Medication Management: Tools for Success

- Amy Adams, Partners in Care Foundation
- Sandy Atkins, Partners in Care Foundation
- Michelle Fritsch, Meds Mash, LLC
- Sherry Marishak-Simon, Meals on Wheels, Inc. of Tarrant County
- Kathleen Zuke, National Council on Aging

February 7, 2017

National Council on Aging

Improving the lives of 10 million older adults by 2020
Medications and older adults

“No risk factor for falls is as potentially preventable or reversible as medication use.”

Medication use among older adults

- 81% of older adults use at least one prescription drug
- 42% of older adults use at least one over-the-counter medication
- 49% of older adults use at least one dietary supplement (vitamin, herbal, etc.)
- 29% of older adults use at least 5 prescription medications concurrently

Concurrent use of prescription drugs with:
  - Over-the-counter medications - 46%
  - Dietary supplements - 52%

- 1 in 25 older persons is at risk for major drug-drug interactions

Why are older adults at greater risk for medication-related problems?

- Multiple medications
- Multiple chronic conditions and severity of disease
- Physiologic changes with aging
  - Pharmacokinetic changes
  - Pharmacodynamic changes
- Types of medications prescribed
  - Inappropriate medication
    - Beers Criteria for Potentially Inappropriate Medication Use in Older Adults
  - Inappropriate dose
  - Inappropriate duration
- Poor adherence
- Under-representation in clinical trials, particularly those over age 75
- Shortage of trained professionals in geriatric pharmacotherapy
When are medication side and adverse effects most likely to occur?

- A new medication is added
- The dose is changed (increase or decrease)
- A medication is discontinued
- Alcohol or illicit drug is added
- The patient is taking multiple sedating or dizzying medications
- The patient is taking OTC or herbal products
- When there are food and/or drug interactions
- Any time!
The impact of adverse medication effects among older adults

- Nearly **700,000** emergency department visits and **100,000** hospitalizations are caused by adverse medication effects annually.¹

- In the hospital, **1 in 6** older adults experiences an adverse drug event.²

- In the community, **1 in 5** older adults is taking potentially inappropriate medications.³

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The American Society of Consultant Pharmacists/
National Council on Aging
Falls Risk Reduction Toolkit

Michelle A. Fritsch, Pharm.D., BCGP, BCACP
Founder and President, Meds MASH, LLC
Baltimore, MD
CDC STEADIL

- Toolkit for professionals
- Toolkit for patients
STEADI Patient Components

What YOU Can Do
To Prevent Falls

Stay Independent
Falls are the main reason why older people lose their independence.
Are you at risk?

Check for Safety
A Home Fall Prevention Checklist for Older Adults

Experts in geriatric medication management.
Improving the lives of seniors.
STEADI Professional Components

Fall Risk Checklist

<table>
<thead>
<tr>
<th>Patient:</th>
<th>Date:</th>
<th>Time:</th>
<th>AM/PM</th>
</tr>
</thead>
</table>

**Fall Risk Factor Identified** | **Factor Present?** | **Notes** |
--- | --- | --- |
Falls History | | |
Any falls in past year? | Yes | No |
Worries about falling or feels unsafe when standing or walking? | Yes | No |
**Medical Conditions** | | |
Problems with heart rate and/or rhythm | Yes | No |
Cognitive impairment | Yes | No |
Incontinence | Yes | No |
Depression | Yes | No |
Foot problems | Yes | No |
Other medical conditions (Specify) | Yes | No |
**Medications** (Prescriptions, OTCs, supplements) | | |
CNS or psychoactive medications | Yes | No |
Medications that can cause sedation or confusion | Yes | No |
Medications that can cause hypotension | Yes | No |
**Gait, Strength & Balance** | | |
Timed Up and Go (TUG) Test ≤12 seconds | Yes | No |
30 Second Chair Stand Test | Yes | No |
Below average score based on age and gender | Yes | No |
4-Stage Balance Test | Yes | No |
Full tandem stance <10 seconds | Yes | No |
Vision | | |
Acuity ≤20/40 OR eye exam in >1 year | Yes | No |
Postural Hypotension | Yes | No |
A decrease in systolic BP ≥20 mm Hg or a diastolic BP of ≤10 mm Hg or light-headedness or dizziness from lying to standing? | Yes | No |
**Other Risk Factors** (Specify) | | |
--- | Yes | No |
--- | Yes | No |

Algorithm for Fall Risk Assessment & Interventions

- **Screen for falls and/or fall risk**
  - Patient answers YES to any key question:
    - Fell in past year? If YES ask,
      - How many times? and,
      - Were you injured?
    - Fears unsteadiness when standing or walking?
    - Worries about falling?

