



Agency for Healthcare Research and Quality

Advancing Excellence in Health Care

www.ahrq.gov

Medical Expenditure Panel Survey

Health Care Utilization And Expenditures Data



Health Care Utilization

- Utilization is called an “event” in MEPS
- Event is a catch-all term for
 - Hospital and office-based medical provider visits
 - Dental visits
 - Purchases and refills of prescribed medicines
 - Home health care
 - Purchases of certain types of medical supplies and equipment
- Each event in MEPS is a unique record based on household-reported utilization data



Event Types

- Hospital Inpatient Stays (IP)
- Emergency Room Visits (ER)
- Outpatient Department Visits (OP)
- Office-Based Medical Provider Visits (OB)
- Dental Visits (DV)
- Prescription Medicine Purchases (RX)
- Home Health Care (HH)
- Other Medical Expenses (OM)



Health Care Expenditures

- **Collected at the event level**
- **Represent payments to providers of the health care**
- **Payments are shown by source, e.g., the individual, a private insurance plan, or a public program**
- **Total expenditure is the sum of payments by all sources**



Sources of Expenditure Data

- Expenditures derived from two sources
 - Household component (HC) of MEPS
 - Medical provider component (MPC) of MEPS
- MPC data used to replace or supplement household -reported expenditures
- Incomplete data on expenditures for an event is imputed - no missing values



MPC Data

- **Collected for:**
 - Physician Office Visits
 - Outpatient Department Visits
 - Hospital Inpatient Stays
 - Emergency Room Visits
 - Prescribed Medicines (Pharmacy Component)
 - Home Health Agency Care
- **Not collected for:**
 - Non-physician Office Visits
 - Dental Visits
 - Home Health - Independent Providers
 - Other Medical Expenses



Event File Expenditures

- Expenditure variables
- Sources of data



Source of Payment Categories

- Self or family (SF)
- Medicare (MR)
- Medicaid (MD)
- Private insurance (PV)
- Veterans (VA)
- TRICARE (TR)
- Other federal gov't (OF)
- State or local gov't (SL)
- Worker's comp (WC)
- Other private (OR)
- Other public (OU)
- Other insurance (OT)



Expenditures for Hospital Care (IP, ER, and OP Events)

- **Facility Expenditure Variables**
 - evFSF04X, ... , evFOT04X
 - evFXP04X (total facility payments)
 - evFTC04X (total facility charge)

- **Separately Billing Doctor (SBD) Expenditure Variables**
 - evDSF04X, ... , evDOT04X
 - evDXP04X (total SBD payments)
 - evDTC04X (total SBD charge)

- **Total Charges and Expenditures for hospital event**
 - evTC04X (evFTC04X + evDTC04X)
 - evXP04X (evFXP04X + evDXP04X)



Expenditures for OB, DV, OM, HH, and RX Events

- **12 Source of payment variables (evSF04X through evOT04X)**
- **Total expenditure variable (evXP04X)**
 - The sum of payments by all sources
- **Total charge variable (evTCH04X)**
 - The provider's charge before adjustment or discount
 - Not included for RX events



General Expenditure Caveats

- Flat fee events
- Zero dollar events



Flat Fee Payment Groups

- **What is a Flat Fee?**
 - A fixed dollar amount paid for a group of health care services (e.g., orthodontic care)

- **Flat fee structure**
 - Stem - Initial medical visit - expenditures
 - Leaf - subsequent medical visits - zero expenditures



Flat Fee Variables

- Flat Fee ID: FFEEIDX
- Stem (1) or Leaf (2): FFevTYPE
- Pre-2004 Events in group: FFBEF04
- Post-2004 Events in group: FFTOT05



Zero Dollar Events

- Leaf event in flat fee bundle from prior year
- Bad debt
- Free care
- Post-operative care covered by a global surgical package



Expenditure Data Files

- **Full Year Consolidated File**
 - One record for each person in MEPS
 - Summary of all events and expenditures
 - No detail on expenditures for or characteristics of individual events
- **Event Files (8)**
 - One record for each reported event
 - Detail on expenditures for and characteristics of an event



Event File Detail

■ Common Variables

- Unique person/event ID
- Expenditures by source
- Total expenditure/charge
- Imputation flags
- Variance estimation variables
- Full year person weight

■ Event specific variables

- Type of provider
- Medical conditions
- Services/procedures
- Date(s) of care
- Reason for event
- Any medicine prescribed



Inpatient Stay Information

- Have operation?
- Stay begin with ER visit?
- Number of nights in hospital
- Reason for stay (5 broad reasons)
- Stay related to specific condition (yes or no)
- VA facility?



