**Medical access during COVID-19**

**Medical access during the COVID-19 pandemic: an analysis from the US Census bureau’s Household Pulse Survey**

**Background**

COVID-19 pandemic has placed a disastrous toll on United States healthcare system. No study specifically looked at the trends of access to medical care since the start. We looked into how the trend of the access to medical care and how it is distributed across subgroups since April 2020 to April 2021 from the Household Pulse Survey.

**Objective**

To describe, in US population per Census survey, trends of groups with delayed or no access to medical care due to COVID-19

**Methods**

Household pulse survey from the Census was analyzed, where it was conducted between Week 1 Phase 1 between April 23 2020 to week1, phase 3.1 April 14 2021. Data was pulled from <https://www.cdc.gov/nchs/covid19/pulse/reduced-access-to-care.htm>.

The Household Pulse Survey was a project generated from NCHS, the National Center for Health Statistics and the Census Bureau. It is a 20-minute online survey designed to know the impact of coronavirus pandemic to American people. The overall survey covers three phases, from April 23 2020 to present. \*Phase 1 of the Household Pulse Survey occurred between April 23, 2020 and July 21, 2020. Phase 2 data collection occurred between August 19, 2020 and October 26, 2020. Phase 3 data collection occurred between October 28, 2020 and March 29, 2021. Data collection for Phase 3.1 of the survey began on April 14, 2021 and will continue through July 5, 2021. Table1 is the detailed table of this study’s data waves.

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| --- | --- | --- |
| Phase 1 | Week1 April 23-May 5 2020 | Week 6 June 4- June 9 2020 |
| Phase 2 | Week 13 Aug 19 - Aug 31 | Week 18 Oct 28 - Nov 9 |
| Phase 3 | Week 23 Jan 20 - Feb 1 2021 |  |
| Phase 3.1 | Week 28 Apr 14 – Apr 26 2021 |  |

Table 1

**Results**

We conducted cross sectional analyses within respondents who responded to “delay or not to getting medical care due to COVID-19 for the last 4 weeks” from week 1, week 6, week 13, week 18, week 23 and week 28. Weighted response rates ranged from 3.8% to 9.2%.

We analyzed changes between groups, ages, education, gender and weeks, from week 1 to week 28 using generalized linear models. Interaction between week and groups were also tested.

Of all 418,221 unique responses, 24 percent of response suggested they did not get or delay getting medical care due to COVID-19 pandemic in the week of 28 (April 14, 2021), declined from 42% in the first week of April 23, 2020 when the survey started (p<0.001).

Figure 1 is the trend of proportion of people chose delayed getting medical support or did not get medical support due to COVID-19 since 2020 April 23 to 2021 April 14. Six waves of data were used to see the overall trends.

Figure 1

Six waves of data were analyzed from week1 to week28, results showed women, younger individuals, Hispanic descents and mixed races, experienced higher rates of delaying or not getting proper medical care during COVID-19.

Table 2 provides generalized linear model with gamma distribution and a log link function.

Although responses suggested delayed or did not get medical support during COVID is significantly decreased, women (mean = 39.7, SE= 0.26) have more difficulty getting medical support compared to men (mean= 32.8, SE =0.22), younger adults (18-29 years old) have higher percentage of responding delaying and not getting medical support(mean=37.1,SE=1.41), compared with elder group who are older than 80 years old (mean = 25.8, SE=0.98). Hispanic/Latino (mean = 40.3, SE= 1.39) have higher proportion of getting medical care than White(mean = 35.3, SE= 1.22), Black (mean = 36.1, SE= 1.25 )and Asians(mean = 35.3, SE= 1.39). People with high school diploma or GED subgroup is more likely to (mean = 32.02, SE= 0.85) to get medical care than who has bachelor’s degrees or higher (mean = 37.69, SE = 1.00). Week 18, 23 and 28 are significantly different reduction from week 1, whereas week 6 and week 13 had no significant decrease on the proportion of people do not get medical support. Generalized linear model with an interaction term week\*subgroup were tested. No significant interaction was found.

Figure 2

Table 2

**Discussion**

Our finding indicates rates of getting medical support due to COVID-19 was worsen in the summer of 2020 but got better after October 2020. Health service disparity is an issue to address for practitioners when patients with chronic illness or vulnerable groups such as pregnant women are in need for evaluation and care.