dialysistrackR

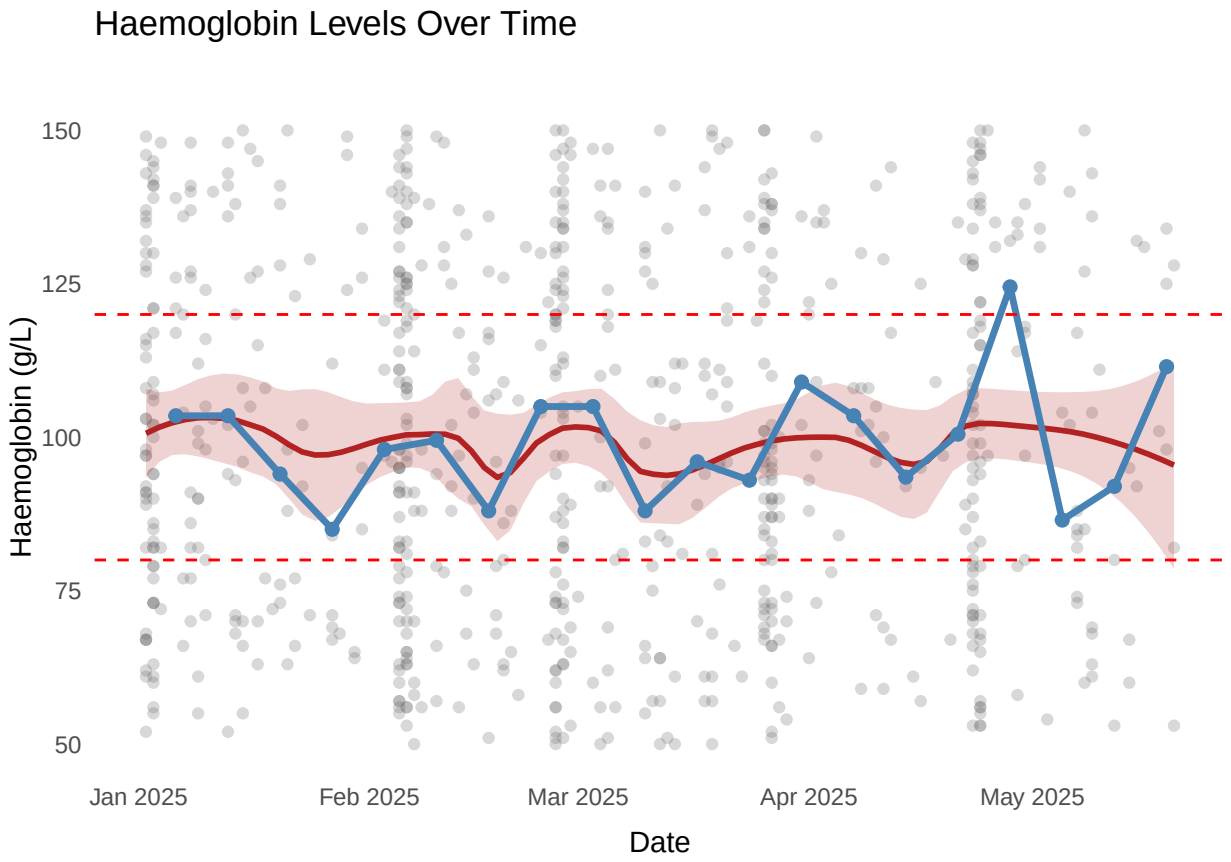
2025-06-02

Introduction

This report was generated using a collaborative R Markdown workflow designed to support transparent, reproducible analysis across sites. The project is maintained in a shared GitHub repository, with version tracking, package management, and rendering controlled programmatically to ensure consistency across contributors and outputs.

The content that follows represents the current state of shared analysis, with outputs suitable for team review, audit and integration into clinical workflows.

Haemoglobin



Interpretation

This plot visualises haemoglobin (HGB) levels across the unit over time. Unit-level trends can help identify systemic issues affecting multiple patients — such as inconsistent access to erythropoiesis-stimulating agents (ESAs), delays in blood draws, or problems with iron management.

- Raw data (grey dots): Each point represents a single HGB result from an individual patient on a specific date, imported directly from AUSLAB.
- Red line (LOESS curve): A smoothed estimate of the trend in HGB values over time. LOESS (Locally Estimated Scatterplot Smoothing) is a nonparametric method that fits multiple small, local regressions to the data. It's particularly useful for visualising subtle shifts and inflection points without assuming a linear or fixed relationship.
- Pale red area (confidence interval): A 95% confidence interval around the LOESS curve. It gives a visual indication of uncertainty in the smoothed trend — wider areas imply more variability or fewer observations at that timepoint.
- Blue line (weekly median): The weekly median HGB, calculated across all patients tested in that week. It provides a robust, point-in-time summary less sensitive to extreme values than the mean.
- Red dashed lines: The Kidney Health Service's target haemoglobin range (80–120 g/L). Values falling persistently outside this band may indicate a need for clinical review at the unit or system level.

Haemoglobin Results by Target Range

```
## Above Target    | 223 patients |  30.2%
## Below Target    | 220 patients |  29.8%
## Within Target   | 296 patients |  40.1%

## Patients who dropped from  80 to <80 g/L within 30 days:  3

## Patients with  10 g/L HGB drop within 30 days:  0
```

