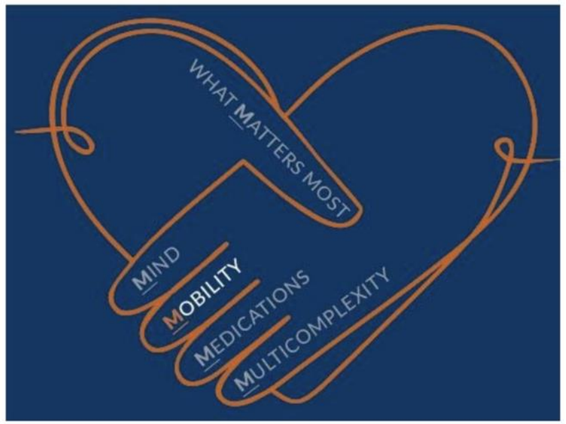
# Caring For The Geriatric Patient in an Age-Friendly health System

Lucia M. Garcia-Carmona RPh, PharmD, BCGP,CDP



# Disclosure to Learners

Lucia M. Garcia-Carmona , faculty for this CE activity, has no relevant financial relationship(s) with ineligible companies to disclose.

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“The Colegio de Farmacéuticos de Puerto Rico is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.”

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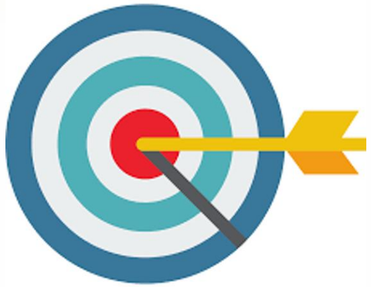


# OBJECTIVES

At the end of the CPE activity the pharmacist (P) and pharmacy technicians (PT) will be able to:

- Discuss the four essential domains of the Age-Friendly Health Systems framework (4M's) and their relevance in pharmacy practice.
- Identify barriers to safe and effective care in older adults in the pharmacy setting.
- Identify examples of how the pharmacy team implements age-friendly health systems.
- List strategies for collaborating with interprofessional teams to enhance person-centered, age friendly care.

# Pre and Post test

## Pre and Post Test:

1. The following elements are part of the Age Friendly Health System 4Ms framework except for:

A) Mobility

B) Medication

C) Moderation

D) Mentation

E What matters

2.Decreased hepatic blood flow is most likely to increase the risk of adverse drug effects in older adults. True or False

3. Unnoticed adverse drug reactions can lead to prescribing cascades. True or false

4. Engaging in PIM deprescribing efforts is an example of the pharmacy team participation in Age friendly health systems. True or false

5. Making independent medication changes based on Beers' criteria is an example of interprofessional collaboration. True or False

# Ageism “ Edadismo”

# Ageism “ Edadismo”


# “Polypharmacy”
# How many is too much?

1 4 5 7 9 11 >15 >20 >25 >30 >40

# Medication Overload

- Medication overload can replace traditional definition of polypharmacy.

  Masnoon Netal BMC Geriatr.2017;(1)230

  Wang X etal.GlobHealth res Policy.2023;8(1):25.;

- The risks of harm outweighs potential benefits

Lown institute. Medication overload: America's other drug problem. April 2019

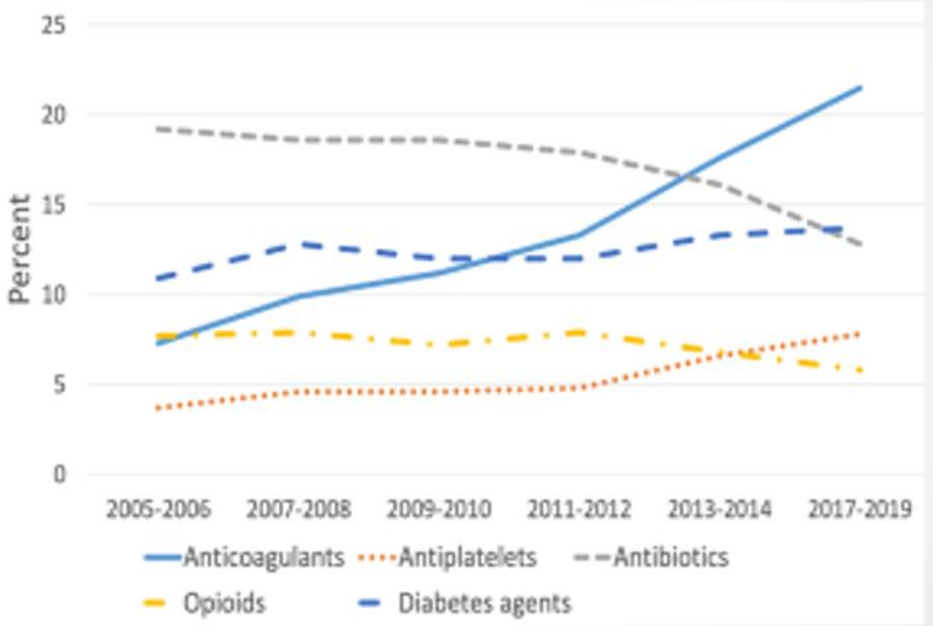
- >35 million visits to ER /medical treatment related to ADE

  Shehab N,et al.JAMA.2016;316(20)2115-2125

  BurgoisFT,etal.Pharmacolepidemiol Drug Saf.2010;19(9):901-910

# National Estimates of US Emergency Department Visits for Adverse Drug Events

1) Approximately 1 in 5 ED visits for medication harms were associated with therapeutic use of anticoagulants (21.5%), more than any other drug class
2) Among patients over 65, anticoagulants accounted for 35% of ED visits for medication harm attributed to therapeutic use, with three of the 5 top drugs being anticoagulants (warfarin, 20.7%; apixaban, 8.0%; rivaroxaban, 6.3%).
3) Antiplatelet agents were associated with an additional 7.8% of events overall.




JAMA. 2021;326(13):1299-1309.
doi:10.1001/jama.2021.13844

# Deprescribing

Systematic process of identifying and D/C drugs

Harms outweigh benefits

Patient's goals

Current level of functioning

Life expectancy

Values and preferences

Challenges :

- Medical school curriculum places more emphasis on prescribing rather than deprescribing and medication optimization
- Requires commitment and is best undertaken as a collaborative partnership

## Deprescribing Benefits

**↓To 59% the number of patients with PIM**

**Subgroup analysis showed that deprescribing :**

Reduced all cause mortality by 26%

Reduce number of patients with falls by 24 % Kua et al health outcomes of deprescribing interventions among older residents in nursing homes : A systematic review and meta-

# Implementation Barriers

| | |
|---|---|
| Fragmentation of care | • Many care transitions<br>• Lack of information ( unclear medical or medication hx) |
| Insufficient resources | • Decrease in work force |
| Patient and family reluctance | |
| Prescriber hesitancy to deprescribe another's regimen | |

# Case #1 Fragmentation of Care and pt's attitude toward deprescibing

*Mr JC is an 87y/o male veteran, who C/O taking too many meds and  bruises in both arms*

**Private cardiologist Hx and Med hx**

- Angina, HF, Hyperlipidemia and DM type 2
- Aspirin81 mg (cardiologist), clopidogrel 75mg (primary provider), tamsulosin 0.4mg,vitamin D ? , magnesium ? Famotidine 40 mg daily , lisinopril 10 mg(primary provider) not taken(NT), amlodipine 10 mg(cardiologist),Sitagliptin 100mg NT , metformin 1,000mg AM 500mg PM, glipizide 10 mg daily and is taking other supplements and vitamins that were not brought today

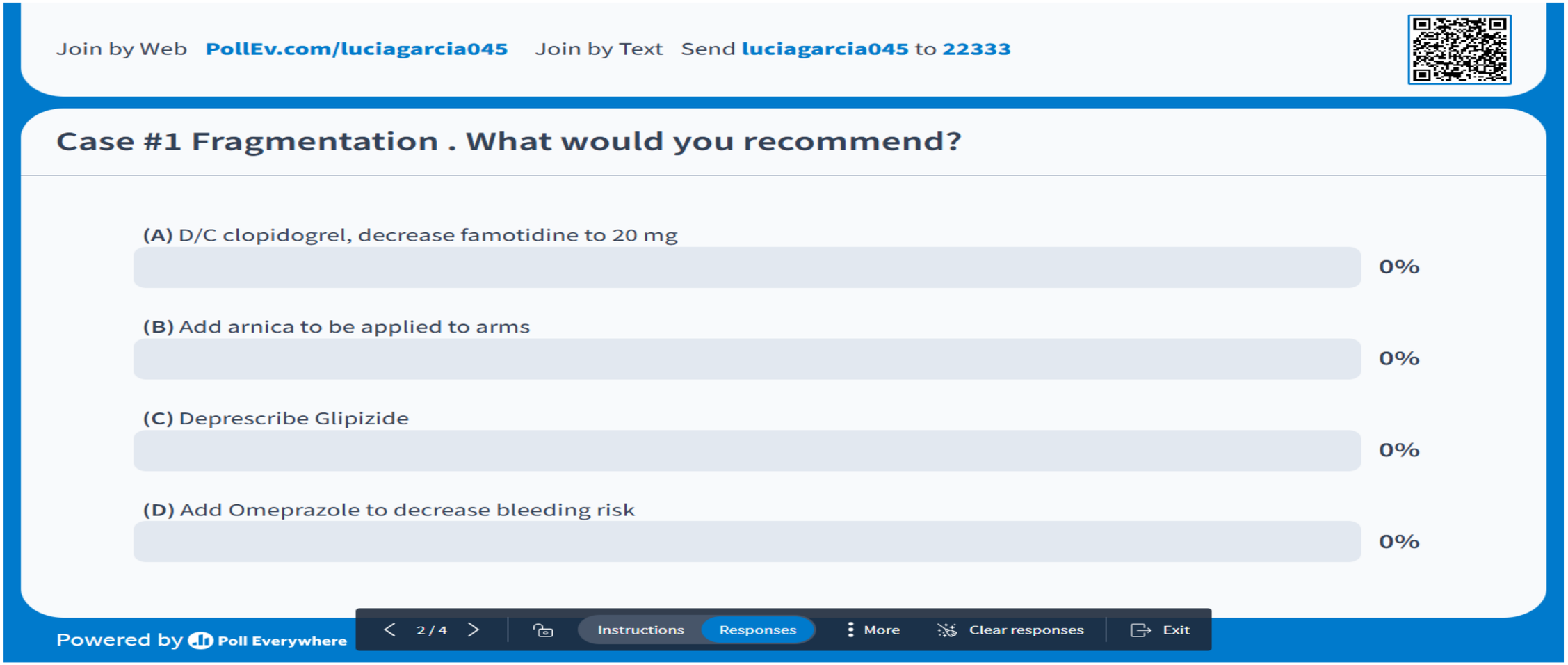
**Primary provider hx and meds hx**

- BPH, DM type 2, neurocognitive disorder and HBP
- Brimonidine, refresh, timolol, latanoprost

**********

- BP 156/78 P78,Pt denied SOB, nor edema nor orthopnea
- Labs A1C Hgb 6.1%, HDL 48, LDL67, Trig 85 eGFR 57ml/min Na141, K4.1, Hgb12.6, PLT's WNL, TSH WNL, Vitamin B 12 212pg/mL

# Poll everywhere



# Patient attitudes toward deprescribing


92 % of  Americans ≥ 65 y/o are open to having ≥ 1 medicines deprescribed

> 2/3 want to reduce the number

A substantial proportion express concern about stopping a medicine that they had been taking for a long time. “ This is for life “

Dichotomy of wanting to reduce their medications while also believing that the medications are still necessary.

Deprescribing, is ideally conducted within the framework of patient-centered care and shared decision making.

Reeve et al., 2018, JAMA Internal Medicine

# How to FRAME Deprescribing conversations

**F**ortify trust

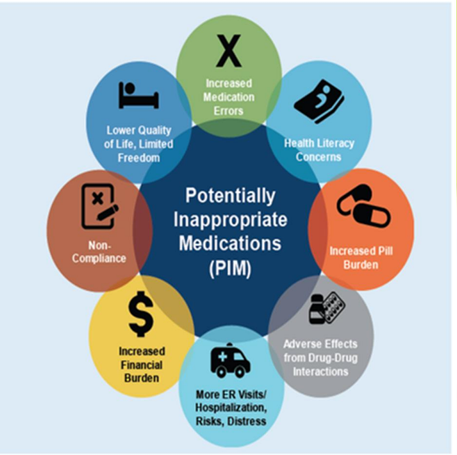
**R**ecognize willingness and barriers

**A**lign deprescribing with goals of care

**M**anage cognitive dissonance (discrepancies of past recommendations )

**E**mpower pts/caregivers to continue conversations

# Potentially Inappropriate Medications as per Beers Criteria




- **Benzodiazepines and "Z" drugs**: Alprazolam, Diazepam, temazepam, Zolpidem. They may cause confusion, increase risk for falls and may lead to addiction
- **Anticholinergics** : Meclizine, hydroxyzine, paroxetine, cyproheptadine. May induce confusion, disorientation and constipation
- **Antipsychotics** : Quetiapine, Risperidone, haloperidol . Might increase the risk of strokes and mortality. May increase the risk of confusion and falls. They are reserved to be used, only if its benefits outweighs the risks.
- Other medications potentially inappropriate :
  - **Mineral oil** might increase the risk for aspiration pneumonia.
  - **Megestrol** commonly used to increase appetite , usually no significant improvement is observed, but might increase the risk for clots formation with chronic use.

