

WEBVTT

1 00:00:00.000 --> 00:00:00.880 (indistinct)
2 00:00:02.880 --> 00:00:03.960 <v ->All right.</v>
3 00:00:03.960 --> 00:00:04.860 Hello, everyone.
4 00:00:04.860 --> 00:00:05.703 Hello, everyone.
5 00:00:07.560 --> 00:00:08.393 Great.
6 00:00:08.393 --> 00:00:09.340 Thank you, everyone for coming
7 00:00:09.340 --> 00:00:13.320 and thanks for folks joining online.
8 00:00:13.320 --> 00:00:17.910 Today, it's my great pleasure to introduce our
speaker,
9 00:00:17.910 --> 00:00:20.020 Dr. Ana Diez Roux.
10 00:00:20.020 --> 00:00:25.020 Dr. Diez Roux is Director of the Urban Health
Collaborative
11 00:00:25.070 --> 00:00:29.070 and a Distinguished Professor of Epidemiology
12 00:00:29.070 --> 00:00:33.120 at Dornsife School of Public Health at Drexel
University.
13 00:00:33.120 --> 00:00:36.750 And from 2014 to 2023,
14 00:00:36.750 --> 00:00:40.860 she was the Dean of the Dornsife School of
Public Health,
15 00:00:40.860 --> 00:00:45.860 originally trained as a pediatrician in
Argentina.
16 00:00:46.470 --> 00:00:48.630 She completed her public health training
17 00:00:48.630 --> 00:00:51.990 at Johns Hopkins University School of Hygiene
18 00:00:51.990 --> 00:00:53.280 and Public Health.
19 00:00:53.280 --> 00:00:57.570 And Dr. Diez Roux is an internationally
renowned scientist
20 00:00:57.570 --> 00:01:00.720 for her research on the social determinants of
public health
21 00:01:00.720 --> 00:01:03.440 and the study of how neighborhood physical
22 00:01:03.440 --> 00:01:08.040 and social environments affects health.
23 00:01:08.040 --> 00:01:10.530 And her research area includes many,
24 00:01:10.530 --> 00:01:12.540 including the social epidemiology.
25 00:01:12.540 --> 00:01:13.680 So for the students,

26 00:01:13.680 --> 00:01:17.030 you might already read Dr. Diez Roux's paper
 27 00:01:17.030 --> 00:01:19.710 on the overview of social epidemiology.
 28 00:01:19.710 --> 00:01:22.200 And also including urban health,
 29 00:01:22.200 --> 00:01:24.783 the topic of today, health disparities,
 30 00:01:25.840 --> 00:01:27.680 environmental interactions,
 31 00:01:27.680 --> 00:01:29.310 environmental health effects, et cetera,
 32 00:01:29.310 --> 00:01:34.310 using multi-level methods and a complex system approaches.
 33 00:01:34.710 --> 00:01:37.520 So she's currently the Principal Investigator
 34 00:01:37.520 --> 00:01:41.760 of the Wellcome Trust Funded Grant called SILUBA
 35 00:01:41.760 --> 00:01:45.960 and the NIH-funded Drexel Center
 36 00:01:45.960 --> 00:01:48.690 on Climate Change and Urban Health.
 37 00:01:48.690 --> 00:01:51.630 And she has many, many awards.
 38 00:01:51.630 --> 00:01:52.900 I'll just name a few,
 39 00:01:52.900 --> 00:01:56.670 including the Wade Hampton Frost Award
 40 00:01:56.670 --> 00:01:59.490 from the American Public Health Association,
 41 00:01:59.490 --> 00:02:02.760 the Award for the Outstanding Contributions to Epidemiology
 42 00:02:02.760 --> 00:02:05.940 from the American College of Epidemiology
 43 00:02:05.940 --> 00:02:08.880 and the Ruthman Career Award
 44 00:02:08.880 --> 00:02:12.990 from Science Society for Epidemiological Research.
 45 00:02:12.990 --> 00:02:15.090 She's also an elected member
 46 00:02:15.090 --> 00:02:18.090 of the American Epidemiological Society,
 47 00:02:18.090 --> 00:02:22.060 the Academy of Behavioral Medicine and Research
 48 00:02:22.060 --> 00:02:24.330 and the National Academies of Medicine
 49 00:02:24.330 --> 00:02:26.610 and National Academy of Sciences.
 50 00:02:26.610 --> 00:02:29.883 So without further ado, let's welcome Dr. Ana Diez Roux.
 51 00:02:36.680 --> 00:02:38.880 <v ->Thank you very much.</v>
 52 00:02:38.880 --> 00:02:41.890 It's a real pleasure to be here

53 00:02:42.780 --> 00:02:45.300 visiting the Yale School of Public Health
 54 00:02:45.300 --> 00:02:46.920 and learning about all the exciting work
 55 00:02:46.920 --> 00:02:50.940 on climate change and health that's going on
 here.
 56 00:02:50.940 --> 00:02:54.240 Look forward to learning and sharing with all
 of you.
 57 00:02:54.240 --> 00:02:58.263 So today I thought I would do,
 58 00:02:59.970 --> 00:03:02.913 oops, am I pressing the wrong button?
 59 00:03:04.590 --> 00:03:05.423 <v ->You might.</v>
 60 00:03:08.190 --> 00:03:09.023 <v ->Oh, okay.</v>
 61 00:03:10.990 --> 00:03:12.120 Okay.
 62 00:03:12.120 --> 00:03:12.953 Oh, there we go.
 63 00:03:12.953 --> 00:03:16.413 Okay, so today I thought I would do three
 things.
 64 00:03:17.790 --> 00:03:22.350 Frame a little bit why an interest on cities
 65 00:03:22.350 --> 00:03:25.080 is fundamental to public health
 66 00:03:25.080 --> 00:03:27.870 and also to understanding the impacts of cli-
 mate change
 67 00:03:27.870 --> 00:03:31.290 and acting on climate change
 68 00:03:31.290 --> 00:03:34.690 to prevent the health impacts of climate change
 on health.
 69 00:03:34.690 --> 00:03:37.800 I'll share with you work that we've been doing
 70 00:03:37.800 --> 00:03:40.650 as part of a large international collaboration
 71 00:03:40.650 --> 00:03:43.290 called Salud Urbana America Latina,
 72 00:03:43.290 --> 00:03:44.790 Urban Health in Latin America
 73 00:03:44.790 --> 00:03:49.790 as sort of a foundation for new climate change
 related work
 74 00:03:51.000 --> 00:03:52.980 that we are just launching
 75 00:03:52.980 --> 00:03:56.820 and tell you a little bit about our plans
 76 00:03:56.820 --> 00:03:58.320 for Salud Val Climate,
 77 00:03:58.320 --> 00:04:00.090 which just launched a few months ago,
 78 00:04:00.090 --> 00:04:03.510 as well as for our very new center
 79 00:04:03.510 --> 00:04:05.190 on climate change and urban health

80 00:04:05.190 --> 00:04:09.393 that was funded also a few months ago by NIH.
81 00:04:10.310 --> 00:04:12.480 And hopefully generate some discussion
82 00:04:12.480 --> 00:04:16.860 about what we need to do to address effectively
83 00:04:16.860 --> 00:04:20.370 the impact of climate change in urban areas.
84 00:04:20.370 --> 00:04:24.240 So probably it's not necessary to remind people
85 00:04:24.240 --> 00:04:27.610 in this audience why cities are important to
public health
86 00:04:27.610 --> 00:04:31.200 or to understanding the impacts of climate
change on health.
87 00:04:31.200 --> 00:04:35.040 But I just wanted to say a few words about
this.
88 00:04:35.040 --> 00:04:36.420 First of all, as you all know,
89 00:04:36.420 --> 00:04:38.950 urban environments continue to grow
90 00:04:38.950 --> 00:04:41.703 and have a major impact on climate change.
91 00:04:43.350 --> 00:04:45.000 It's estimated that by 2030,
92 00:04:45.000 --> 00:04:46.590 over two thirds of the world's population
93 00:04:46.590 --> 00:04:47.520 will live in urban areas,
94 00:04:47.520 --> 00:04:49.020 but most importantly,
95 00:04:49.020 --> 00:04:51.180 the majority of the growth that we're seeing
96 00:04:51.180 --> 00:04:53.700 will happen in lower and middle income coun-
tries
97 00:04:53.700 --> 00:04:57.170 is happening in lower and middle income coun-
tries.
98 00:04:57.170 --> 00:04:58.770 As you may know,
99 00:04:58.770 --> 00:05:00.600 cities contribute a large proportion
100 00:05:00.600 --> 00:05:03.110 of global energy related carbon,
101 00:05:03.110 --> 00:05:08.110 but can also be places where we can find policy
solutions
102 00:05:08.710 --> 00:05:11.580 that make things more efficient
103 00:05:11.580 --> 00:05:14.820 and that actually reduce the climate impact.
104 00:05:14.820 --> 00:05:18.240 And so urban policies present major opportu-
nities
105 00:05:18.240 --> 00:05:20.490 for climate mitigation as well.

106 00:05:20.490 --> 00:05:23.760 Urban areas are also especially vulnerable
 107 00:05:23.760 --> 00:05:25.800 to the adverse effects of climate change.
 108 00:05:25.800 --> 00:05:29.850 And this is because many urban areas are
 coastal,
 109 00:05:29.850 --> 00:05:31.710 they're often particularly,
 110 00:05:31.710 --> 00:05:33.600 especially in lower and middle income coun-
 tries,
 111 00:05:33.600 --> 00:05:36.780 they're often characterized by rapid growth,
 112 00:05:36.780 --> 00:05:38.580 poor planning, high density,
 113 00:05:38.580 --> 00:05:41.750 inadequate and precarious housing, poor in-
 frastructure.
 114 00:05:41.750 --> 00:05:44.340 They have very high levels of social
 115 00:05:44.340 --> 00:05:46.080 and health inequality.
 116 00:05:46.080 --> 00:05:48.840 Urban areas are very diverse in race
 117 00:05:48.840 --> 00:05:51.210 and ethnic background and social class.
 118 00:05:51.210 --> 00:05:54.840 And that creates a lot of sources of inequality.
 119 00:05:54.840 --> 00:05:56.670 And for all these reasons,
 120 00:05:56.670 --> 00:05:59.910 adaptation policies are obviously very impor-
 tant
 121 00:05:59.910 --> 00:06:02.850 in cities as well to mitigate the adverse effects
 122 00:06:02.850 --> 00:06:05.570 of climate change that has already happened.
 123 00:06:05.570 --> 00:06:07.380 And last but not least,
 124 00:06:07.380 --> 00:06:12.120 urban policies can support both mitigation
 and adaptation.
 125 00:06:12.120 --> 00:06:15.000 Some of them are actually can address both
 things
 126 00:06:15.000 --> 00:06:16.410 sort of at the same time
 127 00:06:16.410 --> 00:06:19.800 and have health and environmental co-
 benefits.
 128 00:06:19.800 --> 00:06:21.690 And so for this reason,
 129 00:06:21.690 --> 00:06:24.690 robust and actionable evidence showing the
 impact
 130 00:06:24.690 --> 00:06:28.470 of things that cities, many cities are already
 doing,

