What Factors Influence Satisfaction with Public Health and Medical Services in Latin America and the Caribbean?

Owen Cai
Vanderbilt University

October 3, 2023

Key Findings:

- Wealth and age positively predict satisfaction with local public health services

- Education level and being a woman or non-binary versus being a man predict lower satisfaction in local public health services

- Those who are most concerned about corruption in the health sector are less likely to be satisfied with local public health services

- People living in a rural location are more likely to be satisfied with local public health services than those living in an urban location

USAID
FROM THE AMERICAN PEOPLE

VANDERBILT UNIVERSITY

LAPOP

AmericasBarometer
Barómetro de las Américas

Evaluations of public health resources may reflect the extension of government health provisions and the quality of those services. Patient satisfaction is one qualitative measure of the effectiveness of healthcare systems.[1] Not all of the general population use the health system, though an individual's perception of health services may be influenced by those who have used these systems, especially if they had a negative experience.[2] While satisfaction varies by person due to subjective expectations and preferences, patterns in satisfaction can indicate whether population health needs are heard and met. Moreover, given disparities in health services and treatments among various groups of social and demographic strata,[3] examining satisfaction could prompt more efficient reform and enhanced governmental support of different groups according to their needs.

This *Insights* report investigates the predictors of individuals' satisfaction with local public health services. These data from LAPOP's 2021 AmericasBarometer were collected during the COVID-19 pandemic, which may have influenced any of the following results. In this round of the survey, 10,029 people in seven countries responded to this survey question[4]:

SD6NEW2: [And thinking about this city/area where you live…] And with the quality of public medical and health services? Are you…

Individuals answered on a 1-4 scale, where 1 indicated "Very satisfied" and 4 indicated "Very dissatisfied."

Figure 1 reports the percentage of individuals who are satisfied or very satisfied with public health and medical services in each of the seven countries in which the question was included: Bolivia, Brazil, Chile, Costa Rica, Guyana, Panama, and Uruguay.[5] Uruguay and Costa Rica have the highest satisfaction at 63%. There is significant variation in satisfaction across countries, with Bolivia having the lowest level of satisfaction (29%). The fact that less than half the population is satisfied in four out of the seven countries surveyed indicates important needs with respect to the delivery of quality public health services in the Latin American region.

Some previous research on satisfaction with healthcare systems cross-nationally focuses on the combined public and private expenditure on these systems, finding that on average public and patient satisfaction is positively correlated with expenditure on public health and health systems.[6] Examining the correlation between satisfaction in health services and health expenditure per capita in USD (based on 2019 World Bank data), there is only a weak-to-moderate positive correlation for the set of seven countries considered in this report.[7] Additionally, a linear regression reveals no relationship between the aforementioned variables.[8] Ultimately, it is difficult to draw generalizable conclusions about the region with a small sample of seven countries.

Figure 1.

Satisfaction with Public Health Services by Country
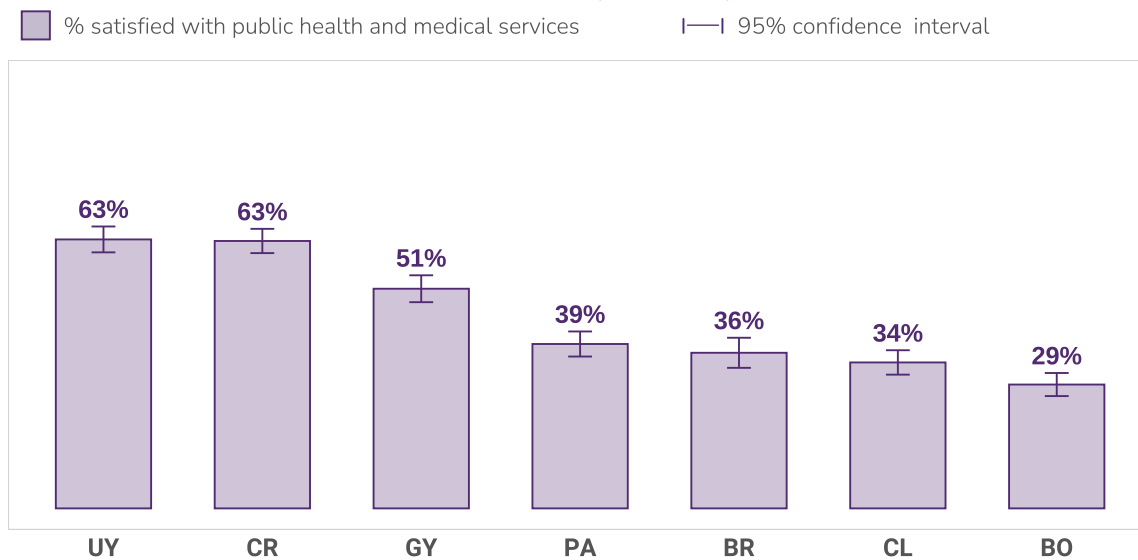

