

**NLCHI Live Birth System  
2016 Master Methodology  
August 2017 v.1.0**

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Newfoundland and Labrador Centre for Health Information  
70 O'Leary Avenue  
St. John's NL, A1B 2C7

Phone: 709-752-6000  
Fax: 709-752-6066  
[www.nlchi.nl.ca](http://www.nlchi.nl.ca)

# Live Birth Data User Guide Documentation 2016

## Document Control Record

Version	Author	Date	Change(s) Made
v.1.0	Michele Bishop	March 30, 2012	Annual Review Added: Appendix with copy of forms Updates: Minor formatting changes - e.g. grammar Deletion: No sections or significant text were deleted.
v.1.1	Michele Bishop	July 31, 2012	Added: Item 4.2: Data Quality Results Table Updates: Appendix 6 revised. Deletion: No sections or significant text were deleted.
v.1.2	Michele Bishop	April 16, 2013	Revised Data Quality Results table to include 2012 stats. All appendices reviewed and minor revisions made. Deletion: No sections or significant text were deleted.
V.1.3	Rosalie Haire	March 22, 2014	Changes were made to the following fields; ntd, heart, cran, gi, msk, gu, chrom. Changes made; -Diagnosed Prenatally and Suspected at Birth were change to 4 and 5 respectfully. -The following was added; 1=Yes 2=No 3=Unknown
V1.4	Beatrice Pittman	June 16, 2016	Added new field – medinjury
V1.5	Beatrice Pittman	June 30, 2016	Added new field – ICD4 and ICD5 associated with maternal risk factors
V1.0	Lisa McKenzie/Beatrice Pittman	August 2017	Annual Revision Added Medinjury, mrficd5 fields

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# **1. NLCHI Live Birth System Introduction**

## **1.1 Overview**

This document has been prepared to inform users of the NLCHI Live Birth System about the data, the system, and known data quality issues which may impact the use or interpretation of the data.

This document is reviewed annually and revised as needed to ensure it remains current and useful. Feedback from readers is welcomed. Suggestions for future updates can be sent to:

Manager Clinical Standards and Information  
Newfoundland and Labrador Centre for Health Information  
70 O’Leary Avenue  
St. John’s, NL A1B 2C7  
Phone 709 752-6014

## **1.2 Purpose of Dataset**

This dataset is used primarily for information requests and health system planning. It is also used to cross reference other datasets for quality assurance and verification purposes.

The Health Analytics and Evaluation Services (HAES) Department at the Centre provides live birth statistical information and reports to government agencies, health care managers, clinicians, etc. to assist in making evidence-based decisions.

## **1.3 Population Reference Coverage**

Under the Vital Statistics Act (2009) all live births occurring within the province of Newfoundland and Labrador must be reported to Vital Statistics within a 48 hour period. All health care facilities and midwives in private practice in Newfoundland and Labrador submit LBN forms to Vital Statistics in compliance with the Act.

## **1.4 Reporting Period**

The reporting period for live births is the calendar year, January 1st to December 31st.

## **1.5 Years Available**

Data is available for the years 1992-2016.

## **1.6 Management Responsibility**

The NLCHI Live Birth/Mortality Systems Advisory Committee is comprised of internal and external stakeholders. This committee’s mandate is to advise the Manager of Clinical Standards and Information on stakeholder information needs data collection and other relevant issues. One of this committee’s responsibilities is to perform an annual review of the LBN form and make recommendations regarding data collection requirements.

The NLCHI Live Birth/Mortality Advisory Committee members are responsible for bringing forward issues or concerns from their respective organizations, providing key expertise, seeking input and circulating decisions made by the committee.

The following organizations, facilities or agencies have representatives on the NLCHI Live Birth/Mortality Systems Advisory Committee:

- Vital Statistics, Service NL
- Newfoundland and Labrador Provincial Perinatal Program
- Women's Health Program, Eastern Health
- Department of Health and Community Services
- Newfoundland and Labrador Funeral Services Association
- Newfoundland and Labrador Centre for Health Information
- Regional Health Authority

## **2. Description of Dataset**

### **2.1 Description**

This dataset contains demographic, administrative and clinical data related to all live births that occur in the province, both resident and non-resident. The Centre's Live Birth System is populated with data from 1992 to 2016.

There are 219 data elements in the longitudinal file, which include information about the infant, mother and other parent. The Live Birth Notification (LBN) form consists of two parts, A and B. Part A data is used to populate the NLCHI Live Birth System. Part B is forwarded from the health care facility to the Public Health Nursing services of the Regional Health Authorities for clinical follow-up of the mother/infant. The Centre's Live Birth Dataset does not contain information collected on Part B.

The Live Birth Notification form (part A) contains multiple sections. Responsibility for completion of the sections varies as noted in the table below:

<b>Section</b>	<b>Responsibility for Completion</b>
Registration	Vital Statistics
Infant	Health Care Professional
Mother	Health Care Professional
Other Parent	Health Care Professional
Certification	Vital Statistics
Health History and Medical Certification of Birth	Health Care Professional
Office Use	Vital Statistics

Data are retained in a longitudinal file to facilitate efficient retrieval and creation of statistical data and research reports. The longitudinal file is updated annually with previous year's data.



## **2.2 Data Dictionary/Elements**

Data elements on the LBN form are those identified by the Live Birth/Mortality Systems Advisory Committee as required data by one or more of the stakeholders. Of all the elements on the LBN form, a minimum number of fields are entered into the dataset. The Live Birth System Data Dictionary contains the list of data elements, element details and the reference years, and can be found in Appendix 1.