# Drugs to be avoided as per Beers

Aspirin: in older adults for primary prophylaxis

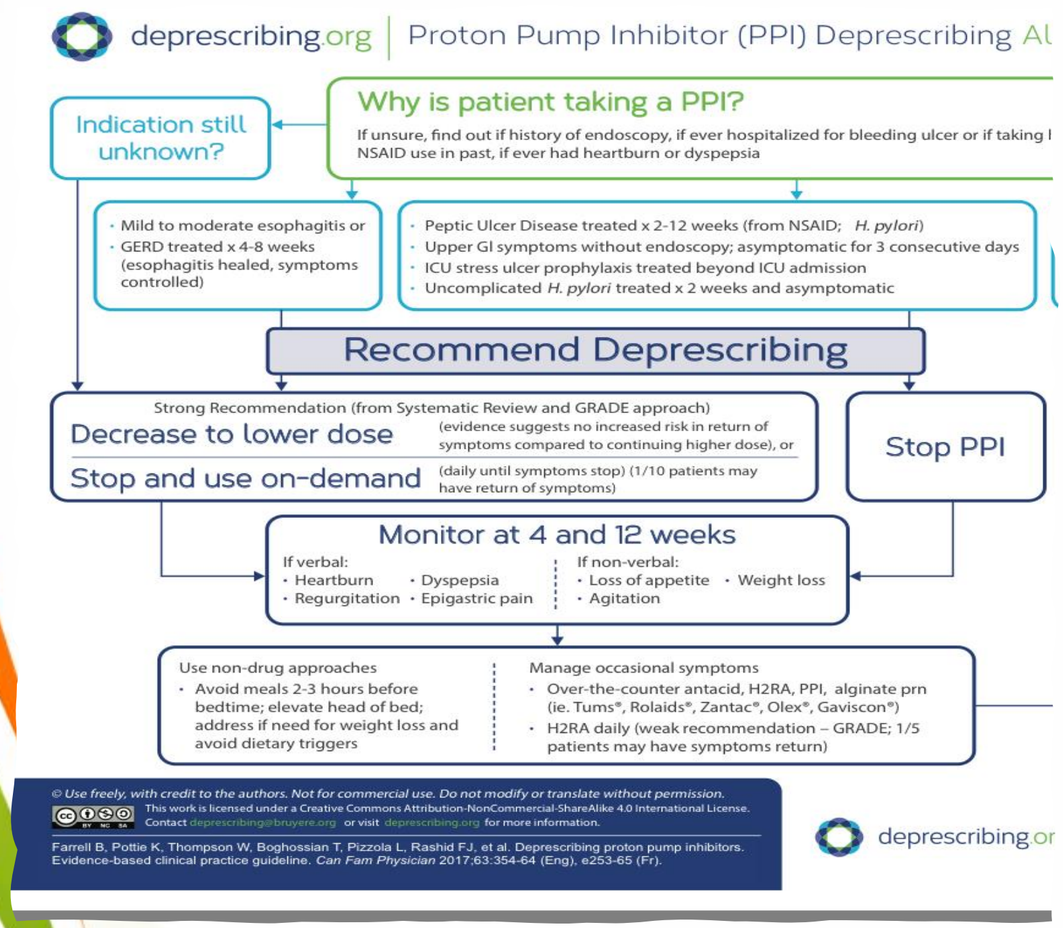
Rivaroxaban added in adults for VTE and a.fib

Warfarin as first line for a.fib and VTE

Oral or transdermal estrogen

Nitrofurantoin  if ClCr <30ml/min

# PPI's




- The FDA approved the use of PPI's for short term use
- AGS 2015/2019/2023 Beers criteria recommends avoiding scheduled use of PPI's >8 weeks in older adults , except in high risk patients as well as START/STOPP criteria
- FDA safety warning
- 46.7% of patients taking PPI's >65
- 40%-62.9% of patients have no documented GI symptoms, diagnosis, or high risk concurrent medications
  - BKP, C.Diff, AD,Fx,↓ [Vitamins and minerals]

https://deprescribing.org

# Poll

Join by Web **PollEv.com/luciagarcia045** Join by Text Send **luciagarcia045** to **22333**

## What medications can cause hyponatremia?

**(A)** Hydrochlorothiazide and Furosemide 0%

**(B)** Sertraline 0%

**(C)** Mirtazapine 0%

**(D)** Tramadol 0%

**(E)** All of the above 0%

Powered by Poll Everywhere

# Drugs to be used with caution as per Beers

Ticagrelor and Prasugrel (75y/o or older)
Trimethoprim sulfamethoxazole increased risk of hyperkalemia when combined with ACEI or ARB's (ARNI's added)

SGLT-2 urogenital infections and euglycemic DKA

SIADH selected antidepressants , selected antiepileptic, antipsychotics, diuretics,and tramadol

# Assessing Sodium Monitoring Standards For Caribbean Healthcare System Geriatric Veterans: Prevalence of Iatrogenic Syndrome of Inappropriate Antidiuretic Hormone (SIADH) and Hyponatremia with Beers Criteria Medications

Luis Donaldo Delgado, PharmD[1]; Lucia M. Garcia-Carmona, PharmD, BCGP, CDP[1]; Alanis D. Zayas Ortiz, PharmD Candidate[2]
1- VA Caribbean Healthcare System (VACHS), 2- Nova Southeastern University

## Background and Introduction

- Hyponatremia is documented as the most common electrolyte disorder encountered in clinical practice[1,2] and SIADH accounts for about one-third of all cases[3]
- In their most recent 2023 update to the Beers Criteria, the American Geriatrics Society (AGS) lists several classes of medications as potentially inappropriate medications (PIMs) that may exacerbate or cause SIADH or hyponatremia[4]
- The 2023 AGS Beers Criteria recommends monitoring sodium levels closely when starting or changing dosages in older adults, however, few recommendations exist on how often to monitor sodium levels in the outpatient setting
- Most of the medications that cause hyponatremia also prolong the QT interval, and the use of multiple QT-prolonging drugs along with advanced age are some of the risk factors that increase the risk of Torsade de Pointes[5]

## Purpose

- To assess the prevalence of hyponatremia among geriatric patients prescribed medications identified by the AGS 2023 updated Beers Criteria® as potentially exacerbating SIADH or causing hyponatremia
- To uncover gaps in sodium monitoring practices among geriatric patients and guide quality improvement initiatives to enhance care

## Methods

Veterans Affairs Caribbean Healthcare patient charts were retrospectively analyzed from July 1, 2023, through September 30, 2023, to quantify the number of patients on identified potentially inappropriate medications (PIMs) and those with a documented diagnosis (dx) of hyponatremia and SIADH using the 10th revision of the International Classification of Diseases (ICD-10).

**Primary Assessment**
- Number of patients on potentially inappropriate medications with a history of SIADH and/or hyponatremia during treatment

**Secondary Assessments**
- Quantity of providers documenting and acknowledging hyponatremia
- Number of patients with a prolonged QTc on EKG

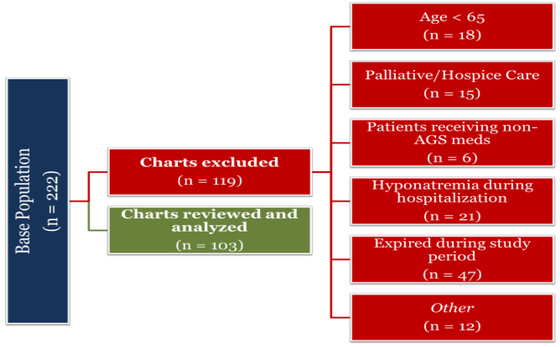
### Inclusion Criteria

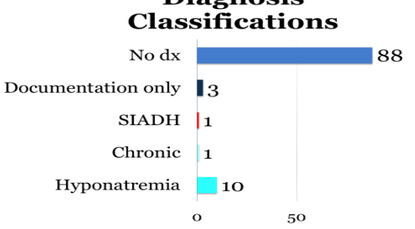
- Age ≥ 65 y/o
- ICD-10 Code for hypo-osmolality and hyponatremia *(E87.1)* and SIADH *(E22.2)*
- History of medications used to treat hyponatremia

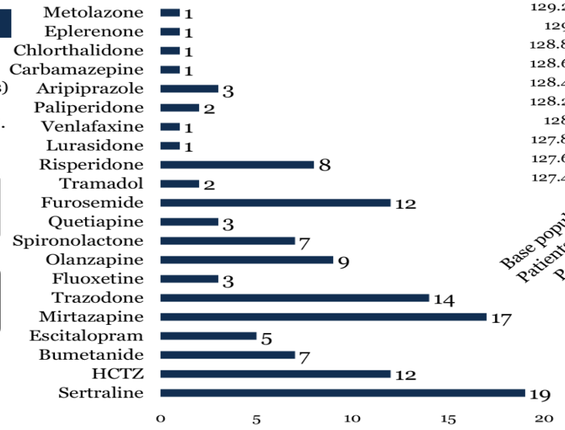
### Exclusion Criteria

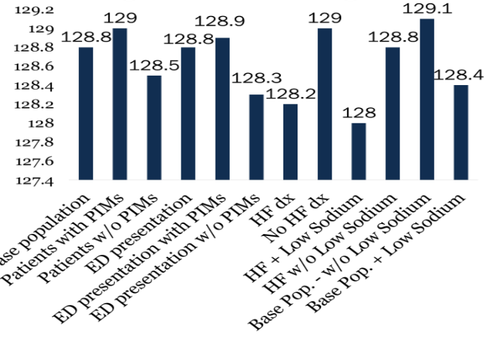
- Patients aged < 65 y/o
- Patients in palliative care
- Patients in hospice care
- Patients receiving medications known to cause hyponatremia and/or SIADH not included in the 2023 AGS Beers Criteria

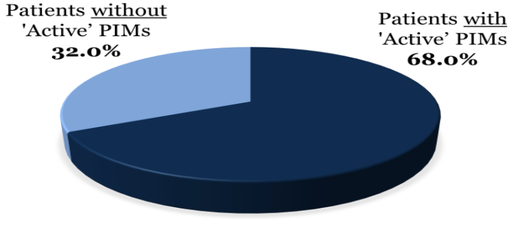
## Sample Data and Results

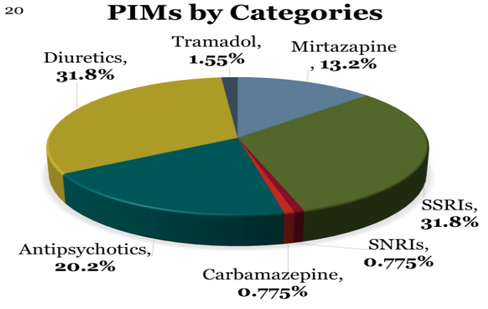



## Discussion

- A total of 100 male and 3 female patients met inclusion criteria, with an average age of 78.9 years
- Demographics of the patient sample revealed 83.5% identified as White, 11.7% as Black or African American, 1 patient declined to answer, 2 patients reported *Unknown*, and 2 patients did not answer; 94.2% of the patient sample identified as Hispanic/Latino
- Only 21 patients (20.4%) possessed documentation from their primary care providers attributing their hyponatremia to a medication or other agents; among these, diuretics and non-AGS medications were the most prevalent
- Average serum sodium for all patients included was 128.8 mEq/L, with reported serum sodium concentrations as low as 114 mEq/L
- Fifty-two patients (50.5%) presented to the emergency department with hyponatremia; thirty-seven (71.2%) of which had active potentially inappropriate medications on their medical record
- Sixty-four patients were on QT-prolonging medications; average QTc was 447.4 ms compared to 446.4 ms in those without such meds
- Only 21 patients (20.4%) were diagnosed with heart failure;15 patients had a low-sodium diet directive, with an average sodium of 128.9 mEq/L

## Limitations

| | | |
|---|---|---|
| Limited alternatives to study medications | Provider documentation | Inpatient vs. Outpatient diagnosis codes |
| Multiple hospitalizations and hyponatremia while hospitalized | Medications that may cause hyponatremia not included in AGS | Frequency of EKG procedures |

## Conclusion

These results offer valuable insights into the prevalence of hyponatremia among geriatric patients. The findings revealed an association between hyponatremia and potentially inappropriate medications, as 71.2% of those presenting to the emergency department with hyponatremia had active potentially inappropriate medications on their medical records. Given only 20.4% of patients possessed documentation from their primary care provider attributing their hyponatremia to a medication, it is crucial to emphasize the importance of continued vigilance and refinement of clinical practices to enhance the quality of care for this vulnerable population.

## Disclosures

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

| | |
|---|---|
| Luis Donaldo Delgado, PharmD | Nothing to disclose |
| Lucia M. Garcia-Carmona, PharmD, BCGP, CDP | Nothing to disclose |
| Alanis D. Zayas Ortiz, PharmD Candidate | Nothing to disclose |

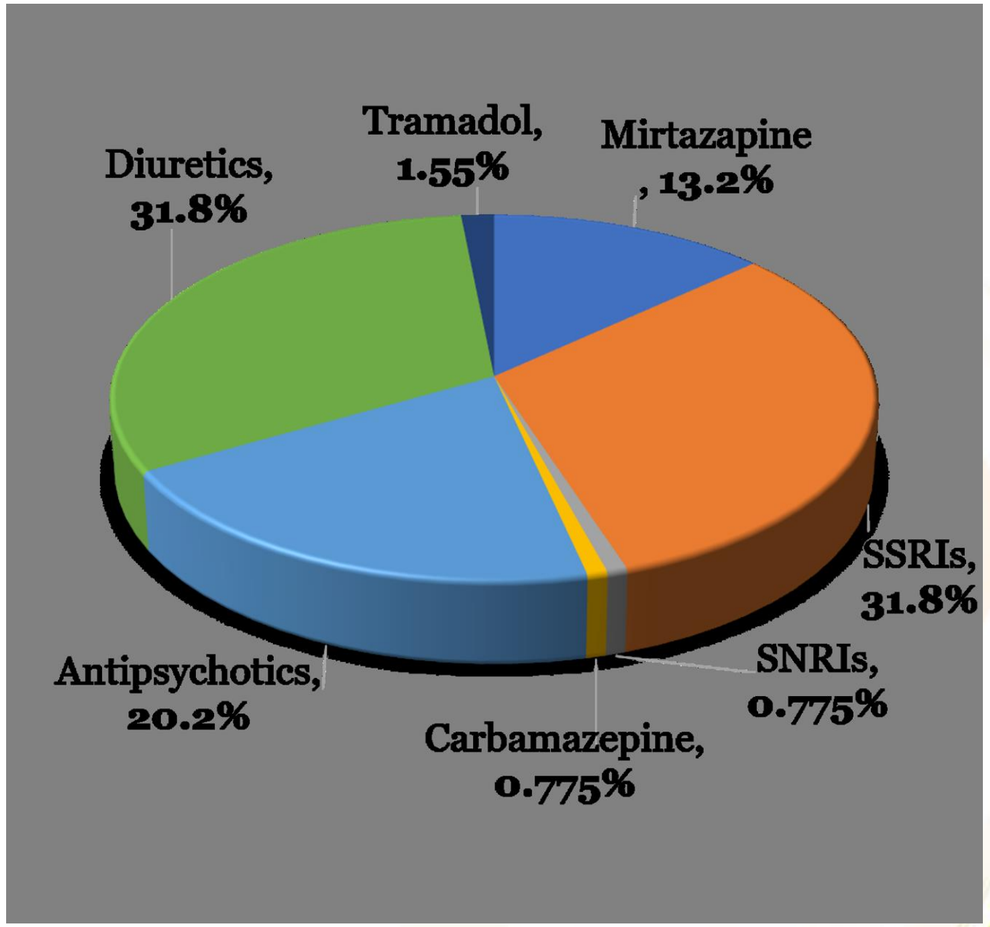
## References

[1] Liamis G, et. al. Am J Kidney Dis. 2008 Jul;52(1):144-53
[2] Verbalis JG, et al. Am J Med. 2013 Oct;126(10 Suppl 1):S1-42
[3] Gross P. Ther Adv Endocrinol Metab. 2012 Apr;3(2):61-73
[4] Updated 2023 AGS Beers Criteria® for potentially inappropriate medication use in older adults. J Am Geriatr Soc. 2023 Jul;71(7):2052-2081
[5] Drew BJ, et al. J Am Coll Cardiol. 2010 Mar 2;55(9):934-47

