This is the published version:

Watts, Jennifer, Jolley, Damien, Wainer, Jo and Owada, Kei 2010, Predictors of remaining in a chronic disease management program from routinely collected insurance data, in ECHE 2010 : European Conference of Health Economics Abstract Book, [ECHE], [Helsinki, Finland], pp. 1-3.

Available from Deakin Research Online:

http://hdl.handle.net/10536/DRO/DU:30054584

Reproduced with the kind permission of the copyright owner.

Copyright : 2010, European Conference of Health Economics
Abstract

Background:
A large Australian-based private health insurer, Medibank Private, provides tailored chronic disease management (CDM) programs to members with chronic disease. A recent randomised controlled evaluation of the CDM programs using ITT analysis found that the return on investment to the health insurer was positive, with the intervention group experiencing lower mean values for claims, hospital separations and length of stay over a 12 month period compared to the control group. This was despite a low take-up rate with only 21% to 29% of members enrolling and remaining in a CDM Program for at least 6 months.

Objective:
The objective of this research is to determine the factors that predict people with a chronic disease remaining in a CDM Program for at least 6 months using routinely collected insurance data.

Method:
A sample size of 9,874 cases was used to construct a multivariate logistic regression model to
determine if there were any predictor variables for an insured member with a chronic disease (CAD, CHF or COPD) remaining in a CDM Program. The outcome variable was whether the member remained in the Program for at least six months, for which the two possible values were “Yes” or “No”.

Model:
In Program for at least 6 months = f(Gender, age group, disease group, total LOS in previous 12 months, time from offer to Program start date, time from sentinel event to offer date)

Where the “Sentinel Event” was determined from the number of days between an admission, defined as the “Sentinel event” from insurance claims data, and the Program offer date. Six models were tested based on different definitions of sentinel event, including an overnight or a sameday admission and the admission diagnosis. A global Chi2 test was used to determine which model was the best predictor of the dependent variable.

Results:
2,360 (23.9%) of the sample enrolled and remained in a CDM Program for at least 6 months, the remainder (76.1%) did not start a CDM Program at all or ceased the Program within 6 months of the start date. Most variables were significant at 95% with the exception of disease variables (CAD, CHF and COPD) and gender. Four of the six models performed well but the definition of sentinel event as “any diagnosis (primary or secondary) related to the randomised diagnosis that determined the disease-based CDM Program offered for any admission (overnight or sameday)” tested as the most significant (Chi2 6df is 36.8; p=0.000). Other significant predictors included age, the time from “sentinel event” to offer date, and the length of time between offer to a CDM Program and the start date.

Conclusion:
CDM Programs are associated with a positive return on investment from a funder’s perspective despite low take-up and high drop-out rates. Better targeting of health fund members with a chronic disease to CDM Programs will reduce health insurance claims and hospitalisations. Routinely collected insurance data can be used to predict those members with a chronic disease who are likely to benefit from a CDM Program.

Key Terms
Chronic disease, health insurance, multivariate logistic regression

Authors:
Jennifer Watts (Monash University. Cenrre for Health Economics) , Damien Jolley (Monash University. Faculty of Medicine, Nursing and Health Sciences) , Jo Wainer (Monash University. Faculty of Medicine, Nursing and Health Sciences) and Kei Owada (Monash University. Faculty of Medicine, Nursing and Health Sciences)

Rooms

- Ball Room
- Chydenius Rooms
- Congress Hall A
- Congress Hall B
- Elissa Hall
- Main Hall
- Helsinki Hall
- Meeting Room 21
- Meeting Rooms 22+23
Search with Google

Software © 2010 iHEA - International Health Economics Association