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New Software Tools for Recall in an Immunization Registry

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Outline

- Background
- Objectives
- Process
- Results to Date
- Lessons Learned

Background

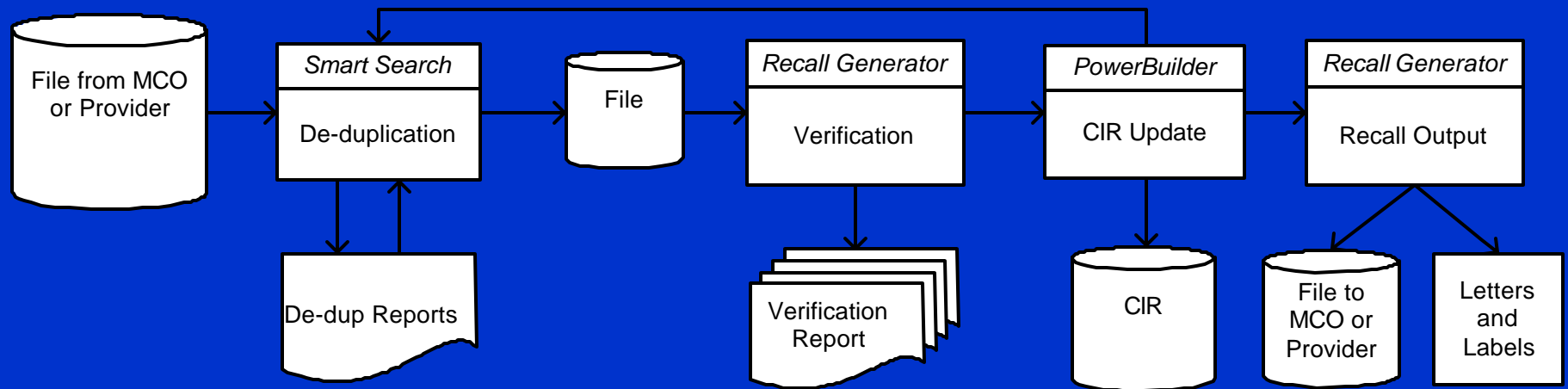
- Citywide Immunization Registry (CIR) contains 1.7 million records, 8 million immunizations
- Reporting is high from both public and private sites
 - paper, electronic and on-line
- Web-based application
 - child-by-child look-up
 - designed for screening and printout
- No recall capability in original implementation

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Objectives

- To pilot recall of children in need of immunizations using registry/managed care combined data
- To improve CIR data quality
- To design and develop an automated process to create recall letters using the CIR immunization algorithm

Process



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Process *(continued)*

- File de-duplicated using *Smart Search*
- Verification Report created by *Recall Generator*
- Providers review and correct Verification Report
- Report returned to DoH; data updated in CIR
- For children not UTD, past immunizations and immunizations currently due are generated
- Letters or file sent to the MCO
- MCOs mail recall letters to members

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Process *(continued)*

Products

- *Smart Search*: Visual Basic client that accesses CIR database
- *Recall Generator*: Visual Basic product that accesses file generated by *Smart Search*

Process *(continued)*

Smart Search Parameters

Smart Search - Report Parameters

File Options Help

Input File Browse

Output File Prefix Browse

Use first line of file. App Format: Special

Format Default

Not Used: cir, mommname, momdob, phone, mbirth, vital, cirb, pvlname, pvfname, facility, pgname, address1, address2, city, state, zip One ID

Not Good: Pairs

Extra Data Recall

DEI

oldDEI

Options Run Query (Search) Review Exit

Process *(continued)*

Smart Search Options

Options

Quick | Process | Files | **S1 Queries** | S2 Queries | Opt Queries | ASC | Review / DEI | OK

Step 1 Queries

These queries are close matches and are applied on data rows only to find "close" matches. They run only when the process selects step 1 on the General Tab.

- Q1.a. Last, First, DOB ,Gender
- Q1.1: Medical Record #, DOB
- Q1.2: Medicaid
- Q1.3a: CIR id
- Q1.3b: CIR id in column 'cirb'
- Q1.4: Telephone Number
- Q1. i After Step 1 Queries, import pairs from file if both ids are valid.

Defaults

Select All

Unselect All

While searching with these queries as well as S2 and Opt queries using row data from the input file, allow only upto this number of matches per row. (0 means no limit.)

Limit:

If a box is checked then all the fields will be matched using the available fields when there are enough available fields.

Process *(continued)*

Smart Search Record Review

The screenshot shows a software window titled "Recall Record Review". At the top, there are menu options "File" and "Options". Below the menu is a section labeled "Orig. Row:" containing a text input field with the text "MARY SMITH 11/17/1996 F".

