Optimizing Medication Management of People Aging with HIV

Insights from the Ryan White HIV/AIDS Program Special Projects of National Significance (SPNS) Aging with HIV Initiative

July 10, 2025

aging with HIV
Ryan White HIV/AIDS Program Initiative

Acknowledgment

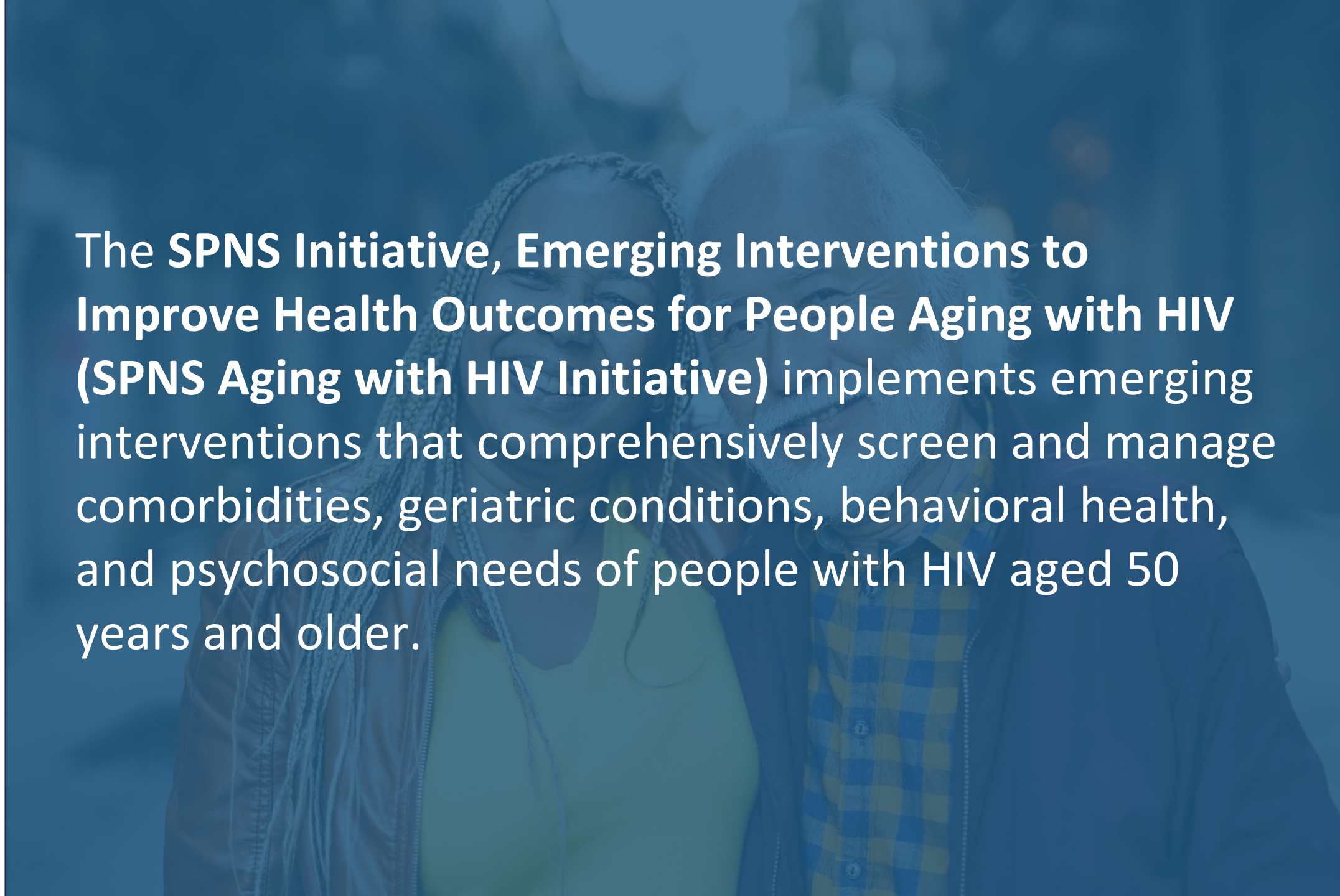
This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling $2,400,000 with zero percentage financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.

Zoom Reminders

- This webinar will be recorded.
- There will be 20 minutes for questions and answers at the end of both presentations.
- Please enter all questions in the chat.

Agenda

1. Welcome and Introduction
2. Presentation by Thomas Glowa, PharmD & Sarah McBeth, MD, UPMC Presbyterian Shadyside
3. Presentation by Archana Asundi, MD & Michael Maiullari, PharmD, BCIDP, Boston Medical Center
4. Question and Answer Session
5. Upcoming Webinars and Closing



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The **SPNS Initiative, Emerging Interventions to Improve Health Outcomes for People Aging with HIV (SPNS Aging with HIV Initiative)** implements emerging interventions that comprehensively screen and manage comorbidities, geriatric conditions, behavioral health, and psychosocial needs of people with HIV aged 50 years and older.