131 00:06:28.470 --> 00:06:30.930 showing the impact of these things on health
132 00:06:30.930 --> 00:06:34.740 and the environment is important to continue
to advocate
133 00:06:34.740 --> 00:06:36.453 and also to support action.
134 00:06:41.468 --> 00:06:44.010 All these reasons,
135 00:06:44.010 --> 00:06:45.780 it's important to think about,
136 00:06:45.780 --> 00:06:47.190 to focus on urban health
137 00:06:47.190 --> 00:06:50.553 and the impact of climate change in cities.
138 00:06:51.480 --> 00:06:56.480 And I wanna spend a little bit of time telling
you a bit
139 00:06:56.640 --> 00:07:00.180 about an urban health, a global urban health
study
140 00:07:00.180 --> 00:07:04.710 that has been in place for several years now.
141 00:07:04.710 --> 00:07:06.450 We were funded back in 2017,
142 00:07:06.450 --> 00:07:07.890 originally by the Wellcome Trust
143 00:07:07.890 --> 00:07:10.470 as part of a big initiative they had called
144 00:07:10.470 --> 00:07:11.710 Our Planet, Our Health,
145 00:07:11.710 --> 00:07:14.460 which was not explicitly climate focused,
146 00:07:14.460 --> 00:07:17.250 but it was focused on environmental sustain-
ability.
147 00:07:17.250 --> 00:07:19.440 And so a number of the foundational work
148 00:07:19.440 --> 00:07:23.910 that we've developed as part of this initial
funding phase
149 00:07:23.910 --> 00:07:27.090 is what we'll be leveraging to do the climate
related work.
150 00:07:27.090 --> 00:07:28.770 So I wanna spend a few minutes telling you
151 00:07:28.770 --> 00:07:32.110 about what we've done so far in SALURBAL
152 00:07:32.110 --> 00:07:36.690 as an example of a really, from my perspective,
153 00:07:36.690 --> 00:07:40.710 very special multi-country collaboration,
154 00:07:40.710 --> 00:07:43.323 which I think we really need to do more of.
155 00:07:46.410 --> 00:07:48.360 Hopefully that will become clear
156 00:07:48.360 --> 00:07:50.070 as I tell you a little bit more about the study.
157 00:07:50.070 --> 00:07:52.803 So the study has the ambition, SALURBAL,

158 00:07:53.820 --> 00:07:55.800 of creating the evidence base needed
159 00:07:55.800 --> 00:07:57.150 to make Latin American cities,
160 00:07:57.150 --> 00:07:58.290 but also other cities,
161 00:07:58.290 --> 00:08:01.140 because we think that there's a lot that can
be learned
162 00:08:01.140 --> 00:08:02.220 from Latin American cities
163 00:08:02.220 --> 00:08:04.140 that is relevant to cities worldwide
164 00:08:04.140 --> 00:08:06.420 to make these cities healthier, more equitable,
165 00:08:06.420 --> 00:08:07.860 and environmentally sustainable
166 00:08:07.860 --> 00:08:10.230 with the idea that these three things
167 00:08:10.230 --> 00:08:13.590 are interconnected and entwined.
168 00:08:13.590 --> 00:08:16.440 Also, and this was new,
169 00:08:16.440 --> 00:08:18.970 certainly for me as a researcher,
170 00:08:18.970 --> 00:08:21.840 I have led a number of projects,
171 00:08:21.840 --> 00:08:24.090 but it was very rare that the funder
172 00:08:24.090 --> 00:08:27.420 and required an explicit objective
173 00:08:27.420 --> 00:08:29.640 to engage policymakers and the public.
174 00:08:29.640 --> 00:08:31.890 And so this was actually part of the grant
175 00:08:31.890 --> 00:08:33.090 from the very beginning.
176 00:08:33.090 --> 00:08:36.570 I think we're seeing more of that now.
177 00:08:36.570 --> 00:08:38.670 Certainly NIH is doing more of that now,
178 00:08:38.670 --> 00:08:41.460 which is something that was not very common
before.
179 00:08:41.460 --> 00:08:44.460 And so engaging policymakers and the public
180 00:08:44.460 --> 00:08:46.350 in a new dialogue about urban health
181 00:08:46.350 --> 00:08:47.190 and urban sustainability
182 00:08:47.190 --> 00:08:49.590 and its implications for societal action
183 00:08:49.590 --> 00:08:51.810 was a very, very important part of the project
184 00:08:51.810 --> 00:08:53.733 from the very beginning.
185 00:08:54.930 --> 00:08:57.300 Also creating a platform or network
186 00:08:57.300 --> 00:08:59.520 that will ensure continued learning and trans-
lation.

187 00:08:59.520 --> 00:09:03.630 So we have worked very hard to engage the region

188 00:09:03.630 --> 00:09:05.430 and to engage investigators

189 00:09:05.430 --> 00:09:07.620 from the Latin American region in the study

190 00:09:07.620 --> 00:09:09.210 in a very meaningful way

191 00:09:09.210 --> 00:09:12.300 so that it's not just about send us your data,

192 00:09:12.300 --> 00:09:15.393 we'll analyze it and then publish papers with it.

193 00:09:16.470 --> 00:09:17.730 And last but not least,

194 00:09:17.730 --> 00:09:21.060 really a desire to really respond

195 00:09:21.060 --> 00:09:22.800 to the needs of the region,

196 00:09:22.800 --> 00:09:25.050 which is characterized by high urbanization

197 00:09:25.050 --> 00:09:27.780 and a high inequity among the highest in the world,

198 00:09:27.780 --> 00:09:29.820 but also to draw general lessons

199 00:09:29.820 --> 00:09:32.750 that could be applicable to other regions.

200 00:09:32.750 --> 00:09:35.310 So this is the SALURBAL team.

201 00:09:35.310 --> 00:09:38.190 It's coordinated by the Urban Health Collaborative

202 00:09:38.190 --> 00:09:39.090 at Drexel University,

203 00:09:39.090 --> 00:09:42.360 Dornsife School of Public Health in Philadelphia,

204 00:09:42.360 --> 00:09:45.930 but it includes a number of partners across the region,

205 00:09:45.930 --> 00:09:47.760 most of them in Latin America.

206 00:09:47.760 --> 00:09:50.853 We also partner with the Pan American Health Organization.

207 00:09:51.870 --> 00:09:56.070 And the initial formulation of the project of SALURBAL

208 00:09:56.070 --> 00:09:58.830 had four aims.

209 00:09:58.830 --> 00:10:01.590 One was to really use observational data

210 00:10:01.590 --> 00:10:06.270 to identify city and neighborhood drivers of health

211 00:10:06.270 --> 00:10:08.100 and health inequities.

212 00:10:08.100 --> 00:10:11.070 A second aim was to do policy evaluation.

213 00:10:11.070 --> 00:10:16.020 So to identify opportunities to do natural experiments

214 00:10:16.020 --> 00:10:19.330 or quasi experiments to try to characterize

215 00:10:19.330 --> 00:10:21.930 the impacts of actions that cities

216 00:10:21.930 --> 00:10:23.973 were already taking in the region.

217 00:10:24.900 --> 00:10:27.690 So this was done, we funded six of these

218 00:10:27.690 --> 00:10:29.570 after a competitive RFA process

219 00:10:29.570 --> 00:10:31.710 in several different cities of the region.

220 00:10:31.710 --> 00:10:34.200 So it was very focused on partnership

221 00:10:34.200 --> 00:10:36.970 between the research institutions in the countries

222 00:10:36.970 --> 00:10:41.970 and mayor's offices or other local partners

223 00:10:42.060 --> 00:10:43.710 that were actually doing the intervention,

224 00:10:43.710 --> 00:10:48.090 but trying to do it in a rigorous way.

225 00:10:48.090 --> 00:10:52.560 We also had an aim that was focused on bringing

226 00:10:52.560 --> 00:10:54.540 sort of a systems thinking lens

227 00:10:54.540 --> 00:10:57.150 to understanding the drivers of urban health

228 00:10:57.150 --> 00:11:00.120 and also the impacts that policies might have.

229 00:11:00.120 --> 00:11:04.560 And so I won't tell you a lot about this,

230 00:11:04.560 --> 00:11:08.430 but we did employ both more qualitative approaches

231 00:11:08.430 --> 00:11:10.440 such as participatory group model building,

232 00:11:10.440 --> 00:11:12.990 which is sort of a systems inspired way of thinking

233 00:11:12.990 --> 00:11:17.990 about increasing understanding of the drivers

234 00:11:18.810 --> 00:11:21.210 of urban health and what policies might work

235 00:11:21.210 --> 00:11:23.250 in the context of complexity.

236 00:11:23.250 --> 00:11:25.170 And then actual some simulation models,

237 00:11:25.170 --> 00:11:26.400 I'll tell you a little bit about that

238 00:11:26.400 --> 00:11:29.850 'cause they can connect to some of the climate work as well,

239 00:11:29.850 --> 00:11:31.710 including agent based models.

240 00:11:31.710 --> 00:11:34.320 And last but not least our policy aim,

241 00:11:34.320 --> 00:11:37.563 which was really about policymaker engagement.

242 00:11:38.940 --> 00:11:42.870 And so really we were really about science,

243 00:11:42.870 --> 00:11:45.360 but also impact and also inclusion,

244 00:11:45.360 --> 00:11:47.820 inclusion of the region in a meaningful way

245 00:11:47.820 --> 00:11:49.443 in all aspects of the study.

246 00:11:51.750 --> 00:11:56.040 So SALURBAL includes our sort of our city universe

247 00:11:56.040 --> 00:11:59.270 is all cities of 100,000 or more people

248 00:11:59.270 --> 00:12:03.150 in the 11 countries that are represented in the study.

249 00:12:03.150 --> 00:12:05.160 So it's not all countries in Latin America,

250 00:12:05.160 --> 00:12:06.903 but it's a large proportion.

251 00:12:07.770 --> 00:12:10.800 And this figure shows the population of the cities

252 00:12:10.800 --> 00:12:13.870 by country, Argentina, Brazil, Chile, et cetera.

253 00:12:13.870 --> 00:12:16.560 And what I wanna highlight here is that,

254 00:12:16.560 --> 00:12:20.340 of course we include smaller emerging cities,

255 00:12:20.340 --> 00:12:21.960 but also the big metropolis.

256 00:12:21.960 --> 00:12:25.380 So that there's a high, a lot of diversity

257 00:12:25.380 --> 00:12:28.380 in the characteristics of the cities that are in the study,

258 00:12:28.380 --> 00:12:33.380 which is a very, very important fact it turns out

259 00:12:34.110 --> 00:12:36.720 because it helps us learn more

260 00:12:36.720 --> 00:12:39.813 because it allows us to contrast very different cities.

261 00:12:41.400 --> 00:12:44.940 But it also recognizes that we need to,

262 00:12:44.940 --> 00:12:46.470 when looking at urban issues,

263 00:12:46.470 --> 00:12:48.510 we need to think about not just the huge cities,

264 00:12:48.510 --> 00:12:51.060 which is what people immediately think about,
265 00:12:51.060 --> 00:12:53.340 Sao Paulo, Buenos Aires, Mexico City,
266 00:12:53.340 --> 00:12:56.310 but also thinking about the many smaller
cities
267 00:12:56.310 --> 00:12:58.743 that are growing rapidly across the region.
268 00:13:00.110 --> 00:13:04.330 The SALURBAL data resource we compiled,
269 00:13:04.330 --> 00:13:06.090 working with the countries,
270 00:13:06.090 --> 00:13:11.090 we compiled a range of data, including health
data,
271 00:13:13.170 --> 00:13:15.030 physical and built environment data
272 00:13:15.030 --> 00:13:16.930 and social and economic environment data
273 00:13:16.930 --> 00:13:20.910 across all of our cities, 371 cities,
274 00:13:20.910 --> 00:13:23.190 but not just for the city as a whole,
275 00:13:23.190 --> 00:13:26.250 but also for smaller units within the city,
276 00:13:26.250 --> 00:13:28.140 which we call sub city units,
277 00:13:28.140 --> 00:13:29.610 for example, if a city is composed
278 00:13:29.610 --> 00:13:31.150 of several municipalities,
279 00:13:31.150 --> 00:13:34.020 we have disaggregated data for municipalities,
280 00:13:34.020 --> 00:13:37.110 but also even smaller neighborhoods within
the cities
281 00:13:37.110 --> 00:13:39.540 to allow within city comparisons.
282 00:13:39.540 --> 00:13:41.100 And we have, this is of course,
283 00:13:41.100 --> 00:13:44.250 longitudinal linkable to other data resources.
284 00:13:44.250 --> 00:13:47.080 And there's also a public data dashboard
285 00:13:48.120 --> 00:13:51.750 that we recently launched called the SALUR-
BAL data portal,
286 00:13:51.750 --> 00:13:53.430 where we make available the data
287 00:13:53.430 --> 00:13:55.710 that we can make publicly available.
288 00:13:55.710 --> 00:13:58.830 And that also includes a number of interactives
289 00:13:58.830 --> 00:14:01.830 to help with some of the dissemination efforts.
290 00:14:01.830 --> 00:14:06.273 So this is a really, has been a huge effort,
291 00:14:08.400 --> 00:14:09.720 lots of information.

