

A regional audit on provision of faecal calprotectin testing in Northern Ireland

Hanna E V¹, Hamilton J², McKeeman GC²,
¹ Antrim Hospital, Northern Health and Social Care Trust, Antrim ²Royal Victoria Hospital, Belfast Health and Social Care Trust, Belfast
on behalf of Regional Audit Group for Clinical Biochemistry

Background

Faecal Calprotectin (FC) is a protein used in assessment of intestinal inflammation. It is a major protein in neutrophilic granulocytes and macrophages. NICE guidance DG 11 recommends faecal calprotectin to differentiate between inflammatory bowel disease (IBD) and irritable bowel syndrome (IBS) in adults and between IBD and non-IBD in children.

Aim

To establish the current service provision and demand for faecal calprotectin testing in Northern Ireland.

Method

A questionnaire was sent to Biochemistry laboratories in Northern Ireland.

Results

A response was received from all 5 Trusts but only workload data included by 3 Trusts. All offered FC but only one Trust performed the test in house. 4 Trusts referred samples to England or Wales with variation in cost. The laboratory performing FC in house was cheapest. The FC tests were available in secondary care for all Trusts but only available to primary care in 4 Trusts (2 of these via GI consultant) as 1 had restricted the availability until a care pathway and funding were in place for primary care.

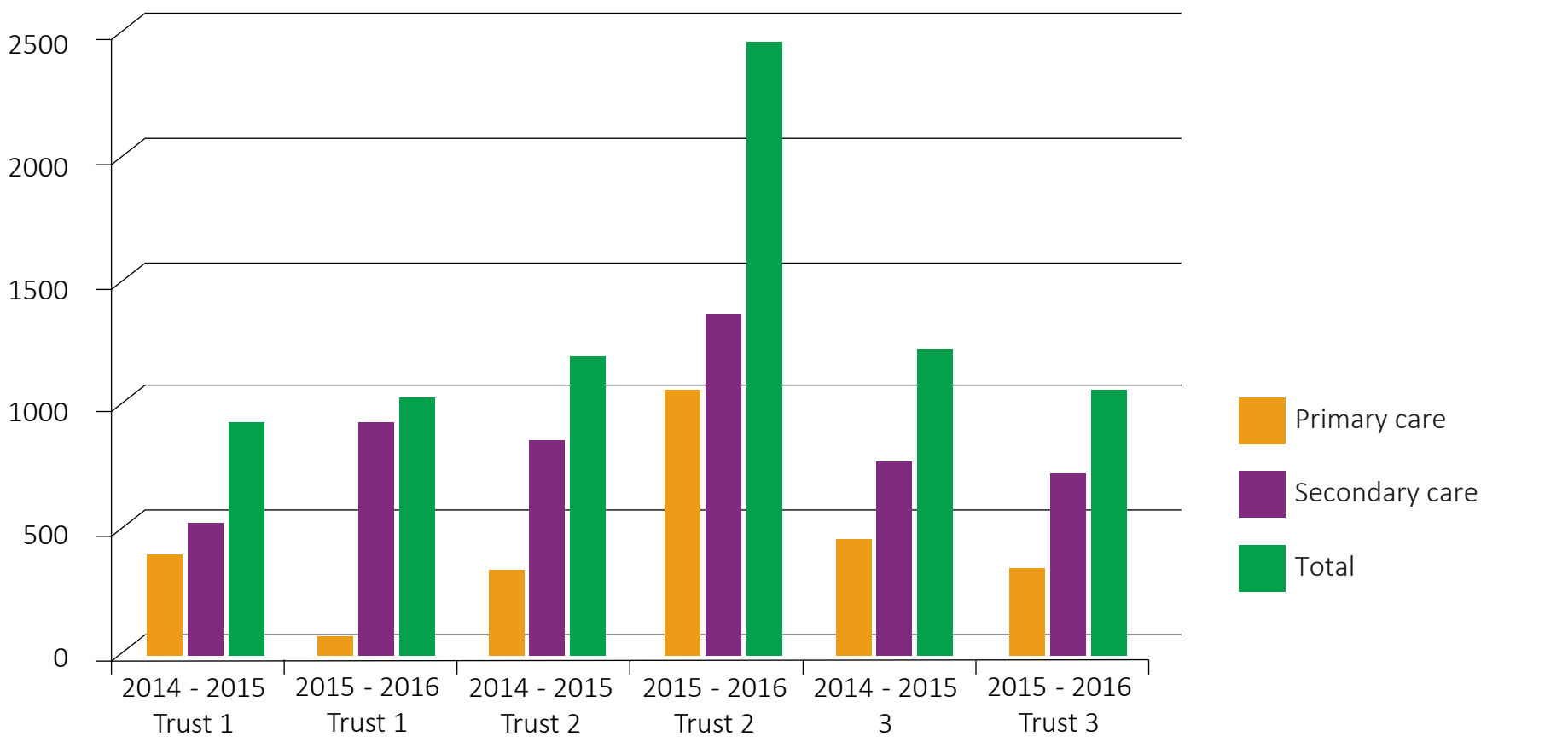
There was variation in the cut off values quoted for faecal calprotectin depending on the method used and extraction, 3 Trusts referred to the same lab. The sample stability was RT or 4°C for up to 6 days and therefore suitable for first class post. Results were available electronically in 3 Trusts.

