**Project Overview**

Originally, clinicians were disinclined to recommend allogeneic HCT to elderly patients due to post-transplant survival issues. However, with the emergence of better supportive care and conditioning treatments, it has become a potentially viable option for patients of all ages. Determining how suitable an elderly patient would be for allogeneic HCT based on certain risk factors would help to inform clinicians about which patients would likely survive transplantation as part of their cancer treatment.

There are studies and clinical trials being carried out in very recent years to include geriatric assessment scores to determine patients’ post-transplant survival rates.

One emerging and quite exciting assessment that has potential as an indicator is the BOMC test which assesses cognitive ability. The question we want to answer is the following: ‘Will using cognitive ability alone as a predictor for survival in elderly patients with leukaemia perform as well as a well-known risk factor such as age?’.

There is an assumption that cognitive ability declines with age and therefore we believe it should perform similarly but cognitive ability is a fairly new risk factor that isn’t considered as much as age in actual clinics. The results of this analysis could provide evidence on how this should change and how cognitive ability should be more widely considered.

Answering this question using machine learning may help give more support to this area of cancer treatment that is now beginning to be researched.

**Dataset**

The dataset we will be using has been taken from the following web page:

<https://www.cibmtr.org/ReferenceCenter/PubList/PubDsDownload/Pages/default.aspx>

It can be downloaded in the row for publication *‘Geriatric assessment in older alloHCT recipients: Association of functional and cognitive impairment with outcomes.’* by Rebecca Olin.

**Evidence of permission to use**

The pdf can be downloaded by clicking on ‘View the Terms and Conditions.’ just above the table accessed through the above link (same as dataset link).

I have also inserted a screenshot below for quick reference.