Table 1: Most Recent Flagged Haemoglobin Event per Patientm within 30 days

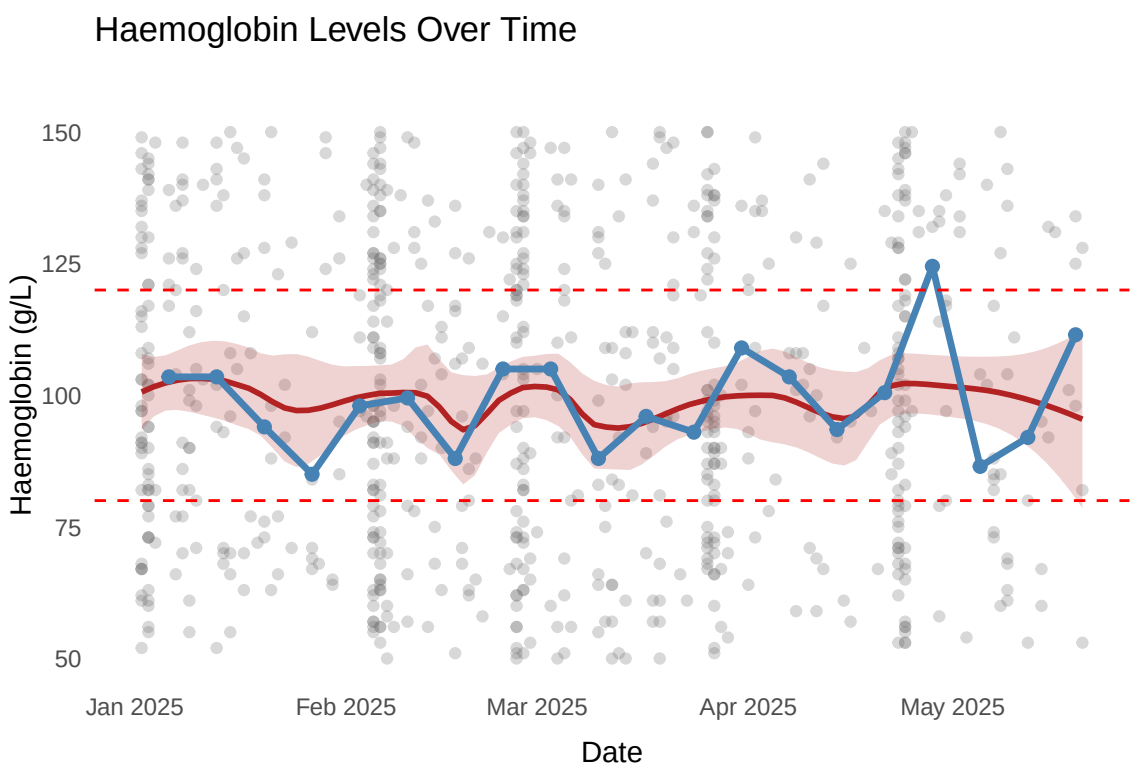
Ur Number	CollectedDate	HGB	prev_HGB	delta_HGB	delta_days	Event
RB111710	2025-05-12	53	113	-60	371	Drop from 80 to <80 g/L
RB111787	2025-05-14	60	135	-75	373	Drop from 80 to <80 g/L
RB111837	2025-05-14	67	136	-69	374	Drop from 80 to <80 g/L

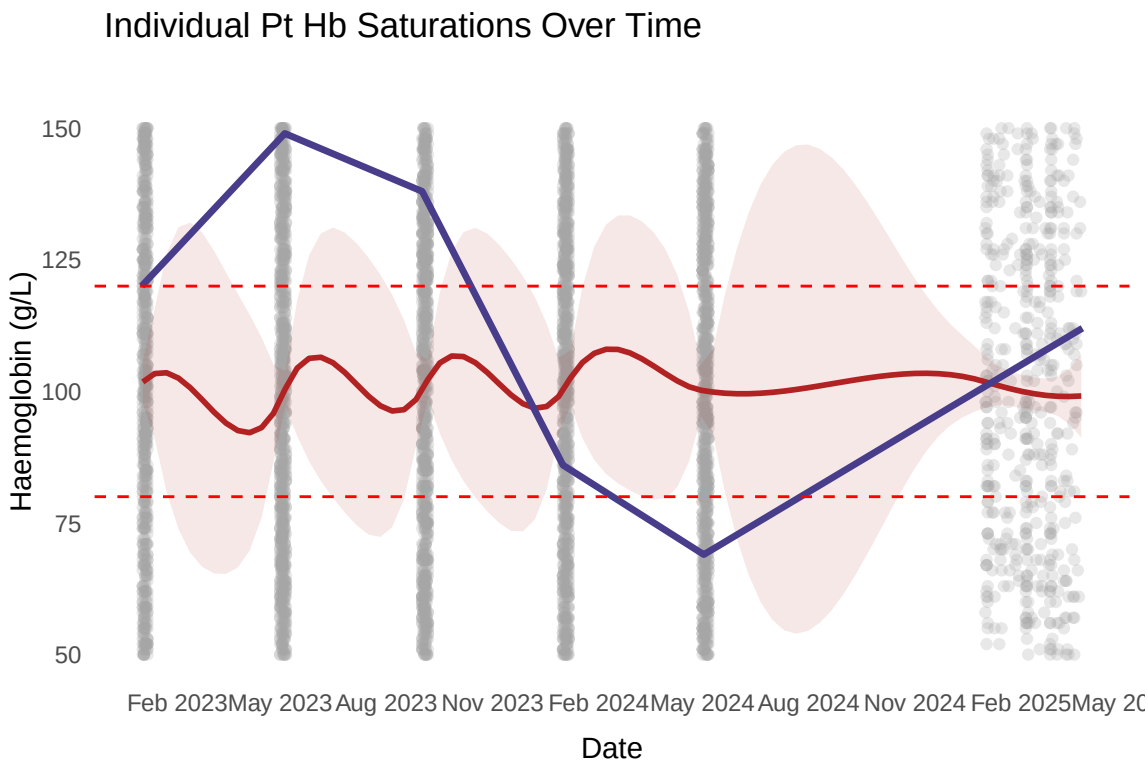
Summary

```
## HGB
## no. of pts >= 80: 1
## no. of pts <= 115: 1
## TRFSAT
## no. of pts >= 20: 1
## no. of pts <= 50: 1
## K
## no. of pts >= 3: 1
## no. of pts <= 5.5: 1
## PTHR
## no. of pts >= 18: 1
## no. of pts <= 90: 1
## PHOS
## no. of pts >= 1.5: 1
## no. of pts <= 4: 1
## CAL
## no. of pts >= 2: 1
## no. of pts <= 2.6: 1
```

