

**Supplementary Materials:** Questions for the focus groups:

- (1) Please discuss some of the benefits of your job as a firefighter.
- (2) Please discuss some of the major barriers you face when trying to perform your job.
  - o What barriers do you face when suppressing a fire?
  - o What barriers do you face when working in the fire station?
  - o What barriers do you face when cleaning and maintaining your gear?
- (3) What would reduce your exposure to air contaminants when performing your job?
  - o What would reduce the potential of fire smoke contamination when suppressing a fire?
  - o What would reduce the potential of air contamination while at the station?
  - o What would reduce the potential accumulation of contaminants on your turnout gear?
- (4) What are your major concerns about your job duties during fire suppression?
- (5) How does the fire department monitor and measure the exposures in the air?
- (6) Briefly discuss your routine for turnout gear, including where you store your gear and how you have it cleaned.
  - o What could be changed to make meeting the standard for turnout gear more feasible?
- (7) Please discuss any additional comments or concerns you have regarding air contaminants and occupational exposures during fire suppression and at the fire station.
- (8) Please discuss any additional comments or concerns you have regarding accumulated contaminants on your turnout gear and the maintenance of your gear.

In addition, we also asked a basic information including gender, years of experience, main job tasks, etc.