292 00:14:09.720 --> 00:14:11.550 And I just wanna highlight,
293 00:14:11.550 --> 00:14:14.250 we have 11 countries, 371 cities,
294 00:14:14.250 --> 00:14:18.093 almost 1500 sub cities and almost 250,000
neighborhoods.
295 00:14:20.490 --> 00:14:25.350 So I wanna share with you a few select findings
296 00:14:25.350 --> 00:14:30.350 from the study in four key areas
297 00:14:30.600 --> 00:14:32.610 that are relevant to climate impacts.
298 00:14:32.610 --> 00:14:35.910 And these are areas that we will be building
on
299 00:14:35.910 --> 00:14:38.830 as part of the new phase of SALURBAL cli-
mate
300 00:14:40.690 --> 00:14:44.460 to understand better and to also take us
301 00:14:44.460 --> 00:14:46.470 in slightly different directions,
302 00:14:46.470 --> 00:14:47.510 which I'll share with you.
303 00:14:47.510 --> 00:14:50.370 When we talk in a few minutes.
304 00:14:50.370 --> 00:14:52.560 So health inequities across and within cities,
305 00:14:52.560 --> 00:14:54.810 air quality and policy drivers,
306 00:14:54.810 --> 00:14:56.630 sustainable transportation and mobility
307 00:14:56.630 --> 00:14:58.650 and temperature impacts on health
308 00:14:58.650 --> 00:15:00.573 as well as flood exposures.
309 00:15:02.190 --> 00:15:06.120 So a big goal of SALURBAL was to make
310 00:15:06.120 --> 00:15:08.073 urban health inequities visible,
311 00:15:09.770 --> 00:15:12.630 to spur action.
312 00:15:12.630 --> 00:15:14.970 This is not news that there are health in-
equities,
313 00:15:14.970 --> 00:15:18.360 but the magnitude and presence of these in-
equities
314 00:15:18.360 --> 00:15:20.760 has not been as visible in the region
315 00:15:20.760 --> 00:15:23.280 as perhaps it has in other contexts,
316 00:15:23.280 --> 00:15:26.280 particularly in higher income countries.
317 00:15:26.280 --> 00:15:28.570 So one of the first things we did
318 00:15:28.570 --> 00:15:31.560 was characterize health across our cities.

319 00:15:31.560 --> 00:15:36.030 And so here you see a map showing life expectancy
320 00:15:36.030 --> 00:15:40.920 at birth for men in 363 cities.
321 00:15:40.920 --> 00:15:43.770 And one thing that was very striking to us
322 00:15:43.770 --> 00:15:46.740 was that there's a huge difference in life expectancy
323 00:15:46.740 --> 00:15:48.300 across different cities.
324 00:15:48.300 --> 00:15:50.490 And you can see in some cities,
325 00:15:50.490 --> 00:15:52.770 the life expectancy for men is close
326 00:15:52.770 --> 00:15:55.470 to what it was in Afghanistan at the time.
327 00:15:55.470 --> 00:15:58.620 And in other cities, it's close to what it was in Germany.
328 00:15:58.620 --> 00:16:02.340 So huge heterogeneity in life expectancy.
329 00:16:02.340 --> 00:16:05.820 And it turns out that the social environment,
330 00:16:05.820 --> 00:16:09.090 which is a social environment index
331 00:16:09.090 --> 00:16:10.440 that the study created,
332 00:16:10.440 --> 00:16:12.660 which includes measures of education,
333 00:16:12.660 --> 00:16:14.610 crowding, water and sanitation,
334 00:16:14.610 --> 00:16:16.920 no surprise is the strongest predictor
335 00:16:16.920 --> 00:16:20.280 of differences in life expectancy across cities.
336 00:16:20.280 --> 00:16:22.800 Now, it wasn't only life expectancy,
337 00:16:22.800 --> 00:16:26.400 but also the causes of death differ across cities.
338 00:16:26.400 --> 00:16:29.490 And this figure shows proportionate mortality
339 00:16:29.490 --> 00:16:32.823 for several major causes of death.
340 00:16:34.810 --> 00:16:37.770 Each line, each vertical line is a city
341 00:16:37.770 --> 00:16:41.163 and they're sorted by country, as you can see here.
342 00:16:42.690 --> 00:16:46.770 And they're also sorted by one of the causes of death,
343 00:16:46.770 --> 00:16:48.180 which is violent injuries, which
344 00:16:48.180 --> 00:16:50.070 is this green at the bottom.
345 00:16:50.070 --> 00:16:51.810 So you can see here, for example,

346 00:16:51.810 --> 00:16:54.480 how for violent injuries, even within countries,
347 00:16:54.480 --> 00:16:56.370 there's also enormous heterogeneity
348 00:16:56.370 --> 00:16:57.540 in the proportion of deaths that
349 00:16:57.540 --> 00:16:59.070 are due to violent injuries.
350 00:16:59.070 --> 00:17:01.200 Now, if we sorted by other causes of death,
351 00:17:01.200 --> 00:17:03.633 you would also see a lot of heterogeneity.
352 00:17:05.670 --> 00:17:08.520 But this is one example.
353 00:17:08.520 --> 00:17:12.630 And we found, of course, that several social
indicators,
354 00:17:12.630 --> 00:17:13.890 social and economic indicators
355 00:17:13.890 --> 00:17:18.750 were also strongly related to violent injuries
356 00:17:18.750 --> 00:17:20.313 across our cities.
357 00:17:21.510 --> 00:17:23.510 We also did additional analyses
358 00:17:23.510 --> 00:17:27.330 looking at heterogeneity within cities and life
expectancy.
359 00:17:27.330 --> 00:17:29.220 This kind of thing has been done a lot
360 00:17:29.220 --> 00:17:30.360 for high-income countries.
361 00:17:30.360 --> 00:17:32.760 I'm sure you've seen maps of this,
362 00:17:32.760 --> 00:17:34.170 but it has not been done
363 00:17:34.170 --> 00:17:36.330 for lower and middle-income countries
364 00:17:36.330 --> 00:17:37.200 very much at all.
365 00:17:37.200 --> 00:17:42.200 And so, first we looked at subsidies for the
larger cities,
366 00:17:43.230 --> 00:17:47.010 and then we've been looking in more depth
367 00:17:47.010 --> 00:17:50.550 at smaller areas or neighborhoods.
368 00:17:50.550 --> 00:17:53.910 And just describing these inequities
369 00:17:53.910 --> 00:17:56.220 and looking at select indicators
370 00:17:56.220 --> 00:17:57.720 that might be associated with them.
371 00:17:57.720 --> 00:17:58.670 And I'll show you later,
372 00:17:58.670 --> 00:18:03.600 but this kind of work has got huge media
impact

373 00:18:03.600 --> 00:18:06.570 in the region, which we were quite surprised by,

374 00:18:06.570 --> 00:18:10.950 but I think motivated a lot of discussion.

375 00:18:10.950 --> 00:18:13.980 And of course, climate change is operating

376 00:18:13.980 --> 00:18:17.220 on top of this inequity already,

377 00:18:17.220 --> 00:18:18.210 and which is something

378 00:18:18.210 --> 00:18:19.620 that I'll talk a little bit more about

379 00:18:19.620 --> 00:18:22.020 when we talk about sort of what our next steps are

380 00:18:22.020 --> 00:18:25.773 in terms of looking at the equity impacts of climate change.

381 00:18:27.410 --> 00:18:29.490 The other area that I just wanted

382 00:18:29.490 --> 00:18:30.990 to share a few findings with you

383 00:18:30.990 --> 00:18:34.563 has to do with evidence on air quality and its drivers.

384 00:18:35.610 --> 00:18:38.370 So one of the things that we looked at was PM2.5 levels.

385 00:18:38.370 --> 00:18:42.050 Of course, we found a lot of heterogeneity.

386 00:18:42.050 --> 00:18:44.910 These are, each dot is a city,

387 00:18:44.910 --> 00:18:47.340 and they're categorized by country.

388 00:18:47.340 --> 00:18:51.033 So a lot of heterogeneity in annual mean PM2.5.

389 00:18:52.860 --> 00:18:54.690 Very high levels of exposure.

390 00:18:54.690 --> 00:18:58.320 I mean, even using the old WHO standards,

391 00:18:58.320 --> 00:19:00.120 which is when we first published this paper,

392 00:19:00.120 --> 00:19:02.010 the new standards hadn't come out yet.

393 00:19:02.010 --> 00:19:05.040 Almost 60% of the population lives in areas

394 00:19:05.040 --> 00:19:06.630 with levels above the standards.

395 00:19:06.630 --> 00:19:10.770 And if you use the newer standard, that's even over 90%.

396 00:19:10.770 --> 00:19:14.310 And we also looked at what city factors are related

397 00:19:14.310 --> 00:19:18.270 to having higher or lower levels of PM2.5.

398 00:19:18.270 --> 00:19:22.860 And we found that there are several policy relevant factors

399 00:19:22.860 --> 00:19:26.400 like motorization, traffic congestion,

400 00:19:26.400 --> 00:19:29.070 policy amenable factors that are strongly related

401 00:19:29.070 --> 00:19:31.440 to higher levels of PM2.5.

402 00:19:31.440 --> 00:19:32.970 And in contrast, for example,

403 00:19:32.970 --> 00:19:34.710 greater access to public transit

404 00:19:34.710 --> 00:19:37.140 was related to lower levels of PM2.5,

405 00:19:37.140 --> 00:19:39.090 as was more green space.

406 00:19:39.090 --> 00:19:40.560 Now you may say, well, this is obvious.

407 00:19:40.560 --> 00:19:41.610 We already know this.

408 00:19:41.610 --> 00:19:43.200 And I think to some extent that's true,

409 00:19:43.200 --> 00:19:44.990 but being able to demonstrate this

410 00:19:44.990 --> 00:19:47.160 across the Latin American cities

411 00:19:47.160 --> 00:19:49.440 also got a lot of attention in the region

412 00:19:49.440 --> 00:19:51.750 because it shows that there are things

413 00:19:51.750 --> 00:19:53.580 that cities can actually do

414 00:19:53.580 --> 00:19:57.663 to impact these very high exposure levels.

415 00:19:59.250 --> 00:20:01.920 Another pollutant that we looked at, of course,

416 00:20:01.920 --> 00:20:05.197 which has a lot of connections to climate change is NO2.

417 00:20:06.117 --> 00:20:09.840 And of course, NO2, we looked at variability

418 00:20:09.840 --> 00:20:11.280 across much smaller areas

419 00:20:11.280 --> 00:20:14.430 because of the spatial heterogeneity,

420 00:20:14.430 --> 00:20:16.680 even across small areas in NO2.

421 00:20:16.680 --> 00:20:20.700 And so this is examples of neighborhood levels of NO2

422 00:20:20.700 --> 00:20:21.610 in two of our cities,

423 00:20:21.610 --> 00:20:24.333 Buenos Aires and Quetzaltelango in Guatemala.

424 00:20:25.200 --> 00:20:29.190 And again, we observed a lot of heterogeneity

425 00:20:29.190 --> 00:20:31.920 across neighborhoods, but very high levels of exposure.

426 00:20:31.920 --> 00:20:35.850 So of the almost 236 million people

427 00:20:35.850 --> 00:20:38.400 who lived in the cities that we studied in these analyses,

428 00:20:38.400 --> 00:20:41.910 85% lived in neighborhoods

429 00:20:41.910 --> 00:20:44.370 with NO2 levels above the standard.

430 00:20:44.370 --> 00:20:48.070 So very high levels of exposure here as well,

431 00:20:48.070 --> 00:20:53.070 and higher NO2 levels also linked to traffic congestion

432 00:20:54.180 --> 00:20:56.913 and less neighborhood green space, for example.

