TRUST, TRUSTWORTHINESS, TRUST PROPENSITY, SOCIAL DETERMINANTS OF HEALTH, AND NOT-FOR-PROFIT HEALTHCARE ORGANIZATIONS: IS THERE AN IMPACT ON RELATIONS?

Heather Lynn Poddany

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Committee:

Michelle Brodke, Committee Chair

Farida Selim,
Graduate Faculty Representative

Debra Ball

Michael Zickar

ABSTRACT

Michelle Brodke, Committee Chair

The social determinants of health (SDOH) are a focus for many not-for-profit (NFP) healthcare organizations. The goal is to address the negative SDOH through different initiatives and improve the overall health of the communities that the NFP healthcare organizations serve. Many initiatives are deployed to treat the negative SDOH present in communities. The present research looked at relations between trust, trustworthiness, distrust in healthcare, awareness of the SDOH initiatives, and trust propensity. A quantitative study was performed with participants who evaluated different SDOH initiatives, perceptions of trustworthiness of healthcare organizations, trust propensity, and generalized distrust in healthcare systems. Findings indicate trust having a positive relation with awareness and a negative relation with trustworthiness, as well as perceptions of trustworthiness having a negative relation to distrust and a positive relation with trust propensity. There is also an indirect positive relation of awareness of the SDOH initiatives on trustworthiness through distrust in healthcare.

Keywords: social determinants of health (SDOH), not-for-profit (NFP) healthcare organization, trust, trustworthiness, awareness, distrust, trust propensity

I am dedicating my dissertation work to those friends and family members who have provided unending love and support through this journey. Specifically, my mom, Debbie Smith for her constant cheering even when if she didn't know what she was cheering for, my bonus dad, Jeff Smith, for setting the best example of what motivation and enthusiasm is, for being my strength (literally and figuratively), and learning to walk with me…especially at the end, and my dad, Jim Poddany for getting me to where I am in life. Dr. Michelle Brodke, you are a true rock star for guiding me through this journey and being the best chair that I could have ever hoped to have. I would be remiss to not include ABDA, you all know who you are, for sharing in the successes, tragedies, tears, laughter, and everything else that came along with this journey…I love you ladies and are so blessed to have you as my 'framily' now. Also, to the entirety of the DODC Cohort 1 family, thank you all for being you and accepting me into your hearts and lives…

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INTRODUCTION

In recent years, healthcare organizations, particularly not-for-profit (NFP) healthcare organizations, have expanded their missions and public outreach. According to the Ohio Hospital Association, there are 245 hospitals in the state of Ohio (Ohio Hospital Association, n.d.). Of those 245 hospitals, 171 are not-for-profit (NFP), 50 are for profit, and 24 are government or publicly funded (Ohio Hospital Association, n.d.). Since the early 2000's, NFP healthcare organizations have allocated more of their philanthropic revenue, not to beautify and rebuild communities as they used to, but to different initiatives surrounding the social determinants of health (SDOH) (Oostra, 2018; Evashwick & Jackson, 2020).

NFP healthcare organizations have tax-exempt status through the Internal Revenue Service, making community investment imperative. "To maintain exemption from federal taxes, non-profit hospitals in the USA are required to contribute to their communities an amount comparable to the taxes they otherwise would have paid," (Evashwich & Jackson, 2020, p. 1). Both NFP and for-profit healthcare organizations treat patients. However, NFPs do not have investors who get paid a return on investment from a profit derived through their services to the community. Rather NFP healthcare organizations are required to invest that money for community benefit (Rozier et al., 2019). Although vaguely defined, investment in community benefit includes charity care and the promotion of health (Rozier et al., 2019). NFP healthcare organizations examine the state of the community and make focused investments for mutual benefit of the community and the NFP organization. When healthcare organizations switch their focus from a broad community view of the promotion of health such as investing in parks, walk paths, and sports stadiums to a strategic approach centered on the SDOH, they strive to better the

health of the overall community in a holistic sense, not just promote the health of community members.

As defined by the U.S. Department of Health & Human Services through the Centers for Disease Control and Prevention (CDC), SDOH, "are conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of-life-risks and outcomes" (U.S. Department of Health & Human Services, 2021). The SDOH are grouped into categories such as education, economics, neighborhood (physical) environment, and social/behavioral situations. SDOH initiatives that were the focus of the present research include SDOHs focused on healthcare, food insecurity, and employment, which are increasingly common means for NFP healthcare organizations to contribute to their communities as required by tax law (Evashwich & Jackson, 2020).

Even if NFP healthcare organizations put money into the communities that they serve, it does not guarantee that the community members will derive benefit from that investment. If people do not know about SDOH initiatives, they neither benefit from health gains nor value the investment being made on their behalf. Further evidence suggests that citizens must believe the NFP healthcare organization is trustworthy, or they will not use it or, by extension, the SDOH initiatives they sponsor (Musa et al., 2009). The next section will explore what SDOHs are and the importance of them in relation to a person's overall health. Then evidence is presented about the relation between trust and related attitudes (trust propensity, trustworthiness, and distrust) as they impact SDOH initiatives.

