SLEUTHING THE CAUSE OF BPSD: THE KEY TO CHOICE OF TREATMENT(S)

David A. Smith MD, CMD
President, Geriatric Consultants of Central Texas, PA
Learning Objectives

At the conclusion of this session, the learner will...

• ...name multiple psychiatric conditions common in Long Term Care, in combination with dementia which may cause BPSD
• ...list many cultural, social, physical and resident specific causes of BPSD
• ...express familiarity with the process of interdisciplinary teaming to investigate cause(s) of BPSD
No conflict of interest in this presentation.
Mental Illness in the Nursing Home

- Dementia ... ≈ 70%
- All Pathologies ... ≈ 90%+
- Behavior Problems ... ≈ 40%
-↓ Function/Falls, ↓ Q of Life, ↑ Meds, Restraints
- Depression → ↑ Mortality
Nursing homes are not nursing homes.

- long term rehabilitation hospital
- geropsychiatry hospital
• Wandering
• Self-care deficits
• Agitation
• Assaultiveness
• Incontinence

Cognitive Decline
Behavior in the Facilities

- Zimmer, Watson, Trent found ~60% NF residents with problems
- About ½ had “serious” problems (30%)
- Attending MD’s documented only 10% of these
- Attending consulted psychiatrist in only 15%
Identifying Problems

- Admission – history, w/u reason for admission
- Telephone call from NF, behavior  
  “in their face”
- MDS 3.0 – CAAs – Change in Condition
Mnemonic to Recall Many of the Possible Etiologies of Dementia and Masquerading Conditions

D  Drugs and toxins (e.g. alcohol)
E  Environmental deprivation, eyes and ears
M  Metabolic and endocrine disorders (e.g. hypothyroidism)
E  Emotional (depression, delirium)
N  Nutritional (B\textsubscript{12} deficiency, thiamine deficiency, pellagra)
T  Tumors and trauma (subdural hematoma, dementia pugilistica, normal-pressure hydrocephalus)
I  Infections (human immunodeficiency virus, syphilis, Creutzfeld-Jakob disease)
A  Alzheimer’s disease and related disorders, atherosclerosis

Dementing Disorders

Alzheimer’s disease and related disorders

» Dementia with Lewy bodies
» Parkinson’s disease with dementia
» Frontotemporal dementias (Pick’s disease, other)
» Supranuclear palsy

Dementing Disorders

Vascular dementia

» Multi-infarct dementia
» Strategic single infarct
» Multiple lacunar infarcts
»Binswanger’s disease
» Dementia after hemorrhagic cerebrovascular accident
» Genetic arteriolopathies

Dementing Disorders (con’t)

- HIV-related dementia
- Huntington’s disease
- Creutzfeldt-Jakob disease
  - Sporadic
  - Genetic
  - New variant (prion disease)
- Normal-pressure hydrocephalus
- Other

Determinants of BPSD

- Cognition
  - psychiatric comorbidities
  - variability in neurochem/anatomy defects

- Coping skills
  - Extrinsic adaptive resources
  - Health status

- Milieu
  - Premorbid personality
Behavioral Disturbances in AD

Behavioral disturbances seen in up to 88% of patients with dementia

<table>
<thead>
<tr>
<th>Disturbance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apathy</td>
<td>72*</td>
</tr>
<tr>
<td>Agitation</td>
<td>60*</td>
</tr>
<tr>
<td>Delusions</td>
<td>22*</td>
</tr>
<tr>
<td>Anxiety</td>
<td>48*</td>
</tr>
<tr>
<td>Irritability</td>
<td>42*</td>
</tr>
<tr>
<td>Aberrant motor behavior</td>
<td>38*</td>
</tr>
<tr>
<td>Dysphoria</td>
<td>38*</td>
</tr>
<tr>
<td>Disinhibition</td>
<td>36*</td>
</tr>
<tr>
<td>Physical threats/Violence</td>
<td>15†</td>
</tr>
<tr>
<td>Verbal aggressiveness</td>
<td>45†</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>10*</td>
</tr>
</tbody>
</table>

* Mega; †Harwood.
Characteristics of AD Patients in LTC: Behavioral Symptoms

Communication difficulties
Passive aggression
Disruptive behavior
Manipulative
Demanding interaction
Speech content
Socially objectionable
Verbal aggression
Noisy
Active aggression
Restlessness
Delusions/hallucinations

% of residents (N=80)

Agitation -

What's this mean?
No psychiatric symptom is the \textit{sin quo non} of any one psychiatric disorder.

