

The Integration of a Neonatal Multiuse Clinical Database Within the Electronic Health Records

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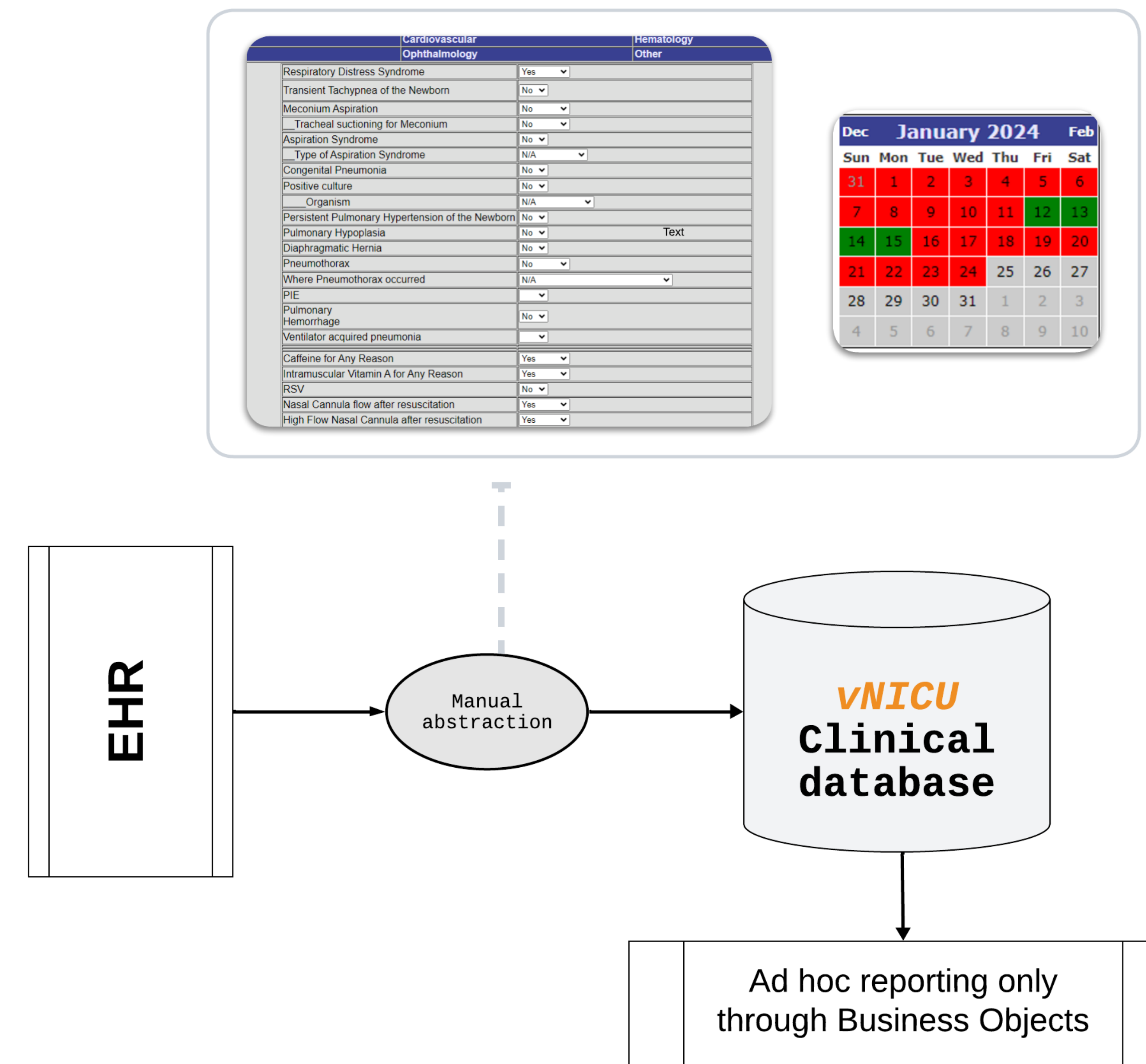
Background

- vNICU is a clinical database of key diagnostic and therapeutic data on more than two decades of Neonatal Intensive Care Unit (NICU) patients
- Used for operational decision-making, quality improvement (QI), benchmarking, and research
- Data submitted to Vermont Oxford Network - an international neonatal QI collaborative.
- Legacy vNICU was a siloed web-based application that required time consuming manual data abstraction
- The objective is to integrate vNICU within the EHR and automate abstraction

