

Date: November 18, 2015

User Guide and Data Dictionary

Study Title: Digital Epidemiological Chronic Disease Tool

Ticket Reference #: IM00065629

Dataset Name: The data is comprised of four separate tables:

1. Patient_characteristics.sav (753,625 records)
2. Physician_visits.sav (64,318,686 records)
3. Hospital_separations.sav (1,067,358 records)
4. Hospital_comorbidities.sav (746,504 records)
5. CCDSS_chronic_conditions.sav (409,963 records)

Introduction

PLEASE NOTE THAT THE CURRENT DATA SET BEING FORWARDED IS A PARTIAL DATASET. ALL DATA ELEMENTS FROM THE MEDITECH (RHAs) SYSTEM WILL BE FORTHCOMING.

The following data files were created in response to a request from Dr. Shabnam Asghari, Faculty of Medicine, Memorial University of Newfoundland to be integrated into the Digital Epidemiological Chronic Disease Tool (DEPICT) project. One of the main objectives of the DEPICT project is to provide an up to date website with the latest health information for diabetes and other chronic diseases.

Data was extracted from the following datasets maintained by the Centre for Health Information: Clinical Database Management System (CDMS), Canadian Chronic Disease Surveillance System (CCDSS), and NLCHI Mortality System (MS). Descriptions of these datasets are available at www.nlchi.nl.ca. Meditech ER module data was also transferred directly from the RHAs to the Centre, for linkage with the above datasets.

Each record represents a unique individual diagnosed with one or more chronic conditions of interest. Cases were identified using the CCDSS, and then linked to the other data systems using a unique patient identifier.

Record extraction was based on the following criteria:

1. Age \geq 20 years
2. Hospitalization data includes acute care hospitalizations only.
3. Mid-year age is calculated as the individual's age as of October 1st of the fiscal year.
4. Cases from the "Hospital Comorbidities" table must meet the case definition for the specified condition each year; cases may not be prevalent for life.

Case Definitions:

Diabetes: To meet the diabetes case definition, an individual has to have a hospitalization with a diagnosis of Diabetes Mellitus (250 in ICD-9, E10; E11; E12; E13; E14 in ICD-10) **or** two physician visits with a diagnosis of diabetes (250 in ICD-9) within a 730 days of each other. Cases are prevalent for life

Hypertension: To meet the hypertension case definition, an individual has to have a hospitalization with a diagnosis of hypertension (401-405 in ICD-9, I10; I11; I12; I13; I15 in ICD-10) **or** two physician visits with a diagnosis of hypertension (401-405 in ICD-9) within a 730 days of each other. Cases are prevalent for life.

Asthma: To meet the asthma case definition, an individual has to have a hospitalization with a diagnosis of asthma (493 in ICD-9, J45 and J46 in ICD-10) **or** two physician visits with a diagnosis of asthma (401-405 in ICD-9) within a 730 days of each other. Cases are prevalent for life.

Chronic Obstructive Pulmonary Disease: To meet the COPD case definition, an individual has to have a hospitalization with a diagnosis of COPD (491; 492; 496 in ICD-9, J41; J42; J43; J44 in ICD-10) **or** a physician visit with a diagnosis of asthma (491; 492; 496 in ICD-9). Cases are prevalent for life.

Ischemic Heart Disease: To meet the IHD case definition, an individual has to have a hospitalization with a diagnosis of IHD (410; 411; 412; 413; 414 in ICD-9, I20-I25 in ICD-10) **or** two physician visits with a diagnosis of hypertension (410; 411; 412; 413; 414 in ICD-9) within a 730 days of each other. Cases are prevalent for life.

Acute myocardial infarction: To meet the AMI case definition, an individual has to have a hospitalization with a diagnosis of AMI (410 in ICD-9, I21; I22 in ICD-10). Cases are prevalent for life.

Heart Failure: To meet the heart failure case definition, an individual has to have a hospitalization with a diagnosis of heart failure (428 in ICD-9, I50 in ICD-10) **or** two physician visits with a diagnosis of heart failure (428 in ICD-9) within a 365 days of each other. Cases are prevalent for life.