-R.C.W. Hall
Categorizing Behavior:

• Useful construct for epidemiologic purposes and planning
• Not particularly useful for evaluation and treatment
  » Behaviors in an individual are a unique (and dynamic) mix of multiple factors
  » Behavior alone does not predict cause therefore:
  » Behavior doesn’t dictate treatment
You must diagnose before you can treat.
Problem Behaviors in the Elderly (Smith’s List)

- Assaultive
- Combative
- Delusions, false accusations
- Hallucinations (auditory, visual, global)
- Hoarding
- Homicidal
- Non-compliance
Problem Behaviors in the Elderly (Smith’s List)

- Pacing
- Pesterling or unreasonable demands
- Reclusive
- Repetitive vocalization, noise
- Resistive
- Self-injurious/mutilation
Problem Behaviors in the Elderly (Smith’s List)

• Self-neglect (nutrition, hygiene, personal business)
  » Diogenes syndrome
• Sexually inappropriate behaviors (appropriate & inappropriate agenda)
• Suicidal (active, “passive”)
• Verbal abusiveness
• Wandering (agenda, shadow, aimless)
Task

How many have this level of definition of the BPSD in their care plans?
Behavior

- Disease oriented conceptual model
- Social systems conceptual model
Determinants of BPSD

- Cognition
  - Psychiatric comorbidities
  - Variability in neurochem/anatomy defects

- Coping skills
  - Extrinsic adaptive resources
  - Health status

- Milieu
  - Premorbid personality

- Premorbid personality
Psychiatric Disorders Frequently Comorbid with Dementia

- Medication or multi factorial induced delirium
- Major depression with/without psychotic symptoms
- Bipolar disorder
- Schizophrenia
- Anxiety disorders
- Various personality disorders and dysthymia
Behavior

Simple delusions don’t justify medication.
So, what do we use for what?
Grid for Treatment of Dementia and Psychiatric Disorders Causing BPSD

- Dementia - ChI and/or memintine
- Depression - antidepressant
- Depression with psychosis - antidepressant/AAP
- Delirium - rapid acting AAP or haloperidol
- Psychosis – AAP
Grid for Treatment of Dementia and Psychiatric Disorders Causing BPSD

- Mania or Bipolar illness - mood stabilizer
- Chronic Anxiety Disorder - SSRI, buspirone
- Acute or situational anxiety - Bzd (short acting/only phase 2)
- Appropriate chemical restraint - Bzd (short acting/only phase 2)
Behavior Problems in LTC:

Testing
Mental Capacity for:

- Decision Making
  - Personal
  - Medical
  - Financial
- Testamentary Capacity
- Capacity to Stand Trial
Quantifying and Following Cognitive Deficit

- Mini Mental Status Exam-MMSE (Dementia)
- St.Louis University Mental Status-SLUMS (MCI, Dementia)
- Confusion Assessment Method- CAM (Delirium)
Diagnosing & Following Major Depression

- **Beck Depression Inventory**

- **Hamilton Depression Scale**

- **Geriatric Depression Scale (short & long)**

- **Cornell Scale**
Others:

- Mania

- Functional Pain Scale

- Hamilton Anxiety Scale

“Assessment Scales in Old Age Psychiatry” Burns A, Lawlor B, Craig S. Martin Dunitz Ltd. Distributed by: Blackwell Science Inc., Commerce Place, 350 Main St., Malden MA 02148
Objective Symptom Monitoring

- Symptom(s)
- Numerical frequency
- Severity
Objectifying Nursing Assessment of Behavioral Problems: A Gestault Approach

Each shift:

• Rate your “pain” as a caregiver in response to resident behavior of __________ on a zero to 10 scale.

• Initial your score.
Minnie has delusions of worms crawling out of her skin and from under her fingernails. She is scratching herself raw and complains constantly to staff of worms.

