

# The investigation and treatment of iron deficiency anaemia in patients presenting to endoscopy

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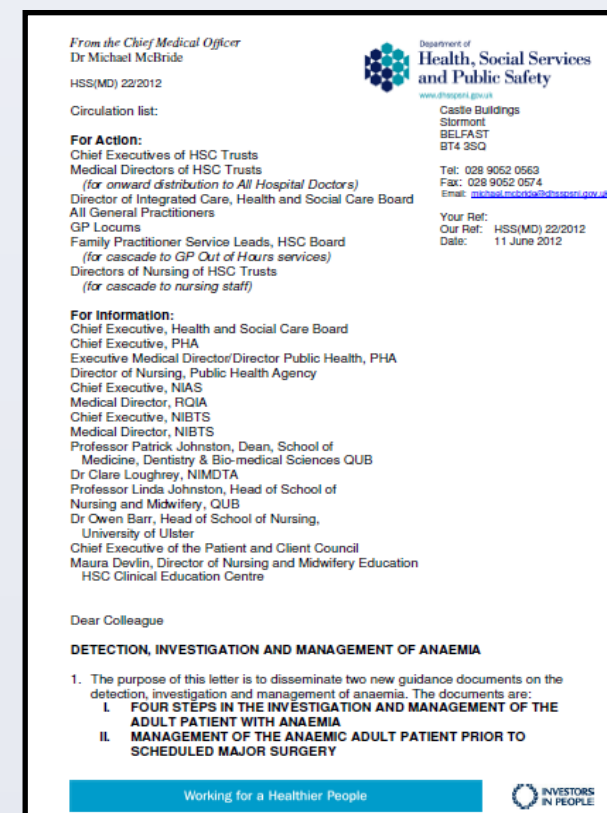
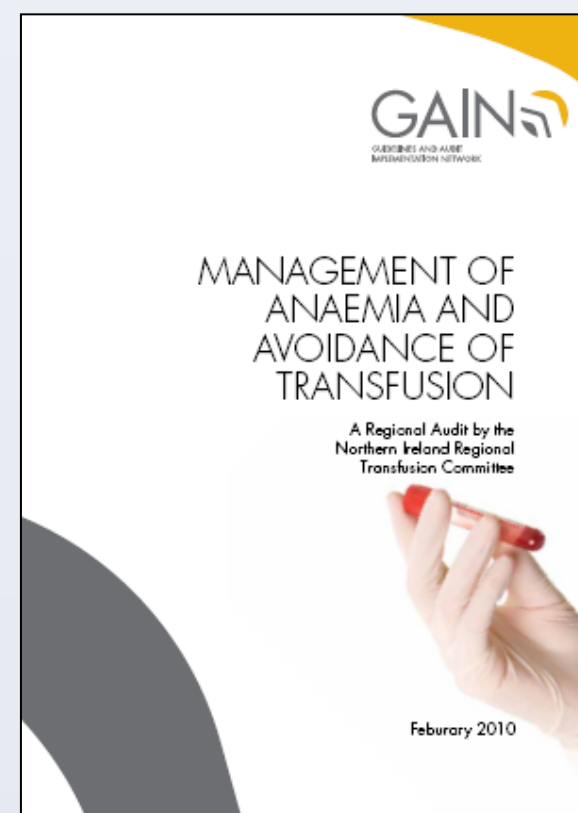
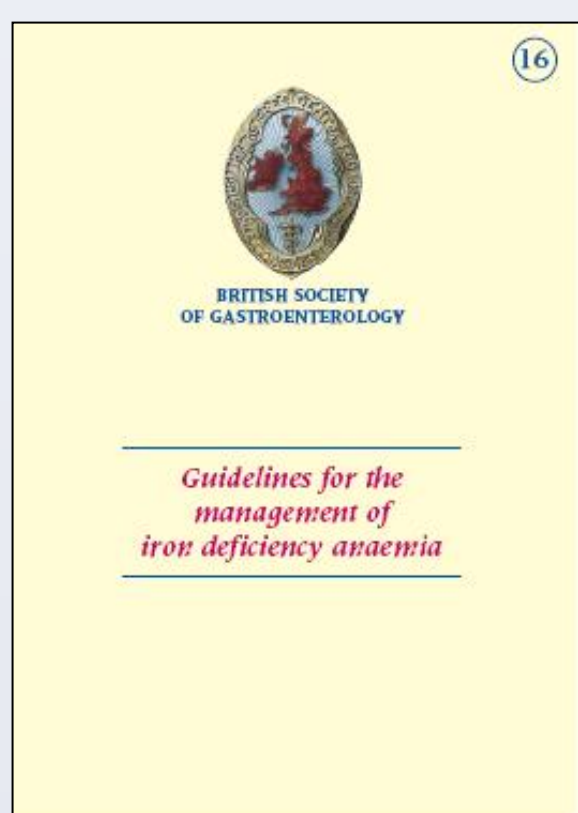
## Aims and objectives

