

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



MEPS-HC: Linking Medical Conditions to Prescribed Medicines

Emily Mitchell

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MEPS Panel Design: Data Reference Periods

	2019				2020				2021				2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Panel 23																
Round 3																
Round 4																
Round 5																
Round 6																
Round 7																
Round 8																
Round 9																
Panel 24																
Round 1																
Round 2																
Round 3																
Round 4																
Round 5																
Round 6																
Round 7																
Round 8																
Round 9																
Panel 25																
Round 1																
Round 2																
Round 3																
Round 4																
Round 5																
Panel 26																
Round 1																
Round 2																
Round 3																
Round 4																
Round 5																
Panel 27																
Round 1																
Round 2																
Round 3																

Extended to 9 rounds due to impact of COVID-19

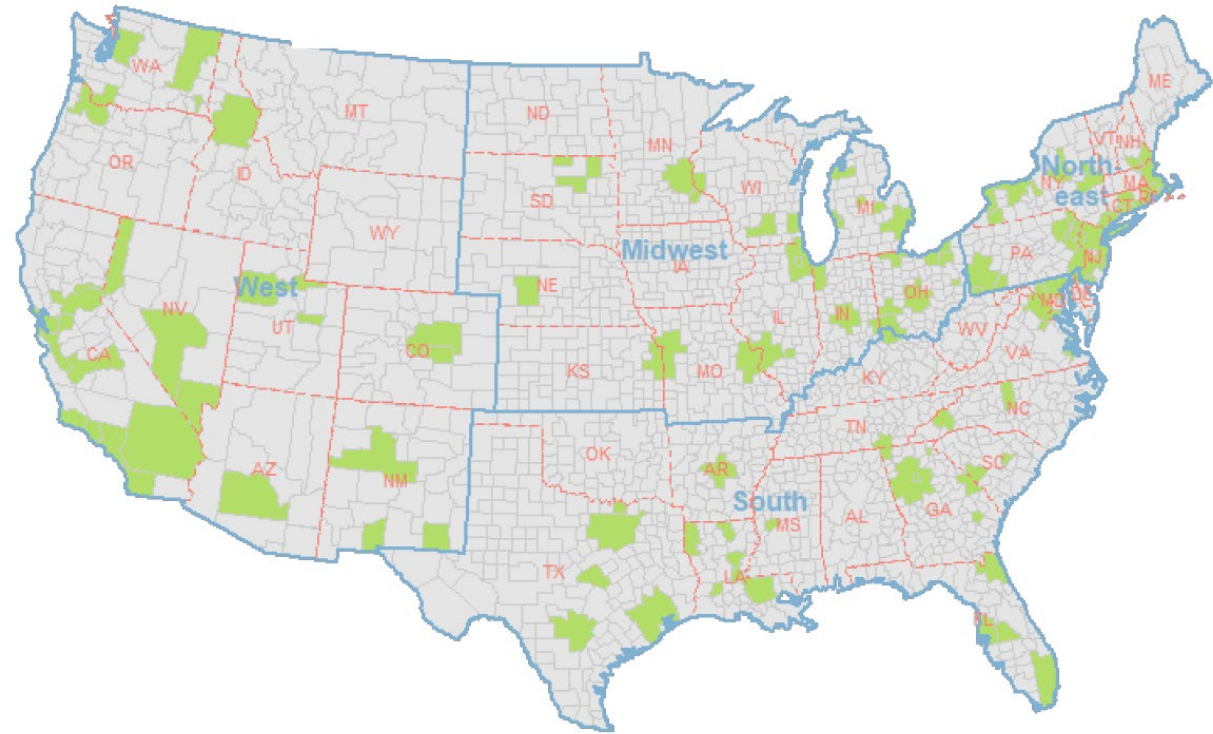
Back to typical 5 rounds

MEPS: Complex survey design

Clustered sampling

Stratified sampling

Weighting



MEPS Public Use Files

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☐ [Household Component Full-Year files](#) ⓘ
Expenditure and utilization data for the calendar year collection.
☐ [Full-Year Consolidated Data files](#)
☐ [Full-Year Population Characteristics files](#)
☐ [Medical Conditions files](#)
☐ [Risk Adjustment Scores files](#)
☐ [Employment Variables file](#)
☐ [Jobs files](#)
☐ [Person Round Plan files](#)
☐ [Longitudinal Data files](#)
☐ [Supplemental Variables files \(1996-2000\)](#)
☐ [Health Insurance Plan Abstraction file \(1996\)](#)
☐ [Long Term Care file \(1998\)](#)
☐ [Household Component Event files](#) ⓘ
Data for the calendar year on unique household-reported medical events.
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☐ [Dental Visits files](#)
☐ [Other Medical Expenses files](#)
☐ [Hospital Inpatient Stays files](#)
☐ [Emergency Room Visits files](#)
☐ [Outpatient Visits files](#)
☐ [Office-Based Medical Provider Visits files](#)
☐ [Home Health files](#)
☐ [Appendix to MEPS Event files](#)

