

Benjamin Hamills Logbook

18th of April

Today I reviewed the student research project which was displayed at the Illawarra Regional science fair and have found flaws within that have to be resolved and additions to the project that can be made. This project included the testing of the ties of two general practitioners and two teachers, I hope to expand the project and include two specialists in the medical field and two police detectives. I have also changed the testing of the ties from using swabs to agar HBA agar plates

20th of April

Today I went into Wollongong police station and have arranged with the stations commanding officer to test two police detectives' ties.

2nd of May

I changed the project from "does working in a medical environment increase the likelihood of more bacterial colonies being present on ties" to "Does working in a medical environment increase the likelihood of more pathogenic organisms being present on neckties?" This time focusing on both the amount of colonies present on the professional's ties but also the pathogenicity of each individual organism found.

4th of May

Today I arranged for the testing of two teachers at my school.

5th of May

I have organised with the police officers and teachers to have the three testings of their ties on Tuesday the 12th, Wednesday the 13th and Thursday the 14th of May.

9th of May

I researched studies that are similar to my own and have come across an experiment conducted by Steve Nurkin, which sampled 42 neckties at a hospital in New York for pathogenic bacteria. His results demonstrated that 47.6% of the neckties worn by clinicians harbor potential pathogens.

11th of May 2015

I rang up Bulli and Woonona general practises and the doctors there are more than happy to have their ties tested. The testing will be conducted on Monday the 18th, Tuesday the 19th and Wednesday the 20th of May. I also emailed a specialist at Wollongong hospital and he has agreed to the testing of his tie. I have prearranged to test his tie on Wednesday the 20th, Friday the 22nd and Monday the 25th of May.

12th of May

Today was the first of three testings of teachers 1 and 2 along with detectives 1 and 2. I tested the teacher's ties at the end of the school day and following this I made my way to Wollongong Police station where I tested the ties of detectives 1 and 2. After the testings I placed the sealed agar plates into a refrigerator at home.

13th of May

Today was the second testing of teachers 1 and 2 along with detectives 1 and 2.

14th of May

Today was the final testing of the two teachers and detectives. After this all the agar plates (which are in the refrigerator) are dropped off at Shireens house for her to take them to work at Wollongong hospital and culture them.

18th of May

Today was the first of three testings of both doctors. After school I went to the Woonona general practise and following this the Bulli general practise to test one doctor's tie at each, the same doctor will be used throughout the three testings.

19th of May

Today was the second testing of the two doctors ties at the two different clinics.

20th of May

Today was the final testing of Doctors 1 and 2. It was also the first testing of specialist 1s' tie at Wollongong hospital. All of the contaminated agar plates containing the doctor's growth were dropped off at Shireens to be cultured.

22nd of May

Today was the second testing of specialist 1s' tie at Wollongong hospital.

25th of May

Today was the final testing of specialist 1s' tie. The agar plates with the organisms from his tie were dropped off at Shirreens house to be cultured.

28th of May

I rang Wollongong hospital hoping to find a specialist that wears a tie, I am directed to a specialist who works in the infectious diseases department. He however has been away for 2 weeks and does not work all week limiting the occasions I can test his tie.

12th of July

I began a table which provides a brief description, pathogenicity and mode of transmission to show the data and to use as a reference when writing the report.

13th of July

One of the organism I found, *Bacillus Cereus* has the potential to cause self-limiting food poisoning along with a range of wound infections.

18th of July

I finished the table and am surprised by some of the organism that I find. Some noteworthy organism were *Bacillus cereus*, *Staphylococcus epidermis*, *Staphylococcus saprophyticus* and *Enterococcus faecalis*.

19th of July

My science teacher is more than happy to review my table so I have emailed a copy of it to her.

21st of July

Both my science teacher Mrs Callan and last year's science teacher Mrs Else agree that there is too much information within then table and that it cannot be included within the results. The table is going to have to go in the appendix.

