

Economic, Social, and Overall Health Impacts of COVID-19 in King County, WA Background and Frequently Asked Questions

What is the purpose of this dashboard?

Public Health-Seattle & King County is monitoring changes in selected measures of social, economic and overall health and well-being in King County, WA to guide public health decision-making and support community recovery. We aim to answer questions including:

- What social, economic, and overall health changes occurred during and after implementation of strategies to slow the spread of COVID-19?
- How did these changes vary by COVID-19 risk group, race, place, gender, health status, and socioeconomic status?
- Did health, social, and economic disparities change over this period compared to the baseline period?
- Based on these changes, how should King County adjust community mitigation strategies and/or provide additional support to address adverse effects of strategies to slow the spread of COVID-19?

This dashboard highlights several of the data sources and indicators we are monitoring. Click on each data point for more information or to view detailed data. More data sources will be added and data points will be updated over time.

Why are these indicators included?

The metrics shown on the dashboard are intended to provide an overview of the topic areas. Indicators were selected based on studies from previous outbreaks, which have linked strategies such as social distancing, school closures, and business closures to these outcomes.

The goal for this dashboard is to show indicators that are relevant to public health policies and programs and that link to either the strategies used to slow the spread of COVID-19, or to policy interventions to mitigate the impacts of these strategies. The main dashboard page provides a summary, not a comprehensive list of all indicators; links to additional indicators and resources are provided on topic-specific pages.

To the extent possible, data shown on this dashboard are:

- **Timely** consistently available on a regular basis (weekly or monthly) and with just days to weeks between data collection and availability on this dashboard
- Responsive based on the science, likely to change quickly during and after implementation of strategies to slow the spread of COVID-19
- Valid available high quality, reproducible data for King County, Washington
- **Representative** while not comprehensive, indicators represent a topic area and are directly linked to community mitigation efforts
- **Disaggregated** able to be disaggregated by COVID-19 risk group, race, place, gender, health status, and socioeconomic status to support equity

At times, an indicator shown on the dashboard may not meet all of the above criteria. This may be because it provides important background information and more recent data are not available (i.e. the only data available are for a time period prior to March 2020 [pre-COVID-19]) or disaggregated data are not available. As more data sources are added, some indicators may be replaced on the overview.

Please note, in some cases these data are preliminary and are subject to change.

Scientific background

Economic, social and overall health effects of strategies to limit spread of novel coronavirus

Past epidemics illustrate that strategies to slow the spread of disease, including social distancing, business closures and school closures, while success at limiting the spread of disease, can also have additional effects on individuals and communities. Efforts to slow the spread of novel coronavirus such as business closures can result in a loss of income, which can lead to difficulties meeting basic needs, social isolation, and additional stress on family relationships – all of which can adversely affect physical and mental health.¹

Economic impacts

Unemployment, community needs: The closure of non-essential businesses and schools in prior outbreaks led to short-term economic slowdowns, the impacts of which may last decades.^{2–5} Economic impacts tend to be more severe the longer the duration of social distancing.⁶ The novel coronavirus pandemic already resulted in economic losses across industries worldwide.⁷ Closures of non-essential businesses leads to losses in employment, and unemployment can impact one's ability to pay rent or the mortgage, pay bills and provide adequate food.

Transportation & mobility: Transportation patterns are representative of social mobility and economic activity, as workers commute and businesses move goods and services. Lower levels of non-essential trips are the goal of successful non-pharmaceutical interventions to slow the spread of COVID-19. Lower traffic volumes may result from stay-home orders, business closures, and increased telecommuting, with potential impacts on motor vehicle crashes, and public transit ridership may also decrease due to social distancing. Increases in active transportation (walking and biking) may also occur.