Patients with untreated iron deficient anaemia will have persistent symptoms and are at considerably higher risk of morbidity and mortality in the peri-operative period<sup>1</sup>. We wish to investigate if patients presenting for endoscopy with iron deficiency anaemia (IDA) had their underlying haematinic deficiency promptly diagnosed, investigated and treated by oral or intravenous iron therapy as necessary.

## Standards:

Clear standards on the haematinic management of patients with IDA are available from the National Institute for Clinical Excellence (NICE),<sup>2</sup> the Northern Ireland Department of Health, Social Services and Public Safety (DHSSPS)<sup>3</sup>, the Guidelines and Audit Implementation Network (GAIN)<sup>4</sup> and the British Society of Gastroenterologists (BSG)<sup>5</sup>.

## NICE Guidelines



1. All anaemic patients should be investigated with iron studies promptly<sup>3,4</sup>
2. If an underlying haematinic deficit such as iron deficiency is discovered iron therapy should be started immediately<sup>3,4</sup>.
3. Once iron therapy is started a repeat FBC should be performed within 4 weeks to ensure treatment is working<sup>2,5</sup>.
4. Early referral for intravenous iron should be considered in patients who are intolerant or non compliant with oral iron or who are unresponsive to oral iron after a trial time period<sup>3,4,5</sup>.
5. If iron deficiency is identified, GI investigation should be considered<sup>5</sup>.
6. All patients with IDA should have a coeliac screen<sup>5</sup>.

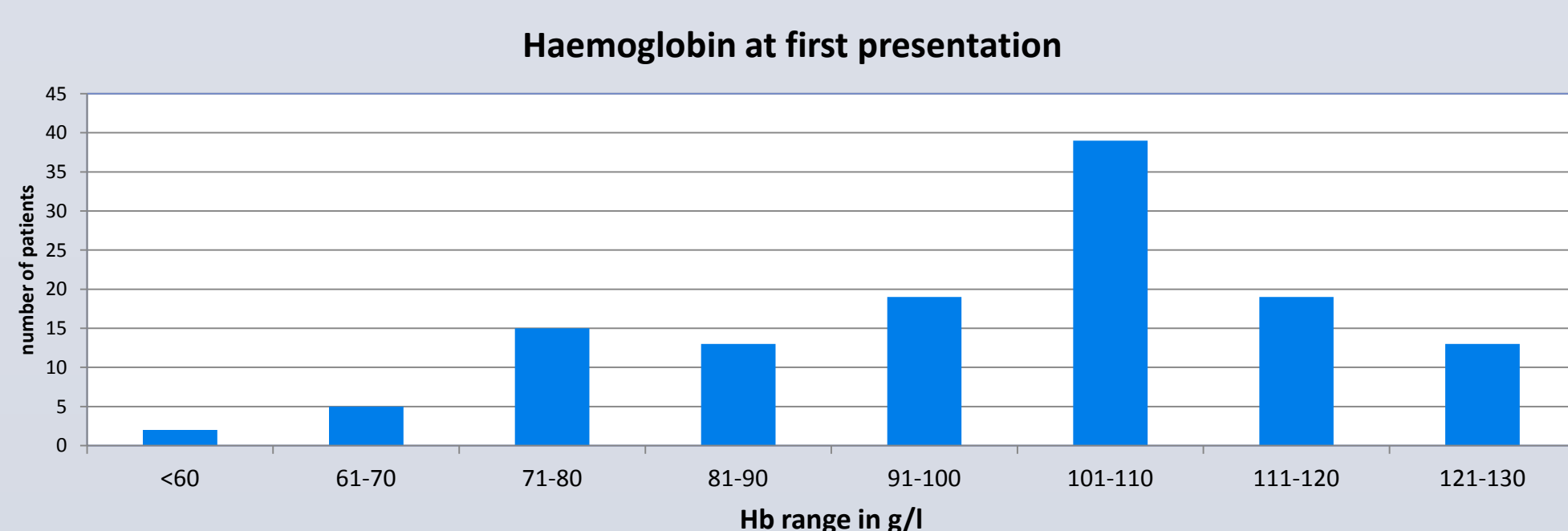
## Methods:

