Rationalising Blood Tests in the Elderly:

An Audit of Routine Blood Investigation Requests in Geriatric Wards

J. L. Ern Hui, D. Kumanan, A. Fayed | Univerisity Hospitals of Leicester NHS Trust

Background

Blood tests are frequently performed in geriatric wards without a clear clinical indication, contributing to patient discomfort, increased costs, and unnecessary workload.[1] The GMC states that medical professionals should *"demonstrate leadership in managing and using resources effectively"*.[2] This audit evaluates the appropriateness of blood tests carried out in the geriatric wards at Leicester Royal Infirmary (LRI), with the aim of reducing unnecessary testing.

Aims

1. Determine the proportion of blood tests performed without a clear clinical indication.
2. Reduce unnecessary blood tests through education on minimum retesting intervals.

Methods

- Retrospective audit over 2 weeks in all four geriatric wards at LRI
- Blood tests reviewed: **FBC, U&E, CRP, LFT, coagulation screen, bone profile, BNP**
- Each test assessed against **pre-set criteria** adapted from:
  - *Optimising Blood Testing in Secondary Care (NHS)*[1]
  - *National Minimum Retesting Intervals in Pathology (Royal College of Pathologists)*[3]
- **Intervention**:
  - Posters on wards and emailed to doctors outlining minimum retesting intervals
  - Findings presented in clinical and departmental meetings to consultants and resident doctors
- Audit cycle repeated to assess impact of intervention

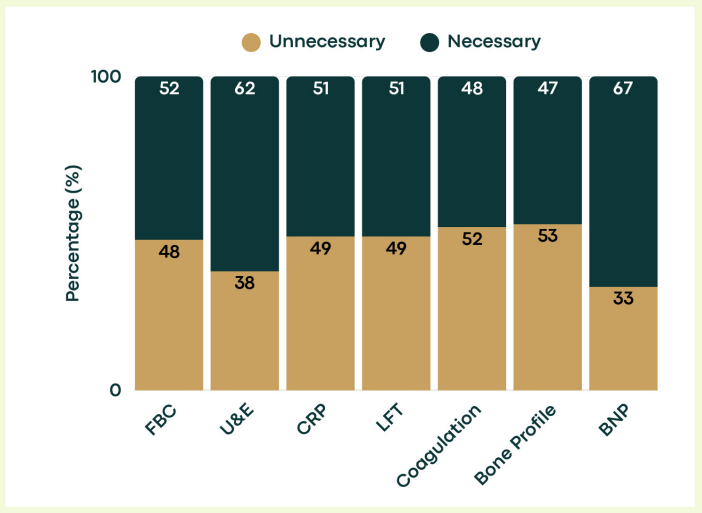
U&E

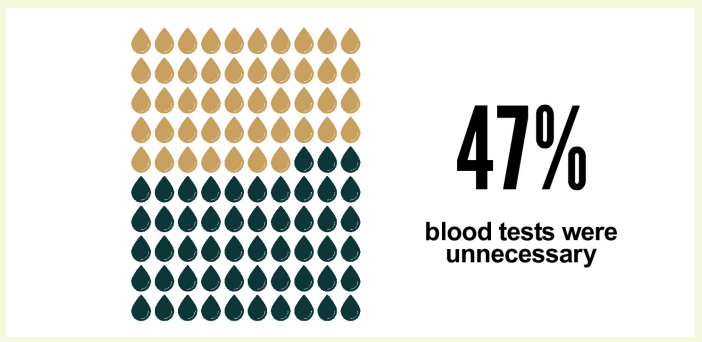
1. *Patients with normal electrolytes, not on IV fluids: Every 7 days*
2. *Patients on IV fluids: Daily*
3. *Patients with AKI stage 1: Every 2 days, if levels worsening then daily; AKI stage 2-3: Daily*
4. *ACE inhibitors/ARB: 1 week after starting, 1 week after each titration*
5. *IV diuretics: Daily*

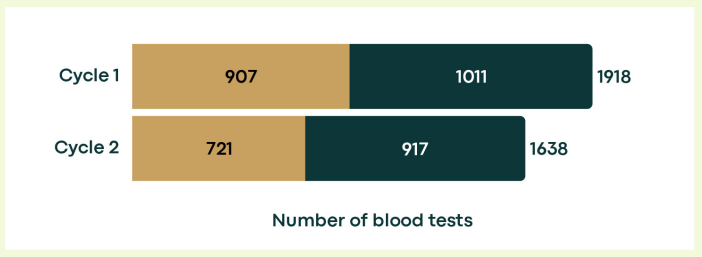
Figure 1: Example of pre-set criteria

Results

- Baseline audit: 1,918 blood tests reviewed; **907 (47%) were deemed unnecessary**
- Highest rates of inappropriate requests:
  - Bone profile – 53%
  - Coagulation screen – 52%
- Re-audit: 1,638 blood tests reviewed; **721 (44%) were unnecessary**
- Coagulation screen requests showed the greatest improvement, reducing from 52% to 43% inappropriate requests







Discussion

The high rate of unnecessary blood tests aligns with national concerns about non-indicated testing. *NHS Optimising Blood Testing in Secondary Care*[1] highlights:

- **Think twice**: Request tests only when clinically indicated; check the last test date and minimum retesting intervals.
- **Check twice**: Review previous results and avoid unnecessary repeats.
- **Order once**: Add on to existing samples where possible; avoid requesting full panels if only specific values are needed.
- **Involve seniors**: Clarify required tests and document the rationale for repeats.

Conclusion

Nearly half of the blood tests ordered in geriatric wards were unnecessary, highlighting the need for more judicious test ordering. Interventions such as posters, presentations, and education on minimum retesting intervals led to a modest reduction in inappropriate testing. Continued efforts are required to reinforce appropriate testing and promote sustainable change in clinical practice.

References

1. Optimising blood testing in secondary care [Internet]. NHS England; 2021 [cited 2025 Oct 20]. Available from: https://www.england.nhs.uk/wp-content/uploads/2021/09/B0960-optimising-blood-testing-secondary-care.pdf
2. Planning, using and managing resources [Internet]. General Medical Council; 2024 [cited 2025 Oct 20]. Available from: https://www.gmc-uk.org/professional-standards/the-professional-standards/leadership-and-management/planning-using-and-managing-resources
3. National minimum retesting intervals in pathology [Internet]. The Royal College of Pathologists; 2021 Mar [cited 2025 Oct 20]. Available from: https://www.rcpath.org/static/253e8950-3721-4aa2-8ddd4bd94f73040e/g147_national-minimum_retesting_intervals_in_pathology.pdf