

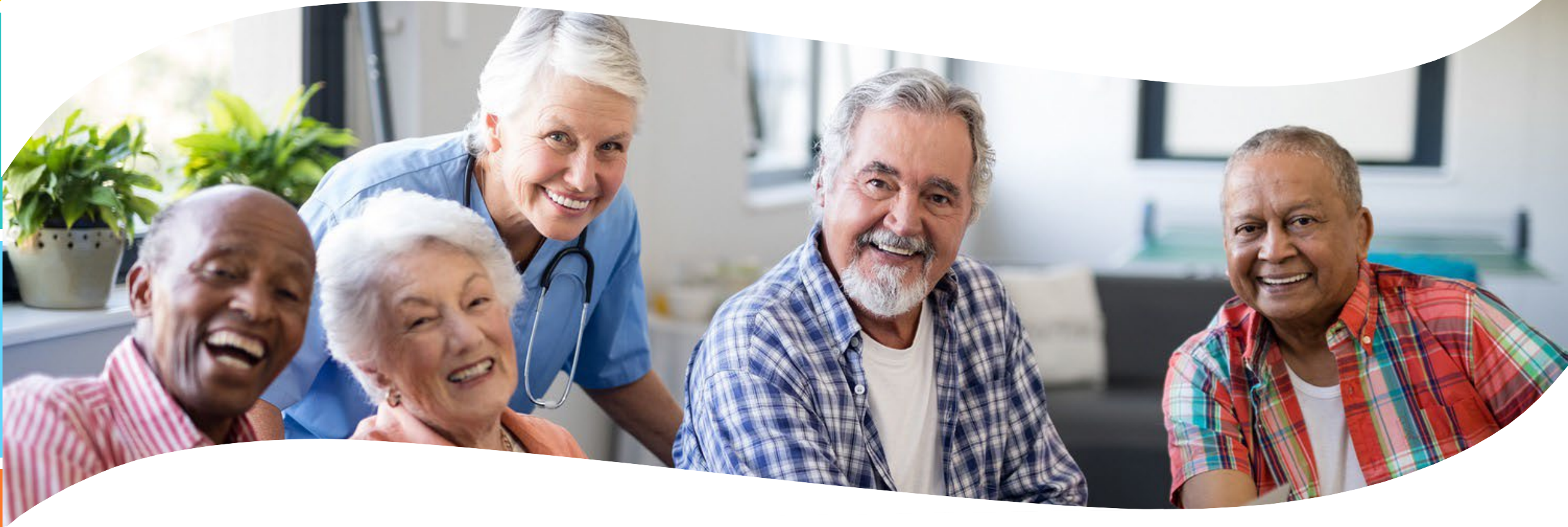
Applying Evidenced-Based Best Practices to Prevent, Mitigate and Manage Delirium Across Care Settings: Part 3

Welcome!

- All lines are muted, so please ask your questions in the Q&A chat.
- For technical issues, initiate chat with the Technical Support panelist.
- Please actively participate in polling questions that will appear on the lower right-hand side of your screen.

**We will get
started shortly!**

Applying Evidenced-Based Best Practices to Prevent, Mitigate and Manage Delirium Across Care Settings: Part 3



Event Hosts:

