

# TG7 – Members (green = @Lorentz, \*SISAQOL)

Els Goetghebeur\* & Ingeborg Waernbaum (website)

- Jack Bowden (launch) [Martin Wolkewitz]
- Saskia le Cessie\*
- Bianca De Stavola
- Vanessa Didelez
- Erica Moodie (excused)
- Nan van Geloven (launch)
- Andrea Callegaro

Young attendants @Lorentz workshop

- Dries Reynders\*, Doranne Thomassen\*, Kelly Van Lancker

\*Setting International Standards in Analysing Patient-Reported Outcomes and Quality of Life Endpoints

# TG7

- The `mother paper' on range of *principled* causal **methods** *Estimands* + estimators + **synthetic data + counterfactual simulations** dataset for **continuous outcome(s)** (with analysis using different software packages). Courses given [no **Machine learning** yet]
- is followed up for **survival outcome**; finishing: range of new estimands (HRs, speed, and many others etc...)
  - Involves counterfactual world + real world public data'
  - Censoring
- Plan for Longitudinal data (Erica in the lead)
- IMI-SISA**QOL** related work with STRATOS involvement (TG7):
  - General paper on need for guidelines (Pe *et al.*, Lancet Oncology, 2023)
  - Review of methods (estimands) and **single arm trial** publications (oncology treatment) (Liu *et al.*, Lancet Oncology, 2023)



# Intercurrent events + `Missing data`

- *Not missing data: QOL after death*
- Censoring for all that follows: death time and further QOL-w-alive
- Censoring for QOL-w-alive, but death time may still come from death registry
- Missing data post intercurrent events (ICE): near non-positivity, NMAR
- Intermittent missing data
- QOL-missing prior to death (drop in QOL, what with censoring)
- Role for `joint modelling` (marginal model of QOL-while-alive)?

# Repeated Qol data in mortal populations and SISAQOL work

- Single arm trials in current practice -> overview in Liu et al., 2023
  - Intercurrent events -> different ways of handling them (3 papers `written’)
1. Estimands paper (Doranne Thomassen et al. - WP3 – in journal revision)
    - ITT, hypothetical, composite
  2. How to estimate with MAR (Doranne Thomassen et al. - WP3 in sisaqol review)
  3. Two-dimensional estimand: Survival + QOL while alive, double IPW or Standardized Outcome Regression (Dries Reynders et al. – in WP3 review)
    - + Level 1 follow-up paper planned

# More initiatives – planned/furthered@Lorentz

- Missing data with(out) auxiliary information and/or MNAR (ICE) also SISAQOL suggested – TG7 with TG1, in part with EORTC (Kate and Dries with James, Els, Saskia, and others)
- Survival and time-varying covariates (and exposures) using a Markov idea - with TG8 (Terry Therneau, Maja Pohar Perme, and others)
- Sensible Estimands
  - General paper on meaning and plausible ass. (Saskia and Nan in the lead) → see Estimands theme
  - In illness death models – (plausibility, various estimands) (Pam and Els in the lead with Malka and others) → see Estimands theme
- Extend estimand thinking beyond causality, e.g. causal prediction (Saskia and Nan in the lead) → see Estimands theme
- Different estimand frameworks (Saskia and Nan in the lead) → see Estimands theme
- Paper suggested on physician preference as instrumental variable (by Jack Bowden)

# What is next?

- Inspired by Lorentz:
  - Counterfactual simulations? (Michael Wallace ?)
  - Video's?
  - Double robust machine learning components?