433 00:20:58.620 --> 00:21:01.500 So in thinking about the impact of climate change

434 00:21:01.500 --> 00:21:04.560 on these cities, the impact of climate change

435 00:21:04.560 --> 00:21:06.510 on these pollutants, but also interactions

436 00:21:06.510 --> 00:21:08.550 between things like temperature and these pollutants,

437 00:21:08.550 --> 00:21:10.800 of course, become very salient

438 00:21:10.800 --> 00:21:12.450 in terms of understanding the impacts

439 00:21:12.450 --> 00:21:15.393 and also understanding the health inequities.

440 00:21:18.340 --> 00:21:21.270 SALURBAL also had a major focus

441 00:21:21.270 --> 00:21:23.430 on healthy and sustainable urban mobility,

442 00:21:23.430 --> 00:21:26.460 because this is a big issue in the region

443 00:21:26.460 --> 00:21:29.760 because of the very high levels of urbanization,

444 00:21:29.760 --> 00:21:32.490 but also because the region has been,

445 00:21:32.490 --> 00:21:34.920 Latin American region has been a source

446 00:21:34.920 --> 00:21:38.400 of a lot of innovative thinking around urban mobility.

447 00:21:38.400 --> 00:21:41.773 One prime example is Colombia, for example,

448 00:21:41.773 --> 00:21:43.740 Bogotá and several cities in Colombia

449 00:21:43.740 --> 00:21:46.830 have been at the forefront of thinking about strategies

450 00:21:46.830 --> 00:21:49.083 to deal with urban mobility.

451 00:21:50.640 --> 00:21:54.240 So we were very interested that our partners

452 00:21:54.240 --> 00:21:56.910 were very interested in this.

453 00:21:56.910 --> 00:21:59.070 And so we had a big focus on this.

454 00:21:59.070 --> 00:22:01.710 Of course, the region is experiencing

455 00:22:01.710 --> 00:22:03.140 very high levels of motorization.

456 00:22:03.140 --> 00:22:08.010 I mean, the levels of motorization are rapidly increasing.

457 00:22:08.010 --> 00:22:13.010 This is just one example, a 30% increase over five years.

458 00:22:14.860 --> 00:22:17.820 And this has had a major impact

459 00:22:17.820 --> 00:22:22.200 in how urban commuting happens in the region.

460 00:22:22.200 --> 00:22:25.000 Anecdotally, when I go back to Buenos Aires,

461 00:22:25.000 --> 00:22:27.750 and I take a bus that I used to take from my home

462 00:22:27.750 --> 00:22:30.420 when I was a resident at a big children's hospital,

463 00:22:30.420 --> 00:22:33.270 the ride used to take like 25 minutes.

464 00:22:33.270 --> 00:22:35.040 Now it takes like an hour and a half

465 00:22:35.040 --> 00:22:37.683 because there's so much traffic, so many cars.

466 00:22:38.580 --> 00:22:42.060 And motorcycles have also increased dramatically,

467 00:22:42.060 --> 00:22:43.500 especially since the pandemic.

468 00:22:43.500 --> 00:22:46.683 And so this is a huge health issue for the region.

469 00:22:48.630 --> 00:22:52.500 Traffic-related mortality is a major source of mortality

470 00:22:52.500 --> 00:22:57.150 in the region, among the highest rates in the world.

471 00:22:57.150 --> 00:23:01.110 And so we looked at the relationship between city features

472 00:23:01.110 --> 00:23:02.700 and traffic-related mortality,

473 00:23:02.700 --> 00:23:06.270 and of course found that cities with more public transport
474 00:23:06.270 --> 00:23:08.080 have lower traffic-related mortality
475 00:23:08.080 --> 00:23:11.580 and higher traffic mortality
476 00:23:11.580 --> 00:23:14.820 is linked to more isolated urban development.
477 00:23:14.820 --> 00:23:17.460 Again, factors that are policy amenable,
478 00:23:17.460 --> 00:23:19.110 and you can start to see sort of the health
479 00:23:19.110 --> 00:23:20.340 and environmental co-benefits
480 00:23:20.340 --> 00:23:23.280 because the same factors are emerging
481 00:23:23.280 --> 00:23:26.070 across analyses looking at environmental outcomes
482 00:23:26.070 --> 00:23:27.363 and health outcomes.
483 00:23:30.020 --> 00:23:32.340 It turns out that in the region,
484 00:23:32.340 --> 00:23:35.190 urban mobility is also linked to health behaviors.
485 00:23:35.190 --> 00:23:38.730 We had some intriguing results looking,
486 00:23:38.730 --> 00:23:42.300 using some survey data showing that more time commuting
487 00:23:42.300 --> 00:23:45.840 and delays in traffic were linked to worse diets
488 00:23:45.840 --> 00:23:48.393 and more depressive symptoms.
489 00:23:49.350 --> 00:23:51.483 This also got tons of press in the region.
490 00:23:51.483 --> 00:23:54.810 It's a very interesting, I think, way,
491 00:23:54.810 --> 00:23:56.850 brings in things that people don't usually think about
492 00:23:56.850 --> 00:24:00.090 how commute can be affecting behaviors
493 00:24:00.090 --> 00:24:02.400 that then relate to non-communicable diseases
494 00:24:02.400 --> 00:24:04.953 in ways that you might not have anticipated.
495 00:24:07.470 --> 00:24:12.330 As part of one of our policy evaluation studies
496 00:24:12.330 --> 00:24:13.740 and that AIM2 that I mentioned
497 00:24:13.740 --> 00:24:15.753 where we're doing natural experiments,
498 00:24:16.710 --> 00:24:19.740 the team in Colombia led by Olga Lucia Sarmiento

499 00:24:19.740 --> 00:24:24.740 who is co-PI of the SALURBAL Climate Study now with me,

500 00:24:25.730 --> 00:24:28.170 they partnered with the city of Bogota

501 00:24:28.170 --> 00:24:31.950 to evaluate a new public transportation initiative

502 00:24:31.950 --> 00:24:35.160 called Transmicable which is an extension

503 00:24:35.160 --> 00:24:38.073 of the BRT which is this bus fleet

504 00:24:40.650 --> 00:24:42.750 which travels through dedicated lanes

505 00:24:42.750 --> 00:24:45.090 and extension into the outskirts of the city

506 00:24:45.090 --> 00:24:48.950 which tend to be much poor areas

507 00:24:48.950 --> 00:24:51.610 through a cable car system.

508 00:24:51.610 --> 00:24:56.610 And so they did a really nice quasi-experimental design

509 00:24:59.250 --> 00:25:00.840 where they compared the neighborhood

510 00:25:00.840 --> 00:25:03.090 that received the intervention

511 00:25:03.090 --> 00:25:04.890 with a matched neighborhood

512 00:25:04.890 --> 00:25:07.320 that was not receiving it at the time

513 00:25:07.320 --> 00:25:10.230 but was scheduled to receive it later in time.

514 00:25:10.230 --> 00:25:15.230 And they found that the cable car had a number of benefits

515 00:25:15.810 --> 00:25:17.570 of course, reductions in trip time

516 00:25:17.570 --> 00:25:20.880 but also increased leisure time,

517 00:25:20.880 --> 00:25:22.440 something we don't think much about

518 00:25:22.440 --> 00:25:25.710 but that is probably quite important to health,

519 00:25:25.710 --> 00:25:28.590 reductions in inhaled pollutants,

520 00:25:28.590 --> 00:25:30.660 more physical activity among users,

521 00:25:30.660 --> 00:25:32.730 improvements in health related quality of life

522 00:25:32.730 --> 00:25:35.790 and also reduced perceptions of insecurity

523 00:25:35.790 --> 00:25:38.160 and reduced community stigma.

524 00:25:38.160 --> 00:25:41.670 And so thinking about the climate implications

525 00:25:41.670 --> 00:25:45.450 of these kinds of things is also something

526 00:25:45.450 --> 00:25:50.450 that is very important to build on.

527 00:25:50.820 --> 00:25:55.200 So this idea of leveraging urban mobility initiatives

528 00:25:55.200 --> 00:26:00.200 to address, to both mitigate and adapt to climate change.

529 00:26:02.800 --> 00:26:06.730 We have also used simulation models to build on this

530 00:26:07.890 --> 00:26:12.210 to really try to understand the impact

531 00:26:12.210 --> 00:26:14.520 of different policies under various scenarios.

532 00:26:14.520 --> 00:26:16.950 Agent-based models are very good

533 00:26:16.950 --> 00:26:19.410 for looking at conditional effects.

534 00:26:19.410 --> 00:26:21.270 So what happens if one policy

535 00:26:21.270 --> 00:26:23.780 is combined with another policy?

536 00:26:23.780 --> 00:26:25.860 They have a lot of challenges

537 00:26:25.860 --> 00:26:28.800 which we can talk about if you're interested in that

538 00:26:28.800 --> 00:26:31.560 but this is one example of an agent-based model

539 00:26:31.560 --> 00:26:34.110 that was developed also for the city of Bogota.

540 00:26:34.110 --> 00:26:36.150 So it's a pretty abstract model

541 00:26:36.150 --> 00:26:38.280 but informed by certain characteristics

542 00:26:38.280 --> 00:26:42.480 of the city of Bogota to make it sort of illustrate

543 00:26:42.480 --> 00:26:45.840 sort of an exemplar of a Latin American city to some extent.

544 00:26:45.840 --> 00:26:49.860 And we use the model to look at congestion taxes

545 00:26:49.860 --> 00:26:52.950 and fare policies, which were two things

546 00:26:52.950 --> 00:26:55.620 that the city was actively considering

547 00:26:55.620 --> 00:26:59.400 as part of transportation initiatives.

548 00:26:59.400 --> 00:27:02.700 And I don't have time to get into the details

549 00:27:02.700 --> 00:27:06.440 but the model allowed us to examine

550 00:27:06.440 --> 00:27:10.590 the independent and combined effects of both policies

551 00:27:10.590 --> 00:27:15.270 and major conclusions were that to reduce time poverty

552 00:27:15.270 --> 00:27:18.420 among lower SES people, fare policies were needed.

553 00:27:18.420 --> 00:27:19.800 Fare policies are expensive

554 00:27:19.800 --> 00:27:22.300 but the cost can be offset through combined implementation

555 00:27:22.300 --> 00:27:23.880 of a congestion tax.

556 00:27:23.880 --> 00:27:28.380 So this was sort of the bottom line of the results

557 00:27:28.380 --> 00:27:32.430 which some aspects were surprising, but that's because,

558 00:27:32.430 --> 00:27:34.410 I mean, that's what you expect with an agent-based model

559 00:27:34.410 --> 00:27:37.050 to show you things that you wouldn't necessarily predict.

560 00:27:37.050 --> 00:27:38.550 And part of it is driven by the fact

561 00:27:38.550 --> 00:27:40.110 that in many of the cities,

562 00:27:40.110 --> 00:27:43.590 a large proportion of the population actually walks a lot.

563 00:27:43.590 --> 00:27:46.050 So it's very different than US cities

564 00:27:46.050 --> 00:27:47.580 where very few people walk.

565 00:27:47.580 --> 00:27:50.460 Well, in these places, a significant proportion

566 00:27:50.460 --> 00:27:53.490 of low SES people walk because they have no choice

567 00:27:53.490 --> 00:27:56.340 but to walk and they walk very long distances.

568 00:27:56.340 --> 00:28:01.340 And so paradoxically, when you do fare policies,

569 00:28:02.640 --> 00:28:05.040 you may see reductions in walking time

570 00:28:05.040 --> 00:28:06.990 but that can be a good thing,

571 00:28:06.990 --> 00:28:09.030 not necessarily a bad thing, right?

572 00:28:09.030 --> 00:28:10.650 It's all a question of balance.

