TRUST IN SOUTHERN NEVADA HEALTH DISTRICT BY THE SOUTHERN NEVADA POPULATION DURING THE COVID-19 PANDEMIC

By

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Abstract

While various studies worldwide investigated trust in relation to health care, government and compliance with public health guidelines, literature remains scarce in relation to the Southern Nevada Health District (SNHD), its population and the services the organization offered during the COVID-19 pandemic. This study helps fill this gap and serves as a foundation for future research and a guide for service evaluations and improvements at SNHD. As trust towards local health districts by the community they serve remains an important component of public health for collaborative work, SNHD saw the need for evaluating trust by its population based on the services provided during the COVID-19 pandemic and performed an assessment of COVID-19 pandemic response during 5/16/22 - 8/12/22 through door to door surveys (n = 172). The current project is an expansion of this assessment with an objective to investigate trust in SNHD by Southern Nevada residents during the COVID-19 pandemic by looking at its association with various variables including gender, educational attainment, access to vaccination/testing resources, satisfaction by services and more. Chi square tests were performed to measure the associations between the variables and found that gender ($X2$(1, 124) = 9.10, p = .003), benefit from services during COVID-19 pandemic ($X2$(1, 102) = 51.45, p = .001) and satisfaction by services during COVID-19 pandemic ($X2$(1, 118) = 81.71, p = 0.001) had statistically significant associations with trust. Also, binary logistic regression analysis resulted in a model with a significant prediction performance using independent variables benefit and gender

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Chapter 1: Introduction

The Southern Nevada Health District (SNHD) is one of the largest public health agencies in the United States. It is the governmental public health authority for Southern Nevada with a vision of "healthy people in a healthy Southern Nevada" ("Southern Nevada Health District; 2016-2019 Strategic Plan," 2016). This agency was established in 1962 with close to 30 employees. Decades later today, it serves more than 2.2 million residents (72 % of Nevada's total population) in addition to 42 million visitors to Las Vegas each year (Southern Nevada Health District, 2018).

Public health functions at SNHD incorporate community health, environmental health and clinical services. Programs like epidemiology, disease surveillance, public health informatics, chronic disease prevention, health promotion and public health preparedness are among the community health functions, which played their role in the effort to respond to the COVID-19 pandemic ("General Information. Southern Nevada Health District," 2018).

Just like all other public health agencies, the COVID-19 pandemic has been a difficult incident to manage for SNHD. The CDC reported the first laboratory confirmed case in the U.S. on Jan 20, 2020 (Centers for Disease Control and Prevention, 2022). Since Jan 21, 2020, the CDC reports around 103 million cases and over one million deaths in the U.S. as of Sept 27, 2022 (Centers for Disease Control and Prevention, 2022, n.d.). While these data are just in the U.S., COVID-19 as a worldwide pandemic has brought about a tremendous amount of damage by causing millions of deaths, affecting physical and psychological health, resulting sociological effects and more. SNHD then has been providing numerous services and taking measures in an effort to respond to the pandemic. Besides serving as a major source of reliable health related information directly from the

CDC, services offered during the pandemic include (but not limited to); contact tracing, testing, vaccination, quarantine/isolation shelters, COVID-19 hotline, information on resources for those in need of food and/or other necessities and distribution of at home testing kits. The SNHD website remains resourceful to learn more about SNHD's response to the pandemic as well as get access to COVID-19 case and vaccine data (Southern Nevada Health District, 2022).

The current research project is an expansion of an assessment of COVID-19 pandemic response by SNHD that was performed during 5/16/22 - 8/12/22. The assessment aimed to evaluate the effectiveness of the COVID-19 pandemic response by the health district through investigating the availability of testing and vaccination resources among Southern Nevada residents as well as learning whether the residents were able to develop trust towards SNHD based on its performance during the pandemic. SNHD reasons the need for the project as, "the main reason we wanted to ask those questions is that we knew trust in the CDC, HHS, and other federal agencies during the pandemic was pretty low. We wanted to ensure that the same was not the case locally. Most of the time, you only hear the negative things and never hear the positive, so we didn't have a good handle on overall community trust" (M.Robinson, personal communication, September 27, 2022). This statement is supported by reports from several media outlets declaring decline in public health during the COVID-19 pandemic including The New York Times, U.S. News & World Report, The National Public Radio and others (Hamblin, 2022; McNiff, 2022; Simmons-Duffin, 2021; Pollard, 2021; Oliver, 2021). A study was found that investigated trust towards CDC at the national level and found that adolescents reported high levels of trust in the CDC (72.2% reported trusting the CDC) while adults reported moderate levels of trust

(64.6%) before the pandemic (Badman et al., 2022). However, no literature was found on trust in general with local and health districts elsewhere and the fact that trust during COVID-19 towards public health was declining marks the research topic essential in the effort to understand the perception of the population towards SNHD and its services during the pandemic.

The *objective* of the current study is to investigate trust in SNHD by Southern Nevada residents during the COVID-19 pandemic by looking at its association with various variables including gender, educational attainment, access to vaccination/testing resources, disappointment by services and more listed in chapter 3. While there is no literature found on this topic, trust has been investigated by many researchers and is shown to have an impact on curbing the pandemic outbreak, determining residents' compliance to guidance and more, which will be discussed in the following chapter.

SNHD shows a 3.5/5 rating on yelp out of a total of 121 reviews. While approximately 48.8% left five stars, 21.5% left only one star (Yelp, n.d.). Issues raised in the comments include being turned away for COVID-19 services, long wait times, uninformed vaccination location change, poor service and others. Positive feedbacks include friendly & professional staff, clean clinic environment, organized COVID-19 vaccine system. On a similar note, SNHD has previously faced accusations from its employees in regards to the contact tracing program during the pandemic, which was reported on 8 News Now as "I-Team: Employees say SNHD contact tracing program a miserable failure" (Knapp, 2021). These accusations were on contact tracing phone call delays, inaccurate reporting of success and others, which could have possibly affected the reputation of the organization and put residents' trust in jeopardy. While both positive and negative views are normally expected from a group and this information can give some insight

about how residents generally feel about SNHD, it can only serve as a starting point for a reliable and unbiased scientific study given the fact that not much is scientifically reported about the resident's perception of SNHD in regards to the COVID-19 pandemic.

While this study will serve as an insight to answer unknown subjects like discussed above, it would have a significant contribution to the public health field for reasons beyond SNHD's reputation. This includes ensuring future compliance to guidelines, active co-operation and collaborative work on all necessary matters in addition to identifying areas that need improvement for better emergency preparedness and service provision (on the health districts' side), while all work towards the shared goal of achieving a healthy community of individuals.

Chapter 2: Background and Significance

Not much is currently known about trust towards SNHD by the Southern Nevada residents, including during the time of the COVID-19 pandemic. There was no literature found specific to the population and a local health district. Similarly, not much work is found that aimed to understand trust in a health district of another location and population. However, several studies highlight the need for health organizations to build trust by the community they serve and acknowledge trust between these two parties as an essential component in public health. Some are presented below to highlight the current work available in regards to the topic of trust.

