What are claims data?
Are claims data useful?
Ascertainment issues
Summary
BILLING CLAIMS DATA

What? Demographic, insurance coverage, charge, and diagnostic/procedural information generated from an encounter with the health care system to process payment

- Diagnoses & procedural information related to the health encounter using International Classification of Diseases, 9th Clinical Modification (ICD-9-CM) codes (ICD-10 codes effective October 2015) for hospital-based services
- HCPCS (Healthcare Common Procedure Coding System) codes for outpatient services
  - Current Procedural Terminology (CPT) codes developed and maintained by the AMA to describe services and procedures for which they bill
  - Products, supplies, and services excluded from the CPT codes (ambulance services and durable medical equipment)
- Vital status information
BILLING CLAIMS DATA

**Therapeutic Information**
- Identifies prescriptions **filled**
  - Dose, days supplied, mode of administration
- Includes drugs that are **billable**

**For whom?** Information available for:
- Beneficiaries or enrollees
  - Private or Health Plan billing claims includes information related to the benefits under each beneficiary’s particular policy
- Health care users
  - Hospital billing claims, pharmacy claims, laboratory claims, emergency department encounters
STRENGTHS/LIMITATIONS

STRENGTHS

- Population-based
- **Real-world** population of patients and medical providers
- Examine safety and effectiveness in:
  - Off-label populations
  - Elderly
- Linkable to other data sources

LIMITATIONS

- Clinical detail lacking
- Often no lab or test results
- Time lag
- Sensitivity, specificity, accuracy of codes
- Coding inconsistencies
- Identification of manufacturer specific **devices** excluded
LIKE AN OIL SLICK: A MILE WIDE AND AN INCH DEEP
EXPOSURE & ENDPOINTS

Exposure
- Outpatient drugs available if covered by health plan
- In-hospital drugs typically not included in claims data
- Safety analysis uses what was filled and not what was taken

Endpoint
- Acute myocardial infarction, death, stroke in-hospital diagnoses good for hospital admission
  - Cause of death difficult (could link to NDI but reliability of cause is questionable)
  - Details sometimes lacking and cannot identify specific endpoints such as TVR
Population-based focus on claims data is desirable

Some clinical detail can be sufficiently characterized from claims information

Best use of claims data is when linked to clinical registry or electronic medical record data

Thank You
sharon@hcp.med.harvard.edu

Funding: R01-GM-111339; U01-FD-004493; U01-FD-005478