All patients undergoing endoscopy with IDA in a 3 month period (October 2013 - December 2013) were audited retrospectively against the standards above. An audit proforma was created, piloted and used to collect data from a variety of sources including endoscopy records, patient casenotes and laboratory systems.

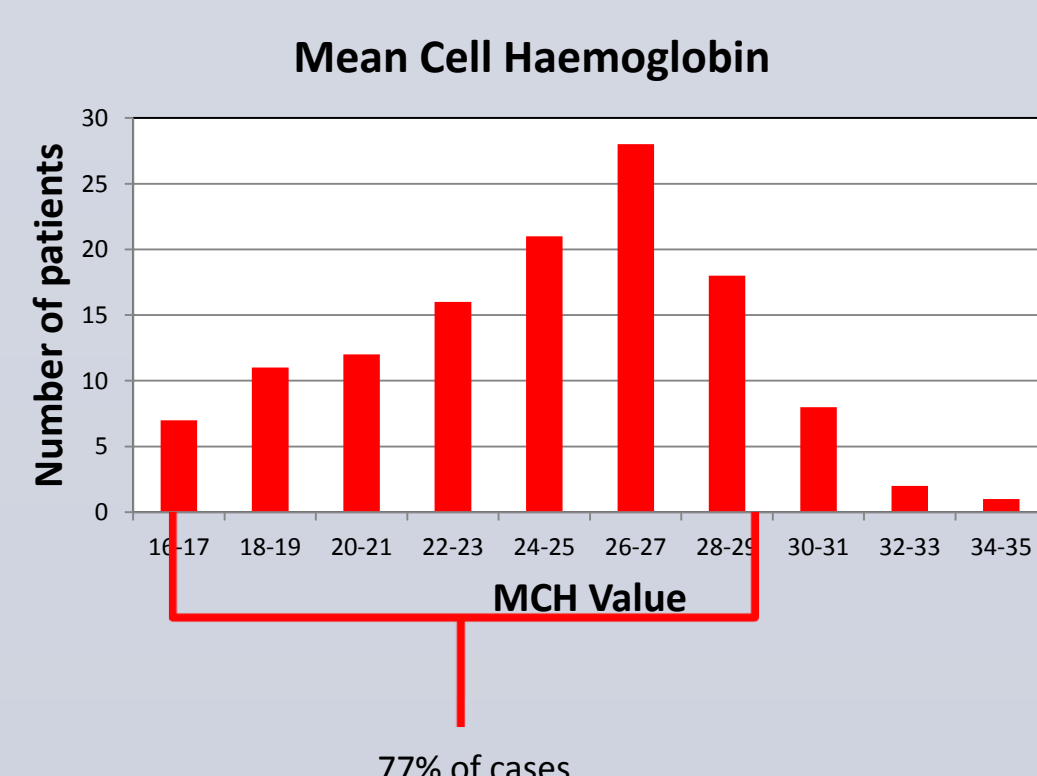
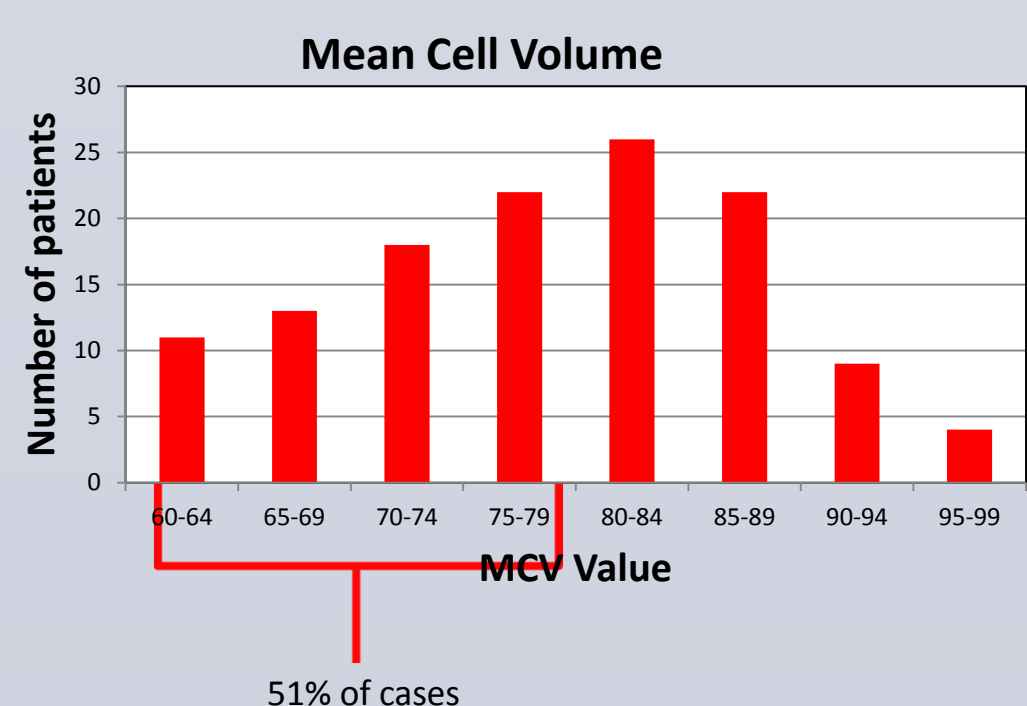
Exclusions: Patients with anaemia who did not have definitive iron studies to prove diagnosis