# SIADH and PIM

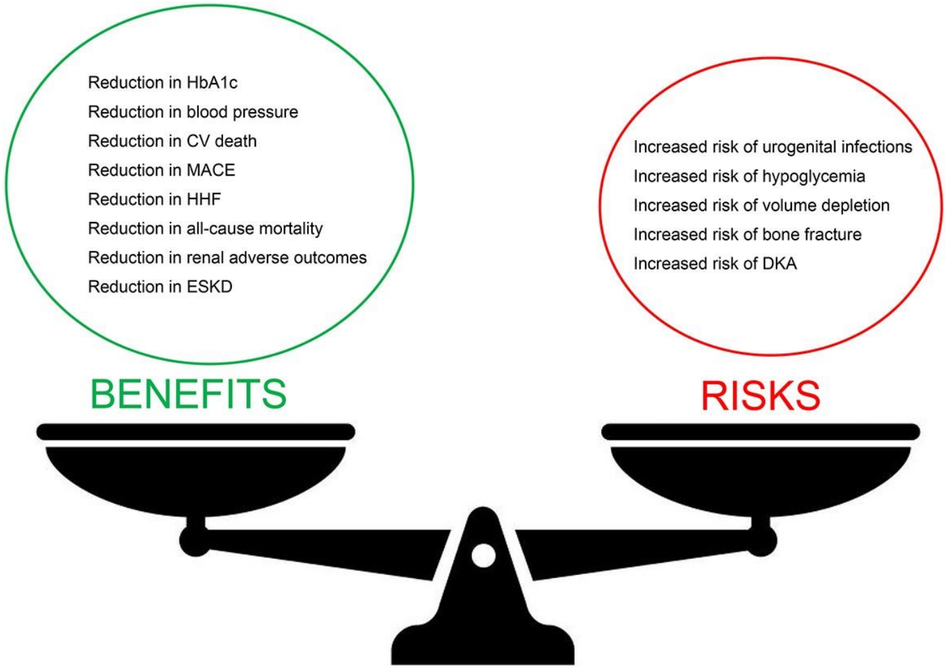
- (50.5%) presented to the emergency department with hyponatremia
- (71.2%) of which had active PIM on their medical record
- Average serum sodium for all patients included was 128.8 mEq/L, with reported serum sodium concentrations as low as 114 mEq/L
- 20.4% had documentation from primary care providers (iatrogenic hyponatremia)
- Consequences ?Prescribing cascades

Assessing sodium monitoring standards for Caribbean healthcare System Geriatric Veterans: Prevalence of Iatrogenic Syndrome of Inappropriate Antidiuretic Hormone (SIADH) and hyponatremia with beers Criteria medications



# The Role of SGLT-2 I in frail adults with or without type 2 DM

Benefit–risk profile of SGLT2 inhibitors in older frail adults. CV, cardiovascular; ESKD, end-stage kidney




*Age Ageing*, Volume 51, Issue 10, October 2022, afac201, https://doi.org/10.1093/ageing/afac201



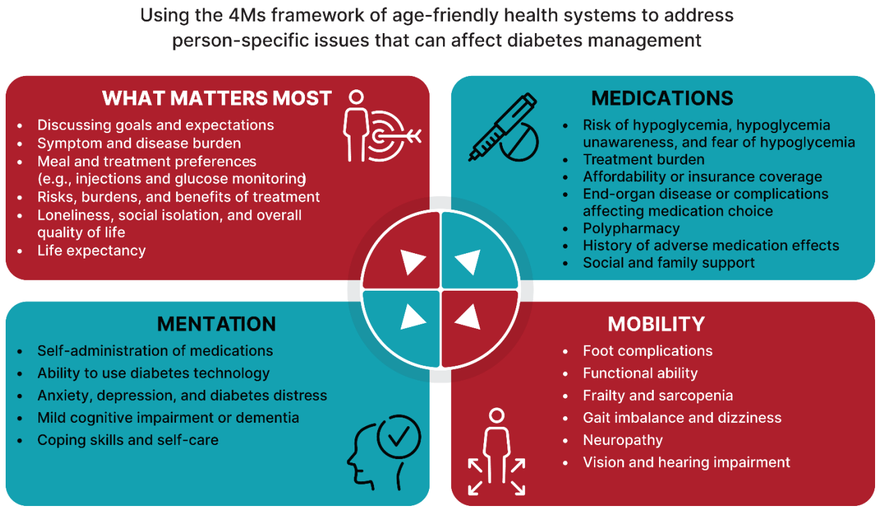
MACE= Major Adverse CV events

# How to reduce ADR risks

- Good hydration (consider limits)
- BP explore postural drop
- Assessing eGFR (NSAID’s,Septra,quinolones,OTC,herbals,diuretics)
- Down titration of diuretics
- Down titration of hypoglycemic agents
- Place on hold if ill and avoid  intermittent fasting to decrease risk of DKA
- Concerned about fractures risks? Consider PPI de - escalation if there is no indication for chronic use
- Acidification of urine and dysuria might occur the first few weeks ( is not  = UTI) . Aseptic measures and “Pull-up” use  “A calzón quitao’ “

From: **13. Older Adults: Standards of Care in Diabetes—2026**

Diabetes Care. 2025;49(Supplement_1):S277-S296. doi:10.2337/dc26-S013




AGS BEERS CRITERIA® ALTERNATIVES

Do’s

Metformin, SGLT-2i, GLP1 RA,DPP4i

Basal + or – bolus

AGS BEERS CRITERIA® 2023

Don’t

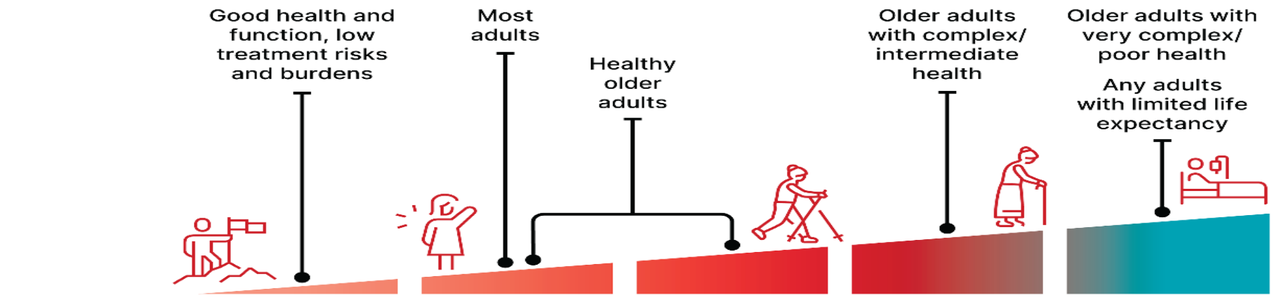
Sulfonylurea

Insulin slidding scale

**Figure Legend:**

Using the 4Ms framework of age-friendly health systems to address person-specific issues that can affect diabetes management.

Diabetes Care. 2025;49(Supplement_1):S132-S149. doi:10.2337/dc26-S006




| A1C goals | <6.5% | <7.0% | <7.5% | <8.0% | No A1C goal |
|---|---|---|---|---|---|
| **CGM goals TIR:** | — | >70% | — | >50% | — |
| • TBR <70 | — | <4% | — | <1% | <1% |
| • TBR <54 | — | <1% | — | <1% | <1% |
| • TAR >180 | — | <25% | — | <50% | Avoid symptomatic hyperglycemia |
| • TAR >250 | — | <5% | — | <10% | |

**Modifying Factors**

| Favor more stringent goal | Favor less stringent goal |
|---|---|
| Short diabetes duration | Long diabetes duration |
| Low hypoglycemia risk | High hypoglycemia risk |
| Low treatment risks and burdens | High treatment risks and burdens |
| Pharmacotherapy with cardiovascular, kidney, weight, or other benefits | Pharmacotherapy without nonglycemic benefits |
| No cardiovascular complications | Established cardiovascular complications |
| Few or minor comorbidities | Severe, life-limiting comorbidities |

**Figure Legend:**

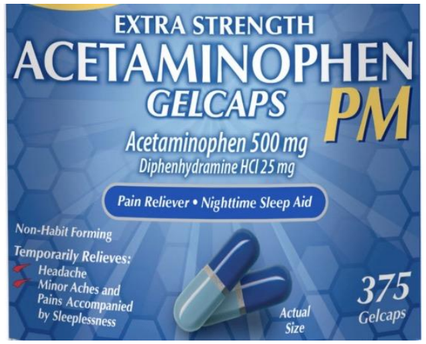
Individualized A1C and CGM goals for nonpregnant adults. Select the glycemic goal based on individual health and function as described at the top of the figure. Consider modifying to a more or less stringent goal according to the factors listed in the table. Older adults are classified as healthy (few coexisting chronic illnesses, intact cognitive and functional status), as having complex/intermediate health (multiple coexisting chronic illnesses, two or more instrumental impairments to activities of daily living, or mild to moderate cognitive impairment), or as having very

# Drug-Drug Interactions

| Drug | Drug | Risk Rationale | Recommendation |
|---|---|---|---|
| **RAS I: ACEI,ARBs, ARNIs (Entresto), aliskiren (Tekturna) K sparing diuretics**<br>**Not included in Beers Eplerenone( Inspra) Finerenone (Kerendia) increased risk of hyerkalemia**<br>****SGLT-2 ** not part of RAS family** | RAS Inhibitors | Increased risk of hyperkalemia | Avoid routine use of >2 if CKD 3a or higher |
| **CNS drugs**<br>**( opioids vs gabapentin and gabapentinoids)**<br>**Opioids-Gaba**<br>**Opioids –BZ**<br>**Anticholinergic** | Any combination of ≥ 3<br><br>Sedation, resp↓<br><br>Minimize # | Increased risk of falls | Avoid total of >3 CNS active drugs |
| **Phenytoin** | Trimethoprim-sulfamethoxazole | Increased risk of phenytoin toxicity | Avoid, monitor phenytoin concentrations |
| **Theophylline** | Ciprofloxacin | Increased risk of theophylline toxicity | Avoid |
| Warfarin | Ciprofloxacin, Septra, SSRI's | Increased risk of bleeding | Avoid when possible |

# OTC medications that might impair memory, risk for falls, BPH

**More anticholinergic**



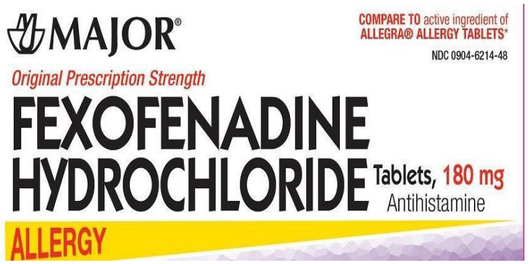




**Cyproheptadine**

**Less anticholinergic**





# Potential Interactions between Conventional Medicines and Herbals .

www.NCCAM.nih.gov

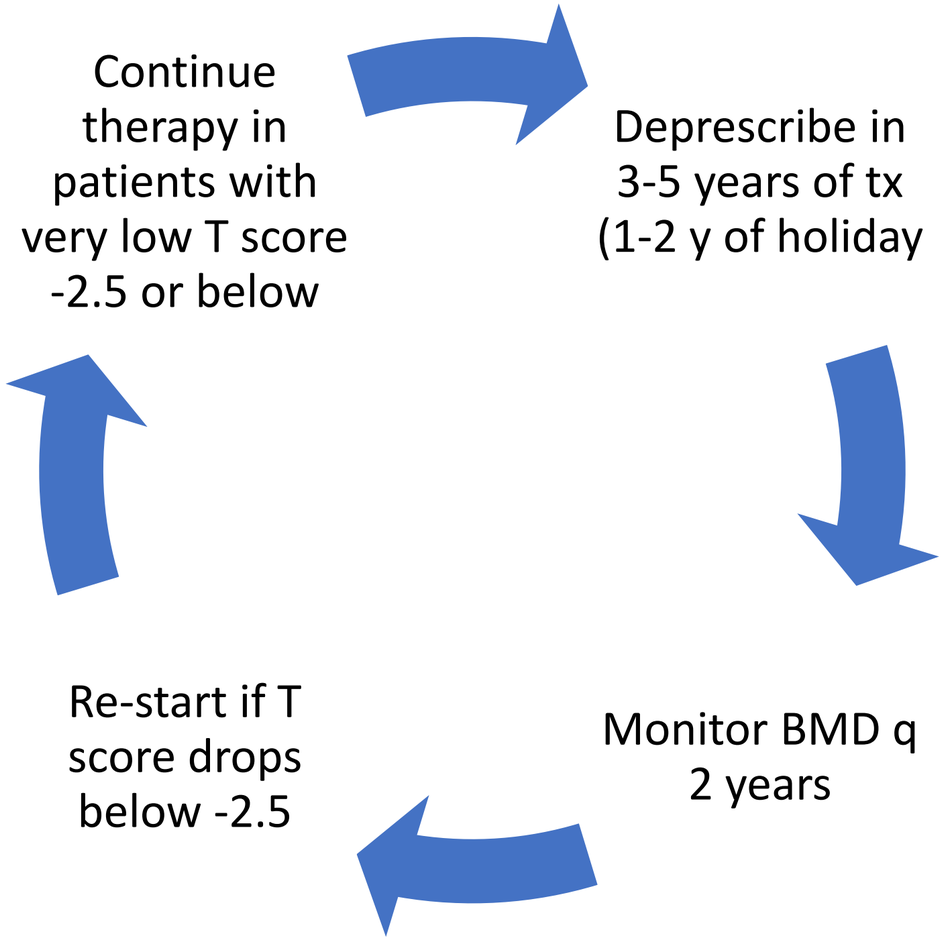
| HERBAL PRODUCT | DRUG | INTERACTION |
|---|---|---|
| Ginkgo Biloba | NSAID's, COOX-2,warfarin, donepezil, rivastigmine, | ↑ bleeding risk |
| Hawthorn | Digitalis glycosides (Digoxin) | ↑ risk of side effects |
| ** St. John's Wort | SSRI's, TCA's,digoxin, cyclosporin, simvastatin, warfarin, theophylline, tacrolimus | Serotonergic Syndrome ↓[drugs] |
| Melatonin | Warfarin | ↑ bleeding risk |
| Huperzine | Donepezil, Rivastigmine, galantamine | ↑ diarrhea, incontinence, bradycardia |
| Kava rhizome | Alprazolam | Lethargy , confusion |