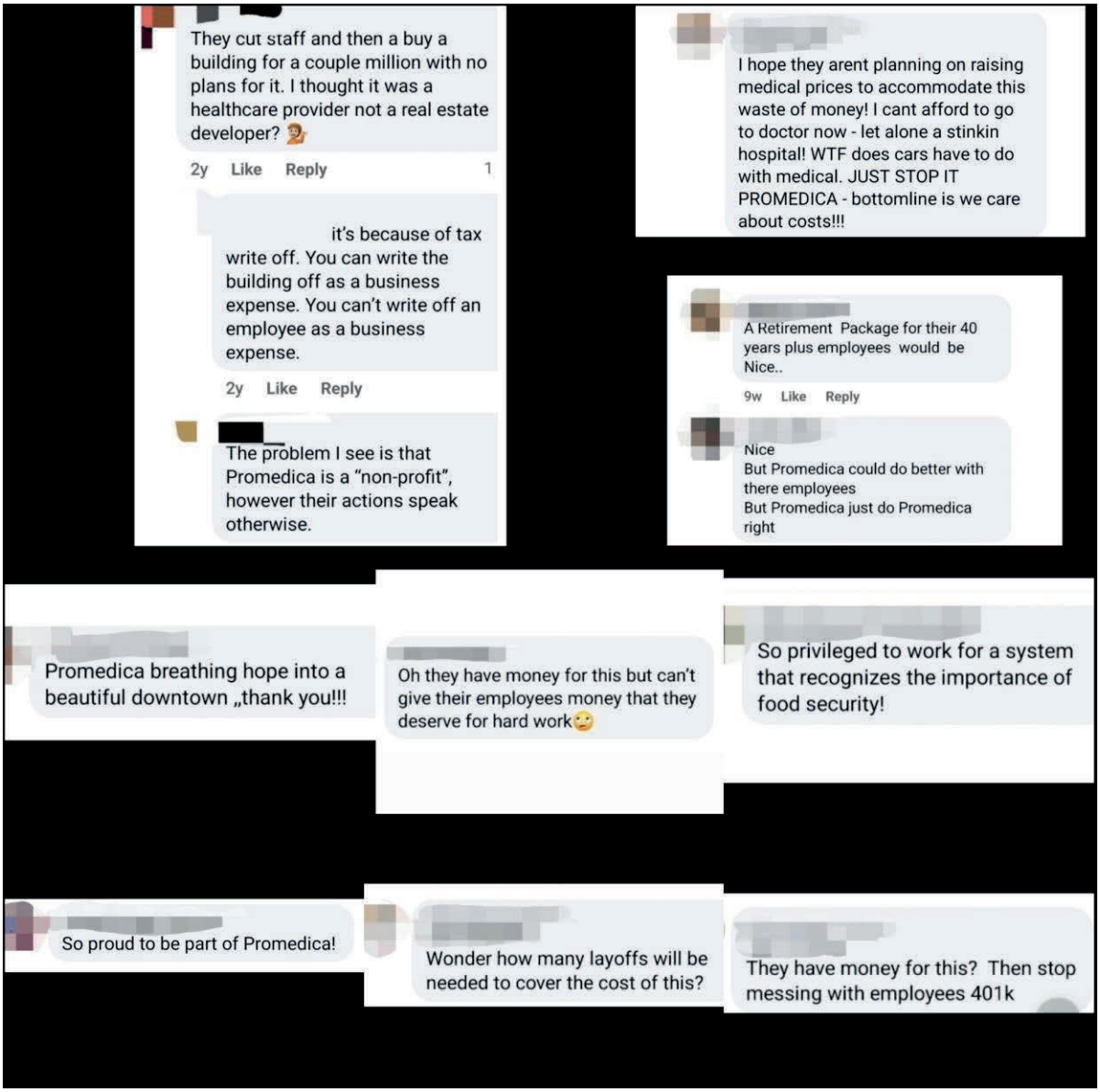
SDOH Initiatives

Many community members are unaware of contributions to SDOH initiatives made by NFP healthcare organizations. As described in Niederpeppe et al. (2008) healthcare facilities that

offer the SDOH initiatives often do not widely advertise the initiatives and only promote them in a small area. With the goal of helping people who are known to be struggling with SDOH, the NFP healthcare organizations often only mention and offer the initiatives to those who are able to utilize them (Niederdeppe et al., 2008). ProMedica, a NFP healthcare organization in Northwest Ohio, for example, applies a SDOH screening tool to all patients who visit in an inpatient or outpatient setting by asking a series of questions at each visit (Morrison, n.d.). This screening tool is only offered to those who are patients. The community gets information passively from billboards or news outlets. As shown in Figure 1, reactions to SDOH initiatives vary. Although Figure 1 is not a comprehensive review, of 17 social media reactions to news stories (as of December 28, 2021) about a Northwest Ohio NFP healthcare organization (ProMedica), eight remarked about SDOH initiatives, and nine mentioned activities for which NFP dollars cannot be allocated.

Figure 1

Selected reactions left on Facebook news stories regarding community investments made by ProMedica.



The public reactions captured in Figure 1 suggest some important insights. First, communities do not realize that NFP healthcare organizations must invest profits in the

community. Without this knowledge, SDOH investments are misconstrued as wasteful spending that is not focused on the NFP healthcare organization's mission. However, other comments praise the NFP healthcare organization for their investment in the community. Through this research I will describe the role of SDOHs in community health and the constructs of trust, trustworthiness, trust propensity, and distrust in healthcare. The researcher will examine how SDOH initiatives implemented by NFP healthcare organizations impact the trust and trustworthiness perceptions that the community has in those organizations.

Social Determinants of Health (SDOH)

The SDOH of a person's life are the elements that, while not health related, affect a person's health. These elements include their physical location as well as their access to transportation, education, housing, and food (U.S. Department of Health & Human Services, 2021). Poor SDOH predict early death and poor medical outcomes (Mohottige & Boulware, 2020; Gille et al., 2015; Legido-Quigley et al., 2014; Gilson, 2003; Heinze et al., 2015; Magnan, 2017). Specifically, Magnan (2017) estimates that 10-20% of a person's health is attributed to medical care while the remaining 80-90% is related to SDOH. Hence, prioritizing initiatives to improve SDOH makes sense for NFP healthcare organizations.

SDOH affects community members' access to transportation, which in turn affects their access to receiving basic healthcare. Providing access to transportation can assist community members in getting the basic care that they need leading to more positive medical outcomes. A person can also be located in an area where negative social choices and behaviors (drugs, smoking, excessive consumption of alcohol) are prevalent and not viewed as negative, but instead as a rite of passage (Magnan, 2017; Gilson, 2003). The areas with high populations of the previously mentioned groups also tend to have high percentages of early deaths from behaviors

related to negative SDOH (Musa et al., 2009; Henize et al., 2015; Mohottige & Boulware, 2020; Gilson, 2003).