A study in France aimed to analyze the role of health system and social trust in the fight against COVID-19 and highlighted that health care services and social trust play a significant role in curbing the COVID-19 outbreak (Amdaoud et al., 2021). Another study titled "Trust in Public Health Is Essential Amid the COVID-19 Pandemic" supports this argument by stating, "public health and health care system leaders must partner in the strategic design and reinforcement of messages to build strong and lasting trust in the ongoing public health interventions and mandates that are going to be with us for the unforeseen future" (Udow-Phillips et al., 2020). Similarity, an ethical legal report by Blauwet et al. titled "Vulnerability, Interdependence, and Trust in the COVID-19 Pandemic" states that building rapport and gaining trust is often the first step in being able to effectively partner with patients to achieve the best service outcome and that patients need to trust that providers have the requisite knowledge and skills to care for them (2020). Vergara et al. discuss the need for efforts that help build public trust like public education and role-modeling from public officials and health authorities as a

response towards a public health concern; COVID-19 vaccine hesitancy (2021). One thing in common with all of these publications is that they all acknowledge trust as a crucial attribute.

A great amount of literature was found that evaluated the role of trust in relation to compliance with public health guidelines during the COVID-19 pandemic. A study from Norway found that health officials' dissemination of vaccine related information as one of the key variables of vaccine hesitancy, which shows that trust has an impact on complying with public health guidelines and taking preventative measures (Ebrahimi et al., 2021). As such, high trust in government was found to be associated with higher intensity of practicing preventative measures at the national level in a study done among Japanese individuals during the COVID-19 pandemic. This study also showed that high trust in government was associated with higher likelihood of support towards public health regulations like stay-at-home requests, use of contact-tracing app and the receipt of influenza vaccine during the previous season (Gotanda et al., 2021). Another study from Saudi Arabia aimed to evaluate public trust and compliance with public health measures during the COVID-19 pandemic and found that a high level of trust was shown by the population in relation to taking public health precautionary guidelines given by authorities (Almutairi et al., 2020). Furthermore, González-Melado et al. support the notion that institutional trust contributes to the voluntary action of receiving COVID-19 vaccination by citizens, which will factor into the collective immunity against the threat and thus, meeting one of the goals of public health (2021). Another study from Europe investigated trust in five social institutions including the healthcare system and national government and found that institutional trust mediated the relationship between certain variables and mental health during the COVID-19

pandemic (Lee et al., 2022). The study by Bodas et al. also implied that trust is a viral element in public compliance (2021) while another study by Ayalon et al investigated the role of trust relation to people's response during the COVID-19 pandemic (2021) . These studies spotlight trust as an essential variable to evaluate in relation to the COVID-19 pandemic since compliance with guidelines remains a pillar in the effort of combatting the virus.

A study by Guo et al. aimed to understand the effect of COVID-19 pandemic on public confidence in the World Health Organization (WHO) and stated the need for WHO along with other international organizations to take the responsibility of building and maintaining public credibility during emergencies (2022). Its findings are useful for learning the effect of COVID-19 on individual views of social institutions of global standing, which can possibly be generalized towards local health institutions as well. While this study focused on public confidence, another one by Pak et al. aimed to explore how public trust mediates adherence to "levels of stringent government health policies "by people and highlights the significance of public health in government and governmental institutions during health emergencies like the COVID-19 pandemic, which can be regarded as a call for additional work on trust (2021). On this note, a literature review by Devine et al. also draws attention to the need for research to understand dynamics of trust (2021).

On another note, trust during the COVID-19 pandemic has been found to be significantly related with various variables across a number of literature. A study by Beller et al. investigated the association between trust and multiple variables and found that being middle-older age, being female, lower levels of education, unemployment, worse general health status, having income difficulties, having unmet needs for healthcare, having no healthcare contact during the COVID-19 pandemic,

higher mental distress, and loneliness, were significantly associated with lower levels of trust (2022). Another study shows that institutional trust, belief in a just world, fear of COVID-19 and subjective wellbeing were found to be significantly interrelated (Li et al., 2022).

In the study by Gotanda et al. also, high trust in government was associated with higher intensity of practicing preventive measures (2021). A review across 29 studies also showed that individuals who trust governments were more likely to comply with COVID-19 public health guidelines (Moran et al., 2021) similar to another study that found a positive significant relationship between public health in the government and implementing public health guidelines (Saechang et al., 2021). Another resource from Hawaii indicates that community trust played a role for the community health workers as they were able to reach out to marginalized and vulnerable populations during their response efforts against the COVID-19 pandemic (Moir et al., 2021). While trust was also found to be correlated with compliance within the context of other pandemics in another study (Blair et al., 2017), and the focus will just be on COVID-19 pandemic for the purpose of this project, the finding only strengthens the significance of trust in public health. While the majority of the listed findings are international and may not necessarily apply directly to the U.S. healthcare system, studies in the U.S. are very limited on this topic especially during the COVID-19 pandemic. This shows that trust in public health during the COVID-19 pandemic is a worldwide concern and attests for the need for more work in the U.S. on this topic.

Evidently, while there remains literature on trust as an essential component in public health, compliance with preventive guidelines and the variables associated with it; there remains a gap of knowledge related to services offered by local health districts and its relationship with

trust by the respective populations in the United States. This study fills this gap by investigating the association between trust and demographic and other variables like satisfaction and benefit from services during the COVID-19 pandemic towards SNHD by the population it serves.

Chapter 3: Methods

Research Question: This research project aims to understand trust in SNHD during the COVID-19 pandemic by examining its association with variables age, race, ethnicity, gender, educational attainment, access to the internet and electronic device to fill out an electronic screening and appointment registration form prior to getting COVID-19 test, having to cancel or reschedule COVID-19 testing appointments due to lack of access to transportation, access to the internet and an electronic device to fill out an electronic screening and appointment registration form prior to getting COVID-19 vaccine, having to cancel or reschedule COVID-19 vaccination appointments due to lack of access to transportation, distress experienced related to getting a COVID-19 test due to lack of resources, distress experienced related to getting a COVID-19 vaccine due to lack of resources, benefit from SNHD services and satisfaction by SNHD services during the pandemic. This study answers the question of whether trust is associated with any of these variables or not.

Data Source and Research Design

As mentioned in the introduction section, this project utilized survey data from a previous assessment project conducted by SNHD. The goal of this project was to answer two research questions by applying Community Assessment for Public Health Emergency Response (CASPER) methodology. These questions were:

1. Did the Southern Nevada population have sufficient access to basic resources (COVID-19) during the COVID-19 pandemic?
2. Was the community able to develop trust in the Southern Nevada Health District?