# The prescribing cascade…

| Side effects | Drug causing side effect | Side effect treatment |
|---|---|---|
| Constipation | TCA's, antihistaminics, verapamil, diltiazem, opiods, calcium supplementation | psyllium, docusate/senna, lactulose |
| Insomnia | prednisone, pseudoephedrine,antidepressants, theophylline | antihistaminics, benzodiazepines(BZ), |
| Somnolence | antihistaminics, BZ,gabapentin, opiods | stimulants, caffeine, modafinil |
| Cognitive Impairment | oxybutynin/tolterodine, antihistaminics, opioids, BZ | donepezil, rivastigmine, galantamine, memantine |
| Diarrhea | metformin(↓B12)antidepressants, PPI's (↓B12), CheI's, antibiotics | loperamide |

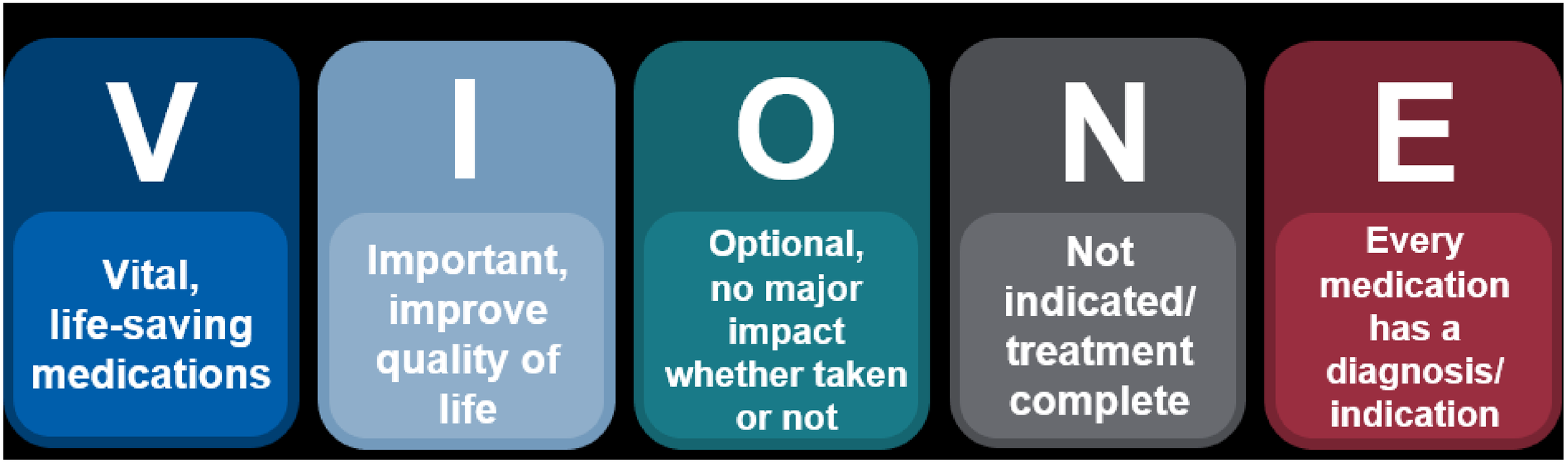
# Biphosphonates

- Benefits may persist long after D/C
- May cause upper GI ADR’s
- Longer treatment may not provide additional benefit
- Increased risk of cardiac arrythmias, ONJ (Zoledronic acid)



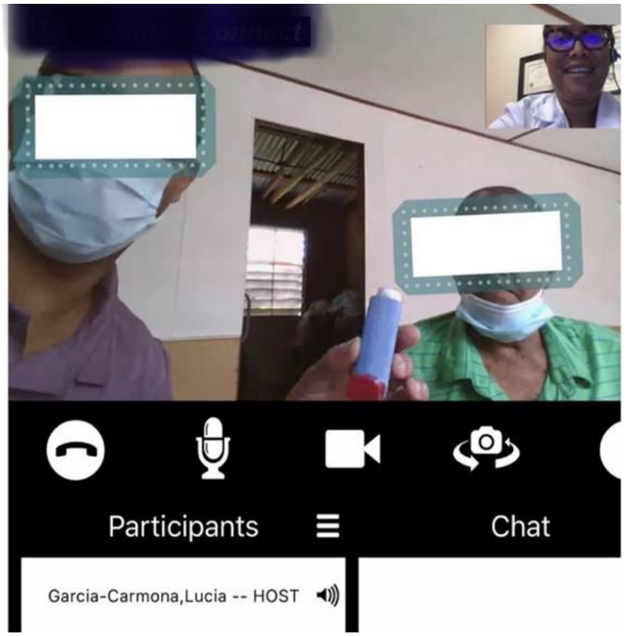
# VIONE deprescribing tool

- https://deprescribing.org
- https://www.medstopper.com



# There is always an opportunity for deprescribing

- Deprescribing during transition of care
- Admission to the hospital
- D/H , admission to a foster home
- Deprescribing in Telemedicine



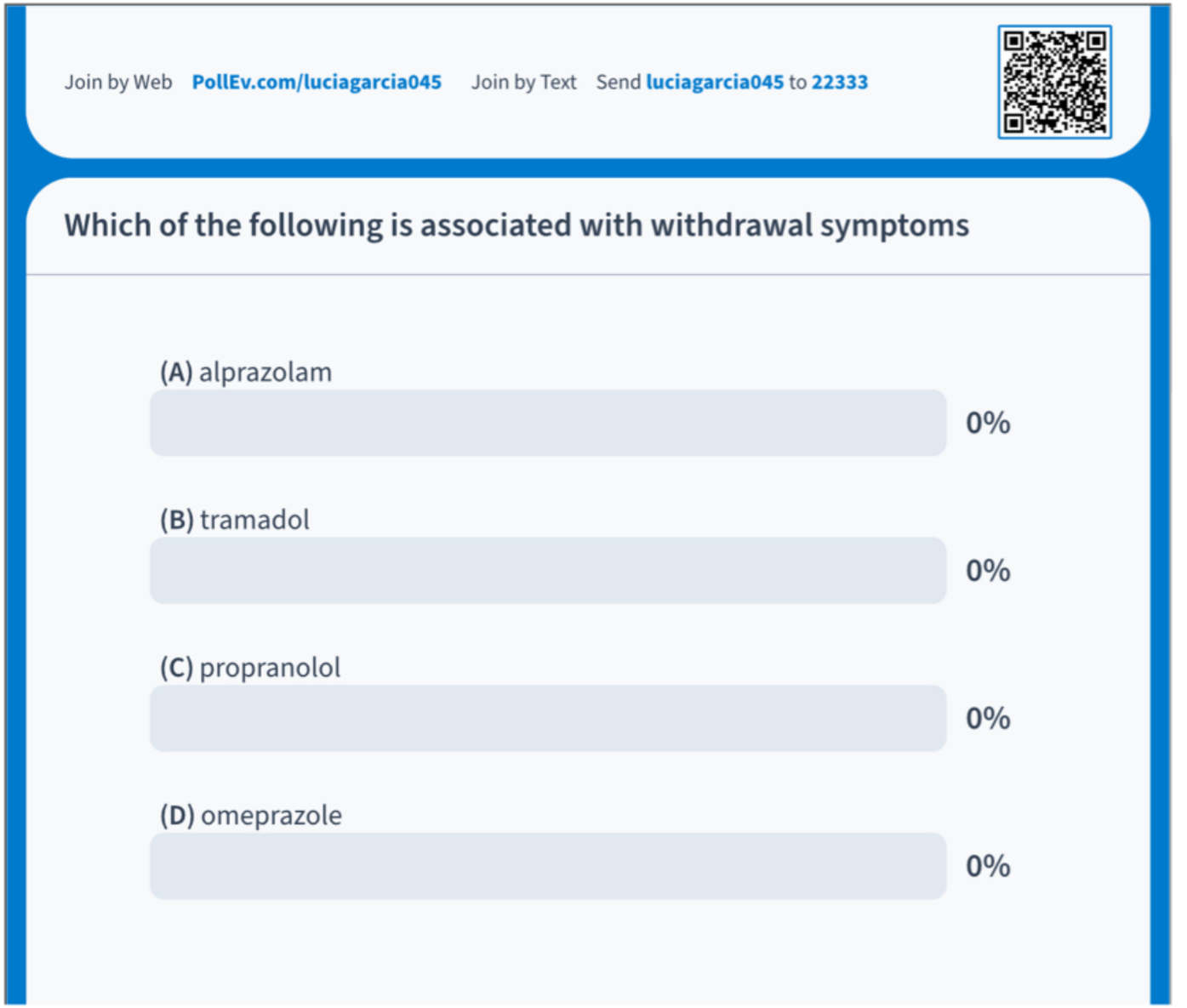
# Application of key principles

When stopping list medications, be sure to slowly taper down the dose rather than abruptly stop medications whose discontinuation may prompt a withdrawal reaction. Offer safer alternatives

A variety of healthcare professionals, including RN, PharmD, can play an important role in addressing management of list medications

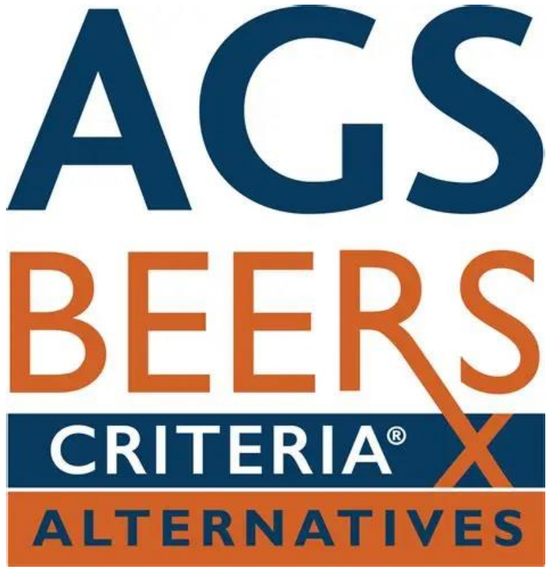
Use the list as an entrée into a large review and discussion of medication prescribing quality

# Poll Withdrawal Symptoms



# T HE 2026 AGS BEERS CRITERIA UPDATE

- The AGS Beers Criteria® Alternatives List
- 2025-2026 focus marks a shift in geriatric care.
- Provides clinicians and patients with evidence-based pharmacologic and non-pharmacologic alternatives for over 20 common conditions
- Goals :
  - Improve symptoms
  - Maintain function
  - Reduce falls/confusion
  - Lower hospitalization risk
  - Improve quality of life



# Beers Alternatives

**Do's**

- Pain: assess and consider non-pharmacological alternatives alone or in combination
  - Nociceptic
    - Short term NSAID or topical NSAID, lidocaine, capsaicin,rubefacients,APAP
    - Consider other oipiods
  - For neuropathic pain
    - SNRI's,gabapentinoids,capsaicin, lidocaine, rubefacients

**Don'ts**

- Avoid muscle relaxants or long term NSAIDS
- Meperidine

# Case #1

Mr. Arroyo is an 88 y/o male patient with hx of DM, HBP, BPH and osteoporosis who is currently on the following medications:

Glipizide 5 mg BID, Metformin 500 mg BID, aspirin 81 mg daily, omeprazole BID, alendronate 70 mg weekly ( started 7 years ago) T score -1.9

acetaminophen “PM “ one tab HS, meclizine 25 mg daily prn

- Labs eGFR 49ml/min , SCr 1.5mg/dL, A1C Hgb 6.1%, FBS 68mg/dL

- What potentially inappropriate medication(s) can you identify ?

# Case #2

**Ms. Soto is a 65-year-old female with a PMH of a. fib, DM type 2, hyperlipidemia, HTN (last BP: 132/80 on 8/19/2022), anemia, post coronary stenting (2 overlapping stents to left anterior descending and one stent to right coronary artery) 18 months ago due to ACS, history of recurrent MI (2020, 2016), and HF (LVEF 35%)**

**Medication List: Clopidogrel 75mg daily, Carvedilol 12.5mg BID, Sacubitril/Valsartan 97/103mg BID, Hydrochlorothiazide 12.5mg daily, Rosuvastatin 20mg daily, Dabigatran 150mg BID, Metformin 1000mg BID, Empagliflozin 12.5mg daily**

| | | |
|---|---|---|
| $CHA_2DS_2VASc$: 6 (HF, HTN, Age, DM, Vasc. disease, Female sex) | HASBLED: 3 (Age, clopidogrel, HTN) | The case was discussed with cardiology service regarding the use of concurrent OAC + APT therapy and the patient should continue on dual therapy |

**What would you recommend to minimize bleeding risk**

Any other recommendations ?

What monitoring parameters are suggested ?

