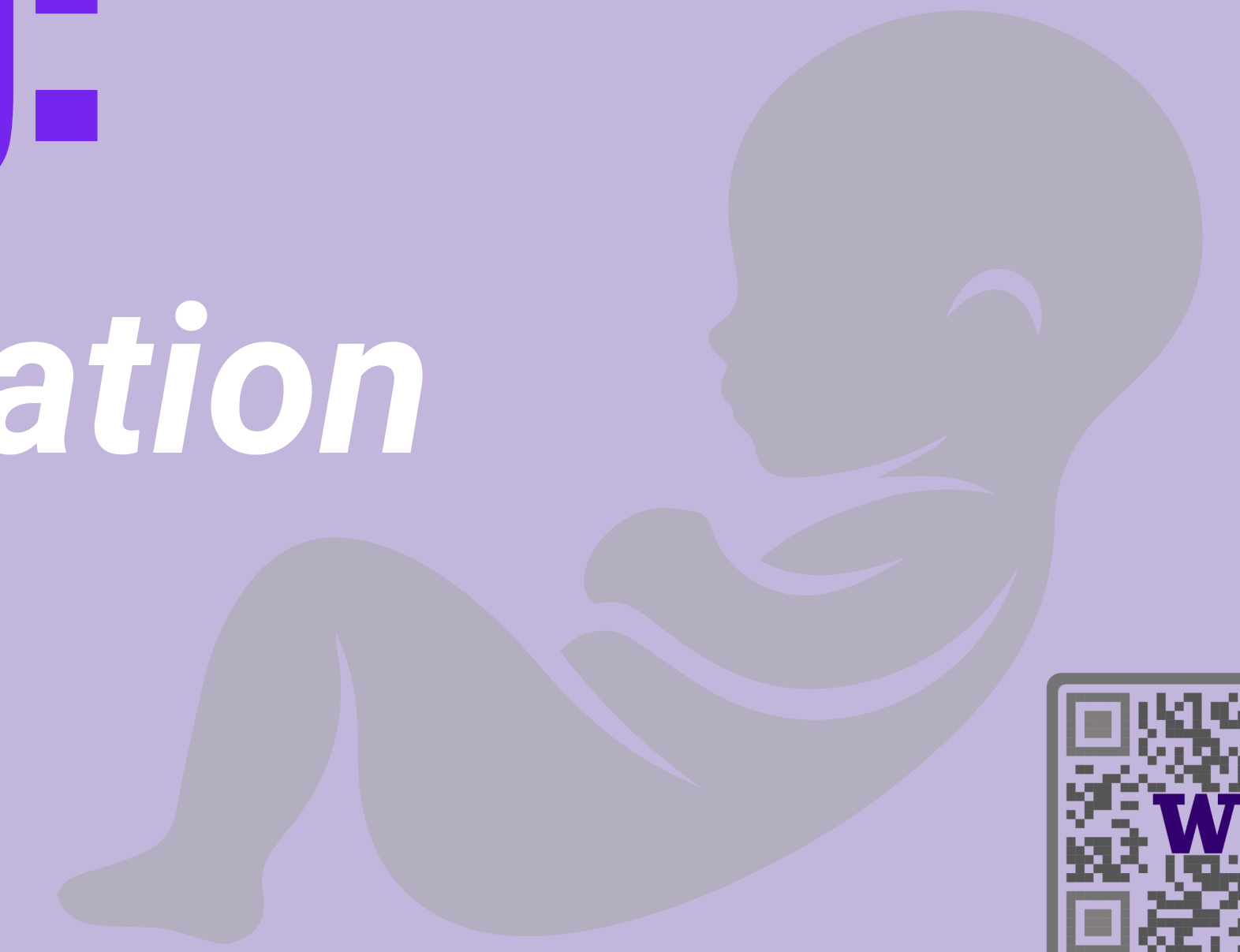


Newborn Data Analysis Internship:

Improving Health Outcomes of Sick Neonates in Relation to Neonatal Nutrition

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REFERENCES

Background

- Infant mortality rate is a critical indicator of the overall health of society
- **Over 20,000 infants die** each year in the United States; leading causes of these deaths include:
 - Congenital anomalies
 - Pre-term birth and low birth weight
 - Sudden infant death syndrome
 - Unintentional injuries
 - Maternal pregnancy complications

Project Aim

Data consolidation of infant specific data into an encrypted data collection platform, aimed at addressing more specific research questions in attempt to improve quality of care and reduce mortality rates both locally and globally