Below the "Orig. Row:" section is a section labeled "Possible Matches:". It contains a list of rows, numbered 1 through 8. Row 1 is selected, indicated by an "X" in a small box to the left of the row number. The text for row 1 is "127926775 N MARY SMITH 11/17/1996 F BROWN 09/25/1964 DB" followed by "ADDRESS: 7 WEST 7TH STREET NEW YORK NY 11111". Rows 2 through 8 are empty.

On the right side of the window, there is a vertical toolbar with several buttons: "1 row", "next mult row", "next mult sel", "next no sel", and "next long". Each button has a left and right arrow. Below these buttons is the text "2 / 6". At the bottom right of the window, there is a button labeled "Changed".

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Process *(continued)*

Recall Generator Parameters

The screenshot shows a Windows-style dialog box titled "Recall Generator - Report Parameters". It features a menu bar with "File", "Options", and "Help". The main area contains several input fields and controls:

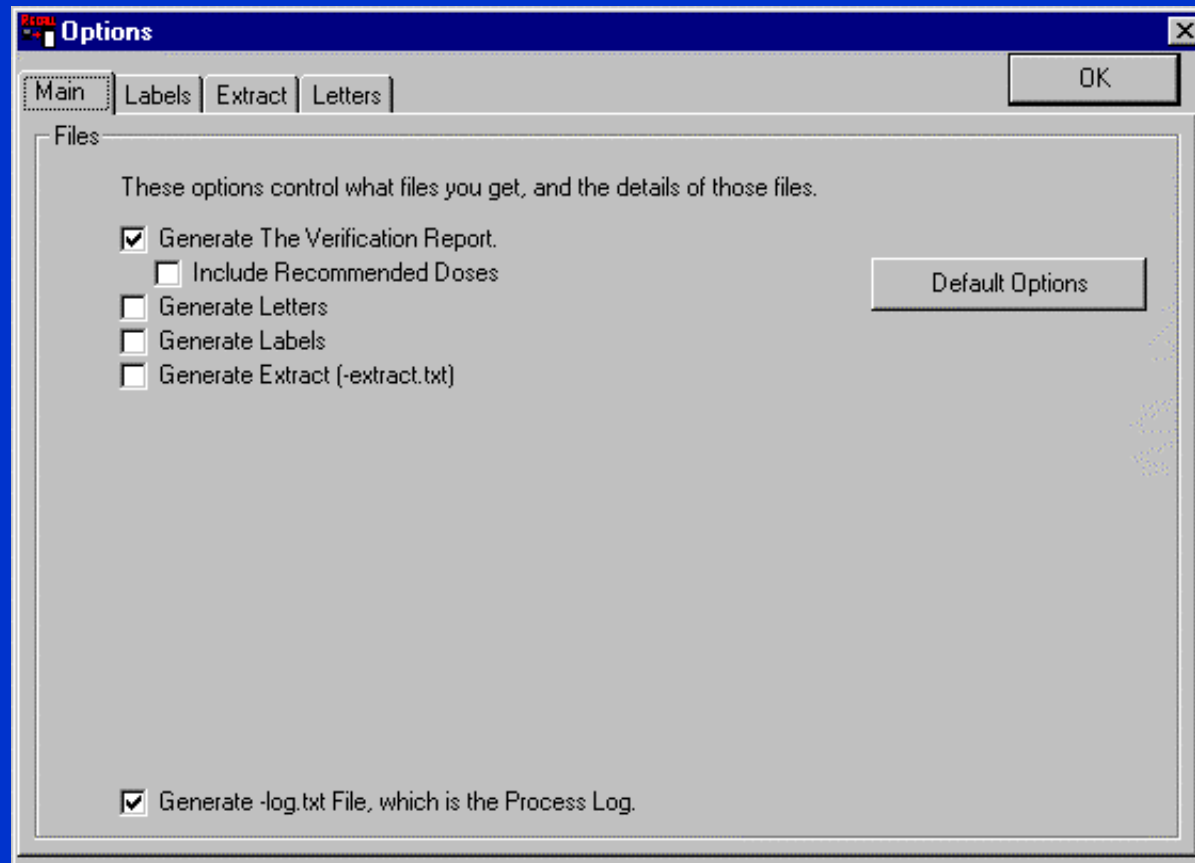
- Input File:** A text box with a "Browse" button to its right.
- Output File Prefix:** A text box with a "Browse" button to its right.
- Format:** Two radio buttons: "Use first line of file." (selected) and "App Format:". Below them is a text box containing the format string: "cir,lname,fname,dob,gender,medrec,pvlname,pvfname,facility,pgname,address1,address2,cit". A "Recall" button is to the right of this text box.
- Not Used:** A text box containing "medicaid,mommname,momdob,phone,mbirth,vital,cirb".
- Not Good:** A text box that is currently empty.
- Extra Data:** A text box that is currently empty.
- Letter:** A dropdown menu that is currently empty.

