

# Pharmacy-led prescribing of natalizumab improves the quality of monitoring and overall patient safety

Dorsey-Campbell R, Quinn T, Felongco T, Delacruz D, Walters P, Scalfari, Singh-Curry V, Malik O, Nicholas R.  
Imperial College NHS Trust (ICHNT)

## Introduction

- The use of natalizumab to treat MS is associated with an increased risk of PML. This risk increases in patients who are JCV positive, have been on treatment for more than 2 years and who have had previous immunosuppression.
- MS services are required to monitor for PML risk with regular MRI and JCV assessment.
- In England ongoing reimbursement for natalizumab is linked to annual consultant review and documentation of EDSS.
- At ICHNT more than 330 patients are treated with natalizumab each month.
- A prescribing pharmacist joined the MS team in 2016.

## Aim

To assess the impact of a pharmacy-led prescribing and monitoring service on the quality of MRI and JCV monitoring in a population of patients on natalizumab.

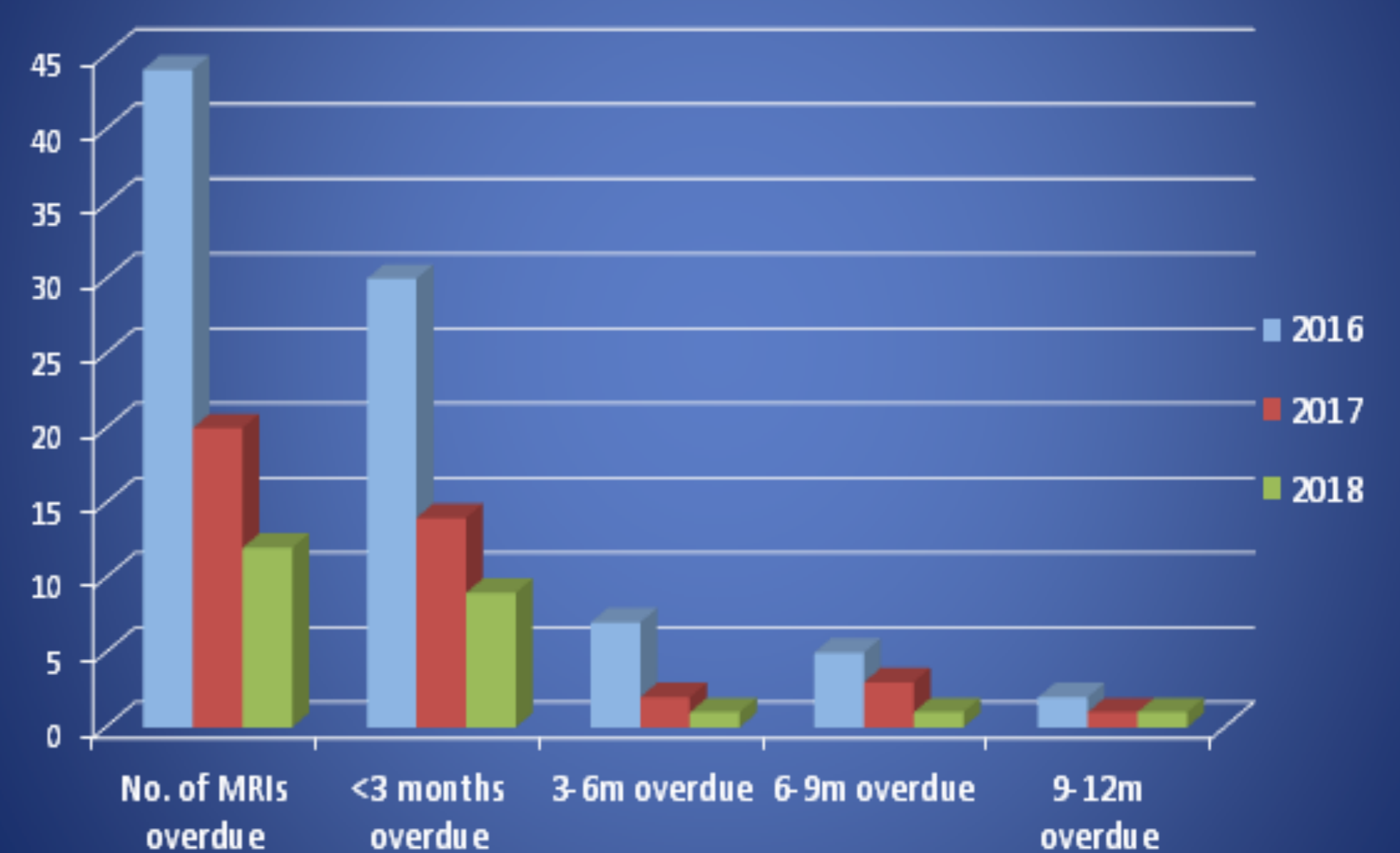
## Method

- Natalizumab prescription charts are re-written by a prescribing pharmacist every 6 months.
- For each patient the pharmacist recorded the number of infusions, JCV status, date of last consultant review, EDSS and date of last MRI on a database.
- Charts were re-prescribed by a pharmacist and recorded data was compared to the previous year.
- The number of missing JCV, EDSS values, number of overdue MRIs and consultant reviews were recorded and compared to the previous year.
- An MRI was considered overdue if the interval since the last scan was more than 12 months for JCV negative, 6 months for low positive or 3 months for high positive patients.

