



THE NATIONAL  
RESEARCH INSTITUTE  
PAPUA NEW GUINEA

# Relationship between health and education outcomes in four provinces of PNG.

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*Inquire Inform Influence*



# Outline of the Presentation.

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- 1. Introduction**
- 2. Research Objective**
- 3. Literature Review**
- 4. Methodology**
- 5. Results**
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- 7. Conclusion**

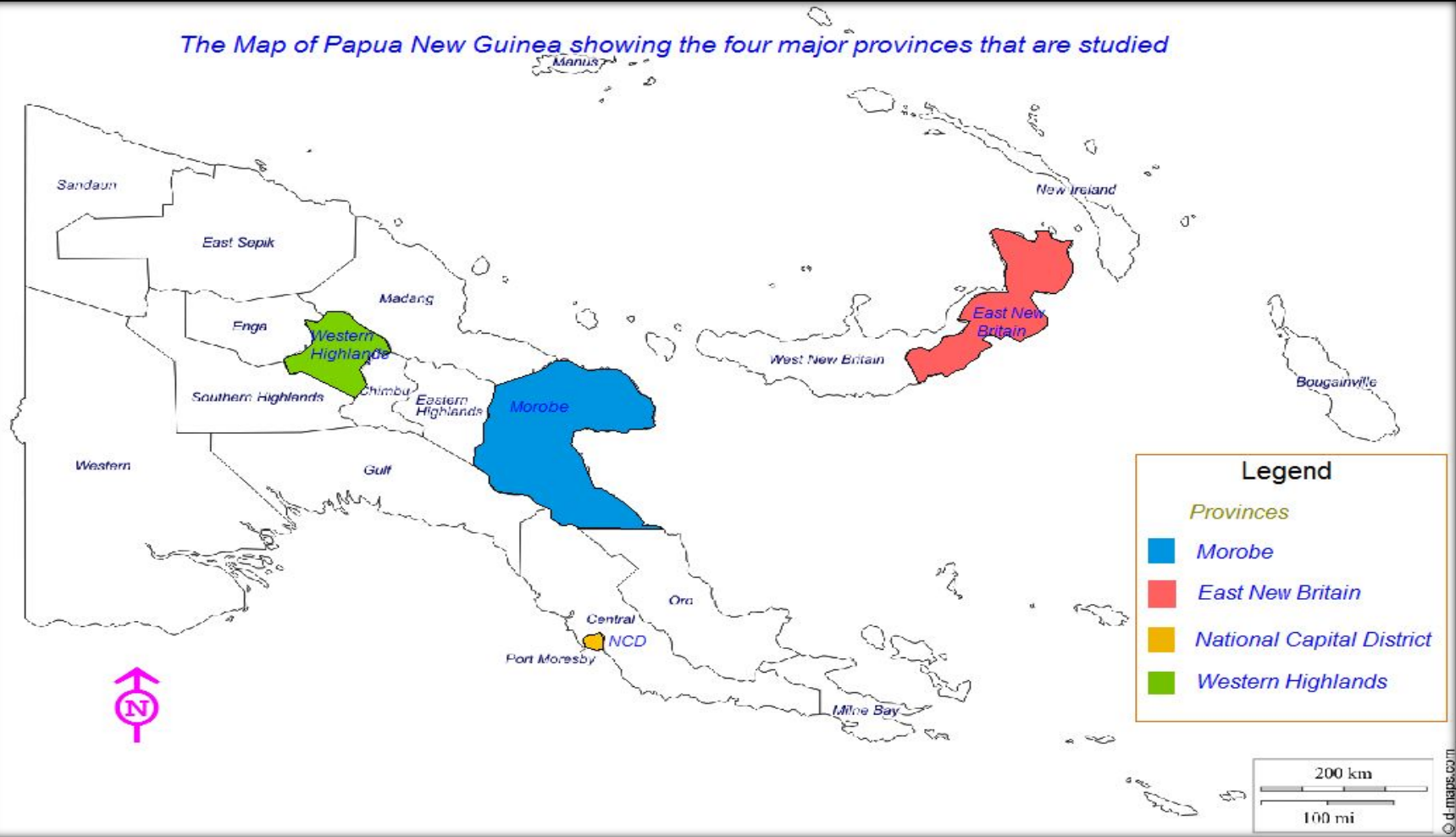
# Introduction

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- **Improved education and health standards are fundamental development objective; they are important ends in themselves (Todaro and Smith, 2015)**
- **Health and education are key enablers (SDG4 ,Vision 2015,Education Policy, Health Policy)\***
- **Importance of health and education**
- **PNG four provinces, one from each region of PNG.**
- **Sample: Respondents that are 26 years old and above**