Carolyn Kazdan, MHSA, LNHA

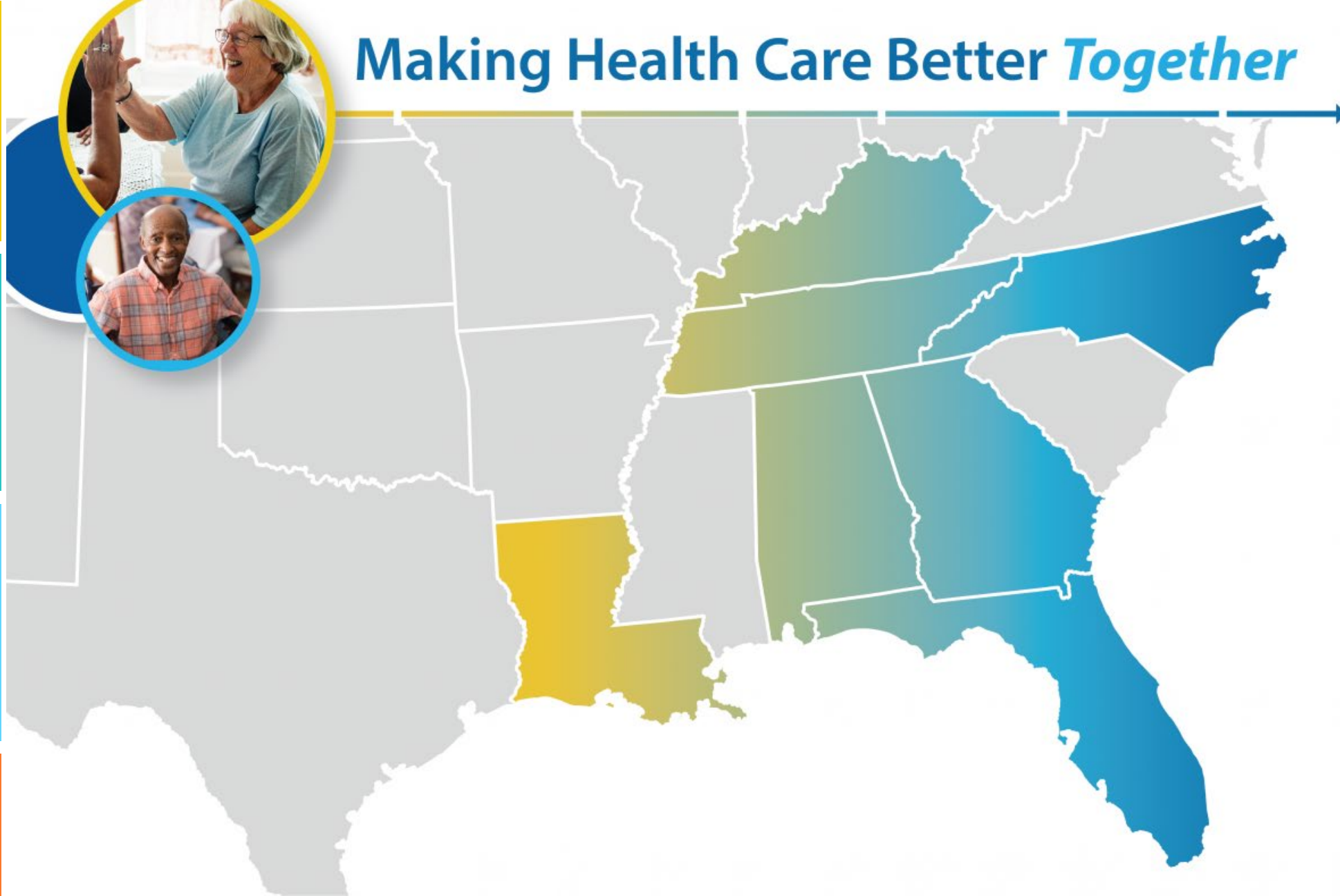
Christine Waszynski, DNP, APRN, GNP-BCFAAN

March 15, 2022

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Making Health Care Better *Together*



Carolyn Kazdan, MHSA, NHA

SENIOR DIRECTOR, CARE COORDINATION AND NURSING HOME

Ms. Kazdan is the senior director of health care quality improvement for IPRO, the Medicare Quality Improvement Organization for New York State. Ms. Kazdan leads IPRO's work with Project ECHO® and serves as the care transitions lead for Alliant Quality. Ms. Kazdan previously led the IPRO's work with the NYS Partnership for Patients and the Centers for Medicare & Medicaid Services (CMS) Special Innovation Project on Transforming End of Life Care in the Nassau and Suffolk County region of New York State. Before joining IPRO, Ms. Kazdan was a licensed nursing home administrator and interim regional director of operations in skilled nursing facilities and continuing care retirement communities in New York, Pennsylvania, Ohio and Maryland. Ms. Kazdan has served as a senior examiner for the American Healthcare Association's National Quality Award Program, and currently serves on the MOLST Statewide Implementation Team and Executive Committee. Ms. Kazdan was awarded a master's degree in health services administration by The George Washington University.