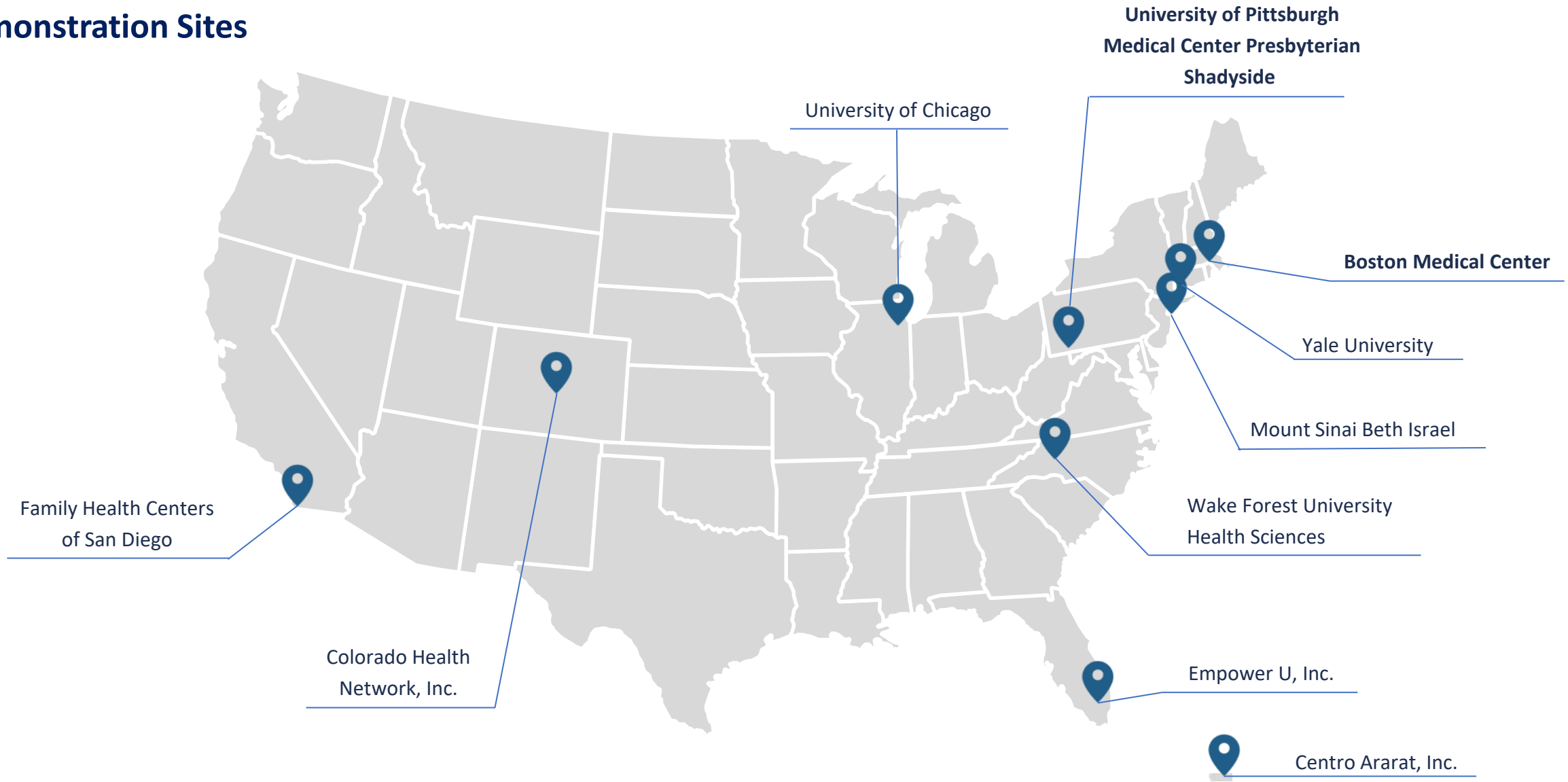
The Aging with HIV Initiative's goals include:

Implementing emerging interventions that screen and manage comorbidities, chronic conditions, geriatric conditions, behavioral health, and psychosocial needs of people with HIV ages 50 and older;

Assessing the uptake and integration of emerging interventions; and

Evaluating the impact of the emerging interventions.

Demonstration Sites



Challenges of Optimizing Medication Use in People Aging with HIV

- **Polypharmacy** – Increased risk of drug interactions due to multiple medications for HIV and age-related conditions.
- **Adverse Drug Reactions** – Higher susceptibility to side effects due to physiological changes in aging.
- **Comorbidities** – Conditions like cardiovascular disease, osteoporosis, and cognitive decline can complicate treatment.
- **Medication Adherence** – Cognitive impairment, pill burden, and mental health issues impact adherence.

