Designing a risk predictive tool for *Clostridium difficile*

**Ansu Joseph**, Dr. Amanj Kurdi, Prof. Marion Bennie.  
Email: ansu.joseph@strath.ac.uk

### Introduction

- *Clostridium difficile* (C.diff) is a gram positive-spore forming anaerobic bacteria that forms colitis through the disruption of the gut flora after the consumption of antibiotics. The infection is associated with high morbidity and mortality.

- In order to reduce the incidence of C.diff the health board suggested the reduction of 4C antibiotics, however not in every case it is possible to avoid the antibiotic prescription.

- Through the identification of high risk patients, GPs can prescribe safely, therefore a mathematical model for the identification of high risk patients was created.

### Aim

- Design a prototype to identify high risk patients
- Observe and report factors that influence the adoption of the tool

### Method

3 GP champions were recruited

- [Interview](#)
- [Shadowing](#)
- [Co-design workshop](#)

The interviews were transcribed and analysed using Inductive analysis combined with empathy map.

### Results

- Patients understand that GPs need help
- C. Diff is not a threat
- Prefer alternative to high risk antibiotics
- Don’t want a C. diff tool
- Patient data is not up to date
- Cannot identify high risk patient
- Need help in prescribing antibiotics

![Figure 1](#) Research findings from the interview with the GPs

Through the interview and the shadowing it was possible to understand the current prescribing process and GPs feeling on a C.diff tool.

While through the Co-design workshop a medium fidelity prototype was created with the GP, taking into consideration all the prescribers needs and the limitations.

### Future work

The next stage is to implement the prototype collaborating with companies and stakeholders in the GP system’s domain.

### References

- Bartlett JG. Historical Perspectives on Studies of *Clostridium difficile* and *C. difficile* Infection. *Clin Infect Dis*. 2008
- Scottish Reduction in Antimicrobial Prescribing ScRAP