Survey Drafting

The survey included three sections with each section including 1- 10 questions. The first section being demographics, the following two were designed to each address a research question by the assessment. Questions were a combination of multiple choice (select all that apply and select only one answer) and rate your experience on a scale of 1-10. All questions resulted in categorical variables. A copy of the survey is included as an appendix (Appendix A, pg. 35).

Data Collection

Originally, SNHD designed the project to follow the Community Assessment for Public Health Emergency Response (CASPER), a two-stage cluster sampling and data collection methodology. Even though it was later modified to convenience sampling methodology instead of CASPER upon implementation, the CASPER Sampling Methodology guide was followed using the census tract data provided by the health district at the beginning of the project to perform the selection (Centers for Disease Control and Prevention, 2020-a). As such, Microsoft Excel and SPSS (for number generation) were used to perform the selection (without replacement) and a total of 40 geographic areas were selected with 10 of them being additional for backup purposes. The selections using this method had a lot of tracts very close to each other and none were in the center of town (most desired area for targeting). Furthermore, sampling without replacement was not the guidance by the CASPER Sampling Methodology and thus, a second sample of selection was generated using R instead of SPSS, which is capable of performing sampling with replacement. These selections were used to switch out some tracts from the original selection. In total, 172 survey responses were collected.

Hypotheses

For the purpose of the hypotheses, the variables will be grouped into three categories. **Demographic variables:** age, race, ethnicity, gender and educational attainment **Access variables:** access to the internet and an electronic device to fill out an electronic screening and appointment registration form prior to getting COVID-19 test, access to the internet and an electronic device to fill out an electronic screening and appointment registration form prior to getting COVID-19 vaccine, having to cancel or reschedule COVID-19 testing appointments due to lack of access to transportation, having to cancel or reschedule COVID-19 vaccination appointments due to lack of access to transportation, distress experienced related to getting a COVID-19 test due to lack of resources and distress experienced related to getting a COVID-19 vaccine due to lack of resources

Service variables: benefit from SNHD services during the pandemic and satisfaction by SNHD services during the pandemic

- **$H1_0$:** These is no significant association between trust and the demographic variables & **$H1_a$:** These is a significant association between trust and at least one of the demographic variables
- **$H2_0$:** These is no significant association between trust and the access variables & **$H2_a$:** These is a significant association between trust and at least one of the access variables
- **$H3_0$:** These is no significant association between trust and service variables & **$H3_a$:** These is a significant association between trust and at least one of the service variables

Analytical Method and Theoretical Framework

The Chi-Square test of independence was performed to assess the relationship between trust and each of the demographic, access and service variables. Some variables were regrouped/recreated as follows to adjust for very low case counts per each category.

Age: 18-34, 35-54 and > 55 (three levels)

Race: White, Non-White (two levels)

Educational Attainment: High School/GED or lower, Some college/Associates Degree/Technical Degree, Bachelor's degree/higher (three levels)

The Gamma and kendall's tau b measures were used to further understand the strengths of associations.

Binary Logistic Regression (BLR) analysis: Then, Binary Logistic Regression **(**BLR) analysis was run to build a model using variables that are found to be significantly associated with the dependent variable and meet all assumptions. The dependent variable trust asked participants to rate the statement "I have developed trust in the Southern Nevada Health District based on its performance during the pandemic "on a 3-point Likert scale where 1=no, I do not agree, 2=Neutral and 3=yes, I agree. Participants who chose "3" will be defined as "developed trust based on SNHD's performance during the pandemic" while those who chose "1" as "did not develop trust based on SNHD's performance during the pandemic." Variable type is ordinal categorical variable. It was recorded as dichotomous for the purpose of running BLR and all independent and dependent variables are categorical, hence no outliers. As such, two of the assumptions were met. To check for multicollinearity, chi square tests were run between each of the independent variables.

Chapter 4: Results

Data Description

Demographic characteristics of age, race, ethnicity, gender and highest educational attainment were analyzed for the 172 participants as shown in table 1 below.

Table 1: Demographic characteristics of survey respondents and Nevada population (Healthy Southern Nevada, n.d.).

Demographic Characteristics	Sample Population (n = 172), n (%)	Nevada Population, %
Age		
18-24	6 (3.5)	8.25
25-34	24 (14)	13.87
35-44	31 (18)	13.61
45-54	28 (16.3)	12.60
55-64	39 (22.7)	12.32
>65	43 (25)	17.10
Missing	1 (1.2)	--
Race		
White	90 (52.0)	72.8
Black/African American	19 (11.0)	10.6
Asian American Native Hawaiian or other Pacific Islander	14 (8.1)	10
Multiple	12 (6.9)	--
Missing	37 (21.5)	--
Ethnicity		
Hispanic or Latinx	61 (35.5)	29.9
Not Hispanic or Latinx	97 (56.4)	46.6
Missing	14 (8.1)	--
Gender		
Male	71 (41.3)	50.4
Female	94 (54.7)	49.6
Missing	7 (4.1)	--
Educational Attainment		
High school/GED or lower	65 (37.8)	41.1
Some college, Associates or Technical Degree	54 (31.4)	33.5
Bachelor's Degree or Higher	48 (27.9)	25.4
Missing	5 (2.9)	--

The demographic characteristics of the sample population is presented in Table 1. Also included in the table is information of the entire Nevada population for the year of 2022 for each of the variables (Healthy Southern Nevada, n.d.). Overall, the majority of the survey participants were 65 years or older. Looking at the race variable, 52% of the participants account for white followed by Black/African American (11%). While comparing the variable with the entire NV population, the white accounts for 72.8% which is very much higher than the percentage of the sample population. For Black/African American and Asian American Native Hawaiian or other Pacific Islander however, the sample and NV population percentages are very close (11% vs 10.6% and 8.1% vs 10%, respectively). Hispanics/Latinx accounted for 35.5% of the sample population and 29.9% of the NV population while Non-Hispanics/Latinx accounted for 56.4% of the sample population and 46.6% of the NV population. Even though there remain differences in the percentages between the two populations, there are higher Non-Hispanics/Latinx than Hispanics/Latinx in both unlike the gender variable. The percentage of female participants (54.7%) was higher than male (41.3%) in the survey population. Looking at the educational attainment variable, percentages of those who have completed a bachelor's degree or higher are very close in the two population groups (27.9% vs 25.4%).

Chi-Square Analysis Results

Out of the demographic variables, there was a significant association only between trust and gender, $X_2(1, 124) = 9.10$, $p = .003$. While none of the access variables had a significant relationship with trust, two of the service variables had: benefit from SNHD services $X_2(1, 102) = 51.45$, $p = .001$ and satisfaction from SNHD services $X_2(1, 118) = 81.71$, $p = 0.001$. Table 2 shows the Chi square test of independence test results for all variables.