Carolyn enjoys visiting her grandchildren, photography, crocheting, needlepoint, reading and being at the beach!

"Taking on a challenge is a lot like riding a horse, isn't it? If you're comfortable while you're doing it, you're probably doing it wrong." — Ted Lasso.

Contact: ckazdan@ipro.org



Christine Waszynski, DNP, APRN, GNP-BCFAAN

**COORDINATOR OF INPATIENT GERIATRIC SERVICES HARTFORD HOSPITAL
HARTFORD CT**

Christine is the coordinator of Inpatient Geriatric Services, ADAPT (Actions for Delirium Assessment, Prevention and Treatment), Age-Friendly Health Systems Inpatient Project, the Hartford HealthCare System-Wide Fall Prevention Committee and NICHE (Nurses Improving Care for Health System Elders) programs at Hartford Hospital in Hartford, Conn., where she serves as a geriatric nurse practitioner and clinical nurse specialist. Christine received several awards for her innovative work in gerontological nursing and published a book and numerous articles. She is the principal investigator or co-investigator of several research studies focusing on interventions to improve the care of hospitalized older adults. She is a sought-after presenter on geriatric nursing, delirium and fall prevention. She is the immediate past president of the American Delirium Society and serves on their governance committee and board of directors.

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Objectives

Learn Today:

- Identify medications with the potential to contribute to delirium in vulnerable populations.
- Learn de-prescribing strategies with safer alternatives.
- Identify pharmacologic strategies to alleviate severe hyperactive symptoms associated with delirium.

Use Tomorrow:

- Implement a mechanism to decrease the prescribing and use of deliriogenic medications in vulnerable populations.

Determining the Underlying Etiology of Delirium

Dugs

Eyes, ears, environment, emotional

Liver failure, low PO2 states (MI, PE, anemia, CVA)

Infection, immobility

Restraints, respiratory, retention

Injury, ictal state

Unfamiliar surroundings, under-hydration

Metabolic abnormalities



Focus: Pharmacology—A Modifiable Risk Factor for Delirium

Medications can cause delirium.

Medications can be used inappropriately to treat/manage the symptoms of hyperactive delirium, resulting in:

- Prolonged delirium (hyper or hypo)
- Falls
- Dysphagia
- Over-sedation
- Prolonged hospital stay and readmission

Potentially Inappropriate Medications (PIMs) Known To Be Deliriogenic in High-risk Populations

(Beers Criteria , 2019, AGS)

- Anticholinergics
- Benzodiazepines
- Antipsychotics
- Chlorpromazine
- Corticosteroids
- H2 Receptors Antagonists
- Meperidine
- Sedative-Hypnotics



STOPP START (*O'Mahony, 2015*)

PPIs

Benzodiazepines

NSAIDS

Non-selective beta blockers

Tricyclic Antidepressants

Evidence for Deliriogenic PIMS

Benzodiazepines are strongly predictive of delirium (*Kawada et al., 2021, PLoS*).

Anticholinergic medications increase the risk of hospitalization for altered mental status (*Kalisch Ellett et al., 2014, JAGS*).

