

# Marshfield Clinic Research Institute Empirical Data Characterization Summary

Table IA. Demographic Summary

This table contains general descriptive information about the patients in the DEMOGRAPHIC table. These patients may or may not be represented in other CDM tables.

	N	%	Source table
Patients	846,554		DEM_L3_N
Age			DEM_L3_AGEYRSDIST1
Mean	44		
Median	44		
Age group			DEM_L3_AGEYRSDIST2
0-4	28,855	3.4	
5-14	92,501	11.0	
15-21	69,199	8.2	
22-64	458,829	54.2	
65+	197,170	23.3	
Missing	0	0.0	
Hispanic			DEM_L3_HISPDIST
N (No)	574,818	67.9	
Y (Yes)	16,584	2.0	
Missing or Refused	255,152	30.2	
Sex			DEM_L3_SEXDIST
F (Female)	432,088	51.0	
M (Male)	414,466	49.0	
Missing or Ambiguous	0	0.0	
Race			DEM_L3_RACEDIST
White	569,150	67.2	
Non-White	30,052	3.5	
Missing or Refused	247,351*	29.2	

Table excludes records with values outside of CDM specifications.

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## Table IB. Potential Pools of Patients

This table illustrates the number of patients meeting different inclusion criteria and supports data checks 3.04 and 3.05. Data check exceptions are highlighted in red and must be corrected.

Metric	Metric Description	Result	Source table
Potential pool of patients for observational studies	Number of unique patients with at least 1 ED, EI, IP, or AV encounter within the past 5 years	715,017	ENC_L3_DASH2
Potential pool of patients for trials	Number of unique patients with at least 1 ED, EI, IP, or AV encounter within the past 1 year	425,486	ENC_L3_DASH2
Potential pool of patients for studies requiring data on diagnoses, vital measures and (a) medications or (b) medications and lab results	Number of unique patients with at least 1 ED, EI, IP, or AV encounter and DIAGNOSIS and VITAL records within the past 5 years	524,736	XTBL_L3_DASH1
	Number of unique patients with at least 1 encounter and DIAGNOSIS, VITAL, and PRESCRIBING or DISPENSING records within the past 5 years	494,717	XTBL_L3_DASH2
	Number of unique patients with at least 1 encounter and DIAGNOSIS, VITAL, PRESCRIBING or DISPENSING, and LAB_RESULT_CM records within the past 5 years	268,681	XTBL_L3_DASH3
Patients with diagnosis data	Percentage of patients with encounters who have at least 1 diagnosis	99%	ENC_L3_N; DIA_L3_N
Patients with procedure data	Percentage of patients with encounters who have at least 1 procedure	84%	ENC_L3_N; PRO_L3_N

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### Chart IA. Vital Measures by Measurement Date, Past 5 Years

This chart illustrates relative changes over time in the number of records found in the VITAL table. For all charts, the X-axis is the 60 months prior to the DataMart's maximum refresh date. Monthly record counts were standardized over the period shown to have a mean of 0 and a standard deviation of 1. The y-axis reflects the deviation in each month's count from the mean. A value above 0 indicates an above-average number of records; a value below 0 indicates a below-average number of records. The coefficient of variation (COV), calculated as the standard deviation divided by the mean, indicates the amount of variation during the period. Results may be affected by date shifting, outlier dates, and/or incomplete data in recent months. Please investigate marked inflection points and other unexpected patterns.

	Result	%	Source table
Height measurements			VIT_L3_HT_DIST
Records	1,728,866		
Height (inches), mean	64		
Height (inches), median	65		
Weight measurements			VIT_L3_WT_DIST
Records	3,495,291		
Weight (lbs.), mean	160		
Weight (lbs.), median	165		
Body Mass Index (BMI) measurements			VIT_L3_BMI
Records	2,771,171		
BMI <=25	993,733	35.9	
BMI 26-30	748,622	27.0	
BMI >=31	1,028,816	37.1	

**Table ID. Records, Patients, Encounters, and Date Ranges by Table**

This table contains summary counts and date ranges by table. The Encounters column shows the number of distinct ENCOUNTERIDS in each table. ENCOUNTERID is required for ENCOUNTER, DIAGNOSIS, and PROCEDURES and optional for VITAL, PRESCRIBING and DISPENSING. Missingness for ENCOUNTERID is depicted in Table IVD.

Table	Records	Patients	Encounters	Data Range			Source Tables
				Field name	Min	Max	
DEMOGRAPHIC	846,554	846,554	---	BIRTH_DATE	1883_Jul	2017_Mar	DEM_L3_N; XTBL_L3_DATES
ENROLLMENT	846,554	846,554	---	ENR_START_DATE	2010_Jan	2017_Mar	ENR_L3_N; XTBL_L3_DATES
ENCOUNTER	45,410,442	846,554	45,410,442	ADMIT_DATE	2010_Jan	2018_Jan	ENC_L3_N; XTBL_L3_DATES
DIAGNOSIS	80,284,904	837,618	34,104,279	ADMIT_DATE	2010_Jan	2017_Mar	DIA_L3_N; XTBL_L3_DATES
PROCEDURES	40,698,770	708,244	25,075,845	ADMIT_DATE	2010_Jan	2017_Mar	PRO_L3_N; XTBL_L3_DATES
DEATH	45,049	45,049	---	DEATH_DATE	1948_Oct	2017_Mar	DEATH_L3_N; XTBL_L3_DATES
VITAL	7,924,181	605,368	7,924,181	MEASURE_DATE	2010_Jan	2017_Mar	VIT_L3_N; XTBL_L3_DATES
LAB_RESULT_CM	4,249,705	333,489	2,258,761	RESULT_DATE	2010_Jan	2017_Mar	LAB_L3_N; XTBL_L3_DATES
PRESCRIBING	92,014,230	716,110	17,395,423	RX_START_DATE	2010_Jan	2017_Mar	PRES_L3_N; XTBL_L3_DATES