573 00:28:10.650 --> 00:28:13.350 So these are some of the nuances that can emerge

574 00:28:13.350 --> 00:28:15.270 when you do these kinds of analysis.
575 00:28:15.270 --> 00:28:17.730 So thinking about how this can be expanded
576 00:28:17.730 --> 00:28:19.440 to incorporate climate change
577 00:28:19.440 --> 00:28:23.130 and answer questions relevant to climate
change policies
578 00:28:23.130 --> 00:28:25.330 is something that we're also thinking about.
579 00:28:26.880 --> 00:28:31.230 We've also been looking at health impacts
580 00:28:31.230 --> 00:28:33.660 of some climate change related exposures.
581 00:28:33.660 --> 00:28:37.110 Of course, temperature is a critical one
582 00:28:37.110 --> 00:28:40.830 that we have focused on as part of the initial
phase
583 00:28:40.830 --> 00:28:43.110 of SALURBAL through an ancillary study
584 00:28:43.110 --> 00:28:45.573 led by Daniel Rodriguez at Berkeley.
585 00:28:46.530 --> 00:28:50.760 And we, for our 371 cities,
586 00:28:50.760 --> 00:28:52.800 we looked at the relationship
587 00:28:52.800 --> 00:28:54.660 between temperature and mortality,
588 00:28:54.660 --> 00:28:56.310 similar to what has been done
589 00:28:56.310 --> 00:28:57.690 in many high-income countries.
590 00:28:57.690 --> 00:29:00.380 Some of you may recognize these kinds of
figures
591 00:29:00.380 --> 00:29:02.790 that show the distribution,
592 00:29:02.790 --> 00:29:05.700 the histogram of the distribution of tempera-
ture
593 00:29:05.700 --> 00:29:07.320 across days in a year,
594 00:29:07.320 --> 00:29:09.090 and then the relationship,
595 00:29:09.090 --> 00:29:12.180 the relative risk for temperatures,
596 00:29:12.180 --> 00:29:13.620 various temperatures compared
597 00:29:13.620 --> 00:29:15.510 to the minimum mortality temperature
598 00:29:15.510 --> 00:29:17.460 for the particular city.
599 00:29:17.460 --> 00:29:19.360 And so we've created these,
600 00:29:19.360 --> 00:29:20.730 we've done these analyses
601 00:29:20.730 --> 00:29:23.640 and created these figures for all of our cities.

602 00:29:23.640 --> 00:29:26.880 And found similar to others

603 00:29:26.880 --> 00:29:29.070 that about 6% of deaths can be linked

604 00:29:29.070 --> 00:29:31.950 to non-optimal temperatures,

605 00:29:31.950 --> 00:29:33.480 temperatures below or above

606 00:29:33.480 --> 00:29:36.960 the minimum mortality temperature.

607 00:29:36.960 --> 00:29:40.080 The proportion is higher for cold than for heat,

608 00:29:40.080 --> 00:29:44.460 primarily because the days at cold temperatures

609 00:29:44.460 --> 00:29:47.130 are much more, so it's an attributable risk.

610 00:29:47.130 --> 00:29:51.360 So the prevalence of the exposure impacts

611 00:29:51.360 --> 00:29:55.020 the attributable fraction a lot.

612 00:29:55.020 --> 00:29:58.690 But when we looked at the steepness of the curve

613 00:29:59.700 --> 00:30:02.190 associated with cold and hot,

614 00:30:02.190 --> 00:30:04.920 we found that the steepness was much,

615 00:30:04.920 --> 00:30:05.753 for the most part,

616 00:30:05.753 --> 00:30:08.700 much more significant for hot days overall.

617 00:30:08.700 --> 00:30:10.920 So a one degree centigrade increase

618 00:30:10.920 --> 00:30:13.953 was linked to almost a 6% increase in mortality.

619 00:30:16.680 --> 00:30:19.230 Signaling that as temperatures continue

620 00:30:19.230 --> 00:30:21.033 to shift towards the right,

621 00:30:22.800 --> 00:30:25.530 we're likely to see significant increases in mortality.

622 00:30:25.530 --> 00:30:27.990 Of course, adaptation may kick in to a certain extent,

623 00:30:27.990 --> 00:30:31.890 but that's something to evaluate.

624 00:30:31.890 --> 00:30:32.880 But at the same time,

625 00:30:32.880 --> 00:30:34.830 there's a lot of heterogeneity across cities.

626 00:30:34.830 --> 00:30:36.630 You can see this in these pictures here.

627 00:30:36.630 --> 00:30:39.900 Now, some of it is due to the distribution of temperature.

628 00:30:39.900 --> 00:30:42.300 So depending on the temperature distribution,
629 00:30:42.300 --> 00:30:44.080 the shape of the curve is gonna be different,
630 00:30:44.080 --> 00:30:46.200 but there are also other factors
631 00:30:46.200 --> 00:30:48.240 that may be affecting these,
632 00:30:48.240 --> 00:30:50.490 even within similar temperature distributions
633 00:30:50.490 --> 00:30:54.090 that may be buffering or enhancing the impact
of heat.
634 00:30:54.090 --> 00:30:57.000 And so that's one of the things that we wanna
look at.
635 00:30:57.000 --> 00:30:58.680 We've delved into it a little bit,
636 00:30:58.680 --> 00:31:00.390 and I'll show you that in a minute,
637 00:31:00.390 --> 00:31:02.073 but there's a lot more to do.
638 00:31:04.140 --> 00:31:06.180 We also created sort of aligned
639 00:31:06.180 --> 00:31:09.330 with our dissemination and strategy.
640 00:31:09.330 --> 00:31:12.380 We also created an interactive app
641 00:31:12.380 --> 00:31:16.890 where people can take a look for their city
642 00:31:16.890 --> 00:31:20.670 and explore these curves in more detail for
their city,
643 00:31:20.670 --> 00:31:25.140 including how many deaths were attributable
to heat
644 00:31:25.140 --> 00:31:27.720 during X period or other aspects
645 00:31:27.720 --> 00:31:29.120 that they may wanna look at.
646 00:31:30.620 --> 00:31:33.360 So we did look at some effect modification
647 00:31:33.360 --> 00:31:38.283 of the excessive death fraction for heat.
648 00:31:39.270 --> 00:31:41.430 And one of the things that we were very
interested in
649 00:31:41.430 --> 00:31:42.263 is greenness.
650 00:31:42.263 --> 00:31:45.930 So we found a little bit, but not a very strong
signal.
651 00:31:45.930 --> 00:31:47.400 It's something that we wanna look at
652 00:31:47.400 --> 00:31:50.880 with more spatially resolved data,
653 00:31:50.880 --> 00:31:53.520 because this is done at the city level.
654 00:31:53.520 --> 00:31:56.520 So we found that for arid climate zone cities,

655 00:31:56.520 --> 00:31:58.860 there was a little bit of a signal,
 656 00:31:58.860 --> 00:32:00.930 confidence intervals are including the null
 here,
 657 00:32:00.930 --> 00:32:03.120 but we found a little bit of a signal
 658 00:32:03.120 --> 00:32:05.110 that higher greenness was associated
 659 00:32:06.180 --> 00:32:09.483 with a lower excess death fraction.
 660 00:32:10.740 --> 00:32:14.010 Sorry, this should say excess death fractions
 661 00:32:14.010 --> 00:32:17.340 stratified by greenness level.
 662 00:32:17.340 --> 00:32:21.020 There was also some signal that effects were
 stronger
 663 00:32:21.020 --> 00:32:23.640 when green space was more distributed
 664 00:32:23.640 --> 00:32:25.680 as opposed to when it was all centrally located
 665 00:32:25.680 --> 00:32:26.580 in one part of the city.
 666 00:32:26.580 --> 00:32:27.870 This is something we wanna look into.
 667 00:32:27.870 --> 00:32:29.700 This is very important policy-wise,
 668 00:32:29.700 --> 00:32:32.340 because you can recommend greenness,
 669 00:32:32.340 --> 00:32:35.370 but where, how should it be distributed in
 the city?
 670 00:32:35.370 --> 00:32:39.480 And so some of these cities are quite green
 671 00:32:39.480 --> 00:32:41.800 because they have green in the periphery, for
 example,
 672 00:32:41.800 --> 00:32:44.850 in the peripheral areas, which are not very
 built up.
 673 00:32:44.850 --> 00:32:49.533 And so this may be, it's not really telling us
 much,
 674 00:32:50.610 --> 00:32:53.910 and we need to sort of look into this in more
 detail.
 675 00:32:53.910 --> 00:32:55.920 So one of the things that the Berkeley team
 676 00:32:55.920 --> 00:32:57.630 has done actually, because they have led
 677 00:32:57.630 --> 00:33:00.990 a lot of the exposure characterization on green-
 ness
 678 00:33:00.990 --> 00:33:02.940 is developed a large suite
 679 00:33:02.940 --> 00:33:05.010 of very sophisticated greenness measures

680 00:33:05.010 --> 00:33:09.200 that we hope to explore more in the next phase of SALURBAL.

681 00:33:09.200 --> 00:33:11.550 We also looked at effect modification

682 00:33:11.550 --> 00:33:15.093 by area SES, area socioeconomic characteristics,

683 00:33:15.960 --> 00:33:19.023 and we did not find very much, actually.

684 00:33:20.010 --> 00:33:22.473 A few signals, for example,

685 00:33:23.910 --> 00:33:26.520 higher secondary education in the city

686 00:33:26.520 --> 00:33:30.900 was associated with less excess deaths due to cold,

687 00:33:30.900 --> 00:33:33.660 but for heat, we didn't really find very much at all.

688 00:33:33.660 --> 00:33:36.000 In fact, even some paradoxical findings

689 00:33:36.000 --> 00:33:38.850 in the direction opposite to what we had hypothesized.

690 00:33:38.850 --> 00:33:43.020 So we really wanna look at this at the neighborhood level,

691 00:33:43.020 --> 00:33:44.370 because we really think,

692 00:33:44.370 --> 00:33:47.280 there's a lot of temperature heterogeneity

693 00:33:47.280 --> 00:33:48.240 within these cities.

694 00:33:48.240 --> 00:33:53.170 So even that we're not capturing differences in temperature

695 00:33:55.200 --> 00:33:57.780 within the cities, for example, at night, for example,

696 00:33:57.780 --> 00:34:00.330 which we know varies a lot,

697 00:34:00.330 --> 00:34:03.620 and we're not really capturing effect modification by SES

698 00:34:03.620 --> 00:34:05.640 at a finer level, at the neighborhood level.

699 00:34:05.640 --> 00:34:09.330 So we think we might see more if we do that.

700 00:34:09.330 --> 00:34:11.670 This is at a very high level of aggregation.

701 00:34:11.670 --> 00:34:13.710 So in some ways, it's not surprising

702 00:34:13.710 --> 00:34:16.713 that we weren't seeing very much yet.

703 00:34:18.540 --> 00:34:21.420 We've also looked at ambient temperature and birth weight.

704 00:34:21.420 --> 00:34:25.280 This is another area that has received a lot of attention.

705 00:34:25.280 --> 00:34:29.940 And these figures show the prevalence of low birth weight

706 00:34:29.940 --> 00:34:32.970 by temperature across cities in three countries,

707 00:34:32.970 --> 00:34:34.180 Brazil, Mexico, and Chile.

708 00:34:34.180 --> 00:34:37.530 And as you can see that in Brazil and Mexico,

709 00:34:37.530 --> 00:34:40.440 we saw the expected relationship,

710 00:34:40.440 --> 00:34:41.703 higher temperatures,

711 00:34:46.440 --> 00:34:48.153 more low birth weight.

712 00:34:49.950 --> 00:34:53.040 And for Chile, we didn't see much at all.

713 00:34:53.040 --> 00:34:54.060 In fact, the opposite,

714 00:34:54.060 --> 00:34:56.580 but you can see the temperature distributions in Chile,

715 00:34:56.580 --> 00:34:59.080 of course, are much more shifted towards the left.

716 00:35:00.150 --> 00:35:02.700 So, and this is a huge analysis,

717 00:35:02.700 --> 00:35:05.550 there's about 15 million births across 165 cities.

718 00:35:05.550 --> 00:35:07.170 So we're continuing to explore this.

719 00:35:07.170 --> 00:35:11.187 This shows the result by month of pregnancy.

720 00:35:12.900 --> 00:35:15.480 And you can see for Brazil and Mexico,

721 00:35:15.480 --> 00:35:18.210 especially in the latter months of pregnancy,

722 00:35:18.210 --> 00:35:20.010 the effect seems to be a bit stronger.

723 00:35:20.010 --> 00:35:22.653 For Chile, we see nothing at all.