At the bottom of the dialog, there are three buttons: "Options" on the left, "Generate Output" in the center, and "Exit" on the right.

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Process *(continued)*

Recall Generator Options



Process *(continued)*

Verification Report

NYC CIR

Recall Process Verification Report BROKEN HEART HOSP.

Eff: 12/2/1999

Provider: **BUCKAROO LASCOTT**

KENNETH ALEXIOU
123 duck Lane
Apt Q
New City texas 11911
dob: 08/22/1994 cir: 158171624
gender: M med rec:

CIR Immunization Info

Additional Immunizations

Lead Screening Date(s)

Initials for Verification

KENNETH ALEXIOU
123 duck Lane
Apt Q
New City texas 11911
dob: 08/22/1994 cir: 35894812
gender: M med rec:

CIR Immunization Info

| | | | | |
|---------------|--------------------|-----------|------------|------------|
| DTP/Td | 11/23/1992 | 1/22/1993 | 3/17/1993 | 10/11/1994 |
| Hib | 11/23/1992 | 1/22/1993 | 3/17/1993 | 10/11/1994 |
| Polio | 11/23/1992 | 1/22/1993 | 10/11/1994 | 9/4/1996 |
| MMR | 9/4/1996 | | | |
| Other | 9/4/1996 (DTP/Hib) | | | |

Additional Immunizations

GERMAINE ALEXIS
123 duck Lane
Apt X
New City texas 11912
dob: 01/30/1982 cir: 45225112
gender: F med rec:

CIR Immunization Info

| | | | | |
|---------------|--------------------|-----------|-----------|--------------------|
| HepB | 1/16/1997 | 3/20/1997 | | |
| DTP/Td | 5/25/1982 | 2/15/1983 | 9/29/1983 | 7/3/1986 6/11/1987 |
| Hib | 9/29/1986 | | | |
| Polio | 5/25/1982 | 2/15/1983 | 9/29/1983 | 6/11/1987 |
| MMR | 6/19/1984 7/8/1992 | | | |

Additional Immunizations

Process

Letter Generation

The screenshot shows a software window titled "MCO" with a close button in the top right corner. The interface is divided into several sections:

- Form Fields:** "Letter Name" (MetroPlus Health Plan 1), "MCO/Provider" (MetroPlus Health Plan), "Phone" (empty), and "Eff.Date" (empty).
- Buttons:** "Save", "Cancel", "Undo", and "Delete".
- Variables:** A text field containing "{MCO-name} {telephone} {eff-date}" with a note below it: "* if blank, input file's effdate is used".
- Data 1:** A text area with a scroll bar containing the text: "Dear Parent or Guardian: I am writing about your child's immunizations. Routine immunizations play an important role in the health and well being of children. Vaccines are an effective way to prevent your child from getting potentially serious childhood diseases. The following is a list of vaccines that were reported to the New York Citywide Immunization". A small "orig" button is to the left.
- Data 2:** A text area with a scroll bar containing the text: "Your health care provider can give any immunization that your child needs, and will answer any questions you may have about vaccines. Please make an appointment with your child's doctor to bring your child up-to-date, and plan for the regular visits your child needs to stay healthy. If you have any problems making the appointment or have other concerns, please call our Member Services Department at {telephone}. We are here to help." A small "orig" button is to the left.

Results to Date

- Three MCO files received (total of 2516 children)
- Files matched and merged
- Verification report generated for MCO #1 (899 immunizations on 130 children)
- Report returned by MCO #1
- Providers added immunizations on 72 children
- 329 immunizations added

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Results to Date *(continued)*

- Verification reports generated for MCO #2 and #3
- MCOs only able to verify records for children in quality assurance reports (~ 400 each)
- MCO #2
 - Letters sent out for 210 children in need of recall
- MCO #3 sent paper reports on 354 children
 - Data entry in process

Lessons Learned

- Determine if central or decentralized recall is preferable
- Understand competing priorities :Time recall activities with MCOs prior to QA reports
- Encourage more record review at the provider level
- Integrate automatic recall into provider routines
- Allow ample time for software development

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Lessons Learned *(continued)*

- Provide continuous feedback to the providers involved
- Follow-up with a second round of letters or phone calls
- Provide recall for control group after three months
- Integrate automatic recall into the Web-based application