Using Health Insurance Claims Data for Assessing Health Care Quality

Michael Trisolini, PhD, MBA

Center for Health Policy and Management

Univeritas Gadjah Madah

April 25, 2013

Presentation Outline

1. Introduction
2. Quality Measurement
3. Examples of Quality Measures Possible From Health Insurance Claims Data
4. Types of Health Insurance Claims Data
5. Conclusions

1. Introduction

- Indonesia's program for universal health insurance coverage starting in 2014 through BPJS will expand access to health care

- Expanding access to health care is an important goal, but a parallel goal that is also important is to ensure that the expanded access to care is for health care services that are of good quality

Introduction (cont.)

- Health insurance claims data are the data sent to health insurance organizations by hospitals, clinics, private physicians, private laboratories, private pharmacies, and other health care providers to “claim” reimbursement for services
- Data quality is usually high because health care providers must submit the data in order to get paid by the health insurance organization

Introduction (cont.)

- High data quality means that claims data can also be used for other purposes, such as for quality assessment
- The key issue is to work with the health insurance organizations to ensure that the types of data that they require health care providers to submit to be paid are also data useful for quality assessment

Introduction (cont.)

- Other possible data sources for quality of care measurement include:
  - MOH, regional, or hospital administrative records for qualifications of doctors and nurses, licensing or accreditation of hospitals and clinics, and other data
  - Patient or household surveys
  - Patient registries for immunizations and other preventive care, specific diseases
  - Hospital or clinic medical records

Introduction (cont.)

- Health care providers' data that are not linked to payment for their services often have low data quality -- a lesson learned in Thailand, the U.S., and other countries
- The new BPJS national health insurance program in Indonesia that starts in 2014 is an opportunity to consider ways to use claims data to improve assessment quality of care

2. Quality Measurement

Three types of health care quality measures:

- Structure (Inputs)
- Process
- Outcomes

Structure (Inputs) Measures of Quality

- The inputs into the health care production process
- These include:
  - Qualified physicians and nurses
  - Licensed or accredited hospital facilities
  - Licensed or accredited health centers and clinics
  - Well-maintained medical equipment for laboratories, radiology
  - Information technology for medical records, utilization of health care services
  - Sufficient stocks of pharmaceuticals
  - Sufficient stocks of medical supplies

Process Measures of Quality

- The procedures used to diagnose a patient, prescribe testing or treatment, and ensure that the testing and treatment are carried out following clinical guidelines or norms.
- Process problems in quality of health care are often classified as underuse, misuse, or overuse of medical tests or treatments

Outcome Measures of Quality

- The ultimate goals of reducing morbidity and mortality and improving quality of life and patient satisfaction

- Improving patient safety to reduce harm to patients that is sometimes caused by health care services, such as allergic reactions to drugs and infections acquired by patients in hospitals

3. Examples of Quality Measures Possible From Health Insurance Claims Data

- Hospital admissions and readmissions
- Emergency Department visits
- Patient safety
- Stroke
- Diabetes
- Hypertension
- Coronary Artery Disease
- Preventive care
- Regional indicators

Hospital Admissions and Readmissions

- Rates of preventable hospital admissions
  - Heart failure
  - Chronic obstructive pulmonary disease
  - Uncontrolled diabetes
  - Bacterial pneumonia
- Readmissions to the hospital within 30 days of discharge

Emergency Department Visits

- Preventable emergency department visits
  - Heart failure
  - Chronic obstructive pulmonary disease
  - Uncontrolled diabetes
  - Bacterial pneumonia
- Beneficiaries with high frequency of emergency department visits

Patient Safety Quality Measures

- Hospital acquired infections
- Venous thromboembolism during hospital stay
- Venous thromboembolism (VTE) prophylaxis within 24 hours of admission to hospital
- Decubitus ulcers (pressure ulcers) developing during hospital stay
- Allergic reactions to drugs prescribed in either inpatient or outpatient care

Stroke

- Ischemic stroke – discharge from hospital on anti-thrombotic drug therapy
- Ischemic stroke – anticoagulation drug therapy for atrial fibrillation/flutter
- Ischemic or hemorrhagic stroke – antithrombotic drug therapy by day 2 in hospital
- Ischemic stroke – discharge from hospital on statin drug therapy

Diabetes

- HbA1c testing once per year
- HbA1c results < 9%
- LDL cholesterol testing once per year
- LDL cholesterol results < 130
- Urine protein testing
- Eye exam once per year
- Foot exam once per year

Hypertension

- Blood pressure measured at least once per year
- Blood pressure results < 140/90

Coronary Artery Disease

- Antiplatelet drug therapy
- Drug therapy for lowering LDL cholesterol
- LDL cholesterol testing once per year
- LDL cholesterol results < 130
- ACE inhibitor or ARB drug therapy