Anticholinergic Medications

- **Antihistamines** (brompheniramine, chlorpheniramine, cyproheptadine, diphenhydramine, doxylamine, hydroxyzine, meclizine)
- **Antidepressants** (amitriptyline, amoxapine, clomipramine, desipramine, doxepin, imipramine, nortriptyline, protriptyline)
- **Antipsychotic medicines** (chlorpromazine, clozapine, mesoridazine, olanzapine, quetiapine, thioridazine)
- **Muscle relaxants** (cyclobenzaprine, donatrolene, orphenadrine)
- **GI medicines** (diphenoxylate, atropine, belladonna, clidinium, chlordiazepoxide, dicyclomine, hyoscyamine, propantheline, prochlorperazine, promethazine, cimetidine, ranitidine)
- **Anti-vertigo medicines** (meclizine, scopolamine)
- **Urinary agents** (flavoxate, oxybutynin, probantheline, tolterodine)
- **Parkinson's medicines** (benztropine, biperiden, trihexyphenidyl)



Stopping These Classes of Medications/Substances Abruptly Can Cause Delirium

- Benzodiazepines
- Opioids/Narcotics
- SSRIs
- Steroids
- Anti-Epileptics
- Sedative/Hypnotics
- Antipsychotics
- Acetylcholinesterase inhibitors
- ETOH
- Nicotine

Can Medication Prevent Delirium? NO

Antipsychotics do not prevent delirium (*Neufeld et al., 2016, JAGS*).

Single dose Ketamine intra-operatively does not prevent delirium (*Avidan et al., 2017, Lancet*).

The use of statin as a protective measure is unclear—more study is needed.

Low dose Dexmedetomidine IV at night for critically ill may prevent delirium. (*Skrobik et al., 2018, Am J Respir Crit Care Med*).

Ramelteon may prevent delirium (*Hatta et al., 2014, JAMA Psychiatry; Nichols et al., 2018, Crit Care Med*).

Can Medication Treat/Resolve Delirium? NO

Antipsychotics do not decrease delirium duration, severity, hospital or ICU length of stay (LOS) (*Neufeld et al., 2016, JAGS*).

Statins do not decrease delirium duration, ICU or hospital LOS or mortality (*Devlin et al., 2018, Society of Critical Care Medicine*).

Single dose Ketamine intra-operatively does not decrease delirium ICU or hospital LOS or mortality (*Avidan et al., 2017, Lancet*).

What Medications Are Used To Alleviate Symptoms Associated With Hyperactive Delirium?

Patients experiencing **extreme distress** due to symptoms of delirium (anxiety, fearfulness, hallucinations, delusions) and potentially harmful to self or others may benefit from the SHORT-TERM use of LOW-DOSE Haldol or atypical antipsychotics (*Devlin et al., 2018, Society of Critical Care Medicine*).

Benzodiazepines are generally **contraindicated** except in terminal delirium, active seizure, alcohol dependence or those using benzos regularly.

What Medications Are Used To Alleviate Symptoms Associated With Hyperactive Delirium?

Haloperidol, Zyprexa and Risperidone are **contraindicated** in persons with Parkinson's Disease or Lewy Body Dementia.

Valproic Acid IV or PO 250 mg every 12 hours may be an alternative to antipsychotics. There is some evidence of benefit—needs further study (*Crowley et al., 2018, Crit Care Med*).

Dexmedetomidine IV may benefit patients unable to wean off mechanical ventilation by decreasing agitation (*Reade et al., 2016, JAMA*)

Ensure medications are discontinued after extreme symptoms subside.

Summary of the Role of Medication in Delirium

PIMs can **cause** delirium.

Abrupt withdrawal of selected medications can cause delirium.

Current evidence does **not** support the use of medications to prevent or treat delirium.

Select patients with severe hyperactive delirium symptoms may benefit from short-term, low-dose antipsychotic therapy.

Summary of the Role of Medication in Delirium

Non-pharmacological measures should be tried first and then in combination with medications to decrease distress.

Studies show conflicting evidence regarding the role of statins and Rozerem in preventing of delirium.

More large-scale studies are needed to explore the benefit of dexmedetomidine and valproic acid in delirium care.