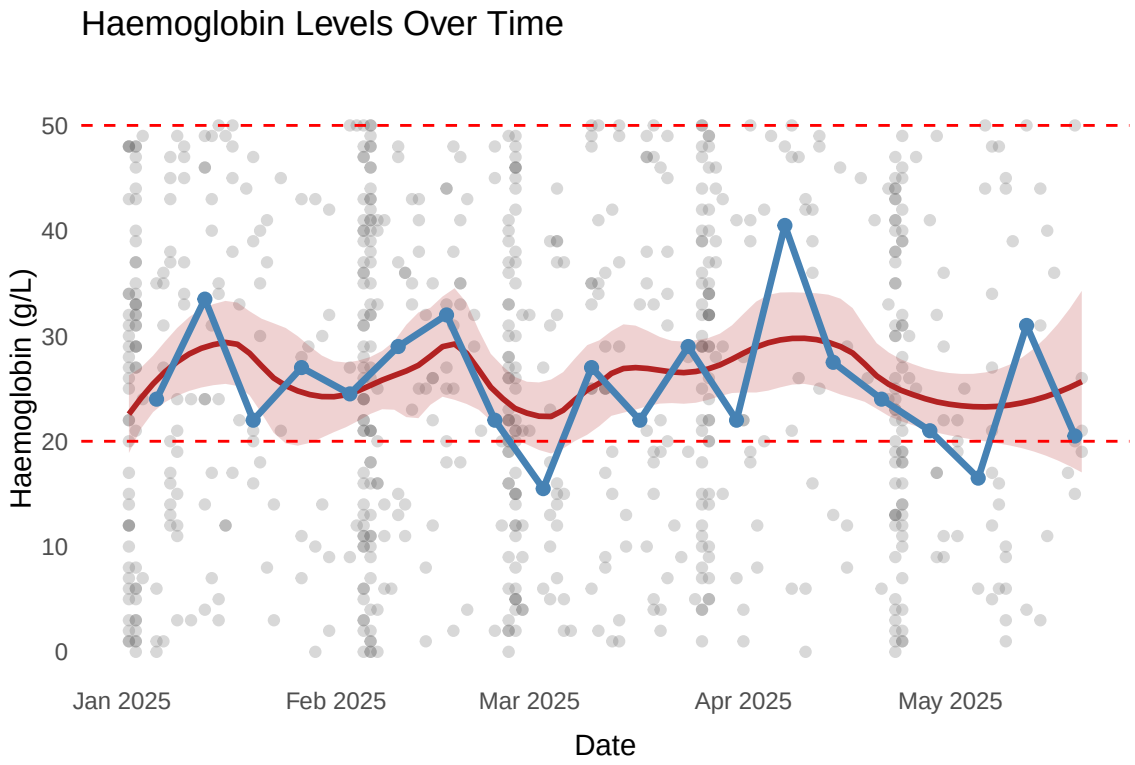
```
## ALB
## no. of pts >= 20: 1
## no. of pts <= 40: 1
```