- **Evaluate gait, strength & balance**
  - Timed Up & Go (recommended) ≤12 seconds
  - 30 Second Chair Stand (optional)
  - 4 Stage Balance Test (optional)

- **Conduct multifactorial risk assessment**
  - Review Fall Independent brochure
  - Falls history
  - Physical exam including:
    - Postural dizziness
    - Postural hypotension
    - Medication review
    - Cognitive screen
    - Foot & footwear
    - Use of mobility aids
    - Visual acuity check

- **HIGH RISK Individualized fall interventions**
  - Educate patient
  - Vitamin D + calcium
  - Refer to PT to enhance functional mobility & improve strength & balance
  - Manage & monitor hypertension
  - Modify medications
  - Address foot problems
  - Optimize vision
  - Optimize home safety

- **LOW RISK Individualized fall interventions**
  - Educate patient
  - Vitamin D + calcium
  - Refer for strength & balance exercise (community exercise or fall prevention program)

- **MODERATE RISK Individualized fall interventions**
  - Educate patient
  - Review & modify medications
  - Vitamin D + calcium
  - Refer to PT to improve gait, strength & balance or refer to a community fall prevention program

- **Follow-up with HIGH RISK patient within 30 days**
  - Review care plan
  - Assess & encourage fall risk reduction behaviors
  - Discuss & address barriers to adherence

- **Transition to maintenance exercise program when patient is ready**

*For these patients, consider additional risk assessment (e.g., medication review, cognitive screen, syncope).
ASCP/NCOA Toolkit Components

- Falls Risk Checklist
- Falls Application Cases
- Communications Documents
- Build Your Referral Network
- Bibliography
Falls Risk Checklist

Four key areas of the checklist

- Get to know your patient
- Medical Conditions
- Medication Assessment
- Fall Risk Inducing Drugs (FRIDs)

<table>
<thead>
<tr>
<th>Falls Risk Checklist</th>
<th>Check all that apply:</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Patient Factors</td>
<td>□ Age over 65 □ Age over 80 □ Frail</td>
</tr>
<tr>
<td>Transition Status</td>
<td>□ Pending transition □ Recent transition</td>
</tr>
<tr>
<td>Living Arrangements</td>
<td>□ Lives alone □ Lives with spouse or other</td>
</tr>
<tr>
<td>Substance Use</td>
<td>□ Alcohol drinks per day □ Marijuana</td>
</tr>
<tr>
<td>Vital Signs</td>
<td>□ Temperature: □ Over 95°F</td>
</tr>
<tr>
<td>Postural Hypotension</td>
<td>□ Systolic BP falls ≥ 20 mm Hg</td>
</tr>
<tr>
<td>Medical Conditions</td>
<td>□ Diastolic BP falls ≥ 10 mm Hg</td>
</tr>
<tr>
<td>Medication Assessment</td>
<td>□ Dizzy or light-headed with standing</td>
</tr>
<tr>
<td>Fall Risk Inducing Drugs (FRIDs)</td>
<td>□ Compliant with pain</td>
</tr>
<tr>
<td>Pain</td>
<td>□ Pain location(s):</td>
</tr>
<tr>
<td>Sensory Function</td>
<td>□ Hearing defect □ Regular use hearing aid</td>
</tr>
<tr>
<td>Vision</td>
<td>□ No eye exam in last year</td>
</tr>
<tr>
<td>Hearing</td>
<td>□ Corneal vision</td>
</tr>
<tr>
<td>Falls History</td>
<td>□ Regular use glasses/contacts</td>
</tr>
<tr>
<td>Medication Self Management</td>
<td>□ Sporadic use glasses/contacts</td>
</tr>
<tr>
<td>Falls Risk Inducing Drugs (FRIDs)</td>
<td>□ Sensory loss</td>
</tr>
<tr>
<td>Medication Assessment</td>
<td>□ Changes in vision</td>
</tr>
<tr>
<td>Medical Conditions</td>
<td>□ Changes in mobility</td>
</tr>
<tr>
<td>Medication</td>
<td>□ Age-related medicine</td>
</tr>
<tr>
<td>Recent medication regimen change</td>
<td>□ taken last week</td>
</tr>
<tr>
<td>Falls risk Medication-Related-Problems detected</td>
<td>□ within last month</td>
</tr>
</tbody>
</table>

