Adherence to STOPP/START Criteria for Cardiovascular Medications in Older Patients: An Audit of Prescribing Practices

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Introduction:

- **Polypharmacy** (concurrent use of ≥ 5 medications) is a growing concern, particularly among older patients.(1)
- Exposure to polypharmacy is highly prevalent and concerns approximately **40% of people over 65 years** old.(2) It is associated with **multiple adverse outcomes**, including prolonged hospital stays, recurrent falls, and mortality.(1,2)
- **Potentially inappropriate prescribing is more common among old people because of polypharmacy**, as unnecessary medications may be obscured by large numbers of clinically indicated ones. Similarly, **necessary medications may occasionally be omitted**.(1)
- These issues often concern **cardiovascular conditions** like heart failure, hypertension, or atrial fibrillation.

Aim:

- To **improve prescribing practices** for older patients by enhancing adherence to STOPP/START criteria for cardiovascular and coagulation medications in a geriatrics ward of a Community Hospital.

Objectives:

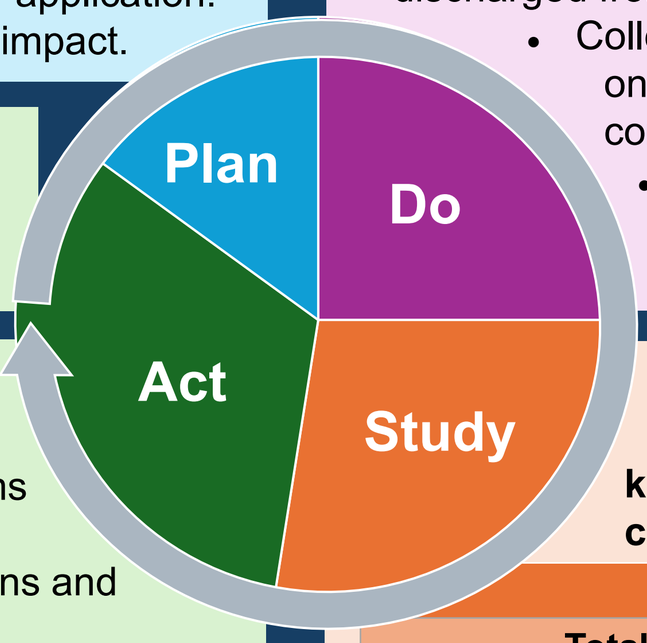
- Identify and reduce potentially inappropriate prescriptions (PIP) using STOPP criteria.
- Promote initiation of indicated medications per START criteria.
- Increase prescriber awareness of STOPP/START application.
- Implement interventions and re-audit to measure impact.

The audit tool: STOPP/START criteria (3)

- A **physiological systems-based set of rules** that can facilitate medications review for older people.
- Supported by the British Geriatric Society (**BGS**), Royal College of General Practitioners (**RCGP**) and the National Institute for Health and Care Excellence (**NICE**).

Methodology:

- **Retrospective review** of **80 consecutive patients** aged ≥65 discharged from a Sidmouth Community Hospital.
  - Collection of **survey data from prescribing teams** on knowledge of STOPP/START criteria and concepts.
    - Prescribing optimisation by applying **targeted educational interventions** and **providing learning material** prescribing teams.



Audit expanded in other Community Hospitals – further cycles / introduction of EPR changes

Interventions:

- Distribution of **educational posters.**
- Targeted **teaching sessions** for prescribing teams in Acute and Community Hospitals.
- Results presented in Quality Improvement sessions and Governance meetings to raise awareness.

Post-intervention assessments: 100% of prescribing team members declared improved knowledge base, satisfaction with interventions, and reported willingness to attend future sessions.

Results:

- **75%** of prescribers and pharmacists reported **knowledge gaps regarding STOPP/START criteria and medications optimisation guidance.**

	Applicable	Adhered to
Total STOPP/START	125	48 (**38.4%**)
STOPP criteria	67	35 (**52.2%**)
STOPP cardiovascular	49	24 (49.0%)
STOPP coagulation	18	11 (61.1%)
START criteria	58	13 (**22.4%**)
START cardiovascular	55	13 (23.6%)
START coagulation	3	0 (0.0%)

STOPP criteria with ≥5 applicable cases	Applicable	Adhered to
Cardiovascular		
Loop diuretic as first-line treatment for hypertension unless concurrent heart failure requires diuretics	8	3 (37.5%)
Loop diuretic for dependent ankle oedema without evidence of heart failure, liver failure, or renal failure	7	2 (28.6%)
Drugs that prolong the QTc interval in patients with QTc prolongation	7	4 (57.1%)
Statins for primary cardiovascular prevention in individuals aged **≥85 with frailty and limited life expectancy**	12	6 (50.0%)
Coagulation		
Aspirin for primary prevention in cardiovascular disease	9	4 (44.4%)

START criteria with ≥5 applicable cases	Applicable	Adhered to
Cardiovascular		
Antihypertensive therapy for systolic BP >140 mmHg and/or diastolic BP >90 mmHg unless frailty is established	17	7 (41.2%)
Statin therapy for documented coronary, cerebral, or peripheral vascular disease	7	5 (71.4%)
ACE inhibitors for coronary artery disease	5	0 (0.0%)
MRA in heart failure without severe renal impairment	7	0 (0.0%)
SGLT-2 inhibitors in symptomatic heart failure regardless of diabetes status	10	0 (0.0%)
Coagulation – n/a		

Conclusion:

- Adherence to STOPP/START criteria was **suboptimal**, especially for START (initiation) recommendations.
- **Educational interventions improved prescriber knowledge and awareness** of appropriate prescribing in older adults.
- Expanding this audit to other sites could promote safer and **more consistent prescribing practices** across community hospitals.

References:
1. Milton JC, Hill-Smith I, Jackson SHD. Prescribing for older people. BMJ. 2008 Mar 15;336(7644):606–9.
2. Wang Z, Liu T, Su Q, Luo H, Lou L, Zhao L, et al. Prevalence of Polypharmacy in Elderly Population Worldwide: A Systematic Review and Meta-Analysis. Pharmacoepidemiol Drug Saf. 2024 Aug;33(8):e5880.
3. O'Mahony D, Cherubini A, Guiteras AR, Denkinger M, Beuscart JB, Onder G, et al. STOPP/START criteria for potentially inappropriate prescribing in older people: version 3. Eur Geriatr Med. 2023 Aug;14(4):625–32.