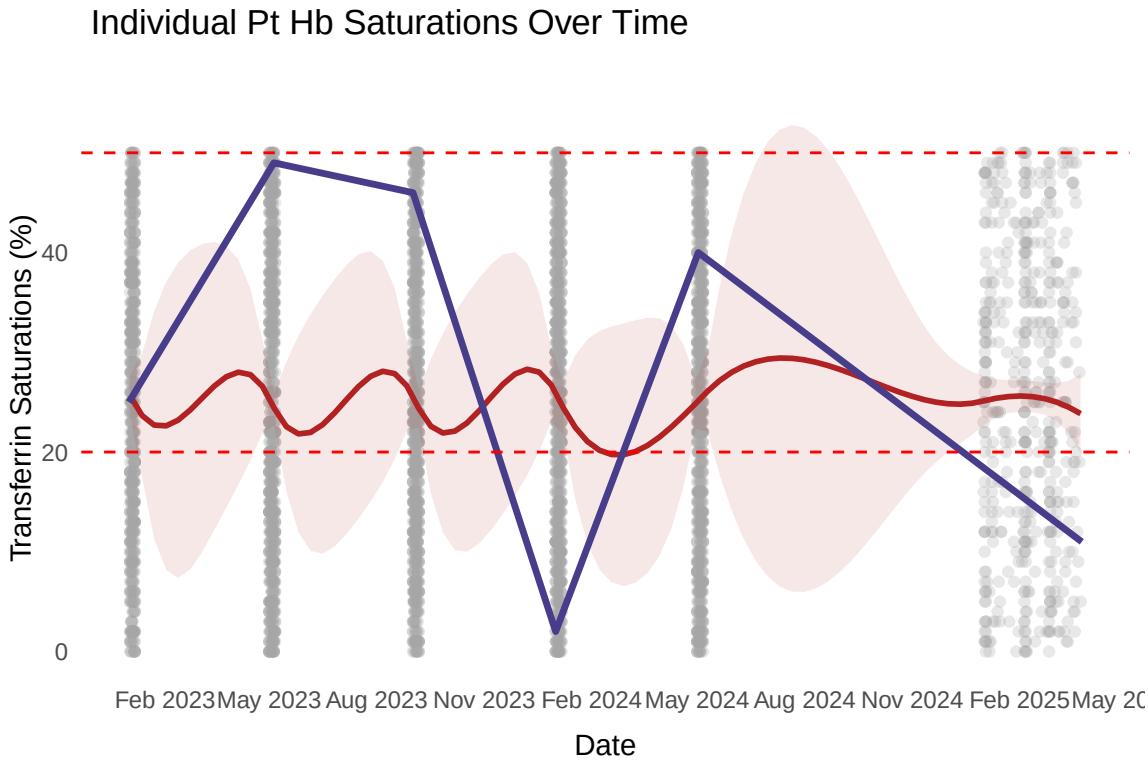
Haemaglobin



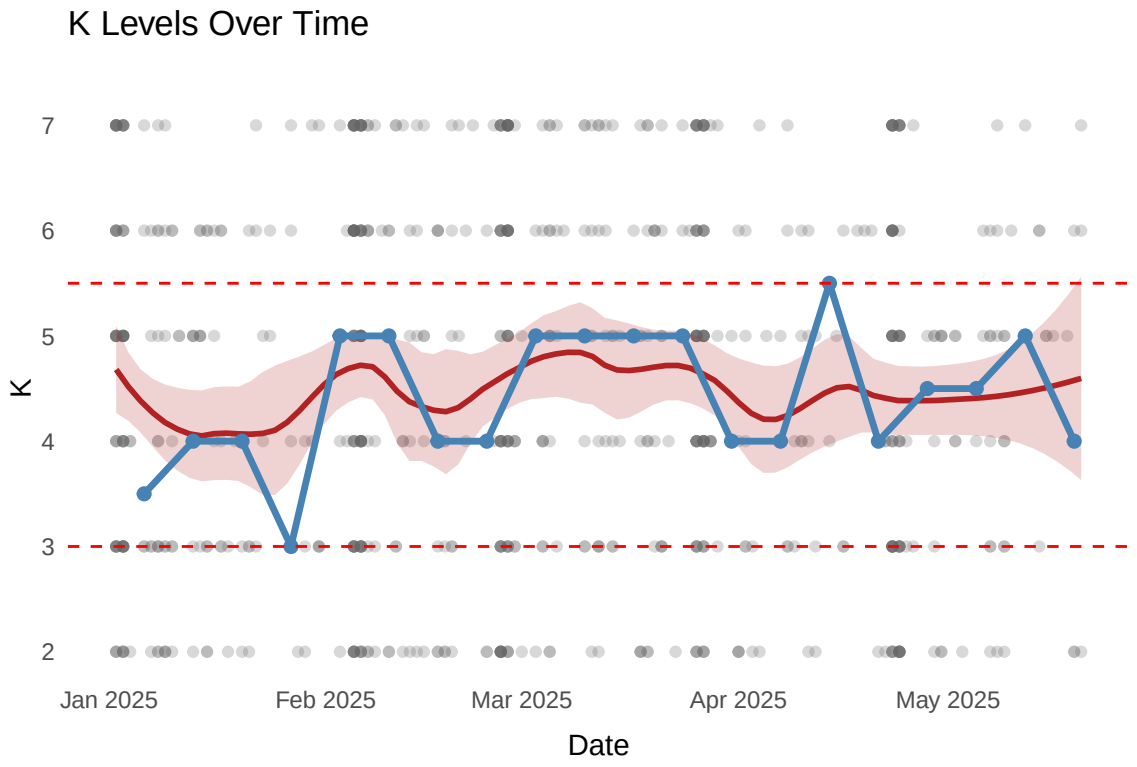

Individual Pt Hb Saturations Over Time
150
125
100
75
50
Haemoglobin (g/L)
Feb 2023
May 2023
Aug 2023
Nov 2023
Feb 2024
May 2024
Aug 2024
Nov 2024
Feb 2025
May 2025
Date

