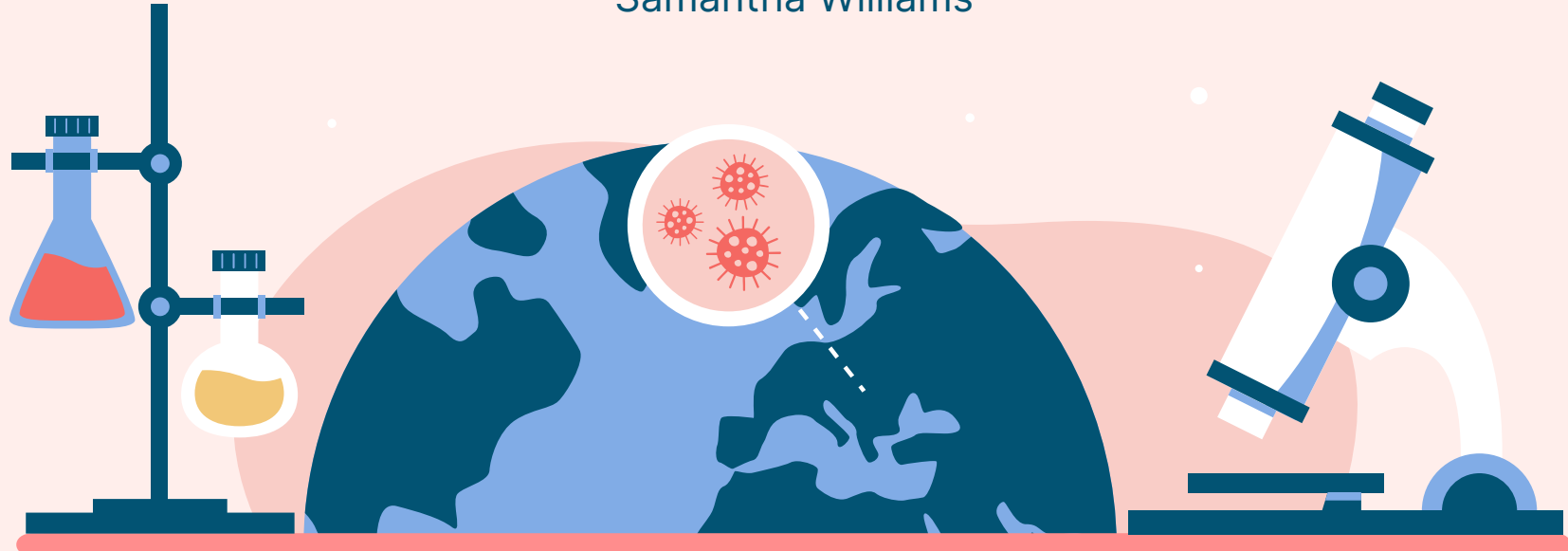


The importance of epidemiology in health care

Samantha Williams





Introductions



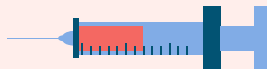
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Who are
you?



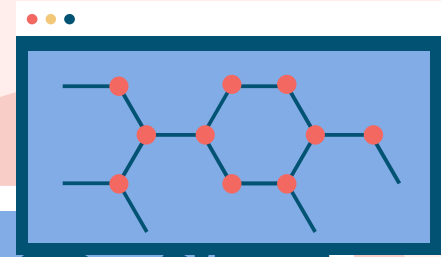
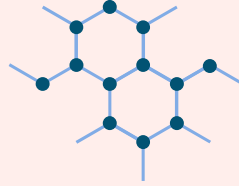
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Use 1
object to
describe
yourself



Aims

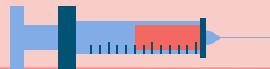
To recognise the reasoning behind why certain approaches and strategies are used in healthcare today.





OBJECTIVES

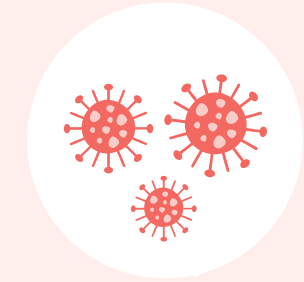
- Recognise how epidemiology influences local health policy.
- Relate large studies to what's happening in your health board.
- Identify the importance of epidemiology in preventing disease.
- Describe why the distribution of illness and disease is important, and how lifestyle factors are seen to be important.



