In CQI (Continuous Quality Improvement), the value of collected data is not fully realized unless the export process is automated and painless. As the external evaluation of the MIECHV grants (Maternal, Infant, and Early Childhood Home Visiting), our system is developed around the mantra of "Fresh and Frequent Feedback". The system has three categories of reports: (a) quick reports for internal team members written in markdown, (b) formal reports for external consumption written in LaTeX, and (c) browser-based interactive reports written in Shiny. In addition to demonstrating the creation and value of these reports, this poster will address the tension involved with providing easily accessible reports that do not jeopardize the security of the underlying PHI.

The features of our system facilitate different types of collaboration between these groups:

1. *The 4 statisticians on the project*. Version control software (GitHub) allows parallel development of the analytical code. A multi-tiered data access layer allows substantial code reuse, which makes the software development more agile and efficient.
2. *The 20 members of the OUHSC team*. Centralized databases (REDCap and SQL Server) allow participant data to be securely collected and processed. Scheduling features within REDCap allow data collectors to create and track appointments, and reschedule missed and postponed visits. Mobile 3G/4G hotspots allow the data collectors to immediately upload and download information during the interviews.
3. *The 3 partnering organizations* (OSDH, WIC, OHCA). Secure data exchanges allow us to receive their subject-level and agency-level data. Literate programming and automation software (R, ggplot2, and knitr) allow us to distribute our summary reports.
4. *Academics in different areas* (particularly at OUHSC). Open-source and popular software tools allow us to more easily generalize the workflow to unrelated fields –fields that are outside of developmental pediatrics. Specifically, we better adapt aspects of previous successful clinical research and QI projects, as well as share the features of our study that might be well-suited for later projects.
5. *Researchers in other states pursuing similar goals*. Literate programming allows us to more easily create manuscripts and supplement publications with sanitized dataset that facilitate reproducible research.

------ Working space --- not to be submitted ------

State the importance of

* Fresh & frequent feedback to agencies
* Programmatic manipulation of data
* Collaboration & parallel contributions

Tools:

* R
* knitr & ggplot2,
* REDCap
* GitHub

Show examples of

* Input into REDCap
* ¿Manual data export?
* Data extraction with API
* Markdown reports
* LaTeX reports
* Shiny reports