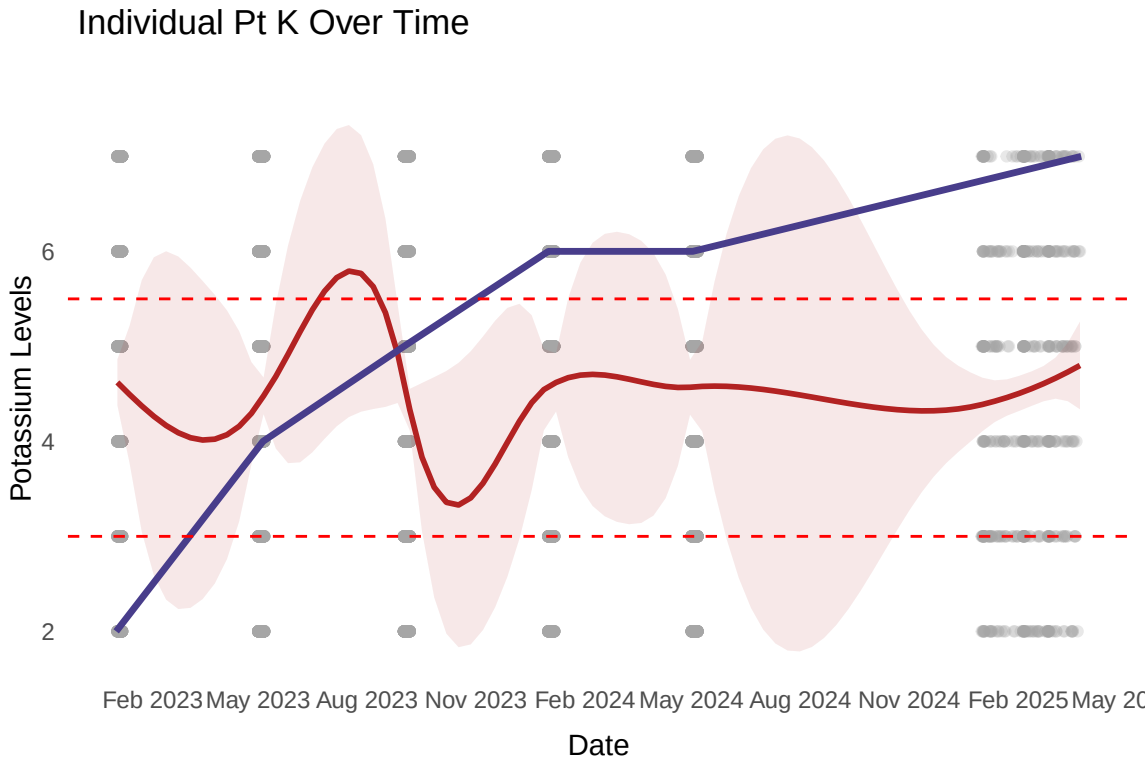
Transferrin Saturation



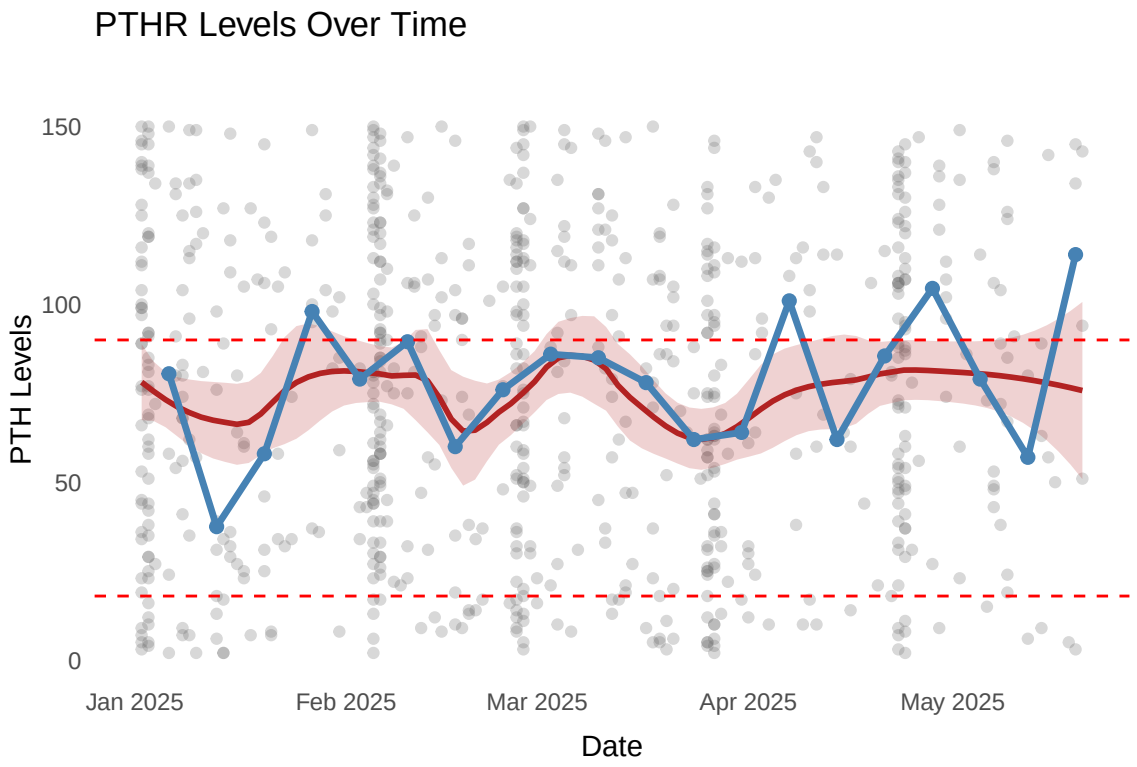


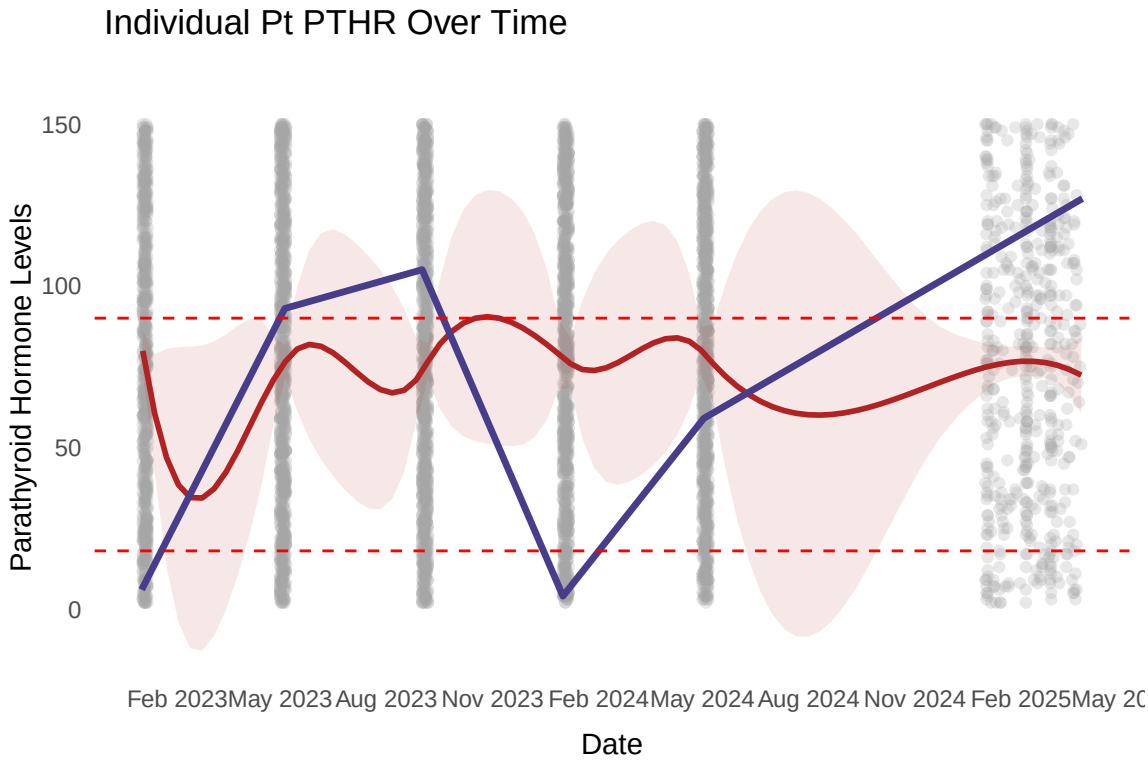