# Case # 3

- Mr. CT is an 81 y/o male patient with hx of AD, HBP, BPH , CKD who is currently on the following medications:

Metformin 500 mg BID, liraglutide 1.8 mg SQ daily donepezil 5 mg HS started 2 weeks ago , levothyroxine 50 mcg started 2 weeks ago, aspirin 81 mg daily, omeprazole BID terazosin 5 mg HS

- Labs  eGFR 35ml/min , SCr 1.7mg/dL,
- A1C Hgb 5.5%,TSH 16.15 ↑, vitamin B 12 levels 216.5pg/mL Ht 5’8” Weight 132#

# Case # 3  cont.

**A month later…**

The caregiver bought Focus factor to help him with memory and took the patient to see the provider unscheduled

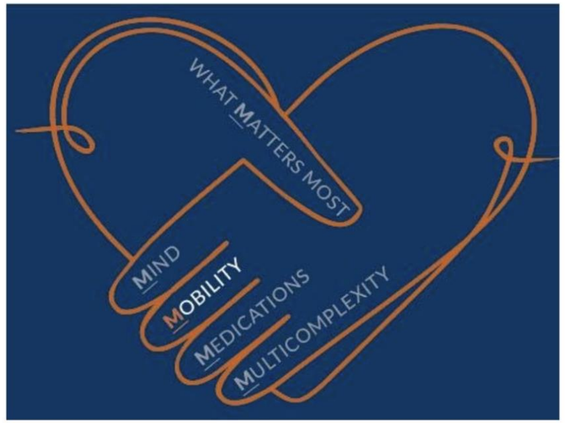
- BP taken that day was 110/62 P 50/min
- Donepezil dose was increased to 10 mg po HS

**2 weeks later …**

The caregiver called the primary care provider reporting that the patient's condition is now worse.  Now she spends all day cleaning because of urinary incontinence. In the past he was able to go to the bathroom with minor assistance.

- The pt was started on oxybutynin IR 5 mg po TID
- What would you recommend ?

# What Matters Most




- “Know and align care with older adult’s specific health outcomes goals and care preferences including, but not limited to, end of life care, and across settings of care”
- Engaging patients as active participants in care
- “Shared Medical decision”

Institute for healthcare Improvement. Becoming  an Age-Friendly Health System

Age –Friendly health Systems

# Health Outcomes vs Care preferences

## Health Outcome Goals

- Values and activities motivation→ health
  - spending time with grandchildren, playing dominoes, “chinchorreo”

## Care Preferences

- Healthcare activities
  - medication, medical appointments, procedures, labs (Willingness)
- Advanced Directive
- Physician Orders for Life Sustaining Treatment (POLST)

# What matters case

Mr. HL is an 81 y/o male patient with hx of DM type 2 , HBP, OA, hyperlipidemia and AD

**Review of Systems ROS**

- ADLs: Assistance needed only for bathing
- IADLS: Requires assistance for all
- Mobility: He is not using his roller regularly
- Sleep: Insomnia takes Diphenydramine 25 mg HS wife reported nightmares and or vivid dreams

**ROS cont**

- Hearing: Not wearing hearing aids
- Vision: 20/30 with glasses
- Nutrition: Increase in appetite with weight gain
- Incontinence: Wears “pull-ups” at night due to nocturia he also is having occasional accidents when he LOL

# Exam

| Blood Pressure | 152/83 sitting, 100/60 standing |
|---|---|
| Heart Rate | 73; RR: 15; Temp: 98.7F; SpO2: 99% Room Air (RA) |
| Glucose Monitoring | Fasting in the 180's PM in the low 200's pre dinner |
| Extremities | Edema +1 |
| Neuro | Decreased sensation lower extremities bilateral |
| Gait | Walks slowly and struggles to get out of chair |
| Psych | Good mood , no inappropriate behavior reported |
| MOCA | 17/30 |

# Medication List

1. Acetaminophen325 mg 2 tablets every six hours PRN for knee and muscle pain
2. BP medications :Amlodipine 10mg 1 tablet daily Doxazosin 1 mg BID
3. Glargine pen 10 units PM
4. Atorvastatin 80mg  1 tablet PM.
5. Donepezil 10 mg. 1 tablet HS
6. Cholecalciferol (Vitamin D3) 1,000 unit at HS.
7. Cyanocobalamin1,000 mcg AM
8. Oxybutynin 5mg. Take 1 tablet twice daily.
9. Diphenhydramine 25mg. Take 1 tablet at bedtime for sleep.

# Questions and answers “FRAME”

- What concerns you most about your health right now?

“I  don’t want to go to a nursing home, I already use diapers !!.”

What is a long-term goal I can help you achieve?

“I want to remain at home .”

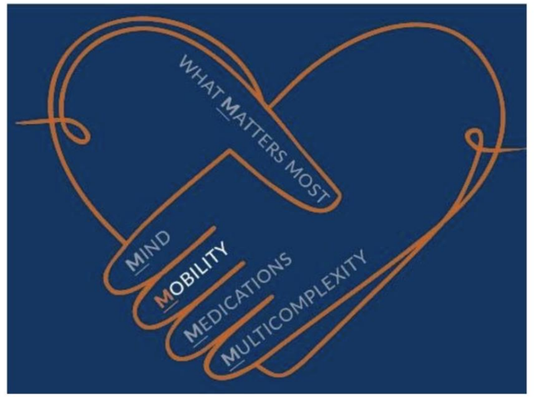
- What does a good day look like to you?

“Being able to do my stuff , I don’t want to  upset my wife.”

What concerns do you think his caregiver might have ?

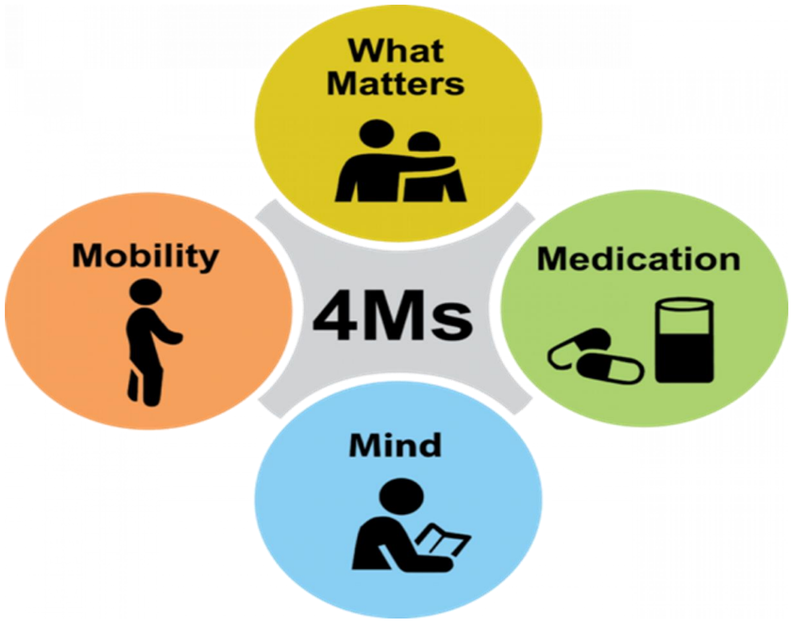
www.ascp.com/page/agefriendly

# A patient centered approach across the 4M’s+1




- How does what matters relate to mobility for HL ?
- How does what matters relate to mentation for HL ?
- How does what matters relate to medication for HL ?

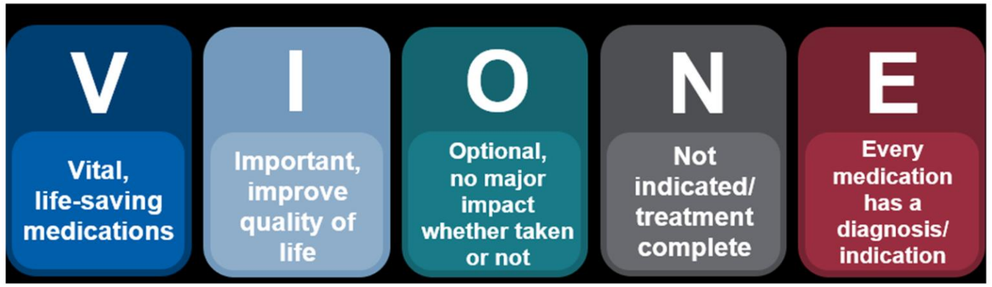




# Medication List review
# Can you identify any PIM

VIONE
deprescribing tool

- https://deprescribing.org
- https://www.medstopper.com




AGS BEERS CRITERIA® X ALTERNATIVES

- Acetaminophen325
- Amlodipine ?? and Doxazosin?
- Insulin glargine –alternatives?
- Atorvastatin 80mg vs muscle pain what changes if any?
- Donepezil 10 mg HS what changes If any?
- Cholecalciferol (Vitamin D3)HS any scheduling concerns?
- Cyanocobalamin AM
- Oxybutynin 5mg ??
- Diphenhydramine 25mg ??

# Falls intrinsic and extrinsic factors

**Intrinsic factors**

- Advanced age
- Muscle weakness  (MR)
- Gait and balance problems (MR)
- Poor vision (MR)
- Chronic conditions
- ↓Vit D (MR)
- Postural hypotension (MR)
- Fear of falling

**Extrinsic factors**

- Environmental hazards (MR)
- Medications (MR)
- Improper use of devices (MR)

# Mobility :Falls prevention and Pharmacists' role

**Falls prevalence and consequences**

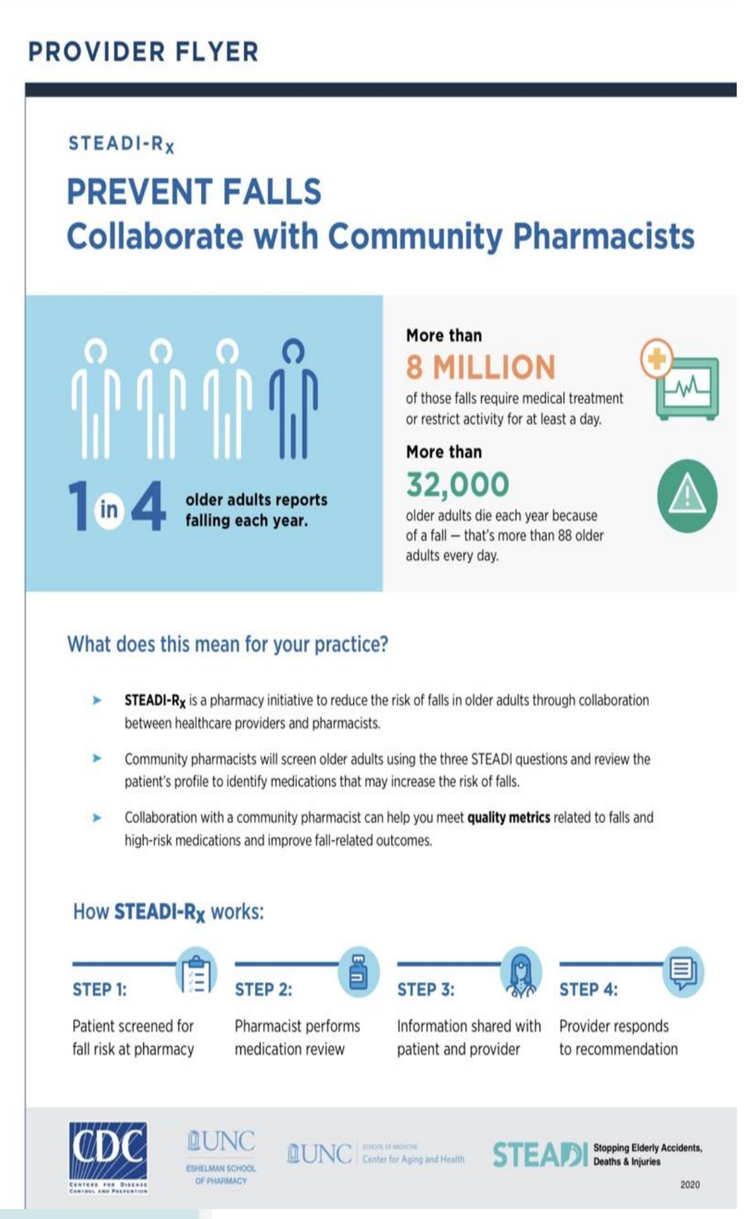
- >1/4 older adult falls each year
- $50 billion in annual medical falls
- Decreased mobility
- Loss of independence
- TIB, fractures and even death


**Pharmacists Role**

- ID of PIM
- Reducing PIM may reduce falls 39-66%
- AGS beers criteria
- STOPP
- STEADI-RX

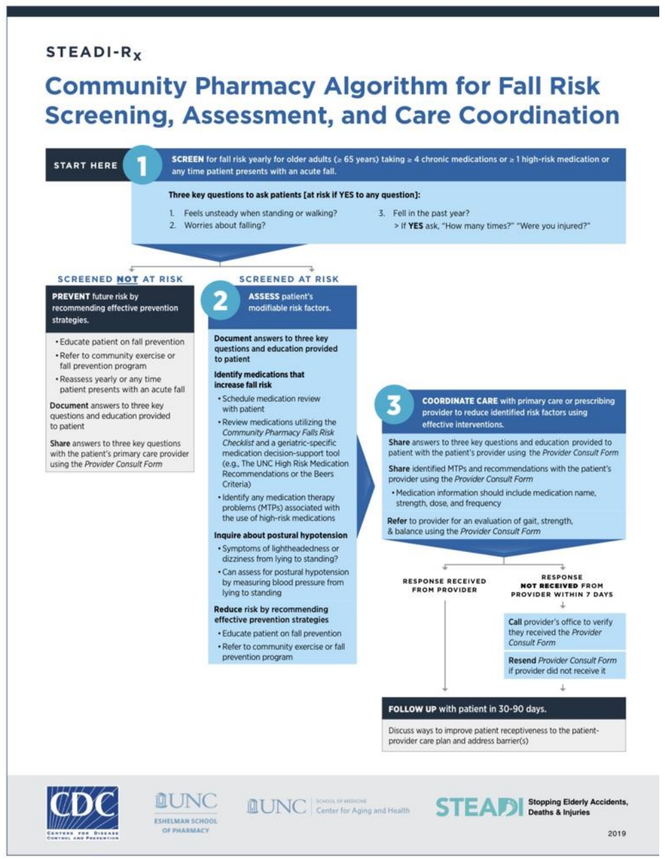
# STEADY-Rx Stopping Elderly Accidents , Deaths & Injury

# How does it work ?

# Algorithm

## STEADI-Rx ALGORITHM



STEADI-Rx

**Community Pharmacy Algorithm for Fall Risk Screening, Assessment, and Care Coordination**

START HERE

**1** **SCREEN** for fall risk yearly for older adults (≥ 65 years) taking ≥ 4 chronic medications or ≥ 1 high-risk medication or any time patient presents with an acute fall.

**Three key questions to ask patients [at risk if YES to any question]:**

1. Feels unsteady when standing or walking?
2. Worries about falling?
3. Fell in the past year?
   > If **YES** ask, "How many times?" "Were you injured?"

