

Social Risk and Acute Health Care Utilization in a National Sample of Kaiser Permanente Members

Summary of Final Project Results | April 2024



Why we did our project

Social risks can have a negative impact on a variety of health care outcomes, including health care utilization. We did this project to better understand how 3 common social risks — **financial strain, food insecurity, and housing instability** — are linked to acute, high-cost health care utilization. Our primary goal was to learn more about the relationship between these social risks and **emergency department (ED) and hospital visits** within a representative sample of nearly 10,000 Kaiser Permanente members across all 8 regional markets.

What we did

We used data from the **Kaiser Permanente National Social Health Survey (SHS) in 2020 and 2022** to examine members' experience with financial strain, food insecurity, and housing instability over time. We then linked National SHS data to members' **electronic health record (EHR) data** from January 2020 to July 2023 to assess how these risks are related to ED visits and hospitalizations. Among the 9,785 adult members who completed the 2020 National SHS and had adequate data in the EHR, **we examined how these risks are related to ED and hospital visits over time.**

Our results focus on the following outcomes:

- **Acute health care utilization**, defined as time from the 2020 National SHS to the member's first: 1) ED visit, or 2) inpatient hospitalization.
- **Social risk exposure over time**, focused on member experience with either financial strain, food insecurity, or housing instability from 2020 to 2022.

See [Appendix A](#) for more information about study methods.

How we can use this work to advance social health practice at KP and beyond

Our results show a significant **link between ED utilization and social risks** (specifically financial strain, food insecurity, and housing instability). Our findings also help illustrate the **evolving nature of social risk** among our members and point to the need for monitoring individual social risks over time. Future projects can use these results as a historical comparison and to inform the development and evaluation of social health interventions to reduce high-cost utilization — specifically those targeting **financial strain, food insecurity, and housing instability.**

What we learned

Social risk and ED visits


1 in 4 members had an ED visit

Members with social risk were **21% more likely** to have an ED visit



Compared to members with no social risks, those with **any of the 3 risks below** were **21% more likely** to have an ED visit. By social risk factor:

- **20%** more likely with financial strain
- **20%** more likely with food insecurity
- **31%** more likely with housing instability

Social risk and hospitalizations



1 in 10 members were hospitalized



Social risks were **not significantly linked** to increased likelihood of hospitalization.

See the charts in [Appendix B](#) for detailed data on links between social risk and acute utilization.

Changes in social risk among members who completed the SHS in 2020 and 2022



Member experiences with social risks were **dynamic over time** — meaning that while one risk might be resolved, another might persist or a new risk might emerge.

See the charts in [Appendix C](#) for detailed data on changes in each risk over time.

View the full reports from both National Social Health Surveys

For links to the full reports from the 2020 and 2022 Kaiser Permanente National Social Health Surveys, [visit this page](#) on the SONNET website.

Appendices

For more detailed information about study methods and results, please view the appendices on pages 3-4:

- [Appendix A](#): Study methods
- [Appendix B](#): Rate of ED visits and hospitalizations among members with any social risk (financial strain, food insecurity, and/or housing instability)
- [Appendix C](#): Changes in financial strain, food insecurity and housing instability from 2020 to 2022

Acknowledgments

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Appendix A: Study methods

Cox proportional hazards regression was used to analyze the relationship between social risk and care utilization during the follow-up observation period (January 2020-July 2023). All analyses were performed using weighted data that accounted for the stratified sampling design as well as sampling and response probabilities for the 2020 survey.

Appendix B: Rate and adjusted risk of ED visits and hospitalizations among members with social risk (financial strain, food insecurity, and/or housing instability)

Key finding on ED visits



Members who reported any social risk were **21% more likely to experience an ED visit** during the follow-up period compared to members who did not have social risk, after adjusting for covariates†.



Rate of ED visits

(per 1,000 person years*)



Data on likelihood of ED visits

(Risk ratio with 95% confidence interval)

Social risk factor	Risk ratio
Any social risk factor	1.21 (1.03-1.41)
Financial Strain	1.20 (1.03-1.39)
Food Insecurity	1.20 (1.02-1.40)
Housing instability	1.31 (1.09-1.57)

Key finding on hospitalizations



Members who reported any social risks were **not more/less likely to be hospitalized** during the follow-up period compared to members who did not have social risk, after adjusting for covariates†.



Rate of hospitalizations

(per 1,000 person years*)



Data on likelihood of hospitalizations

(Risk ratio with 95% confidence interval)

Social risk factor	Risk ratio
Any social risk factor	1.05 (0.84-1.32)
Financial Strain	1.28 (0.94-1.74)
Food Insecurity	1.05 (0.81-1.35)
Housing instability	1.01 (0.81-1.26)

*We use “per 1,000 person years” to report the number of acute utilization events among 1,000 members over a one-year time period.

†Models adjusted for: Age group, sex, race and ethnicity, education, marital status, self-reported physical health, comorbidity index, and survey design (weights truncated at the 95th percentile, account for survey design and non-response at the 2020 survey).