Serum Potassium



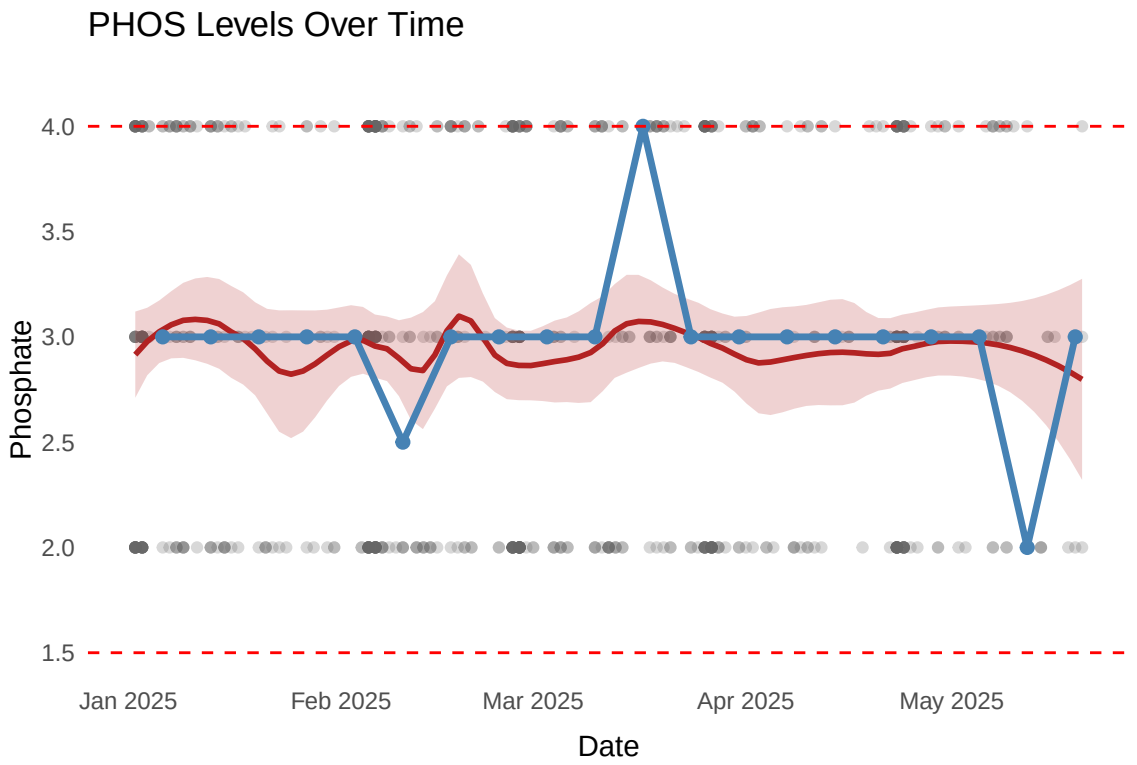


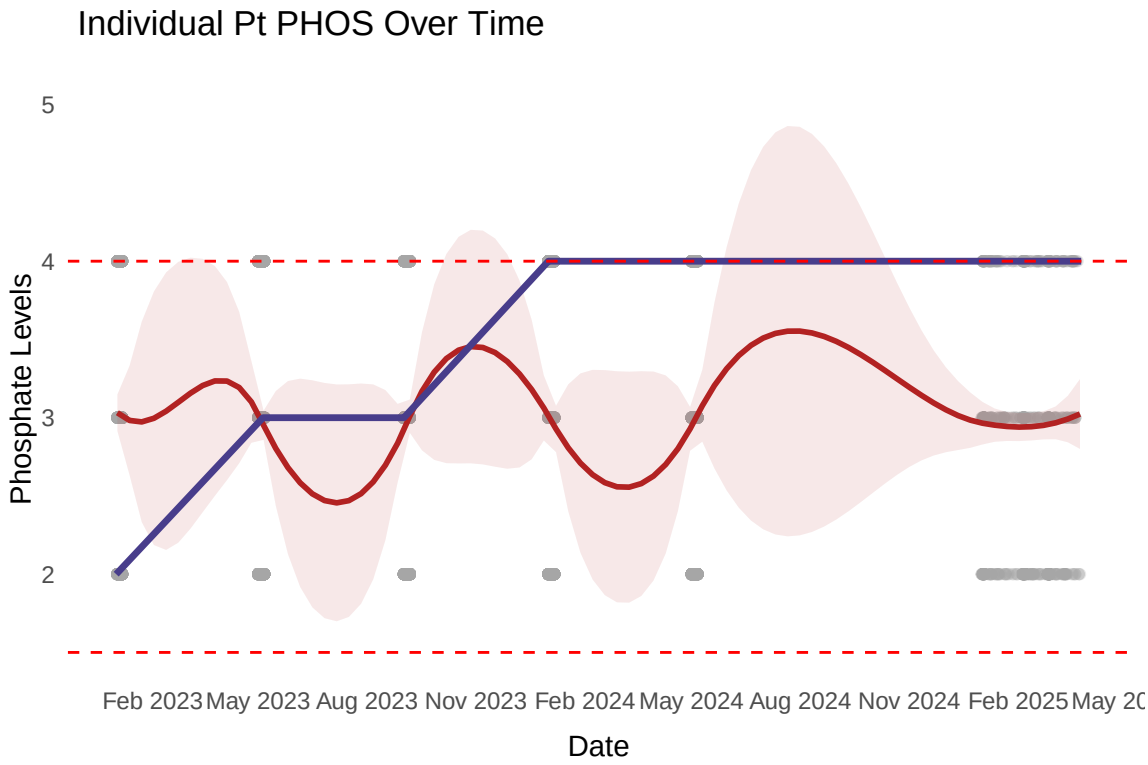
