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# A Longitudinal Analysis of the Families First Screening Program in Manitoba, Canada: Cleaning, Validating and Linking via Health Registry Data

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## Introduction

Manitoba Public Health Nurses (PHNs) attempt to visit all families with newborns shortly after discharge from birth hospitalizations. Since 2000, PHNs have completed the Families First Screen (FFS) at these visits, to identify families at risk for child maltreatment. The information captured in FFS is a valuable tool for research.

## Objectives and Approach

Our objective was to clean and validate FFS data and link to health data in the Manitoba repository in order to determine the percent of births in Manitoba hospitals that had FFS. We identified all babies born in Manitoba hospitals 2000-2015 using ICD-9-CM /ICD-10-CA codes. Mothers were identified through the Health Registry (Mom_Baby Link File) using scrambled Personal Health Identification Numbers (sPHINs). FFS data were linked to births via baby's sPHIN. Determining which FFS records linked to babies required several steps of cleaning and validating the data to account for differences in birthdates between files, missing sPHINs, and multiple records.

## Results

For example, in 2014 there were 16,079 births and 14,002 FFS records; 13,524 FFS had mother and/or baby sPHIN. For those missing baby sPHIN (9,295), 99.8% were retrieved via the Mom_Baby Link File. Linking the FFS to the hospital births we found: 3,043 births didn't have an FFS; 12,762 had a single FFS, and 274 births had multiple FFS (i.e., baby associated with more than one mother, FFS and/or form date). To ensure that the baby was only associated with one mother and one FFS the most current FFS was kept. We found that in 2014, 81.07% (13,036/16,079) of the births had an FFS. In the longitudinal analysis, the percent of births with an FFS ranged from 74.6% in 2000 to 81.1% in 2014.

## Conclusion/Implications

We were able to achieve good linkage between FFS and health registry data, allowing this rich data source to be used for research on maternal and child health. Information on percent of births with FFS has been shared with policy-makers over the years and changes to screening practices implemented.