

*Baseline date quarter ending December 2012
Circadian Rhythm: the body’s internal clock

An inborn, internal, 24-hour cycle of change and fluctuation of the physiological, behavioral and emotional functions of the human body.
Human Biological Clock: Ideal 24 Hours

- Serotonin secretion starts 8:00 PM
-ighest testosterone secretion 10:00 AM
- Bowel movement likely 8:30 AM
- Melatonin secretion stops 7:30 AM
- Sharpest rise in blood pressure 6:45 AM
- Lowest body temperature 4:30 AM
- Deepest sleep 2:00 AM
- 00:00 Midnight
- Bowel movements suppressed 22:30
- 21:00 Melatonin secretion starts
- 18:00 (6:00 PM)
- 18:30 Highest blood pressure
- 19:00 Highest body temperature
- 20:00 Serotonin secretion stops (8:00 PM)
- 02:00 Deepest sleep
- 04:30 Lowest body temperature
- 06:00
- 06:45 Sharpest rise in blood pressure
- 07:30 Melatonin secretion stops
- 08:30 Bowel movement likely
- 09:00 Highest testosterone secretion
- 10:00 High alertness
- 12:00 Noon
- 14:30 Best coordination
- 15:30 (3:30 PM) Fastest reaction time
- 17:00 Greatest cardiovascular efficiency and muscle strength
- 18:30 Highest blood pressure
- 19:00 Highest body temperature
- 20:00 Serotonin secretion stops (8:00 PM)
- 21:00 Melatonin secretion starts
- 22:30 Bowel movements suppressed
- Greatest healing and growth occurs
- 06:00
Effects of Sleep deprivation

- Irritability
- Cognitive impairment
- Memory lapses or loss
- Impaired moral judgement
- Severe yawning
- Hallucinations
- Symptoms similar to ADHD
- Impaired immune system
- Risk of diabetes Type 2
- Increased heart rate variability
- Risk of heart disease
- Increased reaction time
- Decreased accuracy
- Tremors
- Aches

Other:
- Growth suppression
- Risk of obesity
- Decreased temperature
Sleep: Cycles & Stages

• In humans, an average 7 – 8 hour night’s sleep should contain 4 – 5 sleep cycles.
• Each cycle should last 90 to 120 minutes.
• Each cycle has 3 Non-REM stages and 1 REM stage of sleep.
• Each stage provides distinct physiological and emotional benefits for the body.
One night of 7 – 8 hours of sleep
Sleep: Stage 1

- Stage N1 lasts 5-15 minutes. N1 is the transition stage of the brain from fast active brain waves (as in the awake state) to slower brain waves.
- Muscles begin to relax and lose tonicity; sometimes sudden twitches and jerking may occur.
- Eyes move more slowly, the heart begins to slow down, breathing becomes deeper and slower.
- The person is still easily awakened and easily reacts to environmental noise.
Sleep: Stage 2

- Stage N2 occupies 45–55% of total sleep for adults.
- Muscular activity decreases more, eye activity stops or rarely moves, heart rate significantly slows and conscious awareness of the external environment disappears.
- Brain waves continue to slow down.
- The person is not as easily aroused from this level of sleep and usually only reacts to loud or selected noises in the environment.
- This stage has brief image dreams that the brain works to: save, file, trash.
Sleep: Stage 3

- Stage N3 is deep sleep or slow-wave sleep. The brain is completely at rest. All eye movement and muscle activity ceases.

- Stage N3 is where the greatest amount of skin, deep tissue and overall healing and regeneration of the human body occurs.

- The greatest amount of healing occurs at this stage due to the greatest formation of white blood cells, T4 cells, red blood cell re-oxygenation and cellular repair and regeneration.

- It is very difficult to wake someone from this deep sleep stage.
REM sleep: (Dreaming)
Rapid eye movement sleep

- Rapid eye movement sleep, or REM sleep, accounts for 20–25% of total sleep time in most human adults.

- Respirations become very rapid, irregular and shallow. The heart rate increases and the blood pressure rises.

- REM sleep includes rapid eye movements as well as a very rapid brain wave activity similar to being awake.

- This stage is associated with healing the emotional and psychological health of the body. Episodic dreams and long stories, relieve stress, process emotions, detox our feelings of: fear, anger, happy and sad. It also cements memories.

- Muscular paralysis occurs to protect organisms from self-damage through physically acting out the often vivid dreams that can occur during this stage.
The elderly adult: One night of 8 – 9 hours of sleep
How does the body sleep & wake?
It begins by . . .