Source: AmericasBarometer, 2021

Given the null findings regarding the extent to which national expenditure on healthcare relates to satisfaction in the surveyed countries, more work can be done to identify other factors that explain cross-national differences. The rest of this report will focus on the individual-level socioeconomic, demographic, and other indicators that illustrate the forces shaping local satisfaction with public health and medical services.

Sociodemographic Predictors of Satisfaction with Public Health Services

To assess the degree to which socioeconomic and demographic characteristics predict satisfaction with local public medical and health services, I focus on age, wealth, education, and gender as predictor variables.[9] The dependent variable was reverse-scaled so that higher values indicate greater satisfaction.[10] I conducted an OLS regression with 95% confidence intervals. Each coefficient represents the estimated unit change in the dependent variable as the independent variable goes from its lowest to highest value. If the confidence interval crosses the 0 line, there is no statistically significant relationship between the independent predictor and the dependent variable.

Figure 2.

**Socioeconomic and Demographic Predictors of Satisfaction
with Public Health Services**

Source: AmericasBarometer, 2021
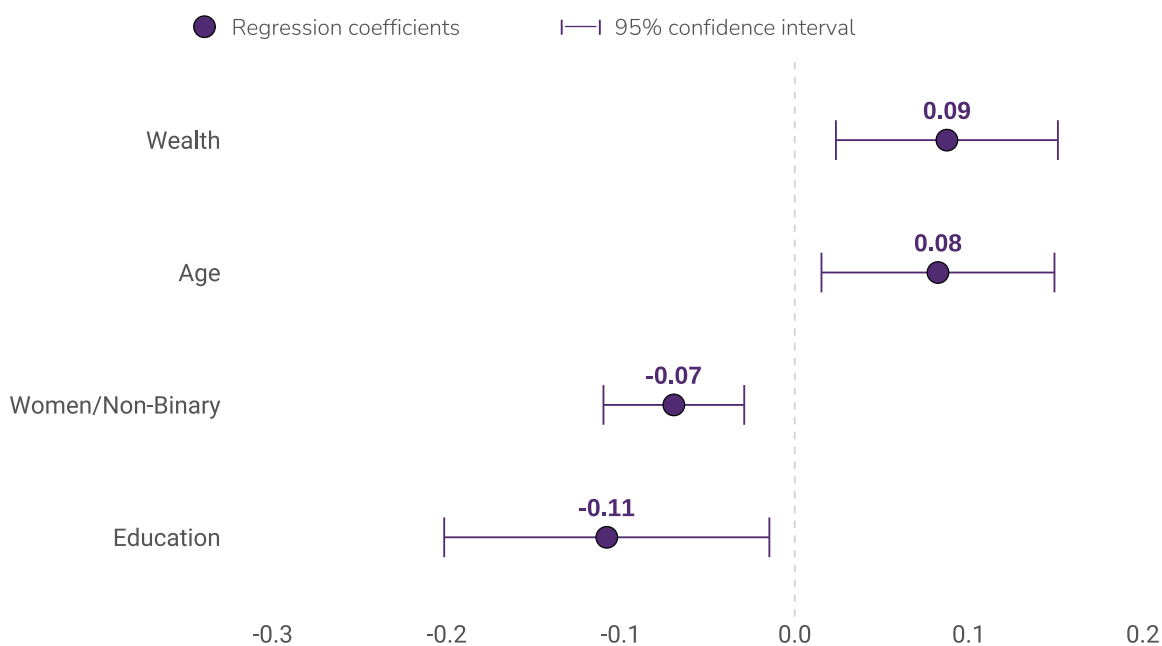
Figure 2 reveals that holding all other predictors constant, increased wealth is associated with a 0.09 unit increase in satisfaction with public health services; older individuals are 0.08 units more satisfied, as compared to the youngest cohort. On the other hand, being a woman or being non-binary predicts a 0.07 unit decrease in satisfaction and being more educated predicts a 0.11 unit decrease in satisfaction.