Social impacts

Family violence: The social isolation and stress that people experience during the COVID-19 pandemic is expected to increase the prevalence of family violence, as measured by domestic violence and child maltreatment. Social isolation, combined with the additional stressors faced by many families due to social distancing, create a situation in which family violence is more likely at the same time that external supports are less accessible for families. Internationally, early increases in domestic violence reports have already been observed in Spring 2020. 15

Food insecurity: The COVID-19 pandemic has seen increased needs for food assistance⁸ and highlighted weaknesses in the food distribution system.^{9,10} Participation in income-eligible food assistance programs, specifically Basic Food (SNAP) and WIC, a supplemental nutrition program for pregnant women, infants and children, may mitigate food insecurity for eligible households. However households who are not eligible for these programs may rely on emergency food resources or informal supports. Factors such as access to healthy foods, availability of food, and cultural acceptance of food are also important factors in food insecurity.

Internet & computing: Internet access and computers are essential for students' ability to participate in distance learning, for workers ability to telecommuting, and for people to maintain social connections. These tools may mitigate impacts of social deprivation due to social distancing, particularly on adolescent development.¹⁶

Overall health impacts

Health care access: In the United States, availability of health insurance is directly tied to employment, and so lost employment can lead to loss of health care coverage. People may delay needed medical care due to loss of health insurance or due to social distancing guidelines. Regular and adequate preventive care and management of chronic diseases can identify disease early and prevent poor health outcomes. This care is particularly important for children's health -- preventative and early diagnostic care can prevent or mitigate adverse outcomes that may have lifelong impacts.

Mental and behavioral health: Social distancing results in changed routines, confinement, and reduced contact with others. The resulting isolation may lead to anxiety, depression, insomnia, increased substance use, anger, irritation and impaired functioning, which may last for years. The effects of loneliness lead to physical health effects through mechanisms such as increased levels of cortisol. The prevalence and duration of psychological stress is affected by additional stressors including duration of social distancing, inadequate basic supplies like food and medical care provisions, and financial losses. The prevalence are provisions, and financial losses.

Contact data.request@kingcounty.gov for more information

References

- 1. Douglas M, Katikireddi SV, Taulbut M, McKee M, McCartney G. Mitigating the wider health effects of covid-19 pandemic response. *BMJ*. 2020;369. doi:10.1136/bmj.m1557
- 2. Fan EX. SARS: Economic Impacts and Implications. *ERD Policy Br*. 2003;15:1689-1699. doi:10.1017/CBO9781107415324.004
- 3. Almond D. Is the 1918 Influenza Pandemic Over? Long Term Effects of In Utero Influenza Exposure in the Post-1940 U.S. Population. *J Polit Econ*. 2006;114(4):672-712.
- 4. Almond D, Bhashkar Mazumder. The 1918 Influenza Pandemic and Subsequent Health Outcomes: An Analysis of SIPP Data. *Am Econ Rev.* 2005;95(2):258-262.
- 5. Qiu W, Chu C, Mao A, Wu J. The impacts on health, society, and economy of SARS and H7N9 Outbreaks in China: A Case Comparison Study. *J Environ Public Health*. 2018;2018.