FYC file:

- person-level file: one record for each MEPS sample member
- unique person identifier is **DUPERSID**

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 - ☐ **Appendix to MEPS Event files**

FYC file:

- person-level file: one record for each MEPS sample member

Medical Conditions:

- each record is a medical condition for a person
- unique condition identifier is **CONDIDX**

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☐ Supplemental Variables files (1996-2000)

☐ Health Insurance Plan Abstraction file (1996)

☐ Long Term Care file (1998)

☐ Household Component Event files ⓘ

Data for the calendar year on unique household members.

☐ Prescribed Medicines files

☐ Dental Visits files

☐ Other Medical Expenses files

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☐ Appendix to MEPS Event files

FYC file:

- person-level file: one record for each MEPS sample member

Medical Conditions:

- each record is a medical condition for a person
- unique condition identifier is **CONDIDX**

PMED file:

- each record is a unique fill or refill of a prescribed medicine for a person
- unique (re)fill identifier is **RXRECIDX**
- unique drug identifier is **DRUGIDX**

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☐ Household Component Event files ⓘ

Data for the calendar year on unique household members.

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FYC file:

- person-level file: one record for each MEPS sample member

Medical Conditions:

- each record is a medical condition for a person
- unique condition identifier is **CONDIDX**

PMED file:

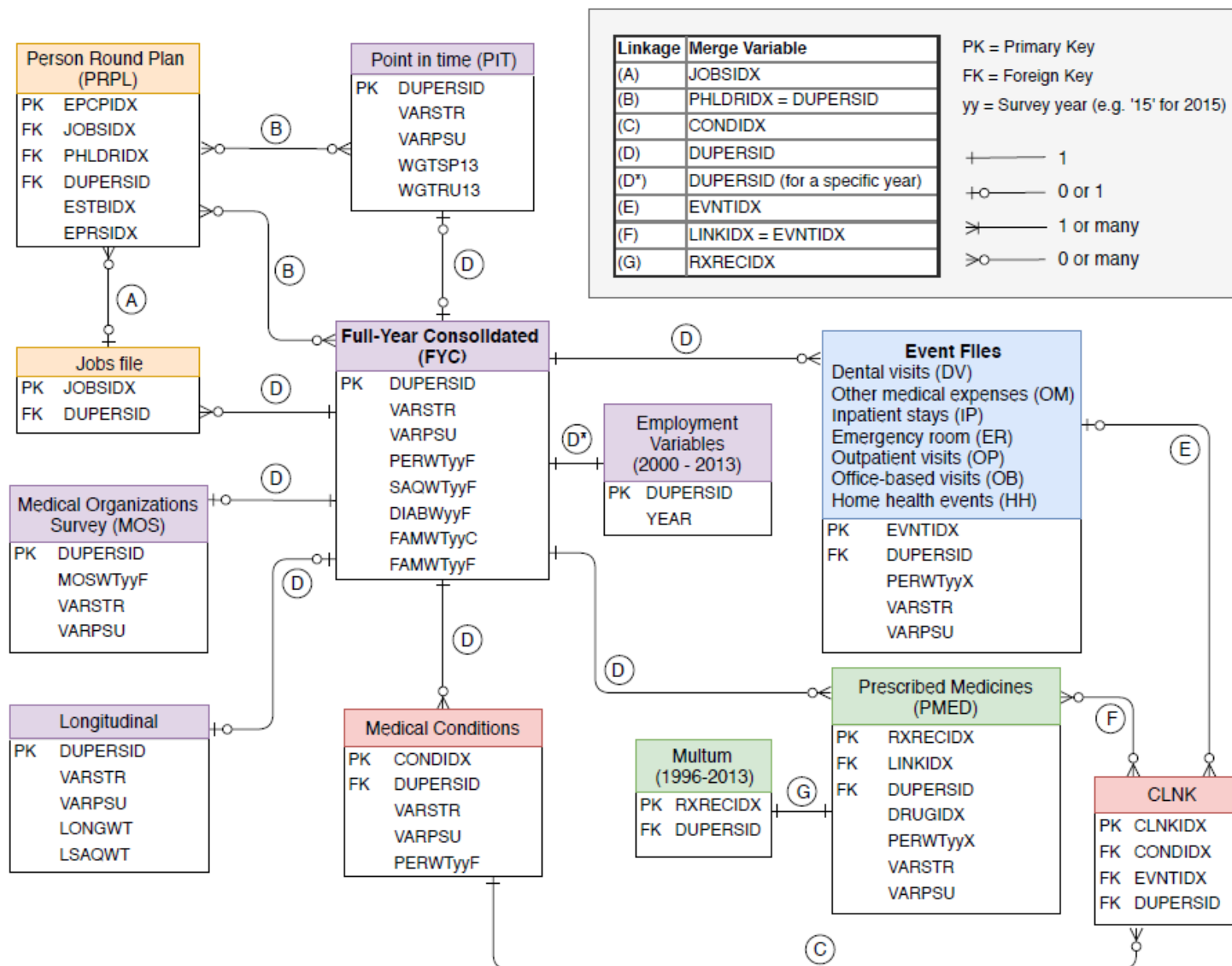
- each record is a unique fill or refill of a prescribed medicine for a person
- unique (re)fill identifier is **RXRECIDX**
- unique drug identifier is **DRUGIDX**

