

A SERVICE EVALUATION OF MRI LUMBAR SPINE SCANS WITHIN A COMMUNITY-BASED DIAGNOSTIC SETTING

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- There is **significant variation** in referrals for MRI L.spine in the community setting.
- There was **no significant difference** in imaging appropriateness and report outcome **between GPs or Non-Medical Referrers**.
- **Patient age** and **presence of leg symptoms** were **significantly related** to both justified referrals and abnormal report outcomes.
- **Improved referral content** will aid assessment of justification, adherence to guidelines and potentially report relevance.

Introduction

- There is an ongoing move towards more management of patients with the community setting, including diagnostics^{1,2}.
- Community based diagnostics is not the norm and so this is a review of one such service across contracted Clinical Commissioning Groups (CCGs) in London.
- Looking in particular at lumbar spine MRI, which is one of the most common referrals seen within this setting.

Method

1. Data of all MRI referrals made between Jan 2018 and Jun 2019 was extracted.
2. Referral trends across CCGs and between referrer types was reviewed overall and for MRI lumbar spine.
3. A sample of 450 lumbar spine patient episodes were reviewed for their referral justification and report outcome.
4. Statistical analysis was performed to assess any significant relationships between certain variables and the referral and report judgements.

Results

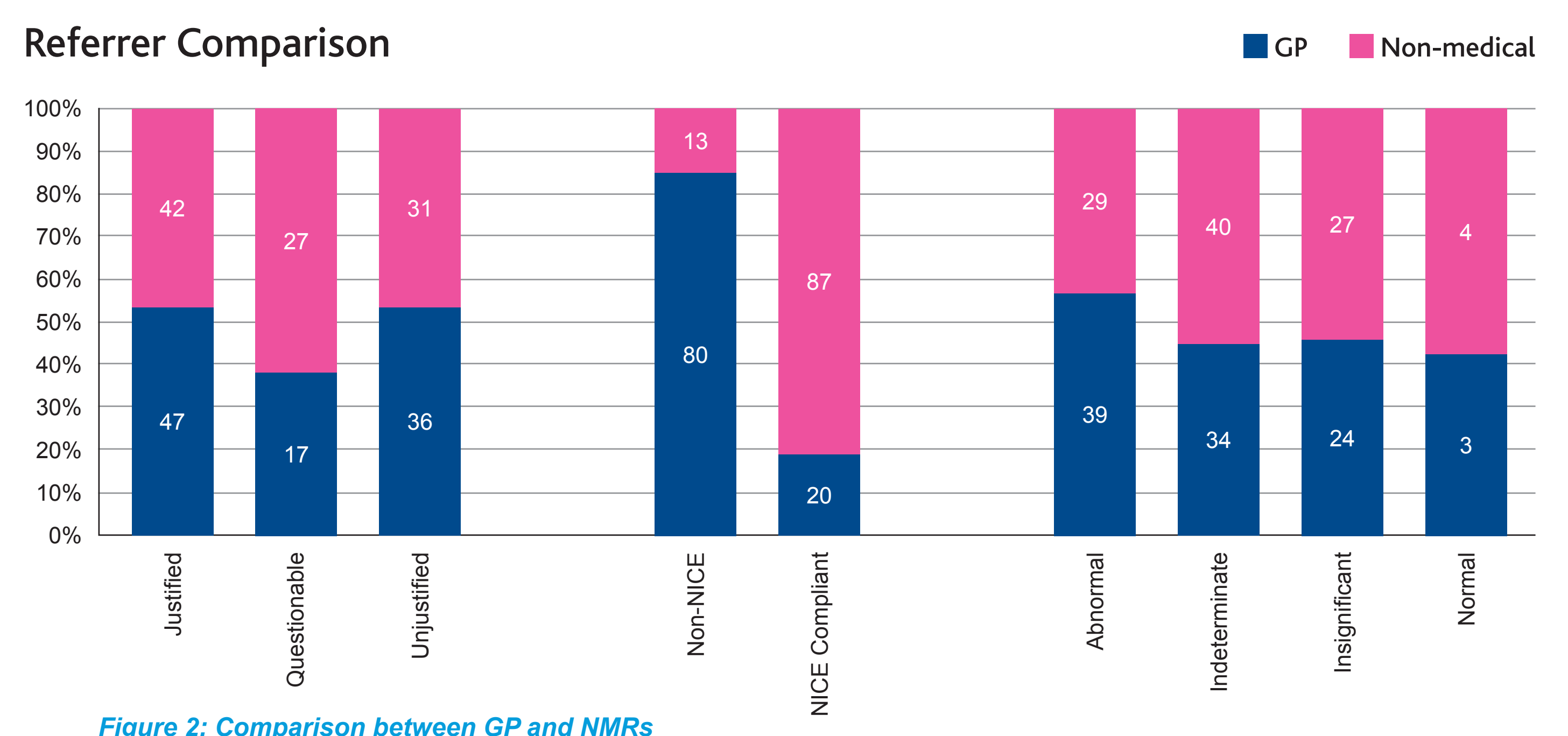
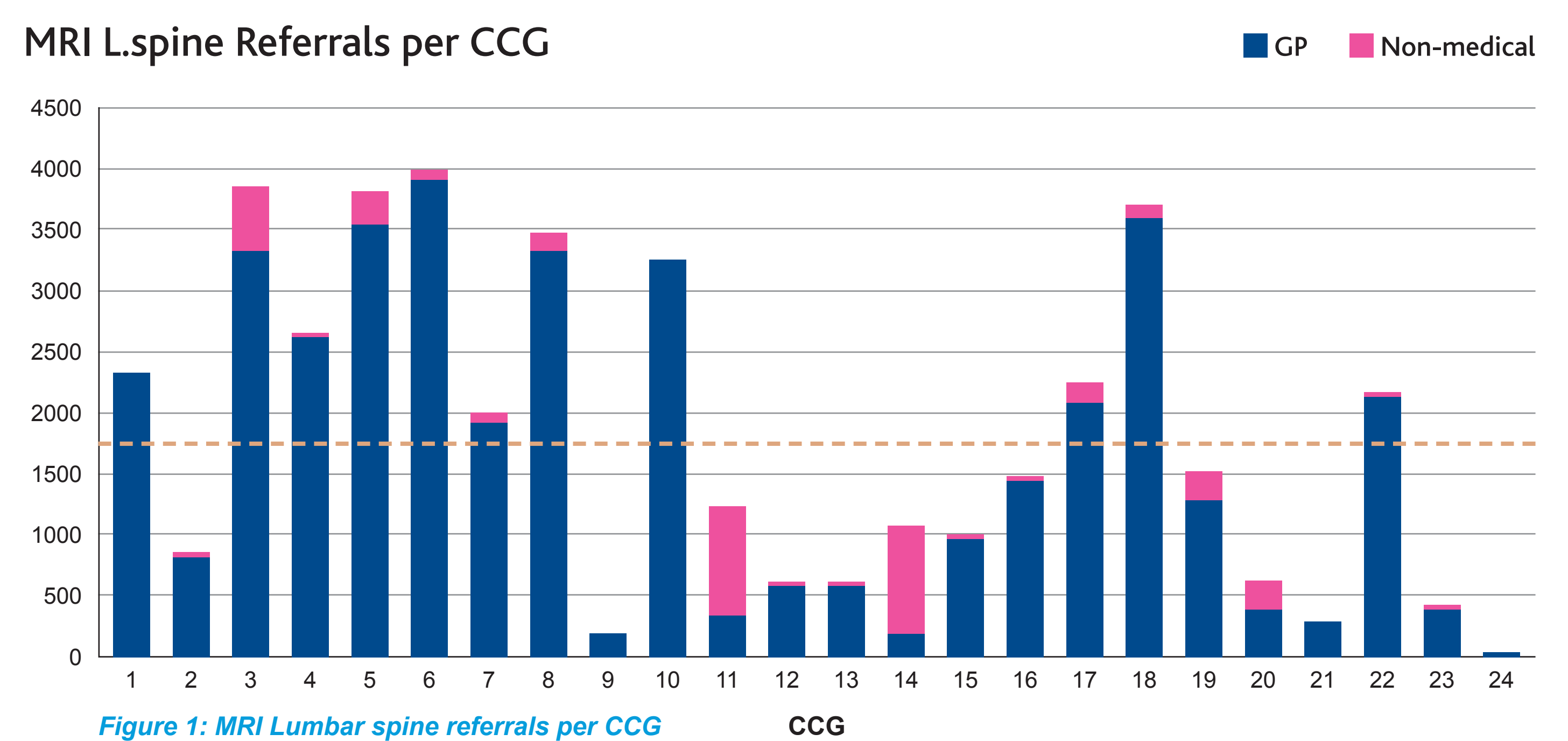
- Referrals for MRI lumbar spine are on the downwards trend overall, with General Practitioner (GP) referrals following this, whilst Non-medical referrers (NMR) are showing a gradual increase.
- There is significant variation in the number of referrals between CCGs which warrants further research to understand whether warranted and identify area of good practice – **fig 1**.
- 46% were considered clinically justified, with only 27% meeting NICE guidance (**table 1**). Low back pain and/or leg symptoms were the most prevalent clinical symptoms.
- 38% of findings were considered abnormal and of clinical relevance (**table 1**), with 50% of cases showing some level of degenerative change.
- Patient age and associated leg symptoms were significant factors with both referral and report outcomes, and improved referral content would help adherence to guidelines and improve report relevance.
- There was no difference in referral justification or report outcome between referrer type – **fig 2**, although the sample sizes were not comparable, rather representative of real-world referral patterns. Non-medical referrers showed more compliance with NICE guidelines because they were considered part of a specialist pathway, but clearly there is considerable use imaging in the community setting which currently falls outside of these guideline recommendations.

