Understanding antipsychotic risks is critical as these risks exacerbate the health burden of people with schizophrenia and add to the long-term economic burden borne by public payers. Despite evidence on the association between second generation antipsychotics and metabolic risk, whether the risk is time-dependent and whether the time-dependency is drug-specific remain unknown. Men and women differ in how they experience disease and how they respond to treatment, yet little research on the influence of sex on efficacy and safety of antipsychotics exists. Traditional intention-to-treat analyses of clinical trials provide valid inferences regarding average effectiveness but a regression of outcome on observed cumulative exposure is likely not causal. We exploit methodological advances in two related research fields, causal inference and network meta-analysis, to develop an approach to answer questions involving the relationship between duration of drug exposure and outcomes. We analyze the causal effect of cumulative exposure on a binary outcome for placebo controlled trials and active treatment trials. Using the randomization mechanism as an instrument, we estimate exposure-response curves for different exposure subsets. We then combine the treatment-exposure curves via network meta-analysis using individual participant data that (a) permit assessment of evidence compatibility from direct and indirect comparisons; (b) separate within from between-trial effects; and (c) bolster conclusions within subgroups. Our approach uses the placebo arms of no exposure as the outcome of zero exposure in the active treatment arms. The new methodology can help reduce bias and uncertainty; and can do so in the presence of patient-level treatment heterogeneity.