This talk will introduce the {ppseq} R package for designing early phase clinical trials using sequential predictive probability monitoring. Clinical trials in oncology increasingly include dose-expansion cohorts to further characterize safety, get preliminary efficacy data, or compare across doses or disease subtypes. But expansion cohorts are often added to trials on the fly, with little planning of the statistical design or consideration for the ethical concerns associated with treating patients at sub-optimal or inefficacious doses. The {ppseq} package provides functionality to design trials using Bayesian sequential predictive probability monitoring. The package includes interactive visualizations that allow users to easily compare designs based on different decision thresholds according to their operating characteristics, and introduces optimization criteria to assist in selecting the ideal design. The functionality of the {ppseq} package will be demonstrated with a re-design of the phase 1 dose-expansion cohort studying the anti-PD-L1 treatment atezolizumab in metastatic urothelial carcinoma.