Preventive Care

- Flu vaccine once per year for people over age 50
- Pneumonia vaccine for people over age 65
- Mammogram once every 2 years for women age 50-70
- Cervical cancer screening once every 3 years for women age 21-65
- Colorectal cancer screening once every year or every several years depending on method for people over age 50
- Children immunized by age 6

Regional Quality of Care Indicators

- Number of annual hospital admissions per 1,000 people per province, per kabupaten, and per kota
- Number of annual hospital readmissions per province, per kabupaten, and per kota
- Number of annual emergency department visits per province, per kabupaten, and per kota
- Scores on disease-specific quality measures per province, per kabupaten, and per kota

4. Types of Health Insurance Claims Data

- Beneficiary enrollment data
- Health care provider registries
- Hospital inpatient claims data
- Hospital outpatient claims data
- Health center or clinic claims data
- Physician claims data
- Laboratory claims data
- Radiology claims data
- Pharmacy claims data

Beneficiary Enrollment Data

- Beneficiary's national health insurance ID number
- Name
- Address
- Province
- Kabupaten or Kota
- Date of birth
- Gender
- Date of death

Health Care Provider Registries

- Doctors
  - National doctor's ID number for billing to health insurance
  - Name
  - Address
  - Date of Birth
  - Medical specialty
- Hospitals
  - Hospital ID number for billing to health insurance
  - Licensing information on types of services
  - Address

Health Care Provider Registries

- Health Centers
  - Health center ID number for billing to health insurance
  - Licensing information on types of services
  - Address
- Laboratories
  - Laboratory ID number for billing to health insurance
  - Address
- Pharmacies
  - Pharmacy ID number for billing to health insurance
  - Address

Hospital Inpatient Claims Data

- Beneficiary ID number
- Hospital ID number
- Date of admission
- Date of discharge
- Diagnosis codes using ICD-10 (up to 10)
- Surgery and other procedure codes
- Diagnosis Related Group (DRG)
- Pharmaceuticals (drug codes, dosage)
- Laboratory tests (laboratory test codes)
- Radiology procedures (radiology codes)
- Discharge status (transfer to other hospital, to home, died)

Hospital Outpatient Claims Data

- Beneficiary ID number
- Hospital ID number
- Date of outpatient treatment
- Diagnosis codes using ICD-10 (up to 4)
- Type of outpatient visit codes
- Surgery and other procedure codes
- Emergency department visits

Health Center or Clinic Claims Data

- Beneficiary ID number
- Health center or clinic ID number
- Date of health center treatment
- Diagnosis codes using ICD-10 (up to 4)
- Type of visit codes
- Surgery and other procedure codes

Physician Claims Data

- Beneficiary ID number
- Physician ID number
- Date of physician visit
- Diagnosis codes using ICD-10 (up to 4)
- Type of visit codes
- Surgery and other procedure codes

Laboratory Claims Data

- Beneficiary ID number
- Hospital or Laboratory ID number
- Date of laboratory test
- Type of laboratory test codes
- Results of laboratory test codes (yes/no)
  - HbA1c > 9%
  - LDL cholesterol > 160

Radiology Claims Data

- Beneficiary ID number
- Hospital or Radiology Unit ID number
- Date of radiology procedure
- Type of radiology procedure codes

Pharmacy Claims Data

- Beneficiary ID number
- Hospital or Pharmacy ID number
- Prescribing Physician ID number
- Date pharmaceutical prescription filled
- Type of drug (drug codes)
- Dosage
- Number of doses filled

5. Conclusions

- Quality measurement can have large benefits by ensuring that improved access to care from universal health insurance also improves patient care
- Quality measurement can have large costs for staff time required for data collection, data analysis, and data feedback.
- Quality measurement through health insurance claims data are one way to reduce the cost of quality measurement and also improve data quality

Conclusions (cont.)

- Each country's MOH and health insurance programs, need to balance the benefits and costs of quality measurement and consider what is affordable
- Several strategies to improve the ratio of benefits to costs and affordability for quality measurement:
  - Focus first on selected diseases or health topics with high impact on patient care in Indonesia (for example: stroke, hypertension)
  - Focus first on provinces or cities with better developed health care facilities and better claims data systems

Conclusions (cont.)

- Several strategies to improve the ratio of benefits to costs and affordability for quality measurement (continued):
  - Focus on health care services covered by national health insurance through BPJS so that health insurance claims data will be available
  - Phase in groups of different quality measures over time
  - Plan for multi-year implementation phases for groups of different quality measures to allow time for testing, implementation, and feedback cycles during each phase

Further Discussion

Michael Trisolini, PhD, MBA

Director, Health Care Quality and Outcomes Program

RTI International

mtrisolini@rti.org