Trainee-led Standardized Medication Therapy Management at the Pittsburgh Area Center for Treatment

Thomas Glowa, PharmD & Sarah McBeth, MD

Division of Infectious Diseases, University of Pittsburgh Medical Center

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under Grant #H97HA46080, the Special Projects of National Significance (SPNS): Emerging Strategies to Improve Health Outcomes for People Aging with HIV, $708,802.00. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government. We wish to acknowledge the support of the Capacity Provider, Center for Quality Improvement & Innovation (CQII) at New York State Department of Health and the Evaluation Provider, National Opinion Research Center (NORC) at the University of Chicago, for this SPNS Initiative.

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Project IMPACT

Pittsburgh Area Center for Treatment (PACT)

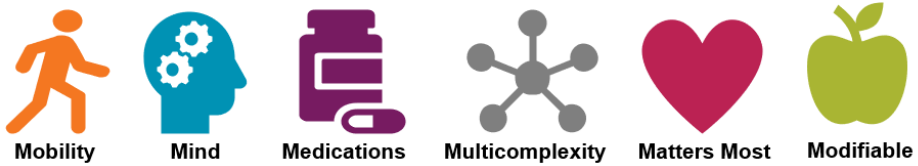
A Ryan White Clinic serving 1,550 people with HIV - 62% are age 50 and older

UPMC's Model, "Improving the 6M's at PACT" (IMPACT)

Utilizes the 5M's of Geriatrics + a 6th M – Modifiable

Goals of Initiative:

1. Provide training for clinicians on aging-related topics
2. Improve clinic workflows around aging
3. Better screen for and treat geriatric conditions



IMPACT Overview

6M	Workflow	Provider Education	In-visit Screening
Mind	Neurocognitive referral workflow	Geriatrician lecture on Cognitive Assessment	EMR screening
Mobility*	Durable medical equipment ordering	Geriatrician lecture on Mobility Assessment	Gait speed
Medications	Medication Reviews	Pharmacist lecture on Polypharmacy	Medication Reviews
Multi-complexity*	Partnering with Area Agency on Aging	Geriatrician lecture on Levels of Care	EMR screening
Matters Most	Compile resources for social isolation	Geriatrician lecture on What Matters Most	EMR screening
Modifiable	Calcium & Vitamin D supplementation	Endocrinologist lecture on Osteoporosis	EMR screening

Medication Therapy Management (MTM)

Objective

Optimize treatment outcomes by involving pharmacy trainees in reviewing medication use, identifying drug therapy problems (DTPs), and making recommendations to providers

Patient Population:

- **Inclusion Criteria:** Patients aged 50 and older with HIV, receiving care at PACT
- **Demographics:** 1,084 patients were eligible