## **2.3 Reference Material**

Reference materials available from the HAES Data Quality and Standards Division include:

- Copies of the LBN form(s), 1994-2016.
- 2002-2016 annual NLCHI Live Birth Notification Form Reference Manual, which is a reference document for those responsible for completing the notification.
- Live birth edit information.

## **3. Data Source(s)**

### **3.1 Origin of Data**

Data originates at the facility where the birth has taken place. For live births that occur at home or enroute to hospital, the forms are completed by either a midwife or the hospital staff attending to the infant immediately after birth. A list of facilities in Newfoundland and Labrador that submit live birth data is documented in Appendix 2.

### **3.2 Flow of Data**

Information on the LBN form is completed at the facility where the live birth occurs, the original and the Centre's copy are sent to Vital Statistics. When attended by a midwife, the midwife is responsible for sending the original and the Centre's copy to Vital Statistics. In the case of live births that occur enroute to hospital the LBN is completed by the facility attending to the infant, the original and the Centre's copy are sent to Vital Statistics.

Vital Statistics adds administrative data before forwarding a copy to the Centre's HAES Department.

Live Birth Notification forms are received from Vital Statistics, via courier, on a monthly basis. Accompanying the forms is a Records Transfer Sheet, on which Vital Statistics records which type of form is enclosed (Live Birth, Registration of Death, Registration of Stillbirth, Revisions, etc.) as well as the forms registration numbers. Upon receipt of the documents, the HIM analyst or Data Entry Operator will check each batch of forms to ensure all registration numbers recorded on the transfer sheet have been received. Once verified, the transfer sheet is dated and signed by the HIM analyst and emailed to Vital Statistics as confirmation of receipt of the documents.

The Centre's Health Information Management (HIM) analysts assign the medical codes. Medical codes are based upon the ICD-10-CA/CCI as of January 1, 2003, prior to 2003;

ICD-9/CCI classification system was used. The forms are forwarded to the data entry operator for demographic coding and data entry. The demographic coding includes Standard Geographical Code (SGC) and institution code for location of birth.

HAES staff completes an edit and correction process at mid-year and year-end prior to closure of the annual file. Once closed, the file is added to the longitudinal dataset and is ready for use by stakeholders.

### **3.3 Data Collection and Processing Time Lines**

- Daily: facilities are legally required to report live births to Vital Statistics within 48 hours of birth.
- Monthly: Vital Statistics completes the administrative section of the form and forwards a copy to the Centre.
- Annually: Forms requiring revisions and/or coding queries are completed.
- Annually: all LBN forms are usually received by the Centre by the end of February for the previous calendar year.
- March 31, YYYY: the annual cycle of social and medical coding, and data entry for the previous data year is scheduled for completion.
- May 1, YYYY: The error corrections are completed and the live birth longitudinal file is scheduled to be updated with the previous calendar year data.

## **4. Data Quality Processes**

### **4.1 Edit and Correction Process**

The NLCHI Live Birth System edit process contains a series of checks which have been designed to automatically flag data elements that are incomplete, illegible or contain incorrect data.

External edits are processed at mid-year (after the first 2500 are data entered) and after year-end data is received (March). Edits that can be corrected at the Centre are completed. Only edits that cannot be corrected at the Centre are returned to the reporting facility for resolution (correction and/or completion) and resubmitted to the Centre.

Further internal edits are processed annually after the external edits have been corrected. The internal edits consist of logic and derived fields; steps such as sorting facilities within the applicable regional health authority and reviewing the appropriateness of the mother's age.

Adjustments to element values may be required during the edit process, for example, changing the previous year to current year, to calculate mother's age at date of delivery. This type of adjustment ensures accuracy when sorting data into age categories.

After both external and internal edits are completed a validation of MCP numbers is performed including a recheck for duplicated MCP numbers. Appendix 4 lists the edits performed on live birth data.

The correction process is scheduled to be completed by mid-April to allow for the longitudinal file to be available by May 1<sup>st</sup> for the previous year's data. If a facility has not returned edit corrections in a timely manner, there may be a delay in meeting the target.

## 4.2 Data Quality Results

The table below displays the annual results of data quality measures for the NLCHI Live Birth database (based on total number of errors):

<b>Results Data Quality Measures for the NLCHI Live Birth System</b>							
Year	Total # Records Edited	Total # Errors Identified	Total # Corrections Using Internal Resources	Total # Corrections Using External Resources	Total # Outstanding Errors After Facility Corrections	Outstanding Error Rate	Number of Records with one or more outstanding errors
2010	4888	1411	736	651	24	0.5%	24
2011	4499	1000	354	589	57	1%	19
2012	4409	1851	549	1245	57	1%	48
2013	4573	1098	418	665	15	1.3%	15
2014	4615	N/A	N/A	N/A	N/A	N/A	N/A
2015	4496	1694	397	1022	275	16.2%	169
2016	4489	1641	484	935	222	13.5%	197

## 4.3 Maintenance Process

The Live Birth/Mortality Advisory Committee members are responsible for bringing forward issues or concerns from their respective organizations, providing key expertise, seeking input and circulating decisions made by the committee.

This is a dynamic dataset therefore users should be aware of past data element changes and that changes are likely to occur in the future. Due to these ongoing changes data elements have been added, revised or classified as inactive. Data elements that are deemed inactive are no longer entered into the dataset. However, for historical purposes these data elements and their values remain in the dataset (for the applicable years).

Whenever it is discovered that Vital Statistics inadvertently omitted a form or a health care facility failed to report a birth, these revisions are retrospectively added to the longitudinal file.

