



# Re-audit of vitamin D status monitoring and management in FCAMHS inpatients

Audit ID	1481	
Division	Secure Services	
Programme/zone	Inpatient CAMHS, Secure Care	
Teams	Adriatic, Atlantic, Pacific	
Audit Type	Re-audit	Local audit
Project start date	08/08/2018	
Project completion date	20/09/2018 (08/09/2018 estimated)	

## **Introduction:**

### ***Audit Brief description:***

A re-audit of vitamin D status monitoring and management in forensic CAMHS inpatients at Ardenleigh.

### ***Audit Aims/objectives:***

To audit the practice of vitamin D status monitoring and management in a forensic CAMHS facility, against internal Service Standards and recommendations made by the Chief Medical Officers of the UK.

## **Patient and public involvement in this clinical audit project:**

### ***How this audit will benefit patient care:***

This audit will support existing guidance regarding monitoring and managing vitamin D status, and identify realistic and specific recommendations to refine practice, in order to improve the level of care delivered to FCAMHS inpatients.

### ***Level of service users involvement in this audit project:***

No service users involvement.

## **Standards:**

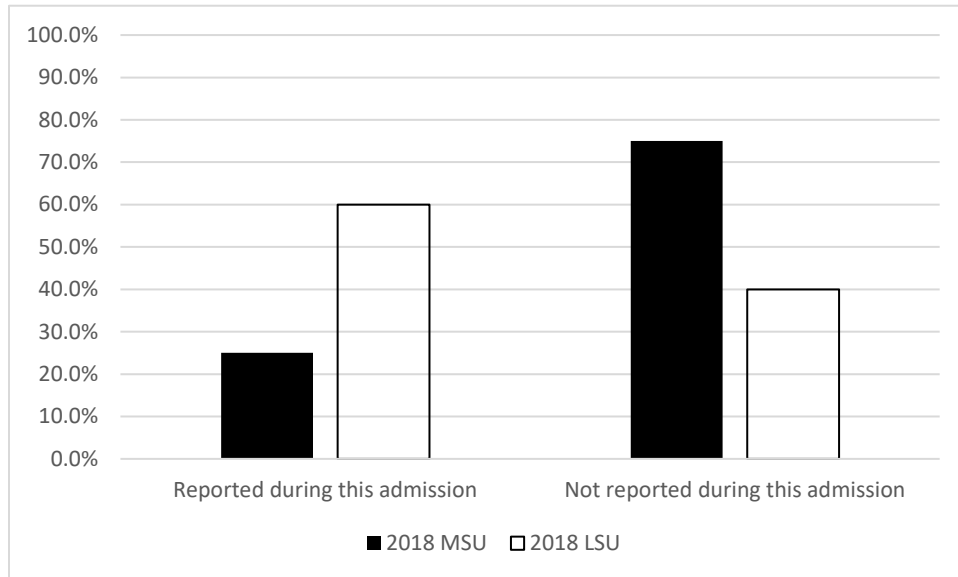
Standards	Target	Standards Reference:
All patients should have vitamin D status checked within 1 week of admission.	100%	BSMHFT FCAMHS Service Standards
All patients found to have insufficient or deficient vitamin D levels should be commenced on recommended replacement therapy.	100%	Vitamin D and Bone Health: A Practical Clinical Guideline for Patient Management, National Osteoporosis Society (2013) - <a href="https://nos.org.uk/media/2073/vitamin-d-and-bone-health-adults.pdf">https://nos.org.uk/media/2073/vitamin-d-and-bone-health-adults.pdf</a>
All patients should have vitamin D status rechecked every 6 months (ideally just prior to CPA review), especially if taking vitamin D replacement therapy.	100%	[StandardsItem]
Check that the FCAMHS Service Standards for vitamin D monitoring are up to date and/or update accordingly.	N/A	