## Results

125 patients presenting to endoscopy were definitively identified (by iron studies) to have IDA in the 3 month period chosen. Their initial haemoglobin range was as follows:

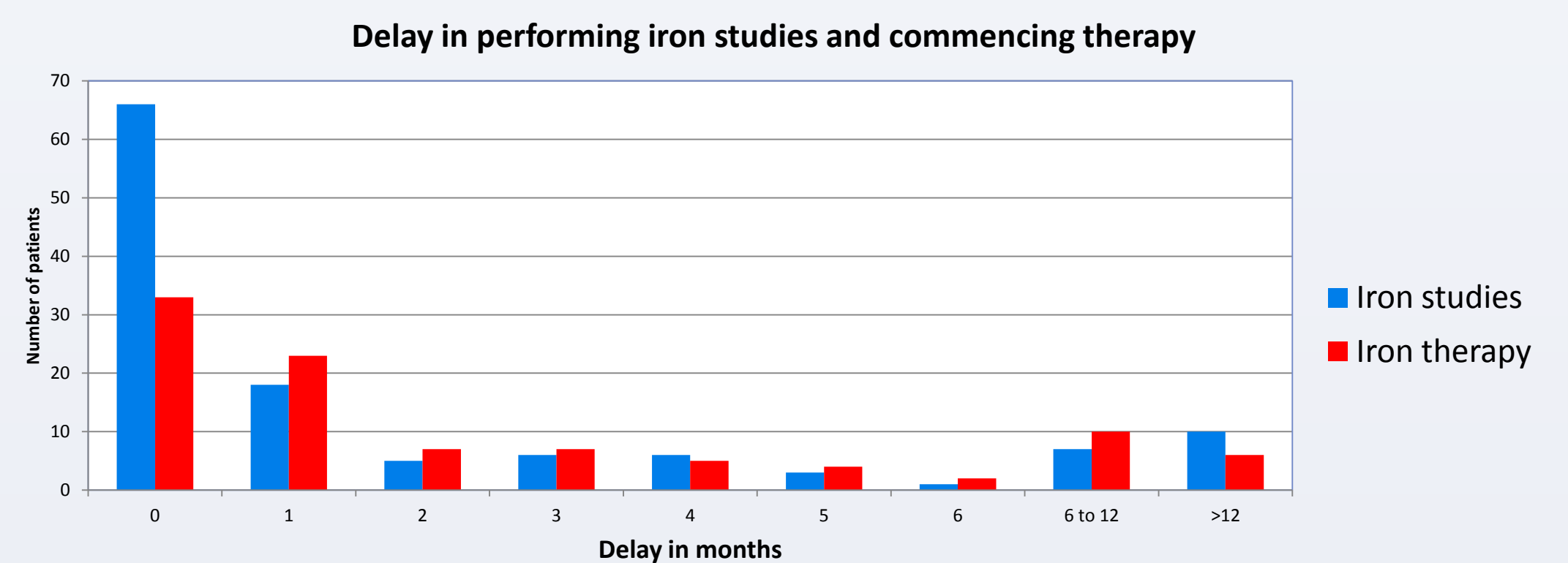


Demographics indicated that 57% of the group audited were female and the age distribution was wide, peaking in the 8th decade. It was of interest to note that the mean corpuscular volume (MCV) which is a common indicator of IDA was low in only 51% of patients while the MCH was low in 77% of cases.



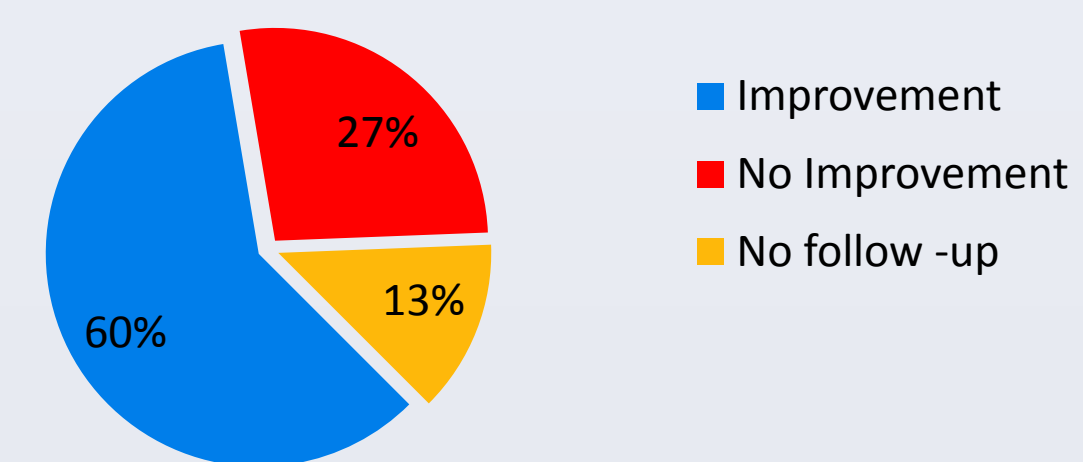
## Results (continued)

The audit identified 60% of the patients experienced a delay of over one month in checking iron studies and 42% did not commence corrective treatment within a further month of this result.



45% of patients did not meet the standard of a haemoglobin follow-up within 4 weeks after treatment was started and 13% had no subsequent repeat check carried out at all. At least 27% of patient showed no improvement to oral therapy but only 9% of patients received an iron infusion.