CLNK file:

- each record links a condition to a medical event or PMED (re)fill

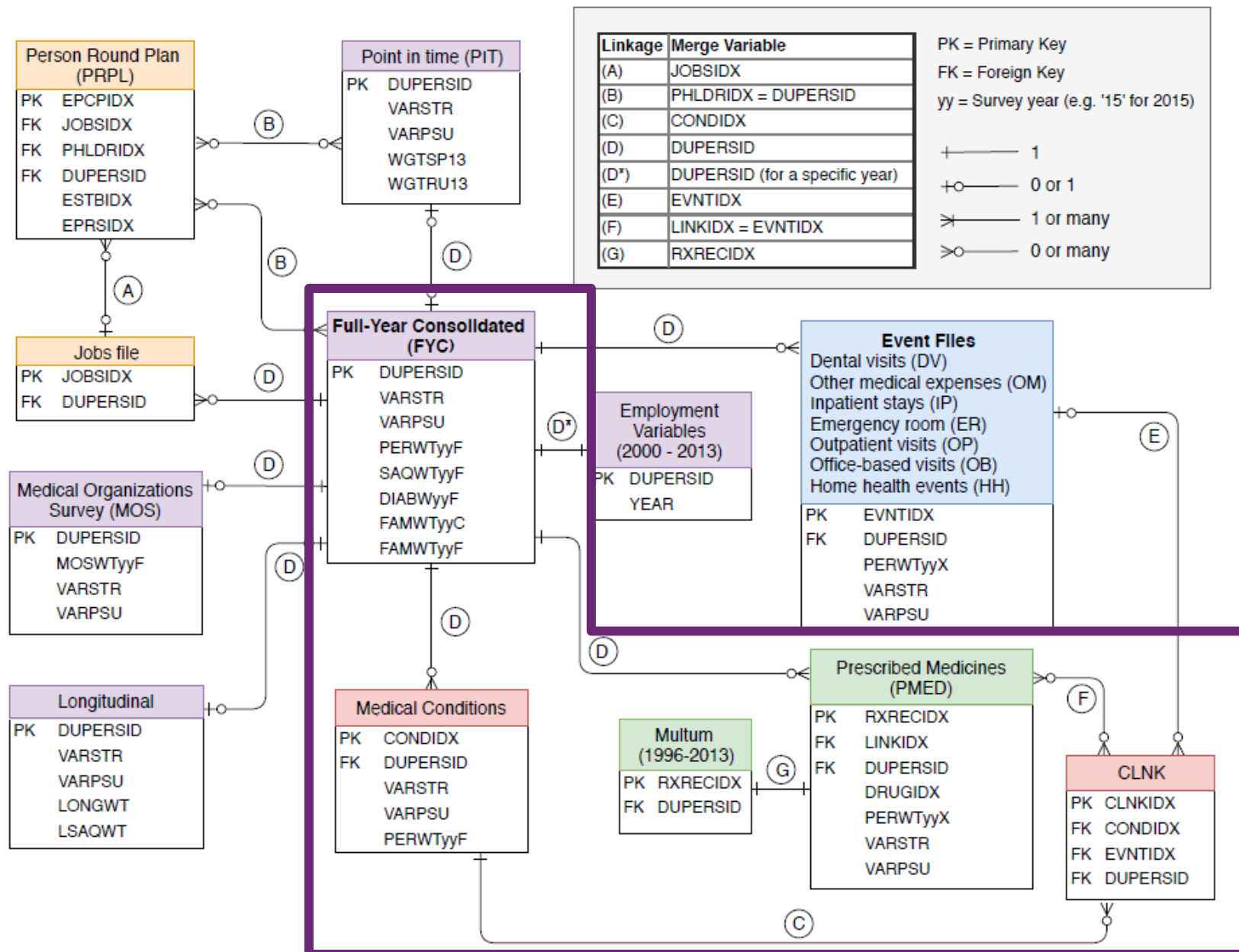
MEPS Public Use Files (PUFs)