Previous relationships between wealth and satisfaction with health services are unclear. A meta-analysis found no relationship, whereas another analysis found a negative relationship between wealth and satisfaction in Great Britain.[11] On average, the wealthy are traditionally more satisfied with public goods and utilities.[12] Thus, my finding that wealthier people are more satisfied with health services extends the literature on the positive effect of wealth on satisfaction with local public health services.

Similarly, the relationship between age and satisfaction with health services is unclear.[13] Some literature points to a negative association between age and satisfaction with public health or healthcare, and others point to a positive association. Thus, my finding that age is positively associated with satisfaction is consistent with some literature.[14]

In a similar pattern, the literature has no consensus on the relationship between education and satisfaction, suggesting either a positive or not significant correlation.[15] The negative association between education and satisfaction with public health and medical services differs from previous literature. However, in Latin America in general, education predicts a higher perception of widespread political corruption: the more educated you are, the more cynical you tend to be.[16] A higher awareness of issues within the system may translate to less satisfaction with current public health services.

Lastly, there is no expectation of a consistent difference in satisfaction between gender.[17] My analysis diverges slightly from this literature; women and non-binary individuals appear to be less satisfied than men. Since much of the existing literature on women's satisfaction with health care services focuses on maternal and delivery health, there are few precedents and evidence-based explanations for the population of all women.[18] Maternal care does not encapsulate the concerns of women and non-binary people, but potential influences on satisfaction lie in differential treatment from workers and less extensive services for marginalized genders.[19]

Additional Predictors of Satisfaction with Public Health Services

In this section, I consider other factors that might be correlated with satisfaction with public health and medical services: perceived corruption in health, location, and ethnicity. Figure 3 is an OLS regression analysis holding the same socio-demographic variables and country-fixed effects from Figure 2 constant and including six new variables that will potentially influence satisfaction based on previous literature.

I examine perceived government corruption in health as an independent variable.[20] Corruption in government spending is negatively correlated with actual health outcomes like child or infant mortality.[21] While there is a dearth of literature examining public perceptions of government corruption in health in the LAC region, research across Europe and Africa have found that corruption leads to lower public trust in health services and lower perceived health care quality.[22] Previous literature does not specifically examine satisfaction with public health services, just health care in general, and some research only examines general perceived government corruption rather than corruption in public health specifically.

I examine the second variable, location, in terms of the differences in urban and rural satisfaction with public health services. Previous research tended to lean toward a negative association between rural location and satisfaction, but literature demonstrating both positive and negative associations exist. Rural areas often have fewer resources due to a dispersed patient population and a limited number of healthcare providers. Many rural patients do not believe that their local healthcare holds a candle to urban hospitals and will travel long distances to larger healthcare systems, potentially signifying lower satisfaction with local public health services among ruralites.[23] On the other hand, urban satisfaction with local public health services could be lower than rural satisfaction if people believe that city governments do not adequately provide public health services for challenges exacerbated by high population density, such as COVID-19, infectious disease outbreaks, or sanitation.[24]

The last four variables relate to ethnicity. I expect a negative relationship between indigenous people and satisfaction. I also expect the same for black/mulatto (combined) and "other" people (mainly Asian or European immigrants). For mestizo people, since they are a minority in some countries but not others, I expect no significant relationship when the data across countries are aggregated. There is no literature on the role of ethnicity in satisfaction with public health services in Latin America in the general population. However, minority status and discrimination affects patient satisfaction in other parts of the world. For example, races report differing quality of consumer healthcare in the United States.[25] The racial discrimination and alienation faced by minorities in Great Britain also potentially contributes to dissatisfaction with local services.[26] Minority groups vary across LAC countries, but indigenous people and the "other" category are in the minority for the AmericasBarometer data of the question analyzing satisfaction with health services. Aggregating black and mulatto people results in a minority group (except in Brazil and Guyana). Mestizo people are in the minority (except in Panama, Costa Rica, and Bolivia), so they might have experiences that relate less to other minority groups. These ethnic-racial groups may face differentiated treatment that will be associated with lower satisfaction.

