

# An epidemiological analysis of the development of malignant melanoma in Sweden

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June 2015

## Abstract

In this thesis, we investigate whether there has been a change in the yearly incidence of malignant melanoma in Sweden over the years 1970-2013. We also investigate if there is some difference between gender amongst the affected. Data over the incidence of malignant melanoma between the years 1970-2013 will be collected from Socialstyrelsen. The data will be analyzed and the first question will be solved using statistical means by fitting three linear models and use change-point analysis, a method used to detect changes in time series data. The results show us that there has been one change-point in the year 2000, where the increase of malignant melanoma cases have been steeper. The second question will be solved by using multiple linear regression with dummy variables, where we use an F-test from an ANOVA-table to decide whether gender should be included as a variable in the model or not. The result shows us that gender does have an effect on the malignant melanoma cases. The results in this thesis can be used to develop future studies, for the purpose to find the source of malignant melanoma with intent to prevent it in the future. The fact that a change occurred in the year 2000 can be used while trying to find the reason for malignant melanoma.

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