- doi:10.1155/2018/2710185
- 6. Keogh-Brown M, Wren,-Lewis S, Edmunds W, Beutels P, Smith R. The possible macroeconomic impact on the UK of an influenza pandemic. *Health Econ*. 2010;19:1345-1360. doi:10.1002/hec
- 7. Priyadarshini I, Mohanty P, Kumar R, et al. Analysis of Outbreak and Global Impacts of the COVID-19. *Healthcare*. 2020;8(2):148. doi:10.3390/healthcare8020148
- 8. Dunn CG, Kenney E, Fleischhacker SE, Bleich SN. Feeding low-income children during the CoviD-19 pandemic. *N Engl J Med*. 2020;382(18):E40. doi:10.1056/NEJMp2005638
- 9. Oliveira TC, Abranches MV, Lana RM. (In)Segurança alimentar no contexto da pandemia por SARS-CoV-2. *Cad Saude Publica*. 2020;36(4):e00055220. doi:10.1590/0102-311X00055220
- 10. Zurayk R. Pandemic and Food Security: A View from the Global South. *J Agric Food Syst Community Dev.* 2020;9(3):1-5. doi:10.5304/jafscd.2020.093.014
- 11. Humphreys KL, Myint MT, Zeanah CH. Increased Risk for Family Violence During the COVID-19 Pandemic. *Pediatrics*. April 2020:e20200982. doi:10.1542/peds.2020-0982
- 12. Campbell AM. An increasing risk of family violence during the Covid-19 pandemic: Strengthening community collaborations to save lives. *Forensic Sci Int Reports*. 2020;2:100089. doi:10.1016/j.fsir.2020.100089
- 13. Parkinson D. Investigating the Increase in Domestic Violence Post Disaster: An Australian Case Study. *J Interpers Violence*. 2019;34(11):2333-2362. doi:10.1177/0886260517696876
- 14. Adams PR, Adams GR. Mount Saint Helens's ashfall: Evidence for a disaster stress reaction. *Am Psychol*. 1984;39(3):252-260. doi:10.1037/0003-066X.39.3.252
- 15. Taub A. A new covid19 crisis Domestic abuse rises worldwide. New York Times. 2020.
- 16. Orben A, Tomova L, Blakemore S-J. The effects of social deprivation on adolescent social development and mental health. *Preprint*. 2020;4642(20):1-7. doi:10.1016/S2352-4642(20)30186-3
- 17. Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*. 2020;395(10227):912-920. doi:10.1016/S0140-6736(20)30460-8
- 18. Sprang G, Silman M. Posttraumatic stress disorder in parents and youth after health-related disasters. *Disaster Med Public Health Prep.* 2013;7(1):105-110. doi:10.1017/dmp.2013.22
- 19. Wu P, Fang Y, Guan Z, et al. The psychological impact of the SARS epidemic on hospital employees in China: Exposure, risk perception, and altruistic acceptance of risk. *Can J Psychiatry*. 2009;54(5):302-311. doi:10.1177/070674370905400504
- 20. Lee S, Chan LYY, Chau AMY, Kwok KPS, Kleinman A. The experience of SARS-related stigma at Amoy Gardens. *Soc Sci Med.* 2005;61(9):2038-2046. doi:10.1016/j.socscimed.2005.04.010
- 21. Wu P, Liu X, Fang Y, et al. Alcohol abuse/dependence symptoms among hospital employees exposed to a SARS outbreak. *Alcohol Alcohol*. 2008;43(6):706-712. doi:10.1093/alcalc/agn073
- 22. Chou K, Liang K, Sareen K. The association between social isolation and DSM-IV mood, anxiety, and substance use disorders: wave 2 of the National Epidemiologic Survey on Alcohol and

Last updated: 9/10/2020

4

- Related Conditions. J Clin Psychiatry. 2011;71(11):1468-1476. doi:10.4088/JCP.10m06019gry
- 23. Doane LD, Adam EK. Loneliness and cortisol: Momentary, day-to-day, and trait associations. *Psychoneuroendocrinology*. 2010;35(3):430-441. doi:10.1016/j.psyneuen.2009.08.005
- 24. Pharr JR, Moonie S, Bungum TJ. The Impact of Unemployment on Mental and Physical Health, Access to Health Care and Health Risk Behaviors. *ISRN Public Health*. 2012;2012:1-7. doi:10.5402/2012/483432
- 25. Miller G. Why loneliness is hazardous to your health. *Science (80-)*. 2011;331(6014):138-140. www.jstor.com/stable/40986471.
- 26. Cylus J, Glymour MM, Avendano M. Health effects of unemployment benefit program generosity. *Am J Public Health*. 2015;105(2):317-323. doi:10.2105/AJPH.2014.302253
- 27. Pellecchia U, Crestani R, Decroo T, Van Den Bergh R, Al-Kourdi Y. Social consequences of ebola containment measures in Liberia. *PLoS One*. 2015;10(12):1-13. doi:10.1371/journal.pone.0143036