Serum Parathyroid Hormone



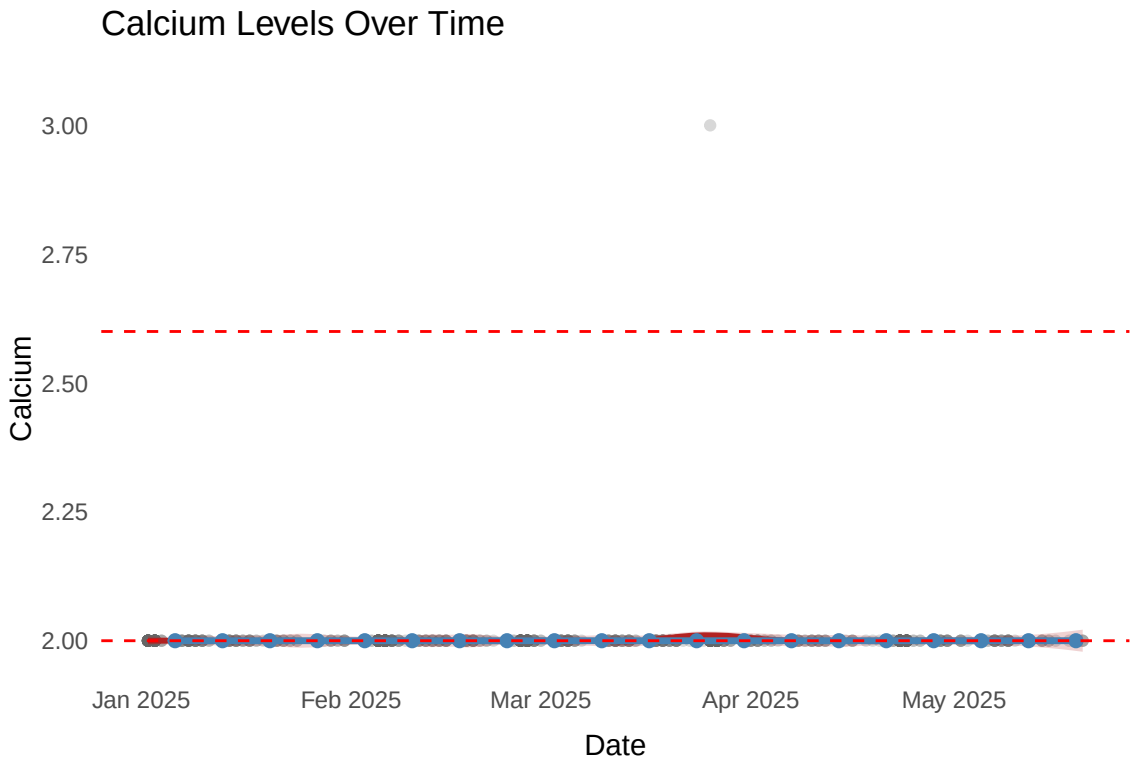


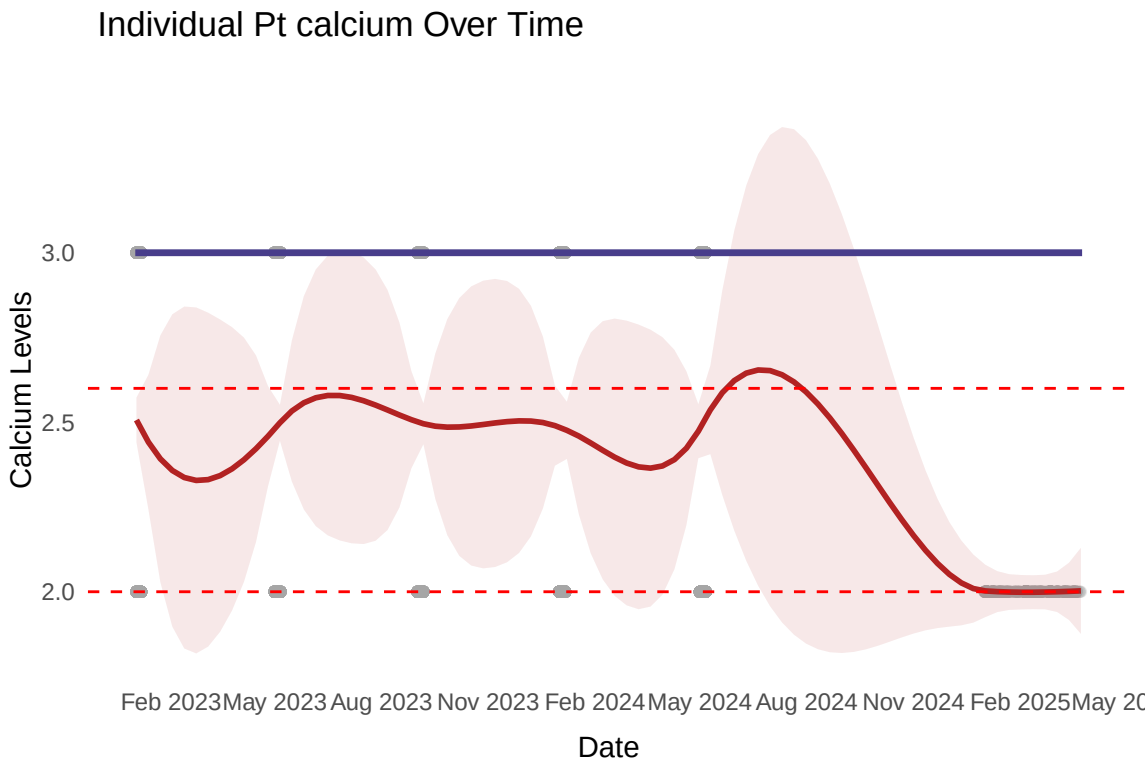
Serum Phosphate