Implementing MTM

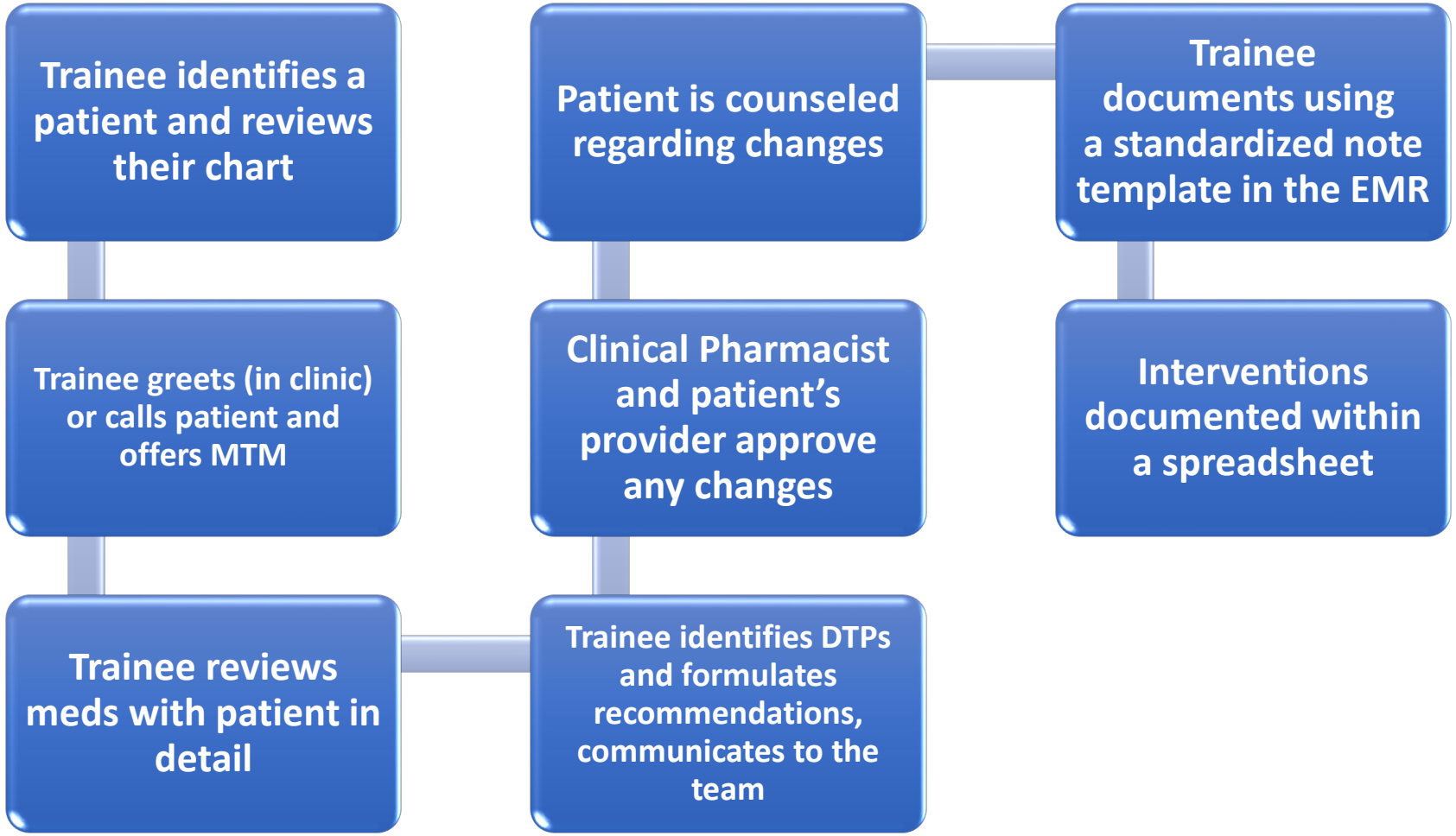
Prior to MTM, no system for med review was in place.

Med reconciliation was the responsibility of the provider during visits.

<u>Pre-Implementation</u>

- Buy-in sought from providers & trainees
- Patient list generated in EMR, prioritized by number of medications
- Template developed in EMR
- Pharmacy trainees oriented to EMR template

MTM Process


Trainee identifies a patient and reviews their chart
Trainee greets (in clinic) or calls patient and offers MTM
Trainee reviews meds with patient in detail
Trainee identifies DTPs and formulates recommendations, communicates to the team
Clinical Pharmacist and patient's provider approve any changes
Patient is counseled regarding changes
Interventions documented within a spreadsheet
Trainee documents using a standardized note template in the EMR

Case Study: Ms. S

A 70-year-old female with well-controlled HIV, a history of mitral valve replacement (on Warfarin), and hepatic steatosis presents for follow-up noting worsened chronic back pain after a motor vehicle accident. Urgent care imaging showed chronic degenerative changes of the lumbar spine with no acute changes.

Prescribed Pain Medications Include:

- Duloxetine 60 mg daily
- Gabapentin 600 mg three times per day
- Tramadol 50 mg every 6 hours as needed

During medication review, the pharmacy resident learns the patient is also taking **acetaminophen 1300 mg every 4 hours** due to uncontrolled pain

Case Study: Ms. S

Past Medical History:

- HIV, well-controlled
- Mitral valve replacement, on warfarin
- Hepatic Steatosis (MASLD)
- Chronic pain

Current Pain Medications Include:

- Duloxetine 60 mg daily
- Gabapentin 600 mg three times per day
- Tramadol 50 mg every 6 hours as needed
- **Acetaminophen - unsafe dosing**

Pharmacy resident discusses findings and suggests transdermal buprenorphine to clinical pharmacist and patient's PCP during the visit

Provider counsels patient on medication safety, prescribes 5 mcg/hour transdermal buprenorphine, and refers for imaging & orthopedic evaluation, with close follow-up

Results

Patients Received MTM:

284 Patients

Population:

1,084 Patients Over the Age of 50 Years of Age

Intervention Length:

76 Weeks

Medication Interventions Implemented:

408 interventions

Results

Most Common Interventions

Intervention/Recommendation	Count	Percentage
Needs a drug but not receiving it	59	13%
Received labs/monitoring	43	9%
Adherence concerns	41	9%
Education	38	8%
Modify antihypertensive therapy	38	8%
Modify diabetes therapy	31	7%
Smoking cessation	24	5%
Experiencing adverse drug event	21	5%
Drug-drug interaction	19	4%
Modify lipid therapy	16	3%
Taking too little of correct drug	13	3%