**SCREENED NOT AT RISK**

**PREVENT** future risk by recommending effective prevention strategies.

- Educate patient on fall prevention
- Refer to community exercise or fall prevention program
- Reassess yearly or any time patient presents with an acute fall

**Document** answers to three key questions and education provided to patient

**Share** answers to three key questions with the patient's primary care provider using the *Provider Consult Form*

**SCREENED AT RISK**

**2** **ASSESS** patient's modifiable risk factors.

**Document answers to three key questions and education provided to patient**

**Identify medications that increase fall risk**

- Schedule medication review with patient
- Review medications utilizing the *Community Pharmacy Falls Risk Checklist* and a geriatric-specific medication decision-support tool (e.g., The UNC High Risk Medication Recommendations or the Beers Criteria)
- Identify any medication therapy problems (MTPs) associated with the use of high-risk medications

**Inquire about postural hypotension**

- Symptoms of lightheadedness or dizziness from lying to standing?
- Can assess for postural hypotension by measuring blood pressure from lying to standing

**Reduce risk by recommending effective prevention strategies**

- Educate patient on fall prevention
- Refer to community exercise or fall prevention program

**3** **COORDINATE CARE** with primary care or prescribing provider to reduce identified risk factors using effective interventions.

**Share** answers to three key questions and education provided to patient with the patient's provider using the *Provider Consult Form*

**Share** identified MTPs and recommendations with the patient's provider using the *Provider Consult Form*

- Medication information should include medication name, strength, dose, and frequency

**Refer** to provider for an evaluation of gait, strength, & balance using the *Provider Consult Form*

**RESPONSE RECEIVED FROM PROVIDER**

**RESPONSE NOT RECEIVED FROM PROVIDER WITHIN 7 DAYS**

**Call** provider's office to verify they received the *Provider Consult Form*

**Resend** *Provider Consult Form* if provider did not receive it

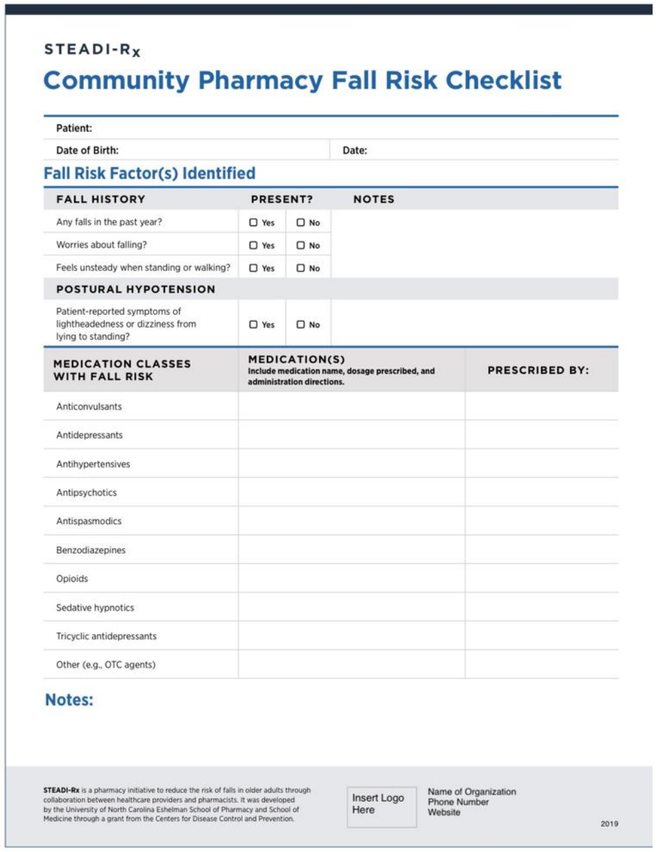
**FOLLOW UP** with patient in 30-90 days.

Discuss ways to improve patient receptiveness to the patient-provider care plan and address barrier(s)

CDC Centers for Disease Control and Prevention | UNC Eshelman School of Pharmacy | UNC School of Medicine Center for Aging and Health | STEADI Stopping Elderly Accidents, Deaths & Injuries

2019

## COMMUNITY PHARMACY FALL RISK CHECKLIST



STEADI-Rx

**Community Pharmacy Fall Risk Checklist**

**Patient:**

**Date of Birth:** **Date:**

**Fall Risk Factor(s) Identified**

| FALL HISTORY | PRESENT? | | NOTES |
|---|---|---|---|
| Any falls in the past year? | ☐ Yes | ☐ No | |
| Worries about falling? | ☐ Yes | ☐ No | |
| Feels unsteady when standing or walking? | ☐ Yes | ☐ No | |
| **POSTURAL HYPOTENSION** | | | |
| Patient-reported symptoms of lightheadedness or dizziness from lying to standing? | ☐ Yes | ☐ No | |

| MEDICATION CLASSES WITH FALL RISK | MEDICATION(S) Include medication name, dosage prescribed, and administration directions. | PRESCRIBED BY: |
|---|---|---|
| Anticonvulsants | | |
| Antidepressants | | |
| Antihypertensives | | |
| Antipsychotics | | |
| Antispasmodics | | |
| Benzodiazepines | | |
| Opioids | | |
| Sedative hypnotics | | |
| Tricyclic antidepressants | | |
| Other (e.g., OTC agents) | | |

**Notes:**

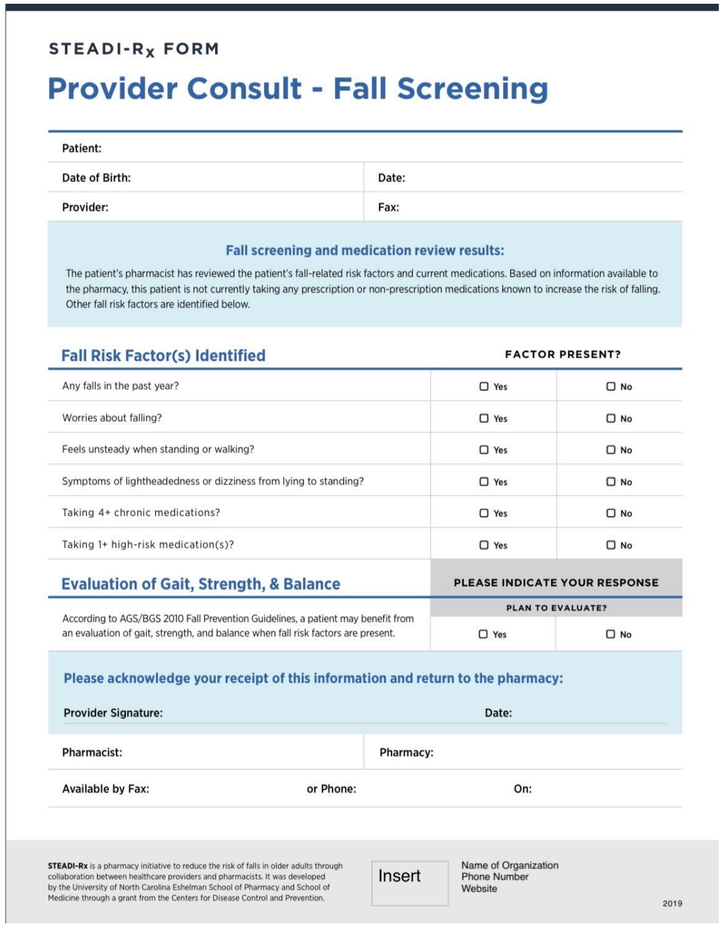
**STEADI-Rx** is a pharmacy initiative to reduce the risk of falls in older adults through collaboration between healthcare providers and pharmacists. It was developed by the University of North Carolina Eshelman School of Pharmacy and School of Medicine through a grant from the Centers for Disease Control and Prevention.

Insert Logo Here

Name of Organization
Phone Number
Website

2019

# Provider consults



STEADI-Rx FORM

## Provider Consult - Fall Screening

Patient:

Date of Birth: | Date:

Provider: | Fax:

**Fall screening and medication review results:**

The patient's pharmacist has reviewed the patient's fall-related risk factors and current medications. Based on information available to the pharmacy, this patient is not currently taking any prescription or non-prescription medications known to increase the risk of falling. Other fall risk factors are identified below.

| Fall Risk Factor(s) Identified | FACTOR PRESENT? | |
|---|---|---|
| Any falls in the past year? | ☐ Yes | ☐ No |
| Worries about falling? | ☐ Yes | ☐ No |
| Feels unsteady when standing or walking? | ☐ Yes | ☐ No |
| Symptoms of lightheadedness or dizziness from lying to standing? | ☐ Yes | ☐ No |
| Taking 4+ chronic medications? | ☐ Yes | ☐ No |
| Taking 1+ high-risk medication(s)? | ☐ Yes | ☐ No |

| Evaluation of Gait, Strength, & Balance | PLEASE INDICATE YOUR RESPONSE | |
|---|---|---|
| | PLAN TO EVALUATE? | |
| According to AGS/BGS 2010 Fall Prevention Guidelines, a patient may benefit from an evaluation of gait, strength, and balance when fall risk factors are present. | ☐ Yes | ☐ No |

**Please acknowledge your receipt of this information and return to the pharmacy:**

Provider Signature: Date:

Pharmacist: | Pharmacy:

Available by Fax: or Phone: On:

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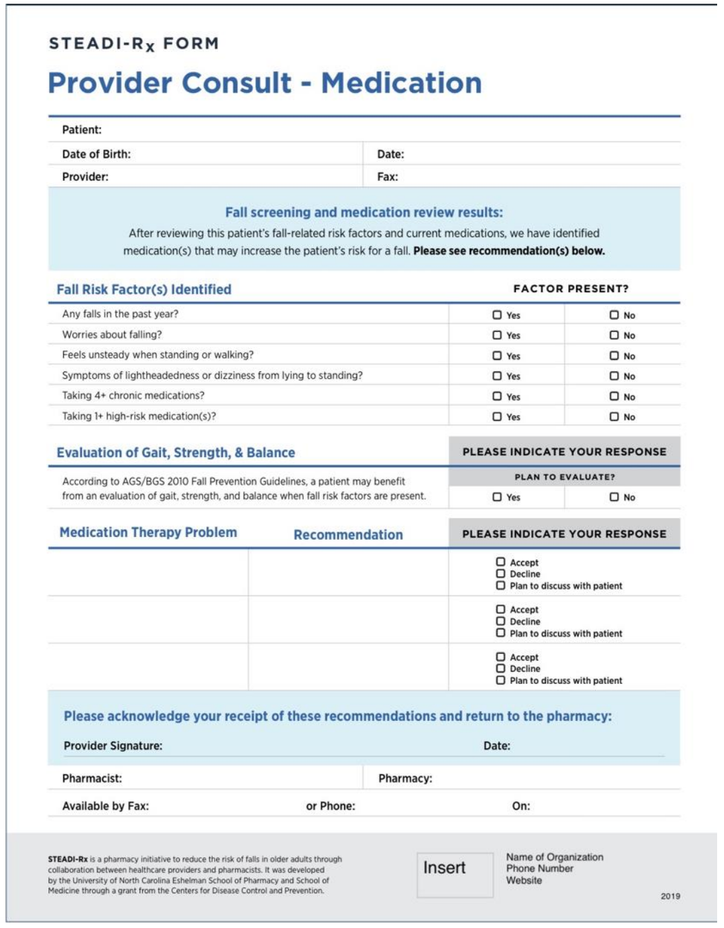
Insert

Name of Organization
Phone Number
Website

2019



STEADI-Rx FORM

## Provider Consult - Medication

Patient:

Date of Birth: | Date:

Provider: | Fax:

**Fall screening and medication review results:**

After reviewing this patient's fall-related risk factors and current medications, we have identified medication(s) that may increase the patient's risk for a fall. **Please see recommendation(s) below.**

| Fall Risk Factor(s) Identified | FACTOR PRESENT? | |
|---|---|---|
| Any falls in the past year? | ☐ Yes | ☐ No |
| Worries about falling? | ☐ Yes | ☐ No |
| Feels unsteady when standing or walking? | ☐ Yes | ☐ No |
| Symptoms of lightheadedness or dizziness from lying to standing? | ☐ Yes | ☐ No |
| Taking 4+ chronic medications? | ☐ Yes | ☐ No |
| Taking 1+ high-risk medication(s)? | ☐ Yes | ☐ No |

| Evaluation of Gait, Strength, & Balance | PLEASE INDICATE YOUR RESPONSE | |
|---|---|---|
| | PLAN TO EVALUATE? | |
| According to AGS/BGS 2010 Fall Prevention Guidelines, a patient may benefit from an evaluation of gait, strength, and balance when fall risk factors are present. | ☐ Yes | ☐ No |

| Medication Therapy Problem | Recommendation | PLEASE INDICATE YOUR RESPONSE |
|---|---|---|
| | | ☐ Accept<br>☐ Decline<br>☐ Plan to discuss with patient |
| | | ☐ Accept<br>☐ Decline<br>☐ Plan to discuss with patient |
| | | ☐ Accept<br>☐ Decline<br>☐ Plan to discuss with patient |

**Please acknowledge your receipt of these recommendations and return to the pharmacy:**

Provider Signature: Date:

Pharmacist: | Pharmacy:

Available by Fax: or Phone: On:

**STEADI-Rx** is a pharmacy initiative to reduce the risk of falls in older adults through collaboration between healthcare providers and pharmacists. It was developed by the University of North Carolina Eshelman School of Pharmacy and School of Medicine through a grant from the Centers for Disease Control and Prevention.

Insert

Name of Organization
Phone Number
Website

2019

# Mobility

Mr. ET is a 77 y/o male patient with hx of DM type 2 and hypothyroidism who was independent for IADL. Fell while doing gardening

**S/P ribs fracture**

- **Medications prior to fall**

  Metformin, vitamin D3, levothyroxine by hx

- **Post D/H Medications**

  Methocarbamol BID prn

  Meloxicam 15 mg daily prn

  Acetaminophen 650 mg daily prn

  Quetiapine 25 mg HS

  Lisinopril 10 mg daily

  Amlodipine 10 mg daily (never received)

  Metoprolol 25 mg BID ( not aware of it )

**Vitals**

- BP at home 100-60 P 71 to 118/67 P68 before medications
- BP while admitted-clinic

  sys 140-180 diastolic usually WNL
- Medications are taken at approx. 8 am and the patient reports dizziness almost every day around 10-11 am

C/O early morning drowsiness

# How and when BP is taken matters

American Heart Association.