Top 7 Medications To Avoid/Limit in High-Risk Populations

Benadryl (Diphenhydramine)

Alternative for allergic Rx is Claritin (Loratadine)

Ativan (Lorazepam)

Use only in patients dependent on benzos, with potential for ETOH withdrawal, or with active seizures or terminal delirium

Ambien (Zolpidem)

Use Ramelteon if non-pharmacological measures fail

Reglan (Metoclopramide)

Alternative is Ondansetron (Zofran)

Compazine (Prochlorperazine)

Alternative is Pantoprazole (Protonix)

Pepcid (Famotidine)

Alternative is Hydromorphone (Dilaudid), Acetaminophen (Tylenol) or Tramadol(Ultram)

Fentanyl

Outcomes: Decreased Patient Exposure to High-Risk Meds (Older And Sicker Patients)

Diphenhydramine (Benadryl) - 45% reduction age 65>

Famotidine (Pepcid) - 34% reduction in age 65>

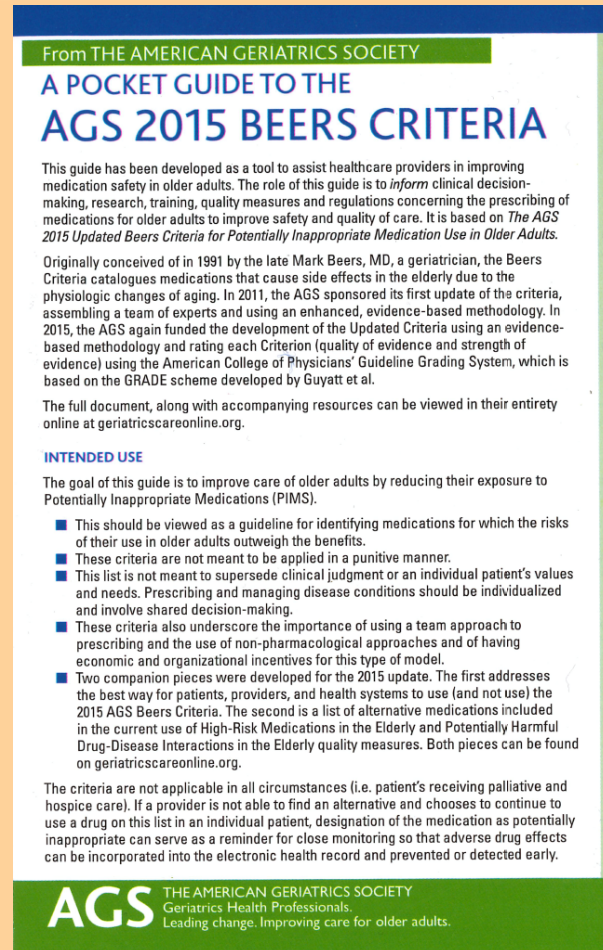
Famotidine (Pepcid) - 31% reduction in ICU

Zolpidem (Ambien) doses - 36% reduction

Delirium-Associated Potentially Inappropriate Medications (DA-PIMS)

Reviewed pre-admission medications of 3000 patients brought to Hartford Hospital ED from an assisted living facility (ALF) or skilled nursing facility (SNF).

Anticholinergics
Antipsychotics
Benzodiazepines
Chlorpromazine
Corticosteroids
H2 Receptor
Antagonists
Meperidine
Sedative/Hypnotics



DA-PIMs by Patient

Number of Delirium-Associated Beers-Listed Medications	0	1	2	3	4	5	6	7
Unique Patients	854	902	590	342	149	57	12	2
% Patients	29.4	31	20.3	11.8	5.1	2	0.4	0.1