Inpatient Stay File Caveats

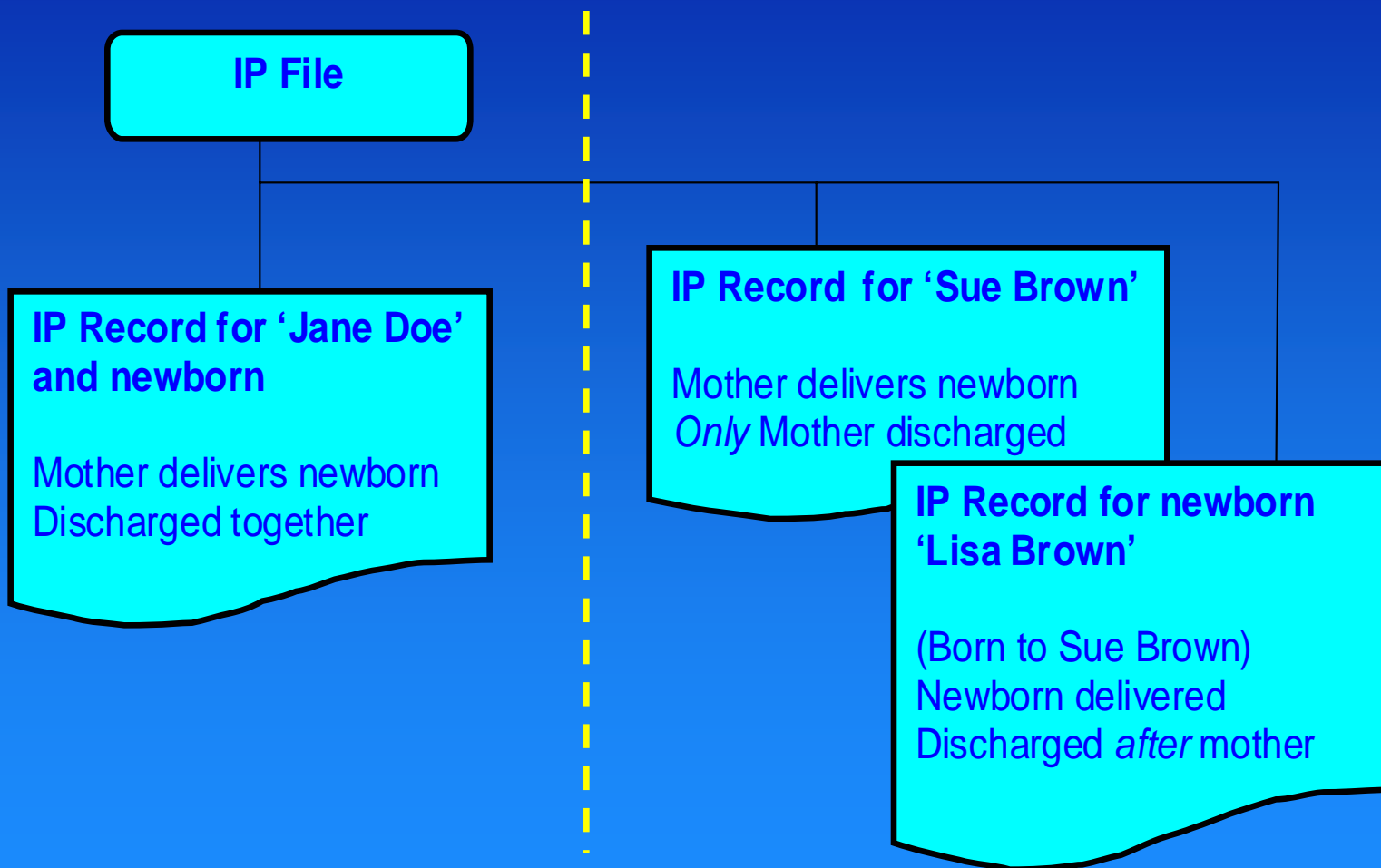
- Number of newborns in year
- Mother/Newborn expenditures
- IP stays beginning with an ER visit



Number of Newborns

- Cannot use “reason entered hospital” to determine number of newborns in the calendar year
- RSNINHOS = 4 (to give birth to a baby) does not always indicate a live birth—false labor pains or a still birth
- Infants born during 2003 should be identified by using AGE03X = 0 in the Full Year Consolidated File

Mother/Newborn Expenditures





IP Stays Beginning with ER Visit

- **EMERROOM** is an unedited variable showing whether the IP stay began with an ER visit
- **ERHEVIDX** is a constructed variable identifying the corresponding ER event in the ER file
- In the 2004 IP file, only 562 of the 1,597 events identified as beginning with an ER visit could be linked to the corresponding event in the ER file.



