

WLCOW TRAVEL AWARD REPORT – CAITLIN PARTRIDGE



I am currently undertaking my PhD, titled *The Impact of Diagnostic Pathways on Cancer and Cardiovascular Disease (CVD)*, at Swansea University as part of the Health Data Research (HDR) UK Big Data for Complex Diseases driver programme.

Cancer and CVD are two of the largest causes of death in the UK, and it is well known that individuals living with two or more long term conditions (also known as multimorbidity) have a higher mortality. My PhD project aims to focus on understanding the coexistence of cancer and CVD including disease ordering, disease severity and setting of diagnosis thereby contributing to improving the early detection and management of cancer and CVD through the development of statistical

and machine learning models. As part of my PhD I am using multi-state models to assess all possible diagnostic pathways for individuals diagnosed with cancer and/or CVD [Fig 1]. This approach will allow us to explore whether demographic characteristics, such as socio-economic status, has an impact on the diagnostic pathway and associated outcomes.

Using The Worshipful Livery Company of Wales (WLCow) Travel Award, I was able to attend the Competing Risks and Multi-State Models course ran by the Swiss Epidemiology Winter School to further my knowledge and understanding of the possible methodological approaches, and their implementation using statistical software.

The course ran across three days at the end of January in Wengen, a small mountain village in Switzerland. During the course I was able to attend lectures discussing the theory of the statistical modelling approaches that I am planning to implement within my project, as well as undertaking practical coding sessions where we were able to apply the methods to real life scenarios.

Alongside studying, I was able to network with course tutors and other delegates through a village walk with a local historian, curling and a traditional Swiss dinner.

Overall, attending this course has greatly benefitted my PhD project as well as my development as a researcher. In particular, it has allowed me to further my understanding of the theoretical concepts and application of the methodology, which has led me to progress with the development of the statistical models and their application to electronic health records. The travel award has also allowed me to further develop my research network in this space, and improve my communication skills to technical audiences. Through the application of multi-state models to the cancer and CVD diagnostic pathway, we hope to contribute to improving patient outcomes in Wales and reduce potential health disparities by refining the diagnostic pathway.

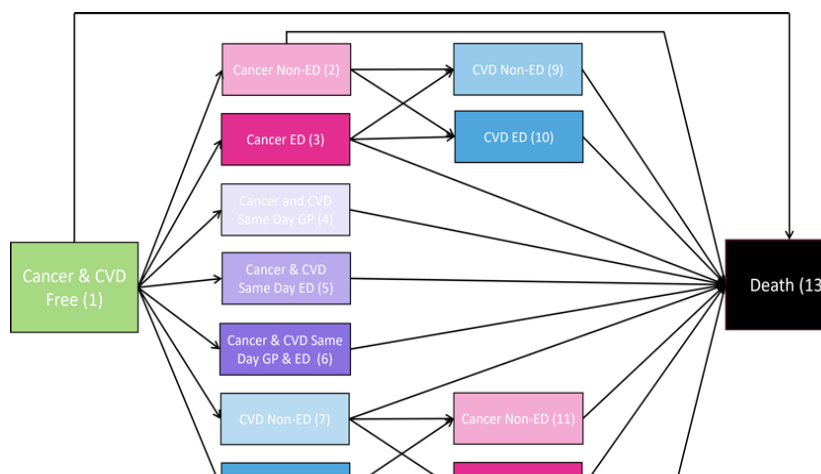


Fig 1: Diagnostic pathways map for cancer and CVD.



Fig 2: View of Wengen Village.



Fig 3: Building where the course was held.