What is epidemiology?

'The study of how often diseases occur in
different groups of people and why.'

The British Medical Journal
2024



Key Features +



Of epidemiology:

- It can be used to plan strategies, and then evaluate them.
- It can be used to prevent illness.
- It can measure disease outcomes in a population at risk.
- There is generally a *target population*, in which conclusions need to be found.
- It relates primarily to groups of people, not individuals.
- Rigorous standards and quality control measures are essential in epidemiological investigations.
- It can estimate the frequency of a disease.
- It can find associations for potential causes.



IMPORTANCE OF EPIDEMIOLOGY IN DISEASE PREVENTION

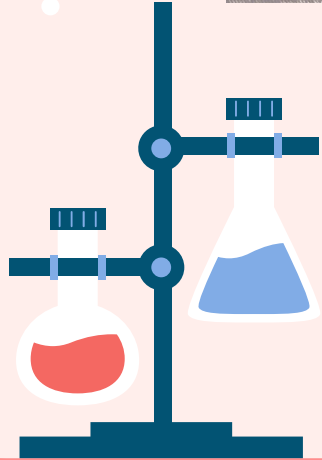
- Epidemiological studies can discover the main distribution in the population of a specific disease.
- Then determine what the main risk factors could be of that disease.
- This information can provide the tools that can be used to make health plan strategies, guiding the government to target certain populations, or groups of people.



How do we know smoking cause cancer??



- Towards the end of the 19th century, there was a global lung cancer epidemic, and epidemiological studies recognised that cigarette smoking was the cause, Proctor (2012).
- In the United States, smoking is linked to about 80-90% of lung cancer deaths, CDC (2023).
- Tobacco smoke contains chemicals which cause damage to the DNA in the cells. Around 35% of esophageal cancers are caused by smoking, Cancer Research (2023).
- Further reading: 'Smoking and cancer' Available at:
<https://www.cdc.gov/tobacco/campaign/tips/diseases/cancer.html>



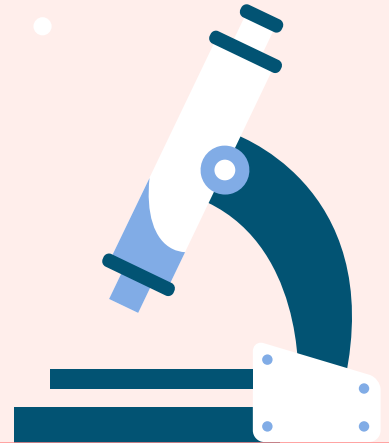
+ How do we know all of this??



Because of studies which have been carried out over years, correlating results, can give us information about the disease and its causes, as well as its prevalence in society.



A bit like a Bird's Eye View of all the illness and disease in the world!!!





OTHER STUDIES

Cervical cancer screening in India (Van Dyne et al, 2019)



- * It is the 2nd leading cause of cancer mortality in women in India.
- * The Ministry of Health in India recommended screening in women >30 years.
- * A report added that there was a geographical variation, with women and their partners wealth and education, 36.9% who had screening were well educated, compared with 26.3% who partners had no formal education.
- * The implications for Public Health Practice from these findings are that there would be more targeted programmes, aimed at those women who fell into the lower educated areas. This would, in turn, hopefully increase the uptake of screening in these women.





OTHER STUDIES

Divisions in dental caries amongst children (Daley, Nugent, and Taylor, 2024)



- * This looked at dental caries and compared racially minoritized children, aged 5-11 years, with similar aged children from national, majority or privileged populations.
- * The study highlighted significant differences with the two groups.
- * They found the barriers included limited access to dental care, and financial and language barriers.
- * Due to this the World Dental Federation and the WHO created initiatives to limit the oral health burden to these groups.





OTHER STUDIES

Health care personnel and energy drinks (Farinetti and Mattioli, 2024)



- * A systematic review of the prevalence of energy drink consumption and different continents and age groups.
- * They observed an increase in the use of the energy drinks and (among others) nursing students.
- * It was found that high stress levels of staff working during the pandemic equalled greater numbers of staff using the drinks.
- * The conclusion of this study was that knowledge and awareness of the potential risks should be increased.



BUT HOW WOULD/COULD THIS BE ADDRESSED????

WHAT KIND OF CHANGE WOULD YOU SUGGEST??



