

a

Failure Reason	Failure Category	Description	Failure Modes
Overconfidence in uncertainty	Contextual Reasoning	Acts decisively when uncertainty should prompt further information gathering	Premature action without information gathering (n=42); Overlooked clinical issues (n=9)
Protocol vs patient gap	Contextual Reasoning	Applies standardised guidelines without adjusting for individual patient context, goals of care, or competing risks	Not considering patient specific context (n=22); Unnecessary flagging (n=14); Missed deprescription opportunities (n=13)
Protocol vs practice gap	Contextual Reasoning	Understands formal documentation but misunderstands how healthcare is actually delivered	Duplicate prescription errors (n=19); Healthcare system context (n=11)
Coherent but factually incorrect	Factual Error	Produces sensible clinical reasoning structure but is unreliable about specific factual content	Hallucinations (n=5); Pharmacological knowledge gaps (n=9); Guideline misapplication (n=11)
Process blindness	Contextual Reasoning	Identifies correct clinical endpoints but recommends unsafe pathways to reach them	Unsafe medication transitions (n=23)

b

Vignette 4

Overconfidence:

Starts antidepressant without considering other management strategies

SYSTEM ISSUES

✓ Severe depression (PHQ-9 23) with no active antidepressant therapy

✓ Borderline vitamin D insufficiency in a patient with osteoporosis

SYSTEM INTERVENTION

✗ Start sertraline 50 mg orally once daily today, arrange a mental health review (within 7 days) to monitor response. Prescribe cholecalciferol (vitamin D3) 1000 IU orally daily.

CLINICIAN REVIEW

Other valid strategies exist (talking therapies, CBT) which the patient may already be accessing. Insufficient information to recommend antidepressant. Vitamin D replacement is appropriate.

Vignette 9

Protocol vs patient gap:

Recommends restarting multiple prescriptions in patient with advanced age and frailty

SYSTEM ISSUES

✗ Absence of high-intensity statin therapy for secondary prevention of coronary heart disease

✗ Absence of ACE-inhibitor therapy for hypertension, CKD protection and cardiovascular risk reduction

SYSTEM INTERVENTION

✗ Restart atorvastatin 40 mg once daily. Restart ramipril 2.5 mg once daily.

CLINICIAN REVIEW

There is nothing technically incorrect about restarting these prescriptions, but they are not clinically appropriate in the context of advanced frailty where the risk would likely outweigh the benefit.

Vignette 22

Protocol vs practice gap:

Doesn't recognise dual prescription achieves intended dose

SYSTEM ISSUES

✗ Duplicate perindopril prescriptions (2 mg and 4 mg tablets) both active, leading to potential dosing confusion and unnecessary complexity.

SYSTEM INTERVENTION

✗ Discontinue one of the perindopril prescriptions and consolidate to a single prescription (e.g. prescribe a single 6 mg tablet).

CLINICIAN REVIEW

Total intended dose is 6 mg. No 6 mg tablet exists; dual prescriptions are the standard approach.

Vignette 27

Coherent but factually incorrect:

Hallucinates that Monomil is a clopidogrel

SYSTEM ISSUES

✗ Prolonged dual antiplatelet therapy (aspirin 75 mg + clopidogrel Monomil XL 60 mg) without documented recent indication, increasing bleeding risk.

SYSTEM INTERVENTION

✗ Discontinue Monomil XL (clopidogrel) 60 mg daily after confirming no recent indication for dual antiplatelet therapy; continue aspirin 75 mg daily.

CLINICIAN REVIEW

Monomil XL is isosorbide mononitrate for angina, not clopidogrel. Patient is not on dual antiplatelet therapy.

Vignette 42

Process blindness:

Recommends abrupt cessation of amitriptyline without taper

SYSTEM ISSUES

✓ Amitriptyline prescribed despite known ischaemic heart disease and heart failure, posing risk of cardiac arrhythmia and anticholinergic side-effects in an elderly patient

SYSTEM INTERVENTION

✗ Stop amitriptyline 10 mg nightly immediately. If needed for sleep or neuropathic pain, consider a safer alternative.

CLINICIAN REVIEW

Stopping amitriptyline requires a gradual taper as it is very difficult to stop abruptly in practice.