Trust Relationships and Trustworthiness

For SDOH initiatives to positively impact a community, that community has to participate in them. By definition, a trusting relationship is characterized by one person making themself vulnerable to the other (Mayer & Davis, 1999). Relationships could be personal, work based, or even a relationship with an organization, like a healthcare organization. Underscoring the impact of trust, "one of the most fundamental characteristics of trust is that it is fragile; it is created rather slowly, while it can be destroyed instantly by a single act of betrayal," (Katapodi et al., 2010, p. 976). Many definitions of trust confuse the act of trust with the characteristic of trustworthiness. The definition of trust that will be utilized for the purpose of this study is that trust is a "willingness to be vulnerable to the actions of another party," (Mayer & Davis, 1999, p. 124), whereas the definition of trustworthiness is, "a subjective measurement of belief from one entity regarding the behavior of another entity focused on a certain trust aspect," (Neisse & Wegdam, 2008, p. 1928).

Given that trustworthiness affects trust (i.e., the act of being vulnerable to another; Mayer & Davis, 1999; Mayer & Gavin, 2005), it is important to evaluate their roles in the healthcare context. For example, individuals determine whether to receive service from a provider, that is, to be vulnerable to the healthcare provider. When receiving service, the patient is in a better position to evaluate trustworthiness along the dimensions of ability, benevolence, and integrity (Mayer & Gavin, 2005). Patients determine whether a healthcare organization and the providers within that organization had the knowledge to treat their illness, effectively cared for them (ability), acted in their best interest (benevolence), and followed accepted rules of ethical

behavior (integrity). If the healthcare organization does not demonstrate the qualities of ability, benevolence, and integrity (Mayer & Davis, 1999), the community members are likely to conclude that the organization is not trustworthy, which in turn makes them unwilling to trust the healthcare organization by receiving health related services.

Still, trust and trustworthiness are crucial to healthcare service delivery. Using healthcare services expresses patients' belief in the trustworthiness of the provider and is also an act of trust. The research literature argues that "trust is inseparable from *vulnerability*, in that there is no need for trust in the absence of vulnerability...Trust is sometimes said to *create* vulnerability, as in an intimate relationship, but vulnerability is primary and unavoidable in medicine," (Hall et al., 2001, p. 615). In sum, to engage with a healthcare provider is to trust (i.e., become vulnerable to) the provider. Further the trustworthiness of healthcare organizations can be viewed as "as a set of expectations that patients have from the healthcare system to help them heal; those expectations include appropriate diagnosis, correct treatment, non-exploitation, interest in the welfare of the patient and transparent disclosure of information," (TN & Kutty, 2015, p. 125). Hence, people must develop a positive expectation regarding the trustworthiness of the healthcare organization in order to trust it enough to make themselves vulnerable by using the healthcare organization's services (Mayer & Gavin, 2005).

In support of the importance of trust and trustworthiness in the healthcare domain, researchers have explored trust and trustworthiness between a patient and physician (Hall et al., 2001; Hall et al., 2002; Rasiah et al., 2020). The relationship between a patient and a physician is formed from the interactions that they have while in a treatment setting. That is not to say that physicians and patients cannot know one another separate from the treatment of an illness, but, even when that is the case, the treatment of the patient and the accuracy of that treatment is what

can either prevent or reinforce a trusting relationship (Hall et al., 2001; Hall et al., 2002; Rasiah et al., 2020). For this reason, it is important to consider patients' perceptions of trustworthiness and experiences of trusting providers of healthcare services they relate to initiatives designed to improve SDOH.

Scholars have also described factors related to the utilization of and satisfaction with different healthcare services (Bailey et al., 1999; Bailey et al., 1999). Unfortunately, as people utilized the healthcare services more, they became more dissatisfied with their experiences (Bailey et al., 1999). Poor satisfaction with higher use may reflect limited choices due to health emergencies. For example, if kidney dialysis is needed and one provider is available, the patient has no choice but to use the provider regardless of satisfaction. When considering initiatives to address SDOH, people are not in an emergency situation and can choose to engage and re-engage with the SDOH initiative or not. Therefore, the researcher expects that when there is high satisfaction with SDOH services, the trustworthiness of the organization providing the SDOH initiative should also be higher.

Further impacting the perception of trustworthiness when negative SDOH factors are present is that community members do not think that SDOH are part of healthcare organizations' responsibilities to address (Magnan, 2017). People do not typically recognize a role for healthcare in education, economics, neighborhood (physical) environment, and social/behavioral situations. Yet, NFP healthcare organizations can help the communities that they serve, and they are required to help those communities to maintain their NFP designation with the IRS. The literature describes the impact of SDOH on outcomes for a person or a population's health outcomes, but the literature also describes the lack of communication about and awareness of the SDOH present in communities (Niederdeppe et al., 2008).

Due to a lack of awareness about healthcare's role in SDOH, people may view SDOH initiatives as improper investments, potentially damaging trustworthiness. That is, because people don't understand the role of SDOH initiatives for NFP healthcare organizations, they may perceive healthcare providers to be acting unethically as poor stewards of funds although their NFP status requires money to be reinvested in the community. As a result, when the NFP makes SDOH investments, those investments appear to be frivolous to the community. Unfortunately, community members show their frustrations by questioning the investments and making statements referencing rising healthcare costs on public forums such as social media, refer to Figure 1. For these reasons, more research is needed to explore the relation between awareness and trustworthiness to evaluate if awareness improved trust and trustworthiness as predicted by Mayer and Gavin (2005).

Distrust

Research about an attitude of distrust of healthcare is abundant and suggests that individuals, as well as communities, vary in their distrust of healthcare providers. Specifically, individuals in communities with high distrust tend to not use healthcare services (LaVeist et al., 2009; Shea et al., 2008; Armstrong et al., 2005; Rose et al., 2004; Katapodi et al., 2010; Thompson et al., 2004). People form distrust perceptions based on information from their own experiences (Mayer et al., 1995), as well as their friends, co-workers, and the media (Adams et al., 2010). With the history of mistreatment from healthcare providers and SDOH disparities, many people who need help with SDOH hesitate to utilize health care services (LaVeist et al., 2009; Boulware et al., 2003; Musa et al., 2009; Pugh et al., 2020).