When corrections are required after the year-end file is closed, the revisions are made and the changes documented, including the rationale for the changes.

The revised Live Birth dataset is assigned a new version number and date to ensure accurate identification of the most recent data.

For example, in 2008, data entry screens were redesigned and standardized to assist with data quality on input; the date of birth format validation as mm/dd/yyyy was implemented.

End users of live birth data may identify data quality issues. When an issue is reported to HAES staff, corrective and/or preventative action is taken.

## **5. Significant Data Quality History**

### **5.1 Methodological/Revision History**

It is believed that the data elements collected and entered into the dataset had not been updated since the late 1980s. From 1992 to 2002 there is little documentation available to identify revision history.

From 1991 to 1999 Vital Statistics began their registration numbers with 1001; since 2000 the numbering system was changed to begin with the Fiscal Year.

Since 2002, the LBN form has undergone significant changes to data elements collected and the minimum dataset entered into the NLCHI Live Birth System.

The following versions of Statistics Canada SGC codes were used for social coding:

1991 to 2007 SGC version 1991 was used.  
2007 to 2009 SGC version 2001 was used.  
2007 to 2011 SGC version 2006 was used.  
2012 to 2016 SGC version 2011 was used.

Appendix 6 lists all new, mandatory, revised, and inactive data elements for each year and accepted values from 2002 onwards.

## **6. Data Quality Limitations**

### **6.1 Contributors Impact on Data Quality**

Whenever it is discovered that Vital Statistics inadvertently omitted a form, or a health care facility failed to report a birth, revisions are retrospectively added to the longitudinal file.

Historically, the only reference source available to assist with quality assurance activities was the Vital Statistics paper form, which is also the source of origin. Since 2009, Clinical Standards and Information (CSI) staff has been authorized to access the provincial Client Registry and the MCP Beneficiary Registration Database to cross reference key administrative and demographic data elements to improve data quality.

A significant limitation is the incomplete edit corrections submitted by facilities. Edits are returned in which some elements have a number of data fields marked as unknown. The Centre does not challenge resubmissions, consequently edit returns with unknown values are accepted; therefore some data elements may have a higher than expected 'unknown' result.

Rarely will a facility refuse to comply with edit corrections; however it is not uncommon for a late response thus delaying the completion time frame of mid-April.

From 2004-2006 the number of data elements keyed into the NLCHI Live Birth System was significantly reduced. By 2007 this was reversed and a more comprehensive minimum dataset was entered into the system.

Due to significant investments in quality assurance processes in recent years, the file years of 2002-current are more accurate than those of previous years.

In 2014-15 there were significant reductions in the number of staff resources in the Clinical Standards and Information division. This resulted in significant delays in coding, data entry and editing of the Live Birth System. Additionally, it became increasingly difficult to obtain responses from some facilities with the editing process. These combined challenges resulted in a higher than normal outstanding error rate. Process changes were undertaken and many of these challenges have been mitigated, which will result in improved outstanding error rates in the future.

## **7. Data Access, Storage, Retrieval and Privacy**

### **7.1 Access**

Access by Centre staff to this database is granted when HAES directors or managers grant permission on an individual basis, based on job responsibilities. Authorized users will be required to use a unique user name and password in order to access the file, which is housed in the NLCHI Information Management Solutions (NIMS) secure environment.

Positions that have access to the dataset:

- Manager, Clinical Standards and Information, HAES
- Health Information Management Analyst, HAES
- Data Entry Operator, HAES
- Database Analyst, HAES
- Managers, R&E HAES
- Health Data Consultant, HAES
- Epidemiologists, HAES
- Research Analysts, HAES

## **7.2 Storage/Retrieval**

Source documents used to create the dataset are kept indefinitely until such time as the Centre implements a new retention policy.

The electronic dataset is maintained indefinitely and is stored on a secure server at the Centre.

Only the Infrastructure Department's staff has access to the backup files. The Centre uses the GFS (Grandfather-Father-Son) method to backup data. The backups are organized into Daily, Weekly, and Monthly. The Daily tapes are retained for 1 week. Weekly tapes are retained for 5 weeks, and Monthly tapes are retained for 1 year. The Centre also performs an annual backup with no specified retention period. The annual tapes are archived and are not reused.

## **7.3 Privacy**

The Centre's Secondary Uses Committee reviews applications for the use of record level live birth data for research and data quality purposes. A strong component of this committee is adherence to privacy and confidentiality legislation.

It is the responsibility of all users of live birth data to ensure complete confidentiality of the information. It is expected that all users adhere to policies outlined by the Centre.

Researchers are granted access to de-identification data only, unless their research specifically requires identifiable data.

# **8. Comparisons to Other Holdings**

## **8.1 NLCHI Holdings**

Comparability across the years in the Live Birth System and with other Centre datasets is possible using static elements such as the mother's MCP number. In CDMS, the mother's MCP number provides access to other identifiers such as chart number that can be used to link to the infant.

## **8.2 Other Holdings**

Comparability between Statistics Canada and Vital Statistics live birth databases is possible using the live birth registration number.