Mood and Anxiety Disorders: To meet the mood and anxiety disorder case definition, an individual has to have a hospitalization with a diagnosis of a mood or anxiety disorder (296; 300; 311 in ICD-9, F30-F48; F68 in ICD-10) or a physician visit with a diagnosis of a mood or anxiety disorder (296; 300; 311 in ICD-9). The year of first diagnosis represents the first year a person met the case definition.

Omnibus Mental Illness: To meet the omnibus mental illness case definition, an individual has to have a hospitalization with a diagnosis of a mental illness (290-319 in ICD-9, F00-F99 in ICD-10) or a physician

visit with a diagnosis of a mood or anxiety disorder (290-319 in ICD-9). The year of first diagnosis represents the first year a person met the case definition.

Hospital Comorbidities: To meet the case definition for a specific hospital comorbidity, an individual has to have a hospitalization with a diagnosis of the specific comorbidity, taken from all diagnostic fields available. Individuals must meet the case definition every year to be considered a case for that particular year.

Regular updates to this dataset are anticipated.

Table 1 Data Elements

<i>Variable Name</i>	Data Table	Variable Type	Variable Description	Years of Data	Values/Comments
<i>New_Study_ID</i>	ALL Tables	Numeric	Unique Patient ID Number (De-identified)		Primary key used to link data tables
<i>Sex</i>	Patient_Characteristics	String	Sex		M – Male; F - Female
<i>dod</i>	Patient_Characteristics	Date	Date of death		MM/DD/YYYY
<i>PostalCode</i>	Patient_Characteristics	String	Most recent postal code of patient		Ex. A9A 9A9
<i>Age</i>	Physician_Visits	Numeric		1995/96-2013/14 Fiscal Year	Age in Years at time of Visit
<i>DxDate</i>	Physician_Visits	Date	Date of visit with family physician/specialist	1995/96-2013/14 Fiscal Year	MM/DD/YYYY
<i>PhysicianType</i>	Physician_Visits	String	Physician Type	1995/96-2013/14 Fiscal Year	G – General Practice S – Specialist
<i>SPECDISC</i>	Physician_Visits	String	Description of speciality	1995/96-2013/14 Fiscal Year	
<i>Age_at_Admission</i>	Hospital_Separations	Numeric	Age when admitted to hospital	1995/96-2013/14 Fiscal Year	Based on date of admission
<i>AdmDate</i>	Hospital_Separations	Date	Date admitted to hospital	1995/96-2013/14 Fiscal Year	MM/DD/YYYY
<i>DisDate</i>	Hospital_Separations	Date	Date discharged from hospital	1995/96-2013/14 Fiscal Year	MM/DD/YYYY

Variable Name	Data Table	Variable Type	Variable Description	Years of Data	Values/Comments
<i>LOS</i>	Hospital_Separations	Numeric	Total Length of Stay at hospital	1995/96-2013/14 Fiscal Year	LOS in days
<i>Year</i>	Hospital_Comorbidities	Numeric	Year in which comorbidity was captured in hospital separation	1995/96-2013/14 Fiscal Year	
<i>Age_MidYear</i>	Hospital_Comorbidities	Numeric	Age at mid-year	1995/96-2013/14 Fiscal Year	
<i>HS_Separations</i>	Hospital_Comorbidities	Numeric	Total number of hospital separations	1995/96-2013/14 Fiscal Year	
<i>HS_DaysStay</i>	Hospital_Comorbidities	Numeric	Total number of days stayed in hospital	1995/96-2013/14 Fiscal Year	
<i>REN_status</i>	Hospital_Comorbidities	String	Meets Hospitalizations Case Definition criteria for renal failure	1995/96-2013/14 Fiscal Year	1 – yes; missing - no
<i>AMP_Status</i>	Hospital_Comorbidities	String	Meets Hospitalizations Case Definition criteria for amputation	1995/96-2013/14 Fiscal Year	1 – yes; missing - no
<i>IHD_Status</i>	Hospital_Comorbidities	String	Meets Hospitalizations Case Definition criteria for ischemic heart disease	1995/96-2013/14 Fiscal Year	1 – yes; missing - no
<i>HF_Status</i>	Hospital_Comorbidities	String	Meets Hospitalizations Case Definition criteria for heart failure	1995/96-2013/14 Fiscal Year	1 – yes; missing - no
<i>AMI_Status</i>	Hospital_Comorbidities	String	Meets Hospitalizations Case Definition criteria for acute myocardial	1995/96-2013/14 Fiscal Year	1 – yes; missing - no