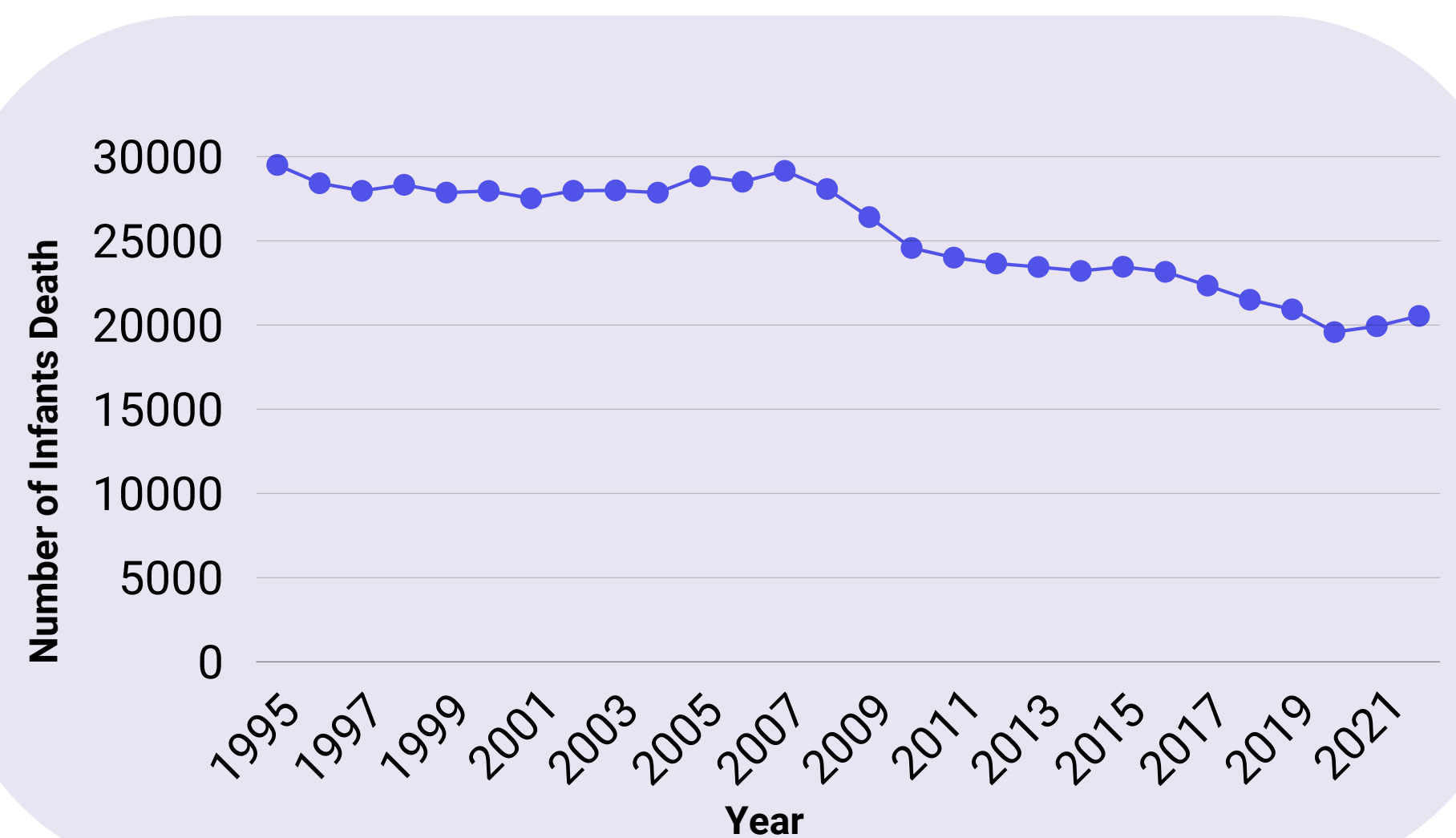


Figure 1. Mortality rates of infants, neonates, and post-neonates from 1995 to 2021 obtained from CDC.

Preliminary Studies

Studies that have utilized data consolidation for research:

- Xylitol chewing gum
- Postnatal weight loss and fluid admin
- Time to regain birthweight and association with neurodevelopment
- Increase sodium variability associated with adverse in-hospital outcomes

Newborn nutrition **data-based development** is essential for reducing **infant mortality** and enhancing **neonatal care** worldwide.

