Tutorial session P2

The aims of this tutorial session are to:

* Construct a cascade
* Construct a continuum

You are asked to **work in groups**. The session will last for **45 minutes**, and at the end of that time, your group will report back and present your findings to the others in the session.

**Q1. Consider the cascade shown below and respond to the following questions.**

1. Map out a set of possible pathways that describe how people move between the stages of the cascade over time.

*Hint: you may find it easier to represent the cascade as a series of compartments.*

1. What are the shortest pathways that a person could take to treatment success?
2. Where are the major breakpoints in the cascade? What could be some reasons for these?
3. What data sources do you think might be useful for populating this cascade? Which data do you think would be more or less reliable?
4. How do you think that the cascade might vary across different groups? (e.g. rural/urban, male/female/other, age groups, education level…)

**Q2. Consider the abstract below, taken from an article about the cascade of care for Hepatitis C.**

Little is known about engagement and retention in care of people diagnosed with chronic hepatitis C (HCV) in England. Establishing a cascade of care informs targeted interventions for improving case finding, referral, treatment uptake and retention in care. Using data from the sentinel surveillance of blood‐borne virus (SSBBV) testing between 2005 and 2014, we investigate the continuum of care of those tested for HCV in England. Persons ≥1 year old with an anti‐HCV test and subsequent RNA tests between 2005 and 2014 reported to SSBBV were collated. We describe the cascade of care, as the patient pathway from a diagnostic test, referral into care, treatment and patient outcomes. Between 2005 and 2014, 2 390 507 samples were tested for anti‐HCV, corresponding to 1 766 515 persons. A total of 53 038 persons (35 190 men and 17 165 women) with anti‐HCV positive were newly reported to SSBBV. An RNA test was conducted on 77.0% persons who were anti‐HCV positive, 72.3% of whom were viraemic (RNA positive) during this time period, 21.4% had evidence of treatment and 3130 49.5% had evidence of a sustained virological response (SVR). In multivariable models, confirmation of viraemia by RNA test varied by age and region/test setting; evidence of treatment varied by age, year of test and region/test setting; and SVR varied by age, year of test and region/setting of test. In conclusion, our findings provide HCV cascade of care estimates prior to the introduction of direct acting antivirals. These findings provide important baseline cascade estimates to benchmark progress towards elimination of HCV as a major public health threat.

–– Simmons R., Ireland G., Irving W., Hickman M., Sabin C., Ijaz S., Ramsay M., Lattimore S., and Mandal S., *Establishing the cascade of care for hepatitis C in England—benchmarking to monitor impact of direct acting antivirals*. J Viral Hepat. 2018 May;25(5):482-490.

1. Use the information in this abstract to construct a cascade for HCV
2. What information is missing?
3. Map out a set of possible pathways that describe how people move between the stages of the cascade over time.

*Hint: you may find it easier to represent the cascade as a series of compartments.*