American Heart Association. | Go Red for women.

## HOME BLOOD PRESSURE MEASUREMENT INSTRUCTIONS

### Before You Measure
- No smoking, caffeinated beverages, alcohol, or exercise 30 minutes prior
- Use a validated device with the correct cuff size (visit Validate BP to find a device you can trust)
- Empty your bladder
- Sit quietly for more than 5 minutes and do not talk

### Proper Positioning
- Sit upright with back supported, feet on floor, and legs uncrossed
- Rest your arm comfortably on a flat surface at heart level
- Wrap the cuff on your bare skin above the bend of the elbow, not over clothing

### During Measurement
- Stay relaxed and do not talk
- Take at least two readings, 1 minute apart
- Record all results once measurement is completed and share them with your health care professional to help confirm your office blood pressure category

**BLOOD PRESSURE HIGHER THAN 180/120 MM HG**

**MAY BE A HYPERTENSIVE EMERGENCY***

* Wait a few minutes and take blood pressure again
* If your blood pressure is still high and there are no other signs or symptoms, contact your health care professional
* If you are experiencing signs of possible organ damage, such as chest pain, shortness of breath, back pain, numbness/ weakness, change in vision or difficulty speaking, call 911

### American Heart Association recommended office blood pressure categories

| BLOOD PRESSURE CATEGORY | SYSTOLIC mm Hg (top/upper number) | | DIASTOLIC mm Hg (bottom/lower number) |
|---|---|---|---|
| NORMAL | LESS THAN 120 | and | LESS THAN 80 |
| ELEVATED | 120–129 | and | LESS THAN 80 |
| STAGE 1 HYPERTENSION (High Blood Pressure) | 130–139 | or | 80–89 |
| STAGE 2 HYPERTENSION (High Blood Pressure) | 140 OR HIGHER | or | 90 OR HIGHER |
| SEVERE HYPERTENSION (If you don't have symptoms*, call your health care professional) | HIGHER THAN 180 | and/or | HIGHER THAN 120 |
| HYPERTENSIVE EMERGENCY (If you have any of these symptoms*, call 911) | HIGHER THAN 180 | and/or | HIGHER THAN 120 |

*symptoms: chest pain, shortness of breath, back pain, numbness, weakness, change in vision, or difficulty speaking

**Learn more at heart.org/BP**



American Heart Association.

## INSTRUCCIONES PARA MEDIR LA PRESIÓN ARTERIAL EN CASA

### Antes de la medición
- Evita fumar, tomar bebidas con cafeína o alcohol, y hacer ejercicio durante los 30 minutos previos.
- Utiliza un dispositivo validado con el tamaño de manguito correcto (visita Validate BP [sitio web en inglés] para encontrar un dispositivo en el que puedas confiar)
- Ve al baño y orina
- Siéntate de forma tranquila durante más de 5 minutos y no hables

### Posición adecuada
- Siéntate erguido con la espalda apoyada, los pies en el suelo y las piernas sin cruzar
- Apoya tu brazo de manera cómoda sobre una superficie plana a la altura del corazón
- Coloca el manguito sobre la piel descubierta por encima del pliegue del codo, no sobre la ropa

### Durante la medición
- Mantén la calma y no hables
- Realiza como mínimo dos lecturas con 1 minuto de diferencia
- Anota todos los resultados una vez que se complete la medición y compártelos con tu profesional de la salud para ayudar a confirmar tu categoría de presión arterial medida en el consultorio

**UNA PRESIÓN ARTERIAL SUPERIOR A 180/120 MMHG**

**PUEDE INDICAR UNA EMERGENCIA HIPERTENSIVA***

* Espera algunos minutos y vuelve a tomar la presión arterial
* Si la presión arterial aún es alta y no hay otros signos y síntomas, comunícate con tu profesional de la salud
* Si presentas signos de posibles daños orgánicos, como dolor torácico, dificultad para respirar, dolor de espalda, entumecimiento o debilidad, cambios en la visión o dificultad para hablar, llama al 911 (o al número de emergencia local)

### Categorías de presión arterial medida en el consultorio recomendadas por la American Heart Association

| CATEGORÍA DE PRESIÓN ARTERIAL | SISTÓLICA mmHg (número de arriba/superior) | | DIASTÓLICA mmHg (número de abajo/inferior) |
|---|---|---|---|
| NORMAL | MENOS DE 120 | y | MENOS DE 80 |
| ELEVADA | 120-129 | y | MENOS DE 80 |
| HIPERTENSIÓN EN ETAPA 1 (presión arterial alta) | 130-139 | o | 80-89 |
| HIPERTENSIÓN EN ETAPA 2 (presión arterial alta) | 140 O SUPERIOR | o | 90 O SUPERIOR |
| HIPERTENSIÓN GRAVE (si no presentas síntomas*, llama a tu profesional de la salud) | SUPERIOR A 180 | y/o | SUPERIOR A 120 |
| EMERGENCIA HIPERTENSIVA (si presentas alguno de estos síntomas*, llama al 911 o a tu número de emergencia local) | SUPERIOR A 180 | y/o | SUPERIOR A 120 |

* Síntomas: dolor de pecho, dificultad para respirar, dolor de espalda, entumecimiento, debilidad, cambios en la visión o dificultad para hablar.

**Obtén más información en heart.org/BP (sitio web en inglés)**

Mind

4Ms

# MinD-D-D

## PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

| Question | Score | Soto 1 | prypy |
|---|---|---|---|
| 1 Little interest or pleasure in doing things | 0 | | |
| 2 Feeling down, depressed, or hopeless | 1 | | |
| 3 Trouble talling/staying asleep, or sleeping too much | 2 | | |
| 4 Feeling tired or having little energy | 5 | | |
| 5 Foor appetite or oversating | 6 | | |
| 6 Feeling bad about yourself — or that you are a fature | 7 | | |
| 7 Trouble concentrating on things | 8 | | |
| 8 Moving/speaking so siowly that other people could have neticolr — of the opposite — being so fidgety or restless that you have been moving around a lot more than usual | 8 | | |
| 5 Thoughts that you would be better off dead, or of hurting yourself | 2 | | |
| Total Score | | | |

Secoring: 6-4 6-41 Minind depression 20-27-Moderor ession
0-for 14-11 Minr Severe ♥
13-Mderate 13-19 Moderately severe

Printz with Purpose C

## PHQ-9 QUESTIONNAIRE

### Patient Health Questionnaire-2 (PHQ-2)

**Questions**

Over the past two weeks, how often have you been bothered by any of the following problems?

**1. Little interest or pleasure in doing things.**

| 0. Not at all | 1. Several days | 2. More than half the days | 3. Nearly every day |
|---|---|---|---|

**2. Feeling down, depressed, or hopeless.**

| 0. Not at all | 1. Several days | 2. More than half the days | 3. Nearly every day |
|---|---|---|---|

**Scoring**

PHQ-2 score is obtained by adding up the scores for each question. List your total score below:

**Interpretation**

A PHQ-2 score ranges from 0-6. The authors identified a score of 3 as the optimal cutpoint when using the PHQ-2 to screen for depression. If the score is 3 or greater, major depressive disorder is likely.

Score range:

## Geriatric Depression Scale: Short Form

Choose the best answer for how you have felt over the past week:

1. Are you basically satisfied with your life? YES / **NO**
2. Have you dropped many of your activities and interests? **YES** / NO
3. Do you feel that your life is empty? **YES** / NO
4. Do you often get bored? **YES** / NO
5. Are you in good spirits most of the time? YES / **NO**
6. Are you afraid that something bad is going to happen to you? **YES** / NO
7. Do you feel happy most of the time? YES / **NO**
8. Do you often feel helpless? **YES** / NO

out and doing new things? **YES** / NO

ory than most? **YES** / NO

ES / **NO**

w? **YES** / NO

S / NO

an you are? **YES** / NO

for each bolded answer.

epression.

prehensive assessment.

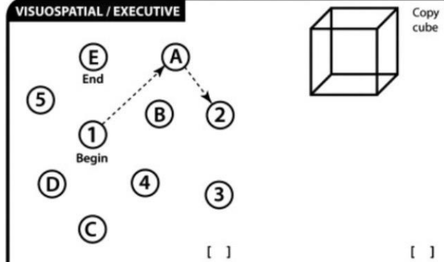
.html

## MONTREAL COGNITIVE ASSESSMENT (MOCA)

Version 7.1 Original Version

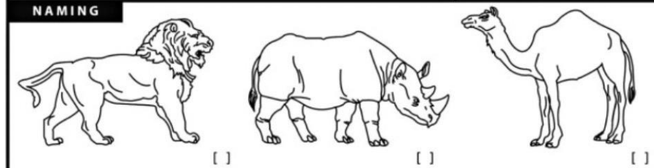
NAME :
Education : Date of birth :
Sex : DATE :

**VISUOSPATIAL / EXECUTIVE** — Copy cube — Draw CLOCK (Ten past eleven) ( 3 points ) — POINTS




[ ] [ ] [ ] Contour [ ] Numbers [ ] Hands __/5

**NAMING**



[ ] [ ] [ ] __/3

**MEMORY** Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.

| | FACE | VELVET | CHURCH | DAISY | RED |
|---|---|---|---|---|---|
| 1st trial | | | | | |
| 2nd trial | | | | | |

No points

**ATTENTION** Read list of digits (1 digit/ sec.). Subject has to repeat them in the forward order [ ] 2 1 8 5 4
Subject has to repeat them in the backward order [ ] 7 4 2 __/2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors
[ ] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B __/1

Serial 7 subtraction starting at 100 [ ] 93 [ ] 86 [ ] 79 [ ] 72 [ ] 65
4 or 5 correct subtractions: **3 pts**, 2 or 3 correct: **2 pts**, 1 correct: **1 pt**, 0 correct: **0 pt** __/3

**LANGUAGE** Repeat : I only know that John is the one to help today. [ ]
The cat always hid under the couch when dogs were in the room. [ ] __/2

Fluency / Name maximum number of words in one minute that begin with the letter F [ ] ____ (N ≥ 11 words) __/1

**ABSTRACTION** Similarity between e.g. banana - orange = fruit [ ] train – bicycle [ ] watch - ruler __/2

**DELAYED RECALL**

| | Has to recall words WITH NO CUE | FACE | VELVET | CHURCH | DAISY | RED |
|---|---|---|---|---|---|---|
| Optional | Category cue | | | | | |
| | Multiple choice cue | | | | | |

Points for UNCUED recall only __/5

**ORIENTATION** [ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City __/6

© Z.Nasreddine MD www.mocatest.org Normal ≥ 26 / 30 TOTAL __/30

Administered by: _____ Add 1 point if ≤ 12 yr edu

# Delirium “ All behavior has meaning”


## Causes

- D rugs (especially PIM)
- E lectrolyte imbalance (including dehydration)
- L ack of drugs (withdrawal, SUD,untreated dx)
- I nfection
- R educed sensory input
- I ntracranial (CVA, subdural,TBI)
- U rinary retention / fecal impaction
- M yocardial / pulmonar

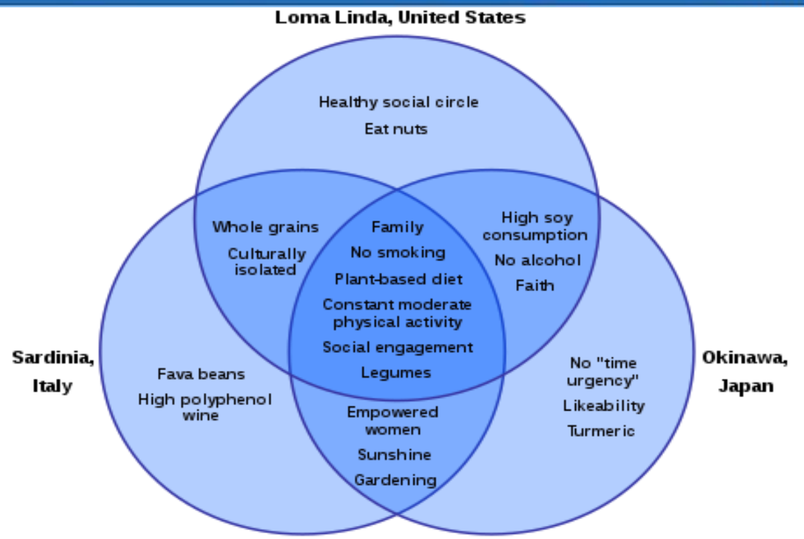
Marcantonio ER. Delirium in Hospitalized Older Adults. N Engl J Med. 2017;377(15):1456-1466. doi:10.1056/NEJMcp1605501

## Treatment

- Remove or treat causes
- Prevent or remediate complications
- Restore cognitive and physical fx
- Manage and understand behavior
- Non-pharmacological
- Aling with goals of care and 4M’s model Fick & Mion, 2018; Fick et al., 2013; Inouye, 2021
- DescribeInvestigateCreateEvaluate