**Method:**

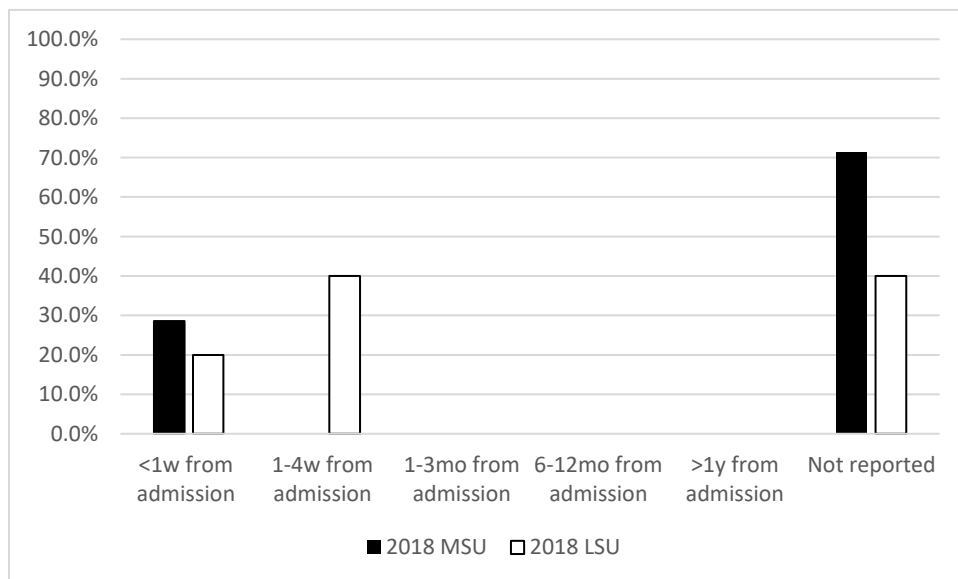
Audit methodology	Retrospective
Data sources	Investigation results IT system search (RiO/ePEX/Paragon) Electronic case note review
Sampling Method	Systematic sampling
Population size	13
Sample size	13
Data collection for the period of	08/08/2018 to 08/08/2018 (i.e. cross-sectional)

**Results:**

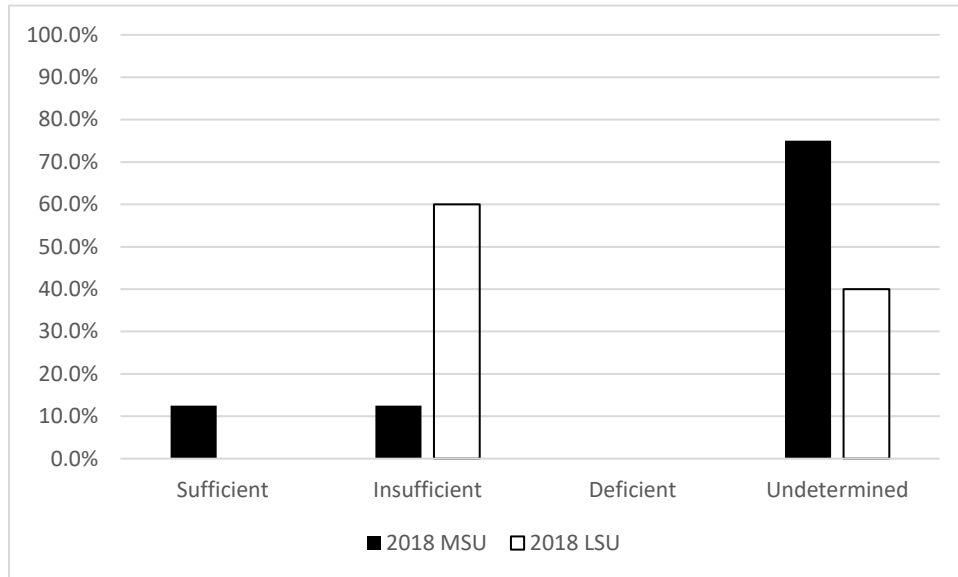
25.0% of medium secure unit (MSU) inpatients had their vitamin D status successfully requested and reported at any point during the present admission, leaving 75.0% of MSU patients' levels unreported. In comparison, 60.0% of low secure unit (LSU) inpatients had their vitamin D status successfully requested and reported during the present admission, leaving 40.0% of LSU patients' levels unreported.



