Psychotropic & Unnecessary Medication Reduction:

Living Longer... Better:
Utilizing The Clinical Tool of Metabolic Validation Testing

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CMS will push nursing homes to reduce their use of antipsychotic medications by **25% by the end of 2015** and plans to incorporate a measure of the drugs' use to its star-rating system for consumers.

“We know that many of the diagnoses in nursing home residents do not merit antipsychotics but they were being used anyway,” Dr. Patrick Conway, deputy administrator for innovation and quality and the CMS' chief medical officer said Friday. He said the agency has set “ambitious goals” and that ultimately, LTC Facilities should “rethink their approach to dementia care.”
Statistics to Consider

Medicare Prescriptions:
198 million in 2010 – for behavioral medications
annual increase rate of (9.3% est.)
992 million in 2010 – for all medications

Adverse Drug Reactions:
2.2 million annually
76% of hospitalized patients
106,000 deaths annually
Cost to health US health system - $136B annually

Re-Hospitalization:
22% of behavioral patients
24% of cardiovascular patients
74% are on more than 3 medications

Drug Label Warnings for Pharmacogenomics:
190+ medications

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Factors to Consider

1. **Cost**
   
   100% covered by Medicare *(facility pay $0)*
   
   Covered by most all Private Insurances
   
   No Balance Billing to Patients

2. **What is your plan/program for Reduction of Unnecessary Meds and Overuse of Psych Medication — compliance?**

3. **Extending Patient Independence, Mobility, Cognitive Responses, etc. — profitability**
What is Pharmacogenomics?

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Standard Factors vs. A New Approach to Medication Selection

Patient Experience

Adherence

Illness

Cost

Adverse Effects

Family History

Pharmacogenomics

Personalized Medication Selection

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Pharmacogenomics/Personalized Medicine

Right drug, right dose, right patient

Choice of therapy (drug) is predicted by specific genetic mutations that can be tested clinically

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CYP450 Metabolizer Phenotypes

**Ultrarapid (UM)**: Rapid rate of metabolism

**Extensive (EM)**: Normal metabolism

**Intermediate (IM)**: Reduced rate of metabolism

**Poor (PM)**: Slow rate of metabolism

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Metabolic Validation Testing & Geriatrics

- Elderly patients on average receive 4-10x as many medications as the normal healthy population

- Elderly patients are more sensitive to the side effects of medications

- Elderly patients are dealing with more chronic health conditions

- Consequences of side effects and adverse events carry greater morbidity and mortality in the elderly

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Tolerability of Psychiatric Medication

- Side effects and patient frustration
- Cost of medications
- Suboptimal drug regimens
- “Trial and error” prescribing

Each additional provider prescribing medications increased odds of an adverse drug event by 29%.


Compare Cost of Treating with Testing, vs. Traditional Trial and Error

Behavior Health Medications

- 65% of MDD patients fail their initial medication trial
  - ≥ 75% fail to respond to subsequent medication trials

- Non-responders cost 2.5 times more overall than responders\(^1\)
  - $17,128/yr vs. $6,770/yr

- Direct medical costs are 2.5 times higher for non-responders\(^1\)
  - $12,155/yr vs. $5,755/yr

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1. Social and economic burden of treatment-resistant major depressive disorder: A comprehensive, systematic analysis of the literature, Mrazek et al (Submitted).

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What Genes can be Tested?

2D6
2C9
2C19
1A2
3A4
3A5
SLC01B1
HTR2C
OPRM1
COMT
Factor II
Factor V
MTHFR
VKORC1
SERT
NET
FITR2A
ABCB1
ADRA2A

What Panels can be Reported?

Pain
Depression
Psychiatric
Anxiety
Cardiology
Thrombophilia
Anti Coagulants
ADHD

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Understanding the Metabolic Phenotype of Your Patients Can Also Help Avoid Serious Adverse Events That May Occur with Psychiatric, Pain & Cardiac Medications

**Warnings**

**ATYPICAL ANTIPSYCHOTIC WARNING:** Increased Mortality in Elderly Patients with Dementia-Related Psychosis

See full prescribing information for complete boxed warning.

**WARNINGS**

**WARFARIN WARNING:** BLEEDING RISK

See full prescribing information for complete boxed warning.

**WARNINGS**

**CLOPIDOGREL WARNING:** Diminished Effectiveness in Poor Metabolizers

See full prescribing information for complete boxed warning.

**WARNINGS**

**ANTIDEPRESSANT CLASS WARNING:** Suicidal Thoughts and Behaviors

See full prescribing information for complete boxed warning.

**WARNINGS**

**CODEINE WARNING:** Death Related To Ultra-Rapid Metabolism of Codeine to Morphine

See full prescribing information for complete boxed warning.

“Empowerment At The Source of Treatment”
Medications with Significant Pharmacogenetic Information on the FDA Label

(partial list)

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“Empowerment At The Source of Treatment”
Assisted/Skilled Living Center

Pilot Program

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PILOT PROGRAM GOALS

Pharmacogenetic Testing:

1. Improved/Correct Medication Management
2. Improved Patient Outcomes and Quality of Life
3. Lower Healthcare Resource Utilization
4. Increase Staff Efficiency
5. Reduce Hospitalizations
6. Decrease Drug on Drug Interactions
7. Enhance Patient Mobility and Cognition

Lower Healthcare Utilization & Costs

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Statistical Overview

Residents Tested: 132
On Avoid Use Meds: 23%
Need Dosage Review: 48%
Drug-Drug Warning: 48%
Contact Information

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