

PCORnet Data Checks, version 7

Introduction

These data checks are included in PCORnet’s foundational data curation package. All network partners must pass the Data Model Conformance checks as well as Data Checks 3.04 and 3.05. Exceptions to other checks are permitted but must be explained in an online annotated data dictionary. Version 7 supports the upgrade to PCORnet Common Data Model v5.1 and additional changes as described below.

Data Model Conformance Checks

Check	Description	Changes from version 6
DC 1.01	Required tables are not present	Added LDS_ADDRESS_HISTORY, IMMUNIZATION and HASH_TOKEN
DC 1.02	Required tables are not populated	None
DC 1.03	Required fields are not present	Added LDS_ADDRESS_HISTORY, IMMUNIZATION and HASH_TOKEN
DC 1.04	Required fields do not conform to data model specifications for data type, length, or name.	Added LDS_ADDRESS_HISTORY, IMMUNIZATION and HASH_TOKEN
DC 1.05	Tables have primary key definition errors	Added LDS_ADDRESS_HISTORY, IMMUNIZATION and HASH_TOKEN
DC 1.06	Required fields contain values outside of data model specifications	Added LDS_ADDRESS_HISTORY and IMMUNIZATION
DC 1.07	Required fields have non-permissible missing values	Added LDS_ADDRESS_HISTORY, IMMUNIZATION and HASH_TOKEN
DC 1.08	Tables contain orphan PATIDs	Added LDS_ADDRESS_HISTORY, IMMUNIZATION and HASH_TOKEN
DC 1.09	Tables contain orphan ENCOUNTERIDs	Added IMMUNIZATION
DC 1.10	Replication errors between the ENCOUNTER, PROCEDURES and DIAGNOSIS tables	None
DC 1.11	More than 5% of encounters are assigned to more than one patient	Added IMMUNIZATION
DC 1.12	Tables contain orphan PROVIDERIDs	Added IMMUNIZATION
DC 1.13	More than 5% of ICD, CPT, LOINC, RXCUI, or NDC codes do not conform to the expected length or content	Added IMMUNIZATION and CONDITION; ICD codes in OBS_GEN; NDC codes in PROCEDURES; and changed heuristic for ICD10 procedure codes to allow codes with 3-7 alphanumeric characters instead of the 7 required for billing.

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Data Plausibility Checks

Check	Description	Changes from version 6
DC 2.01	More than 5% of records have future dates	Added LDS_ADDRESS_HISTORY and IMMUNIZATION
DC 2.02	More than 10% of records fall into the lowest or highest categories of age, height, weight, diastolic blood pressure, systolic blood pressure, or dispensed days supply	None
DC 2.03	More than 5% of patients have illogical date relationships	Added VX_RECORD_DATE and revised the logic for the PX_DATE comparison
DC 2.04	The average number of encounters per visit is > 2.0 for inpatient (IP), emergency department (ED), or ED to inpatient (EI) encounters	None
DC 2.05	More than 5% of results for selected laboratory tests do not have the appropriate specimen source	None
DC 2.06	Median lab result values for selected tests are statistical or clinical outliers	None
DC 2.07	The average number of principal diagnoses per encounter is above threshold [2.0 for inpatient (IP) and ED to inpatient (EI)]	None
DC 2.08	The monthly volume of encounter, diagnosis, procedure, vital, prescribing, or laboratory records is an outlier.	New

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Data Completeness Checks

Check	Description	Changes from version 6
DC 3.01	The average number of diagnoses records with known diagnosis types per encounter is below threshold [1.0 for ambulatory (AV), inpatient (IP), emergency department (ED), or ED to inpatient (EI) encounters]	None
DC 3.02	The average number of procedure records with known procedure types per encounter is below threshold [0.75 for ambulatory (AV) encounters, 0.75 for emergency department (ED) encounters, 1.00 for ED to inpatient (EI) encounters, and 1.00 for inpatient (IP) encounters]	None
DC 3.03	More than 10% of records have missing or unknown values for the following fields: BIRTH_DATE, SEX, DISCHARGE_DISPOSITION (IP/EI encounters only), DISCHARGE_DATE (IP/EI encounters only), PX_DATE, RX_ORDER_DATE, VX_RECORD_DATE, DISPENSE_SUP, DEATH_SOURCE, DISPENSE_SOURCE, CONDITION_SOURCE, DX_ORIGIN, LAB_RESULT_SOURCE, MEDADMIN_SOURCE, PRO_SOURCE, PX_SOURCE, RX_SOURCE, VITAL_SOURCE, VX_SOURCE, DIAGNOSIS.ENCOUNTERID, PROCEDURES.ENCOUNTERID, VITAL.ENCOUNTERID, MED_ADMIN.ENCOUNTERID, LAB_RESULT_CM.ENCOUNTERID, MED_ADMIN_CODE, MED_ADMIN_TYPE, OBS_CLIN_CODE, OBS_CLIN_TYPE, OBS_GEN_CODE, OBS_GEN_TYPE	Added 5 fields (VX_RECORD_DATE, DISPENSE_SOURCE, LAB_RESULT_SOURCE, PRO_SOURCE, VX_SOURCE)
DC 3.04	Less than 50% of patients with encounters have DIAGNOSIS records	None
DC 3.05	Less than 50% of patients with encounters have PROCEDURES records	None
DC 3.06	More than 10% of IP (inpatient) or ED to inpatient (EI) encounters with any diagnosis don't have a principal diagnosis	None
DC 3.07	Encounters, diagnoses, or procedures in an ambulatory (AV), emergency department (ED), ED to inpatient (EI), or inpatient (IP) setting are less than 75% complete three months prior to the current month	None
DC 3.08	Less than 80% of prescribing orders are mapped to a RXNORM_CUI which fully specifies the ingredient, strength and dose form	Results calculated for all years and for the most recent 5 years
DC 3.09	Less than 80% of laboratory results are mapped to LAB_LOINC	None
DC 3.10	Less than 80% of quantitative results for tests mapped to LAB_LOINC fully specify the normal range	Results calculated for all years and for the most recent 5 years
DC 3.11	Vital, prescribing, or laboratory records are less than 75% complete three months prior to the current month	None
DC 3.12	Less than 80% of quantitative results for tests mapped to LAB_LOINC fully specify the SPECIMEN_SOURCE and RESULT_UNIT	Results calculated for all years and for the most recent 5 years. Added additional "flavors of null" for SPECIMEN_SOURCE (SUB, SMPLS, and SPECIMEN)

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Data Persistence Checks

Check	Description	Changes from version 6
DC 4.01	More than a 5% decrease in the number of patients or records in a CDM table	Added LDS_ADDRESS_HISTORY, IMMUNIZATION and HASH_TOKEN
DC 4.02	More than a 5% decrease in the number of patients or records for diagnosis, procedures, labs or prescriptions during an ambulatory (AV), other ambulatory (OA), emergency department (ED), or inpatient (IP) encounter.	Added OA (other ambulatory)
DC 4.03	More than a 5% decrease in the number of records or distinct codes for ICD9 or ICD10 diagnosis or procedure codes or CPT/HCPCS procedure codes.	Added distinct codes