**Figure 1: Study design summary and weight calculation for the marginal structural model**

<table>
<thead>
<tr>
<th>Baseline serum Uric acid measurement &gt;= 6.8 mg/dl</th>
</tr>
</thead>
</table>

Uric acid measures updated monthly (carried forward from previous month when not available)

Baseline Enrolment Required (inclusion criteria implemented, baseline covariates measured)

\[
SW_{m+t}^A = \prod_{k=m}^{m+t} \frac{f(\Delta_k | \Delta_{k-1}, L_0, D_{k-1} = 0)}{f(\Delta_k | \Delta_{k-1}, \bar{L}_k, D_{k-1} = 0)}
\]

Where:
- \( m = \) Baseline month
- \( t = \) Month of follow-up
- \( \Delta_k = \) cumulative change in serum uric acid in month \( k \)
- \( \bar{\Delta}_{k-1} = \) cumulative change in serum uric acid up to month \( k-1 \)
- \( L_0 = \) Covariates measured at baseline (ie Time-fixed)
- \( \bar{L}_k = \) Covariates measured at baseline (ie Time-fixed) + updated monthly (ie Time-varying)
- \( D_{k-1} = 0 = \) Outcome not observed until month \( (k-1) \) and the patient is still at risk

Both the numerator and denominator are probability density functions calculated from generalized linear regression models (assumed normal distribution and constant variance)