



# FIB4-based triage system reduces referrals for Fibroscan by more than 60% in MAFLD patients.

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## INTRODUCTION

The most common cause of chronic liver disease in Ireland is metabolic-associated fatty liver disease (MAFLD), affecting 1 in 4 Irish adults >50yrs<sup>1</sup>. The determination of liver fibrosis stage is critical to the guidance of management. Transient elastography (Fibroscan®) can reliably exclude advanced liver disease<sup>2</sup>, and is available at specialist liver centres throughout Ireland. However, given the volume of patients with MAFLD, access to Fibroscan cannot be accommodated in a timely manner. In contrast, the blood-based FIB4 score (age, platelet count, AST and ALT) has been validated as a predictor of advanced liver fibrosis<sup>3,4</sup>. In order to reduce the demand for Fibroscan at our Institution, a triage referral pathway including FIB4 was implemented to limit Fibroscans to those with intermediate/high risk of advanced fibrosis.

## AIMS

This study aimed to assess the effectiveness of a new Fibroscan referral pathway.

## METHODS

The pathway was introduced in May 2019. Referrals from other centres were reviewed for 9 months pre- and post-implementation.



Patient sticker		Weight (kg)	
		Health insurance : y/n	
		Patient Tel:	
Indication (please circle)			
ArLD	HBV	HCV	HIV
ASH/NASH	AIH	PBC	PSC
		Cirrhosis	Haemochromatosis
Other (specify)			
Fatty liver/steatosis on liver ultrasound			
No alcohol excess (F <2units or M <3 units/day)			
Possible NAFLD/NASH		FIB4 score result:	
		FIB4 score (patient age, platelet count, AST and ALT) Via online calculator	
FIB4 score <1.45		FIB4 score >1.45	
Reassuring: no need for Fibroscan (unless clinical concern - please outline)		Fibroscan indicated	
Contraindications (please exclude)			
• Pregnancy			
• Ascites			
• Pacemaker			
Office use		Triage category	
Date received		• Routine	
		• Urgent	

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Figure 1: New referral form

## RESULTS

### Reason for referral

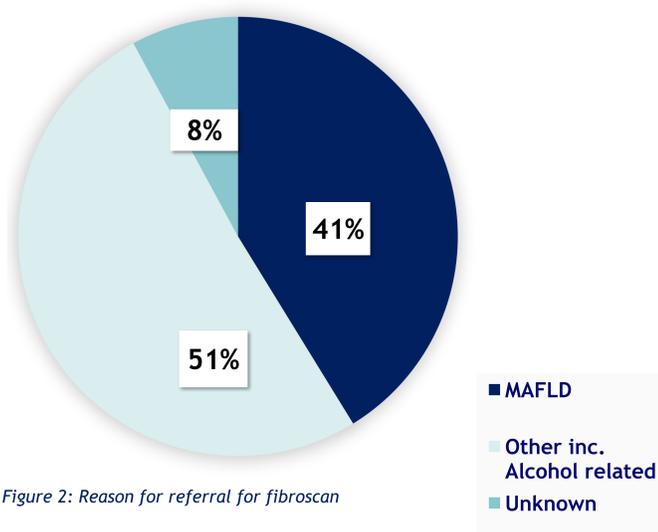


Figure 2: Reason for referral for fibroscan

114 external referrals were assessed. Of these, 47 were for MAFLD (41%). The referrals received within the timeframe were assessed for time from referral to scan. The median waiting time for a fibroscan was 11 months in this sample, with a total of 62 of the 114 patients having had their scan within the 18 month period assessed.

Diagnosis	MAFLD	Other
No. of referrals	47	67
No. scanned	27	35
Average wait time	7.6 months	8.8 months
Median wait time	11 months	11 months

Table 1. A comparison of referrals and scans performed for MAFLD v Other diagnoses

72% (34/47) of MAFLD referrals were received pre-implementation versus 28% (13/47) using the new pathway. The ratio of new referrals to old referrals was approximately 1:2.6.

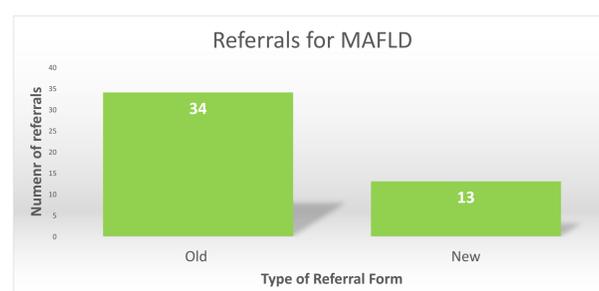


Figure 3: Comparison of quantity of referrals received using the new v old referral form.

## CONCLUSION

By implementing a referral pathway using a validated predictor for advanced liver fibrosis in MAFLD<sup>3,4</sup>, the volume of referrals for Fibroscan assessments at our centre decreased by >60%. Implementation of such a system on a national level could be a cost effective way to optimise Fibroscan access and help tackle the burden associated with MAFLD. Future audits should examine whether this pathway has significantly reduced the waiting time for Fibroscan, as timely diagnosis of advanced liver fibrosis will be of the utmost importance to future research into novel MAFLD interventions<sup>5</sup> and to the prevention of further complications.

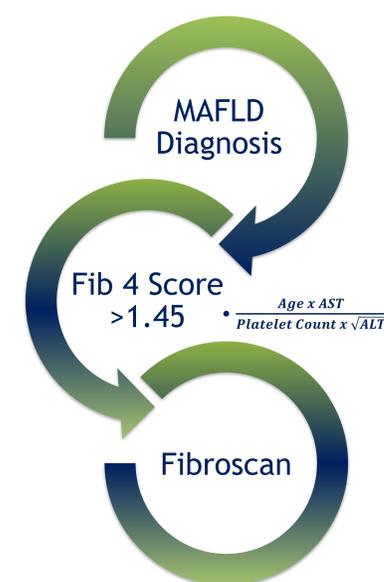


Figure 4: Suggested protocol in MAFLD

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