Trust	Method	normal	intermediate	elevated
1	Firefly Calprotectin Extraction devices Enzyme immunoassay	<50ug/g	50-90ug/g	>90ug/g
2*	Buhlmann Calprotectin ELISA kit (EK-CAL) with quick prep	30-59ug/g Not indicative of GI inflammation	60-149ug/g Moderately elevated levels are associated with organic intestinal disease but should be interpreted in line with clinical assessment	150->1800ug/g Elevated Calprotectin suggestive of but not diagnostic of IBD
3*	Buhlmann Calprotectin ELISA kit (EK-CAL) with quick prep	30-59ug/g Not indicative of GI inflammation	60-149ug/g Moderately elevated levels are associated with organic intestinal disease but should be interpreted in line with clinical assessment	150->1800ug/g Elevated Calprotectin suggestive of but not diagnostic of IBD
4*	Buhlmann Calprotectin ELISA kit (EK-CAL) with quick prep	30-59ug/g Not indicative of GI inflammation	60-149ug/g Moderately elevated levels are associated with organic intestinal disease but should be interpreted in line with clinical assessment	150->1800ug/g Elevated Calprotectin suggestive of but not diagnostic of IBD
5	Immunodiagnostic ELISA and extractor kits	<50ug/g IBS likely review at 8 weeks	50-200ug/g repeat in 2 weeks with patient off NSAID or aspirin	>200ug/g IBD likely refer to gastroenterology