88% of patients had at least one intervention implemented after MTM

62% of patients receiving an intervention were between ages 50 and 64

Challenges

- ✓ Limited time within clinic visits
- ✓ Multiple comorbid conditions
- ✓ Multiple outside prescribers of medications
- ✓ Frequent hospitalizations requiring medication reconciliation
- ✓ Limited ability for the trainees to follow-up due to their rotation schedule

Successes

- ✓ Trainee involvement
- ✓ Improved chronic disease management
- ✓ Drug interactions decreased
- ✓ Adverse effects avoided
- ✓ Trainees were able to develop positive relationships with medical providers
- ✓ Adherence challenges addressed
- ✓ Improved patient understanding

Lessons Learned

Conclusions

Medication Therapy Management is Worthwhile

- Drug therapy problems are frequently identified
- Patients benefit through dedicated time for medication discussion and counseling

Trainee Involvement

- Saves clinicians time in clinic, increases number of MTM visits completed
- Builds HIV workforce capacity

Future Implications

- PACT plans to continue trainee-led MTM for the foreseeable future

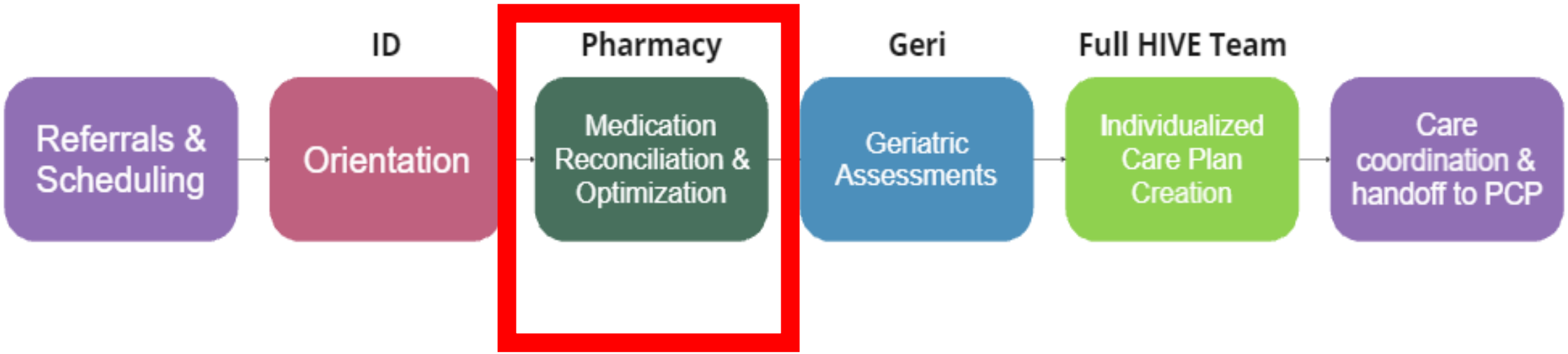
Medication Regimen Optimization in People with HIV: The HIVE Clinic Experience

The production of this enduring CME module was supported by Grant H9746074 from Department of Health and Human Services, Health Resources and Services Administration. Its contents are solely the responsibility of Archana Asundi, MD and do not necessarily represent the official views of the Health Resources and Services Administration.