Figure 3.

An Expanded Model Predicting Satisfaction with Public Health and Medical Services
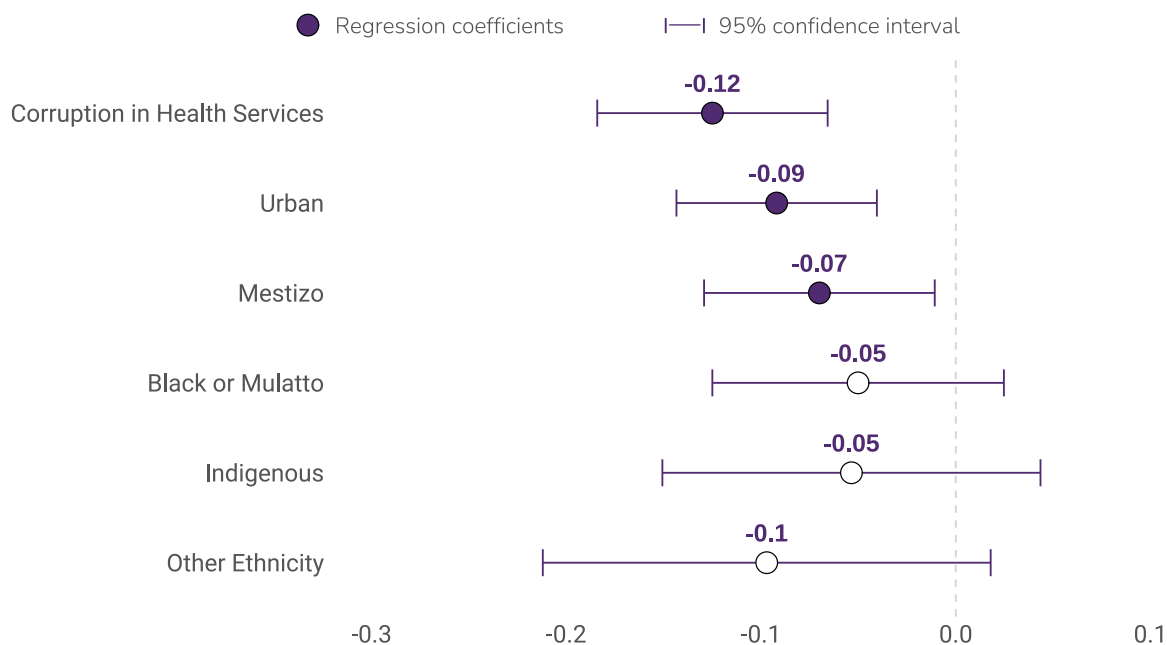
Source: AmericasBarometer, 2021

The belief that government corruption was greatest in the health sector predicts lower satisfaction with public health services. Living in an urban area instead of a rural place predicts lower satisfaction.

I also ran an analysis that included four separate dummy variables: black or mulatto, mestizo, indigenous, and other (e.g., Asian). The baseline remained "white." Out of all the ethnicity variables, only being mestizo (relative to the base category of white ethnicity) predicts a lower satisfaction with public health services. All four coefficients for the ethnicity variables are negative and of similar magnitude, but only the mestizo variable's coefficient reaches conventional levels for statistical significance. These null results should be taken with caution. With the low number of observations in the other sub-groups in the ethnicity analysis, we do not necessarily have sufficient power to detect a statistically significant effect.

Discussion

This *Insights* report examined common socio-demographic factors, ethnicity, perceived corruption in health services, and location as predictors of satisfaction with public health and medical services. Of these variables, belief that the health services sector has the greatest corruption is the strongest predictor of dissatisfaction with health services. On average, mestizo people, urban dwellers, women or nonbinary people, and the more-educated have lower satisfaction with health services, while wealthier and older people each have higher satisfaction with health services.