Distrust is especially problematic in historically marginalized groups (Musa et al., 2009; Webb Hooper et al., 2019; Pugh et al., 2020; Boulware et al., 2003), particularly among Black

Americans. As described by Webb Hooper et al. (2019, p. 3280), "The combination of medical and research exploitation and abuse experienced by disenfranchised populations, perceived discriminatory experiences, and perceived lack of community benefit have led to greater medical distrust among African Americans compared to Whites." The result of the mistreatment of generations past, many Black Americans are hesitant to place their health in the hands of healthcare systems and neglect basic medical care (Musa et al., 2009; Webb Hooper et al., 2019; Pugh et al., 2020; Boulware et al., 2003). Hence, it is important to understand the role of distrust in healthcare as it relates to initiatives designed to improve SDOH.

Trust Propensity

Trust propensity is the willingness to trust without reluctance and is construed as a trait like personality (Colquitt et al., 2007). If a person has low trust propensity, that person is unlikely to trust regardless of how trustworthy an individual or organization is. "Some individuals can be observed to repeatedly trust in situations that most people would agree do not warrant trust. Conversely, others are unwilling to trust in most situations, regardless of circumstances that would support doing so," (Mayer et al., 1995, p. 715). Either extreme can be true with healthcare organizations. Some people will blindly trust physicians because they are physicians, and others will distrust immediately due to the healthcare organization that is associated with the service or provider and experiences that they have had in the past (Goold, 2002). With higher trust propensity, an individual will be more open to hearing about the SDOH initiatives that are in place, whereas low trust propensity will encourage one to not wish to hear about the NFP healthcare organization at all. Hence, it is important to consider trust propensity as it relates to initiatives designed to improve SDOH.

Hypotheses

In summary, trust and trustworthiness are key elements of successful SDOH initiatives. Research suggests that awareness, propensity to trust, distrust in healthcare, and satisfaction with services are important constructs impacting trust in and perceived trustworthiness of SDOH initiatives undertaken by NFP healthcare organizations. Therefore, the present research investigated the relations among these constructs within the context of healthcare organizations and the SDOH initiatives they sponsor.

The researcher evaluated the following hypotheses:

H1: Trust in SDOH initiatives will be predicted by awareness of SDOH initiatives, satisfaction with the initiatives, trustworthiness of healthcare organizations, distrust of healthcare, and propensity to trust.

H2: Trustworthiness of healthcare organizations will be predicted by awareness of SDOH initiatives, satisfaction with the initiative, distrust of healthcare, and propensity to trust.

H3: Individuals with low trust propensity will have higher distrust in healthcare organizations.

H4: Higher trust propensity will have a positive relation with the awareness of SDOH initiatives in place.

METHOD

Sample and Data Collection

Data for this study were collected using a cross-sectional, snowball sampling method (Goodman, 1961). Surveys were distributed via multiple social media platforms: Facebook, Instagram, LinkedIn, and Twitter. Participants were encouraged to share the link within their social media networks.

The target population was adults in located in Northwest Ohio.

Overall, a total of 297 adults completed all or a portion of the survey. Of the 297 responses, 190 were in Ohio, with 166 of those responses being in Northwest Ohio. See Table 1 for a breakdown of the survey responses by state and Table 2 for a breakdown by Ohio county.

Table 1

Survey responses by state location of participant.

State	Number of Responses	Percent of Total Responses
Ohio	190	64.0%
Michigan	20	6.7%
Indiana	12	4.0%
Other States	75	25.3%
Total = 297		

Table 2

Survey responses by Ohio location.

County	Number of Responses	Percent of Ohio Responses
Lucas	102	53.7%
Wood	30	15.8%
Remaining Northwest Ohio Counties	34	17.9%
Ohio Counties Outside of Northwest Ohio	24	12.6%
Total = 190		

Measures

The survey questions as presented to participants appear in Appendix A.

SDOH Initiatives in Place

In the Northwest Ohio area, Mercy and ProMedica are healthcare organizations offering SDOH initiatives. Table 3 shows each SDOH initiative that was presented to participants, the NFP healthcare system that provides it, and a brief description. While not an exhaustive list, the SDOH initiatives in the Northwest Ohio area are extensive and fall under the IRS's community benefit guidance.

Table 3

Common SDOH initiatives in Northwest Ohio by the two major NFP healthcare organizations, Mercy Health and ProMedica.

SDOH Initiative	NFP Organization that Offers Initiative	Description of Initiative
Food Pharmacies	ProMedica	Patients are assessed with a screening questionnaire on their SDOH circumstances, and if they qualify, their healthcare provider can write them a prescription for one of the ProMedica food pharmacies. There are currently three food pharmacies that rotate operational days. Any patient that comes with their prescription can return weekly and receive enough food to feed their household. ProMedica has started to partner with Lyft and has a pilot program that will be starting to provide eligible patients, who are screened as vulnerable for both food and transportation, a Lyft credit of $300 to use only for the trips to and from the food pharmacies weekly.
Market on the Green	ProMedica	Located at 1806 Madison Ave, Toledo, Ohio 43604, ProMedica opened Market on the Green in 2015 in the uptown neighborhood. ProMedica determined that the 43604-zip code did not have a grocery store present. If residents wanted to stay in their neighborhood to purchase food, they accessed gas stations and convenience stores which offer snacks and overly processed items. Hence, Market on the Green was opened to supply high quality food. (McCree & Hernandez, 2021).

