

The use of EQA-data to establish national threshold values in the Swedish care process for inflammatory bowel disease

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CONCLUSIONS

By analysing the differences between the output groups in F—Calprotectin, EQA data can provide method specific threshold values (inclusion criteria), hence minimizing the risk of including or excluding the wrong patients into the integrated care process. Two main threshold values were determined, and a recommendation was written as a complement to the integrated care process.

BACKGROUND

In Sweden, a national system for knowledge-driven management within the healthcare is used. In the spring of 2022, a person-centred and integrated care process for inflammatory bowel disease (IBD) in adults was published, in which measurement results from F—Calprotectin were included as one of the inclusion/exclusion criteria with a common (independent of method) threshold value of ≥ 150 mg/kg. Equalis EQA scheme of F—Calprotectin shows large differences both within and between the different output groups. Based on the large differences between the output groups, Equalis opposed to a common national criterion.

METHODS

We performed a retrospective analysis, on data from years 2017-2021, using three inclusion criteria (1) only currently used instruments (2) scheme rounds with a total mean value ≤ 250 mg/kg and (3) only Swedish participants. In order to estimate method specific threshold values, absolute deviation from the consensus mean value were calculated for each of the four output groups.

RESULTS

A total inclusion from 12 scheme rounds and 226 results showed that the average deviation from the total mean value for the four output groups (figure 1) could be categorized into two main groups; a lower and a higher (table 1), with two output groups in each main group. The results were approximately 30 % lower and 50 % higher, respectively, from the total mean value.

Laboratories using the output groups belonging to the lower measuring group should use the inclusion criteria of results ≥ 125 mg/kg, while laboratories using the output groups belonging to the higher measuring group, should use results ≥ 175 mg/kg as the inclusion criteria for patients in the intergraded care process of IBD in order to achieve comparable results.

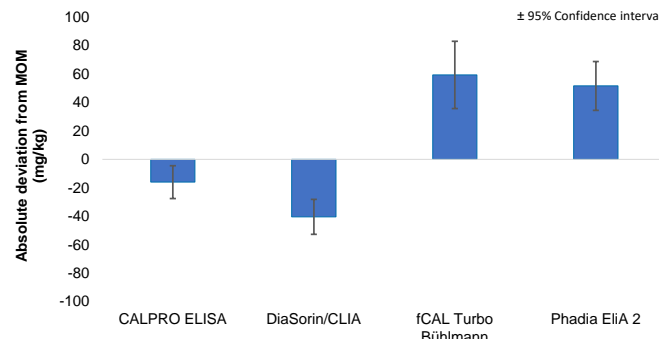


Figure 1. Output groups for F—Calprotectin for Swedish participants and absolute deviation from Mean of Means (MOM) at <250 mg/kg.

Table 1. By dividing the output groups based on absolute deviation from MOM, two main groups, higher and lower, with different inclusion criteria for the person-centered and integrated care process for IBD can be used.

Abbreviation: MOM, Mean of Means; CI, Confidence interval.

Group	Output Group	No. of results	Absolute deviation from MOM (mg/kg)	CI%	Inclusion criteria (mg/kg)
Lower	CALPRO ELISA	109	-27,8	8,60	<125
	DiaSorin/CLIA				
Higher	fCAL Turbo Bühlmann	117	+54,0	13,8	>175
	Phadia EliA 2				