Before Drug A – 7,10,8,8,7,6,10
After drug A – 10,7,8,6,8,10,7 (no ADR)

What now?
After drug A increased to maximum or until ADR- 7,8,10, 8,10, 6,7

What Now?
After drug B – 6,8,6,5,7,7,5,6 (no ADR)

What Now?
Using Scales

- Trained interviewers/raters (but it’s easy)
- Trigger from MDS items
- Trigger from identification of potential problem by team or team member
- Set time to retest to evaluate efficacy of therapy!! Remember steady state: $5 \times E^{1/2}$.
- Objectification of what is poorly handled by subjective assessment
- ? Need a doctor’s order or not
Determinants of BPSD

- Cognition
  - Psychiatric comorbidities
  - Variability in neurochem/anatomy defects
  - Premorbid personality

- Coping skills
  - Extrinsic adaptive resources
  - Health status

- Milieu
Some Non Psychiatric Drugs & Substances That May Cause Delirium/Confusion

- anabolic steroids & androgens
- anticholinergics
- anticonvulsants
- antihistamines
- axtreonam
- beta blocker
- chemotherapeutic agents
- chloramphenicol
- cloridine
- cyclosergine
- digitalis
- diuretics
- griseofulvin
- H-2 blockers
- INH
- levodopa
- lidocaine
- methyldopa
- metronidazole
- narcotics
- NSAIDs
- oral hypoglycemics
- rifampin
- alcohol
- carbon disulfide
- organophosphates
- trichlorethylene
- bismuth iodoform
- paraffin paste
Some Non Psychiatric Drugs & Substances That May Cause Depression

- beta blockers
- cimetidine
- clonideine
- cyclosersgine
- digitalis
- diuretics
- ethinamide
- guanethidinone
- levodopa
- methyldopa
- NSAIDs
- prazocin
- quinolones
- reserpine
- steroids
- sulfas
- lead
- mercury
Some Non Psychiatric Drugs & Substances That May Cause Anxiety or Insomnia

- anorectics
- aztreonam
- beta blockers
- clonidine
- cycloserine
- dapsone
- diuretics
- ephedrine
- ethionamide
- levodopa
- methylsergide
- prazocin
- selegilene
- sympathomimetics
- theophyllin

________________
- alcohol
- caffeine
- mercury
## Some Non Psychiatric Drugs & Substances That May Cause Psychosis

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminoglycosides</td>
<td>Aminoglycosides</td>
</tr>
<tr>
<td>Anticholinergics</td>
<td>Anticholinergics</td>
</tr>
<tr>
<td>Aspirin</td>
<td>Aspirin</td>
</tr>
<tr>
<td>Beta blockers</td>
<td>Beta blockers</td>
</tr>
<tr>
<td>Carbazemine</td>
<td>Carbazemine</td>
</tr>
<tr>
<td>Chemotherapeutic agents</td>
<td>Chemotherapeutic agents</td>
</tr>
<tr>
<td>Cisplatin</td>
<td>Cisplatin</td>
</tr>
<tr>
<td>Clonidine</td>
<td>Clonidine</td>
</tr>
<tr>
<td>Colchicine</td>
<td>Colchicine</td>
</tr>
<tr>
<td>Cyclosergine</td>
<td>Cyclosergine</td>
</tr>
<tr>
<td>Dapsone</td>
<td>Dapsone</td>
</tr>
<tr>
<td>Digitalis</td>
<td>Digitalis</td>
</tr>
<tr>
<td>Diuretics</td>
<td>Diuretics</td>
</tr>
<tr>
<td>H2 blockers</td>
<td>H2 blockers</td>
</tr>
<tr>
<td>INH</td>
<td>INH</td>
</tr>
<tr>
<td>Levodopa, methyldopa</td>
<td>Levodopa, methyldopa</td>
</tr>
<tr>
<td>Methylsergide</td>
<td>Methylsergide</td>
</tr>
<tr>
<td>Narcotics</td>
<td>Narcotics</td>
</tr>
<tr>
<td>NSAIDs</td>
<td>NSAIDs</td>
</tr>
<tr>
<td>Procaine, lidocaine</td>
<td>Procaine, lidocaine</td>
</tr>
<tr>
<td>Quinolones</td>
<td>Quinolones</td>
</tr>
<tr>
<td>Reserpine</td>
<td>Reserpine</td>
</tr>
<tr>
<td>Steroids</td>
<td>Steroids</td>
</tr>
<tr>
<td>Sulfas</td>
<td>Sulfas</td>
</tr>
</tbody>
</table>
Some Non Psychiatric Drugs & Substances That May Cause Other CNS Symptoms