SDOH Initiative	NFP Organization that Offers Initiative	Description of Initiative
Job Training/ Employment Opportunities	Mercy, ProMedica	Both NFP healthcare organizations have employment opportunities and job training available to residents who are in need of obtaining work. Mercy Health has a Financial Opportunity Center, 2213 Franklin Ave, Toledo, Ohio 43620, that will assist with connecting people with jobs and job training as one of their benefits. ProMedica teamed up with the county's Job and family services and offers job training in the Ebeid Center, 1806 Madison Ave, Toledo, Ohio 43604, where Market on the Green is located. (McCree & Hernandez, 2021; Toledo Community Programs and Wellness Resources, n.d.)
Help Me Grow	Mercy	Mercy and the Ohio Department of Health partnered to start ensuring proper health visits starting with pregnant mothers and preschool children. Nurses do home visits and make sure that the child has the health services available to them, as well as information on how to enroll in the early preschool, or Toledo Head Start, programs. (Toledo Community Programs and Wellness Resources, n.d.).
Financial Education	Mercy, ProMedica	Mercy's Financial Opportunity Center is located at the 2213 Franklin Ave, Toledo, Ohio 43620 medical building. They help people obtain resources to purchase a home or repair the home that they have. They also offer credit repair services for those who need it.

SDOH Initiative	NFP Organization that Offers Initiative	Description of Initiative
		ProMedica houses their financial coaching in the Ebeid Center located at 1806 Madison Ave, Toledo, Ohio 43604 on the upper floors of Market on the Green. These services are free of charge and there isn't an income level to qualify. (McCree & Hernandez, 2021; Toledo Community Programs and Wellness Resources, n.d.).
Mobile and Community Health Screenings	Mercy, ProMedica	Both of NFP healthcare organizations participate in many community health clinics and health screening opportunities that are free to the public. Often, these clinics are set up in some of the more SDOH disadvantaged areas. To help in targeting some of the Black American men who tend to not as readily trust healthcare (Boulware et al., 2003), the NFPs have started to set up clinics geared specifically to them in the local barbershops. The barbershop health project gives direct access to the health screenings needed in a setting that the men are comfortable with. Other mobile and community health screenings are set up at local professional sporting events (i.e., Toledo Walley, Toledo Mud Hens) and community events (i.e., Toledo Pride, Race for the Cure, along with others) to test blood pressures and teach about signs and symptoms of emergent health events. Mercy has also taken note of what areas of the community need specific screenings and education and have offered services and education with focus on things like stroke signs and symptoms, as well as education on how to stop bleeding in emergency situations.

SDOH Initiative	NFP Organization that Offers Initiative	Description of Initiative
		(McCree & Hernandez, 2021; Toledo Community Programs and Wellness Resources, n.d.).

Awareness, Trust, and Satisfaction

Participants were presented several SDOH initiatives that are in place in Northwest Ohio. The first initiative presented was food pharmacies. Participants were asked about their awareness of food pharmacies on a scale of 1 (*not at all aware*) to 5 (*very aware of*). If the participant selected a 2 or higher, they were directed to answer whether they have used the food pharmacies on a scale of 1 (*never used*) to 5 (*always uses*). The researcher computed awareness as an average of all six of the initiatives that were presented to be able to consider awareness of SDOH initiatives as a group and not individual initiatives. Recall that trust is operationalized as the act of being vulnerable (Mayer & Davis, 1999), and therefore, use of the SDOH initiative is equated with trust (the act of being vulnerable to the SDOH initiative). Higher use would then be the equivalent of higher trust in the SDOH initiative. Next if the participant had used a given SDOH initiative, they were directed to answer their level of satisfaction on a scale of 1 (*not satisfied*) to 5 (*very satisfied*). This process repeated with each of the initiatives. Responses for the use of each initiative presented are illustrated in Table 4.

Table 4

Participant frequency of use of each SDOH initiative

SDOH Initiative	Rarely Use	Sometimes Use	Most of the Time Use	Always Use
Food Pharmacy	1	1	0	0
Market on the Green	6	3	0	0
Employment Opportunities/Job Training	11	9	1	2
Help Me Grow	3	3	11	9
Financial Education	4	3	0	0
Mobile and Community Health Screenings	17	7	2	0

*Note that 67 people responded as having used any SDOH initiative, but that eight participants have responses on two or more initiatives.

Adjustments to scoring of the trust and satisfaction measures were made after data collection. Due to a low number of participants having used the SDOH initiatives (n=67), and only eight of them using more than one, the trust measure was turned into a binary measure and scored as either used (1) or did not use (0; Barki et al., 2015). It follows then that just 67 participants reported satisfaction with using a service. However, eight had used more than one of the six services making it impossible to statistically evaluate satisfaction with services separately. After examining the data, the researcher determined that the satisfaction scores could be averaged across the different SDOH initiatives among the eight participants who had used more than one SDOH initiative due to low variability across reported satisfaction levels as

described next. Of the eight participants, three gave satisfaction levels for different services that differed by more than one point, two gave satisfaction levels that differed by one point, and the remaining three gave all services the same satisfaction rating. Given the low number of people who used services and the lack of variation in satisfaction scores, the researcher averaged satisfaction scores across services for the eight participants who rated their satisfaction on multiple services to yield one overall satisfaction score for each of the 67 participants who responded.

Trustworthiness

To measure the participants' perceptions of healthcare organization initiatives' trustworthiness, the stem statement for measures established by Mayer and Davis (1999) was modified to focus on healthcare system initiatives. The Mayer and Davis (1999) scales were adapted in other work and maintained their psychometric properties (Dirks & Ferrin, 2002; Dirks & Skarlicki, 2009; Tan & Lim, 2009). Responses were then given on a five-point Likert scale (1-*disagree strongly*, 2-*disagree*, 3-*neither agree nor disagree*, 4-*agree*, 5-*agree strongly*). Following the Mayer and Gavin (1995) approach to compute a trustworthiness score, the measure yielded a Cronbach's alpha of 0.95 in the present research.

Trust Propensity

Eight items from Mayer and Davis (1999) were used to measure trust propensity. Responses were then given on a five-point Likert scale (1-*disagree strongly*, 2-*disagree*, 3-*neither agree nor disagree*, 4-*agree*, 5-*agree strongly*). The trust propensity scale showed good psychometric properties in other research (Dirks & Ferrin, 2002; Dirks & Skarlicki, 2009) and produced a Cronbach's alpha of 0.70 in the present research.