Table 2. Chi square test of independence results

Demographic Variables			
Variable	**Chi-Square**	**Degrees of freedom**	**P-value**
Age	0.40	2	0.818
Race	0	1	0.991
Ethnicity	1.61	1	0.205
Gender	9.01	1	0.003
Educational Attainment	0.89	2	0.64
Access Variables			
Variable	**Chi-Square**	**Degrees of freedom**	**P-value**
Access to Resources for Testing	0.23	1	0.633
Cancel/Reschedule Testing	0.25	1	0.618
Access to Resources for Vaccination	0.62	1	0.43
Cancel/Reschedule Vaccination	0.35	1	0.557
Service Variables			
Variable	**Chi-Square**	**Degrees of freedom**	**P-value**
Benefit from SNHD services	51.45	1	0.001
Satisfaction by SNHD services	81.71	1	0.001

As shown in table 2, gender was the only demographic variable found to have a significant association with trust (with G = .61, table 3). This finding rejects the first null hypothesis that none of the demographic variables would have association with trust. The

Second null hypothesis is accepted since none of the access variables showed a significant association with trust. Out of the three variables that showed significant associations with trust, two of them were the service variables (table 2) (i.e Benefit from SNHD services and Satisfaction by SNHD services. This rejects the third null hypothesis.

For the three variables that had significant association with trust, additional symmetric measure results and the cross-tabulation tables are presented as follows.

Table 3. Symmetric measures and values

	Symmetric Measure	
Variable	Gamma	Kendel's Tau b
Gender	0.61	0.27
Benefit from SNHD services	0.96	0.71
Satisfaction by SNHD services	0.99	0.83

Positive strong relationships between benefit from SNHD services and satisfaction by SNHD services and trust can be read from table 3, based on the symmetric measures.

Table 4. Contingency table for trust and gender

			Gender		
			Male	Female	Total
Trust	**Didn't develop trust**	**Count**	17	7	24
		Expected Counts	10.5	13.5	24
		% within Trust	70.8%	29.2%	100%
		% within Gender	31.5%	10.0%	19.4%
	Developed trust	**Count**	37	63	100
		Expected Counts	43.5	56.5	100
		% within Trust	37.0%	63.0%	100%
		% within Gender	68.5%	90.0%	80.6%
Total		**Count**	54	70	124
		Expected Counts	54	70	124
		% within Trust	44%	57%	100%
		% within Gender	100%	100%	100%

Table 4 presents the cross tabulation between gender and trust. Out of a total count of 124, 68.5% of the male and 90% of the female participants developed trust in SNHD based on its services during the COVID-19 pandemic. This leaves out only 10% for those that were female that did not develop trust. The table shows a higher rate of trust among females than males, which shows that gender difference has resulted in a great percentage difference in developing trust in SNHD.

Table 5. Contingency table for trust and benefit from SNHD services during the COVID-19 pandemic

			Benefit		
			Disagree	Agree	Total
Trust	Didn't develop trust	Count	17	5	22
		% within trust	77.3%	22.7%	100%
		% within benefit	77.3%	6.3%	21.6%
		% of total	16.7%	4.9%	21.6%
	Developed trust	Count	5	75	80
		% within trust	6.3%	93.8%	100%
		% within benefit	22.7%	93.8%	78.4%
		% of total	4.9%	73.5%	78.4%
Total	Total	Count	22	80	102
		% within trust	21.6%	78.4%	100%
		% within benefit	100%	100%	100%
		% of total	21.6%	78.4%	100%

As shown in table 5, only 6.3% of those who developed trust disagreed that they benefited from services by SNHD during the COVID-19 pandemic while 93.8% agreed. The

same percentage of 93.8% of those who agreed to have benefited from the service address also developed trust.

Table 6. Contingency table for trust and satisfaction by SNHD services during the COVID-19 pandemic

			Satisfaction		
			Disagree	Agree	Total
Trust	**Didn't develop trust**	**Count**	18	5	23
		% within trust	78.3%	21.7%	100%
		% within satisfaction	94.7%	5.1%	19.5%
		% of total	15.3%	4.2%	19.5%
	Developed trust	**Count**	1	94	95
		% within trust	1.1%	98.9%	100%
		% within satisfaction	5.3%	94.9%	80.5%
		% of total	0.8%	79.7%	80.5%
Total	**Total**	**Count**	19	99	118
		% within trust	16.1%	83.9%	100%
		% within satisfaction	100%	100%	100%
		% of total	16.1%	83.9%	100%

In table 6, only 1.1% of those who developed trust disagreed with being satisfied by services offered by SNHD during the COVID-19 pandemic while 98.9% agreed. Out of those who agreed to have been satisfied, 94.9% developed trust in SNHD.

Binary Logistic Regression Analysis Results

The model (model 1) was run in SPSS by only using the variables that showed significant association with the dependent variable, trust. Collinearity tests resulted in a significant association between variables benefit and satisfaction ($X_2(1, 110) = 65.29$, p = .001.) while gender had no association with either (please see Appendix B, pg. 45-46). As such, the two positively correlated variables could not be kept in the same model. Out of the two models that were run using gender and either benefit or satisfaction, the model (model 1) with gender and benefit was the best fit and thus is reported. Based on the Omnibus tests of coefficients, the full model has a significant prediction performance $X_2(2, 96) = 44.12$, p = 0.001. The Hosmer and Lemeshow test also shows that the model adequately fits the data $X_2(2, 96) = 1.84$, p = 0.399. Based on the model summary table (please refer to Appendix B, pg 49), the full model explains about 36.8% - 58.5% variation on the dependent variable. As shown in the classification table for step 1 in the outputs, 91.7% of the observed respondents who developed trust were correctly predicted by the model. While looking at each independent variable, only benefit had a significant odds ratio, which was 69.19. As such, those who benefited were 69.19 more likely to develop trust towards SNHD based on the services during the COVID-19 pandemic (Kuraz Consulting, 2022).

Chapter 5: Discussion

This study presents three main findings i.e. gender, benefit and satisfaction were significantly associated with trust. Gender was indeed expected to have association with trust based on previous research findings (Beller et. al and Moral et al.). While being a female showed a higher percentage of trust in the current study, the findings by Beller et al. reported lower trust by females in the healthcare system during the COVID-19 pandemic (2022). Conversely, women were found to be more compliant with public health guidelines by Moran et al (2021), and compliance with public health guidelines has been shown to be associated with trust in several studies (e.g. Moran et al., Park et al. and more mentioned in Chapter 2).

The no association between age and trust contradicts with the findings from Beller et al. that being older was associated with lower trust (2022). The majority of the survey participants were 55 years or older in the survey and some level of association should have been seen.

Though studies on the association of race/ethnicity and trust in a health district are limited, the fact that there was no association found between trust and these variables can be argued as a positive attribute to the Southern Nevada population. This was seen despite historical studies like the Tuskegee Syphilis Study as well as others that stated that "patterns of trust in components of our healthcare system differ by race" (Boulware et al., 2003). It is also worthy to note here that the majority of the survey participants were non-Hispanic whites since the population break down may have possibly affected the results. Though there has not been found a study that measured the association between educational attainment and trust in a health district, a report by Tsai et al. stated that health literacy had significant positive association with trust in healthcare and physicians (2018). While the relationship between knowledge and trust can be taken away

from this study, a similar notion was taken in account and thus, educational attainment was expected to have association with trust. On the other hand, however, having advanced educational training in general may not necessarily be in regards to public health services provided by the government and we can't assume all educated individuals are well informed about public health practices.