Notably, all the minority ethnicity variables except the mestizo group yielded inconclusive results, potentially due to the low number of observations in the ethnicity sub-groups. While we may not have sufficient power to detect a statistically significant effect, my analysis provides evidence that satisfaction with public health services varies by ethnicity in ways that require further examination. The topic of disparities in satisfaction between racial and ethnic groups matter largely for equitable provision of health services. Constructing culturally competent, feedback-oriented healthcare that account for linguistic and other cultural differences presents a promising opportunity to reduce ethnic disparities in satisfaction and participation with health services.[27]

This study was limited by the relative scarcity of literature on predictors of public satisfaction with public health services, as many studies focused solely on patient aftercare and individuals who directly engaged with health systems.[28] Searching for this topic in the LAC region added another filter limiting potential precedents from the literature. Future research delineating the expectations individuals have for public healthcare might allow for a more objective analysis of the subjective concept of satisfaction. Examining potential differences in satisfaction for individuals who have and have not used health services could reveal how public opinion differs or aligns with real experiences. Additionally, it would be interesting to evaluate the effects of ethnicity on satisfaction with health services when accounting for the different size of groups like black/mulatto across countries in the LAC region. Their status as a small minority group in one country and the first or second largest ethnic group in another might play a role in the significance of analyses.

Overall, this report finds a large range of satisfaction with health services across the seven countries surveyed. While the findings for association with gender and urban/rural location diverge from previous research, the findings for age, education, and wealth reinforce the literature on satisfaction with public health services. Evaluating the predictors of (dis)satisfaction with public health and medical services reveals citizens' attitudes on the government's capacity and willingness to support health systems that ensure their wellbeing. In the best interest of their people's health and their electoral prospects, government leaders have reason to care about disparities of health across socio-demographic groups.[29]

Notes

1.   Alosaimi et al. 2022.

2.   Andaleeb et al. 2007.

3.   Haviland et al. 2005; Judge and Solomon 1993; Fiscella et al. 2000; Castro et al. 2015.

4.   Percent item non-response: 2.67% (275 individuals out of 10,304 surveyed).

5.   All figures in this report use the following AmericasBarometer dataset version: 2021 v.1.2_w. Figure 1 is created by coding those who are satisfied or very satisfied as 1, and those who are dissatisfied or very dissatisfied as 0.

6.   Xesfingi and Vozikis 2016; Wendt et al. 2010; Blendon et al. 1990.

7.   World Bank 2022. The correlation coefficient between satisfaction with public health services and health expenditure per capita is 0.3244.

8.   A linear regression between the two variables indicates no linear relationship between the two variables with a not significant P-value (0.478). The R-squared value is 0.1052.

9.   These independent variables were re-coded from 0 to 1, with 0 being the lowest value of the variable except for gender. Age (labeled **EDAD**) is a cohort variable, grouping the individuals' ages in years (≤25, 26-35, 36-45, 46-55, 56-65, 66+). Movement from 0 to 1 is a movement from the youngest to the oldest age cohort. Wealth (labeled **WEALTH**) is measured based on a principal components analysis of the following questions: r3, r4, r7, r15, r18, r18n, r16, and r27. These questions ask about household possessions, such as a TV, refrigerator, etc. The WEALTH variable creates five quantiles with 1 as least wealthy and 5 as most wealthy. Education (labeled **EDR**) is categorical, prompted by asking about the highest level of education obtained by the individual. The categories are coded as None (0) and Primary [incomplete or complete] (0), Secondary [incomplete or complete] (0.5) Tertiary or University or higher [incomplete or complete] (1). Gender (labeled **GENDER**) is a dichotomous measure labeled as "Woman": self-identified women and those who identify as non-binary/other are represented by 1, while men are represented by 0. Non-binary/other individuals are included in the "woman" category because there are insufficient data to analyze them separately.