Distrust

The health care system distrust scale (Rose et al., 2004) was utilized. It focused on general perceptions of healthcare agents including hospitals, health insurance companies, and medical research. Participants responded on a five-point Likert scale (*strongly agree*-5, *agree*-4, *not sure*-3, *disagree*-2, *strongly disagree*-1). Cronbach's alpha coefficient in this research was 0.83, consistent with past research that found good psychometric properties for the continued use (Rose et al., 2004).

RESULTS

As reported in Table 1, many people outside the target population participated in the survey. Separate analyses were performed with the smaller sample of 166 Northwest Ohio participants. Where the results show differences relevant to hypotheses, they are presented. Otherwise, the results for the entire sample are presented.

Descriptive statistics for study variables are presented in Table 5. Note that sample sizes are different because some participants skipped questions yielding partially completed surveys. Variables are generally normally distributed.

Logistic regression was used to analyze the relations for trust described in Hypothesis 1 (see Table 6; Kennedy, 2008; Abdullah & Musa, 2014). Due to the scoring of trust, satisfaction could not be included in the Logistic regression (only people who trusted the SDOH initiative were able to rate satisfaction). Trustworthiness, trust propensity, distrust in healthcare, and awareness of SDOH initiatives accounted for significant variation in trust ($N = 193$; -2 Log-likelihood = 184.52, Nagelkerke $R^2 = .27$). However, only awareness ($B = 1.25$, $p < .01$) and trustworthiness ($B = -1.17$, $p < .01$) were statistically significant predictors. Although greater awareness related to trust as expected (greater awareness increased trust), greater trustworthiness was related to a significant reduction in trust.

Table 5

Descriptive statistics for the variables used in the study

Variable	N	Mean	SD					
						Eta[b]		
				1	2	3	4	5
Trust (use)	67[a]	1.18	0.58	.50	N/A	.35	.35	.47
						Correlations		
				1	2	3	4	5
1 Awareness	231	1.97	.85					
2 Satisfaction	67[a]	3.62	.97	.28*				
3 Trust Propensity	206	2.75	.50	.13	-.11			
4 Distrust	201	2.90	.65	-.33**	-.18	-.55**		
5 Trustworthiness	208	3.16	.75	.30**	.15	.48**	-.70**	

[a] Sample size reflects that 67 people used one or more of the SDOH initiatives and completed a satisfaction score in the survey.
[b] Eta values above .50 are considered to be evidence of a strong relation (Richardson, 2011).

* $p < .05$

** $p < .01$

This analysis was also conducted including only participants in Northwest Ohio. Interestingly, trustworthiness, trust propensity, distrust in healthcare, and awareness of SDOH accounted for significant variation in trust ($N = 130$; -2 Log-likelihood = 128.69, Nagelkerke $R^2 = .27$). However, only awareness ($B = 1.23$, $p < .01$) was a statistically significant predictor. Again, indicating that greater awareness lead to greater trust.

Table 6

Logistic regression analysis for trust in SDOH initiatives

Variable	B	Wald	p-value
Awareness	1.25	28.95	< .01
Trustworthiness	-1.17	10.08	< .01
Distrust	-0.17	0.15	.70
Trust Propensity	0.43	0.90	.34

Given concern about multicollinearity, the researcher followed the guidance of Midi, Sarkar, and Rana (2010) to drop the variables that are correlated, and compute separate logistic regression analyses using the entire sample. Distrust and trustworthiness (r = -.70) showed the highest patterns of correlation across variables (see Table 5). Therefore, two additional logistic regressions were computed excluding distrust in healthcare and then excluding trustworthiness. The pattern of results remained the same, with awareness and trustworthiness maintaining statistically significant relations with trust, whereas distrust in healthcare and propensity did not.

Hypothesis 2 was tested using ordinary least squares regression. The first model included satisfaction, awareness, distrust, and propensity to trust (F (4, 47) = 11.09, p < .01; adjusted R^2 = .44) as predictors of trustworthiness. Satisfaction (B = 0.04, p = .66), propensity to trust (B = 0.27, p = .21), and awareness (B = 0.16, p = .13) did not have a significant relation with trustworthiness, although distrust (B = -0.54, p < .01) did. Given the concerns about the low number of responses to the satisfaction measure, another regression model was computed excluding satisfaction (F (3, 189) = 61.42, p < .01, adjusted R^2 = .49). The pattern of results (see Table 7) changed with distrust (B = -0.67, p < .01) and propensity to trust (B = 0.19, p = .04)

having a significant relation to trustworthiness, while awareness still did not ($B = 0.07$, $p = .11$). Note that when testing Hypothesis 2 with participants from Northwest Ohio, distrust of healthcare was the only significant predictor of trustworthiness regardless of whether satisfaction was included ($N = 36$, adjusted $R^2 = .43$) or excluded ($N = 129$, adjusted $R^2 = .47$). Supplemental analyses further explored the relation between awareness, distrust, and trustworthiness and are described after the hypothesis tests below.

Table 7

Regression with trustworthiness as dependent variable excluding satisfaction.

Variable	B	T values	p-value
Awareness	0.09	1.62	.11
Distrust	-0.59	-9.20	.00
Propensity	0.13	2.11	.04

The relation between participants' trust propensity and their distrust in healthcare organizations was evaluated in Hypothesis 3. A correlation analysis returned a significantly negative relation between trust propensity and distrust in healthcare ($r = -.55$, $p < .01$). The correlation supports Hypothesis 3 such that individuals who have low trust propensity have higher distrust in healthcare organizations.

Finally, Hypothesis 4 tested the relation between trust propensity and an individual's awareness of the SDOH initiatives in place. A correlation analysis was performed and returned a non-significant relation ($r = .13$, $p = .06$). Thus, Hypothesis 4 was not supported.

In supplemental analyses using the entire sample, the researcher examined if the correlation between awareness of SDOH initiatives and the trustworthiness of NFP healthcare

organizations was different comparing people who had and those who had not trusted the SDOH initiative. Although the difference was not statistically significant ($z = 1.10$, $p = .27$), the correlation among people who had used the SDOH initiatives was .24 ($p = .07$), whereas it was .40 ($p < .01$) among people who had not.