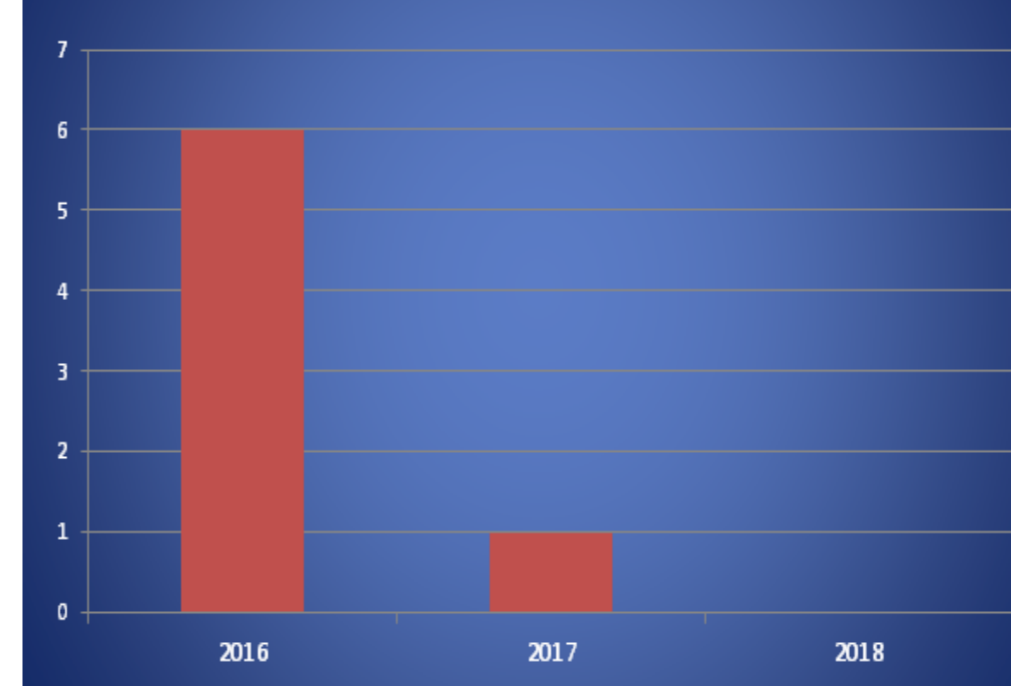
## Results

- 839 prescription charts were reviewed by a pharmacist between December 2016 and April 2018
- Treatment duration ranged from 1 month to 9 years (mean 4.5 years)
- EDSS at last infusion ranged from 1 to 7.5 (mean 3.9)
- Of the 299 patients reviewed in 2017 JCV status was negative in 40%, 28% had a low positive titre ( $\leq 1.5$ ) and 32% had a high positive titre ( $> 1.5$ ).
- Following the introduction of a pharmacy-led prescribing service, a higher number of patients had EDSS scores recorded (74% in 2016 to 86% in 2018) and JCV status assessed (98% in 2016 to 100% in 2018).
- We observed a significant reduction of the number of patients, who had an overdue MRI.
- The number of overdue MRIs fell from 16% in 2016 to 5% in 2018.