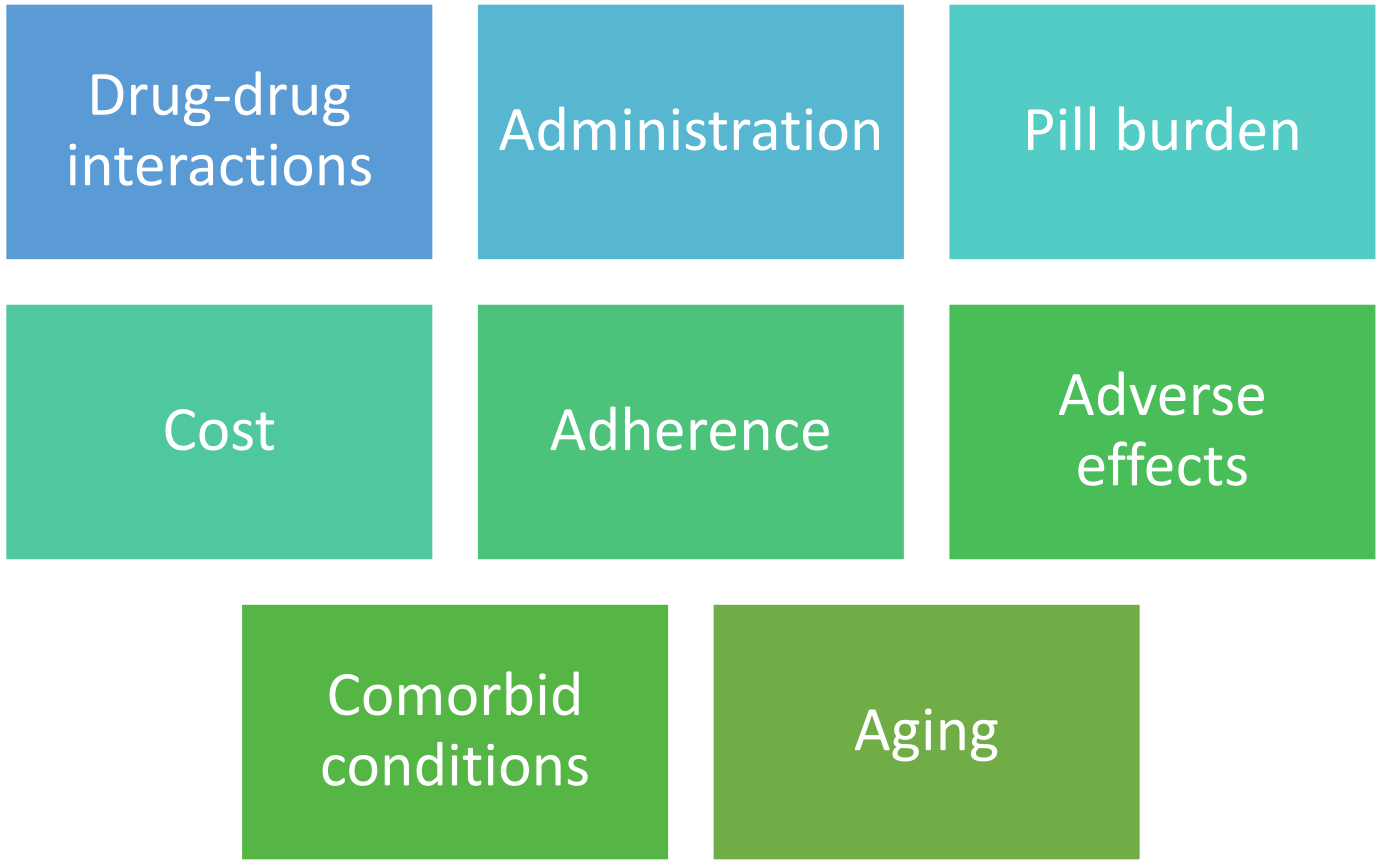
The HIV-Endurance Clinic at Boston Medical Center

- Integrated Geriatric-Infectious Disease Clinic to address aging-related care needs of people with HIV
- Multidisciplinary geriatric, infectious disease and pharmacy team
- Visits include pharmacist-led medication reconciliation designed to review and optimize regimen particularly addressing polypharmacy

HIVE Clinic Workflow



Reasons for optimizing medications



HIV and Aging

- High risk of AIDS-related complications
- Increase in age-related diseases
- Adverse effects may be increased
- Greater decline in neurocognitive function
- Mental health disorders
- Dependent on others
- Tight budget
- Administration times/locations

US Department of Health and Human Services (DHHS). Updated September 12, 2024. Accessed January 13, 2025. https://clinicalinfo.hiv.gov/en/guidelines/adult-and-adolescent-arv/hiv-and-older-person.

Medication Reconciliation

An essential first step in medication regimen optimization

What is a Medication Reconciliation?

Process of comparing medication orders to what a patient is taking

Goal is safety; by identifying drug-drug interactions, missed doses, and other discrepancies

Often done during transitions of care

Involves following steps:

- Gathering information from a patient on medications they are taking including prescription medications, over-the-counter medications and supplements
- Comparing to list of prescribed medications to identify discrepancies
- Resolving the discrepancies through care coordination and education

HIVE Clinic Goal: Reconcile then optimize

Medication Reconciliation Visit Preparation

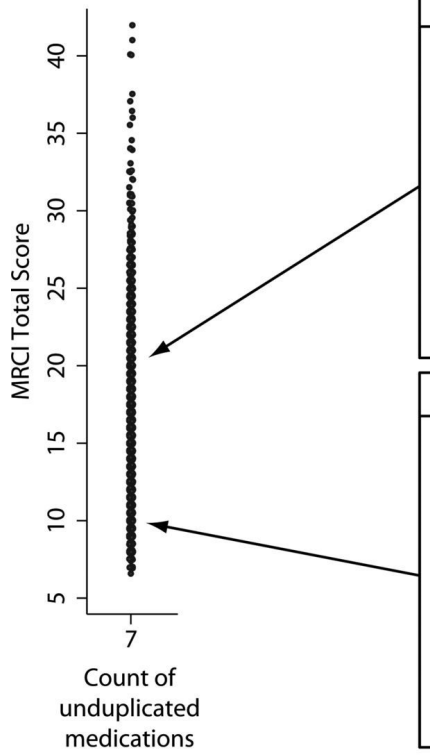
- Determine pre-visit needs (eg, interpreter services)
- Remind patient to bring all medications to visit
- Review medication list
- Consider to calculate medication regimen complexity index (MRCI) or med count as a metric to follow
- Review provider notes to confirm medication indication and assess appropriateness
- Identify opportunities for optimization of medication regimens to discuss
- Print medication list in electronic medical record to review during appointment