Recipients of DA-PIMS PTA

Medications	n	%
0	854	29.4
1	902	31.0
2	590	20.3
>3	562	19.3

Type of DA-PIMS Recorded PTA

Delirium-associated PIMs	n	%
Sedative Hypnotic	1276	43.9
Benzodiazepines	614	21.1
Anticholinergic	607	20.9
Corticosteroids	507	17.4
Antipsychotics 2nd Gen	322	11.1
H2 Receptor Antagonist	110	3.8
Antipsychotics 1st Gen	50	1.7
Barbiturates	18	0.6

Summary of Findings

- More than 70% of patients admitted to the hospital from an ALF or SNF took at least one DA-PIM PTA.
- Almost 30% of patients admitted to the hospital from an ALF or SNF took three or more DA-PIMs PTA.
- Sedative/hypnotics were the most commonly prescribed and administered DA-PIM, followed by benzodiazepines and anticholinergic meds.
- There was a significant independent association between the diagnosis of delirium within the first 24 hours of presentation to the hospital and being on DA-PIMs.
- Reports of two or more Beers-listed medications at the time of admission were related to a positive CAM outcome within the first 24 hours of admission in patients with dementia.

De-prescribing: Reducing or Stopping PIMS That May No Longer Benefit or Create Harm for the Patient

Limitations/Challenges

- Difficult in acute care
- Patient resistance
- Prescribing inertia: auto renew medication even if the initial indication is no longer present
- Medication leapfrog: prescribe medication to treat the side effects of another med

Strategies

- Perform medication review during care transitions
- Provider and pharmacist partnership
- Involve patient:
 - Reach informed decisions
 - Prioritize meds (continue versus discontinue)
 - Consider patient preferences, life expectancy
 - Reduce pill burden
 - Reduce adverse drug reactions

Contact Information:

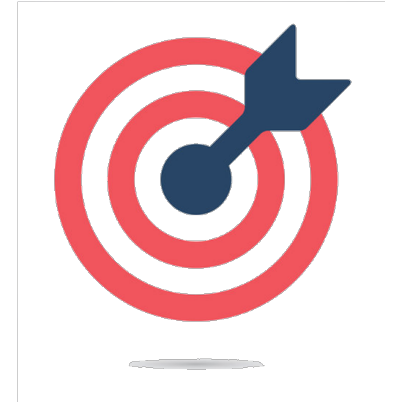
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Objectives Check In!



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Use Tomorrow:

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How will this change what you do? Please tell us in the poll.

Closing Survey

Help Us Help You!

- Please turn your attention to the poll that has appeared in the lower right-hand side of your screen.
- Completion of this survey will help us ensure our topics cater to your needs.



CMS 12th SOW Goals



Behavioral Health Outcomes & Opioid Misuse

- ✓ Promote opioid best practices
- ✓ Decrease high dose opioid prescribing and opioid adverse events in all settings
- ✓ Increase access to behavioral health services



Patient Safety

- ✓ Reduce risky medication combinations
- ✓ Reduce adverse drug events
- ✓ Reduce C. diff in all settings



Chronic Disease Self-Management

- ✓ Increase performance on ABCS clinical quality measures (i.e., aspirin use, blood pressure control, cholesterol management, cardiac rehab)
- ✓ Identify patients at high-risk for developing kidney disease & improve outcomes
- ✓ Identify patients at high risk for diabetes-related complications & improve outcomes



Quality of Care Transitions

- ✓ Convene community coalitions
- ✓ Identify and promote optimal care for super utilizers
- ✓ Reduce community-based adverse drug events



Nursing Home Quality

- ✓ Improve the mean total quality score
- ✓ Develop national baselines for health care related infections in nursing homes
- ✓ Reduce emergency department visits and readmissions of short stay residents

Making Health Care Better *Together*



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Upcoming Events



Learning and Action Webinars

April 19, 2022: Nursing Home & Community Coalition LAN Event: Applying Evidenced-based Best Practices to Prevent, Mitigate and Manage Delirium across Care Settings:
Part 4

Stay tuned for more events!

<https://quality.allianthealth.org/virtual-educational-events/>

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