Entity Relationship Diagram (ERD) with survey and linkage variables



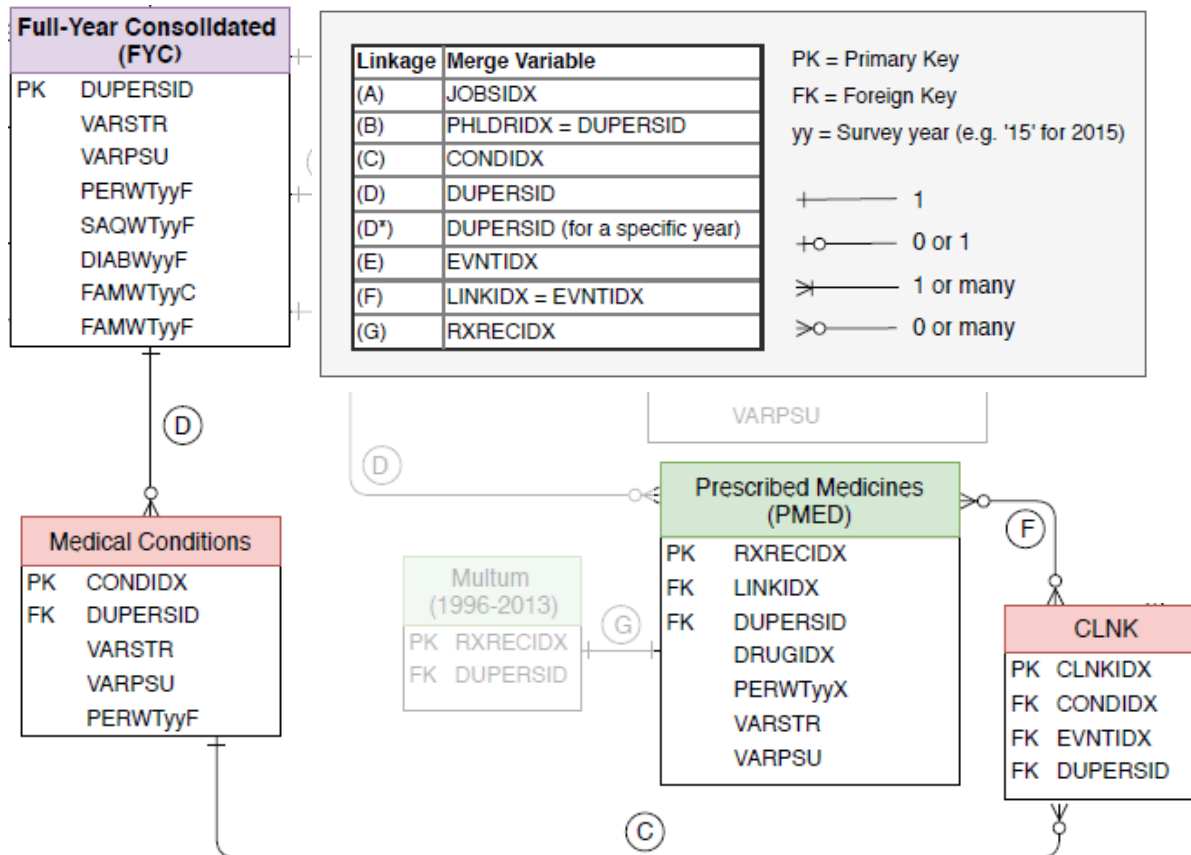
MEPS Public Use Files (PUFs)