- Light or darkness $\rightarrow$ enters the eye $\rightarrow$ to the retina $\rightarrow$
- Travels from the retina $\rightarrow$ the optic nerves $\rightarrow$ then
- Sent into the brain $\rightarrow$ the suprachiasmatic nucleus (SCN) which is located in the middle of the brain, just above and behind the eye sockets $\rightarrow$ then the
- Nerve message is transmitted $\rightarrow$ the pineal gland
- Pineal gland either secures melatonin or sends messages to the body to secrete serotonin in response to the darkness or lightness messages it is receiving.
The pineal gland secretes serotonin and sends a message to the GI tract to secrete serotonin. The pineal gland secretes melatonin, which is influenced by light through the suprachiasmatic nucleus (SCN) and affects output rhythms in physiology and behavior.
Biochemical & Hormonal Properties of the Sleep/Wake Cycle

Melatonin = hormone

Seroptonin = biochemical
Melatonin: sleep hormone

- Melatonin is a hormone. It is secreted by the pineal endocrine gland in the brain. It’s shape is a tiny pine cone.

- The pineal gland, receives electrical messages to secrete melatonin which then sends information about the lighting levels to other parts of the body to either induce sleep (more melatonin) or to wake up (less melatonin).

- Melatonin is triggered by darkness:
  - Darkness = more melatonin produced; heart rate slows, body temperature drops, eyes stop moving, brain waves slow, blood pressure lowers, peristalsis relaxes, muscles relax, etc.
  - Lightness = less melatonin produced; reversal occurs
Melatonin: sleep hormone

- An average loss of melatonin:
  - 50 y.o. secrete approx. 50% less melatonin than 25 y.o.
  - 75 y.o. secrete approx. 75% less melatonin than 25 y.o.

- Some foods contain small amounts of melatonin: olive oil, tomatoes, grape skins, tart cherries, walnuts, wine, and beer

- Melatonin can be purchased in 1, 3, 5, 10 milligram tablets, OTC
Serotonin: wake biochemical

- Serotonin: “happy, feel good” biochemical.
- About 90% of human body's total serotonin is located in the gastrointestinal tract, where it regulates intestinal movements and digestion.
- The remaining 10% is stored in the brain where it regulates mood and provides a sense of well-being and happiness.
- It also helps to regulate appetite, wakefulness, sleep, and the cognitive functions of memory and learning.
- Serotonin is also a growth factor for some cells, which gives it a role in healing, especially wound and skin healing.
- Serotonin is triggered by bright light. More light = more serotonin produced less serotonin produced.
Serotonin: wake biochemical

- B complex vitamins, such as thiamine & folic acid increase serotonin production
- Foods rich in vitamin B are brown rice, wheat germ, wholegrain cereals, yeast extracts
- The brain uses the protein tryptophan to produce serotonin. Less tryptophan = less serotonin!
- Certain foods may raise serotonin levels because they contain tryptophan: salmon, tuna, snapper, sardines, herring, mackerel, halibut and poultry
- Antidepressants (SSRI) help raise and focus the brain's serotonin levels
But it’s not just the brightness or intensity of light that affects sleep and wake; it’s also the color of the light!
Light & Color: how we see

Anatomy of the Eye

Retina
Choroid
Sclera
Cornea
Lens
Pupil
Iris
Optic Disc
Blood Vessels
Muscle

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Light & Color: Set the Human Clock

• We need 30 minutes of direct, full sunlight each day to set our circadian rhythm: 10,000 lux.
• Or 60 minutes of indirect sunlight.
• Or 120 minutes of filtered/overcast sunlight.

• The sunlight (direct, indirect or filtered) needs to hit the retina of the eye.

• Therapeutic artificial light to replace or enhance the lack of sunlight has had mixed success for setting the circadian rhythms.

Does not require continuous, uninterrupted times.
Color Measurements

- We perceive color depending upon the speed and wavelength of each color.
- Violet light has a shorter, more rapid wavelength than the longer, slower wavelength of red light.
- The visible colors from shortest to the longest wavelengths are:
  - violet →
  - blue →
  - green →
  - yellow →
  - orange →
  - red →
Research results:

“The use of color illumination is more important than the reduction of brightness to induce rest.”