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American Society of Consultant Pharmacists

Experts in geriatric medication management.

Improving the lives of seniors.
Get To Know Your Patient

- Age
- Transition Status
- Living Arrangements
- Substance Use
- Vital Signs
- Ambulation Status
- Sensory Function
- Lower Extremities
- Medication Self Management
- Falls History
Medical Conditions

- Gait and Balance Altering
- Pain Related Gait and Balance Changes
- Vascular Related Conditions
- Central Nervous System
- Incontinence
- Obesity
- Malnutrition
- Infections
- Organ Function
Falls Risk Inducing Drugs (FRIDs)

- CNS Depressants
- Anticholinergics
- Pain Therapy
- Anticonvulsants
- Antihypertensives
- Hypoglycemic Agents
- Over-The-Counter
Experts in geriatric medication management.

Improving the lives of seniors.

The 30-Second Chair Stand Test

**Purpose**: To test leg strength and endurance

**Equipment**:
- A chair with a straight back without arm rests (seat 17" high)
- A stopwatch

**Instructions to the patient**:
1. Sit in the middle of the chair.
2. Place your hands on the opposite shoulder crossed at the wrists.
3. Keep your feet flat on the floor.
4. Keep your back straight and keep your arms against your chest.
5. On “Go,” rise to a full standing position and then sit back down again.
6. Repeat this for 30 seconds.

On “Go,” begin timing.

If the patient must use his/her arms to stand, stop the test. Record “0” for the number and score.

Count the number of times the patient comes to a full standing position in 30 seconds.

If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a stand.

Record the number of times the patient stands in 30 seconds.

**Number**: ________  **Score** ________  See next page.

A below average score indicates a high risk for falls.

Notes:

For relevant articles, go to: www.cdc.gov/injury/STeADI

The Timed Up and Go (TUG) Test

**Purpose**: To assess mobility

**Equipment**: A stopwatch

**Directions**: Patients wear their regular footwear and can use a walking aid if needed. Begin by having the patient sit back in a standard arm chair and identify a line 3 meters or 10 feet away on the floor.

**Instructions to the patient**:
When I say “Go,” I want you to:
1. Stand up from the chair
2. Walk to the line on the floor at your normal pace
3. Turn
4. Walk back to the chair at your normal pace
5. Sit down again

On the word “Go” begin timing.

Stop timing after patient has sat back down and record.

**Time**: ________ seconds

An older adult who takes ≥12 seconds to complete the TUG is at high risk for falling.

Observe the patient’s postural stability, gait, stride length, and sway.

Circle all that apply:
- Slow tentative pace
- Loss of balance
- Short strides
- Little or no arm swing
- Steadying self on walls
- Shuffling
- En bloc turning
- Not using assistive device properly

Notes:

For relevant articles, go to: www.cdc.gov/injury/STeADI
Tally the Risks
Considerations

• Number per class/risk type
  – \( \leq 2 \) central nervous system (CNS) depressing medications
• Limit anticholinergic burden
• Medical conditions, medications, other factors
• Patient specific
• (Pharmacists are uniquely suited for this in-depth analysis)
• Consider all risks and benefits

Alternatives

- Newer generation options with fewer side effects
- Avoid benzodiazepines and “Z drugs”
- Avoid tricyclic antidepressants, paroxetine
- Topical in place of systemic
- Acetaminophen in place of skeletal muscle relaxants, NSAIDs, or opioids whenever possible
- Short-acting over long-acting options (e.g. hypoglycemics, opiates)
- Lowest possible dose to achieve therapeutic goal
- Use nonpharmacologic approaches whenever possible

Experts in geriatric medication management.
Improving the lives of seniors.
Toolkit Application
How do we avoid...