## Appendix 1

### NLCHI Live Birth System Data Dictionary

**Note:** Items in grey are variables which are no longer collected and/or valid.

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
year	Year of Birth	Value: YYYY	Numeric	4	1992-2016	Derived from Registration #
reg_num	Registration Number	Year-Province - Accession Number YYYY/NL/1234... NL = 10 for Newfoundland and Labrador	Numeric	11	1992-2016	
c_name	Infant's Surname, Full Given Name(s)	Full name of infant, if available	String	40	1997-2016	No punctuation used e.g. O'Leary is entered as OLeary
c_sex	Infant's Sex	1 = Male 2 = Female 3 = Unknown	Numeric	1	1992-2016	
c_dob	Infant's Date of Birth	MM/DD/YYYY	Date	10	1992-2016	
c_locbir	Locality of Birth	1 = Hospital 2 = Private Home 3 = Other Health Care Facility (Clinical) 4 = Unknown 5 = Other (e.g. Ambulance) 9= System Missing	Numeric	1	2002-2016	
c_locoth	Other Location (Specify)	Specify other location of birth	String	15	2002-2016	
hospital	Hospital	Name of Facility where birth occurred.	String	15	1992-2016	Hospital name auto-populated on data entry.
hospcode	Hospital Code	Institution number assigned to the facility with appropriate alpha accompaniment e.g. H60 = born at Carbonear General Hospital e.g. R01=Born at home but admitted to HSC.	String	4	1992-2016	
c_locat	Place of Occurrence	City/Town where birth occurred	String	20	1992-2016	Derived from hospital code
c_plcode	SGC code for Place of Occurrence	SGC for city/town of occurrence	String	7	1992-2016	Derived from hospital code
c_admnum	Infant's Hospital Admit Number	Admission # assigned by facility	String	11	1992-2006	

**NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY**

Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
c_chanum	Infant's Hospital Chart Number	Chart number as recorded on LBN form – format is facility-driven.	String	12	2002-2016	
crelcode	Infant's Religious Denomination	0 = None 1 = Anglican 2 = Roman Catholic 3 = United Church 4 = Pentecostal 5 = Salvation Army 6 = Seventh Day Adventist 7 = Mormon 8 = Jewish 9 = Apostolic Faith 10 = Plymouth Brethren 11 = Baptist 12 = Jehovah Witness 13 = East Indian 14 = Moravian 15 = Christian Scientist 16 = Other 98 = Refusal 99 = Unknown	Numeric	2	1992-2001	
m_name	Mother's Surname, Full Given Name(s)	Mother's full name	String	40	1997-2016	No punctuation used e.g. O'Leary is entered: OLeary
m_maiden	Mother's Maiden Name & Initials	Mother's maiden name	String	20	1997-2016	No punctuation used e.g. O'Leary is entered: OLeary
mcp_validated	Validate MCP Number	MCP # checked and verified by NLCHI	Numeric	12	2009-2016	New for 2009, but all MCP #s in Longitudinal File validated also.
m_admnum	Mother's Hospital Admission Number	Admission number generated by health care facility	String	12	1992-2006	
m_chanum	Mother's Hospital Chart Number	Chart number as recorded on LBN form.	String	12	1997-2016	
m_dob_derived	Mother's DOB from MCP	Mother's Date of Birth from validated MCP	Date	10	1992-2016	Derived from validated MCP
m_age_derived	Mother's Age from MCP	Mother's age derived from validated MCP #	Numeric	8	1992-2016	Derived from validated MCP



**NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY**

Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
m_age_derived2	Mother's Age from MCP	Mother's age derived from validated MCP # (to 1 decimal)	Numeric	8 +1 decimal	1992-2016	Derived from validated MCP
m_brcode	Mother's Birth Place Residence Code	Code used to identify Mother's birth place	String	3	1992-2002	
maddres1 maddres2 maddres3 maddres4	Mother's Address (Street)	Completed if permanent residence is different than mailing address.	String	25	1992-1995 1997-2001	
m_pcode	Postal Code	Mother's postal code for place of residence	String	6	1992-2016	
m_addcod	Mother's Address Code	Mother's current home residence code (7-digit SGC code)	String	7	1992-2016	
sgc Office use only	SGC Code	Shortened SGC code for Mother's residence 4-5 digits.	Numeric	8	1992-2016	Derived from mother's residence code.
hth_auth	Regional Health Authority	1 = Eastern 2 = Central 3 = Western 4 = Lab/Grenfell 9 = Out/Province 99 = Unknown	Numeric	8	1992-2016	Derived from SGC
m_marsta	Legal Marital Status of Birth Mother	1 = Never Married 2 = Legally Married and Not Separated 3 = Legally Married but Separated 4 = Divorced 5 = Widowed 6 = Unknown 9 = System Missing	Numeric	1	1992-2016	
laparent	Living Arrangements of Birth Parents	1 = Living Together as a Couple 2 = Not Living Together as a Couple 3 = Unknown 9 = System Missing	Numeric	1	2002-2016	
mrparent	Birth Parents Legally Married to Each Other	1=Yes 2=No 3=Unknown 9=System Missing	Numeric	1	2002-2006	

**NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY**

Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
m_educ	Mother's Education	1 = Has not Graduated High School 2 = Graduated High School 3 = Beyond High School 4 = College/University Degree 5 = Unknown 9= System Missing	Numeric	1	2002-2016	
meduc	Mother's Education	Mother's education – Actual number of years	Numeric	1	1992-2001	
f_name	Father's Name	See comment	String	45	1997-2002	No punctuation used e.g. O'Leary is entered: OLeary
f_dob	Other Parent's Date of Birth	MM/DD/YYYY	Date	10	1992-2002 2006-2016	*in 2009, variable label changed to "Other Parent"
f_age	Other Parent's Age	Other Parent's Age as recorded on LBN	Numeric	2	1992-2002 2006-2016	Derived from f_dob
f_age2	Other Parent's Age (+ 1 decimal place)	Other Parent's Age to one decimal place	Numeric	2 +1 decimal	1992-2002 2006-2016	Derived from f_dob
f_brcode	Father's Birth Residence Code	Code used to identify Father's birth place	String	3	1992-2002	
feduc	Father's education	Father's education – actual number of years.	Numeric	2	1992-2001	
live	Total No. of children born to this mother (including this delivery) Live born	Enter numeric value for number of live born children ever born to this mother, which includes current delivery	Numeric	2	1992-2016	
still	Total No. of children born to this mother (including this delivery) Stillborn	Enter numeric value for number of stillborn children ever born to this mother, which includes current delivery	Numeric	2	1992-2016	
lastdate	Date of Last Delivery	MM/DD/YYYY	Date	10	1992-2016	
livestil	Last Delivery Live or Still Birth	1=Live 2=Still	Numeric	2	1992-2001	
prevsec	Prior C-Section	1 = Yes 2 = No 3= Unknown 9= System Missing	Numeric	2	2002-2016	
lstyle1	Substance Use During Pregnancy: NONE	1 = None 0 = Substance Use 2 = Unknown 9= System Missing	Numeric	1	2002-2016	Check box for "None".

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
lstyle2	Substance Use During Pregnancy: DRUGS	1 = Yes 0 = No 2 = Unknown 9 = System Missing	Numeric	1	2002-2016	
lstyle3	Substance Use During Pregnancy: UNKNOWN	1 = Unknown 0 = Known 9 = System Missing	Numeric	1	2002-2016	
lstyle4	Substance Use During Pregnancy: ALCOHOL	1 = Yes 0 = No 2 = Unknown 9 = System Missing	Numeric	1	2002-2016	
lstyle5	Substance Use During Pregnancy: SMOKING	1 = Yes 0 = No 2 = Unknown 9 = System Missing	Numeric	1	2002-2016	
lstyle6	Number of Cigarettes / Day	Enter numeric value	Numeric	2	2002-2016	
support1	Support Available – Husband / Partner	1 = Yes 0 = No 2 = Unknown 9 = System Missing	Numeric	1	2002-2016	
support2	Support Available - Living With Parents / Other Supports	1 = Yes 0 = No 2 = Unknown 9 = System Missing	Numeric	1	2002-2016	
support3	Support Available - Lives Alone	1 = Yes 0 = No 2 = Unknown 9 = System Missing	Numeric	1	2002-2016	
pncspec	Physician Specialist for Prenatal Care	1 = None 2 = OB/GYN 3 = Other 4 = Unknown 9 = System Missing	Numeric	1	2002-2016	
other1 other2 other3	Specialist for Prenatal Care – Other	Specify “Other”	String	20	2002-2016	
speccare	Specialist for Prenatal Care	1 = Yes 2 = No 3 = Unknown 9 = System Missing	Numeric	1	1992-2001	
trimest1	Trimester 1	1 = Yes 2 = No 3 = Unknown 9 = System Missing			1992-2001	
trimest2	Trimester 2	1 = Yes 2 = No 3 = Unknown			1992-2001	

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
		9 = System Missing				
trimest3	Trimester 3	1 = Yes 2 = No 3 = Unknown 9 = System Missing			1992-2001	
pncbegan	Prenatal Care Began At (# Weeks)	01-43	Numeric	2	2002 2006-2016	
pncprime	Prenatal Care Began At (Trimester)	1 = None 2= First Trimester 3= Second Trimester 4= Third Trimester 5= Unknown 9= System Missing	Numeric	2	1992-2001	
provnum	Physician Provider Number	6 digit Provider number	Numeric	6	1992-2001	
famdis1	Familial Diseases - YES/NO	1= None 2= Yes 3= Unknown 9= System Missing	Numeric	1	1992-2001	
famdis2	Familial Diseases - Deafness	1 = Yes 2 = No 3 = Unknown 9 = System Missing	Numeric	1	1992-2001	
famdis3	- Other	1 = Yes 2 = No 3 = Unknown 9 = System Missing	Numeric	1	1992-2001	
famicd1 famicd2 famicd3 famicd4 famicd5 famicd6	Familial Diseases ICD Code(s)	Code used to identify familial disease	String	4	1992-2001	
numdeliv	Total Number of Infants in <u>THIS Delivery</u>	1 = Single Birth 2 = Twins 3 = Triplets 4 = Quadruplets 5 = Quintuplets 9 = System Missing	Numeric	1	1992-2016	
Nonestil Only on HRA's list	Stillborn <u>this</u> delivery <u>NONE</u>	0 = Stillborn occurred <u>in this event</u> 1 = No Stillborn in this event			"nonestil" is for editing purposes only & is deleted following the edit process.	Checkbox for "None" – if checked, it means no stillbirths in this delivery. "

