How Insurance Claim Data can Help in Health Outcomes Research: An Indian Perspective

Vallish BN, Ankita Sawant, Lohit Badgujar, Chirag Shah, Amit Dang
Velammal Medical College Hospital and Research Institute, Madurai, India
MarksMan Healthcare Solutions LLP (HEOR and RWE Consulting), Navi Mumbai, India

INTRODUCTION

Evidence-based medicine (EBM): The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients

The best evidence in EBM is provided from Systematic reviews and meta-analyses, which in turn are derived from randomized clinical trials (RCTs). RCTs are also the basis for most treatment guidelines.

Thus, RCTs form the bedrock of evidence-based medicine (EBM)

Major Disadvantages of RCTs

Clinical practice is more complex than trials

RCT outcomes cannot be adequately generalised over the population

Due to strict inclusion and exclusion criteria

Certain populations (patients with comorbidities, extremes of ages, racial minorities etc) are usually excluded from RCTs → restricts generalizing

Potential conflicts of interest

RCTs are expensive: there will always be a higher demand for RCTs than supply

Since RCTs are expensive, the priorities are influenced by the interests of sponsors

Publication bias: not all studies are published, especially those with negative results

Not all conditions have RCTs, especially rare conditions

Lack of access to clinical trial data

‘Statistically significant’ benefits may be ‘marginal’ in actual clinical practice

Data-based Medicine

RCT data may not truly represent the real-world outcome of any treatment

If real world data is analyzed, the resulting data may represent the actual outcome of an intervention – the so-called Data-based Medicine (DBM)

DBM is an emerging concept

It depends on the analysis of the extensive health records that are available across a particular geographic data from all possible sources (often termed as ‘Big data’) for taking healthcare decisions.

Big data analysis can provide multiple forms of health-related information about any condition:

Natural history of disease

Effectiveness of any treatment modality

Impact of an intervention on any objective parameter

Cost-effectiveness of any treatment modality

History of Decision Making in Medicine: Role of Data-Based Medicine

Ancient Medicine

Religious and spiritual theories

Individual Preference-Based

Highly subjective decision making

Experience Based Medicine

Based on individual or group observations

Evidence Based Medicine

Followed the introduction of epidemiological methods

Data-Based Medicine

Depends on the analysis of Big Data

DBM: Sources for Data

Sources include:

Patient registries

Disease registries

Insurance claims databases

Electronically recorded hospital records

Private practitioners who record data electronically

Insurance Claims Data for Outcomes Research

Health insurance claim data are a source of invaluable real-world data

Lewis and colleagues reported as early as in 1993 about the benefits of using insurance claims database in outcomes research

Claims data are increasingly being used for pharmacoeconomic and outcomes research in regions like North America, Europe, Australia, and New Zealand.

Advantages of Claims Data

Information about episodes of care across different healthcare services and settings located at geographically distinct locations can be captured

The effect of drug therapy on cohorts of patients and specific patient subpopulations can be examined

They are population-based, and do not involve exclusion of patients with or without certain comorbidities (unlike what is seen in RCTs), and hence more generalizable

Relatively inexpensive to obtain than RCTs

Include large numbers of cases which vary in their presentation and outcomes

Outcomes of long-term follow-up can be analyzed

Unaffected by recall bias

Large sample size will make the statistical methods more consistent

Disadvantages of Claims Data

The population characteristics are largely influenced by the insurance plan, plan benefit design, and the variables of the database

The nature of information is primarily administrative rather than clinical

The huge amount of data requires expertise to analyze

Confidentiality issues: inappropriate release of sensitive data can be troublesome not only for the researchers but also for the involved insurance companies

Frequent merger and acquisitions of insurance companies can lead to incomplete data

Role of Claims Data as Resource for Outcomes Research in India

Claims data in India are insufficiently used for health outcomes research.

An important reason for this is that the penetration of health insurance is not up to the mark in India.

It is expected that in the near future health insurance will become more popular in India, since:

(a) Indian health care expenditure is predominantly out-of-pocket, and the healthcare costs are escalating day-by-day

(b) Many corporate hospitals have empanelled various insurance schemes

(c) Various government-sponsored insurance schemes have been initiated at state-levels (eg Tamil Nadu) and also central level (eg PMSSY)

To make claims data more productive, the following points should be considered during data collection:

Claims information reporting should be made uniform and standardised

In addition to administrative and economic variables, adequate clinical data should also be captured

In addition to routine clinical and lab data, information related to severity of illness, quality of life, and satisfaction to intervention should be included

The claims information should capture treatments across different Indian Systems of Medicine (ISMs)

Recommendations

With the increased penetration of health insurance in India, appropriate analysis of the resulting claims data can provide invaluable insights into demographics, disease trends, efficacy and effectiveness, and real-world information, from the Indian perspective

REFERENCES


Poster presented at ISPOR 18th Annual European Congress, 7-11 November, 2015, MiCo-Milano Congressi, Milan, Italy