# Anecdotic data
# Blue Zones

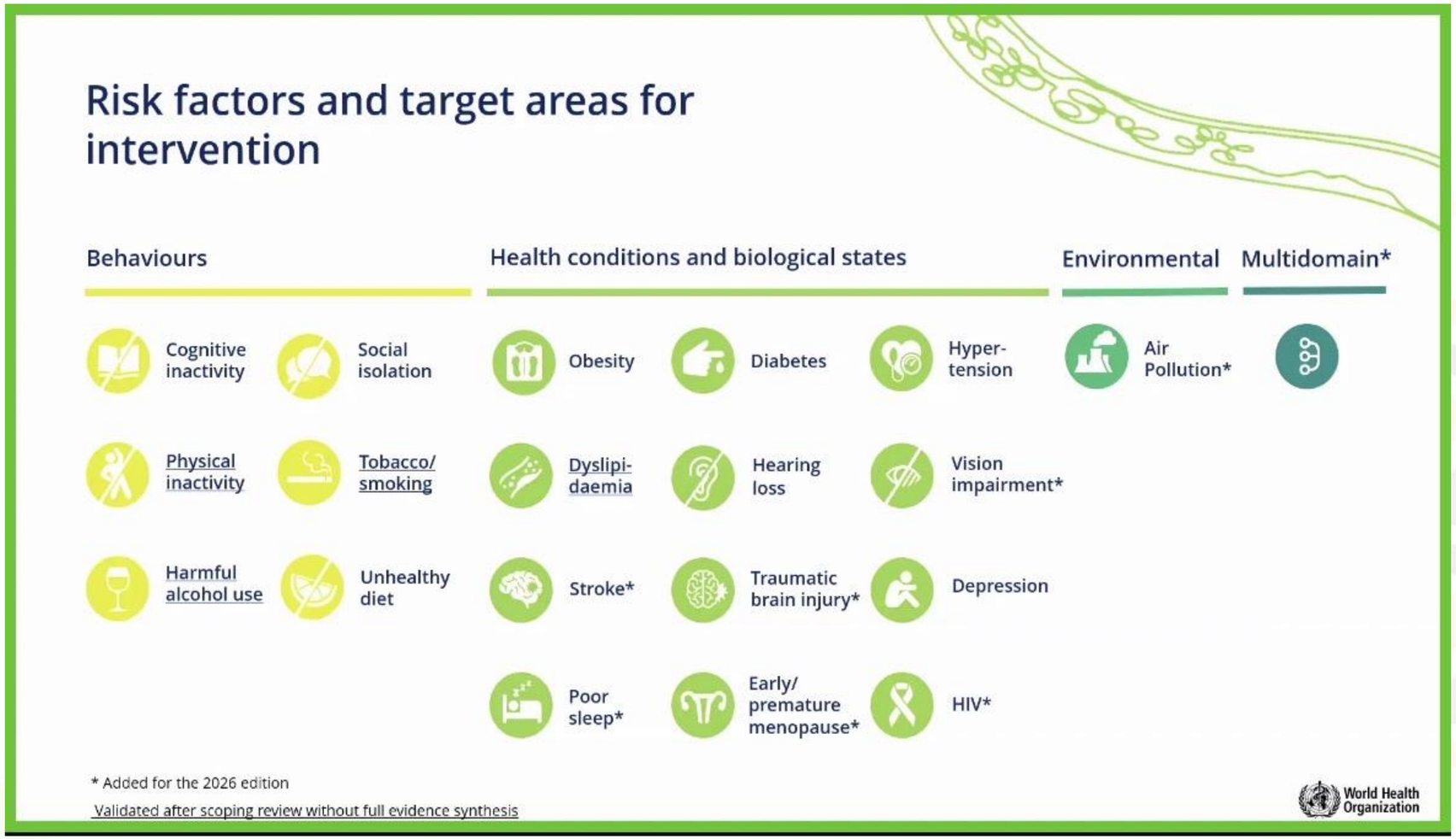




# Mentation

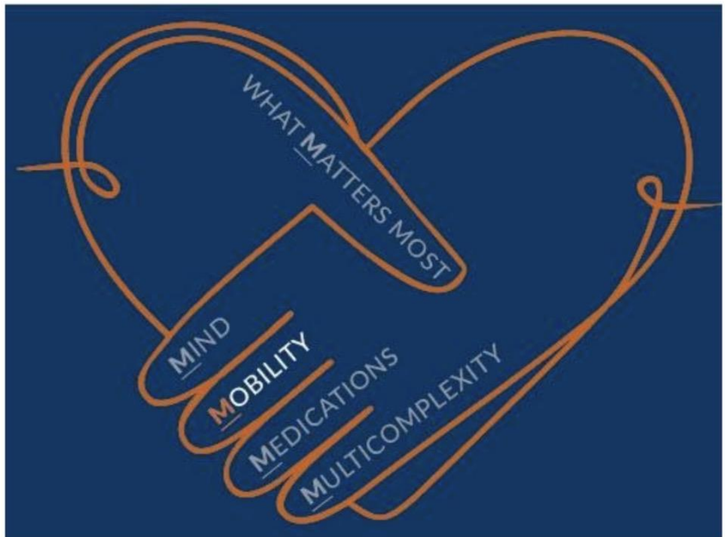
# Mentation

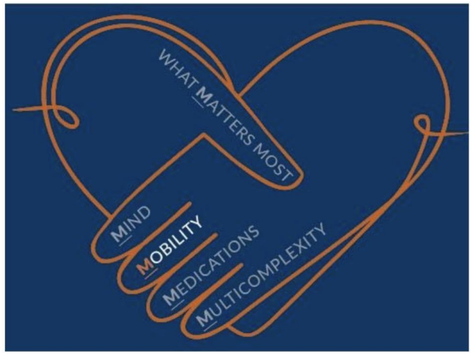
Risk reduction of cognitive decline and dementia: WHO guidelines, second edition



# Let’s connect all !






# How to implement the 4M's +1:What Matters

## Assessment

Ask ( concerns ,  desires, fears etc)

Listen

Ask more (goals may change over time

## Document

Hospital board

Eletronic record

Ordes

## Action

Align →what matters

Address  →Cultural issues

Recognize→ health believes

4M's→ Community

# The Impact of 4 M's Implementation

Zarowitz, B.J. and Brandt, N. (2025), Achieving the 4Ms: Are you providing age-friendly care?. J Am Coll Clin Pharm, 8: 416-419. https://doi.org/10.1002/jac5.70045

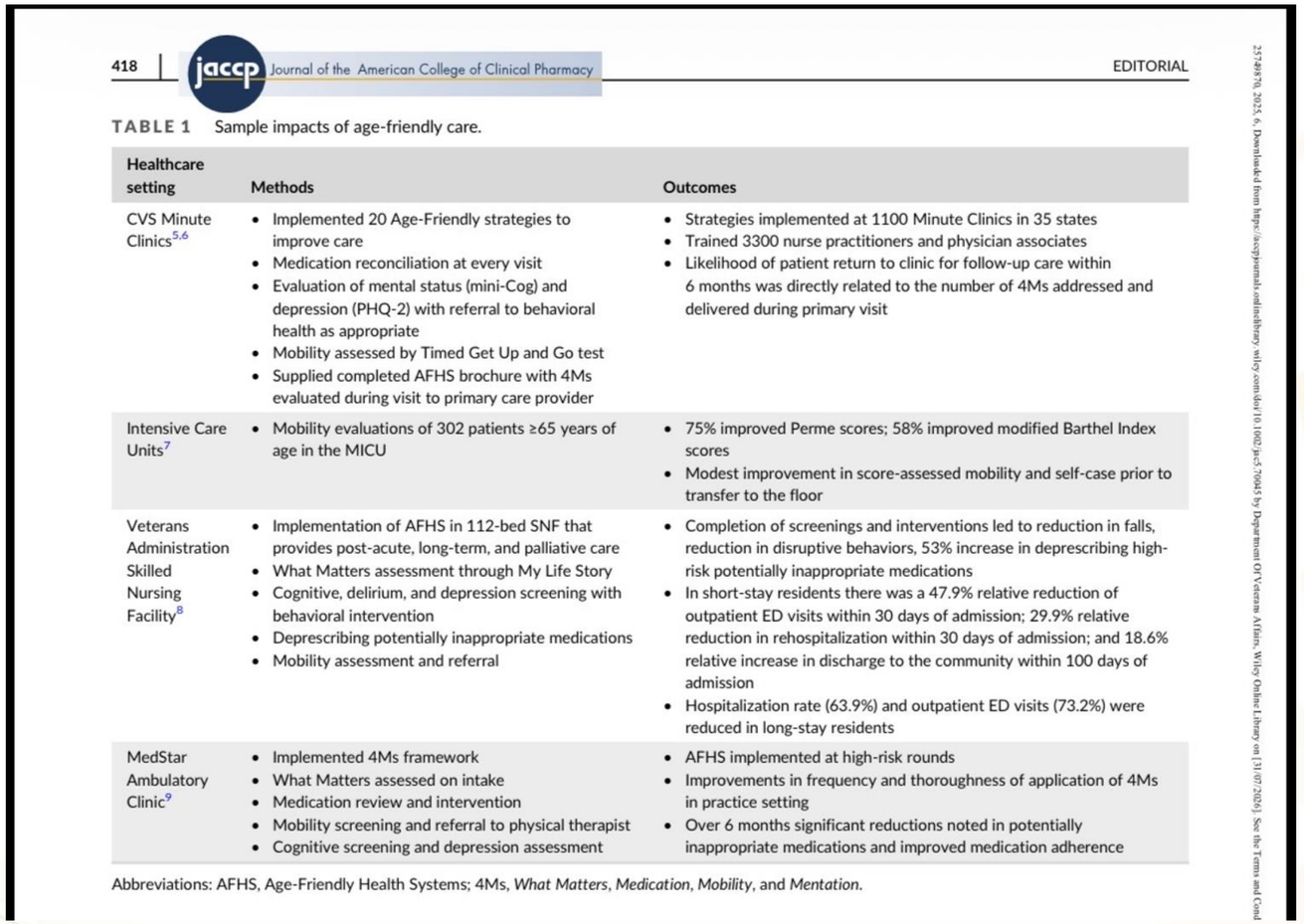




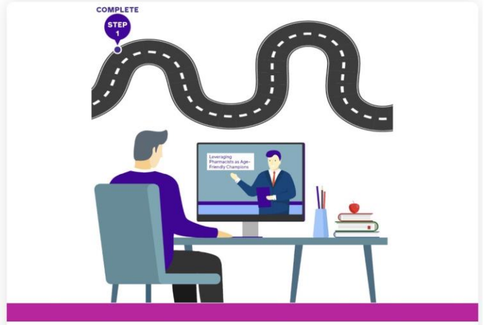
**TABLE 1** Sample impacts of age-friendly care.

| Healthcare setting | Methods | Outcomes |
|---|---|---|
| CVS Minute Clinics[5,6] | • Implemented 20 Age-Friendly strategies to improve care<br>• Medication reconciliation at every visit<br>• Evaluation of mental status (mini-Cog) and depression (PHQ-2) with referral to behavioral health as appropriate<br>• Mobility assessed by Timed Get Up and Go test<br>• Supplied completed AFHS brochure with 4Ms evaluated during visit to primary care provider | • Strategies implemented at 1100 Minute Clinics in 35 states<br>• Trained 3300 nurse practitioners and physician associates<br>• Likelihood of patient return to clinic for follow-up care within 6 months was directly related to the number of 4Ms addressed and delivered during primary visit |
| Intensive Care Units[7] | • Mobility evaluations of 302 patients ≥65 years of age in the MICU | • 75% improved Perme scores; 58% improved modified Barthel Index scores<br>• Modest improvement in score-assessed mobility and self-case prior to transfer to the floor |
| Veterans Administration Skilled Nursing Facility[8] | • Implementation of AFHS in 112-bed SNF that provides post-acute, long-term, and palliative care<br>• What Matters assessment through My Life Story<br>• Cognitive, delirium, and depression screening with behavioral intervention<br>• Deprescribing potentially inappropriate medications<br>• Mobility assessment and referral | • Completion of screenings and interventions led to reduction in falls, reduction in disruptive behaviors, 53% increase in deprescribing high-risk potentially inappropriate medications<br>• In short-stay residents there was a 47.9% relative reduction of outpatient ED visits within 30 days of admission; 29.9% relative reduction in rehospitalization within 30 days of admission; and 18.6% relative increase in discharge to the community within 100 days of admission<br>• Hospitalization rate (63.9%) and outpatient ED visits (73.2%) were reduced in long-stay residents |
| MedStar Ambulatory Clinic[9] | • Implemented 4Ms framework<br>• What Matters assessed on intake<br>• Medication review and intervention<br>• Mobility screening and referral to physical therapist<br>• Cognitive screening and depression assessment | • AFHS implemented at high-risk rounds<br>• Improvements in frequency and thoroughness of application of 4Ms in practice setting<br>• Over 6 months significant reductions noted in potentially inappropriate medications and improved medication adherence |

Abbreviations: AFHS, Age-Friendly Health Systems; 4Ms, *What Matters*, *Medication*, *Mobility*, and *Mentation*.

# Age Friendly Pharmacist Badge Steps 1 to 4

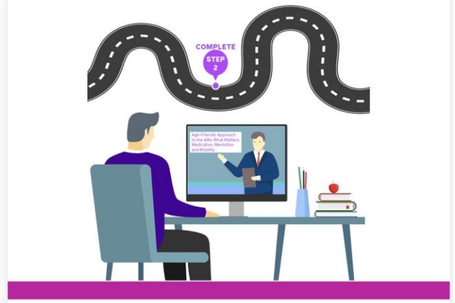
1 / 1 Completed




**Leveraging Pharmacists as Age-Friendly 4Ms Champions (CPE Only)**

Released 05/01/24 | Expires: 04/03/2027

1 / 1 Completed




**Age-Friendly Approach to the 4Ms: What Matters, Medication, Mentation and Mobility (CPE Only)**

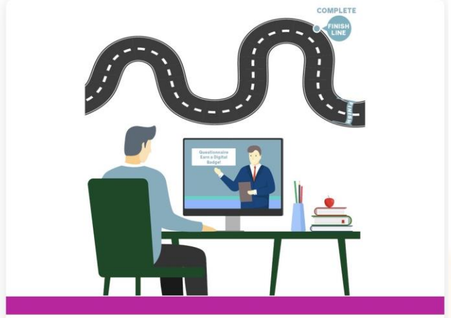
Released: 10/01/24 | Expires: 10/01/2027

1 / 1 Completed


**Advancing the Age-Friendly 4Ms Movement**

Released: 12/01/24 | Expires: 11/09/2027

1 / 1 Completed




**Questionnaire: Age-Friendly Pharmacist Badge Program**

# Pre and Post test

## Pre and Post Test:

1. The following elements are part of the Age Friendly Health System 4Ms framework except for:

A) Mobility

B) Medication

C) Moderation

D) Mentation

E What matters

2.Decreased hepatic blood flow is most likely to increase the risk of adverse drug effects in older adults. True or False

3. Unnoticed adverse drug reactions can lead to prescribing cascades. True or false

4. Engaging in PIM deprescribing efforts is an example of the pharmacy team participation in Age friendly health systems. True or false

5. Making independent medication changes based on Beers' criteria is an example of interprofessional collaboration. True or False

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Pharmacy Care (STEADI-Rx) | STEADI - Older Adult Fall Prevention | CDC

Age-Friendly - American Society of Consultant Pharmacist

https://www.cdc.gov/steadi/about/index.htmlts

Health Professional Toolkit - Patient Priorities Care

Risk reduction of cognitive decline and dementia: WHO guidelines, second edition

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# Thank you

Dr Lucía M. García-Carmona, RPh,PharmD,BCGP,CDP

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