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
numstill	Number of Stillborn in <u>this</u> delivery	Left blank if none; or populated with numeric value, if stillbirth occurred during this delivery.	Numeric	1	1992-2002 2006-2016	
multiple	Multiple Birth - Birth Order	1=1st 2=2 <sup>nd</sup> 3=3 <sup>rd</sup> 4=4 <sup>th</sup> 8 = Unknown 9 = System Missing	Numeric	1	1992-2002 2006-2016	
medterm	Was this birth due to medical termination?	1 = Yes 2 = No 9 = System Missing	Numeric	2	2008 - 2016	
mr_none	Medical Risk Factors – NONE	0 = Medical Risk Factors-Existed 1 = No Medical Risk Factors 2 = Unknown 9 = System Missing	Numeric	1	2006-2016	Checkbox for “None” – if checked, it means no medical risk factor existed.
anemia	Anemia (< 100G/L)	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-201	
hyper_c	Hypertension (Chronic)	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
hyper_p	Hypertension (Associated with Pregnancy)	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
uti	UTI (Urinary Tract Infection)	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
iugr	IUGR (Intrauterine Growth Restriction)	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
iddm	Insulin Dependent Diabetes	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
violence	Violence During Pregnancy	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
depress	Depression	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
isoimmun	Isoimmunization	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
gestdiab	Gestational Diabetes	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
hemmorr	Antepartum Hemorrhage	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
mr_other	Other Medical Risk Factor	0 = No 1= Yes 2 = Unknown 9 = Systems Missing	Numeric	1	1992-2002 2006-2016	
mrficd1 mrficd2 mrficd3 mrficd4 mrficd5	Medical Risk Factors (Other): ICD code(s)	ICD-10 Codes to identify risk factor	String	8	1992-2002 2006-2016	Mrficd4 and mrficd5 added in 2016
mr_clari (Office use only)	Medical Risk Factors (Other) CLARIFY	C = Clarification Required	String	1	Deleted after edit process.	
infect	Infectious Disease	1=Yes 2=No 3=Unknown 9=System Missing	Numeric	1	2002	
tox_hyp	Toxaemia or Hypertension	1=Yes 2=No 3=Unknown 9=System Missing	Numeric	1	1992-2001	
labour	Labour - YES / NO	1 = Yes (spontaneous) 2 = No (induced) 3 = Unknown 9 = System Missing	Numeric	1	1995-2016	
spontan	Spontaneous Labour	1=Yes 2=No 3=Unknown	Numeric	1	1994-2016	Derived from 'labour onset'

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
		9=System Missing				
augment	Labour Augmented After Onset	1=Yes 2=No 3=Unknown 9=System Missing	Numeric	1	2003-2007	
induced	Induced Labour	1=Yes 2=No 3=Unknown 9 = System Missing	Numeric	1	1992-2016	Derived from 'labour onset'
vbac	Vaginal Birth After C/Section Offered	1=Yes	Numeric	1	1994-2001	
labcomp	Complications of Labour YES/NO	1=Yes 2=No 9=System Missing	Numeric	1	1992-2001	
compicd1 compicd2 compicd3 compicd4	Complications of Labour ICD	ICD Codes to identify complications of labour	String	5	1992-2001	
delpres	Delivery Presentation	1 = Vertex 2 = Breech 3 = Other 4 = Unknown 9 = System Missing	Numeric	1	1994-2016	
dpresoth	Delivery Presentation Other (Specify)	Specify other type of delivery presentation	String	30	1994-2005	Text
dpresicd	Delivery Presentation (Other): ICD-10	ICD code for "Other" type of delivery presentation	String	6	2002-2016	
dprescla (Office use only)	Delivery Presentation "Other" clarify	C = Clarification Required				Variable deleted after edit process.
dmethod	Method of Delivery	1= Vaginal Spontaneous 2= Vaginal Assisted 3= C/Section	Numeric	1	1992-2016	
csecicd1 csecicd2 csecicd3 csecicd4	C / S Indications: ICD	ICD code to provide reason for C/Section	String	6	1994-2016	
dmethcla (Office use only)	Delivery Method "Other" - Clarify	C = Clarification Required				Variable deleted after edit process.
interven	Interventions During Delivery - NONE	0=Yes 1=None 2=Unknown 9=System Missing	Numeric	1	2002-2016	

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
lowforcp	Interventions - Low Forceps	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2002-2011	
midforcp	Interventions - Mid Forceps	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2002-2011	
vacuum	Interventions - Vacuum Extraction	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2002-2016	
episiot	Interventions - Episiotomy	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2002-2016	
medicat	Interventions - Medications	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2002-2009	
ic_other	Other Interventions-Complications	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2008-2011	In 2010, this field used for <u>Other Interventions</u> only.
icid1 icid2 icid3 icid4	Complication (Other): ICD	ICD code to identify 'Other' Complication(s).	String	6	2008-2016	
comp	Complications of Delivery - NONE	0=Yes 1=None 2=Unknown 9=System Missing	Numeric	1	2010 - 2016	
tear	Interventions - Tear	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2002-2016	
teardeg	Tear (Specify degree)	1=1 <sup>st</sup> 2=2 <sup>nd</sup> 9=System Missing 3=3 <sup>rd</sup> 4=4 <sup>th</sup>	Numeric	1	2002 2006-2016	2010 onward, <i>only</i> 3 <sup>rd</sup> & 4 <sup>th</sup> degree tears were collected.
tearicd	Tear (Specify degree): ICD-10	None	String	6	2002	
postpart	Post-partum Hemorrhage	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2010 - 2016	



NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
comp_oth	Complication of Delivery-Other	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2010 - 2016	
ic_clari (Office Use Only)	Intervention – Complication ‘Other’ – clarify	C = Clarification Required			2008-2016	Variable deleted after edit process.
gestagew	Gestational Age Completed - Weeks	Value 01-43	Numeric	2	1992-2016	
gestaged	Gestational Age Completed - Days	Value 1-6	Numeric	1	2002 2007-2016	
gaconfrm	G/A confirmed by antenatal U/S?	1=Yes 2=No	Numeric	1	2002	
gagew_us	Gestation Age - Weeks (based on U/S)	Value 01-43	Numeric	2	2003-2006	
gaged_us	Gestation Age - Days (based on U/S)	Value 1-6	Numeric	1	2003-2006	
gagew_lp	Gestation Age - Weeks (based on LMP)	Value 01-43	Numeric	2	2003-2006	
gaged_lp	Gestation Age - Days (based on LMP)	Value 1-6	Numeric	1	2003-2006	
gestbase	Gestational Age Based on US or LMP	1=U/S 2=LMP 3=Unknown 9=System Missing	Numeric	8	2002-2016	
birthwgt	Birth Weight	Weight in Grams	Numeric	4	1992-2016	9999 default value for missing birth weight(2017)
AGA	Appropriate size for Gestational Age	0=No 1=Yes 2=Unknown 3=Not Applicable	Numeric	8	1992-2016	Derived from Gestational Age & Birth Weight
SGA	Small for Gestational Age	0=No 1=Yes 2=Unknown 3=Not Applicable	Numeric	8	1992-2016	Derived from Gestational Age & Birth Weight
LGA	Large for Gestational Age	0=No 1=Yes 2=Unknown 3=Not Applicable	Numeric	8	1992-2016	Derived from Gestational Age & Birth Weight
SFGA	Size for Gestational Age	1 = Appropriate for GA 2 = Small For GA 3 =Large for GA 4 =Unknown 5 =Not Applicable	Numeric	8	1992-2016	Derived from Gestational Age & Birth Weight

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
apgar1	Apgar Score 1	Vale 01-10	Numeric	2	1992-2016	
apgar5	Apgar Score 5	Vale 01-10	Numeric	2	1992-2016	
apgar10	Apgar Score 10	Vale 01-10	Numeric	2	1992-2001	
apgar15	Apgar Score 15	Vale 01-10	Numeric	2	1992-2001	
neocond	Neonatal Conditions / Birth Injuries noted at Birth	1 = Yes 2 = No 9 = System Missing	Numeric	1	1992-2001	
neoicd1	Neonatal Conditions-ICD	ICD code to identify condition	String	4	1992-2001	
neoicd2	Neonatal Conditions: ICD	ICD code to identify condition	String	4	1992-2001	
anomaly	Congenital Anomalies - Yes/No	1 = Yes 2 = No 3 = Unknown 9 = System Missing	Numeric	1	1992-2002, 2008-2016	
cephalus	Anencephalus	X= Yes	String	1	1992-2001	
spinabif	Spina Bifida	X= Yes	String	1	1992-2001	
hydrocef	Hydrocephalus	X= Yes	String	1	1992-2001	
cranio	Craniofacial	X= Yes	String	1	1992-2001	
fetalalc	Fetal Alcohol Syndrome	X= Yes	String	1	1992-2001	
fistula	T E Fistula	X= Yes	String	1	1992-2001	
hypospad	Hypospadias-Epispadias	X= Yes	String	1	1992-2001	
reducdef	Reduction Deformity	X= Yes	String	1	1992-2001	
atresia	Rectal/Anal Atresia/Stenosi	X= Yes	String	1	1992-2001	
omphal	Omphalocele-Gastroschisis	X= Yes	String	1	1992-2001	
chromo	Chromosomal Anomalies	X= Yes	String	1	1992-2001	
chromo1	Chromosomal Anomalies ICD9	ICD code to identify condition	String	6	1992-2001	
chromo2	Chromosomal Anomalies ICD9	ICD code to identify condition	String	6	1992-2001	
chromo3	Chromosomal Anomalies ICD9	ICD code to identify condition	String	6	1992-2001	
otherca	Other Congenital Anomalies	X= Yes	String	1	1992-2001	
anomicd1 anomicd2 anomicd3	Other Congenital Anomalies ICD codes	ICD codes to identify conditions	String	6	1992-2001	
ntd	NTD (Neural Tube Defect)	1=Yes 2=No 3=Unknown 4= Diagnosed Prenatally 5= Suspected at Birth	Numeric	1	2002 2008-2016	This was changed in 2013 to add variables 1, 2, and 3.

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
heart	Congenital Heart Defect	1=Yes 2=No 3=Unknown 4= Diagnosed Prenatally 5= Suspected at Birth	Numeric	1	2002 2008-2016	This was changed in 2013 to add variables 1, 2, and 3.
heartcd	Congenital Heart Defect - ICD-10	ICD code to identify condition	String	6	2002	
heart_sp	Congenital Heart Defect (Specify)	Specify condition	String	40	2008-2009	
cran	Craniofacial	1=Yes 2=No 3=Unknown 4= Diagnosed Prenatally 5= Suspected at Birth	Numeric	1	2002 2008-2016	This was changed in 2013 to add variables 1, 2, and 3.
crancd	Craniofacial - ICD-10	ICD code to identify condition	String	6	2002	
cran_sp	Craniofacial (Specify)	Specify condition	String	40	2008-2009	
gi	Gastrointestinal	1=Yes 2=No 3=Unknown 4= Diagnosed Prenatally 5= Suspected at Birth	Numeric	1	2002 2008-2016	This was changed in 2013 to add variables 1, 2, and 3.
giicd	Gastrointestinal - ICD-10	ICD code to identify condition	String	6	2002	
gi_sp	Gastrointestinal (Specify)	Specify condition	String	40	2008-2009	
msk	Musculoskeletal	1=Yes 2=No 3=Unknown 4= Diagnosed Prenatally 5= Suspected at Birth	Numeric	1	2002 2008-2016	This was changed in 2013 to add variables 1, 2, and 3.
mskcd	Musculoskeletal - ICD-10	ICD code to identify condition	String	6	2002	
msk_sp	Musculoskeletal (Specify)	Specify condition	String	40	2008-2009	
gu	Genitourinary	1=Yes 2=No 3=Unknown 4= Diagnosed Prenatally 5= Suspected at Birth	Numeric	1	2002 2008-2016	This was changed in 2013 to add variables 1, 2, and 3.
guicd	Genitourinary - ICD-10	ICD code to identify condition	String	6	2002	

NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY						
Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
gu_sp	Genitourinary (Specify)	Specify condition	String	40	2008-2009	
chrom	Chromosomal	1=Yes 2=No 3=Unknown 4= Diagnosed Prenatally 5= Suspected at Birth	Numeric	1	2002 2008-2016	This was changed in 2013 to add variables 1, 2, and 3.
chromicd	Chromosomal - ICD-10	ICD code to identify condition	String	6	2002	
chrom_sp	Chromosomal (Specify)	Specify condition	String	40	2008-2009	
othcong	Other Congenital Anomalies	1= Diagnosed Prenatally 2= Suspected at Birth	Numeric	1	2002	
othicd1	Other Congenital Anomalies ICD-10	ICD code to identify condition	String	6	2002	
othicd2	Other Congenital Anomalies ICD-10	ICD code to identify condition	String	6	2002	
othicd3	Other Congenital Anomalies ICD-10	ICD code to identify condition	String	6	2002	
othicd4	Other Congenital Anomalies ICD-10	ICD code to identify condition	String	6	2002	
anomocon1 anomocon2 anomocon3	Other Congenital Anomaly Confirmed (Specify)	ICD codes to identify conditions	String	40	2008	
provider	Delivered By (Provider Code)	Physician's provider number	String	6	1992-2002	
attend	Designation of Attendant	1= Medical Doctor 2= Nurse 3= Midwife 4= Unknown 5= Other 9= System Missing	Numeric	1	2002-2016	
attendot	Designation of Attendant Other (Specify)	Completed if "Other" selected for Designation of Attendant	String	20	2008-2016	
forceps	Interventions – Forceps	0=No 1=Yes 2=Unknown 9=System Missing	Numeric	1	2016	New field for 2012 to replace mid and low forceps
comments	Comments	Comments/Clarifications by HRA or DBA	String	40	1994 1997-2000 2011-2016	Free text
m_mcp	Mother's MCP Number	Mother's Health Care Number, for NL residents it is a 12-digit MCP number	Numeric	12	1997-2016	This variable is kept in Master File, but no longer appears in Longitudinal File.

**NLCHI LIVE BIRTH SYSTEM DATA DICTIONARY**

Variable Name	Label	Value/Example	Type	Length	Applicable Year	Comments
m_mcp2	Mother's corrected MCP Number	Mother's Health Care Number if corrected or revised	Numeric	12	1999-2001	If at time of delivery or if a revised MCP number was issued since delivery.
m_dob	Date of Birth	Mother's Date of Birth MM/DD/YYYY	Date	10	1992-2016	This variable is kept in Master File, but no longer appears in Longitudinal File.
m_age	Mother's Age	Age of Mother at time of delivery	Numeric	8	1992-2016	In 2010: auto-calculated on data entry.
m_age2	Mother's age (+1 decimal place)	Mother's age to 1 decimal	Numeric	8 +1 decimal	1992-2016	
ntdicd	NTD - ICD-10	ICD code to identify condition	String	6	2002	
ntd_sp	NTD (Specify)	Specify condition	String	40	2008-2009	
medinjury	Was death due to maternal injury	1 = Yes 2 = No 9 = System Missing	Numeric	2	2016	

## 2016 Form

NLCHI Live Birth System  
Data User Guide 2016 v.1.0

## Appendix 3

### Glossary

#### **Client Registry**

The Client Registry is maintained at the Centre and contains data including resident demographic information such as name, address, date of birth and administrative information such as date of birth registration, MCP number, etc. It is the first foundational registry of the Newfoundland and Labrador Electronic Health Record (EHR). The Client Registry enables the accurate identification of individuals in the provincial EHR by linking person-specific information from clinical information systems to the correct person. It is currently used by staff in hospitals; community services offices, long term care facilities and MCP to accurately identify clients.

#### **Hospital Code**

This code identifies a Newfoundland and Labrador health care facility. A hospital code in the Live Birth System consists of a four characters, starting with an alpha followed by three numbers. This code identifies a Newfoundland and Labrador health care facility.

#### **MCP Number**

A 12 digit number issued to residents of the province by Newfoundland and Labrador Medical Care Plan.

#### **Medical Coding**

International Classification of Diseases and Related Health Problems, Tenth Revision, Canada (ICD-10-CA), this system consists of codes to classify diseases and health problems.

Canadian Classification of Health Interventions (CCI) is a national standard for classifying health care procedures. CCI is the companion classification system to ICD-10-CA.

#### **Office of the Chief Information Officer (OCIO)**

The OCIO provides Information Technology and Information Management capability aligned to support the business of government and the citizens of Newfoundland and Labrador.

#### **Secondary Uses Committee**

This Committee provides advice to the Chief Privacy Officer, who is accountable for the approval of new uses and disclosures of personal health information. Any committee member who has requested the new uses or is a party to the request for disclosure of data/information shall state the conflict of interest at the beginning of the discussion on the request. There shall be between three and seven members. Membership shall include expertise in research, data quality, and privacy

#### **Social Coding**

This is a code that identifies a place of residence. The Standard Geographical Classification (SGC) is Statistics Canada's official classification of geographic areas in Canada. The SGC provides unique numeric codes for three types of geographic areas: provinces and territories, census divisions (counties, regional municipalities), and census subdivisions (municipalities).