- ACE inhibitors - sexual dysfunction
- Lapha blockers - sexual dysfunction
- Beta blockers - fatigue, sexual dysfunction
- Calcium channel blockers - sexual dysfunction
- Digoxin - decreased appetite
- Diuretics - decreased appetite, fatigue, sexual dysfunction
- Levodopa - choreiform movement
- Methyldopa - extra pyramidal side effects
- Metodopramide - tardive dyskinesia & extra pyramidal side effects
- Reserpine - extra pyramidal side effects
- Selegiline - dyskinesia
Determinants of BPSD

- Cognition
  - psychiatric comorbidities
  - variability in neurochem/anatomy defects

- Coping skills
  - Extrinsic adaptive resources
  - Health status

- Milieu
  - Premorbid personality
Behavior

Other explanations for behavior in the demented/non-communicative resident:

- Appropriate agenda / inadequate cognition
- Fatigue
- Fear pre-emptive aggression resistive/combative victim/perpetrator
- Discomfort / pain / cold / physical need
Pain Perception

1. Cortex
2. Limbic system
   - agitation, emotions
3. Thalamus
4. Spinal cord
5. Peripheral nerve & receptor
Analgesic Trial
ala Dr. George Grossberg

- Non verbal signs/symptoms of pain
- Behaviors worse under conditions or activities one might expect to cause pain
- Behaviors worse as the day wears on
- Baseline objective symptom monitoring, then give scheduled analgesic and evaluate for improvement
Frustration / thwarted agenda (loss of control)
Territoriality
Disinhibition (frontal lobe?)
  » culture of violence
  » sexual
  » bigotry or chauvinism
  » Bipolar ds.
  » annoyance or transgressed upon
Unrecognized depression, anxiety, mania, psychosis
In the dementia patient the most common cause of ... 

- agitated
- violent
- aggressive
- assaultive
- resistive ...

Behaviors are misinterpretations of reality due to the dementia.
Aggression in Dementia

- usually in moderate to severe disease
- territoriality
- male/male dominance
- fear
- pain
- frustration, irritation, anxiety
- depression
- bipolar disorder
Aggression in Dementia

Look for:

- Infections
- Head trauma
- Pain or discomfort
- Worsening of a medical illness
- Developing a new illness
- Change in the environment
- New people in their life
- Problems with sleep
- Worsening of the dementia
- Developing comorbid depression or delirium
- MEDICATION
Predictors of Violence in Dementia Patients

- past history of physical or sexual abuse
- brain injury
- paranoia
- physical strength, mobility and speed
- opportunity
- weapons
Summary: Some Reasons for Behavior Problems in Dementia

- Cognitive loss/misinterpretation of the environment
- Psychological/personality explanation
- Cultural/social systems explanation
- Unmet physical need
- Pain
- Physical illness with functional deficit
- Physical illness with psychiatric symptom
- Medication side effect – psychiatric symptom
- Mental illness comorbid with dementia
- Any combination of the above
Behavior Problems in LTC:

Interdisciplinary Teaming
Behavioral Problem Solving by Interdisciplinary Team Process

- What explains the resident’s behavior?
- Is this intrinsic to the resident? Extrinsic to problem with environment/system? A combination?
  
  When does it occur? Under what circumstances?
  What precedes the behavior? (Triggers?)
  What exactly is the behavior?
  What happens after the behavior? (Rewards?)
  Consequences? Worst Case Scenario?
ABCD’s of BPSD

• **Antecedents** - When does it occur? (Under what circumstances?)
  - What precedes the behavior? (Triggers?)
• **Behavior** - What exactly is the behavior?
• **Consequences** - What happens after the behavior? (Rewards?)
• **Disaster** - Worst Case Scenario? How might this be prevented even if the behavior continues?
Behavior Problem Solving by the Interdisciplinary Team Process

**Diagnosis review?**
Mental disease explains the behavior.
Physical disease explains the behavior.
Physical disease causes mental symptoms.

**Drug review?**
Drug-induced mental symptoms.
Inadequate or incorrect drug treatment of mental illness.
BPSD Investigation

1. Who was this resident before they developed dementia?
   » occupation
   » education
   » religion
   » cultural issues
   » sentinel life events
   » historical coping mechanisms
BPSD Investigation

Use if MDS triggers QI- Behavior Problem Affecting Others-
High or Low Risk

2. What is the psychiatric diagnosis(es)? Does the resident have a history of mental illness (bipolar, schizophrenia, other)?