“Subjective drowsiness results indicate that the reduction of illuminance without reduction of the blue color should be avoided.”
Color Illumination: Research Findings

- The popular treatments for sleep disorders today focuses on "blue light in the morning."
- Research consensus includes “avoiding blue light within two hours of sleep.”
- Researchers agree: the more rapid wave length of blue light can delay the onset of sleep because it suppresses melatonin, increases cardiac output, increases all vital signs and increases brain wave activity.
Color Illumination: Research Findings

- Research indicates that slower wave length light (red, amber, yellow) creates a gentle, gradual lowering of the central nervous system activity and a lowering of brain wave activity.

- Red, amber, yellow light would be more effective in a bedroom at night or a similar environment where it is desirable to lower mental and physiological activity.
Color of lighting in our environment:

- Candle light / fire place
- Older incandescent bulb
- Fluorescent lights
- White (sunlight) light bulbs
- Energy efficient bulbs
- Cell phones
- HD flat screen TVs
- Computer/laptop screens
- Halogen lights
- LED lights
Activity, Movement, Exercise: Influences on Sleep & Wake

- How much should we move, exercise?
- When do we move, exercise?
*Human Body is like a Rechargeable Battery

- Manufacturers recommendation on rechargeable battery: “To extend the life of the battery: fully exhaust or run down the battery prior to recharging.”

- When we sleep we recharge our cells, but we need to run down the cells during the day, to get the best recharge at night.

- We get better sleep at night, when we are physically exhausted from the day’s activities.
Is too much sleep, better or worse for you?

• What about sleep lasting > than 9 hours?
• What about resting in bed for > than 9 hours?
The human body has evolved to function optimally in the upright position for about 16 hours a day. Average adult sleeps 7 to 8 hours a day, usually in a supine position.

Consistently sleeping for more than 9 hours or fewer than 8 hours a day has a negative impact on physiological, psychological and cognitive functions.

(Van Dongen et al, 2003)

dehydration, progressive cardiac de-conditioning, postural hypotension

increased anxiety, confusion and depression, impaired memory function

progressive slowing down of metabolic rate, reduction in insulin sensitivity

gastric reflux and constipation

reduced lung function, increased susceptibility to respiratory infection

progressive cardiac de-conditioning, postural hypotension

urinary retention, increased risk of UTIs

gain reflux and constipation

venous stasis and blood vessel damage

loss of muscle strength and endurance

altered skin integrity

osteoporosis
Program Roll Out – RCA: Disturbances of Sleep

What disturbs sleep the most?
Top Disturbances to Sleep

1. Noise
2. Light
3. Environment: surface, bedding, temp, aroma
4. Napping
5. Medications
6. Continence Needs
7. Pain
8. Positioning
9. Inactivity/activity
10. Diet

Harvard Sleep Study, 2011
Implementing the Empira Restorative Sleep Vitality Program

• What disturbs sleep?
  - Identify environmental factors.
  - Identify clinical factors.
  - Identify operational factors.

• What keeps people awake?
  - Identify environmental factors.
  - Identify clinical factors.
  - Identify operational factors.
Key Elements of RSVP

• See handout:
Noise: Goals

- We attacked noise in our Fall Prevention program:
  - Audited and monitored sound levels with the use of sound meters
  - Identified root causes and types of noise
  - Eliminated all residents’ personal alarms
  - Reduced noisy times: shift change, meals, rounds
  - Reduced noisy areas: nurses’ stations, dining rooms, kitchens
  - Identified specific loud speaking staff
  - Turned off TVs when not being watched, encouraged use of private TVs w/ headsets
  - Ongoing use of “Yacker Trackers” →
Lighting: Goals

- Automatic timers/dimmers: set lights to go on and off at specific times
- White/blue spectrum, higher intensity level, lighting during day time (8 am → 8 pm)
- Amber/red spectrum lights, lower intensity level, lighting at night (8 pm → 8 am)
- Hug lights and hammerhead lights used by night staff, flashlights with amber light
- Pathway motion detector lights at night
Sleep Surfaces

• All SNFs have pressure relieving mattresses:
  – Static pressure redistribution mattresses
  – Low airflow, high density mattresses

• Pillows:
  – Appropriate for side or back sleepers
  – Soft, firm, extra firm pillows
  – Full body pillows
  – Residents own personal pillow
Sleep Surfaces


- Use high specification reactive (deforms in response to applied load) foam mattress for residents at risk for pressure ulcer development (characteristics of high specification foam mattresses, pages 109-110, NPUAP, 2014)

- Use active (alternating pressure) support surface (overlay or mattress) for residents at high risk of pressure ulcer development when frequent manual repositioning is not possible
NAPS

