EFFECTS OF STATE COVID-19 CLOSURE POLICY ON NON-COVID-19 HEALTH CARE UTILIZATION & HEALTH

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*This is an extended abstract for research that builds upon Ziedan et al. 2020 https://www.nber.org/papers/w27621.pdf

Since the start of the epidemic, state and local governments have adopted a range of policies that are designed to reduce the transmission of the virus (Gupta et al., 2020a). These policies were intended to reduce the number of people who are infected with the virus, conserve personal protective equipment, free up physical space in healthcare facilities, and ensure that healthcare workers had the capacity to treat covid19 patients safely (Sarac et al., 2020). In early August 2020, we reported estimates of the effect of state COVID-19 closure policies on the level and composition of outpatient health care utilization (Ziedan et al. 2020). Our study examined electronic medical care records from over 35 million patients in 35 states and covered the period from January 2019 to May 2020. We documented that the number of outpatient visits declined by 40% in March, 2020. However, we estimate that only about 37% of the decline was induced by state closure policy. The remainder of the decline was due to a nationwide reduction in health care utilization, perhaps in response to epidemiological conditions and/or federal policy. We also found that outpatient visits rebounded to some extend in Mid-April, and that the size of the rebound was not explained by state reopening policies. Related research finds similar results for emergency department visits (Hartnett, 2020), elective procedures, primary care utilization (Mehrotra et al., 2020 and Chatterji & Li, 2020), and inpatient care (Birkmeyer et al. 2020).

It is clear that COVID-19 itself has a negative effect on population health in the short run and it is plausible that people who contract the virus may experience worse health outcomes in the medium and long term as well (CDC 2020; Puntmann et al. 2020; Linder et al. 2020). However it is also possible that forgoing or delaying the consumption of health services for non-COVID health conditions may also lead to worse health outcomes in the future. A key question is whether the patients and physicians are able to contract the level of health care utilization in ways that minimize the long term harm to patient health. To date, the effects of this delayed care on health itself remain unknown. In this article, we extend our earlier work using data up to September 2020, providing a more complete assessment of the effects of state closure and re-opening policies on health care utilization during the epidemic. In addition, we study whether canceling and defering health services consumption during the early part of the epidemic negatively affected patient health outcomes later in the year.

Specifically, our research estimates:

1. Changes in health visits both overall and by type of diagnosis/reason for visit. We develop various measures to track in-person vs telehealth visits based on visit location, CPT code modifiers and services eligible and ineligible for telehealth billing.

2. Changes in outpatient procedures (e.g.: chemotherapy via infusion therapy, cancer screenings and cardiac stress testing) and laboratory orders (e.g.: A1C, LDL and HDL labs).
3. Changes in health biomarkers such as A1C values, Liver and Lipid blood work and hemoglobin levels. These biomarkers are often used in clinical research as measures of both current health status or future risk of disease.

A particularly useful feature of our data is that it allows us to follow individuals over time, making it possible to identify patients who cancelled appointments early in the pandemic, and to determine whether these patients eventually recovered these appointments in person or via telehealth. We are also able to examine the composition of services and procedures that patients received during specific appointments, and the results of any laboratory tests ordered during their visits. For a subsample of our data, we are able to observe laboratory result values at multiple points in time.

Overall, estimates from our analysis will contribute to the research on the marginal benefit of additional medical care (Fisher et al. (2003)a,b; Skinner and Wennberg 1998). This work seeks to disentangle patient selection into care from the benefit of the care itself, usually with the goal of determining whether certain types of care reflect wasteful "flat of the curve" spending. Previous work on this topic finds mixed evidence, with some studies showing large benefits of additional medical spending (e.g. Doyle (2011); Doyle et al. (2015)) and other papers showing limited or no benefit associated with additional spending (e.g. Fisher et al. (2003)a,b; Frakes (2013)). Building on our results here, we will be able to identify the health returns to medical spending in a novel environment where certain types of services were rationed, delayed, or cancelled.

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