

Supplementary Figure Captions

Figure S1. Temporal trends in selected cannabinoid concentrations in USA FDA seizures.

Figure S2. Map-graph of estimates of $\Delta 8$ THC concentrations across USA over time. (Estimates derived as described in Methods section).

Figure S3. Pannelled scatterplots of age-standardized rates of selected cancers as a function of tobacco exposure.

Figure S4. Pannelled scatterplots of age-standardized rates of selected cancers as a function of alcohol use disorder incidence.

Figure S5. Pannelled scatterplots of age-standardized rates of selected cancers as a function of $\Delta 9$ THC exposure.

Figure S6. Time-aggregated rates of selected cancers in highest and lowest tobacco exposure quintiles.

Figure S7. Time-aggregated rates of selected cancers in highest and lowest alcohol use disorder incidence quintiles.

Figure S8. Time-aggregated rates of selected cancers in highest and lowest $\Delta 9$ THC exposure quintiles.

Figure S9. Time-aggregated rates of selected cancers in highest and lowest $\Delta 8$ THC exposure quintiles.

Figure S10. Graphical summary of inverse probability weighted additive panel models by covariate. (A) numbers of cancers identified, (B) total negative P-value of exponents and (C) total minimum E-values.

Figure S11. Graphical summary of inverse probability weighted interactive panel models at two years lag by covariate. (A) numbers of cancers identified, (B) total negative P-value of exponents and (C) total minimum E-values.

Figure S12. Heatmap of substance marginal effects in additive panel model by tumour type.

Figure S13. Heatmap of substance marginal effects in interactive panel model at two years of lag by tumour type.

Figure S14. Heatmap of substance marginal effects in interactive panel model at four years of lag by tumour type.