Aging

Preventable risks

- Falls
- Memory Decline
- Functional Decline

Medication
The big picture

- Medication
- Heart
- Memory
- Mood
- Falls
- Coaching
- Daily function
LIMIT THOSE FALLS!

Image source: National Library of Medicine, National Institutes of Health, United States Department of Health and Human Services
How a Medication Management Program Can Help Meals On Wheels Clients

Sandy Atkins, VP Strategic Initiatives, Partners in Care
Amy Adams, Director, HomeMeds Implementation
Sherry Simon, RDN/LD Vice President of Nutrition & Health Programs
Objectives

- To Learn:
  - About the evidence-based program, HomeMeds
  - The goals of HomeMeds
  - What to do when an alert is generated
  - How to implement this program within your organizations
  - Benefits to the client
Partners in Care Foundation

Who Are We?

- **Partners** shapes the evolving health system by developing and spreading high value models of community-based care and self-management.
- We evolved from the VNA of Los Angeles to be a nimble force for change.
- Nonprofit; combine local service delivery, statewide Network of CBOs, & national dissemination of new models and evidence-based programs.
What’s the issue?

• More than 133 million Americans live with chronic illnesses¹
• 91% of prescriptions are for a chronic condition²
• 1.5 million people injured each year as a result of medication³
• Uncoordinated care costs an estimated annual $240 billion⁴

1. CDC National Center for Chronic Disease Prevention and Health Promotion: Chronic Disease Prevention http://www.cdc.gov/nccdphp/overview.htm
4. Owens, MK “The Health Care imperative: Lowering Costs and Improving Outcomes”, The Institute of Medicine, 2010
The Solution: HomeMeds℠

- HomeMeds is designed to enable **community agencies** to keep people at home & out of hospital by addressing medication safety

- Focus on potential **adverse effects** (falls, vitals, confusion) ... then determine if medications may be part of the cause

- Practice change with workforces/settings that already go to the home – more cost effective use of existing effort
HomeMeds℠ Evidence-Based Recognition

- Administration of Community Living (ACL) recognition as an evidence-based prevention program – Highest Level of Evidence

- Aging & Disability Evidence-based Programs and Practices
  http://www.acl.gov/Programs/CDAP/OPE/ADEPP.aspx
  - Quality of research: 3.2/4
  - Readiness for dissemination: 4/4

- US Agency for Healthcare Research and Quality (AHRQ) Innovation Exchange
  - Strong evidence rating
  http://www.innovations.ahrq.gov/content.aspx?id=2841
HomeMeds: Evidence-Based

- **What is Evidence-Based?** They are programs that have been rigorously tested in controlled settings, proven effective, and translated into practical models. (per Evidence-Based Leadership Council-EBLC)

- EBLC member programs meet the US Administration for Community Living’s highest level of evidence.
  - Effective in experimental or quasi-experimental research
  - Dissemination products developed and available to public
  - Full translation in community sites

- [http://www.eblcprograms.org/](http://www.eblcprograms.org/)
HomeMeds: What it is and How It Works
What is HomeMeds℠?

- Evidence-based in-home program to
  - Identify and prevent medication-related problems
  - Improve medication use
- Collaborative approach
  -- Homecare team doing medication reconciliation
  -- Consultant pharmacist (or NP) review
  -- Follow-up with prescribers and patient/clients
- Web-based risk assessment software
- Protocols and procedures
Risk-Screening Protocols

- Identified by national expert consensus panel ¹
- Targets problems that can be identified and resolved in the home:
  - Minimize “alert overload”: Positive response by prescribers
  - Based on signs/symptoms.

