'Microbe maps': Swabbing subways, ATMs and park benches to find coronavirus hot spots

Nearly a decade ago, after watching his young daughter lick a pole in a subway car, computational biologist Christopher Mason got the idea to start regularly swabbing the handrails, turnstiles, seats, and floors inside New York City's metro system. Sequencing of these samples back in his lab at Cornell Weill led to the first map of the microbes that call the city's transit system home.

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[I]n 17 pilot cities, MetaSUB scientists started swabbing for traces of genetic material from SARS-CoV-2 as early as the first week of February. When subways shut down, they switched to other high-touch surfaces, like ATMs and park benches. So far, they've collected 3,600 samples.

The goal of all this swabbing and sequencing is twofold: One, to better understand the virus's transmission dynamics. How long does it stay alive on surfaces? How much of it is in the air? How risky is riding the subway, really? Answers to those kinds of questions can help public health officials make decisions now to protect citizens during the early stages of the pandemic. But the second aim is more long-term: detecting potential hot spots of infection in highly trafficked areas before people start showing up in emergency rooms.

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