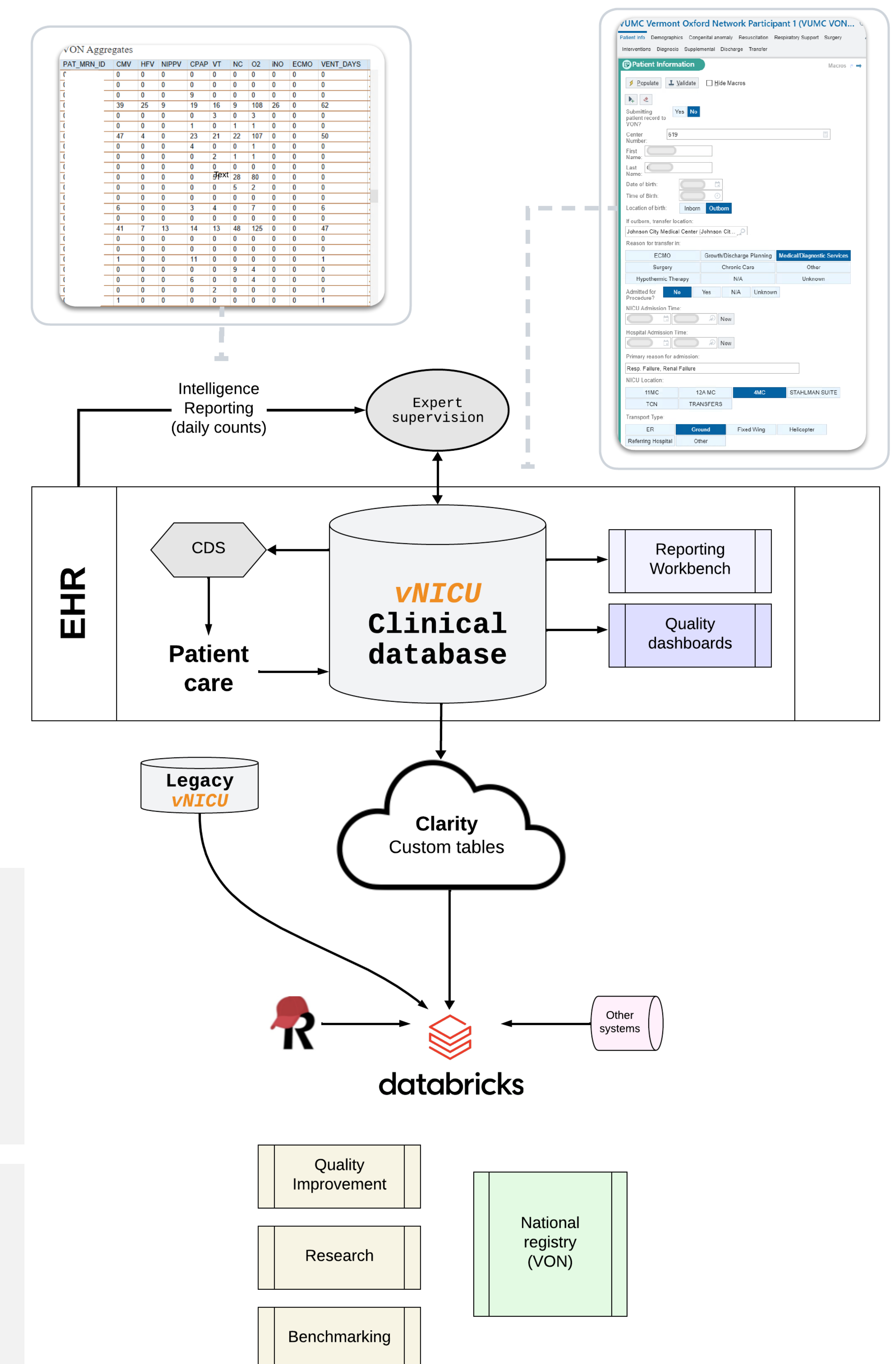
Methods

- Automated batch reporting of granular daily counts of respiratory support and central line types, as well as patient-level aggregate reporting
- Created EHR registry and structured forms to support patient-level data abstraction
- Mapped and created auto-population of data points available in the EHR into the forms
- Created custom Clarity tables for versatile reporting
- Used a data lake platform to combine legacy, integrated, and external databases

Pre-integration



Post-integration



Results

- Eliminated need for 7-day a week data collection
- Automation of daily counts saved 10 hours per week of manual data entry
- Completion of data abstraction time decreased by half
- Made possible real-time decision support and dashboarding using validated data

Future

- Reproducing integration for other databases at Monroe Carell
- Create self-service custom reports and real-time quality improvement dashboards