1. Unnecessary therapeutic duplication
2. Use of psychotropic drugs in patients with a reported recent fall and/or confusion
3. Use of non-steroidal anti-inflammatory drugs (NSAID) in patients at risk of peptic ulcer/gastrointestinal bleeding
4. Cardiovascular medication problems - High BP, low pulse, orthostasis and low systolic BP

Alerts limited to only these medication-related problems

HomeMeds Intervention Process

1. **Home Visit: Med Inventory & Assessment**
2. **Enter meds & clinical info into computer**
3. **Alert is Generated**
4. **Confirm med is currently used by client**
5. **Document changes to meds, conditions, &/or resolve alerts**
6. **Pharmacist tracks status and MD response**
7. **Pharmacist sends med list & recommendation to MD & documents intervention.**
8. **Email/Fax Alerts to Pharmacist for Review/Consult**
Roles of the pharmacist

- Screen alerts to confirm problems
- Communicate with prescribers
- Consult with care manager
- Identify problems beyond protocols
- Assist with complex cases
- Educate staff about medications/risks
What does it cost?

- Planning, setup, consultation, support:
  - $4,000, one-time fee
  - 15% discount for N4A members

- Software license
  - From $240/month for up to 50 new clients created/mo.
  - Negotiate shared licenses for smaller sites

- Training
  - $5,000 on-site plus travel (shared multisite OK)
  - $250-500 per refresher webinar
Covering the Cost

- Software, Startup & Pharmacist
  - Older Americans Act Title III-D

- Pharmacist coverage alternatives
  - Pharmacy School – students & supervision
  - Waiver purchase-of-service dollars
  - Volunteer community pharmacist
  - Medicare MTW: Medication Therapy Management (through local pharmacy or patient’s Part D plan)
Who’s Implementing HomeMeds?

- Medicaid 1915(c) Waiver programs for Dual Eligibles
- Care Transition programs
- Area Agencies on Aging & Senior Centers
- Meals On Wheels
- Home Health/Homecare Agencies
- Assisted Living & Affordable Housing
- Native American Tribal Community
- Public Health Departments
Consumer Feedback...

Mr. Johnson went from 20 meds to just 8:
“You have saved us money on monthly refills and my life! We cannot thank you enough!”
AAA in Tarrant County, TX

- Caregivers have positive response
  “….Beneficial to gain better understanding of their loved ones’ medications and provides confidence when accompanying them to doctors visits”

- Don Smith, Director, Tarrant County AAA:
  “HomeMeds is the easiest of all evidence-based programs to implement. We can see results - decrease in number of medications, decrease in falls pre & post.”
MOWI HomeMeds
Meals on Wheels of Tarrant County, Inc.

- Homebound clients
- Certified Pharmacy Tech (CPhT)
- Track fall history for clients with alerts
- Track Self-reported confusion
- Track Quality of Life Changes
- Track Self-reported Hospital & ED Utilization
HomeMeds Process At MOWI

Done by MOWI
Case Managers

Home Visit: Med Inventory & Assessment

Done by MOWI CPhTs

Enter meds & clinical info into computer

Alert is Generated

Call is made by MOWI CPhT's

Confirm med is currently used by client

Done by MOWI CPhT's

Document changes to meds, conditions, &/or resolve alerts

RPh makes calls to client prior to provider

Consultant Pharmacist Reviews Alerts

Pharmacist sends med list & recommendation to MD & documents intervention.

Email/Fax Alerts to Pharmacist for Review/Consult

Post Questions at 75-90 days
What we are seeing at MOWI....

- Several doctors
- Several pharmacies
- Miscommunication between doc and client
- Health Literacy Issues
- Medication Timing
- Nutritional supplements
- OTC drugs
MOWI HomeMeds
October 2012-March 2016

7947  Clients
4726  Clients with alerts (59%)
8433  Total number of alerts
1789  Alerted clients with a fall history
2418  Number of dizziness/fall alerts
Alerts and Fall History

4726 clients

59% Clients had Alerts
41% no alerts

Fall History

63% no
37% have fall history
Dizziness/ Fall alerts
(8433 Total Alerts)

- 28% Dizziness/ Fall alerts
- 72% other alerts
Costly Mistakes
as of 2014

Hip & Thigh Bone (JPS)  
$53,247 (7 days)

Shoulder, Wrist, Hand (JPS)  
$31,148 (2 days)

Rehabilitation: (HealthSouth)  
$17,187 (10 days)

Total Cost = $70,434

HomeMeds Cost: $55
Common Interactions

Clients with hypertension taking

Lopressor (metoprolol)

as well as

Calan (verapamil)

Are at increased risk for:

