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keywords: please provide 5 keywords that describe your work

1 Extended Abstract

Ride-hailing services, such as Uber and Lyft, are disrupting the transportation system worldwide having a pronounced impact on people's usage patterns. In 2016, Subway ridership in New York declined for the first time in years and ride-hailing services became the leading source of growth in non-auto travel [5]. However, there are mixed results about the relationship between ride-hailing services and public transportation. For example, a Pew study suggests that ride-hailing is complementary to public transit and walking , while current evidence suggests that ride-hailing is pulling more people away from public transit in cities [2]. One thing is clear, ride-hailing is changing the way we move in cities.

In this paper, we study the effects of ride-hailing on health related issues, particularly, flu-related Illness. There is evidence suggesting that public transportation is important in the propagation of influenza-like illness in winter [7, 3]. Based on these results, we hypothesize that a change on how people commute, as a consequence of ride-hailing services, can have an effect on the contagious levels of influenza in the population. Here, we present one of the first quantitative explorations of the relationship between ride-hailing services and health. We exploit the fact that UberX, the first and most popular ride-hailing platform, was introduced all over the US spread over time and space (depicted in Figure 1 for a sample of cities). Thus, providing us with an excellent natural experiment setting to identify its impact.

Unfortunately, weekly US Influenza Surveillance reports are aggregated at a state level and to our knowledge there is no other source that provides finer granularity levels. However, we can rely on Google Flu Trends as a proxy to measure flu-related Illness at a city level. Google Flu Trends utilizes internet search queries to detect the presence of influenza like illness and has been use effectively for Influenza forecasting [8, 4].

Similar to Berger et al's. paper [1], where Uber's impact on unemployment was studied, we use a difference-in-differences approach to compare changes in the influenza levels in U.S. cities before and after UberX and UberPool introduction. Our baseline regression model is

$$y_{it} = city_i + year_t + month_t + \alpha Uber_{it} + \beta Pool_{it} + \gamma X_{it} + \varepsilon_{it},$$

where y_{it} is flu estimate for city i and month t; fixed effects variables $city_i$, $year_t$ and $month_t$ account, respectively, for time-invariant differences in city baseline levels, city-invariant US

yearly pandemic levels, and the seasonality nature of flu. $Uber_{it}$ and $Pool_{it}$ take the form of a dummy variable representing if UberX and UberPool services are present in city i and month t; X_{it} are time varying and city characteristics to control for weather data such as monthly min and max temperatures and monthly precipitation.

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2 Figure(s)

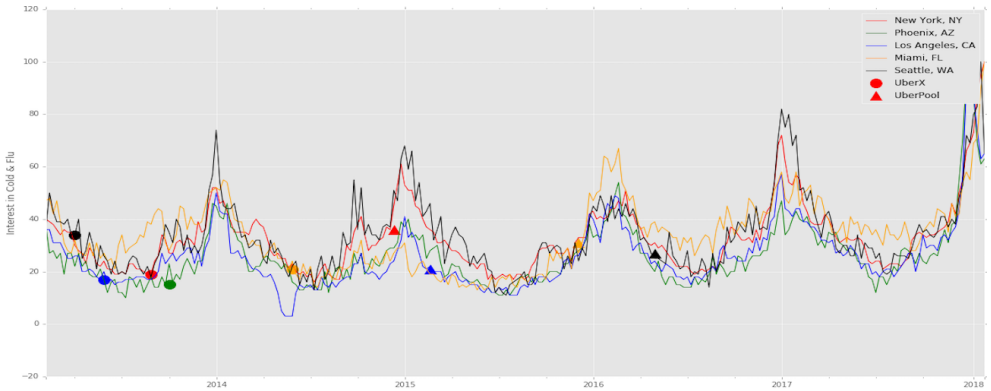

Figure 1: Google monthly Flu trends over time for various cities. Circle and triangle marks identify the time when UberX and UberPool were introduced for each city, respectively.