Healthcare utilization in Canada

MA, Ruhid Mirzayev, 2020

Canadian Community Health Survey – cycle 3- 2005

Overview

INTRODUCTION

METHODS

DATA

RESULTS

CONCLUSION

Introduction

Healthcare utilizations:

- Physician visits
- Outpatient hospital stay

Age groups

- Age groups divided 3 parts:
- From 12 to 29, 30-65, 65 and more

Income & Exercises

- Household income
- Walking as an exercise

Methods

Multiple Linear Regression

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + u$$

Y is dependent variable – hospital stay

β_0 constant, x_1 - age, x_2 - income, x_3 - walking,

β_1, β_2, β_3 - are coefficients

u - disturbance

Data:
Canadian Community Health Survey cycle 3 - 2005

Variable Names	Descriptions
Hospital stay	Number of nights in hospitals
Physician visit	Physical visit or phone calls to family doctor
Age	Ages divided three groups: under 30, 30-64, 65+
Income	Household income
Walking	Dummy variable, 1 if they have walked in last 1 month as an exercises

Results:
Descriptive Statistics

	Hospital Stay	Age	Income	Physician Visit	Walking
Count	102770	102770	102770	102770	102770
Mean	0.59	49.7	31676	3.20	0.71
St. Deviation	3.03	18.2	23313	4.28	0.45
Min	0	18.5	0	0	0
Max	31	80	80000	31	1

Results:
Linear regression

R^2	**0.05**
β_1	0.0.05
β_2	-5.961e-06
β_3	-0.13

	Age	**Income**	**Walking**
Count	102770	102770	102770
P-Value	0.00	0.00	0.00
T	54	16	6

Conclusion

There is positive correlation between healthcare utilization and age.

There is negative correlation between healthcare demand and income and walking as an exercise.

Machine learning techniques predict the cancer with 98 percent precision.