

Comprehensive Geriatric Assessment (CGA)

A systematic approach to identify, prevent, and manage drug-related problems in older adults — optimising medication use for better health outcomes.



History Taking in Older Adults

Many older adults use a combination of prescription medications, OTC medications, and dietary supplements including herbal products, vitamins, and minerals. Obtaining a complete medication history is essential to safe care.

Communication Problems

Hearing impairment, vision impairment

Underreporting

Health beliefs, cognitive impairment

Altered Disease Presentation

Vague or nonspecific symptoms

Polypharmacy

Multiple illnesses and comorbidities

Reliance on Caregivers

Patient unable to provide history independently

Limited Medical Records

Incomplete documentation

Information to Collect & the TIMER Tool

What to Collect

- Prescription medications
- OTC drugs
- Herbal products
- Vitamins and supplements
- Allergies and previous ADRs
- Current medication concerns
- Geriatric syndromes: falls, confusion, incontinence

 The **TIMER Tool** (Tool to Improve Medications in the Elderly via Review) helps pharmacists collect medication-related information systematically.

Medication Organisation Strategies

01

Using a Pill Box

02

Laying Out Medications for the Whole Day

03

Keeping Medications in a Visible Place

04

Using a Checklist or Calendar

Assessing & Monitoring Drug Therapy

Comparing the medical problem list with the drug list

This is a simple approach that identifies approximately **two-thirds of prescribing problems**.

Overuse

Medication is unnecessary because:

- No indication exists
- Drug is ineffective
- Risks outweigh benefits
- Therapeutic duplication exists

Underuse

Patient has a condition but is not receiving beneficial evidence-based therapy. Identifying omissions is equally critical to safe prescribing.

Tools for Identifying Potentially Inappropriate Medications (PIMs)

Tool	Purpose
Beers Criteria	Identify potentially inappropriate medications
STOPP Criteria	Detect inappropriate prescribing
EU-PIM List	Identify harmful drugs in older adults

Steps 2 & 3: Identifying Prescribing Omissions & Assess Remaining Medications

Step 2: Identify Prescribing Omissions

Determine whether evidence-based medications are missing from the patient's regimen.

Tool	Purpose
START Criteria	Identifies omitted beneficial medications
AOU Criteria	Assessment of Underuse

Step 3: Assess Remaining Medications : Evaluate



Dose Appropriateness



Drug-Drug Interactions



Drug-Disease Interactions



Therapy Duration



Cost



Directions for Use

Medication Appropriateness Index (MAI)

Developed by **Hanlon JT and Schmader KE (1992)** to evaluate medication appropriateness in elderly patients. The evaluator assesses 10 criteria across three weighted categories.

MAI Weighting System

Criterion	Weight
Indication, Effectiveness	3
Dosage, Directions, Drug-Drug Interaction, Drug-Disease Interaction	2
Practicality, Duplication, Duration, Cost	1

Score Interpretation

Total Score	Interpretation
0	Completely Appropriate
18	Maximally Inappropriate

10 MAI Assessment Criteria

01

Indication

02

Effectiveness

03

Dosage

04

Directions

05

Practicality

06

Drug-Drug Interactions

07

Drug-Disease Interactions

08

Duplication

09

Duration

10

Cost

Beers Criteria

The **American Geriatrics Society (AGS) Beers Criteria** is a list of medications that should generally be avoided or used cautiously in older adults because the risks outweigh the benefits.

History & Purpose

- Developed by **Mark Beers in 1991**
- Updated every 3 years by the AGS
- Latest major revision: **2019**

Goals

- Improve prescribing quality
- Reduce inappropriate medication use
- Prevent ADRs
- Educate healthcare professionals

What It Includes

Category	Number
Drugs/classes generally to avoid	~30
Drugs/classes to use cautiously or avoid in specific diseases	~40



Beers Criteria should be used as a **guide, not an absolute rule**. Clinical judgement and patient-specific factors must always be considered.

Documenting Problems, developing therapeutic plan & Consulting the Prescriber

Developing a Therapeutic Plan

After medication review, the clinician should:

- Document all drug-related problems
- Develop targeted interventions
- Establish age-appropriate therapeutic goals

❏ Treatment goals for an **80-year-old patient** may differ significantly from those for a 40-year-old patient.

Consulting the Prescriber

Prescriber consultation serves to:

- Promote continuity of care
- Facilitate team-based management

⊗ **Optimise prescribing before implementing adherence interventions.** Improving adherence to an inappropriate regimen may increase patient harm.

Counselling & Adherence

The **WHO Five Dimensions** affecting adherence must be addressed holistically to support older adults in managing their medications effectively.

Social/Economic

Cultural beliefs, finances

Healthcare System

Provider-patient relationship

Condition-Related

Chronic diseases

Therapy-Related

Complex regimens

Patient-Related

Vision/hearing impairment

General Strategies

- Simplify medication schedules
- Match regimens to patient lifestyle
- Use generic medications
- Reduce copayments
- Use formulary-preferred drugs

Adherence Aids

- Pill organisers and medication calendars
- Medication records and special packaging
- Dose-measuring devices
- Magnification devices for insulin syringes
- Spacers for inhalers

Documenting Interventions, monitoring Progress & Targeting High-Risk Patients

Documentation Should Include

- Drug-related problems identified
- Recommendations provided
- Interventions implemented
- Patient response
- Follow-up plans

- ✓ Good documentation improves continuity of care, tracks outcomes, and facilitates communication among healthcare providers.

High-Risk Patients: Prioritise When Resources Are Limited

Polypharmacy risk: ≥ 7 medications OR 3 cardiac medications

High-Risk Medication Classes

Anticoagulants

Antidepressants

Anti-infectives

Antipsychotics

Anticonvulsants

Opioid Analgesics

Sedative-Hypnotics

Skeletal Muscle
Relaxants