10.   The dependent variable (**SD6NEW2**) was reverse-scaled but kept on the original scale.

11.   Hall and Dornan 1990; Judge and Solomon 1993.

12.   Martinez et al. 2015.

13.   Lautamatti et al. 2020, Li et al. 2012; Judge and Solomon 1993.

14.   Lautamatti et al. 2020.

15.   Lautamatti et al. 2020, Li et al. 2012.

16.   Canache et al. 2019.

17.   Hall and Dornan 1990.

18. Adjei et al. 2019; Jafree et al. 2021; van Teijlingen et al. 2003.

19. Ayanian et al. 1999.

20. This independent variable was re-coded as a binary variable (0, 1). The most corrupt sector is measured with the variable **SOC2ACOR** from the 2021 AmericasBarometer: "And thinking now about corruption, in which of these areas do you think there is the most corruption? [Read alternatives. Mark only one answer]. The response options include (1) Education, (2) Health, (3) Water, (4) Electricity, (5) Transportation and roads, (6) Social assistance/welfare, and (7) The environment." I coded the responses of individuals who answered (2) Health as 1. I coded the responses of individuals who answered any of the six other sectors as 0.

21. Lewis 2006.

22. Kabote 2017; Nikoloski and Mossialos 2013; Radin 2013.

23. Nesbitt et al. 2005.

24. Diez Roux et al. 2020.

25. Haviland et al. 2005; Saha et al. 2003.

26. Judge and Solomon 1993.

27. Schutt and Woodford 2020; Anderson et al. 2003.

28. Andaleeb et al. 2007; Schutt and Woodford 2020; Haviland et al. 2005; Hall and Dornan 1990; Alosaimi et al. 2022; Xesfingi and Vozikis 2016. I attempted to search mostly for literature on satisfaction with health services involving the entire population but filled in gaps with patient satisfaction when necessary.

29. Bland et al. 2021.

References

Adjei, K.K., Kikuchi, K., Owusu-Agyei, S., Enuameh, Y., Shibanuma, A., Ansah, E.K., Yasuoka, J., Poku-Asante, K., Okawa, S., Gyapong, M. and Tawiah, C. 2019. Women's overall satisfaction with health facility delivery services in Ghana: a mixed-methods study. *Tropical Medicine and Health* 47: 1-9.

Alosaimi, Fahad D., Futoon S. Alsaleh, Luluh Y. Alsughayer, Lamees A. Altamimi, Ibrahim A. Alfurayh, Nashwa M. Abdel-Aziz, and Khalid A. Alsaleh. 2022. Psychosocial and Clinical Predictors of Patient Satisfaction with Cancer Care. *Saudi Pharmaceutical Journal* 30: 414–20.

Andaleeb, Syed S., Nazlee Siddiqui, and Shahjahan Khandakar. 2007. Patient satisfaction with health services in Bangladesh. *Health Policy and Planning* 22(4):263-273.

Anderson, Laurie M., Susan C. Scrimshaw, Mindy T. Fullilove, Jonathan E. Fielding, Jacques Normand, and Task Force on Community Preventive Services. 2022. Culturally competent healthcare systems: A systematic review. *American Journal of Preventive Medicine* 24(3): 68-79.

Bland, Gary, Derick Brinkerhoff, Diego Romero, Anna Wetterberg, and Erik Wibbels. 2021. Public Services, Geography, and Citizen Perceptions of Government in Latin America. *Political Behavior*: 1-28.

Blendon, Robert J., Robert Leitman, Ian Morrison, and Karen Donelan. 1990. Satisfaction with health systems in ten nations. *Health Affairs* 9(2): 185-192.

Canache, Damarys, Matthew Cawvey, Matthew Hayes, and Jeffery J. Mondak. 2019. Who sees corruption? The bases of mass perceptions of political corruption in Latin America. *Journal of Politics in Latin America* 11(2): 133-160.

Castro, Arachu, Virginia Savage, and Hannah Kaufman. 2015. Assessing equitable care for Indigenous and Afrodescendant women in Latin America. *Revista Panamericana de Salud Pública* 38(2): 96-109.

Diez Roux, Ana V., Tonatiuh Barrientos-Gutierrez, Waleska Teixeira Caiaffa, J. Jaime Miranda, Daniel Rodriguez, Olga Lucía Sarmiento, S. Claire Slesinski, and Alejandra Vives Vergara. 2021. Urban health and health equity in Latin American cities: what COVID-19 is teaching us." *Cities & Health* 5, no. sup1: S140-S144.

Fiscella, Kevin, Peter Franks, Marthe R. Gold, and Carolyn M. Clancy. 2000. Inequality in quality: addressing socioeconomic, racial, and ethnic disparities in health care. *JAMA* 283(19): 2579-2584.