• Naps rob the sleep at night
• Naps rob stage 3 sleep
• One 30 – 40 minute nap during mid-day is rejuvenating and beneficial to health & longevity
• Consistently napping for longer periods, nearly every day, results in an increase of illnesses and a shorter life expectancy
• Consolidate the sleep experience so you sleep deeply at night and stay awake during the day
Medications:

• Schedule meds not to awaken sleeping resident at night

• Identify which medications support sleep and which medications disturb sleep

• Give medications during day time that have positive effect on wakefulness & medications in the evening that help sleep

• Consider liquid meds in evening and night to reduce fluid intake
Sleep Requirements: Signs & Symptoms of Sleep Deprived/Disturbed

• Adult humans require an average of 7 – 8 hours of uninterrupted sleep each night
• When this requirement is not met, all or some of the following symptoms can appear:
  – Excessive tiredness during the day
  – Decreased alertness
  – Memory loss
  – Disorganized thinking
  – Problems with processing things that you see and/or hear
  – Increased irritability
  – Loss of emotional control, e.g. anger management
  – Increased behavioral expressions of discontent – loss of social appropriateness – the “short wick” symptom
Inappropriate Use of Antipsychotics: Treating Sleep Deprivation Instead of Psychosis

- Using antipsychotics to treat the incorrectly identified symptoms of psychosis, when actually it was sleep deprivation / sleep fragmentation:
  - Disorganized thinking
  - Problems with processing things that you see and/or hear
  - Increased irritability
  - Loss of emotional control, e.g. anger management
  - Increased behavioral expressions of discontent – loss of social appropriateness – the “short wick” symptom
Pain

• * RCA: source and reason for pain
• Alternative comfort and pain relieving interventions other than medications
• Medicate to facilitate pain relief AND sleep
• A long acting pain medication lasting throughout night time sleep – given prior to sleep!
• Schedule routine rather than PRN meds
Continence & Repositioning; Why do we urinate at night?

- Kidneys remove fluid from the body all day.
- When we are awake, our upright or sitting position challenges our kidneys to remove fluid from our extremities because it is working against gravity.
- But when we lie down into a supine position it is easier for the kidneys to pull fluid from our limbs because it is not fighting gravity.
- So we may need to urinate in the middle of the night.
- We should be fluid bulking in the morning and fluid intake reduction as the day progresses.
Incontinence: Hydration control & Product use

• Bulk fluid intake in the morning, taper down after lunch, least fluids at dinner (8, 6, 4 oz)
• No fluid offering after the evening meals unless medically indicated to do so or requested
• Carefully monitor fluid intake all day
• Use over-night, whisk-away incontinent products for incontinent residents
• Encourage time to urinate before bedtime
Incontinence & Repositioning

• Extend periods of uninterrupted sleep at night: (2 → 3, 3 → 4, 4 → 6, 6 → 8)

• Reduce disturbance of sleep at night to toilet, change or reposition the resident

• Assess skin conditions for tolerating longer and longer periods of not being repositioned without causing untoward effects on skin

• Allow sleep without changing incontinent product or toileting AND not resulting in any negative outcomes
Skin Conditions & Repositioning


Repositioning

• This is not a green light to automatically put residents on 4 hour or more turn program

• Programs should be individualized and centered around the resident’s preference and assessment for tolerating longer periods of undisturbed sleep without negative outcomes and not for staff schedules and convenience

• At night **ONLY**, keep them active during the day!!!
Repositioning

• When Determining Repositioning Frequency consider the individual’s (NPUAP, 2014):
  • Tissue Tolerance
  • Level of activity and mobility
  • General medical condition
  • Overall treatment objectives
  • Skin condition
  • Comfort
  • Preferences
Diet: Foods, fluids, nutrients – to enhance sleep and wake

• When should we eat more protein?
  – In the morning

• When should we eat more carbohydrates?
  – In the evening

• When should eat sodium?
  – In the morning

• When should eat potassium?
  – In the evening

• Drink caffeine in the morning to early afternoon

• Spicy foods and sugar can disturb sleep
Foods That Energize: Wake Up!