Results show potential overuse of MRI within the community-based setting and suggest the need for clearer referral criteria and pathways to better manage when to use imaging in lower back conditions.

Recommendations

Results from this review suggest there is some work that could be done to further improve use of MRI in managing lower back conditions within the community setting.

- Benchmarking of services and development of reportable outcomes could support adherence to guidelines.
- NMRs have a growing role to play in terms of supporting and managing community-based pathways³.
- Application of evidence-based referral criteria to support clinical decision making^{4,5} and improve clinical information to aid more conclusive, actionable reports.
- Integration of guidelines into clinical practice through implementation of structured pathways⁶.
- Collaboration with imaging providers in applying referral criteria.
- Patient and clinician education around the role of MRI in LBP^{5,7,8} and understanding behaviours that drive requests⁹⁻¹¹.



	Justified	Questionable	Unjustified	NICE	Non-NICE	Overall
Normal	6 (40%)	0	9 (60%)	7 (6%)	8 (2%)	15 (3%)
Insignificant	47 (43%)	15 (14%)	47 (43%)	26 (21%)	83 (25%)	109 (24%)
Indeterminate	72 (46%)	25 (16%)	59 (38%)	43 (35%)	113 (35%)	156 (35%)
Abnormal	84 (49%)	41 (24%)	45 (27%)	46 (38%)	124 (38%)	170 (38%)
NICE	99 (81%)	12 (10%)	11 (9%)	122 (27%)		
Non-NICE	110 (34%)	69 (21%)	149 (45%)		328 (73%)	
Overall	209 (46%)	81 (18%)	160 (36%)			450*

*p<0.05 showing significant relationship between referral justification and report outcome

Table 1: Breakdown of referral judgements and report outcomes

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Acknowledgements

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