Assessing Impact: The Medication Regimen Complexity Score (MRCI)

- **Number of medications does not accurately depict complexity**
- MRCI includes number of pills, dosage forms, dose frequencies, and administration instructions[1-3]
- MRCI is measurable and modifiable and can be automated[1-3]
- MRCI of 11.25 predicts polypharmacy and nonadherence in PWH[2,3]

Download the tool here:
https://pharmacy.cuanschutz.edu/research/MRCTool

Example Regimens Below and Above Average Complexity[1]



Sample Regimen for Patient on 7 Medications, with MRCI = 20

Medication	Dose	Route	Frequency
PHENYTOIN SODIUM	CAPSULE	ORAL	EVERY 6 HOURS
GLIMEPIRIDE 2 MG	TABLET	ORAL	ONCE A DAY
SEREVENT DISKUS 50 MCG/DO	DISK W/DEV	INHALATION	TWICE A DAY
FAMOTIDINE 20 MG	TABLET	ORAL	TWICE A DAY
DEXAMETHASONE 4 MG	TABLET	ORAL	EVERY 6 HOURS
AVANDIA 4 MG	TABLET	ORAL	ONCE A DAY
BENICAR 20 MG	TABLET	ORAL	ONCE A DAY

Sample Regimen for Patient on 7 Medications, with MRCI = 10

Medication	Dose	Route	Frequency
PROTONIX 40 MG	TABLET DR	ORAL	ONCE A DAY
TOPROL XL 100 MG	TAB.SR 24H	ORAL	ONCE A DAY
CITALOPRAM 10 MG	TABLET	ORAL	ONCE A DAY
NORVASC 5 MG	TABLET	ORAL	ONCE A DAY
SLOW FE 160 MG	TABLET SA	ORAL	TWICE A DAY
ARICEPT 5 MG	TABLET	ORAL	ONCE A DAY
FUROSEMIDE 20 MG	TABLET	ORAL	TWICE A DAY

Image courtesy of McDonald MV et al. *J Am Med Inform Assoc*. 2013;20(3):499-505. CC BY-NC-ND 3.0.

1. McDonald MV et al. *J Am Med Inform Assoc*. 2013;20(3):499-505.
2. Manzano-García M et al. *Ann Pharmacother*. 2018;52(9):862-867.
3. Morillo-Verdugo R et al. *Rev Esp Quimioter*. 2019;32(5):458-464.

Essential Tasks During HIVE Med Rec Visit

Introduce role of clinician

Outline purpose of visit

Provide estimated time for clinician visits

Conduct medication review

Ask open-ended questions

Identify areas where further education is necessary

Discuss ideas for optimization

- What do you take this medication for?
- What time of the day do you take this medication?
- How often do you miss a dose of this medication out of the 7 days in a week?
- What medications do you take that you purchase over-the-counter?