724 00:35:24.420 --> 00:35:26.550 So looking at effects of climate change

725 00:35:26.550 --> 00:35:29.280 on infant and child health is a huge area,

726 00:35:29.280 --> 00:35:32.793 I think that we need to focus more on.

727 00:35:34.480 --> 00:35:38.790 Very recently, and this is a work under development

728 00:35:38.790 --> 00:35:40.170 led by Josiah Kephart,

729 00:35:40.170 --> 00:35:45.170 we're looking at flood exposures and across our cities.

730 00:35:45.870 --> 00:35:49.500 This is almost 45,000 neighborhoods
731 00:35:49.500 --> 00:35:52.740 in 276 cities from eight countries.
732 00:35:52.740 --> 00:35:56.640 And we observed a very clear patterning
733 00:35:56.640 --> 00:35:59.220 by neighborhood SES of exposures to floods.
734 00:35:59.220 --> 00:36:01.170 Whereas the lowest SES neighborhoods
735 00:36:01.170 --> 00:36:03.880 clearly had more experienced more floods
736 00:36:03.880 --> 00:36:06.690 than higher SES neighborhoods
737 00:36:06.690 --> 00:36:08.850 with a quite remarkable dose response.
738 00:36:08.850 --> 00:36:11.910 Actually, I was quite surprised to see this.
739 00:36:11.910 --> 00:36:15.063 And we've also looked at, this is all preliminary
work,
740 00:36:15.900 --> 00:36:17.640 odds ratios of neighborhood flooding
741 00:36:17.640 --> 00:36:19.830 associated with neighborhood features.
742 00:36:19.830 --> 00:36:22.650 And we see, of course, the education signal,
743 00:36:22.650 --> 00:36:24.603 higher education, less floods.
744 00:36:25.890 --> 00:36:27.960 Greenness is associated with more floods.
745 00:36:27.960 --> 00:36:30.660 This may have to do with the peripheral
location
746 00:36:30.660 --> 00:36:31.500 of these cities, we're not sure.
747 00:36:31.500 --> 00:36:32.400 We need to explore this.
748 00:36:32.400 --> 00:36:36.060 Coastal neighborhoods, of course, a huge ef-
fect.
749 00:36:36.060 --> 00:36:38.820 And so we're following up on
750 00:36:38.820 --> 00:36:42.840 some of these exposures as well.
751 00:36:42.840 --> 00:36:44.220 Distance from the city center,
752 00:36:44.220 --> 00:36:46.710 neighborhoods farther from the city center,
753 00:36:46.710 --> 00:36:48.663 greater risk as well.
754 00:36:49.680 --> 00:36:53.840 And so our next phase is to look at the impact
755 00:36:53.840 --> 00:36:55.080 of these flood exposures
756 00:36:55.080 --> 00:36:57.723 on some of the health outcome data that we
have.
757 00:37:00.340 --> 00:37:03.180 So this is just a quick summary

758 00:37:03.180 --> 00:37:08.180 of some of the SALURBAL findings relevant to climate change,

759 00:37:08.910 --> 00:37:11.550 large inequities in health across and within cities,

760 00:37:11.550 --> 00:37:13.890 especially across small areas.

761 00:37:13.890 --> 00:37:17.880 Pre-existing, which of course will be further,

762 00:37:17.880 --> 00:37:21.860 it's very possible they are magnified by climate change

763 00:37:21.860 --> 00:37:25.140 and also by climate change exposures

764 00:37:25.140 --> 00:37:28.050 and also interact potentially

765 00:37:28.050 --> 00:37:29.583 with climate change exposures.

766 00:37:30.660 --> 00:37:33.033 Substantial air quality issues,

767 00:37:33.990 --> 00:37:36.840 substantial exposures and policy relevant factors

768 00:37:36.840 --> 00:37:38.043 linked to levels.

769 00:37:40.170 --> 00:37:43.140 Multifaceted impacts of urban mobility on health

770 00:37:43.140 --> 00:37:45.210 and a great opportunity for intervention.

771 00:37:45.210 --> 00:37:46.920 Many across Latin America,

772 00:37:46.920 --> 00:37:48.510 there's a lot of interest, for example,

773 00:37:48.510 --> 00:37:52.053 in electrifying bus fleets as a policy initiative.

774 00:37:53.160 --> 00:37:56.850 Many of the cities are highly dependent on bus fleets.

775 00:37:56.850 --> 00:38:00.060 And so that has, you can think of multiple,

776 00:38:00.060 --> 00:38:04.140 multiple climate and health connections there as well.

777 00:38:04.140 --> 00:38:06.600 So I'll tell you a little bit about what we're planning

778 00:38:06.600 --> 00:38:09.390 for the future as part of SALURBAL Climate

779 00:38:09.390 --> 00:38:11.370 and temperature and floods

780 00:38:11.370 --> 00:38:14.733 really as emerging health threats in the region.

781 00:38:15.720 --> 00:38:17.700 So these are the things that we're building on

782 00:38:17.700 --> 00:38:20.010 with SALURBAL Climate.

783 00:38:20.010 --> 00:38:21.500 I also wanted to share with you
784 00:38:21.500 --> 00:38:25.680 some of the dissemination work that we do in
SALURBAL.
785 00:38:25.680 --> 00:38:28.800 This shows data briefs and webinars.
786 00:38:28.800 --> 00:38:32.040 So we produced a number of data briefs
787 00:38:32.040 --> 00:38:34.800 just describing our data or key aspects of the
data
788 00:38:34.800 --> 00:38:36.960 or highlighting problems in the data
789 00:38:36.960 --> 00:38:38.440 like mortality statistics
790 00:38:38.440 --> 00:38:42.330 and encouraging strategies to improve.
791 00:38:42.330 --> 00:38:44.130 We also did a brief in collaboration
792 00:38:44.130 --> 00:38:45.270 with the Ubuntu Center
793 00:38:45.270 --> 00:38:46.800 at the Dornsife School of Public Health
794 00:38:46.800 --> 00:38:50.163 on race and racism in health data,
795 00:38:52.480 --> 00:38:54.420 under-emphasized areas,
796 00:38:54.420 --> 00:38:57.750 certainly in the region that deserves a lot more
attention.
797 00:38:57.750 --> 00:39:00.720 And we also do dissemination webinars
798 00:39:00.720 --> 00:39:03.513 in Spanish, Portuguese, and English.
799 00:39:04.940 --> 00:39:07.470 We've also done policy briefs
800 00:39:07.470 --> 00:39:09.780 which are more targeted at specific policies
801 00:39:09.780 --> 00:39:11.250 and in-person events.
802 00:39:11.250 --> 00:39:14.610 Here's one policy brief on the Transmicable
study
803 00:39:14.610 --> 00:39:15.633 that I showed you.
804 00:39:16.650 --> 00:39:18.810 And we do a lot of,
805 00:39:18.810 --> 00:39:22.240 each of our meetings has a policymaker day
806 00:39:23.280 --> 00:39:26.040 in which we engage with the local teams
807 00:39:26.040 --> 00:39:28.000 to talk to local officials
808 00:39:28.000 --> 00:39:30.363 about the study and what we're finding.
809 00:39:31.640 --> 00:39:33.870 And media, as I mentioned,
810 00:39:33.870 --> 00:39:35.460 I just wanted to highlight,

811 00:39:35.460 --> 00:39:37.590 it's been really interesting to see
812 00:39:37.590 --> 00:39:39.540 the things that got traction.
813 00:39:39.540 --> 00:39:42.510 Certainly the differences in life expectancy
across cities,
814 00:39:42.510 --> 00:39:45.880 a simple descriptive analysis got huge impact
815 00:39:46.860 --> 00:39:50.440 as did the very high NO2 exposures
816 00:39:50.440 --> 00:39:54.030 and also the temperature impacts on mortality
817 00:39:54.030 --> 00:39:55.140 and low birth weight
818 00:39:55.140 --> 00:39:57.300 also got a lot of attention in the press.
819 00:39:57.300 --> 00:40:00.420 So there's clearly a lot of interest
820 00:40:00.420 --> 00:40:03.843 in the public in these topics.
821 00:40:05.460 --> 00:40:06.660 One of the things we wanna do
822 00:40:06.660 --> 00:40:07.920 as part of SALURBAL Climate
823 00:40:07.920 --> 00:40:12.090 is do more specific outreach to journalists
specifically
824 00:40:12.090 --> 00:40:14.790 and perhaps, and we're also even planning up
some workshops
825 00:40:14.790 --> 00:40:19.350 with journalists to facilitate understanding
826 00:40:19.350 --> 00:40:21.843 the information and its implications.
827 00:40:24.360 --> 00:40:26.610 And we also have,
828 00:40:26.610 --> 00:40:29.520 we partner with a number of different organi-
zations,
829 00:40:29.520 --> 00:40:31.200 intergovernmental organizations,
830 00:40:31.200 --> 00:40:32.670 Pan American Health Organization,
831 00:40:32.670 --> 00:40:36.030 we've attended meetings of a network of may-
ors
832 00:40:36.030 --> 00:40:37.950 that PAHO hosts.
833 00:40:37.950 --> 00:40:40.950 We've also developed a really great partner-
ship
834 00:40:40.950 --> 00:40:42.510 with the Inter-American Development Bank,
835 00:40:42.510 --> 00:40:44.700 which is a development bank in Latin America
836 00:40:44.700 --> 00:40:49.080 that supports a lot of transportation and
housing work.

837 00:40:49.080 --> 00:40:51.270 They actually did a documentary on our study,
838 00:40:51.270 --> 00:40:53.790 so you can watch it there.

839 00:40:53.790 --> 00:40:56.520 And also with other non-governmental organizations
840 00:40:56.520 --> 00:40:58.440 like the World Resources Institute,
841 00:40:58.440 --> 00:41:01.860 we recently got funding to work with them
842 00:41:01.860 --> 00:41:05.960 in a small number of cities to use data.
843 00:41:05.960 --> 00:41:08.250 The goal is to get used,
844 00:41:08.250 --> 00:41:12.150 put together some data quickly to impact action
845 00:41:12.150 --> 00:41:13.590 in a very short timeframe.

846 00:41:13.590 --> 00:41:16.443 So which is that study is just about to launch now.

847 00:41:18.510 --> 00:41:20.850 So that brings me to SALURBAL Climate,
848 00:41:20.850 --> 00:41:24.483 which I wanna tell you a little bit about.

849 00:41:26.940 --> 00:41:31.940 We were renewed by the Wellcome Trust just last November

850 00:41:33.000 --> 00:41:38.000 after a competitive process to continue SALURBAL

851 00:41:38.550 --> 00:41:41.430 with a focus on climate change and health.

852 00:41:41.430 --> 00:41:45.560 And so our goal is really to leverage and expand
853 00:41:45.560 --> 00:41:50.560 the SALURBAL team, the data resource and the partnerships

854 00:41:50.730 --> 00:41:54.540 to generate new and also context-relevant knowledge,
855 00:41:54.540 --> 00:41:58.383 which is very important to support action.

856 00:42:00.570 --> 00:42:02.130 And support actions to prevent
857 00:42:02.130 --> 00:42:04.380 the further health impacts of climate change
858 00:42:04.380 --> 00:42:07.350 and also protect from changes that have already occurred

859 00:42:07.350 --> 00:42:09.450 and to build regional capacity
860 00:42:09.450 --> 00:42:12.420 for continued learning and action into the future.

861 00:42:12.420 --> 00:42:14.070 And of course, this is very aligned

862 00:42:14.070 --> 00:42:18.150 with the work that we've already been doing in SALURBAL.

863 00:42:18.150 --> 00:42:20.010 And so we have four aims,

864 00:42:20.010 --> 00:42:22.800 which I'm gonna tell you a little bit about.

865 00:42:22.800 --> 00:42:26.700 The first aim is to generate locally relevant evidence

866 00:42:26.700 --> 00:42:29.130 on climate change and health equity impacts.

867 00:42:29.130 --> 00:42:31.650 Because locally relevant evidence is a part,

868 00:42:31.650 --> 00:42:35.250 as we've seen in SALURBAL, is a powerful driver of action.

