

collection (n = 130) and further sub categorized according to how data was collected. Primary data included: personal experiences, as described by the submission's author (n = 16); surveys conducted specifically for the submission (n=34); and new interviews of patients and family members on disease and drug experiences (n = 36). Half (forty-seven of ninety-three) of the patient input submissions included experiences of one or more patients who had received the drug under review. Secondary data included: published literature (n = 31); existing surveys (n = 27); past conversations with patients and family members (n = 36); experiences of patient group staff interacting with patients and family members (n = 19); and advice from clinical experts (n = 17). Many patient input submissions (sixty-eight out of ninety-three) reported multiple approaches to collect data. Use of two approaches was most common (thirty-seven out of ninety-three) with five or six approaches used in three of ninety-three submissions.

CONCLUSIONS:

Despite resource and timing challenges, many patient groups gather primary data to share with CADTH and find individuals with experience of the drug under review.

.....

PD25 Principal Component Approximation: Medical Expenditure Panel Survey

AUTHORS:

Yi-Sheng Chao, Chao-Jung Wu (chaoyisheng@post.harvard.edu)

INTRODUCTION:

Principal component analysis (PCA) is important to summarize data or reduce dimensionality. However, one disadvantage of using PCA is the interpretability of the principal components (PCs), especially in a high-dimensional database. This study aims to analyze the patterns of variance accumulation according to PCA loadings and to approximate PCs with input variables from sample data sets.

METHODS:

There were three data sets of various sizes used to understand the performance of PC approximation:

Hitters; SF-12v2 subset of the 2004 to 2011 Medical Expenditure Panel Survey (MEPS); and, the full set of 1996 to 2011 MEPS data. The variables in three data sets were first centered and scaled before PCA. PCs approximation was studied with two approaches. First, the PC loadings were squared to estimate the variance contribution by variables to PCs. The other method was to use forward-stepwise regression to approximate PCs with all input variables.

RESULTS:

The first few PCs represented large portions of total variances in each data set. Approximating PCs using stepwise regression could more efficiently identify the input variables that explain large portions of PC variances than approximating according to PCA loadings in three data sets. It required few numbers of variables to explain more than eighty percent of the PC variances.

CONCLUSIONS:

Approximating and interpreting PCs with stepwise regression is highly feasible. Approximating PCs can help i) interpret PCs with input variables, ii) understand the major sources of variances in data sets, iii) select unique sources of information and iv) search and rank input variables according to the proportions of PC variance explained. This is an approach to systematically understand databases and search for variables that are highly representative of databases.

.....

PD26 Principal Component Approximation: Canadian Health Measures Survey

AUTHORS:

Yi-Sheng Chao (chaoyisheng@post.harvard.edu), Chao-Jung Wu

INTRODUCTION:

Principal component analysis (PCA) is used for dimension reduction and data summary. However, principal components (PCs) cannot be easily interpreted. To interpret PCs, this study compares two methods to approximate PCs. One uses the PCA loadings to understand how input variables are projected to PCs. The other uses forward-stepwise regression to determine the proportions of PC variances explained by input variables.

METHODS:

Two data sets derived from the Canadian Health Measures Survey (CHMS) were used to test the concept of PC approximation: a spirometry subset with the measures from the first trial of spirometry; and, full data set that contained representative variables. Variables were centered and scaled. PCA were conducted with 282 and twenty-three variables respectively. PCs were approximated with two methods.

RESULTS:

The first PC (PC1) could explain 12.1 percent and 50.3 percent of total variances in respective data sets. The leading variables explained 89.6 percent and 79.0 percent of the variances of PC1 in respective data sets. It required one and two variables to explain more than 80 percent of the variances of PC1, respectively. Measures related to physical development were the leading variables to approximate PC1 and lung function variables were leading to approximate PC2 in the full data set. The leading variable to approximate PC1 of the spirometry subset were forced expiratory volume (FEV) 0.5/forced vital capacity (FVC) (percent) and FEV1/FVC (percent).

CONCLUSIONS:

Approximating PCs with input variables were highly feasible and helpful for the interpretation of PCs, especially for the first PCs. This method is also useful to identify major or unique sources of variances in data sets. The variables related to physical development are the variables related to the most variations in the full data set. The leading variable in the spirometry subset, FEV0.5/FVC (percent), is not well studied for its application in clinical use.

.....
PD27 A Case Study Of Equity In Health From Zhejiang Province, China

AUTHORS:

Xueshan Sun (sunxueshan@zju.edu.cn), Hao Zhang, Xiaoqian Hu, Shuyan Gu, Xuemei Zhen, Yuxuan Gu, Minzhuo Huang, Jingming Wei, Hengjin Dong

INTRODUCTION:

Equity is the core of primary care. The issue of equity in health has become urgent and China has attached increasing attention to it. With rapid economic development and great change of the policy on medical

insurance, the pattern of equity in health has changed a lot. Reform of healthcare in Zhejiang province is at the forefront of China; studies on Zhejiang are of great significance to the whole country. This paper aims to measure the equity in health from the perspectives of health needs and health seeking behavior, and provides suggestions for decision making.

METHODS:

A household survey was conducted in August 2016. A sample of 1000 households, 2807 individuals in Zhejiang was obtained with the multi-stage stratified cluster sampling method. Descriptive analysis and Chi-square test were adopted in the analysis. The value of concentration index was used to measure the equity.

RESULTS:

This study finds that the poor have more urgent health needs and poorer health situation compared with the rich. The utilization of outpatient services was almost equal, whilst the utilization of hospitalization was pro-rich (the rich use more).Individuals with employer-based medical insurance use more outpatient services than those with rural and urban medical insurance. Compared to the rich, there were more people in the poorer income groups who didn't use inpatient services due to financial difficulties.

CONCLUSIONS:

The issue of equity in health has attracted broad attention in the world, and China is no exception. We measured and analyzed the equity of health needs and absent rate of health services. We find that the poor have more urgent health needs and high absent rate of inpatient services compared with the rich. Income level and medical insurance may well explain the equity of outpatient and inequity of hospitalization. In view of the pro-rich inequity of hospitalization, more financial protection should be provided for the poor.

.....
PD30 Cost-Effectiveness Of Stereo-Electroencephalography For Refractory Epilepsy

AUTHORS:

Borja Garcia-Lorenzo, Tasmania del Pino-Sedeño, Maria M. Trujillo-Martin (mar.trujillomartin@sescs.es), Rodrigo Alberto Rocamora Zuniga, Juan Erviti López, Ana Toledo-Chávarri