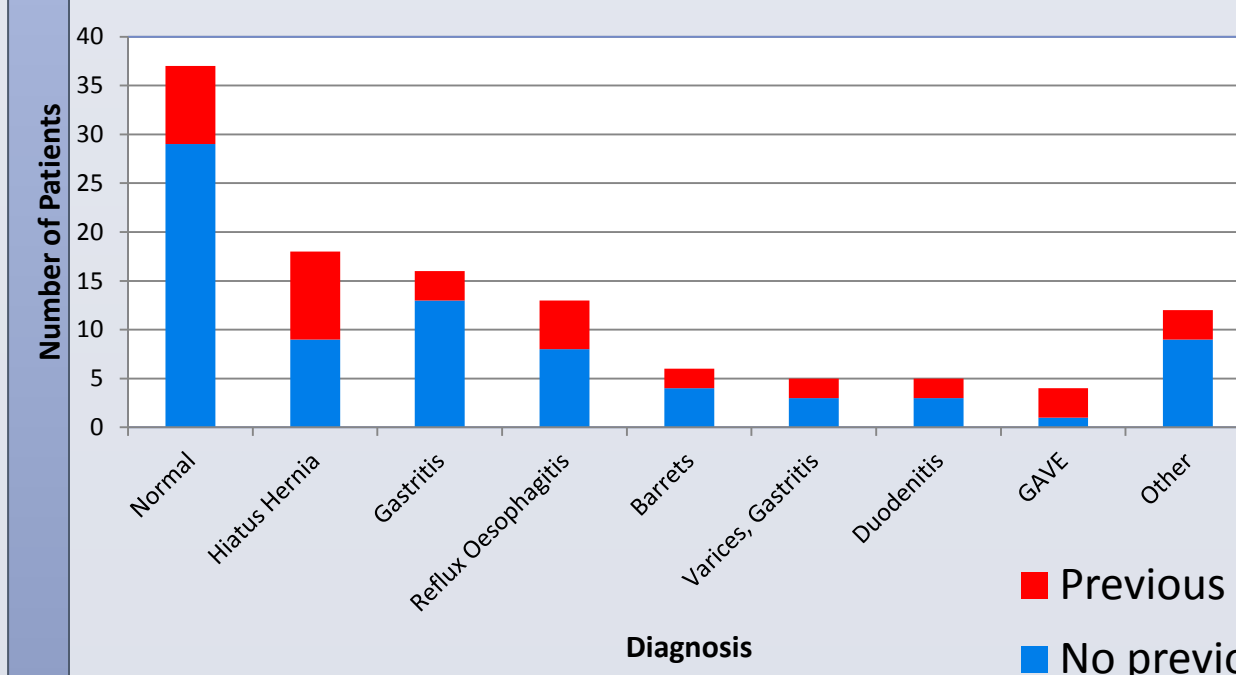
## Response to oral iron therapy



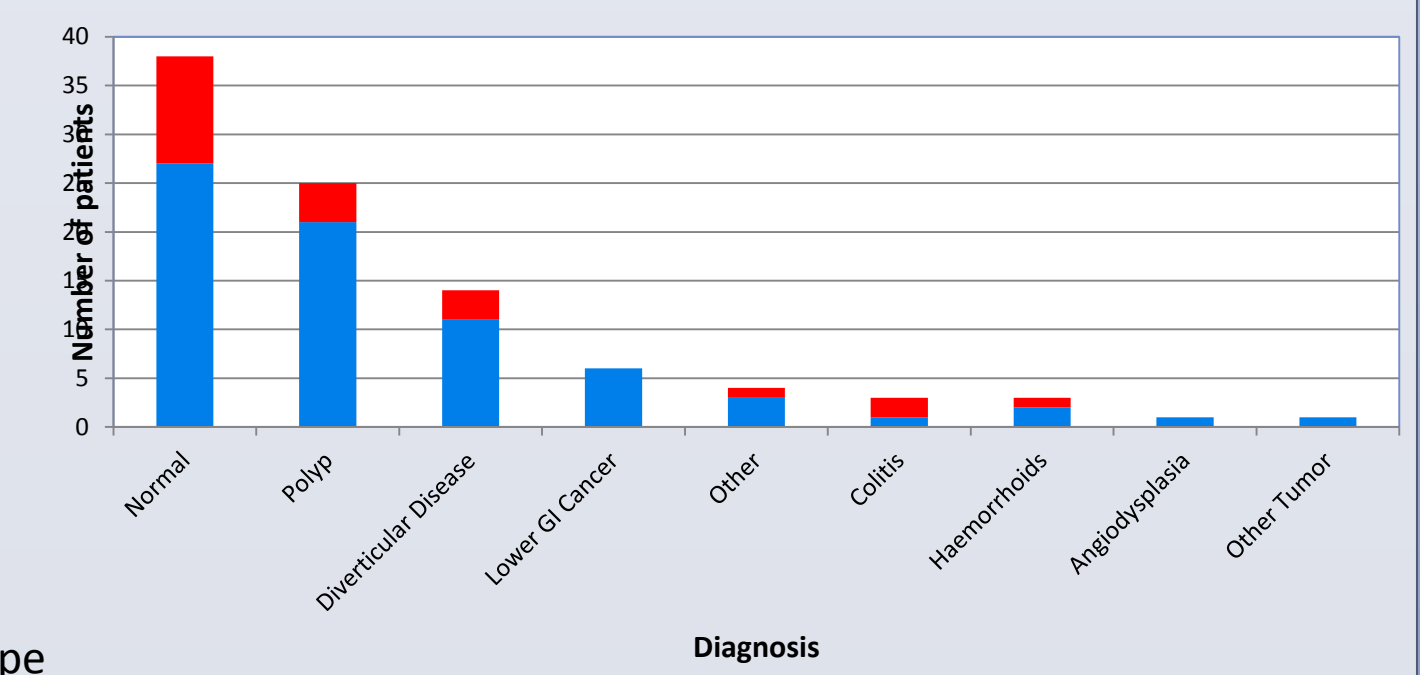
30% of patients ultimately received a blood transfusion.

40% of patients waited > 3 months for endoscopy investigation. 116 had upper gastrointestinal endoscopies of which 32% were repeats. 95 had lower GI investigations of which 23% were repeats. 86 patients had both upper and lower GI investigation. 7 new cancers were found none of which had previous investigation.

## Diagnosis and previous endoscopy history



## Diagnosis and previous colonoscopy history



49% did not have a serological coeliac screen.

## Recommendations

1. An MCV > 80 in an anaemic patient does not exclude iron deficiency and all anaemic patients should be promptly investigated with iron studies.
2. Once iron deficiency is discovered as the underlying haematinic deficiency - iron therapy should be started immediately.
3. Once iron therapy is commenced a repeat full blood count should be performed within 4 weeks to ensure treatment is working
4. Early referral for intravenous iron should be considered in patients who are intolerant, non compliant or unresponsive to oral iron.
5. All patients with iron deficiency anaemia should have a documented coeliac screen

## Action Plan:

The results and recommendations of the audit have been presented and disseminated to all staff involved in the patients treatment path from general practitioners to endoscopy staff.

A pathway has been developed to facilitate iron infusion transfusions within the unit. A reaudit is planned to review the corresponding period this year (in January 2015).

## References

1. Preoperative anaemia and postoperative outcomes in non-cardiac surgery: a retrospective cohort study. Mussallan KM, Tamim HM, Richards T et al. The Lancet. 2011; 378: 1396-407
2. Clinical Knowledge Summary: Iron Deficiency anaemia NICE February 2013
3. Northern Ireland Department of Health, Social Services and Public Safety (DHSSPS) Circular "Detection, investigation and management of anaemia" HSS(MD) 22/2012
4. GAIN: Management of anaemia and avoidance of overtransfusion, Audit report 2010
5. British Society of Gastroenterology: Guidelines for the management of iron deficiency anaemia 2011.