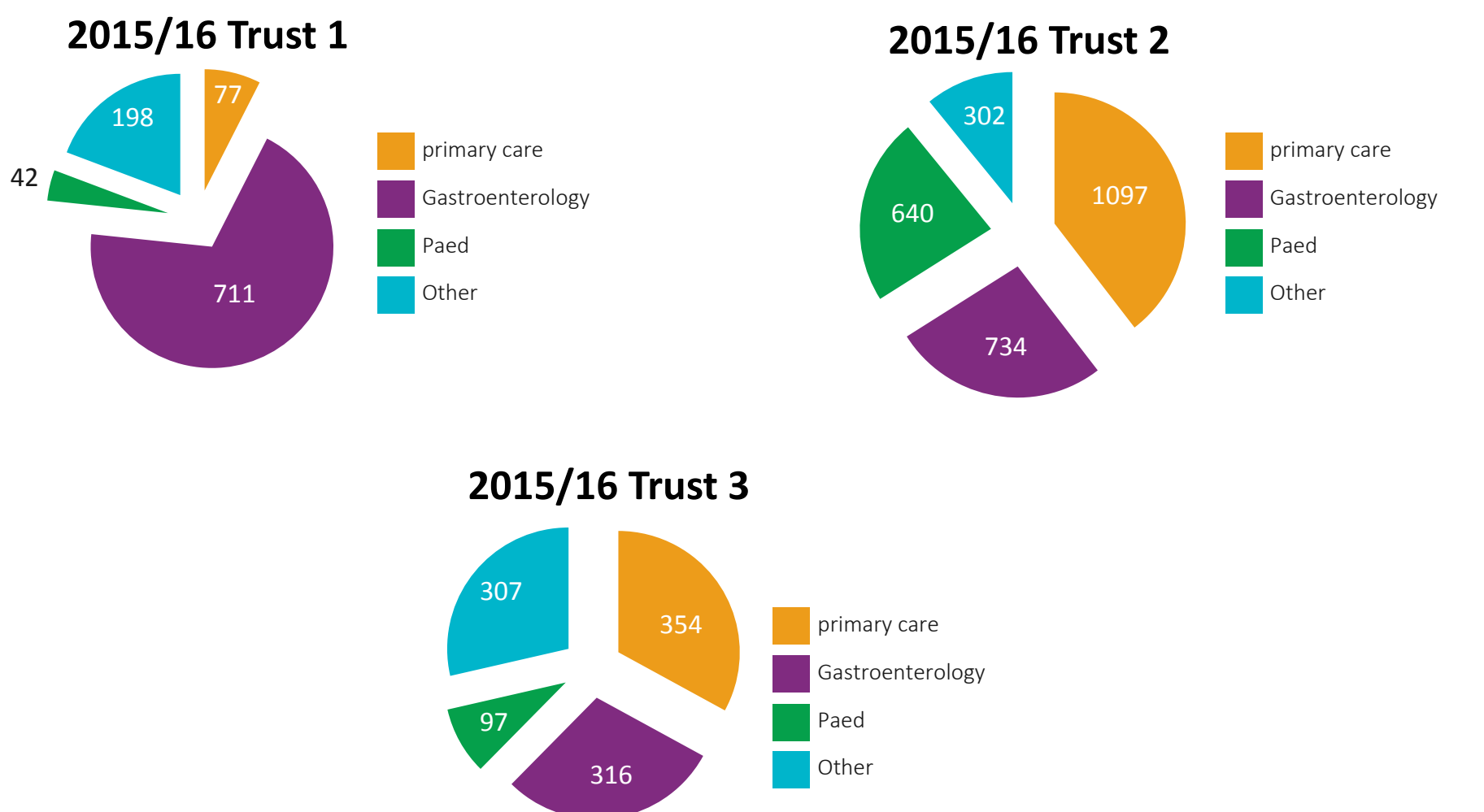
Trusts 1-4 use referral labs. Trust 5 used in house method.

*Referral lab quotes ranges for secondary care (IBD monitoring) regardless of whether referring lab source of request is primary or secondary care

