Questions not answered as part of the live webinar. Note - some questions were modified to aid in clarity or to combine multiple similar questions.

Question: In addition to the self-reported stove use, was any stove monitoring with temperature sensors done?

Response: Yes. We used stove use monitors (iButtons) on all stoves- primary stove and any other stoves- during the 24-hour monitoring period. We used different cutoffs to define "cooking events," such as thresholds of 38, 40, 45, and 50 degrees Celsius, and then created cutoffs of number of cooking events, average time of cooking, and percentage of time the stove was at the temperature threshold or higher.

Question: Were any of the women on hypertensive medications? Did you do a sensitivity analysis looking at normotensive c/w hypertensive to see if there was more of an effect in normotensives v. the other group?

Response: For our analyses of the blood pressure outcomes, there were a handful of women who took hypertensive medications. We did a sensitivity analysis with those women removed, but saw no differences in the results. We also looked at differences between normotensive vs hypertensive women using an interaction term, but saw little evidence that hypertensive status impacted the results.

Question: Can you comment on the non-health impacts of the cookstove? Did the new stove use less biomass? Did they still enjoy the favor of their traditional foods?

Response: Yes, the Justa stove has been Honduras' flagship improved cookstove for over 20 years, and was designed locally with help of a local community outside Tegucigalpa. It has high adoption levels (~90%) which is driven by the Justa stove's similarity to traditional cookstoves. In various field tests on fuel consumption conducted by Trees, Water & People, the Justa stove will use between 30% - 60% less wood than a traditional stove. Much of the difference depends on the type of traditional stove the household had previously.

Question: HbA1c is also impacted by diet. Was there any information suggesting that those households interested in improving the indoor air were also interested in eating healthier diets?

Response: We assessed diet through 24-hour dietary recalls of nearly 30 different food/drink items. There did not seem to be much change in diet over the course of the study, nor differences in diet between stove groups (*Justa* vs. traditional).

Question: Did you explore the utility of including central site ambient measurements in your modeling approach for the long-term exposure estimates?

Response: No, unfortunately, we did not have any central site ambient measurements available for this study. As mentioned in the talk, ambient air pollution in this region was relatively low, which was part of the reason this study area was chosen for the study, despite some agricultural and trash burning, diesel-fuel traffic, and dust. Our personal exposure measurements captured both household and ambient sources during the 24-hr monitoring periods.

Question: Are cardiometabolic health measurements more important in studying air pollution impacts than pulmonary health? Or are those directly related?

Response: I wouldn't say cardiometabolic health outcomes are more important than pulmonary health outcomes. In general, they have been studied less than pulmonary health outcomes in the context of air pollution exposures. Your latter statement is also accurate. The physiological pathways initiated by air pollution exposures impact numerous systems throughout the body. Inhaled particles can lead to sympathetic nervous system dysfunction and initiate inflammatory pathways that adversely impact pulmonary and cardiometabolic health outcomes alike. We also point you to the IHME Global Burden of Disease study, which estimates the burden of household air pollution broken down by outcome. These estimates change slightly from year to year but provide a nice overview of the breakdown between pulmonary and cardiometabolic health endpoints (particularly for adult populations) estimated to be due to HAP exposures.

Question: Can you comment on the economics of the intervention stove? Would it be affordable to users without a subsidy? Would it result in a reduction in fuel costs?

Response: Justa stove costs are broken up into manufactured components, local components, labor, and transportation. Rough costs per stove installed generally range between $75 - $100 depending on the project size and location. Project Management and Operations costs add to total program costs, but are typically subsidized.

Manufactured components include a custom welded steel griddle, sheet metal chimney, ash cleanout manifold, and a fired clay combustion chamber. The costs for these kits range from $35 - $45 each depending on quantity and raw materials prices (volatile). There is some potential for commercialization of these components, although it hasn't been successful in the past (target market is the rural poor and extremely poor). This manufacturing process employs 8-10 people in-house.

Local components for the stove include bricks, concrete blocks or adobe, cement, and small quantities of steel rebar. These will cost roughly $25 - $30, but don't include the cost of the masonry table the stove sits on, which can range from an adobe monolith, to a poured concrete

table with storage space underneath. These are sometimes subsidized by municipalities or other local organizations, but otherwise borne by the homeowner.

Labor includes the trained and certified (by Autonomous University of Honduras) Justa stove technician, who earns between $10 - $15 per stove installed (paid either by homeowner or local organization). Sometimes they bring an assistant, or request the home provide one. We have 35 builders active as independent contractors throughout the country, and there are ~100 additional trained, but inactive from a previous project.

Transportation of manufactured kits, local components, and personnel is $4 - $7 per stove installed.