



## – Understand changes to patients' quality of life through the clinical workflow

Health-Related Quality of Life (HRQOL) is the perceived well-being of an individual. The clinical workflow is all the steps related to the delivery of care. Aspects such as treatment and age can influence HRQOL. In this challenge, we want to understand the change of HRQOL along with clinical workflow.

Apply until 16 April 2023 / Xplorers Camp on 25 April 2023

### Question to be solved

How can we better inform patients about an expected change in quality of life, reducing psychological burden and supporting patients along their care journey?

### General background

Health-Related Quality of Life (HRQOL) is the perceived well-being of an individual. The clinical workflow is all the steps related to the delivery of care. In the clinical workflow, different aspects can influence Health-Related Quality of Life, (e.g treatment, age). We propose here to understand the change of Health-Related Quality of Life along with clinical workflow.

We have already conducted some early research and prototyping on the topic for Breast Cancer as well as Bladder Cancer indications. We would like to expand the work to other illnesses, explore different modelling techniques or improve the current ones, and further understand the impact of more covariates.

### Data types & technologies

- Clinical trial data from Roche
- Patient-Reported Outcomes
- The project can be done in R or Python

## Supporting material or links

- Huang H, Datye A, Fan M, Knapp A, Nielsen T, Bottos A, Paulson JN, Trask PC, Efficace F. Patient-reported outcomes provide prognostic information for survival in patients with diffuse large B-cell lymphoma: Analysis of 1239 patients from the GOYA study. *Cancer Med.* 2022 Sep;11(17):3312-3322. doi: 10.1002/cam4.4692. Epub 2022 Mar 23. PMID: 35322932; PMCID: PMC9468432.
  - Ethan M. Basch, Allison Mary Deal, Amylou C. Dueck, Antonia Vickery Bennett, Thomas Michael Atkinson, Howard I. Scher, Mark G. Kris, Clifford A. Hudis, Paul Sabbatini, Dorothy Dulko, Lauren J. Rogak, Allison Emily Barz, and Deborah Schrag Overall survival results of a randomized trial assessing patient-reported outcomes for symptom monitoring during routine cancer treatment. *Journal of Clinical Oncology* 2017 35:18\_suppl, LBA2-LBA2
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## Needed skills

- Programming skills (R or Python)
  - Good analytical/mathematical thinking
  - At least on Master student level in quantitative science like computational biology, mathematics, statistics, etc
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## Mentors



**Celia Bel**

Senior Data Scientist, RIS/DS/DS4P2



**Jessie Yan**

Senior Principal Quantitative Scientist, RIS/DS/RWD

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## Form of cooperation

*Preferred scale:* 6 months internship

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## How to present your idea

Show us how you would approach the problem in 3 to 5 slides. We do not expect a bullet-proof solution to the problem. Please be prepared to answer some questions after the 10-minutes presentation