IP Stays Beginning with ER Visit (cont'd)

- If ERHEVIDX is a valid ID, facility expenditures for the corresponding ER event are on the IP record

- The corresponding ER record can have separately billing doctor expenses but no facility expenses
 - ERFXP04X = \$0
 - ERDXP04X > \$0



Services Received During ER, OP or OB Visit

- Laboratory tests
- Sonogram/Ultrasound
- X-ray
- Mammogram
- MRI/CAT SCAN
- EKG/ECG
- EEG
- Vaccination
- Anesthesia
- Other tests or exams



Main Medical Provider (OP and OB Visits)

- VA facility?
- Specialty if a physician
 - 33 specialties plus “other”
- Type of provider if not a physician
 - 17 types plus “other”



Main Medical Provider (OP and OB Visits)

Specialty if a physician:

ALLERGY/IMMUNOLOGY

ANESTHESIOLOGY

CARDIOLOGY (HEART)

DERMATOLOGY (SKIN)

ENDOCRINOLOGY/METABOLISM
(DIABETES, THYROID)

FAMILY PRACTICE

GASTROENTEROLOGY

GENERAL PRACTICE

GENERAL SURGERY

GERIATRICS (ELDERLY)

GYNECOLOGY-OBSTETRICS

HEMATOLOGY (BLOOD)

HOSPITAL RESIDENCE

INTERNAL MEDICINE (INTERNIST)

NEPHROLOGY (KIDNEYS)

NEUROLOGY

NUCLEAR MEDICINE

ONCOLOGY (TUMORS, CANCER)

OPHTHALMOLOGY (EYES)

ORTHOPEDICS

OSTEOPATHY (DO)

OTORHINOLARYNGOLOGY
(EAR, NOSE, THROAT)

PATHOLOGY

PEDIATRICIAN

PHYSICAL MEDICINE/REHAB

PLASTIC SURGERY

PROCTOLOGY

PSYCHIATRY/PSYCHIATRIST

PULMONARY

RADIOLOGY

RHEUMATOLOGY (ARTHRITIS)

THORACIC SURGERY (CHEST)

UROLOGY

OTHER DR SPECIALTY



Main Medical Provider (OP and OB Visits)

Type of provider if not a
physician:

CHIROPRACTOR

DENTIST/

DENTAL CARE PERSON

MIDWIFE

NURSE/NURSE

PRACTITIONER

OPTOMETRIST

PODIATRIST

PHYSICIAN'S ASSISTANT

PHYSICAL THERAPIST

OCCUPATIONAL

THERAPIST

PSYCHOLOGIST

SOCIAL WORKER

TECHNICIAN

ACUPUNCTURIST

MASSAGE THERAPIST

HOMEOPATHIC/

NATUROPATHIC/

HERBALIST

ALTERNATIVE/

COMPLEMENTARY

CARE PROVIDER



Treatments During an OP or OB Visit

- Physical therapy
- Occupational therapy
- Speech therapy
- Chemotherapy
- Radiation therapy
- Kidney dialysis
- IV therapy
- Treatment for drug or alcohol
- Received allergy shot
- Psychotherapy or counseling



MEPS Home Health File

- File includes information on 3 types of home health care providers:
 - Formal providers such as home health agencies, hospitals, and nursing homes
 - Paid independent providers
 - Informal providers such as family and friends



MEPS Home Health File

- **What Is a Home Health Event?**
 - **A home health event is a month of similar services provided by the same provider**



MEPS Home Health File

- **Type of home health worker was asked for home health care provided by an agency, hospital or nursing home**
 - **Check all that apply – can have more than one type of worker on a single record, for example:**
 - ◆ Nurses
 - ◆ Physical therapists
 - ◆ Home health aides
 - ◆ Homemakers
 - ◆ Hospice workers