Table IE. Records Per Table By Encounter Type

This table contains record counts by encounter type for the ENCOUNTER, DIAGNOSIS, and PROCEDURES tables.

Encounter Type	ENCOUNTER		DIAGNOSIS		PROCEDURES	
	N	%	N	%	N	%
AV (Ambulatory Visit)	28,539,940	62.8	57,756,486	71.9	36,949,869	90.8
ED (Emergency Dept)	800,739	1.8	1,888,889	2.4	626,492	1.5
EI (ED to IP Stay)	0		0		0	
IP (Inpatient Hospital Stay)	2,553,147	5.6	10,251,066	12.8	2,902,559	7.1
IS (Non-acute Institutional Stay)	0		0		0	
OA (Other Ambulatory Visit)	13,516,616	29.8	10,388,463	12.9	219,850	0.5
Missing, NI, UN or OT	0		0		0	
Total	45,410,442		80,284,904		40,698,770	
Source table	ENC_L3_ENCTYPE		DIA_L3_ENCTYPE		PRO_L3_ENCTTPE	

Table IG. Lab Results

This table illustrates the number of records and number of unique patients for each LAB\_NAME, and the percentage of patients in the ENCOUNTER table who have these results. Although there is not a required relationship between the ENCOUNTER and LAB\_RESULT\_CM tables, patients with encounters are the most relevant denominator for this table. LAB\_NAME will be NULL or missing for lab results which do not correspond to a common lab measure.

LAB_NAME	Records	Percentage of records in the LAB_RESULT_CM table	Patients	Percentage of patients in the ENCOUNTER table	Source tables
AIC	813,639	19.1	76,428	9.0	LAB_L3_NAME;ENC_L3_N
CK	55,868	1.3	28,710	3.4	LAB_L3_NAME;ENC_L3_N
CK_MB	2,975	0.1	2,780	0.3	LAB_L3_NAME;ENC_L3_N
CK_MBI	5,906	0.1	2,769	0.3	LAB_L3_NAME;ENC_L3_N
CREATININE	1,723,557	40.6	272,459	32.2	LAB_L3_NAME;ENC_L3_N
HGB	1,434,762	33.8	300,090	35.4	LAB_L3_NAME;ENC_L3_N
INR	167,796	3.9	42,475	5.0	LAB_L3_NAME;ENC_L3_N
LDL	0		0	0.0	LAB_L3_NAME;ENC_L3_N
TROP_I	45,189	1.1	23,105	2.7	LAB_L3_NAME;ENC_L3_N
TROP_T_QL	0		0	0.0	LAB_L3_NAME;ENC_L3_N
TROP_T_QN	13	0.0	13	0.0	LAB_L3_NAME;ENC_L3_N
NULL or missing	0		0	0.0	LAB_L3_NAME;ENC_L3_N
Total	4,249,705		748,829		

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**Table IIID. Encounters Per Visit and Per Patient**

This table shows the number of encounters, patients, visits (unique combinations of PATID, ADMIT\_DATE, ENC\_TYPE, and PROVIDER\_ID), encounters per patient, and encounters per visit by encounter type and supports Data Check 2.04. A high number of encounters per visit may signal potential redundancy or duplication. Data check exceptions are highlighted in blue and should be investigated.

Encounter Type	Encounters	Patients	Encounters per Patient	Encounters with known PROVIDERID	Visit (unique combinations of PATID, ENC_TYPE, ADMIT_DATE, and PROVIDERID)	Encounters with known PROVIDERID per visit	Source table
AV (Ambulatory Visit)	28,539,940	793,028	36.0	28,539,940	28,539,940	1.00	ENC_L3_ENCTYPE
ED (Emergency Dept)	800,739	204,345	3.9	800,739	800,739	1.00	ENC_L3_ENCTYPE
EI (ED to IP Stay)	0	0		0	0		ENC_L3_ENCTYPE
IP (Inpatient Hospital Stay)	2,553,147	150,397	17.0	2,553,147	2,553,147	1.00	ENC_L3_ENCTYPE
IS (Non-acute Institutional Stay)	0	0		0	0		ENC_L3_ENCTYPE
OA (Other Ambulatory Visit)	13,516,616	642,077	21.1	13,516,616	13,516,616	1.00	ENC_L3_ENCTYPE
Missing, NI, UN or OT	0	0		0	0		ENC_L3_ENCTYPE

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