

National University of Ireland, Galway
Diploma in Health Services Research
Summer Examination 2000

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Ms. Sharon Friel
Ms. Jane Sixsmith

Duration: 3 hours

Answer **one** question from each section

Section A: Epidemiology

- Q. 1. What are the advantages of prospective cohort studies over retrospective or case control designs? You are asked to establish a millennium birth cohort to follow a group born in a particular year to adulthood. What issues would you consider?

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- Q. 2. What is the difference between randomisation and random selection? Describe the application of these using examples from a) clinical, b) field, and c) community based trials.

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Section B: Health Information Statistics

- Q.3. Write short notes on any four of the following;

- a) Measures of central tendency
- b) Measures of dispersion
- c) Levels of measurement
- d) Assumptions of parametric analyses
- e) Assumptions of non-parametric analyses
- f) Why Chi Square is a useful data analysis technique
- g) How to decide which statistical technique should be used to answer a given research question.

(Dr. S. Nic Gabhainn)

- Q. 4. Researchers are interested in the relationship between smoking and lung cancer. They use nationally published data to examine the association. The estimated smoking rates and admission rates for a primary diagnosis of lung cancer are identified for each of the 8 health board areas for the last 12 months.

Region	% Smokers	Total Admissions
1	16	31
2	11	20
3	7	18
4	12	22
5	8	10
6	17	23
7	15	20
8	7	10

- a) Using the data above, calculate the appropriate correlation co-efficient.
- b) Evaluate your obtained correlation with an alpha of 0.05. What conclusions can you draw from these analyses ?
- c) What is the difference between r , r^2 and the probability of r ?
- d) What recommendations would you make to the researchers regarding the way they have tested their ideas ?

(Dr. S. Nic Gabhainn)

Section C: Research Methodology in Social Sciences

- Q. 5. Discuss the defining characteristics of Qualitative Research, with reference to Silverman.

(Ms. J. Sixsmith)

- Q. 6. Write a brief answer on any **TWO** of the following:

- a) Discuss why process evaluation is an important component of the evaluation of health promotion programmes.

(Dr. M. Barry)

- b) Explain why reliability and validity are important attributes of any measurement tool.

(Dr. S. Nic Gabhainn)

- c) What are the most important parts of a methods section in a research article?

(Dr. S. Nic Gabhainn)

Section D: Computing

- Q. 7 Discuss the use and misuse of statistical software. Describe the software necessary for the analysis of a data set recording hospital admissions and the subsequent completion of an overall report.

(Ms. S. Friel)

- Q. 8 Discuss why it is essential to backup data files and describe the various ways this can be done. In a health service organisation

(Ms. S. Friel)