Hall, Judith A, and Michael C Dornan. 1990. Patient Sociodemographic Characteristics as Predictors of Satisfaction with Medical Care: A Meta-Analysis. *Social Science & Medicine*. 30(7): 811–18.

Haviland, Mark G., Leo S. Morales, Thomas H. Dial, and Harold Alan Pincus. 2005. Race/ethnicity, socioeconomic status, and satisfaction with health care. *American Journal of Medical Quality* 20(4): 195-203.

Jafree, Sara Rizvi, Ainul Momina, Amina Muazzam, Rabia Wajid, and Gloria Calib. 2021 Factors affecting delivery health service satisfaction of women and fear of COVID-19: implications for maternal and child health in Pakistan. *Maternal and Child Health Journal* 25(6): 881-891.

Judge, Ken, and Michael Solomon. 1993. Public opinion and the National Health Service: patterns and perspectives in consumer satisfaction. *Journal of Social Policy* 22(3): 299-327.

Kabote, Samwel J. 2017. Perceived corruption and quality of health services in Mbeya urban district, Mbeya region Tanzania. *International Journal of Social Science Research* 5(1): 150-164.

Lautamatti, Emmi, Markku Sumanen, Risto Raivio, and Kari J. Mattila. 2020. Continuity of care is associated with satisfaction with local health care services. *BMC Fam Pract* 21(1): 1-11.

Lewis, Maureen. 2006. Governance and corruption in public health care systems. *Center for Global Development*, working paper 78.

Li, Zhijian, Jiale Hou, Lin Lu, Shenglan Tang, and Jin Ma. 2012. On residents' satisfaction with community health services after health care system reform in Shanghai, China, 2011. *BMC Public Health*, 12: 1-10.

Martinez-Valle, Adolfo. 2012. Public health matters: why is Latin America struggling in addressing the pandemic?. *Journal of Public Health Policy* 42: 27-40.

Nesbitt, Thomas S., James P. Marcin, Martha M. Daschbach, and Stacey L. Cole. 2005. Perceptions of local health care quality in 7 rural communities with telemedicine. The *Journal of Rural Health* 21(1): 79-85.

Nikoloski, Zlatko, and Elias Mossialos. 2013. Corruption, inequality and population perception of healthcare quality in Europe. *BMC Health Services Research* 13: 1-10.

Radin, Dagmar. 2013. Does corruption undermine trust in health care? Results from public opinion polls in Croatia. *Social Science & Medicine* 98: 46-53.

Saha, Somnath, Jose J. Arbelaez, and Lisa A. Cooper. 2003. Patient–physician relationships and racial disparities in the quality of health care. *American Journal of Public Health* 93(10): 1713-1719.

Schutt, Russell K., and Mary Lou Woodford. 2020. Increasing health service access by expanding disease coverage and adding patient navigation: challenges for patient satisfaction. *BMC Health Services Research* 20(1): 1-10.

van Teijlingen, Edwin R., Vanora Hundley, Ann-Marie Rennie, Wendy Graham, and Ann Fitzmaurice. 2003. Maternity satisfaction studies and their limitations: "What is, must still be best". *Birth* 30(2): 75-82.

Wendt, Claus, Jürgen Kohl, Monika Mischke, and Michaela Pfeifer. 2010. How do Europeans perceive their healthcare system? Patterns of satisfaction and preference for state involvement in the field of healthcare. *European Sociological Review* 26(2): 177-192.

World Bank. "Current health expenditure per capita (current US$)." The World Bank Group. Retrieved January 30, 2022. https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?name_desc=false

Xesfingi, Sofia, and Athanassios Vozikis. 2016. Patient satisfaction with the healthcare system: Assessing the impact of socio-economic and healthcare provision factors. *BMC Health Services Research* 16(1): 1-7.

Owen Cai (owen.y.cai@vanderbilt.edu) is an undergraduate at Vanderbilt studying Medicine, Heath, and Society, double majoring in Public Policy Studies, and minoring in Data Science. His interests lie in the realms of social determinants of health, health equity and access, and similar fields, with an emphasis on the application of research to policy and program implementation. He wrote this report as a part of the LAPOP Research Fellows Program.