Epidemiologists (among others) have successfully identified some modifiable risk factors for disease, but there has been dissatisfaction regarding the ability to accurately characterise the prognosis or risk status of individuals. The apparent promise of personalised medicine, particularly when based on pharmacogenomics, offers to transform practice in this regard. This talk will suggest that this is fundamentally misguided, given that we can only truly understand group-level, rather than individual-level, risk. Evidence from behavioural genetics, epidemiology and developmental science will be mobilised to support this position.