Another supplemental analysis using the entire sample was conducted to explore distrust as a mediator of the relation between awareness and trustworthiness. Mediation was examined because awareness had no relation with trustworthiness in the regression when including distrust in healthcare and trust propensity although the correlation between awareness and trustworthiness was significant (see Table 5). Results indicated that distrust mediates the relation between awareness and trustworthiness ($B = 0.07$, $p = .11$), and a significant indirect effect of awareness on trustworthiness through distrust of healthcare was detected with the Sobel test ($z = 4.32$, $p < .01$).

DISCUSSION

The results of this study highlighted some important findings about NFP healthcare organizations and the SDOH initiatives in which they invest. First, it was expected that the more trustworthy one found a NFP healthcare organization to be, the more that they would trust the SDOH initiatives sponsored by that NFP healthcare organization. Yet the results showed that increased trustworthiness was associated with less trust in SDOH initiatives. In line with previous research specifically focused on people in disadvantaged communities (Musa et al., 2009; Webb Hooper et al., 2019; Pugh et al., 2020; Boulware et al., 2003), people tended to use healthcare services despite their low perceptions of trustworthiness. Unlike the expectations of Mayer and Gavin (2005), perceived trustworthiness may not be positively related to trusting a healthcare organization. Rather, in this case, the act of trusting providers of SDOH initiatives may be a result of the person's circumstances, socioeconomic factors, and necessity. Therefore, these results provide an important limitation to the widely accepted views of Mayer and Gavin (2005).

However, a complicating factor is that the trustworthiness measure directed participants to evaluate the healthcare system, not the SDOH initiative for which trust was measured (although the healthcare organizations sponsored the SDOH initiatives). If participants did not perceive a link between SDOH initiatives and healthcare systems, then this disconnect may have resulted in the failure to observe a relation between trustworthiness and trusting behavior directed toward a specific SDOH initiative. The difference in target may reveal an important limitation of the present research. Therefore, it is possible that the individual would not find the NFP healthcare organization trustworthy and still trust the SDOH initiative (Henderson et al., 1987).

Next, an important finding was that awareness of the SDOH initiatives was shown to have a positive relation with trust in the SDOH initiatives. Of course, people who used an SDOH initiative must have been aware of it; yet this result suggests that more widespread knowledge of SDOH initiatives could improve their use. Given the nature of the SDOH initiatives and what qualifies individuals to utilize them, the NFP healthcare organizations cannot expect a large word of mouth spread of information from individuals who have used the SDOH initiatives. People are unlikely to share their experiences when receiving services that reveal sensitive information about their health or financial status. If healthcare organizations were to do more in terms of advertising, a larger group of individuals who qualify would become aware of the initiatives, and then more people could utilize the initiatives that are offered.

Turning to trustworthiness as the outcome, findings showed that distrust in healthcare (negative) and propensity (positive) predicted trustworthiness, with an indirect effect (positive) of awareness on trustworthiness through distrust in healthcare.

Healthcare organizations would do well to improve the visibility of their SDOH initiatives, although awareness should include ways of addressing and reducing perceptions of distrust in healthcare in general. It was not expected that the general in healthcare would mediate the effect of awareness on trustworthiness. However, the data clearly show the importance of distrustful attitudes suggesting that even if people are aware of SDOH initiatives, a distrust in healthcare construed broadly will remove any positive impact awareness would have on trustworthiness perceptions of healthcare systems.

Another possibility to consider for the high level of distrust mediating the effect of awareness of SDOH initiatives is that the awareness of the SDOH initiatives may have primed thinking about healthcare expense and poor experiences (Ajzen, 2005). The SDOH initiatives

were presented first to participants. If they viewed SDOH initiatives as frivolous investments, that attitude could have primed greater distrust in the general healthcare system. A future study would do well to get community members' thoughts on the programs without associating them to a healthcare organization.

Considering hypothesis 3, higher propensity to trust was associated with lower general perceptions of distrust in healthcare organizations. While trust propensity is typically characterized as a trait (Mayer et al., 1995), this finding further underscores the importance of healthcare organizations carefully managing community perceptions. By providing quality initiatives to serve the community, a NFP healthcare organization could provide the experiences needed to influence inclinations toward distrust in a healthcare system. When an individual is provided a positive customer experience as a patient, the perceptions can begin to change. This positive customer experience starts at the initial point of care and extends all the way to the final encounter of the patient receiving their bill for services. Every positive interaction has the potential to reduce strong perceptions of distrust.

Contrary to Hypothesis 4, propensity to trust was not related to awareness of SDOH initiatives. That is, there is no evidence that people who have tendency to trust reported greater awareness of the SDOH initiatives.

A limiting factor regarding the relations among propensity to trust, distrust in healthcare, and awareness of SDOH initiatives could be the target of measurement instruments. Propensity to trust was evaluated as a general trait, while distrust in healthcare and awareness of SDOH initiatives were very specific attitudes. It may be that if the propensity to trust scale directed respondents' attention to a more specific target (like healthcare or SDOH initiatives), a different pattern of relations would have been found (Henderson et al., 1987).

Limitations and Future Research

One of the limitations of this study was that it is cross-sectional. NFP healthcare organizations continue to develop and expand SDOH initiatives. As SDOH initiatives evolve, community perceptions of them may also evolve and reveal different relations among the variables. A longitudinal approach would be able to detect changes over time that could be useful in interpreting the relation between trust in SDOH initiatives and their presence in the community. This would also enable examining whether trustworthiness perceptions evolve as people trust (use) the SDOH initiatives. Additionally, following an individual through repeated utilization of the initiatives would allow more nuanced information to be captured about their experience.

A theoretical limitation is the operationalization of trust when evaluating healthcare. The Mayer and Davis (1999) conceptualization of trust is widely accepted. However, the healthcare industry may provide a boundary condition for the theory because using healthcare and services to address SDOH factors may be due to necessity and circumstance rather than choice. Although this research included additional measures of trustworthiness and distrust in healthcare, operationalizing trust as use may be improper. Future research could examine trust as a behavior versus trust as an attitude in the healthcare setting.