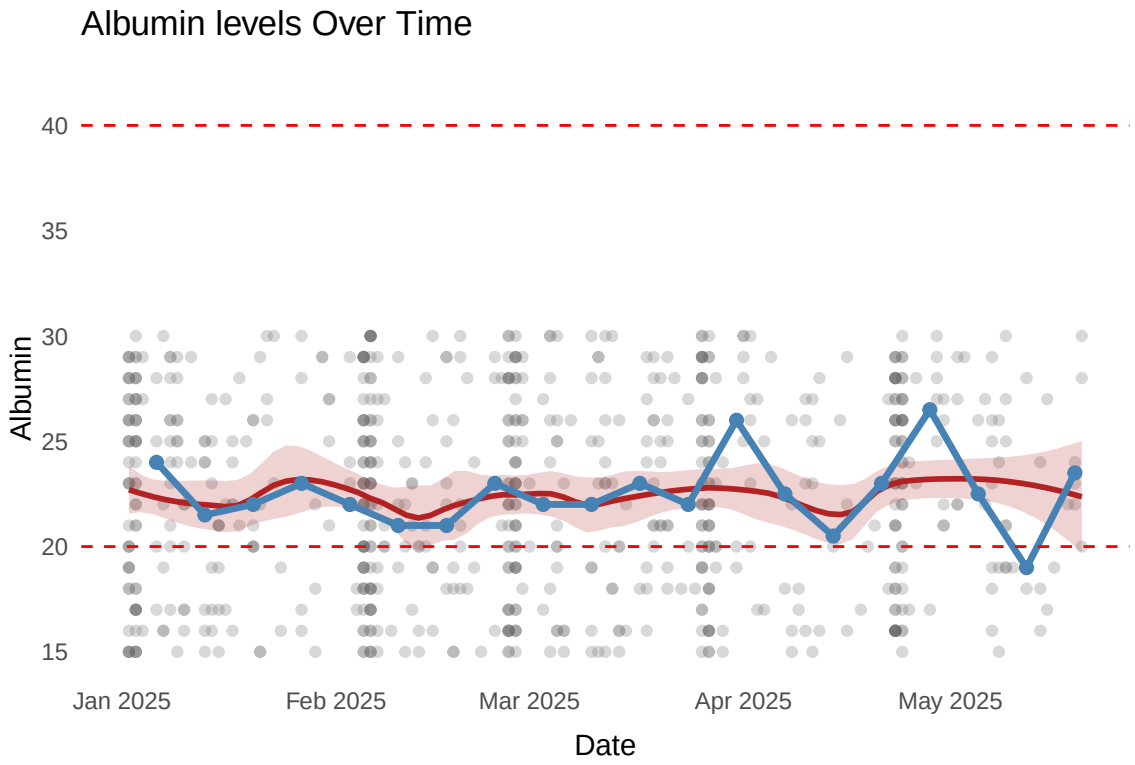


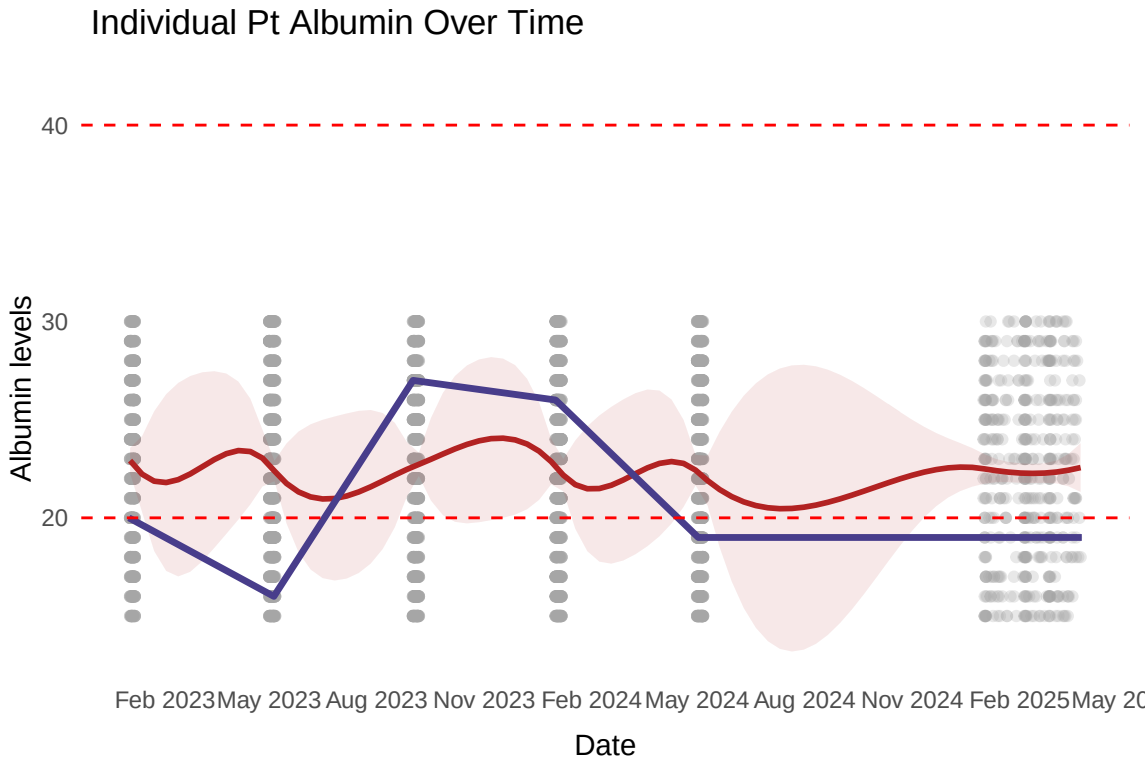
Serum Calcium





Serum Albumin





Hepatitis B Serum Antibodies