*The Map of Papua New Guinea showing the four major provinces that are studied*



# Research objective

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- **To identify and understand the relationship between education and health outcome\***
- **See if there is a relationship? If there is, what is the nature of the relationship?**

# Literature Review

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- It is generally perceived that, being educated reduces the chances of having health problem.
- The effect of education increase with increasing years of education( Cutler 2006).\*
- Education is the most critical determinant of health for women, and for society in general (Health in Asia and Pacific, 2007)\*
- Children living in homes where the heads of the households have higher level of education were less likely to be malnourished after controlling for wealth information (aims Public Health, 2016)

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- Relationship between education and health can be seen and measured from different dimensions( Voghl 2012).
- In my report I will specifically concentrate on relationship of education and health outcome of adult population.
- I will be using method used by Cutler(2006) to analyze the NSO HIES data set.

# Methodology

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- **Qualitative-desktop Review**
- **Quantitative-to analyse the data\***
- **Data Source: PNG Household Income Expenditure Survey 2009-2011 data by National Statistical Office (NSO).**
- **Four provinces chosen, one from each region in PNG.**
- **Using the Primary Sample Unit (PSU) number the relevant data for the 4 provinces were extracted from the large data set.**



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- **Sample: Respondents that are 26 years and above- individuals are most likely to have completed their education.**
- **There are several factors that affects the relationship between education and health but what will be analyze is limited to what I am able to extract from the NSO data set\*.**

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## Relevant variables

- Sex
- Marital status
- Age
- Highest Grade Completed
- Any health complain within the last 3 months
- Health Problem
- Did you ever smoke?
- Does chew betelnut?
- Has had alcohol drink in the past month.

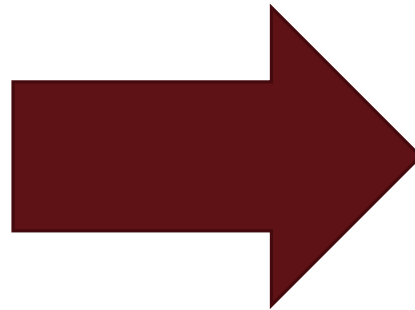
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- **Since most of the variables used are categorical in nature (Yes, no, male, female) Probit Regression method will be used to analyze the data.**
- **Probit Regression is used to analyze binary or a yes or a no outcome.**
- **Hence, dummy variable will be created.**

# Preparing Data for analysis

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### Summary of the Dummy Variables created

|                            |                   |
|----------------------------|-------------------|
| The Variables              |                   |
| <b>General Information</b> |                   |
| Gender: Male               | 1                 |
| Female                     | 0                 |
| Marital Status: Married    | 1                 |
| otherwise                  | 0                 |
| Age: 25-29                 | 1, 0 if otherwise |
| 30-34                      | 1, 0 if otherwise |
| 35-39                      | 1, 0 if otherwise |
| 40-44                      | 1, 0 if otherwise |
| 45-49                      | 1, 0 if otherwise |
| 50-54                      | 1, 0 if otherwise |
| 55-59                      | 1, 0 if otherwise |
| 60-64                      | 1, 0 if otherwise |
| 65+                        | 1, 0 if otherwise |
|                            |                   |
| <b>Education</b>           |                   |
| Highest Grade Completed    | 1, 0 if otherwise |
|                            |                   |
| <b>Health</b>              |                   |
| <i>Health Problem</i>      |                   |
| Sickness                   | 1, 0 if otherwise |
| Pain                       | 1, 0 if otherwise |
| Malaria and Fever          | 1, 0 if otherwise |
| Others                     | 1, 0 if otherwise |
|                            |                   |
| <i>Health Behavior</i>     |                   |
| Smoke                      | 1, 0 if otherwise |
| Alcohol                    | 1, 0 if otherwise |
| Betelnut                   | 1, 0 if otherwise |
|                            |                   |