MEPS Home Health File

- **Treatments, therapies and services variables**
 - **For all home health events**
 - Was event due to a hospitalization
 - Was event due to a condition
 - Was person helped with daily activities
 - Did person receive companionship services
 - Did person receive other type of services

 - **Additional variables on file for formal providers only**
 - Was person taught how to use medical equipment
 - Did person receive medical treatment



MEPS Home Health File

- **Frequency of visits variables**
 - Weeks per month
 - Days per week
 - Days per month
 - Summary variable – number of home health days person received care in a month (HHDAYS)

- **Length of visits variables**
 - Times per day
 - Length of visit (hours, minutes)



MEPS Home Health File

- From where are the expenditure data derived?
 - Home health agency, hospital, and nursing home
 - Sampled at a rate of 100% for MPC
 - No household responses
 - Independent paid providers
 - Not included in MPC
 - Household responses only
 - Informal providers
 - No expenditure data



MEPS Prescribed Medicines File

- each record represents a unique prescribed medicine purchase and includes drug characteristics associated with that purchase
- includes all prescribed medicines purchases reported by household respondents for the year (includes diabetic supply/equipment and insulin)
- includes data collected from the household component and pharmacy component



MEPS Prescribed Medicines File

- **Household Component (HC) variables collected in each round**
 - **Medicine name**
 - **Number of times purchased**
 - **Used to treat a condition**
 - **Date first used**
 - **Pharmacy information**
 - **Names of free samples**
 - **Who files prescribed drug insurance claims**



MEPS Prescribed Medicines File

- **Pharmacy Component (PC)**
 - Sample of approximately 8,000 pharmacies per year
 - Need signed permission form from respondent
 - Telephone and mail contact
 - Ask for computerized printout or “patient profile” to include:
 - Date filled
 - National drug code (NDC)
 - Drug name
 - Drug characteristics
 - Sources and amounts of payment



MEPS Prescribed Medicines File

- **Data Editing/Imputation**
 - Pharmacy Component used as edit/imputation source
 - Generic codes assigned to each Household Component and Pharmacy Component event to assist with matching
 - Utilization is based on what the household reports
 - Outliers, data inconsistencies and missing data were identified and edited, as necessary



MEPS Prescribed Medicines File

- Drug characteristics included for each prescribed medicine event
 - Medication name
 - National drug code (NDC)
 - Quantity dispensed (e.g., 50)
 - Form (e.g., suspension)
 - Strength (e.g., 10)
 - Unit of measurement of form (e.g., cc) and strength (e.g., mg)
 - Brand/generic designation (from Multum Lexicon)
 - Therapeutic class, sub-class, and sub sub-class (from Multum Lexicon)
 - Pregnancy category (from Multum Lexicon)



MEPS Prescribed Medicines File

- Additional information included for each prescribed medicine record
 - Round purchased
 - Date prescribed medicine was first taken
 - Type(s) of pharmacy
 - Conditions associated with prescribed medicine
 - Sources and amounts of payment
 - Total payment



Caveats of the Prescribed Medicines File

- Does not include expenditure imputation flag
- Does not include a total charge variable
- Does not include flat fee variables



Type of Provider Seen in Dental Visit

- General dentist
- Dental Hygienist
- Dental Technician
- Dental Surgeon
- Orthodontist
- Endodontist
- Periodontist
- Other



Dental Services and Procedures

- Diagnostic or preventative
- Restorative or endodontic
- Periodontic
- Oral surgery
- Prosthetics
- Orthodontics
- Other procedures



Other Medical Expenses

- Glasses/contacts
- Insulin/diabetic supplies
- Ambulance services
- Orthopedic items
- Hearing devices
- Prostheses
- Medical equipment
- Disposable supplies
- Bathroom aids
- Home alterations



OM Data Collection

- **Not included in MPC**

- **Expenses are collected in Round 3 as a summary for the entire year**

- **Exceptions -- collected every round**
 - **Glasses**
 - **Insulin and diabetic supplies**



OM File Caveats

- A record can represent 1 or more purchases of an item or service; e.g.,
 - A \$1,000 expenditure for ambulance services represents an unknown number of trips

- Not linked to conditions
 - It is not known which condition required the use of an ambulance



OM File Caveats (cont'd)

- Purchases of insulin and diabetic supplies are shown on the OM file
- Expenditures for the insulin and diabetic supplies are shown on the Prescribed Medicines File
 - All expenditure variables for insulin and diabetic supplies on the OM file have a value of “-1”