• Breakfast:
  – Protein: meats, fish, eggs, cheese, yogurt
  – Vitamin C: oranges or orange juice, guavas, strawberries, cantaloupe, kiwifruit
  – Sodium: sausage, bacon
  – Caffeine: coffee, teas, chocolate

• Mid-afternoon snacks:
  – Peanut butter spread on whole-wheat bread or on an apple, dried fruit, almonds, cheese, popcorn
*Foods: May Improve Sleep*

**Snooze Foods:**
- Dairy foods
- Whole grains (carbs)
- Beans, rice
- Turkey, chicken
- Hummus
- Lentils
- Hazelnuts, peanuts
- Sunflower seeds, sesame seeds

**Bedtime Snacks:**
- Apple pie with ice cream
- Whole grain cereal with milk (carbohydrates)
- Oatmeal and raisin cookies with milk
- Peanut butter sandwich
- Bananas (potassium)
- Herbal teas

*Note: May take up to one hour to work.*
**Activity:**

Increase Daytime Active Engagement

- Sleep better
- Have less falls
- Have less depression
- Have less agitation

“Active Engagement: Pulls participants out of a passive state, expending energy, providing pleasure and movement opportunities, and reducing other neuropsychiatric symptoms.”

(Buettner, Fitzsimmons & Dudley, 2010)
Sharing & Caring Program

Facility Managers and Leaders: Once a month every SNF leader shares their talents to improve the lives of the residents

They provide meaningful engagement 6 – 8 p.m. daily to delay bedtime, so residents go to bed later and do not awaken as often

Promotes restorative sleep, budget neutral managers experience evening shift, build relationships with staff, residents and visitors
Aromatherapy

- Aroma targets different neuro-chemicals in the limpid system brain, to lift up, stimulate, sedate and/or create euphoria
- Can be used primarily by:
  - inhalation,
  - topically
  - orally (only under medical supervision)

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Aromatherapy: Essential Oils

• Essential oils, with standardized content of components (marked FCC, for Food Chemical Codex) are required to contain a specified amount of certain aroma chemicals that normally occur in the oil

• 1 drop of essential oil on a small round band aid placed on the neck of the person or collar of their nightwear

• Suspending a fine mist of essential oils into the air by a specific amount of oil placed in an electric atomizer
Aromatherapy

• Certain studies involving brain wave frequency indicate that smelling lavender and chamomile increases alpha waves in the head, which are associated with relaxation.

• Jasmine and citrus increase beta waves in the front of the head, which are associated with alertness.

• Eucalyptus can relieve sinus headaches due to its anti-inflammatory effect.

• Peppermint applied topically causes nerves to be less stimulated and pain relieved.

• Ginger applied topically relieves nausea.
Implementation: Prevent Disturbances to Sleep

• What are the root causes for the disturbances to sleep? Why are residents not sleeping at night?

• Prioritize:
  – leadership makes it a priority
  – educate staff, residents, families, MDs, surveyors
  – grab the low hanging fruit first
  – do the easier, quicker successes first
  – then take on the greater challenges
Did the Restorative Sleep Vitality Program help to reduce falls even more?
IMPLEMENTING SLEEP STRATEGIES RESULTS:
NO FALLS AT NIGHT AND REDUCED FALLS DURING DAY

65 bed SNF

December 2012
17 falls

December 2013
9 falls
IMPLEMENTING SLEEP STRATEGIES RESULTS:
NO FALLS AT NIGHT AND REDUCED FALLS DURING DAY

25 Falls

Oct. 2013
13 Falls

102 bed SNF

### Awake in Room:

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<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td>25%</td>
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<tr>
<td>11 - 1:00a.m.</td>
<td>14%</td>
<td>7%</td>
<td>8%</td>
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<tr>
<td>1 - 4:00a.m.</td>
<td>13%</td>
<td>2%</td>
<td>1%</td>
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<tr>
<td>4 - 6:00a.m.</td>
<td>8%</td>
<td>2%</td>
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### Personal Alarms Sounded:

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<td>11 - 1:00a.m.</td>
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<td>4 - 6:00a.m.</td>
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### Passing Water/Stocking Incontinent Products in Rooms:

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<td>11 - 1:00a.m.</td>
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<tr>
<td>1 - 4:00a.m.</td>
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</tr>
<tr>
<td>4 - 6:00a.m.</td>
<td>0%</td>
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### Percentage of Residents who have 2 hour Checks and/or Change:

<table>
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<th>Year</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>2011</td>
<td>99%</td>
</tr>
<tr>
<td>2012</td>
<td>58%</td>
</tr>
<tr>
<td>2013</td>
<td>7%</td>
</tr>
</tbody>
</table>
~ Mahatma Gandhi was asked, “How to initiate change.”

“First they ignore you, then they laugh at you, then they attack you, then you win.”