While none of the access variables showed a significant association with trust, the study by Beller et al. did find having income difficulties and unmet needs as predictors of lowered trust in the healthcare system during the COVID-19 pandemic. Having access to testing and vaccination resources remain crucial for the well-being of a community and the bigger goal of a functional public health disease prevention system. Thus, while these findings may be a first for the Southern Nevada population, it is recommended that it remains a topic for future research for additional insights.

Since people who benefited and were satisfied from the services offered by SNHD during the pandemic are more likely to develop trust, it was expected that these associations existed between these variables, which is also supported by a scientific finding where patient satisfaction affected patient trust (Durmuş et al., 2020). This study also reports that benefit is a statistically significant predictor of trust with OR of 69.19, which strengthens the significance of this variable and urges further research and or actions by SNHD in order to ensure the usefulness of the services currently offered to the community.

Significance

This finding is significant to the field of Public Health by contributing insights of the

resident's perception of services offered to them by their local governmental Public Health institution. As such, this information is useful for learning important variables that play a role for building trust by the community, while also providing a ground for areas that possibly need work for future improvements and better preparedness for unexpected disease outbreak incidences like COVID-19. As discussed in the study by Guo et al., establishment and maintenance of public credibility during emergencies is an essential component for collaborative work between the community and governmental Public Health institutions and thus, findings from this study will contribute for an improved service that will eventually build the desired credibility for SNHD (2022).

Specifically, the new findings of association between benefit and satisfaction from SNHD services with trust can help SNHD as it continues serving the community by highlighting the need for paying attention to quality and effectiveness of the services it provides. This study provides scientific evidence for the previously unknown topic of trust towards SNHD during the COVID-19 pandemic by the Southern Nevada Population and fills the gap in public health research. Based on these findings, SNHD can now take the initiatives to maintain a good reputation and trust by the community through making sure services are beneficial and satisfactory as it uses epidemiological methods to monitor and control communicable diseases. As such, a next step could potentially be service evaluations to make room for improvement or safeguard existing programs that are found excellent upon the evaluations.

Limitations and Future Recommendations

One limitation that this study has is the question of well-representativeness of the sample population. This is particular to variables age and gender. While 25% of the sample

population were 65 and older, only 17.1% are of the same age group in Nevada (the only age group with available data on the website). Furthermore, while there were more females in the sample population than males, the case is different for the Nevada population (i.e. 50.4% male and 49.6% female), which raises the issue of selection bias. This could be due to the other limitation of small sample size, which has made the sampling subject to bias. However, this should not make the findings of this study invalid since a scientific approach was taken for sampling and due to the fact that sampling bias/error is still possible in simple random sampling. Regardless, generalizability for the finding of association between the variables and trust may not feasible given the selection bias and is recommended to be rerun in the future over a sample with none. Additionally, since in person-interviews were conducted to complete the surveys though demand-characteristics, extreme responding and interviewer, and response biases are possible.

It is recommended that the research design may be implemented on a larger sample size to obtain feasible results, which is supported by studies like the one by Brawley O. W. (1998). This would address the limitations that resulted from the small sample size and increase the chance of generalizability of the findings.

Appendix A

Survey Questions

Part 1: Demographics

1. What is your age? (Select all that apply)
    1. 18-24
    2. 25-34
    3. 35-44
    4. 45-54
    5. 55-64
    6. 65 or above
    7. Prefer not to answer

2. What is your race? (Select all that apply)
    1. White
    2. Black/African American
    3. Asian American
    4. Native American/American Indian or Alaska Native
    5. Native Hawaiian or other Pacific Islander
    6. Multiple
    7. Prefer not to answer

3. What is your ethnicity?
    1. Hispanic or Latinx
    2. Not Hispanic or Latinx
    3. Prefer not to answer

4. What sex were you assigned at birth, on your original birth certificate?
    1. Male
    2. Female
    3. Prefer not to answer

5. What is the highest level of education you completed?
    1. Never attended school
    2. Grades 1 through 11
    3. Completed high school or GED
    4. Some college, Associates Degree, or Technical Degree
    5. Bachelor's Degree
    6. Any post graduate studies
    7. Don't Know
    8. Prefer not to Answer

Part 2: Did the Southern Nevada population have sufficient access to basic COVID-19 testing and vaccination resources during the pandemic?

6. Where have you received a COVID-19 test before (select all that apply)?
    1. Home test kit
    2. Health district testing location
    3. Physician office
    4. Hospital
    5. Pharmacy
    6. Other
    7. I have never been tested for COVID-19

7. Through what sources did you hear about testing centers (select all that apply)?
    1. News outlets
    2. Social media
    3. Friends, neighbors, relatives
    4. Southern Nevada Health District Website
    5. Other

8. Did you have access to the internet and an electronic device to fill out an electronic screening and appointment registration form prior to getting a COVID 19 test?
    1. Yes
    2. No

9. Did you have to cancel or reschedule your COVID-19 testing appointment due to lack of access to transportation?
    1. Yes
    2. No
    3. I had no access to other resources: Please list them here _____

10. Where did you receive your COVID-19 vaccine (select all that apply)?
    1. Physician office/ Family physician or other
    2. Hospital
    3. At my workplace
    4. Community Vaccination Site: school, mall, conventions center
    5. Health department clinic
    6. Free-standing retail pharmacy or drug store (e.g., Walgreens or CVS store)
    7. Other _____
    8. Not Sure
    9. I have not received the COVID-19 vaccine

11. Through what sources did you hear about vaccination centers (select all that apply)?
    1. News outlets
    2. Social media
    3. Friends, neighbors, relatives
    4. Southern Nevada Health District Website
    5. Other

12. Did you have access to the internet and electronic devices to make an appointment online to receive your COVID 19 vaccination?
    1. Yes
    2. No

13. Did you have to cancel or reschedule your COVID-19 vaccination appointment due to lack of access to transportation?
    1. Yes
    2. No
    3. I had no access to other resources: Please list them here _____

14. Overall, how much distress have you experienced related to getting a COVID-19 test due to lack of resources like the internet, electronic devices, transportation and/or others on a scale of 1 (no distress) -10 (extreme distress)?

    1 2 3 4 5 6 7 8 9 10

15. Overall, how much distress have you experienced related to getting a COVID-19 vaccine due to lack of resources like the internet, electronic devices, transportation and/or others on a scale of 1 (no distress) -10 (extreme distress)?

    1 2 3 4 5 6 7 8 9 10

Part 3: Was the community able to develop trust in the Southern Nevada Health District?