- In the subgroup with a high JCV titre the number of patients with an overdue MRI fell from 7.6% to 1.8%, and no patients had an MRI more than 3 months late.

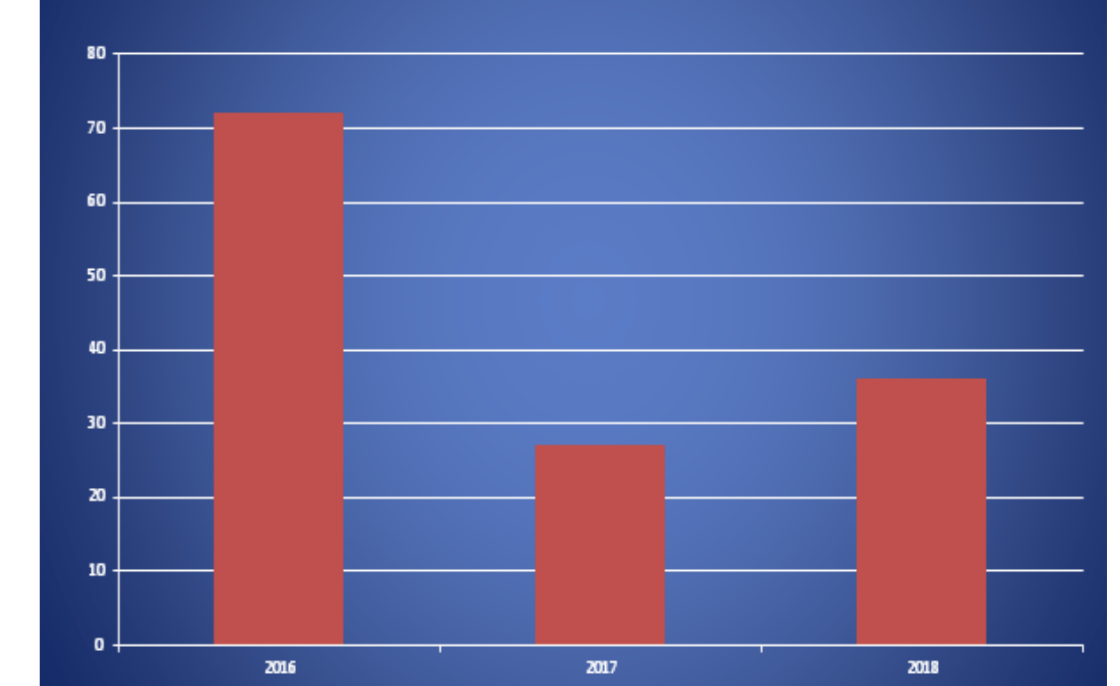
## Number of patients with overdue MRI



## No. of patients with no JCV status documented



## Number of patients with no recent EDSS recorded



## Conclusion

A pharmacy prescribing service facilitates routine identification of at risk patients and has resulted in improvement in :

- Recording of JCV status and EDSS
- Timeliness of MRI surveillance

A pharmacy-led prescribing and monitoring service is feasible, frees up time for the MS clinical team and greatly helps compliance with natalizumab monitoring requirements, which overall improves patients safety.