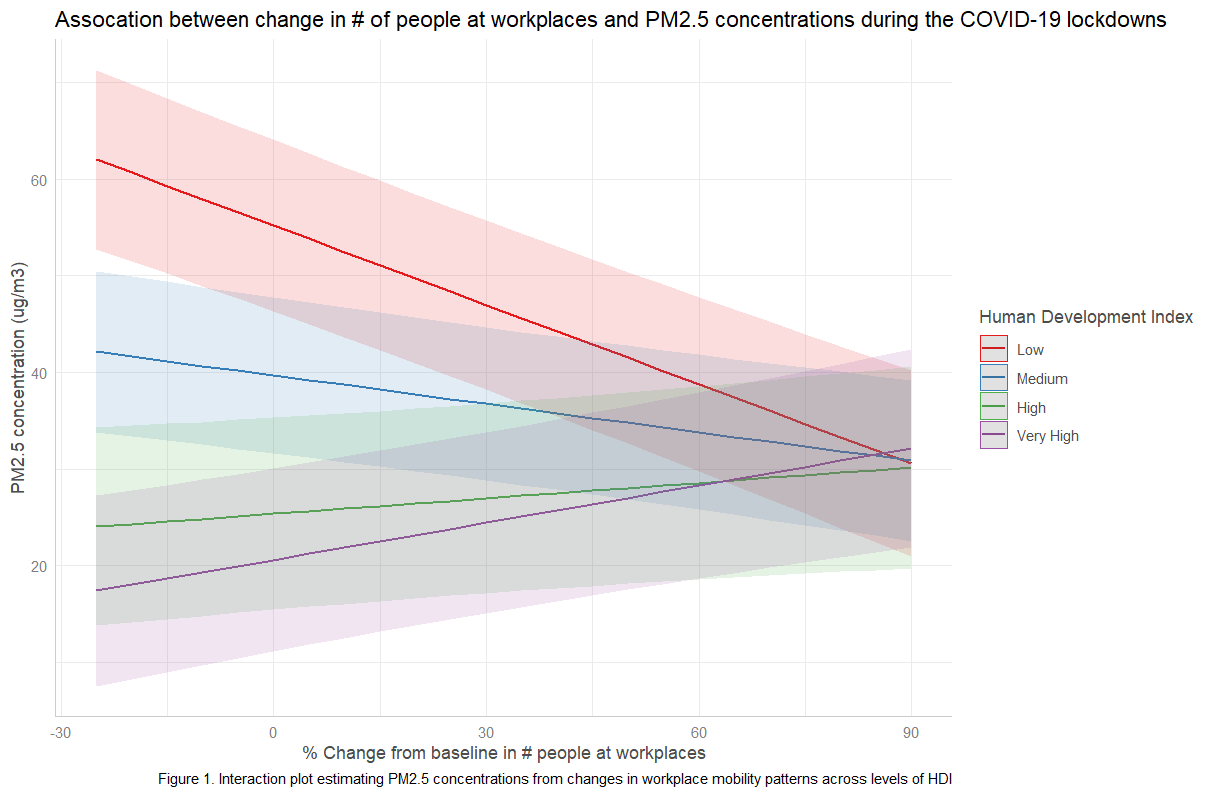
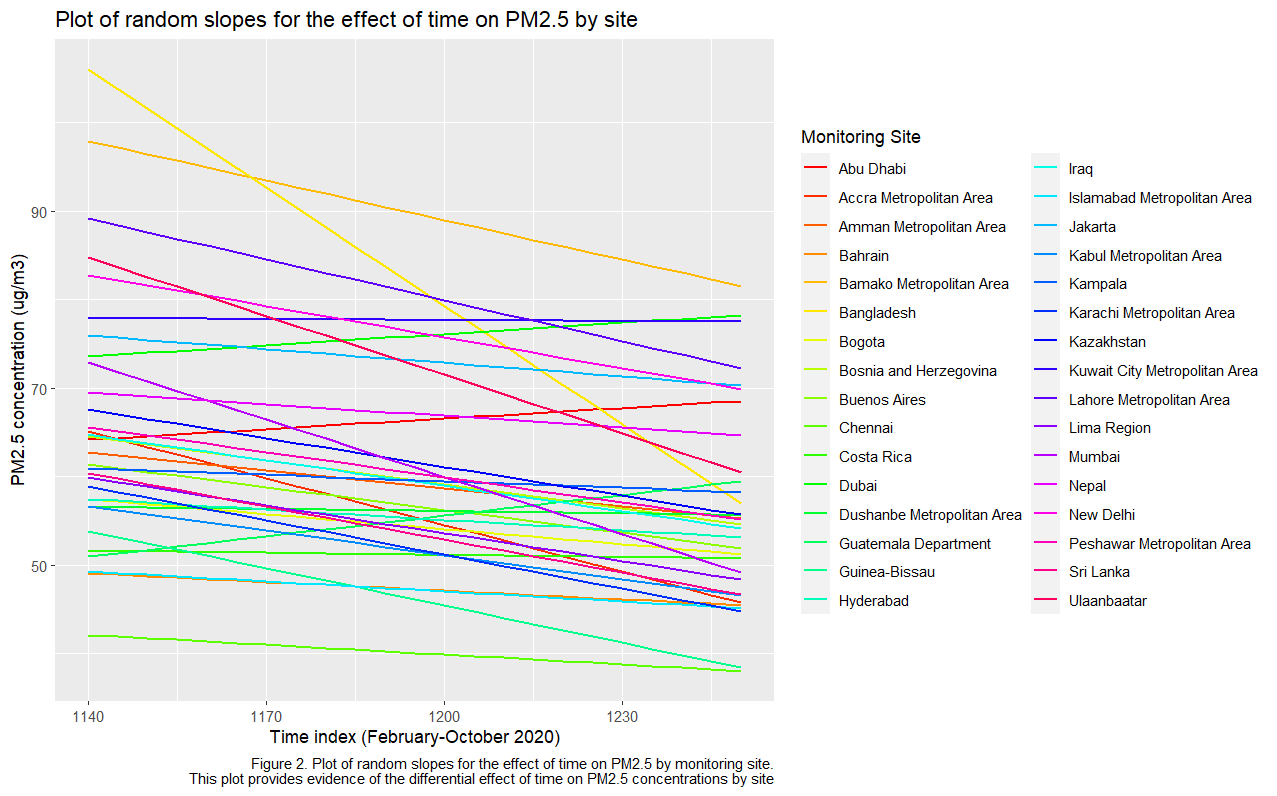
The result of this exploratory analysis is a report that consists of the following:

1) One paragraph overview of background and some small number of primary research questions of interest.

2) One paragraph describing your data sources: What is the structure of your data files (e.g., studentlevel, school-level, teacher-level, county-level)? Do the variables come from surveys, administrative records, classroom observations, etc.? Please feel free to discuss any data decisions you’ve made or are considering (e.g., you’re dropping certain observations, creating new measures, or are unsure of which measures to use). Make sure you include the sample sizes at each level (e.g., number of time points per unit, average number of students per school, etc.).

3) Two publication ready plots of your data. Publication ready means having things like nicely labeled axes and captions.





4) An analysis of the variability in your data (primarily your outcome). You can do this by fitting an unconditional model (one without any extraneous covariates) to obtain a variance decomposition (allowing for ICC calculations and the like). These unconditional models are good starting point for getting a handle on where variation is, and what your data structure is.

A white sheet with black text and numbers

Description automatically generated

5) One paragraph describing trends in your data, referring to your two plots and your variability analysis.

6) An initial mathematical model describing the primary model you are planning on fitting (or have fit). Try to focus attention on your primary covariates and outcome; keep these initial models simple and straightforward. As you write your model, be sure to define your subscripts! I.e., at the beginning of your model write something like "For time t for student i in school k we have..." Also, to be correct you would then subscript as tik, keeping your levels in order. 11

**x <- lmer(a\_mean ~ workplaces\_reversed\*hdicode + time\_index + month\*hemisphere + pop\_density + (1 + time\_index | Mobility\_SiteName), control = lmerControl(optimizer = "bobyqa"),**

**data = pm)**

7) One paragraph of initial findings. If you have not yet fit a model, you can still describe preliminary findings in terms of trends, etc., in your plots and initial exploratory analysis. 8) One paragraph describing next steps, blocks, barriers, concerns, or other things you would like to discuss and get feedback on.