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To estimate the basic correlation between education and health, I estimate the following regression:

Dependent variable=Independent variable

Condensed Health Problem=Gender, marital status, each age groups, Each Highest Grade Completed. (1)

Condensed Health Problem=Gender, marital status, each age groups, Each Highest Grade Completed, smoke, chew betelnut, alcohol. (2)

## Challenges

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- There were missing data and I have to go back to the questionnaire to see if I can find a valid explanation.

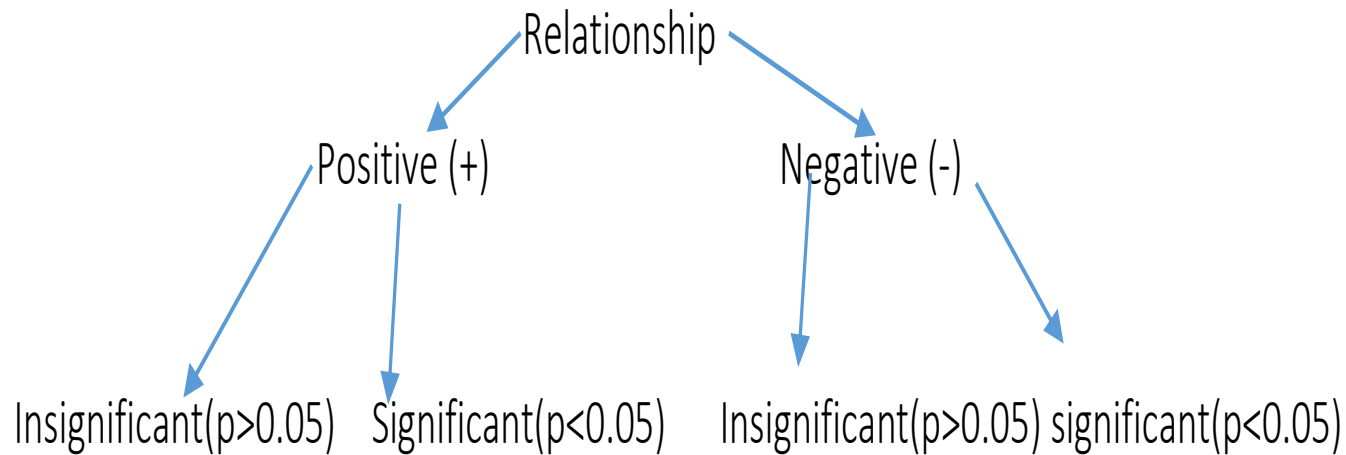
## Limitations

- Looks at the quantity of schooling not the quality of education.
- The Health complaints are self reported.
- Recalled health complaints.

# Findings(Preliminary)

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The Mapping of the nature of Relationships that exists between Education and Health in PNG





## Discussion

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- Relationship between Education and health outcome is positively significant in almost all of the Health complains (Sickness, pain, malaria and others) in the four provinces (NCD\*, WHP, MOROBE and EHP) .
- According to the analysis, in NCD the relationship is positive significant for Sickness, Malaria fever and Others and negative for Pain.
- Positively significant relationship exist between education and health outcome and the 3 health complains (Sickness, Malaria\_fever and Others.

# Cont'

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- The relationship between Pain and education outcome is negative, but not significant.

## Conclusion

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- The relationship between education and health outcome is positively significant. That is, completing a level of education does not reduce the probability of having health complaints\*
- \*In NCD, the nature of relationship between education and health varies from Health complaint to health complaint.
- The result is contradicting to commonly accepted knowledge and the reviews of the other studies done.
- Probit Regression might not be the right method? The model used? The way the data was prepared?
- Questions on the quality of the data used?

## Way Forward...

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- A qualitative study will be useful to really understand why the relationship between level of education and health complaints is positive\*.



# End of presentation

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**Thank you.**

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