Goals of epidemiology



**Define
problems**

**Describe
illnesses**

**Discover
risks**



**Predict
trends**

**Intervention
strategy**

**Quantify
benefits**



REFERENCES

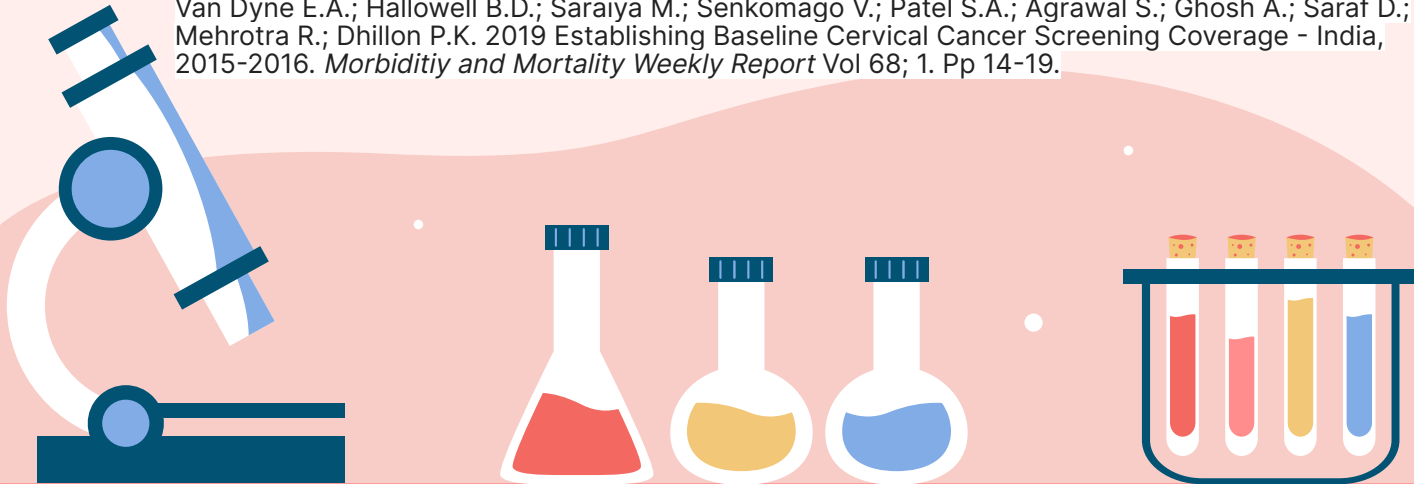
British Medical Journal, 2024. What is Epidemiology? Available at:
<https://www.bmj.com/about-bmj/resources-readers/publications/epidemiology-uninitiated/1-what-epidemiology#chapters>

Centre for Disease control and prevention (2023) What are the risk factors for lung cancer? Available at:
https://www.cdc.gov/cancer/lung/basic_info/risk_factors.htm#:~:text=People%20who%20smoke%20cigarettes%20are,the%20risk%20of%20lung%20cancer.

Cancer research UK 2023, 'Risk and causes of esophageal cancer' Available at:
<https://www.cancerresearchuk.org/about-cancer/oesophageal-cancer/causes-risks>

Proctor, R.N., 2012. The history of the discovery of the cigarette—lung cancer link: evidentiary traditions, corporate denial, global toll. *Tobacco control*, pp.87-91.

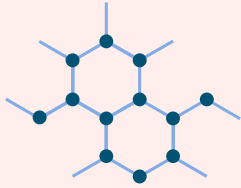
Van Dyne E.A.; Hallowell B.D.; Saraiya M.; Senkomago V.; Patel S.A.; Agrawal S.; Ghosh A.; Saraf D.; Mehrotra R.; Dhillon P.K. 2019 Establishing Baseline Cervical Cancer Screening Coverage - India, 2015-2016. *Morbidity and Mortality Weekly Report* Vol 68; 1. Pp 14-19.



REFERENCES (CONT)

Daley S., Nugent A., and Taylor, GD. (2024) Dental divisions: exploring racial inequalities of dental caries amongst children. *Evidence based Dentistry*
Available at: <https://www.nature.com/articles/s41432-024-00977-w#citeas>

TO RECAP:



3 - What 3 things have you learnt today?

2 - What 2 questions do you have?

1 - Name 1 thing you would like to read more about?