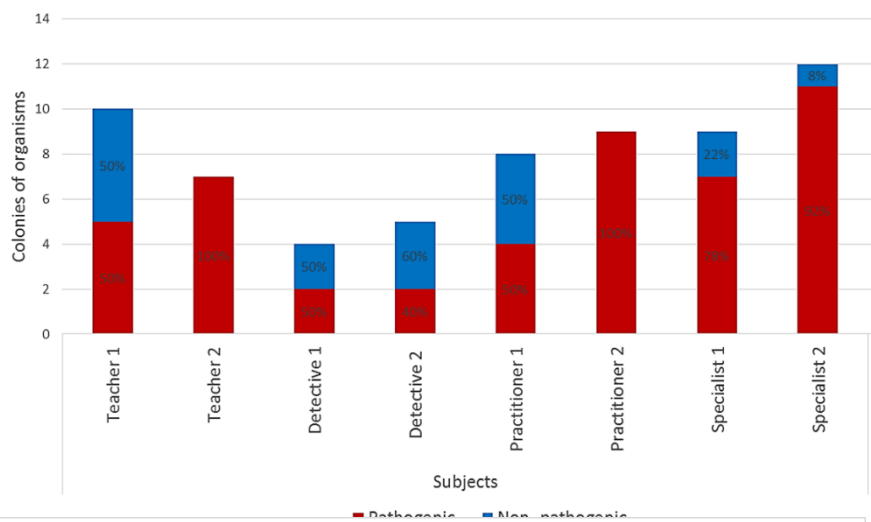
24th of July

Today I began my report and finished the abstract and introduction.

25th of July

I finished the method today which included an overview, materials, procedure, safety and precautions, participants and variables sections.

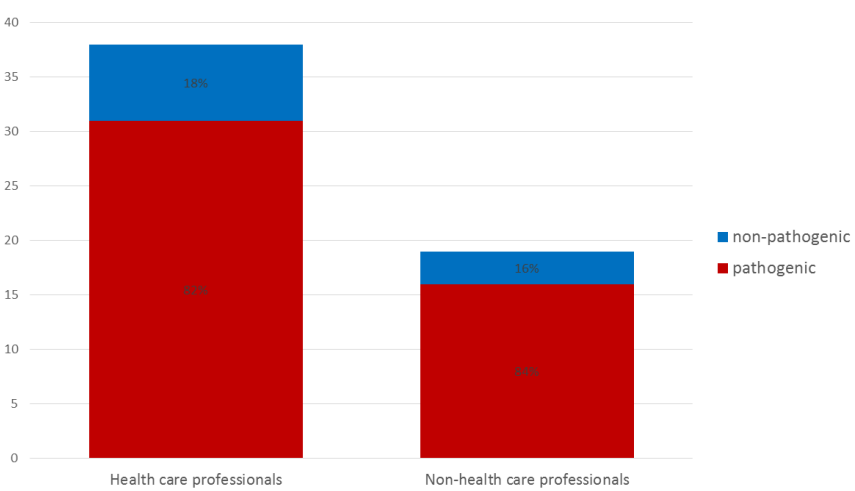
Comparison of Pathogenic and Non-pathogenic Organisms



28th of July

I have compiled the data into graphs. One is a comparison of pathogenic and non-pathogenic organisms found on each in individuals tie, the other is a comparison of the total pathogenic organisms found on the ties of healthcare and non-healthcare professionals. The results are quite interesting the hypothesis stated that the healthcare professionals would have a higher number of pathogenic organism. They did having twice more than the other professionals, however the non-healthcare professionals had a higher percentage (84%) of pathogenic to non-pathogenic organism.

Comparison of Total Organisms Found on Healthcare and Non-Healthcare Professionals



1st of August

I began the discussion and conclusion. The discussion consisted of a data analysis, notable organisms found, validity and limitations.

9th of August

I have finished the discussion and conclusion as well as citing everything within the report and made a bibliography consisting of 33 references. The references were made on the online citation generator, which is part of the school libraries resources.

17th of August

I have given my report to Mrs Else who is passing the report on to her husband Professor Else to review my report.

19th of August

I received my reviewed report back and have set out to make changes when needed.

20th of August

I have reviewed the information once more to check for any errors or mistakes, my full report is complete. I am extremely happy with my report and the work that I have put into it.