

Unwarranted laboratory requests on a busy surgical DGH unit: understanding & addressing the problem.

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Introduction

Wasteful or harmful variation in clinical care compromises the effectiveness of the service provided to patients. In addition, the Royal College of Pathologists offers guidelines on re-test frequency.

Meanwhile, laboratories possess a vast archive of test data and the laboratory profession is exploring ways of using that data to solve clinical problems. Quality improvement science and its accompanying statistical approach offers a useful method of achieving this but is uncommon in laboratory medicine.

In the surgical unit at University Hospital Crosshouse, the majority of in-patients have blood tests taken daily.

The processing of a 'simple blood test' relies on the co-ordination of several independently working individuals and groups.

We wanted to explore collaborative approaches to reducing variation. Furthermore, we wanted to develop innovative ways of using laboratory data and quality improvement science methods to embed improvements.

Aim

We wanted to characterize the process on an individual sample. We also wanted to examine the weekly and monthly request habits on this surgical unit.

We wanted to understand the clinical reasoning behind these request patterns and whether or not we could influence the requesting by simple interventions.

We further wanted to develop our novel approach of using laboratory data to solve clinical problems using quality improvement science methodology.

This work is strategically aligned with the Royal College of Pathologist's demand optimization, with Realistic Medicine and with our own Model for Care vision.

Method

A horizontal audit was conducted that followed one blood test from its request to its interpretation by a consultant.

We gathered laboratory data on weekly and monthly requesting from the surgical unit and analysed them using run-chart methodology and statistics.

Laboratory data for a single day was inspected for patterns of UE, LFT, CRP and FBC requesting.

We agreed criteria for warranted and unwarranted requests with our surgical clinicians and we evaluated baseline data with the surgical team.

In addition, we carried out a survey of senior medical staff understanding of the request process.

We also surveyed our patient's understanding of the reasons behind their blood tests.

We adopted a pre & post intervention approach and our interventions were educational.

Finally, we analysed requests for a single day post-intervention.

