

Integrating Systems:

The Challenges of Developing a Master Child Index to Integrate the Immunization and LeadQuest Registries



Size and scope of City Immunization Registry (CIR)

- Contains demographics and immunizations of children up to 18 years of age
- 91% of private providers are currently reporting
- Contains nearly 2 million children with over 11.6 million immunization events

Size and scope of LeadQuest (Lead Poisoning Registry)

- Contains demographic data, blood lead test results, and follow-up of children up to 18 years of age
- 60 laboratories report blood lead tests for NYC residents; 49 report electronically
- Contains approximately 3.9 million blood tests from 1.7 million children
- Contains 21,800 cases with elevated blood lead levels

Commonalities of Two Registries

- Each registry covers all children in the city
- Each registry matches new information with existing records
- Each registry seeks being able to provide complete child specific information

Concept of Master Child Index (MCI)

- Create a core demographic data base into which demographic data on each child would be loaded from participating registries
- Provide front end registry matching for new immunizations and lead test data
Generate a common ID linking participating data systems

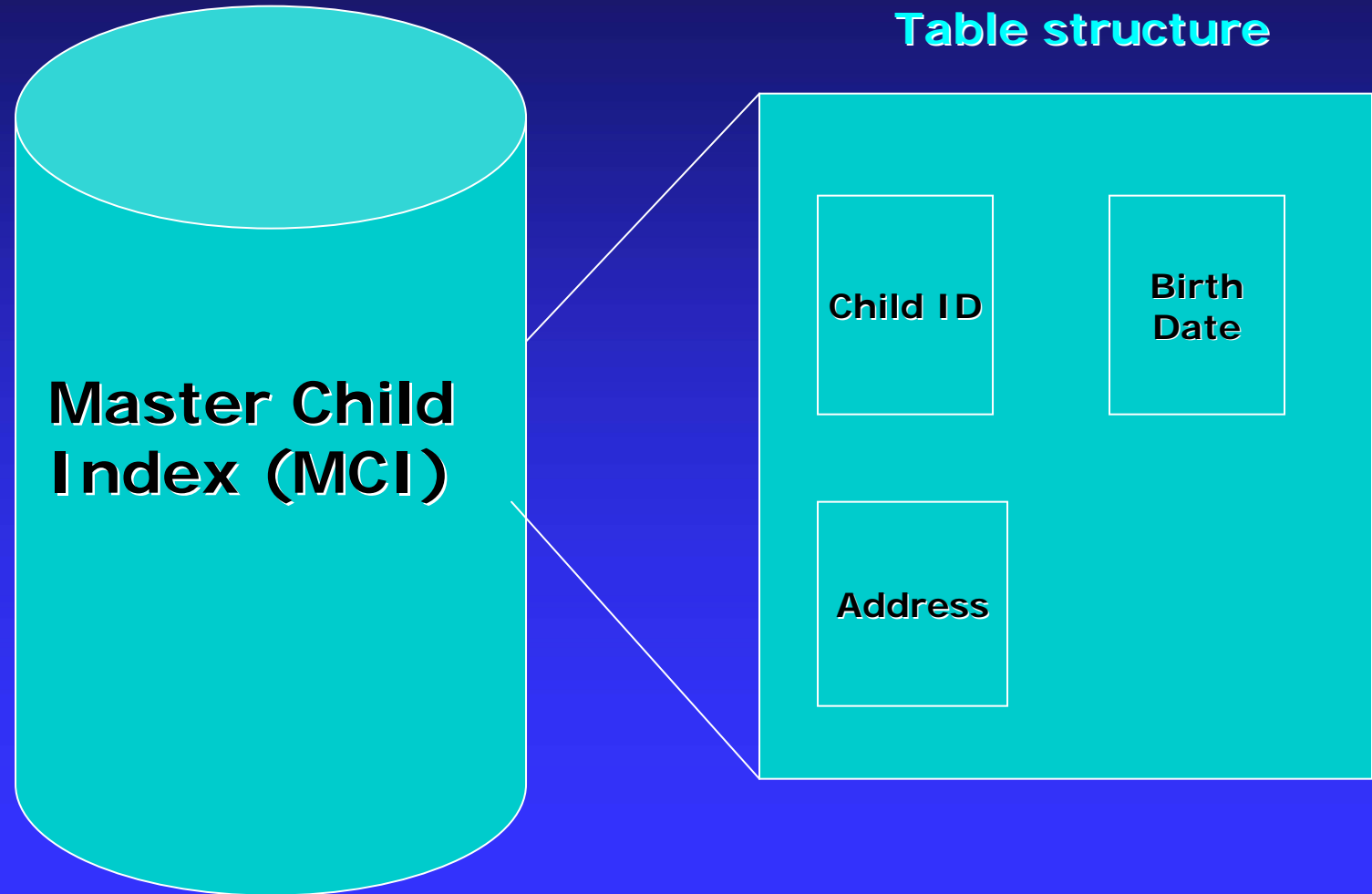
Basic Development Steps in Creating MCI

1. Design logical relational database
2. Select data elements required by MCI
3. "Training" and "testing" of matching algorithm (program) MEDD (Maximum Entropy De-duplication)
4. Formulate business rules governing the loading/translation of data from registries to MCI

Basic Development Steps in Creating MCI

5. Build communication services for linking components of system
6. Design and develop MCI administration and query tools
7. Synchronize all the databases and generate MCI ID for linking two registries

Steps 1 and 2 – Select Data Elements and Design Logical Relational Database



Steps 3 and 4 – Build APIs and Communication Services

