# MN-CMS EHR Remote Hosted Option (RHO) and Code Upgrade Project (2023)

On 28th August 2023 the MN-CMS EHR code-base was upgraded to the latest version (2018) thereby providing the most up to date version of software available and simultaneously moved to a Technology Managed Service **(TMS)** hosted in Sweden i.e. a Remote Hosted Option **(RHO).**

**Background**

The hardware and Millennium code set underpinning the EHR was at the end of service life.

The cyber-attack on the HSE in May 2021 and further residual effects of the ransomware attack increased the risks of a technology failure in the aged technical stack platform. There was also a backlog of necessary clinical code changes that could not be implemented on the existing aged platform.

The HSE Board and the Executive Management Teams approved the MN-CMS EHR Programme move to RHO provided by Cerner with up to date hardware and software; taking advantage of the full mitigation of the technology risk and key technology personnel dependencies in addition to moving to a TMS contract which includes hardened and explicit responsibilities for Cerner and any Cerner 3rd party Vendor

With that agreement in place the MN-CMS EHR Programme upgraded its code-base to the latest version (2018) through a robust project management methodology resulting in the provision of the most up to date version of software available ensuring that MN-CMS EHR can leverage Continuous Delivery to improve user experience.

**The 2018-Code Upgrade** was mostly a stability and technological upgrade to provide the foundation for functionality improvements to the MN-CMS EHR. It underpinned clinical improvements, which had been identified by the national and local MN-CMS EHR teams, but which could not be applied in the existing software version (2015) and it also embedded corrections and enhancements that had been identified and developed by Cerner. This upgrade also enabled the MN-CMS EHR to avail of the Cerner strategy of cloud enablement, which facilitates a streamlined pathway for future code upgrades. The Code upgrade occurred while simultaneously moving to a TMS hosted in Sweden.

**The RHO flip** provided new infrastructure which will be refreshed on an on-going basis eliminating the need for regular hardware refresh cycles. This brought with it the benefits of 99.9% availability with continuous refresh of the underlying infrastructure. It is GDPR compliant with updated Data Privacy Impact Assessment (DPIA) and has Oracle Cerner industry standard security tooling to ensure detection and prevention of security events with Disaster Recovery (DR) fully synced with MN-CMS EHR.

**Benefits**

The following are a sample of the benefits realised

* ‘Continuous Delivery’ can be leveraged to improve user experience
* The RHO Flip brings with it the benefits of 99.9% availability
* Up-to-date hardware, operating systems and layered technology
* Cerner security tooling to ensure strengthened cyber security leveraging their layered security model
* Disaster Recovery (DR) system is fully synched with the live system
* With ‘Enable Continuous Scrolling’ ticked – a patients history and the patients notes may be read one after the other
* The look of the chart will improve – where multiple meds are given in theatre they now appear in greyed consecutive lines they appear on one line as they are given as all other meds do
* If multiple meds are added from Quick Orders the order sentence selection and dose calculator details are confirmed in Quick Orders for each medication as they are added, reducing the possibility of a mix-up at the ‘Modify Details’ stage
* When meds are ordered from a CarePlan; the name of the CarePlan now displays directly over orders on the signing page, reducing the chance of a mix-up
* On the MPTL there is red writing where the name alert has fired
* Lab order – full lab test names now displaying on the Whiteboard when you hover over the field in the Lab column
* The Antenatal Visits component will provide a link to any corresponding clinic visit note for that Antenatal visit. This will display as a hyper link on the ANV cards
* On the textual rendition of NICU admission form- GA at Birth now displays as weeks and days rather than days
* Reporting improvements