869 00:42:35.250 --> 00:42:38.550 And there's a lot of evidence that data

870 00:42:38.550 --> 00:42:40.710 from the Latin American region is very lacking

871 00:42:40.710 --> 00:42:42.600 in terms of climate change and health.

872 00:42:42.600 --> 00:42:44.220 What are we gonna do?

873 00:42:44.220 --> 00:42:46.620 Well, we're gonna document the magnitude of exposures,

874 00:42:46.620 --> 00:42:50.250 just descriptive information, how many cities,

875 00:42:50.250 --> 00:42:53.310 how many people are exposed to heat waves across the region

876 00:42:53.310 --> 00:42:58.310 or how many people were exposed to air pollutants

877 00:42:59.340 --> 00:43:02.040 linked to wildfires over the past X number of years.

878 00:43:02.040 --> 00:43:04.110 Descriptive data globally,

879 00:43:04.110 --> 00:43:09.110 but also by measures of social disadvantage, for example.

880 00:43:10.160 --> 00:43:12.450 So just describing exposures

881 00:43:12.450 --> 00:43:16.050 and also looking at health impacts as well, of course.

882 00:43:16.050 --> 00:43:20.040 So going beyond heat to also look at floods, air quality,

883 00:43:20.040 --> 00:43:22.440 interactions of air quality with other things,

884 00:43:22.440 --> 00:43:24.210 wildfires, drought and storms,

885 00:43:24.210 --> 00:43:26.220 and also with a strong equity focus

886 00:43:26.220 --> 00:43:29.850 because inequities are so important in the region.

887 00:43:29.850 --> 00:43:31.770 So we're going to leverage and explore,

888 00:43:31.770 --> 00:43:34.540 leveraging and expanding the existing SALUR-BAL resource

889 00:43:34.540 --> 00:43:37.950 and disseminating findings by building on the data portal

890 00:43:37.950 --> 00:43:42.940 that we have and using interactive tools, webinars,

891 00:43:42.940 --> 00:43:45.990 and stakeholder engagement.

892 00:43:45.990 --> 00:43:50.643 So that's the first aim which we've already started on.

893 00:43:52.700 --> 00:43:55.440 A second aim is to look specifically

894 00:43:55.440 --> 00:43:58.770 at mitigation and adaptation strategies.

895 00:43:58.770 --> 00:43:59.603 Why?

896 00:43:59.603 --> 00:44:00.720 Because many cities in the region

897 00:44:00.720 --> 00:44:02.790 are already taking innovative actions.

898 00:44:02.790 --> 00:44:04.770 Sometimes it's not because of climate change,

899 00:44:04.770 --> 00:44:06.090 it's just for other reasons,

900 00:44:06.090 --> 00:44:08.280 but taking advantage of those actions

901 00:44:08.280 --> 00:44:11.040 that they're already taking to evaluate them.

902 00:44:11.040 --> 00:44:14.460 And because we've seen that evidence on policy impact

903 00:44:14.460 --> 00:44:16.860 is really needed to support policy change.

904 00:44:16.860 --> 00:44:21.860 And so we will be investigating the health inequity impacts

905 00:44:21.990 --> 00:44:25.290 of planned and feasible mitigation or adaptation strategies.

906 00:44:25.290 --> 00:44:27.780 So things that are already in the works

907 00:44:27.780 --> 00:44:30.120 or things that are really feasible in the region,

908 00:44:30.120 --> 00:44:31.590 not pie in the sky things,

909 00:44:31.590 --> 00:44:32.940 but things that can really happen.

910 00:44:32.940 --> 00:44:37.940 And we're going to be using two complementary approaches

911 00:44:38.400 --> 00:44:41.550 for this health impact assessment

912 00:44:41.550 --> 00:44:44.430 in the sense in which it's described by WHO,

913 00:44:44.430 --> 00:44:49.140 which is a stakeholder engaged, equity focused,

914 00:44:49.140 --> 00:44:54.140 ex-ante sort of evaluation of a proposed program or project.

915 00:44:55.040 --> 00:44:59.280 And so we'll be doing that in two locations initially

916 00:44:59.280 --> 00:45:01.320 in Santiago and Bogota.

917 00:45:01.320 --> 00:45:04.060 Both cities have proposed important

918 00:45:04.950 --> 00:45:09.240 urban greening corridor kind of projects.

919 00:45:09.240 --> 00:45:14.240 And so the institutions in both Universidad Catolica

920 00:45:14.860 --> 00:45:19.200 in Chile and the Universidad de los Andes in Bogota

921 00:45:19.200 --> 00:45:21.990 are working with their cities on this.

922 00:45:21.990 --> 00:45:23.490 So this gives us great depth

923 00:45:23.490 --> 00:45:25.410 and we hope to develop a methodology

924 00:45:25.410 --> 00:45:27.810 so that this becomes sort of an exemplar approach

925 00:45:27.810 --> 00:45:30.360 that can then be used in other cities.

926 00:45:30.360 --> 00:45:34.053 And then combined with that comparative risk assessment,

927 00:45:34.890 --> 00:45:36.840 which is sometimes also confusingly called

928 00:45:36.840 --> 00:45:37.950 health impact assessment,

929 00:45:37.950 --> 00:45:40.020 but we try to keep them separate.

930 00:45:40.020 --> 00:45:41.400 Comparative risk assessment,

931 00:45:41.400 --> 00:45:44.140 which is more of a modeling exercise

932 00:45:44.140 --> 00:45:47.820 across multiple cities using existing evidence

933 00:45:47.820 --> 00:45:50.850 tried to estimate the impacts of a particular policy

934 00:45:50.850 --> 00:45:52.590 like electrifying bus fleets

935 00:45:52.590 --> 00:45:54.330 using evidence from other sources.
 936 00:45:54.330 --> 00:45:58.020 It's a very quantitative modeling exercise.
 937 00:45:58.020 --> 00:46:00.360 And so one gives us more depth,
 938 00:46:00.360 --> 00:46:02.310 the other one gives us sort of more breadth.
 939 00:46:02.310 --> 00:46:07.310 And so that's what we are planning for our
 second aim,
 940 00:46:07.680 --> 00:46:10.803 which is really about policies.
 941 00:46:12.600 --> 00:46:16.350 Our third aim, which was not a name
 942 00:46:16.350 --> 00:46:18.660 in the prior version of SALURBAL,
 943 00:46:18.660 --> 00:46:21.690 but which we have made a name in SALUR-
 BAL Climate
 944 00:46:21.690 --> 00:46:25.740 because we did so much of it and it's so
 important
 945 00:46:25.740 --> 00:46:27.940 is field building and capacity strengthening
 946 00:46:29.780 --> 00:46:32.160 because local perspectives are critical
 947 00:46:32.160 --> 00:46:33.600 to rigorous science, we think.
 948 00:46:33.600 --> 00:46:35.700 We think we can't get the science right
 949 00:46:35.700 --> 00:46:38.640 if we don't have the regional scientists in-
 volved.
 950 00:46:38.640 --> 00:46:41.730 That has been very clear in SALURBAL, I
 think.
 951 00:46:41.730 --> 00:46:43.860 And because local researchers are best posi-
 tioned
 952 00:46:43.860 --> 00:46:45.270 to influence local policies.
 953 00:46:45.270 --> 00:46:49.470 And so we do a lot of informal and formal
 training
 954 00:46:49.470 --> 00:46:51.060 in this next phase of SALURBAL.
 955 00:46:51.060 --> 00:46:52.860 We are formalizing some of the things
 956 00:46:52.860 --> 00:46:55.440 that we did more informally in phase one,
 957 00:46:55.440 --> 00:46:58.500 including researcher training,
 958 00:46:58.500 --> 00:47:00.260 strengthening institutional capabilities
 959 00:47:00.260 --> 00:47:03.450 to lead and conduct research
 960 00:47:03.450 --> 00:47:05.940 and capacity strengthening for policy actors

961 00:47:05.940 --> 00:47:06.900 in civil society.

962 00:47:06.900 --> 00:47:09.270 This is kind of that workshop on journalists

963 00:47:09.270 --> 00:47:11.370 is one example of that.

964 00:47:11.370 --> 00:47:14.160 And so we'll be doing this by targeting individuals

965 00:47:14.160 --> 00:47:17.130 through funding for early career researchers.

966 00:47:17.130 --> 00:47:18.420 We are also launching something

967 00:47:18.420 --> 00:47:20.020 we call the SALURBAL Fellows

968 00:47:20.020 --> 00:47:23.280 through which we also hope to engage scientists

969 00:47:23.280 --> 00:47:26.133 from groups that are underrepresented.

970 00:47:27.600 --> 00:47:29.190 Institutional capacity building.

971 00:47:29.190 --> 00:47:32.160 So the institutions, many of these institutions

972 00:47:32.160 --> 00:47:36.360 have limited experience submitting and managing grants.

973 00:47:36.360 --> 00:47:40.350 And so we support them in many ways for that

974 00:47:40.350 --> 00:47:43.560 and we'll continue to do that as part of the next phase.

975 00:47:43.560 --> 00:47:47.600 And also more societal activities and public engagement.

976 00:47:47.600 --> 00:47:52.600 And our fourth aim is similar to the first phase

977 00:47:53.010 --> 00:47:57.123 of the project to support policy action more generally.

978 00:47:59.940 --> 00:48:02.820 Ensure that research addresses local priorities,

979 00:48:02.820 --> 00:48:05.100 deliver findings effectively,

980 00:48:05.100 --> 00:48:07.680 and strengthen capacity among stakeholders

981 00:48:07.680 --> 00:48:09.270 to advocate for policy change.

982 00:48:09.270 --> 00:48:12.300 So we have a number of strategies that we're using here.

983 00:48:12.300 --> 00:48:15.510 Information sharing, capacity strengthening

984 00:48:15.510 --> 00:48:19.200 for researchers on how to communicate with policymakers,

985 00:48:19.200 --> 00:48:23.040 for policymakers on how to understand the data

986 00:48:23.040 --> 00:48:26.040 and particularly their policy implications

987 00:48:26.040 --> 00:48:28.770 and other stakeholders in terms of how to interpret

988 00:48:28.770 --> 00:48:31.890 some of the findings, as well as some specific policy

989 00:48:31.890 --> 00:48:33.780 and community engagement activities

990 00:48:33.780 --> 00:48:35.763 through a bunch of different things.

991 00:48:38.160 --> 00:48:42.120 So these aims are of course all interrelated

992 00:48:42.120 --> 00:48:43.923 and reinforce each other.

993 00:48:45.780 --> 00:48:49.830 And we've just got started working on this a few months ago.

994 00:48:49.830 --> 00:48:52.113 So the team is really, really thrilled.

995 00:48:53.250 --> 00:48:55.620 And last but not least, I wanna tell you a little bit

996 00:48:55.620 --> 00:48:59.700 about our new center.

997 00:48:59.700 --> 00:49:01.590 So it's 10 of, right?

998 00:49:01.590 --> 00:49:02.940 Am I seeing that right?

999 00:49:02.940 --> 00:49:04.620 There's some glare.

1000 00:49:04.620 --> 00:49:08.310 Yeah, so I just, a couple more minutes and I'll be done.

1001 00:49:08.310 --> 00:49:11.610 So I just wanna tell you a little bit about our new center,

1002 00:49:11.610 --> 00:49:13.230 which is very aligned, of course,

1003 00:49:13.230 --> 00:49:16.770 with SALURBAL, but also builds and expands on it.

1004 00:49:16.770 --> 00:49:19.530 And so really our ambition here is to leverage

1005 00:49:19.530 --> 00:49:21.810 the power of cross-city comparisons,

1006 00:49:21.810 --> 00:49:25.350 not only across SALURBAL, which I've already told you about,

1007 00:49:25.350 --> 00:49:28.170 but also across work that we have been doing

1008 00:49:28.170 --> 00:49:30.750 at the Urban Health Collaborative in the United States.