Results

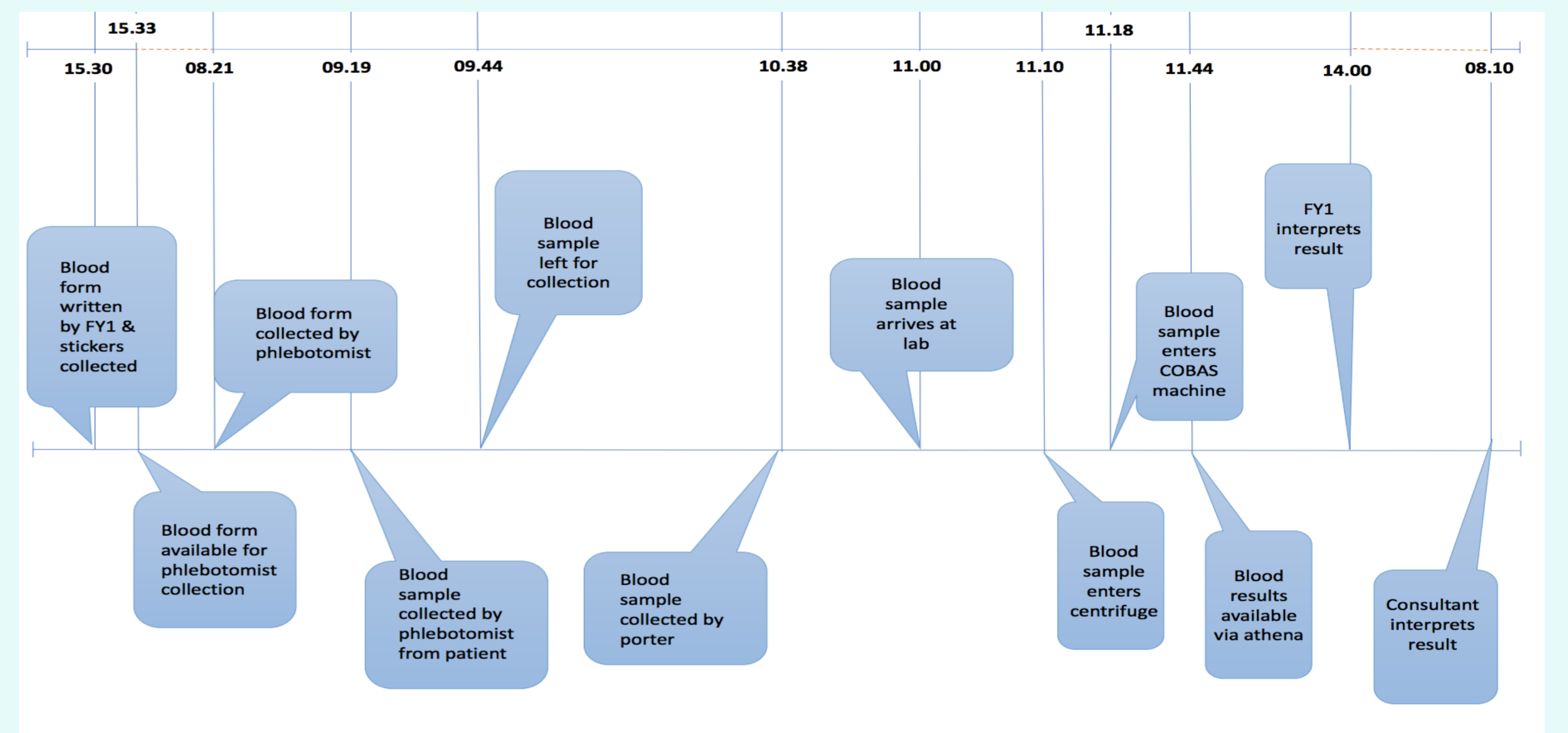


Fig 1 shows a horizontal audit time-line for a single sample.

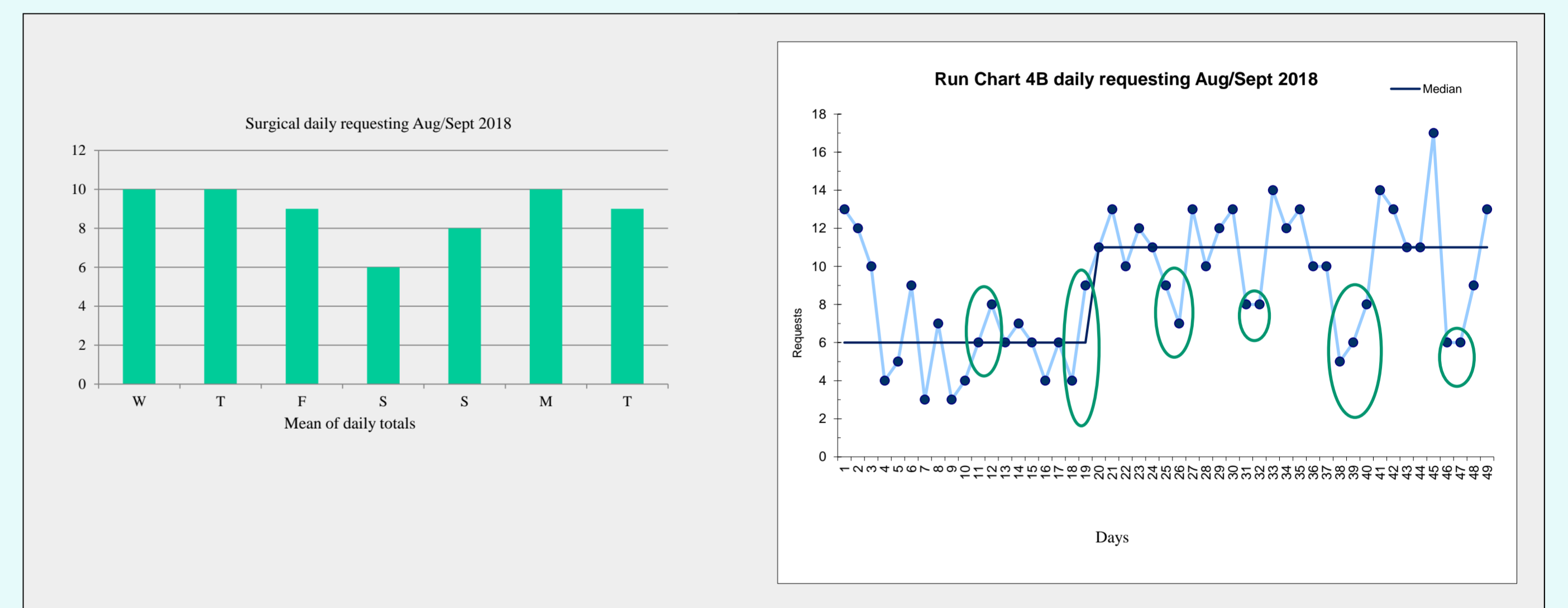


Fig 2 & 3 shows weekly & monthly requesting data. In Fig 3, the run-chart plots daily requests (x-axis) and request numbers (y-axis). The solid horizontal line is the median and the green circles show weekend data points. The increase in requesting observed coincides with a new intake of junior doctors.

Our staff survey revealed that few surgical clinicians were aware of the RCPATH Guidelines for repeat requesting.

Our patient survey showed that patient's felt they understood why requests were required and that blood requests showed "something was being done."

Following a series of educational sessions we improved the number of unwarranted requests from 67% (87/129) to 25% (37/149).

Conclusion

We have characterized laboratory requests in a DGH surgical unit by day, week & month. In addition, we have demonstrated an improvement in the blood test requesting.

This positively contributes to our demand optimization work and is in agreement with national and regional strategies.

Further work may reveal how well embedded in service delivery are the interventions and whether or not they can transfer to other clinical settings.

Acknowledgements

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