Congestive Heart Failure

Severe high blood pressure

Rapid heartbeat

Fainting

Severe Chest Pain
Costly Mistakes
as of 2014

Chest Pain

Total Cost = $17,070

HomeMeds Cost: $55
New Lines of Business

- Senior Citizens Services-Sixty and Better
- North Texas Council of Governments
- ACL CDSME Dallas contracts
- Pending Healthcare Entities Bundle Pricing
Bringing it Home With Stories of Success

Mrs. P

- 56 years young
- 3 grocery bags full of med bottles
- 26 different medications found
- 10 alerts generated
- Doc only prescribed 11
Contact Information

Sherry Marishak-Simon, R.D.N./L.D.
Registered & Licensed Dietitian/Nutritionist
Vice President of Nutrition and Health Programs
Meals On Wheels, Inc. of Tarrant County
5740 Airport Freeway
Fort Worth, Texas 76117
Agency Number: 817-336-0912
Direct Line: 817-258-6427
Fax: 817-338-1066
Email: ssimon@mealsonwheels.org
Website: www.mealsonwheels.org
HomeMeds: Bridge from Home to Healthcare
Why should non-healthcare agencies work on medication safety?

- To thrive, CBOs need to play a new role: Connecting the home with healthcare
  - AAAs need new funding streams – OAA insufficient, unreliable
  - Meds are major factor in readmissions
  - Home provides unique perspective otherwise unavailable to healthcare providers.
  - Quality measures for health plans and providers relate to issues such as fall prevention, high-risk medication use and pain management – HEDIS, Medicare Advantage Star Ratings
  - CBOs are already collecting medication information...They’re just not using it to benefit their clients/participants
HomeMeds – they “get” it!

- Health Plans & Providers understand importance of medications & medication reconciliation
- HomeMeds shows that much is lost in translation from hospital to home
  - After hospital “med rec” – 63% had problems at home!
- Capitated medical groups & health plans have incentives to prevent readmissions
  - Many/most readmissions related to medications
  - Add HomeMeds to care transitions visits
- MACRA incentives favor community coordination
  - E.g., transportation: quarterly HbA1c = 4 office visits + HEDIS
- Medicare billing codes for Medication Review, Transitional & Chronic Care Management
HomeMeds & the Triple Aim: Expected Results

**Lower Cost:** Less ER/hospital use due to meds

**Better Health:** Fewer falls, improved BP control, less confusion, etc.

**Better Care:** Improved medication use
HomeMedsPlus : Home Evaluation and Needs Assessment

- 2-hour home visit
- HomeMeds comprehensive medication risk assessment
- Home Safety and Fall Risk assessment
- Functional and Psychosocial assessment
  - PHQ 2/9
  - Mini mental
  - ADL/IADL
- Advance Directive education and assistance
- Pharmacist follow-through on medication problems
- Develop community service plan with member
- Coordination of community resources
- Collaboration with health plan or physician group case managers
HomeMeds-Plus: Why do it? Expected Outcomes

- 280 post-hospital patients of large medical group
  - 63% of had med-related problems determined by PharmD to require prescriber action.
  - 77% had a service need or home safety issue
  - 9% had depression identified through PHQ-9.

- Fewer readmissions – 22% lower rate of readmits
- Lower ED use – 13% lower rate of ED use
- ROI - ~50% ($1.50 return/$1.00 spent)
- Addresses multiple quality domains
  - Falls, pain management, high-risk medications, blood pressure control, care transitions w/medication reconciliation, etc.
Conclusion

HomeMeds is a proven tool for improved medication safety, health and well-being for older adults.

It is an affordable, evidence-based program that is a perfect bridge for partnerships between community agencies and healthcare.
HomeMeds Information

Email: HomeMeds@picf.org
Partners in Care Website: www.picf.org
Amy Adams, HomeMeds Director: aadams@picf.org
Sandy Atkins, VP, Strategic Initiatives: satkins@picf.org
Phone: 818.837.3775
• How can you implement this at your program?
• What are the issues for you to implement?
• Personnel?
• Funding?
• Finding clients?
Questions & Answers

Type your question into the chat box on the lower left-hand side of your screen.

For reference, the recording of this webinar will be available shortly on www.ncoa.org/cha.