1009 00:49:30.750 --> 00:49:34.440 As one example, we have a partnership
1010 00:49:34.440 --> 00:49:36.120 with the Big Cities Health Coalition,
1011 00:49:36.120 --> 00:49:39.540 which is an organization that brings together
1012 00:49:39.540 --> 00:49:42.960 the health departments of the 35 biggest US
cities
1013 00:49:42.960 --> 00:49:45.690 and we've done a number of things with them
over the years,
1014 00:49:45.690 --> 00:49:48.810 including a data dashboard and consultations
1015 00:49:48.810 --> 00:49:49.710 on various topics.
1016 00:49:49.710 --> 00:49:52.800 And so we really want to expand the work
with them
1017 00:49:52.800 --> 00:49:55.950 to encompass climate change impacts in these
cities
1018 00:49:55.950 --> 00:49:58.950 and policy implications, but also to think
about
1019 00:49:58.950 --> 00:50:01.080 how all this kind of fits together
1020 00:50:01.080 --> 00:50:03.880 and how we can learn across the region
1021 00:50:04.920 --> 00:50:08.490 about impacts and about what works.
1022 00:50:08.490 --> 00:50:13.490 So our center, which is focused on creation,
1023 00:50:13.890 --> 00:50:15.600 translation and dissemination of evidence
1024 00:50:15.600 --> 00:50:17.293 to support urban policies to address the
health
1025 00:50:17.293 --> 00:50:19.710 and equity impacts of climate change in
cities.
1026 00:50:19.710 --> 00:50:21.960 We have an administrative core,
1027 00:50:21.960 --> 00:50:23.820 a research capacity building core,
1028 00:50:23.820 --> 00:50:25.380 community engagement core,
1029 00:50:25.380 --> 00:50:29.040 which is a policy engagement core really in
our case.
1030 00:50:29.040 --> 00:50:30.750 It's really about working with policymakers,
1031 00:50:30.750 --> 00:50:32.100 some public engagement too,
1032 00:50:32.100 --> 00:50:36.100 but primarily our community, our policy-
makers actually.
1033 00:50:36.100 --> 00:50:37.860 And a research project,

1034 00:50:37.860 --> 00:50:40.920 which I'll tell you a little bit more about in a minute.

1035 00:50:40.920 --> 00:50:45.180 And this is a partnership with the Institute

1036 00:50:45.180 --> 00:50:48.540 for Transportation at Berkeley, led by Daniel Rodriguez,

1037 00:50:48.540 --> 00:50:52.200 who's also part of SALURBAL, INCAP in Central America,

1038 00:50:52.200 --> 00:50:54.640 Instituto de Nutricion de Centroamerica de Panama

1039 00:50:54.640 --> 00:50:57.153 and several institutions in Brazil.

1040 00:50:58.230 --> 00:51:00.630 And it's an exploratory center, as you know,

1041 00:51:00.630 --> 00:51:03.420 it's a three-year project that we're really trying

1042 00:51:03.420 --> 00:51:05.040 to leverage all the strength

1043 00:51:05.040 --> 00:51:06.750 that we already have in urban health

1044 00:51:06.750 --> 00:51:09.060 and add to it a climate focus.

1045 00:51:09.060 --> 00:51:12.960 That's why there's a lot of emphasis on capacity building

1046 00:51:12.960 --> 00:51:16.140 so that we can bring our expertise in health equity

1047 00:51:16.140 --> 00:51:19.170 and urban health, learn from climate experts

1048 00:51:19.170 --> 00:51:21.150 and think about how we can move,

1049 00:51:21.150 --> 00:51:23.610 work together to improve the evidence

1050 00:51:23.610 --> 00:51:26.040 and support meaningful action.

1051 00:51:26.040 --> 00:51:31.040 The research project, which is led by Usama Bilal

1052 00:51:31.100 --> 00:51:35.850 is really just building on some of the data I showed you

1053 00:51:35.850 --> 00:51:37.710 earlier on neighborhood differences in health

1054 00:51:37.710 --> 00:51:39.690 to understand heterogeneity in the impact

1055 00:51:39.690 --> 00:51:42.540 of extreme heat on mortality across neighborhoods

1056 00:51:42.540 --> 00:51:44.940 in selected cities in four countries.

1057 00:51:44.940 --> 00:51:47.760 And so, we're interested in characterizing

1058 00:51:47.760 --> 00:51:51.330 not only differential exposure to heat across neighborhoods,

1059 00:51:51.330 --> 00:51:53.430 but also differential effects.

1060 00:51:53.430 --> 00:51:55.860 So the effect modification piece.

1061 00:51:55.860 --> 00:51:58.440 And so we have a number of aims

1062 00:51:58.440 --> 00:52:01.320 from examining heterogeneity in effects by neighborhood

1063 00:52:01.320 --> 00:52:03.060 to looking at the moderating effects,

1064 00:52:03.060 --> 00:52:06.510 decomposing the impact of differential exposures

1065 00:52:06.510 --> 00:52:07.860 versus differential effects

1066 00:52:07.860 --> 00:52:11.160 and really develop sort of an exemplar or a paradigm

1067 00:52:11.160 --> 00:52:13.260 that can then be applied to other exposures

1068 00:52:13.260 --> 00:52:14.373 and other cities.

1069 00:52:16.440 --> 00:52:19.110 And last but not least,

1070 00:52:19.110 --> 00:52:20.940 this is sort of our ambition

1071 00:52:20.940 --> 00:52:22.620 with both of these projects,

1072 00:52:22.620 --> 00:52:25.410 SALURBAL Climate and the CCUH,

1073 00:52:25.410 --> 00:52:27.840 the Center on Climate Change and Urban Health,

1074 00:52:27.840 --> 00:52:31.050 we want to deliver data and evidence

1075 00:52:31.050 --> 00:52:32.620 that's locally relevant.

1076 00:52:32.620 --> 00:52:35.430 We want to support policy evaluation,

1077 00:52:35.430 --> 00:52:36.930 capacity strengthening,

1078 00:52:36.930 --> 00:52:39.150 and last but not least,

1079 00:52:39.150 --> 00:52:44.130 meaningful policy impact that bridges the Americas.

1080 00:52:44.130 --> 00:52:46.080 And that's it.

1081 00:52:46.080 --> 00:52:47.970 Thank you so much for your attention.

1082 00:52:47.970 --> 00:52:49.570 I look forward to your comments.

1083 00:52:52.820 --> 00:52:54.420 <v ->Thank you so much.</v>

1084 00:52:54.420 --> 00:52:55.980 So because of timing,

1085 00:52:55.980 --> 00:52:58.983 I think we can have two very quick questions.

1086 00:53:00.150 --> 00:53:03.150 So if any students have any questions,

1087 00:53:03.150 --> 00:53:05.390 please feel free to raise your hand.

1088 00:53:05.390 --> 00:53:07.830 We do have a lot of questions from online as well,

1089 00:53:07.830 --> 00:53:09.600 but due to time, we'll just pick one.

1090 00:53:09.600 --> 00:53:10.750 <v ->Okay, sure, go ahead.</v>

1091 00:53:12.960 --> 00:53:14.077 <v ->Anyone wants to ask?</v>

1092 00:53:15.000 --> 00:53:15.860 Yeah, please.

1093 00:53:15.860 --> 00:53:20.200 <v ->Well, thank you so much for this insightful information.</v>

1094 00:53:20.200 --> 00:53:23.480 And well, I am not actually doing a research,

1095 00:53:23.480 --> 00:53:26.220 a research review about how the green space

1096 00:53:26.220 --> 00:53:27.833 affects childhood obesity.

1097 00:53:27.833 --> 00:53:31.500 And you just mentioned that we need to pay more attention

1098 00:53:31.500 --> 00:53:32.760 on the cities.

1099 00:53:32.760 --> 00:53:34.827 And I may be misunderstood by the mention

1100 00:53:34.827 --> 00:53:39.827 that the cities might be isolated by roads more or-

1101 00:53:42.443 --> 00:53:44.940 <v ->I think I may have said that the green space</v>

1102 00:53:44.940 --> 00:53:46.710 is on the edges of cities.

1103 00:53:46.710 --> 00:53:49.740 So it's not, it doesn't necessarily mean

1104 00:53:49.740 --> 00:53:52.320 that there's a park nearby where people live.

1105 00:53:52.320 --> 00:53:55.110 So I think thinking about the distribution of green space,

1106 00:53:55.110 --> 00:53:56.820 I'm not sure if that's what you're referring to,

1107 00:53:56.820 --> 00:53:58.203 but that's what I recall.

1108 00:53:59.250 --> 00:54:00.810 Sure.

1109 00:54:00.810 --> 00:54:02.820 <v ->So there's multiple questions online.</v>

1110 00:54:02.820 --> 00:54:06.960 I'll just pick one from Freddie Morgan.

1111 00:54:06.960 --> 00:54:10.770 Greetings from Chicago and congratulations on presentation.

1112 00:54:10.770 --> 00:54:15.210 What would it be for sustainable transportation

1113 00:54:15.210 --> 00:54:18.540 that would improve air quality in Latin America,

1114 00:54:18.540 --> 00:54:22.020 knowing that each country has its own characteristics?

1115 00:54:22.020 --> 00:54:23.100 <v ->What would be a sustainable?</v>

1116 00:54:23.100 --> 00:54:24.450 You want my opinion?

1117 00:54:24.450 --> 00:54:25.560 Get rid of cars.

1118 00:54:25.560 --> 00:54:29.853 That's my opinion, (laughs) as much as possible.

1119 00:54:31.770 --> 00:54:32.603 <v ->That's a good one.</v>

1120 00:54:32.603 --> 00:54:33.810 Then maybe take another one.

1121 00:54:33.810 --> 00:54:34.920 <v ->Yeah, sure.</v>

1122 00:54:34.920 --> 00:54:39.800 <v ->So a very impressive work from K through 9.</v>

1123 00:54:39.800 --> 00:54:43.553 She's asking about the publication of ZLUBA

1124 00:54:43.553 --> 00:54:45.990 is both in English and some in Spanish.

1125 00:54:45.990 --> 00:54:50.990 It's pretty rare for journals to facilitate the publication.

1126 00:54:51.420 --> 00:54:55.753 A journal article (speaks faintly).

1127 00:54:57.840 --> 00:54:59.580 <v ->Yeah, so that is a big challenge.</v>

1128 00:54:59.580 --> 00:55:03.390 So there's a lot of pressure, of course,

1129 00:55:03.390 --> 00:55:06.810 to publish in the top ranked journals, which are in English.

1130 00:55:06.810 --> 00:55:09.120 So this is something we've discussed in the study a lot

1131 00:55:09.120 --> 00:55:11.640 about should publications, where should they go,

1132 00:55:11.640 --> 00:55:13.920 particularly for junior researchers?

1133 00:55:13.920 --> 00:55:15.540 And there's no easy answer.

1134 00:55:15.540 --> 00:55:17.880 I think over time we will see more journals
1135 00:55:17.880 --> 00:55:19.140 in other languages.
1136 00:55:19.140 --> 00:55:22.560 Unfortunately, I think right now it's still the
case
1137 00:55:22.560 --> 00:55:24.900 that a lot of the work has to be done in
English.
1138 00:55:24.900 --> 00:55:27.570 We translate, our meetings are multilingual
1139 00:55:27.570 --> 00:55:29.160 and we do a lot of things.
1140 00:55:29.160 --> 00:55:32.780 All of our dissemination is in Spanish and
Portuguese,
1141 00:55:32.780 --> 00:55:34.440 but a lot of the publications,
1142 00:55:34.440 --> 00:55:36.630 we have published some things in Spanish
1143 00:55:36.630 --> 00:55:40.290 and certainly the briefs are all multilingual
too.
1144 00:55:40.290 --> 00:55:42.660 But scientific publications, that's still an
issue,
1145 00:55:42.660 --> 00:55:44.250 I think, yeah.
1146 00:55:44.250 --> 00:55:45.083 <v ->Thank you.</v>
1147 00:55:45.083 --> 00:55:45.916 Thank you so much.
1148 00:55:45.916 --> 00:55:46.749 Thanks again.
1149 00:55:49.900 --> 00:55:52.230 And for students do not forget to sign the
sheet
1150 00:55:52.230 --> 00:55:54.630 and thank you all for joining online.
1151 00:55:54.630 --> 00:55:55.463 Thank you.