progress?

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To:

I have plotted up the predicted prevalence of disease as a function of age for 3 models:
Model 1: z = b0 + b1*CE
Model 2: z = b0 + b1*CE + b2*age
Model 4: z = b1*CE + b2*age
For “background”, CE = 0.
As shown in the first sheet, one goes up, one goes down, one stays constant
Note that all 3 models cross at age = 59, which is the average age of the people in the Marysville cohort.
Next I calculated the effect of exposure at the draft RfC (0.02 f/cc-yrs) (see the 2nd sheet).
There was no observable effect for either model 2 or model 4 (i.e., exposure at the RFC did not have an observable effect over background –prevalence, while a 5% effect was expected).
Conclusion: none of the models tested to date make any sense.
Using binned data, I have looked at the pattern of the dose-response relationship, and I am quite sure a logit model will not work well.
For a logit model, z should be a linear function of dose.
In this case, z is a non-linear function of dose.
I think a log-logit model may work better (a plot of z vs ln(CE) is about linear), but some quick tries did not yield anything I thought was great.
Maybe we should test other (less familiar) models??
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Predicted background prevalence.xls