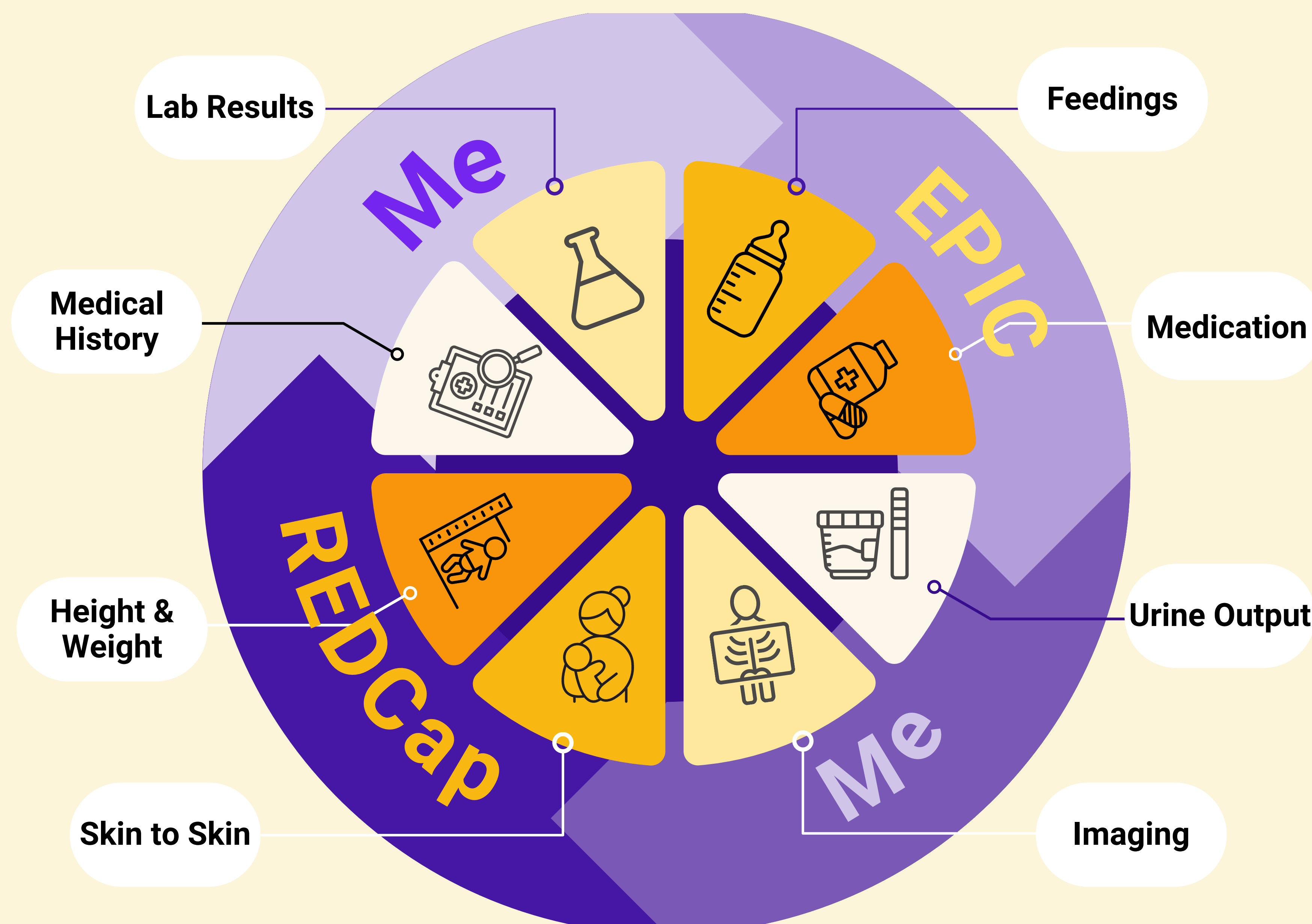


Figure 2. Illustration of the data transfer process from Epic to REDCap. The variables shown in the middle represent examples of data types entered into REDCap.

Methods

1. Members of the group will **review** infant charts on EPIC system
2. **Extract** required measurements and data including personal data, daily feedings, lab results, medical history, urine output, skin to skin interactions, nutrition orders, and medications.
3. **Input** extracted data into secured research database-REDCap
4. **Adjust** data collection methods to best fit the information needed.

Discussion & Future Steps

- This project builds on neonatal nutrition database previously created with data collected by the research team from University of Washington.
- This database was developed to enhance the quality of neonatal care through association of specific variables and health outcomes.
- This ongoing project will address current and future research questions related to neonatal healthcare.

Acknowledgement

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