3. Is Resident suffering delirium? Fluxuating course? Impaired ability to focus, maintain or shift attention?

4. Is the Resident suffering MCI or Dementia? SLUMS (or MMSE or BIMS) Score = Has a medication(s) for dementia been tried?

5. Does the resident appear to suffer depression? According to MDS? GDS Score if less than severe dementia= ? Cornell Scale if severe dementia = ? Is resident receiving non pharmacologic treatment (psychotherapy, activities therapy, exercise therapy, other?)? Are they receiving pharmacotherapy? What is it? Will they receive pharmacotherapy? Or will existing treatment be titrated, augmented or changed?
6. Is there a medication side effect causing or contributing to the behavior problem? List meds:
   Will there be a trial reduction to DC of any of these?
7. Could the Resident be in pain? Pain score or non-verbal sign/symptoms of pain? Will an analgesic trial be done empirically?
8. Could the resident’s behavior problem be caused by an unmet need (toilet, fatigue, noxious physical symptom, loneliness, territoriality, need to control)?
9. What are the Antecedents to the behavior? What might trigger it? What circumstances seem necessary for the behavior to occur? More likely time of day?
10. What is an exact description of the problem Behavior? Frequency? Targeted victims? Exact words if verbal?
11. What are the Consequences of the problem behavior? Could this reward the behavior?

12. What Disaster might occur in a worse case scenario due to the problem behavior? How could this be avoided even if the behavior continues?

13. What are the Resident’s strengths?
   - Physical functioning?
   - Intact sensory systems?
   - Positive personality traits?
   - Ability to learn +/- or retain new learning?

14. What are the Resident’s weaknesses?
   - Physical functioning?
   - Impaired sensory system?
   - Negative personality traits?
15. What staff have positive rapport with the Resident?
16. Negative rapport?
17. Is there a formal statement of mental capacity or incapacity (partial or total) from the attending physician?
18. Who is the Resident’s RP or DPOA if they are not capacitated?

19. Are any family members a resource for helping the facility to deal with problem behavior, e.g.
   - provide life history of the Resident
   - sit with the Resident during behavioral emergencies
   - participate in a Behavior Modification program? Who?
Resources for Behavior Problems in LTC

- Psychiatrist/geriatric psychiatrists
- Psychologists
- Medical social workers
- Primary care physicians
- Geriatricians (CAQ, CMD, Fellowships)
- Pharmacists with Added Qualifications in Geriatrics
- Teaming
Barriers to Interdisciplinary Teaming

- Logistics, time
- Family involvement
- No specific reimbursement code for physicians
- CNA not involved or lacks skills
- Gap between care planning and implementation (nay-sayers)
Behavioral Problem Solving by Interdisciplinary Team Process

- Requires collaborations between family, attending physician, facility nursing staff, CNAs, activities staff, social worker, therapy staff by formal process
- Time intensive, logistically difficult
- No clear pathway for reimbursement
- Not part of current long term care culture or practice
- Absolutely required to craft a person centered Rx plan with individualized non pharmacologic approaches to BPSD
“To maximize the resident’s physical and mental well-being or slow decline”

- Behavior
- Diagnostic hypothesis
- Rx – drug / non-drug
- Follow-up by objective symptom monitoring
  measure target behavior before and after treatment steady state (nullifies inter-rater variability)
- Follow-up side effects, overall function, length of Rx
Cases that I recall

• Non communicational female with severe dementia whose behavior worsened in the afternoon
• Moderately demented male with elopement attempts each late morning
• Moderately demented female with elopement attempts each late afternoon
• Robust young-old man with dementia d/t ETOH with inappropriate toileting and assaultive with staff when redirected
• Male with schizophrenia and dementia from TBI with severe repetitive vocalizations
Learning Objectives

At the conclusion of this session, the learner will...

• ...name multiple psychiatric conditions common in Long Term Care, in combination with dementia which may cause BPSD
• ...list many cultural, social, physical and resident specific causes of BPSD
• ...express familiarity with the process of interdisciplinary teaming to investigate cause(s) of BPSD
Thank You!

Your Questions & My Answers*

*opinions, speculations, double talk, dodges or admissions of ignorance