16.
The Southern Nevada Health District has been serving the community during the COVID-19 pandemic by providing services like contact tracing, isolation/quarantine shelters, testing, vaccination, providing up to date information, hotline services to address questions and more. As a member of the community, please answer the following questions as honestly as possible.

16.On a scale of 1-3, 1=no, I do not agree, 2=Neutral 3=yes, I agree, how would you rank the following statements?

a.I benefited from the services offered by the Southern Nevada Health District during the pandemic 1 2 3
b.I am satisfied with the services offered by the Southern Nevada Health District during the pandemic
c.I am disappointed with the services offered by the Southern Nevada Health District during the pandemic 1 2 3
d.I have developed trust in the Southern Nevada Health District based on its performance during the pandemic 1 2 3

Appendix B

Below are SPSS outputs for Chi square test of all independent variables.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Age	130	75.6%	42	24.4%	172	100.0%

Fig B1. Summary table for trust and age

Trust * Age Crosstabulation

			Age			
			18 - 34	35 - 54	> 55	Total
Trust	Did not develop trust	Count	4	12	11	27
		Expected Count	4.6	10.6	11.8	27.0
		% within Trust	14.8%	44.4%	40.7%	100.0%
		% within Age	18.2%	23.5%	19.3%	20.8%
	Developed trust	Count	18	39	46	103
		Expected Count	17.4	40.4	45.2	103.0
		% within Trust	17.5%	37.9%	44.7%	100.0%
		% within Age	81.8%	76.5%	80.7%	79.2%
Total		Count	22	51	57	130
		Expected Count	22.0	51.0	57.0	130.0
		% within Trust	16.9%	39.2%	43.8%	100.0%
		% within Age	100.0%	100.0%	100.0%	100.0%

Fig B2. Trust and age crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.401[a]	2	.818
Likelihood Ratio	.398	2	.820
Linear-by-Linear Association	.006	1	.937
N of Valid Cases	130		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.57.

Fig B3. Trust and age chi-square output

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Race	102	59.0%	71	41.0%	173	100.0%

Fig B4. Summary table for trust and race

Trust * Race Crosstabulation

			Race		
			White	Non-white	Total
Trust	Did not develop trust	Count	11	5	16
		% within Trust	68.8%	31.3%	100.0%
		% within Race	15.7%	15.6%	15.7%
		% of Total	10.8%	4.9%	15.7%
	Developed trust	Count	59	27	86
		% within Trust	68.6%	31.4%	100.0%
		% within Race	84.3%	84.4%	84.3%
		% of Total	57.8%	26.5%	84.3%
Total		Count	70	32	102
		% within Trust	68.6%	31.4%	100.0%
		% within Race	100.0%	100.0%	100.0%
		% of Total	68.6%	31.4%	100.0%

Fig B5. Trust and race crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.000[a]	1	.991		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.000	1	.991		
Fisher's Exact Test				1.000	.620
Linear-by-Linear Association	.000	1	.991		
N of Valid Cases	102				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.02.

b. Computed only for a 2x2 table

Fig B6. Trust and race chi-square output

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Ethnicity	121	69.9%	52	30.1%	173	100.0%

Fig B7. Summary table for trust and ethnicity

Trust * Ethnicity Crosstabulation

			Ethnicity		
			Hispanic or Latinx	Not Hispanic or Latinx	Total
Trust	Did not develop trust	Count	12	11	23
		Expected Count	9.3	13.7	23.0
		% within Trust	52.2%	47.8%	100.0%
		% within Ethnicity	24.5%	15.3%	19.0%
	Developed trust	Count	37	61	98
		Expected Count	39.7	58.3	98.0
		% within Trust	37.8%	62.2%	100.0%
		% within Ethnicity	75.5%	84.7%	81.0%
Total		Count	49	72	121
		Expected Count	49.0	72.0	121.0
		% within Trust	40.5%	59.5%	100.0%
		% within Ethnicity	100.0%	100.0%	100.0%

Fig B8. Trust and ethnicity crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.607[a]	1	.205		
Continuity Correction[b]	1.065	1	.302		
Likelihood Ratio	1.583	1	.208		
Fisher's Exact Test				.242	.151
Linear-by-Linear Association	1.594	1	.207		
N of Valid Cases	121				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.31.

b. Computed only for a 2x2 table

Fig B9. Trust and ethnicity chi-square output

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Gender	124	71.7%	49	28.3%	173	100.0%

Fig B10. Summary table for trust and gender

Trust * Gender Crosstabulation

			Gender		
			Male	Female	Total
Trust	Did not develop trust	Count	17	7	24
		Expected Count	10.5	13.5	24.0
		% within Trust	70.8%	29.2%	100.0%
		% within Gender	31.5%	10.0%	19.4%
	Developed trust	Count	37	63	100
		Expected Count	43.5	56.5	100.0
		% within Trust	37.0%	63.0%	100.0%
		% within Gender	68.5%	90.0%	80.6%
Total		Count	54	70	124
		Expected Count	54.0	70.0	124.0
		% within Trust	43.5%	56.5%	100.0%
		% within Gender	100.0%	100.0%	100.0%

Fig B11. Trust and gender crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.012[a]	1	.003		
Continuity Correction[b]	7.688	1	.006		
Likelihood Ratio	9.064	1	.003		
Fisher's Exact Test				.005	.003
Linear-by-Linear Association	8.940	1	.003		
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.45.

b. Computed only for a 2x2 table

Fig B12. Trust and gender chi-square output

Symmetric Measures

		Value	Asymptotic Standard Error [a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	.270	.085	2.949	.003
	Gamma	.611	.155	2.949	.003
	Spearman Correlation	.270	.085	3.092	.002[c]
Interval by Interval	Pearson's R	.270	.085	3.092	.002[c]
N of Valid Cases		124			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Fig B13. Symmetric measures for trust and gender

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Educational Attainment	128	74.0%	45	26.0%	173	100.0%

Fig B14. Summary table for trust and educational attainment

Trust * Educational Attainment Crosstabulation

			Educational Attainment			
			Highschool/GED or lower	Some college, Associates Degree, or Technical Degree	Bachelor's degree or higher	Total
Trust	Did not develop trust	Count	11	6	8	25
		Expected Count	10.5	7.8	6.6	25.0
		% within Trust	44.0%	24.0%	32.0%	100.0%
		% within Educational Attainment	20.4%	15.0%	23.5%	19.5%
	Developed trust	Count	43	34	26	103
		Expected Count	43.5	32.2	27.4	103.0
		% within Trust	41.7%	33.0%	25.2%	100.0%
		% within Educational Attainment	79.6%	85.0%	76.5%	80.5%
Total		Count	54	40	34	128
		Expected Count	54.0	40.0	34.0	128.0
		% within Trust	42.2%	31.3%	26.6%	100.0%
		% within Educational Attainment	100.0%	100.0%	100.0%	100.0%

Fig B15. Trust and educational attainment crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.893[a]	2	.640
Likelihood Ratio	.911	2	.634
Linear-by-Linear Association	.061	1	.805
N of Valid Cases	128		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.64.