Variable Name	Data Table	Variable Type	Variable Description	Years of Data	Values/Comments
<i>CVD_Status</i>	Hospital_Comorbidities	String	Meets Hospitalizations Case Definition criteria for cardiovascular disease	1995/96-2013/14 Fiscal Year	1 – yes; missing - no
<i>STK_Status</i>	Hospital_Comorbidities	String	Meets Hospitalizations Case Definition criteria for stroke	1995/96-2013/14 Fiscal Year	1 – yes; missing - no
<i>DM_DiagnosisYear</i>	CCDSS_Chronic_Conditions	Numeric	Year of diagnosis of diabetes mellitus	1995/96-2011/12 Fiscal Year	
<i>DM_Diagnosis_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for diabetes mellitus	1995/96-2011/12 Fiscal Year	
<i>HYP_DiagnosisYear</i>	CCDSS_Chronic_Conditions	Numeric	Year of diagnosis of hypertension	1995/96-2011/12 Fiscal Year	
<i>HYP_Diagnosis_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for hypertension	1995/96-2011/12 Fiscal Year	
<i>Asthma_2in2_DiagnosisYear</i>	CCDSS_Chronic_Conditions	Numeric	Year of diagnosis of asthma	1995/96-2011/12 Fiscal Year	
<i>Asthma_Diagnosis_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for asthma	1995/96-2011/12 Fiscal Year	
<i>COPD_DiagnosisYear</i>	CCDSS_Chronic_Conditions	Numeric	Year of diagnosis of COPD	1995/96-2011/12 Fiscal Year	
<i>COPD_Diagnosis_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for COPD	1995/96-2011/12 Fiscal Year	
<i>IHD_HM_DiagnosisYear</i>	CCDSS_Chronic_Conditions	Numeric	Year of diagnosis of ischemic heart disease	1995/96-2011/12 Fiscal Year	
<i>IHD_HM_Diagnosis_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for ischemic heart disease	1995/96-2011/12 Fiscal Year	
<i>AMI_H_DiagnosisYear</i>	CCDSS_Chronic_Conditions	Numeric	Year of diagnosis of acute myocardial infarction	1995/96-2011/12 Fiscal Year	

Variable Name	Data Table	Variable Type	Variable Description	Years of Data	Values/Comments
<i>AMI_H_Diagnosis_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for acute myocardial infarction	1995/96-2011/12 Fiscal Year	
<i>HF_1H2P_DiagnosisYear</i>	CCDSS_Chronic_Conditions	Numeric	Year of diagnosis of heart failure	1995/96-2011/12 Fiscal Year	
<i>HF_1H2P_Diagnosis_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for heart failure	1995/96-2011/12 Fiscal Year	
<i>MoodAnxiety_FirstDx</i>	CCDSS_Chronic_Conditions	Numeric	Year of first diagnosis of mood and anxiety disorders	1995/96-2011/12 Fiscal Year	
<i>MoodAnxiety_FirstDx_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for mood and anxiety disorders	1995/96-2011/12 Fiscal Year	
<i>Omni_FirstDx</i>	CCDSS_Chronic_Conditions	Numeric	Year of first diagnosis of omnibus mental illness	1995/96-2011/12 Fiscal Year	
<i>Omni_FirstDx_MidYear_Age</i>	CCDSS_Chronic_Conditions	Numeric	Mid-year age at diagnosis for omnibus mental health disorder	1995/96-2011/12 Fiscal Year	

Technical Notes:

1. A patient may have had multiple physician visits during timeframe. Therefore New_Study_ID may be repeated in the physician claims table.
2. A patient may have multiple visits to hospital during timeframe. Therefore New_Study_ID may be repeated in the hospital separations table.
3. Diagnosis years for diabetes, hypertension, asthma, COPD, IHD, AMI, heart failure, omnibus mental illness, and mood and anxiety disorders indicate the first year the patient met the CCDSS case definition.
4. A patient may be diagnosed with multiple comorbidities and/or chronic conditions.