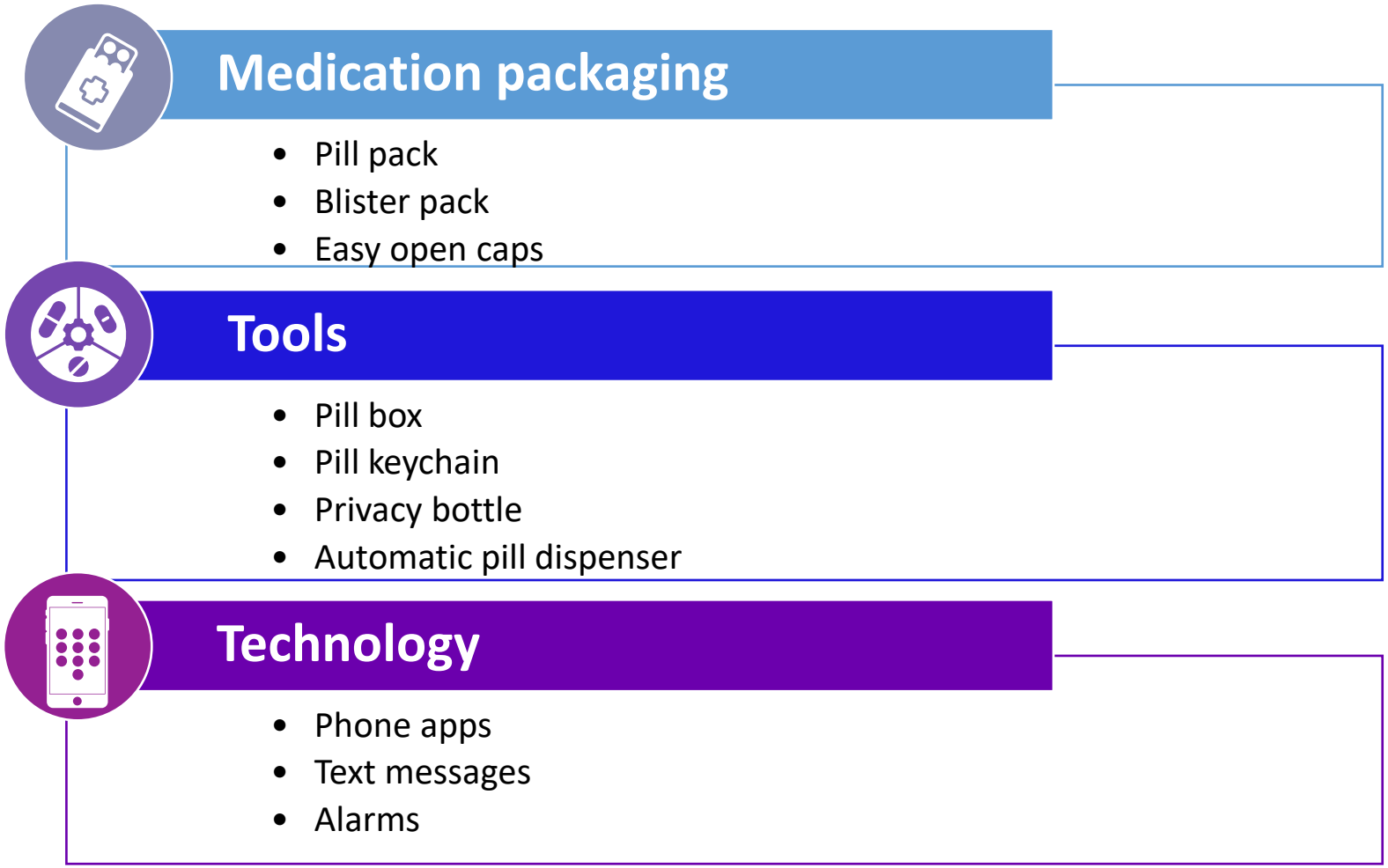
Steps of HIVE Medication Reconciliation and Review

Collect	Print complete list of all medications from medical record
Engage	Use open-ended questions to review prescribed medications, OTC supplements, and substances (e.g., nicotine, cannabinoids, alcohol)
Identify	Compare the collected list with prescribed medications to identify missing, duplicate, or incorrect entries
Optimize and resolve	Collaborate with the patient and providers to address discrepancies and determine areas for optimization
Educate	Discuss any discrepancies and changes with the patient to improve medication knowledge
Document	Add, modify, or remove reconciled medication list in the patient's record, provide patient an updated list

Lessons Learned: High Yield Themes for Regimen Optimization

- Consider fewer or single-tablet regimens
- Reduce size or number of pills
- Assess medication safety profile of current medications
- Avoid crushable or liquid formulations
- Ask about side effects
- Evaluate drug-drug or drug-food interactions
- Simplify instructions for administration (e.g., take with specific meals or at specific times, or take multiple times per day)
- Consider deprescribing where appropriate

Consider Adherence Assistance



US DHHS. Updated September 12, 2024. Accessed January 13, 2025. https://clinicalinfo.hiv.gov/en/guidelines/hiv-clinical-guidelines-adult-and-adolescent-arv/adherence-continuum-care.

CME Module

- HIVE clinic developed CME-accredited educational module to be launched May 2025
- More detail into medication reconciliation and optimization process, specific tools used for deprescribing and conservative prescribing as well as common scenarios identified from our experience
- Includes case studies, patient vignettes and knowledge check-in questions

Summary

The HIV-Endurance (HIVE) clinic at Boston Medical Center is an integrated geriatrics-HIV model with an embedded pharmacist-led medication review

Thorough medication reconciliation allows for medication regimen optimization

Consider calculating MRCI or medication count to assess impact

Deprescribing and use of assistance tools can help adherence

Q&A Session (20 minutes)

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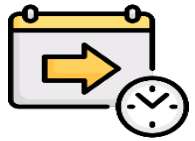
Upcoming Webinars 

Webinar 4: Personalized Care in HIV and Aging

Date: July 17, 2025, 2:00pm – 3:00pm ET

Presented by: Centro Ararat, Inc. & Mount Sinai Beth Israel

Webinar 5: Promoting Wellness for Aging Adults with HIV: Exercise, Nutrition, and Beyond

Date: July 28, 2025, 2:00pm – 3:00pm ET

Presented by: Wake Forest University Health Sciences & Empower U Inc.

Keep an eye on your inbox for registration links!

Thank you!

Visit https://targetHIV.org/spns/aging for more information on the SPNS Aging with HIV Initiative.