Fig B16. Trust and educational attainment chi-square output

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Access for testing	122	70.5%	51	29.5%	173	100.0%

Fig B17. Summary table for trust and access for testing

Trust * Access for testing Crosstabulation

			Access for testing		
			Yes	No	Total
Trust	Did not develop trust	Count	22	5	27
		% within Trust	81.5%	18.5%	100.0%
		% within Access for testing	21.4%	26.3%	22.1%
		% of Total	18.0%	4.1%	22.1%
	Developed trust	Count	81	14	95
		% within Trust	85.3%	14.7%	100.0%
		% within Access for testing	78.6%	73.7%	77.9%
		% of Total	66.4%	11.5%	77.9%
Total		Count	103	19	122
		% within Trust	84.4%	15.6%	100.0%
		% within Access for testing	100.0%	100.0%	100.0%
		% of Total	84.4%	15.6%	100.0%

Fig B18. Trust and access for testing crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.229[a]	1	.633		
Continuity Correction[b]	.031	1	.859		
Likelihood Ratio	.221	1	.638		
Fisher's Exact Test				.764	.415
Linear-by-Linear Association	.227	1	.634		
N of Valid Cases	122				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.20.

b. Computed only for a 2x2 table

Fig B19. Trust and access for testing chi-square output

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Q16a	102	59.0%	71	41.0%	173	100.0%

Fig B20. Summary table for trust and benefit from services

Trust * Q16a Crosstabulation

			Q16a		
			No, I do not agree	Yes, I agree	Total
Trust	Did not develop trust	Count	17	5	22
		% within Trust	77.3%	22.7%	100.0%
		% within Q16a	77.3%	6.3%	21.6%
		% of Total	16.7%	4.9%	21.6%
	Developed trust	Count	5	75	80
		% within Trust	6.3%	93.8%	100.0%
		% within Q16a	22.7%	93.8%	78.4%
		% of Total	4.9%	73.5%	78.4%
Total		Count	22	80	102
		% within Trust	21.6%	78.4%	100.0%
		% within Q16a	100.0%	100.0%	100.0%
		% of Total	21.6%	78.4%	100.0%

Fig B21. Trust and benefit from services crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	51.451[a]	1	<.001		
Continuity Correction[b]	47.338	1	<.001		
Likelihood Ratio	45.375	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	50.947	1	<.001		
N of Valid Cases	102				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.75.

b. Computed only for a 2x2 table

Fig B22. Trust and benefit from services chi-square output

Symmetric Measures

		Value	Asymptotic Standard Error [a]	Approximate T [b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	.710	.086	5.269	<.001
	Gamma	.962	.026	5.269	<.001
N of Valid Cases		102			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Fig B23. Symmetric measures for trust and benefit from services

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Trust * Q16b	118	68.2%	55	31.8%	173	100.0%

Fig B24. Summary table for trust and satisfaction by services

Trust * Q16b Crosstabulation

			Q16b		
			No, I do not agree	Yes, I agree	Total
Trust	Did not develop trust	Count	18	5	23
		% within Trust	78.3%	21.7%	100.0%
		% within Q16b	94.7%	5.1%	19.5%
		% of Total	15.3%	4.2%	19.5%
	Developed trust	Count	1	94	95
		% within Trust	1.1%	98.9%	100.0%
		% within Q16b	5.3%	94.9%	80.5%
		% of Total	0.8%	79.7%	80.5%
Total		Count	19	99	118
		% within Trust	16.1%	83.9%	100.0%
		% within Q16b	100.0%	100.0%	100.0%
		% of Total	16.1%	83.9%	100.0%

Fig B25. Trust and satisfaction by services crosstabulation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	81.709[a]	1	<.001		
Continuity Correction[b]	76.094	1	<.001		
Likelihood Ratio	68.977	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	81.017	1	<.001		
N of Valid Cases	118				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.70.

b. Computed only for a 2x2 table

Fig B26. Trust and satisfaction by services chi-square output

Symmetric Measures

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	.832	.065	5.530	<.001
	Gamma	.994	.007	5.530	<.001
N of Valid Cases		118			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Fig B27. Symmetric measures for trust and satisfaction by services

Collinearity test outputs between Benefit and Satisfaction

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Benefit * Satisfaction	110	63.6%	63	36.4%	173	100.0%

Fig. B28 Summary table

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	65.289[a]	1	<.001		
Continuity Correction[b]	60.374	1	<.001		
Likelihood Ratio	55.793	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	64.696	1	<.001		
N of Valid Cases	110				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.97.

b. Computed only for a 2x2 table

Fig. B29 Chi-square test output

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.770	<.001
	Cramer's V	.770	<.001
N of Valid Cases		110	

Fig. B30 Symmetric measures for positive association

Collinearity test outputs between Benefit and Gender

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Benefit * Gender	111	64.2%	62	35.8%	173	100.0%

Fig. B31 Summary table

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.357[a]	1	.550		
Continuity Correction[b]	.130	1	.718		
Likelihood Ratio	.355	1	.551		
Fisher's Exact Test				.638	.357
Linear-by-Linear Association	.354	1	.552		
N of Valid Cases	111				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.74.

b. Computed only for a 2x2 table

Fig. B32 Chi-square test output

Collinearity test outputs between Satisfaction and Gender

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Satisfaction * Gender	127	73.4%	46	26.6%	173	100.0%

Fig. B33 Summary table

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.381[a]	1	.537		
Continuity Correction[b]	.133	1	.715		
Likelihood Ratio	.377	1	.539		
Fisher's Exact Test				.616	.355
Linear-by-Linear Association	.378	1	.539		
N of Valid Cases	127				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.78.

b. Computed only for a 2x2 table

Fig. B34 Chi-square test output

Binary Logistic Regression Model 1 Output

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	96	55.5
	Missing Cases	77	44.5
	Total	173	100.0
Unselected Cases		0	.0
Total		173	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
Did not develop trust	0
Developed trust	1

Categorical Variables Codings

		Frequency	Parameter coding (1)
Benefit	Did not benefit from service	17	.000
	Benefited from service	79	1.000
Gender	Male	42	.000
	Female	54	1.000

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted Trust: Did not develop trust	Predicted Trust: Developed trust	Percentage Correct
Step 0	Trust	Did not develop trust	0	19	.0
		Developed trust	0	77	100.0
	Overall Percentage				80.2

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	1.399	.256	29.843	1	<.001	4.053

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Gender (1)	3.626	1	.057
		Benefit (1)	50.933	1	<.001
	Overall Statistics		51.756	2	<.001

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	44.118	2	<.001
	Block	44.118	2	<.001
	Model	44.118	2	<.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	51.403[a]	.368	.585

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	1.837	2	.399

Contingency Table for Hosmer and Lemeshow Test

		Trust = Did not develop trust		Trust = Developed trust		
		Observed	Expected	Observed	Expected	Total
Step 1	1	8	8.836	2	1.164	10
	2	6	5.164	1	1.836	7
	3	4	3.164	28	28.836	32
	4	1	1.836	46	45.164	47

Classification Table[a]

			Predicted Trust		
	Observed		Did not develop trust	Developed trust	Percentage Correct
Step 1	Trust	Did not develop trust	14	5	73.7
		Developed trust	3	74	96.1
	Overall Percentage				91.7

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	Gender (1)	.993	.773	1.651	1	.199	2.699	.593	12.275
	Benefit (1)	4.237	.811	27.322	1	<.001	69.186	14.128	338.817
	Constant	-2.027	.783	6.707	1	.010	.132		

a. Variable(s) entered on step 1: Gender, Benefit.

