Sepsis is a medical condition whereby the body’s immune system overreacts to a pathogenic trigger, often to the point where the immune response may be more damaging to the body than the infection itself. In the United States alone, nearly 270,000 people die annually as a result of sepsis. Lipopolysaccharides (LPS) are a type of lipid molecule found in the cell walls of a certain class of pathogenic bacteria, and because of this LPS is a potent sepsis trigger; the human immune system recognizes the presence of LPS as an indicator of bacterial infection. The phospholipid transfer protein (PLTP) plays a key role in the elimination of LPS from the bloodstream, which has implications on sepsis survival and recovery. Since PLTP plays a key role in the elimination of LPS from the bloodstream, we predict that individuals carrying variants of the PLPT gene which confer higher levels PLTP in blood and/or greater PLTP activity will have improved sepsis survival rates compared to non-carriers. Nine genetic variants of the PLTP gene will be included in our analysis. We will compare how these genetic biomarkers influence the 28 day and 90 day survival of 3684 septic patients from the UK Biobank cohort using Cox-proportional hazard ratios. Results will be adjusted to account for possible covariates such as age, sex, genotyping batch, and genetic ancestry. Identifying genetic biomarkers which could serve as predictors of sepsis survival can improve patient triage, and may also lead to the development of sepsis-specific therapies.

Themes:
Check (highlight) the most applicable theme according to the abstract.

| Innovation and Technology | Health and Wellness | Culture and Society | Sustainability and Conservation |

Comments:
LPS isn’t only found in pathogenic bacteria – you may wish to clarify that statement to say Gram-negative bacteria.