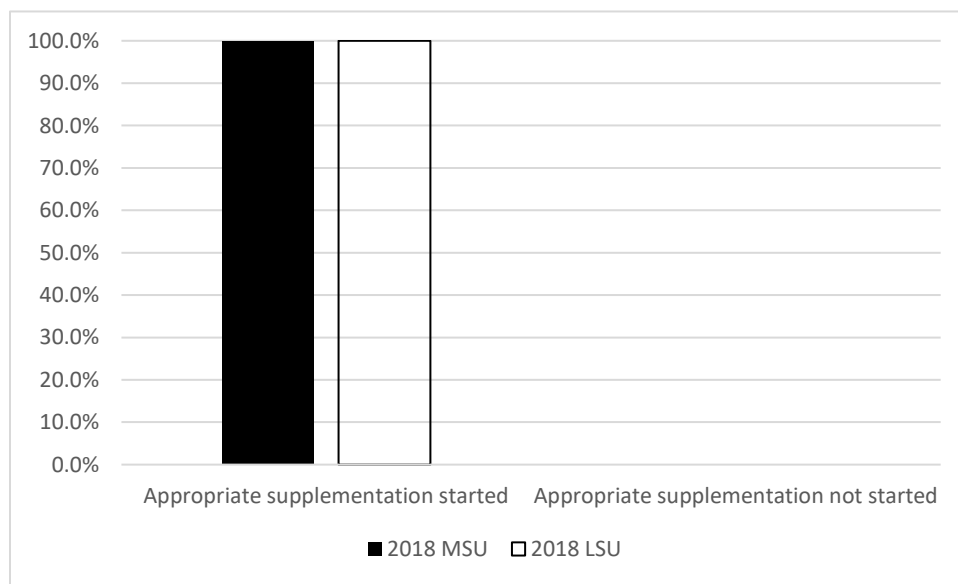
Every MSU patient whose vitamin D status was ever reported during the present admission (above) had their levels checked within the first week (calculated as 28.6% of all MSU patients, as 1 patient was excluded from analysis for declining all blood tests during this week). A comparable proportion of LSU patients' vitamin D levels were reported within 1 week of admission (20%), with a further 40% of patients' levels checked between weeks 1 and 4, leaving 40% of patients' levels unreported.



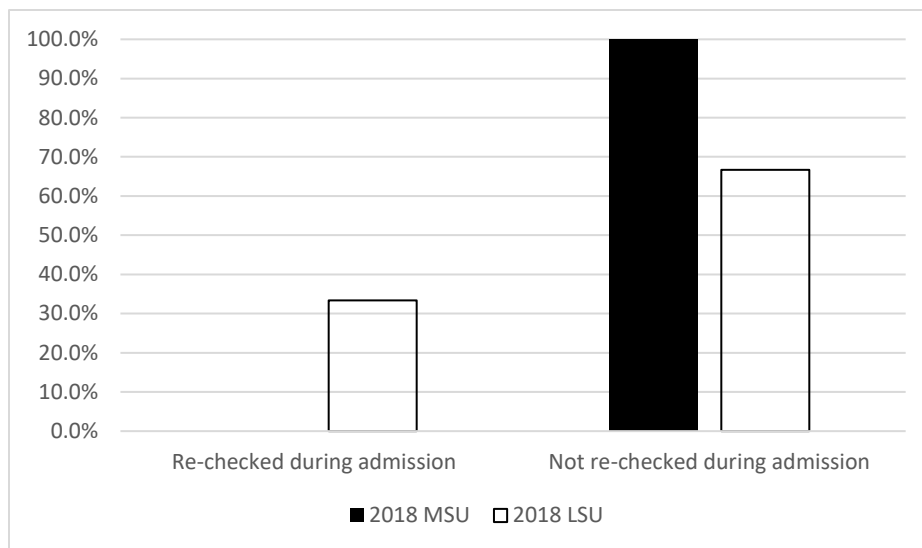
12.5% of MSU patients were found to have sufficient vitamin D status (>50 mg/L) and no patients found to be deficient (<30 mg/L); however, 12.5% were found to have insufficient levels (30–50 mg/L), with the remaining 75.0% of patients' levels undetermined. In comparison, no LSU patients were found to have sufficient or deficient vitamin D, whereas 60.0% were found to be insufficient with the remaining 40% of patients' levels undetermined.