Appendix C: Changes in financial strain, food insecurity and housing instability from 2020 to 2022

Summary of members with **financial strain*** from 2020 to 2022:

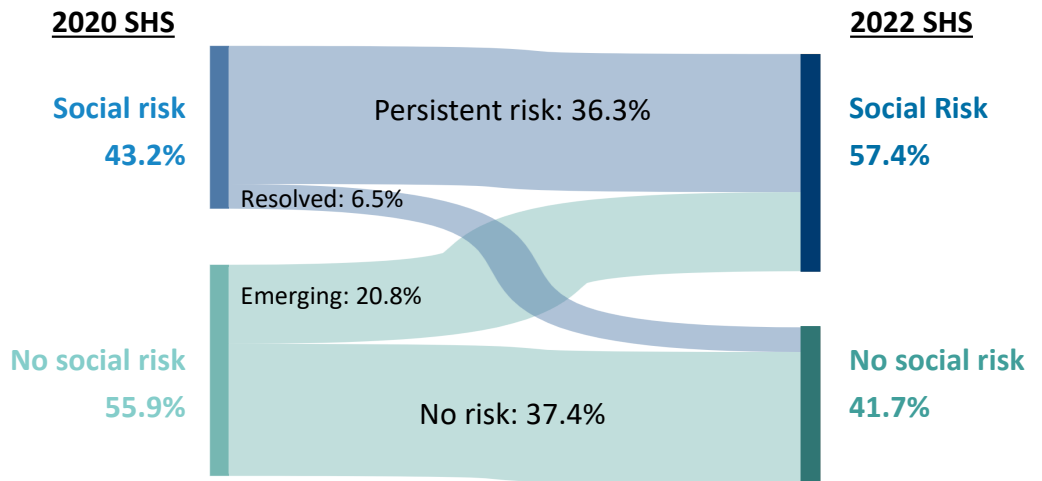
36.3% had a persistent risk

6.5% had a resolved risk

20.8% had an emerging risk

34.7% had no risk at either time point

**Measures updated for 2022 survey*



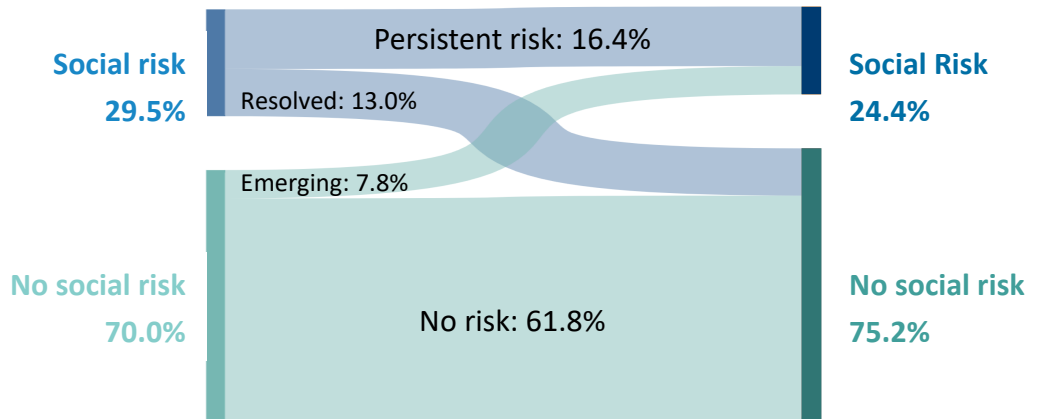
Summary of members with **food insecurity** from 2020 to 2022:

16.4% had a persistent risk

13.0% had a resolved risk

7.8% had an emerging risk

61.8% had no risk at either time point



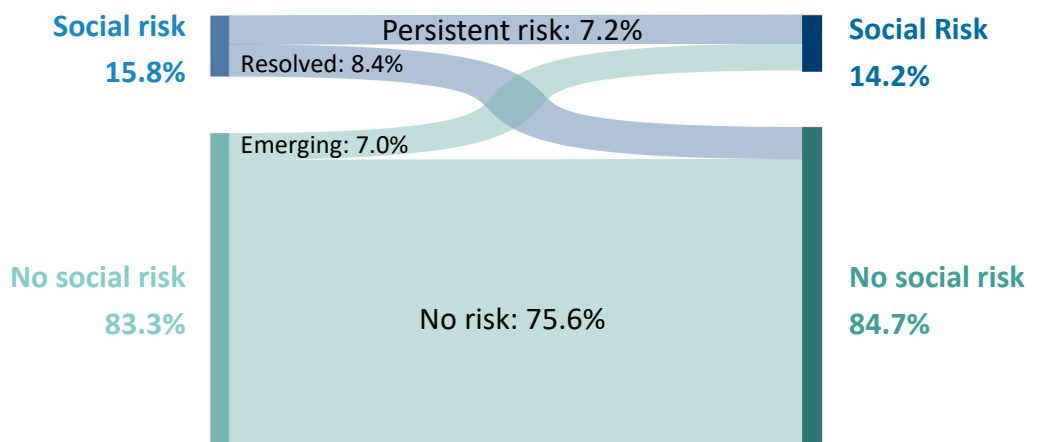
Summary of members with **housing instability** from 2020 to 2022:

7.2% had a persistent risk

8.4% had a resolved risk

7.0% had an emerging risk

75.6% had no risk at either time point



Charts made at SankeyMATIC.com