Entity Relationship Diagram (ERD) with survey and linkage variables



Linking Conditions to PMEDs

Conditions-Event Link (CLNK) PUF: Crosswalk between medical conditions and medical events (including PMEDs)



- ▶ Not all conditions link to drugs
- ▶ Not all drugs link to conditions
- ▶ Not all MEPS sample members have reported drugs
- ▶ Not all MEPS sample members have reported conditions
- ▶ Merge EVNTIDX on CLNK to LINKIDX on PMED
- ▶ Many-to-many matching is possible
 - One drug can treat multiple conditions
 - One condition can be treated with multiple drugs

Linking Conditions to PMEDs

PMED File

DUPERSID	DRUGIDX	RXRECIDX	PURCHRD	LINKIDX	RXDRGNAM
2510001101	2510001101001	2510001101001103001	1	2510001101001103	ATORVASTATIN
2510001101	2510001101001	2510001101001103002	1	2510001101001103	ATORVASTATIN
2510001101	2510001101001	2510001101001203003	2	2510001101001203	ATORVASTATIN
2510001101	2510001101002	2510001101002203004	2	2510001101002203	AMOXICILLIN

'Lipitor'

Hyperlipidemia
(High Cholesterol)

CLNK File

DUPERSID	CONDIDX	EVNTIDX	EVENTYPE
2510001101	2510001101001	2510001101001103	8
2510001101	2510001101001	2510001101001203	8
2510001101	2510001101002	2510001101002203	8

Medical Conditions File

DUPERSID	CONDIDX	ICD10CDX	CCSR1X	CCSR2X
2510001101	2510001101001	E78	END010	-1
2510001101	2510001101002	J02	INF003	RSP006
2510001101	2510001101003	U07	INF012	-1

Linking Conditions to PMEDs

PMED File

DUPERSID	DRUGIDX	RXRECIDX	PURCHRD	LINKIDX	RXDRGNAM
2510001101	2510001101001	2510001101001103001	1	2510001101001103	ATORVASTATIN
2510001101	2510001101001	2510001101001103002	1	2510001101001103	ATORVASTATIN
2510001101	2510001101001	2510001101001203003	2	2510001101001203	ATORVASTATIN
2510001101	2510001101002	2510001101002203004	2	2510001101002203	AMOXICILLIN

CLNK File

DUPERSID	CONDIDX	EVNTIDX	EVENTYPE
2510001101	2510001101001	2510001101001103	8
2510001101	2510001101001	2510001101001203	8
2510001101	2510001101002	2510001101002203	8

Medical Conditions File

DUPERSID	CONDIDX	ICD10CDX	CCSR1X	CCSR2X
2510001101	2510001101001	E78	END010	-1
2510001101	2510001101002	J02	INF003	RSP006
2510001101	2510001101003	U07	INF012	-1

Linking Conditions to PMEDs

PMED File

DUPERSID	RXRECIDX	PURCHRD	LINKIDX	RXDRGNAM
2510001101	2510001101001103001	1	2510001101001103	ATORVASTATIN
2510001101	2510001101001103002	1	2510001101001103	ATORVASTATIN
2510001101	2510001101001103003	1	2510001101001103	ATORVASTATIN
2510001101	2510001101002203004	2	2510001101002203	AMOXICILLIN

Respondent Reports:

“Strep throat”

Code to ICD-10:

J02.0

CCSR codes:

INF003

RSP006

Included on PUF:

Medical Conditions File

DUPERSID	CONDIDX	ICD10CDX	CCSR1X	CCSR2X
2510001101	2510001101001	E78	END010	-1
2510001101	2510001101002	J02	INF003	RSP006
2510001101	2510001101003	U07	INF012	-1

Resources

MEPS Website:

<https://meps.ahrq.gov/mepsweb/>

MEPS GitHub:

<https://github.com/HHS-AHRQ/MEPS/>

MEPS-HC Online Data Tools:

<https://datatools.ahrq.gov/meps-hc>

Analyzing Medical Conditions in MEPS:

https://meps.ahrq.gov/mepsweb/data_stats/Pub_ProdResults_Details.jsp?pt=Methodology+Report&opt=2&id=1297

The Impacts of the COVID-19 Pandemic on the Medical Expenditure Panel Survey:

<https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2021.306534?journalCode=ajph>

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