100% of vitamin D insufficient or deficient MSU patients were started on appropriate vitamin D supplementation therapy, as recommended by the Chief Medical Officers of the United Kingdom. This was also true for the LSU patient cohort.



0% of MSU patients whose vitamin D levels were reported initially had their status re-checked and re-reported during the present admission, irrespective of whether they had been given vitamin D supplementation therapy. Conversely, one-third of equivalent LSU patients' levels were re-reported.



### **Conclusions:**

Only a quarter of FCAMHS inpatients on the medium secure unit (MSU) had their vitamin D status successfully requested and reported at any point during the present admission, although each of these checks were reported within 1 week of patient admission. No patients were found to have vitamin D deficiency; however, insufficiency was reported in 12.5% of patients, sufficiency in only 12.5%, and 75.0% of patients' statuses were unidentified. Encouragingly, all insufficient or deficient MSU (and LSU) patients were commenced on appropriate vitamin D supplementation. However, no MSU patients whose vitamin D status was reported initially had their levels subsequently re-checked and re-reported. Overall, LSU patients were more likely than MSU patients to have their vitamin D status screened (within a month of admission or ever) and any insufficiency identified.

### **Recommendations:**

Our findings indicate that Ardenleigh's FCAMHS teams are currently better-equipped to manage identified hypovitaminosis D than screen for and diagnose vitamin D insufficiency/deficiency. Following discussion of this audit at an FCAMHS Clinical Governance meeting in December 2018, nursing staff suggested that specific information regarding routine vitamin D monitoring and management be added to inpatients' physical care plans. It was also decided that a central "live" spreadsheet of each patient's completed and outstanding medical jobs (e.g. bloods, vitamin D or otherwise) should be created, amendable by all healthcare staff and primed with alerts/reminders. Additionally, structured staff induction and routinised effective handover between incoming/outgoing staff would likely reduce the effect of inevitable trainee turnover. Better screening and identification of insufficiency on the LSU underscores utility of Physician Associates in the medical management of inpatients. We have discussed recruitment of a Physician Associate for the MSU, and/or development of the current Physician

Associate role to include MSU cover; however, feel that neither of these options are financially and logistically viable at this time. Finally, vitamin D status monitoring and management should be re-audited annually for the foreseeable future, to ensure effective implementation and maintenance of recommendations, and local (BSMHFT) FCAMHS Service Standards for vitamin D monitoring should be updated accordingly.

**Action Plan:**

Is re-audit necessary? Yes

Date re-audit planned: September 2019

ID	Action ( <i>Please detail actions required to implement recommendations</i> )	Person responsible	Target date
1	Add specific information regarding routine vitamin D monitoring and management to all inpatients' physical care plans.	Nursing staff.	May 2019
2	Create a central "live" spreadsheet of each patient's completed and outstanding medical jobs (e.g. bloods, vitamin D or otherwise), amendable by all healthcare staff and primed with alerts/reminders. Reminder that vit D to be carried out at 6 monthly CPA also	Current FY2/CT trainee.	February 2019 - completed
3	Ensure structured staff induction and instate routinised effective handover between incoming/outgoing staff.  This was discussed subsequently at the Ardenleigh physical health meeting and agreed that this would be added to the forensic handbook for Ardenleigh.	Clinical Lead	ongoing
4	Consultants to also remind trainees of this investigation, particularly at point of admission. Consultants emailed about this	Auditor	completed
5	Re-audit annually for the foreseeable future. To discuss including women's service and CAMHS in subsequent audits	Lead Auditor	September 2019
6	Update BSMHFT FCAMHS Service Standards for vitamin D monitoring accordingly.	Lead Auditor	Sept 2019
7			

**Key benefits/improvements that have resulted from this audit so far:**

**Notes:**

**Appendices:**