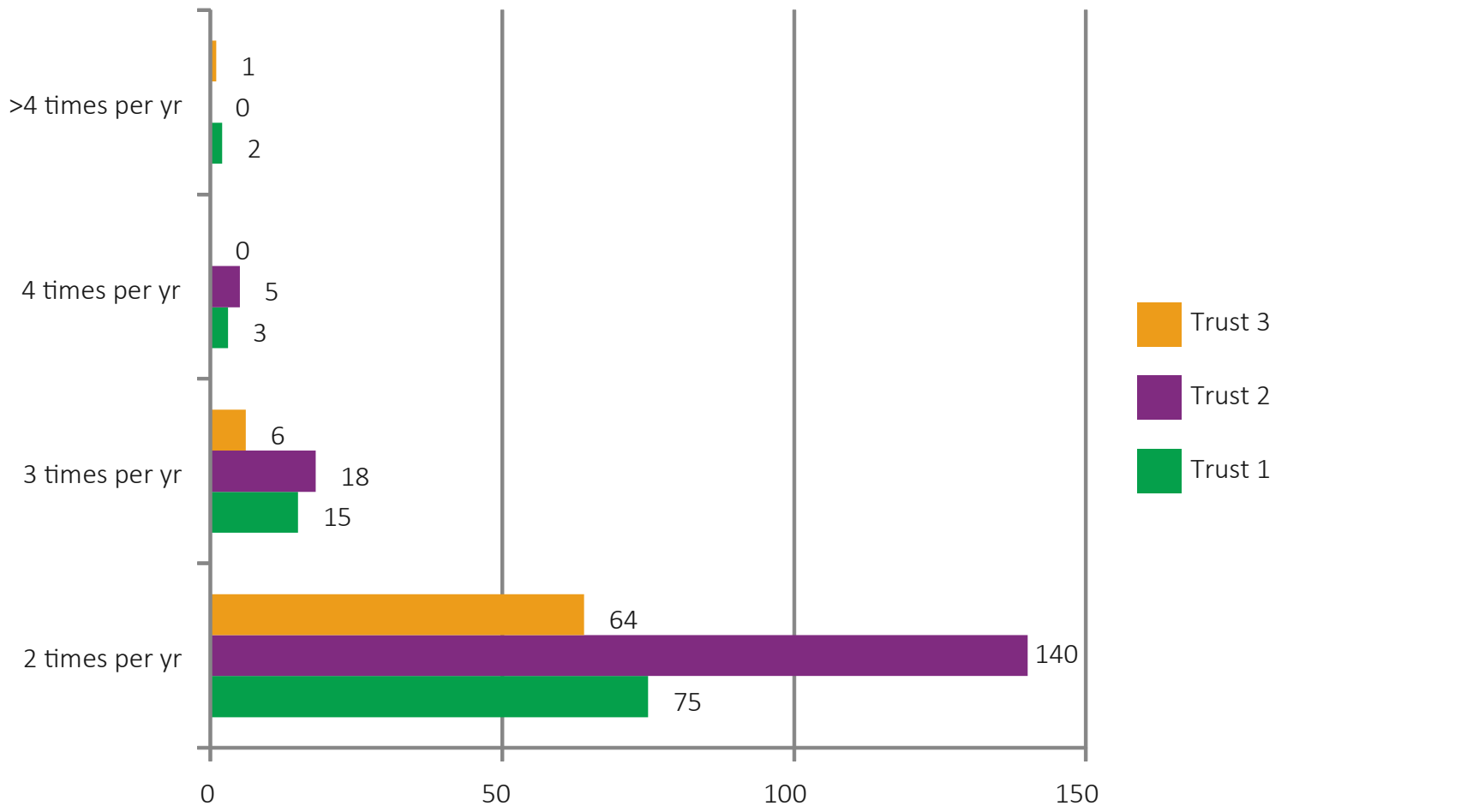
Annual FC requests primary v secondary care



Source of requests



Monitoring patients with known IBD



Recommendations

- Standardisation of referral lab and cut-offs. There are cost/efficiency benefits of one laboratory in NI providing analysis of FC for the region.
- A regional diagnostic pathway should be in place to guide the use of faecal calprotectin in primary care with respect to NICE DG 11.
- The use of faecal calprotectin for monitoring of IBD patients will require additional funding as this use is outside of NICE DG11 and should be highlighted to commissioners.

References

Faecal calprotectin diagnostic tests for inflammatory diseases of the bowel NICE [DG11] October 2013

Acknowledgements

Thanks to Dr Derek McKillop, Mrs Ellie Duly and Dr Mark Lynch and all other staff participating in this audit.