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Curriculum Vitae

Edom Gelaw, MPH

Email: edomwgelaw@gmail.com

SKILLS

- Knowledge and experience of SPSS and SAS statistical analysis software
- Leadership and professional communication, taken several leadership roles both in Public Health and outside
- Exposed to programing in Python and SAS

EDUCATION

University of Nevada, Las Vegas *May 2023*

- Master of Public Health GPA: 3.8

  Thesis: Trust in Southern Nevada Health District by the Southern Nevada Population During the COVID-19 Pandemic, SPSS Software

  Delta Omega Honor Society in Public Health member Dec 2021

California Lutheran University *May 2017*

- Bachelor of Science in Bioengineering GPA: 3.79

  Minor: Mathematics

  Magna Honor May 2017

  Dean's List May 2014-May 2017

  Departmental Distinction; Student Leader Award April 2017

RSEASRCH EXPERIENCE

Graduate Research Assistant Aug 2022 – Present

UNLV School of Public Health

- Utilize ArcGIS to perform geocoding and data visualization
- Perform literature search on geo-spatial analysis on COVID-19
- Perform analysis and entry using SAS, and other tasks as assigned

Graduate Research Assistant Aug 2021– Dec 2021

UNLV School of Public Health

- Lead a research team of three on COVID-19 Isolation and Quarantine Guideline Compliance in Southern Nevada, project still on going, and I am participating as a volunteer after end of work contract
- Worked with a different team of four on COVID-19 Vaccine Hesitancy in Southern Nevada
- Both projects involved studying literature, planning study design, drafting surveys and other implementation activities

Student Researcher Aug 2016 – May 2017

Department of Bioengineering, CLU

- Undergraduate thesis research: Insulin Resistivity in Human Diabetic Cells

- Purpose of research was to investigate the effect of insulin on glucose uptake level and insulin resistivity of diabetic cells
- Research included studying scholarly article and scientific writing of both a proposal and a final academic paper followed by poster presentation

Swenson Summer Science Research Fellow

Office of Undergraduate Research and Creative Scholarship, CLU June 2016 – Aug 2016

- Was awarded the Swenson fellowship grant to perform a self-proposed independent research project on the relationship of Renal cancer and Diabetes
- Involved a poster *presentation* at Student Research Symposium and Power point *presentation* to Science Research Fellows and Advisors in the summer program
- Video: https://www.facebook.com/callutheran/videos/10153898366362805/

Scientific Research Intern /Shadowing Jun 2015 – Aug 2015

College of Natural and Computational Science, Addis Ababa University, Ethiopia

- *Assisted* in Biomedical Sciences Laboratory for a governmental investigative project of Ridrat, a rodenticide that was to be imported from China to Ethiopia
- Project involved toxicity test of a rodenticide performed on *mice* and *wild rats*
- *Presented* summary of research on an Institute of Electrical and Electronics Engineers (IEEE) meeting at CLU

UNLV COVID-19 Contact Tracing Team Supervisor Jan 2021– Jul 2021

UNLV School of Public Health

- Managed a team of 15-20 disease investigators including scheduling shifts, reviewing and monitoring cases completed
- Attended on-call shifts to assist investigators with case completion and respond to clients when supervisor intervention is needed
- Hosted weekly meetings to update team of new instructions from the Southern Nevada Health District
- Take part in training new investigators in collaboration with the training officer of the team

Aug 2020 – Dec 2020

Contact Tracer/Quality Assurance Specialist

UNLV School of Public Health

- Interviewed COVID-19 patients via phone to identify possible exposures in order to provide isolation/quarantine guidelines from the CDC as part of outbreak investigation protocol
- Was promoted to a QA position three months into the job
- Reviewed completed interview records by other contact tracers to ensure completion of required fields, provide guidance and initiate reinvestigation as needed

Admissions Student Assistant

California Lutheran University, Thousand Oaks, CA Dec 2015 – May 2017

• *Assisted* Graduate admission coordinator in processing incoming applications •
Contacted and provided advising & guidance for prospective students

- Assisted with new student orientation both during preparation as well as at event

VOLUNTEER

UNLV CARES Volunteer

July 2020 – Sept 2020

- Participated in a Remote Community Medical and Social Services Outreach Program during the COVID-19 pandemic
- Was responsible to conduct phone interviews with patients who needed assistance with resources like food, PPE, medications, transportations, financial support with paying bills and others upon request
- Assisted with needs like making doctor's appointments and reported to the supervisor for resource delivery set up

Program Assistant for Philanthropy Department

Volunteers of Medicine in Southern Nevada, Las Vegas, NV Apr 2019 – Oct 2019

- Research and organize grant application materials, prepare and complete grant applications for submission to support the organization's mission of providing free health care services for the uninsured community
- Learn online & live fundraising techniques as part of fundraising event planning
- Took part in the annual Hands Together fundraising gala and helped raise nearly $600K by contacting donors & participants for silent & live auctions and drafting thank you letters **Front Desk Volunteer/Scribe/Translator**

Volunteers of Medicine in Southern Nevada, Las Vegas, NV Oct 2018 – Oct 2019

- Assisted providers while examining patients by completing physician charts and preparing prescriptions as well as educational resources for patient wellness including diet plans and activity guides
- Assisted patients to check in/out upon arrival and discharge, prepare schedules and make follow up appointments
- Translate for non-English speakers as needed while physical examination

LEADERSHIP

International Senator of Associate Students

Associate Students of California Lutheran University Government May 2015- Dec 2016

- Worked on an independent project based on international student concerns and received Best International Student Leader award at the Leadership Award Celebrations by the nomination of The Multicultural Office of International Students and Scholars upon the completion of the academic year
- Attended weekly senate meetings to address student life issues: club approvals, budget allocations

- Held office hours to provide students with the opportunity to have questions addressed and/or raise issues for discussion by the senate

Generation Difference Club Founder and President

California Lutheran University, and Thousand Oaks, CA Sep 2015-May 2017

- Established an organization devoted to empower the underprivileged community based on the foundation that no human should suffer from the inadequacy of resources that are plenty in others' hands
- Managed and prepared budget allocations, delegated meetings and planned & organized events