

# Quality Improvement Project on Vitamin D Prescribing Following the Introduction of an Electronic Prescribing Order Set

H Brown<sup>1\*</sup>; G C Morris<sup>1\*</sup>; D Alicehajic-Becic<sup>1</sup>

<sup>1</sup>. Royal Albert Edward Hospital, Wigan \*Joint First Authorship

## Introduction

Vitamin D deficiency remains an important condition affecting our elderly population, with particular relevance to bone health, frailty syndromes and falls risks.

## Aims

We aimed to improve prescribing practices for deficient patients through the implementation of a prescribing tool and order set on our electronic patient record system.

## Method

We retrospectively analysed data from a total of 266 patients admitted to two of our Care of the Elderly wards in July 2021 (pre-introduction of the order set) and November 2021 (post-introduction) respectively.

We paid particular attention to whether their Vitamin D levels were measured as an inpatient, at which point those with a normal or unchecked Vitamin D level were excluded.

Of those with a low Vitamin D level, we excluded patients who died within a month post discharge, and for the remaining cohorts of 38 (July 21) and 25 (November 21) patients, we focussed on the following parameters:

- Prescription of Vitamin D as an inpatient
- Prescription of Vitamin D on discharge as an outpatient
- Prescription of Vitamin D continued in the community in Primary Care (as collected from the Greater Manchester GP Care Record)

## Results

On interpreting our findings, we noted a significant improvement in the prescription of Vitamin D replacements (both as an inpatient and on discharge), and also an improvement in the identification of Vitamin D deficient patients on admission. We did not see an improvement in the prescriptions of Vitamin D continued in the community.

## Results Figures

Figure 1: Demographics of Vitamin D Deficient Cohorts July and November

	July 2021	November 2021
Age Range	48-95	56-100
Male to Female Distribution	61% Male 39% Female	44% Male 56% Female

Figure 2: Table of Results detailing measure reviewed, percentage achieved and whether improvement was seen in measure with introduction of the order set

	July 2021	November 2021	
% Patients Vitamin D Checked During Admission	49%	57%	Improved
% Patients with Low Vitamin D prescribed Inpatient Replacement	85%	96%	Improved
% Patients prescribed Vitamin D on Discharge	91%	100%	Improved
% Patients Vitamin D Prescription continued in community	80%	75%	Not Improved

## Discussion

Despite the improvements seen in the initial identification of Vitamin D deficiency and consistency of prescribing practices, we are failing to measure Vitamin D levels in a significant number of patients admitted to our Care of the Elderly wards. This could in fact be due to a lack of awareness amongst clinicians of the existence of the trust's electronic frailty bloods order set (which includes a Vitamin D level).

An area in which we did not see an improvement was in continuation of Vitamin D prescriptions in the community. A limitation in the analysis of this data was our restricted access in secondary care to primary care service records. This may have contributed to the results seen. Another limitation we recognised was the small cohort size once Vitamin D deficient patients were identified.

Moving forward, we aim to raise awareness of the importance of measuring Vitamin D levels locally, and promote continued use of the order set and frailty blood set amongst clinicians. In the community setting, we also plan to highlight the need for ongoing prescribing of Vitamin D in primary care by engaging with local Primary Care Networks. Following each of these interventions we intend to collect further data to complete further PDSA cycles.