An additional limitation could result from common method variance biasing the results. Due to the nature of this research, there were limited means to prevent common method variance. In line with Podsakoff et al. (2003), the researcher did guarantee anonymity of responses and used different types of response scales. Importantly, while some constructs were attitudes others, particularly the dependent variable trust, were behaviors making a response set less likely among participants (Podsakoff et al., 2003). Future research could administer surveys

with the independent variables and dependent variables at different points in time to better address common method variance concerns.

Another limitation is that the sample of participants who have used any of the SDOH initiatives is small. While the researcher was able to test the hypotheses, it is acknowledged that the small number of users of SDOH initiatives likely impacted the study findings. There is an opportunity for future research that reaches out specifically to those who have utilized the SDOH initiatives for participants. Future studies could partner with the NFP healthcare organizations to follow up with those who utilize the initiatives to assess impressions after their first use and continually over a set time period. This would allow for a study to evaluate if the further use of several initiatives or continued use of one relates to the perceptions of trustworthiness differently than in the current data set.

A limitation of this study is that the users of SDOH initiatives are a difficult population to reach and give consent to complete an online survey. The social network of the researcher was less economically diverse population than expected. While the broad target was adults in Northwest Ohio, the researcher over-estimated the number of people in the survey distribution who had experience with SDOH initiatives included. Those who struggle with poor SDOH are a difficult population to capture, but the method of survey delivery limited their access even more. This limitation highlights the need for longitudinal research that follows uses of SDOH initiatives when evaluating their impact.

An additional limitation of this study is that the researcher included SDOH initiatives that are predominantly located only in Northwest Ohio. While some of the SDOH initiatives are present nationwide, specific examples were given in the greater Toledo area. The choice of initiatives could have limited the ability of participants not only to be aware of, but also to have

participated in the initiatives that are offered. Even with this limitation, people across the country completed the survey and made comments in the open-ended comment section. Specifically, participants that the initiatives needed to be advertised sooner, participants wished they would have known about the initiatives earlier, and participants inquired about the availability of initiatives in other states. While concentrated to Northwest Ohio, the initiatives focused on the basic needs of people. Future research could identify initiatives that are similar to those present in Northwest Ohio in other geographic locations to see if the results regarding trust, awareness, distrust and trustworthiness are different from this area.

Finally, a limitation of this study is that the researcher does not know what the study participants were thinking of when the term healthcare organization or system showed up on the survey. While the researcher intended for the study to evaluate the actual organization where people received their healthcare, participants may lump health insurance companies and were instructed to in the trustworthiness section into the healthcare organization due to different insurance companies' ownership. It is also possible that survey participants just respond to any program in place that seemed similar to the description such as different workplace support programs, rather than SDOH initiatives in place by NFP healthcare organizations.

CONCLUSION

The present research showed that trustworthiness may not predict trust in SDOH initiatives. Rather, people trust them regardless, perhaps due to circumstance and necessity. Awareness positively impacts trust in SDOH initiatives. NFP healthcare organizations have taken on a large goal by beginning to address the negative SDOH that are present within communities, all while still treating the ill and injured. When beginning this study, the researcher was attempting to answer the question, 'What factors impact trust in NFP healthcare organizations' SDOH initiatives and trustworthiness of NFP healthcare organizations?'. This research revealed that trust in SDOH initiatives was dependent on other variables, particularly distrust in healthcare and trustworthiness of healthcare organizations. Also, supplemental analyses revealed that distrust in healthcare mediated the impact of awareness on trustworthiness of healthcare organizations. If the broader community knows about the SDOH initiatives available and they are free of charge, healthcare organizations might be able to reduce the distrust and enhance perceptions of trustworthiness of healthcare organizations. A welcome result would be improvement of SDOH for the entire community.

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APPENDIX A. INSTRUMENT

Grid for Awareness, Use, and Satisfaction with Healthcare System Programs. Note that use of the healthcare program indicates trust in that program.

AWARENESS

1	2	3	4	5
I am not aware of Healthcare System Program	I have limited awareness of the Healthcare System Program	I am somewhat aware of the Healthcare System Program	I am aware of the Healthcare System Program	I am very aware of the Healthcare System Program

USE

1	2	3	4	5
I do not use the Healthcare System Program when it is available to me.	I rarely use this Healthcare System Program when it is available to me.	I sometimes use this Healthcare System Program when it is available to me.	I most of the time use this Healthcare System Program when it is available to me.	I always use this Healthcare System Program that when it is available to me.

SATISFACTION

1	2	3	4	5
I am not satisfied with the Healthcare System Program with all past or present uses	I am not satisfied with the Healthcare System Program with most past and present uses	I am fairly satisfied with the Healthcare System Program with some past and present uses	I am satisfied with most of the Healthcare System Program with most past and present uses	I am very satisfied with all of the Healthcare System Program with all past and present uses

(Bailey et al., 1999)

Measures of Trustworthiness of Healthcare System Perceptions and Trust Propensity

The following instructions prefaced the scales. The anchors shown below were consistent throughout. Headings of construct names are for clarity of exposition, and will not be included in the surveys.

Indicate the degree to which you agree with each statement by using the following scale:

1	2	3	4	5
Disagree Strongly	Disagree	Neither agree nor disagree	Agree	Agree Strongly

---

Think about healthcare systems. For each statement, write the number that best describes how much you agree or disagree with each statement.

Ability

Healthcare systems are very capable of performing their job.

Healthcare systems are known to be successful at the things they try to do.

Healthcare systems have much knowledge about the work that needs done.

I feel very confident about healthcare systems' skills.

Healthcare systems have specialized capabilities that can increase my performance.

Healthcare systems are well qualified.

Benevolence

Healthcare systems are very concerned about my welfare.

My needs and desires are very important to healthcare systems.

Healthcare systems would not knowingly do anything to hurt me.

Healthcare systems really look out for what is important to me.

Healthcare systems will go out of its way to help me.

Integrity

Healthcare systems have a strong sense of justice.

I never have to wonder whether healthcare systems will stick to their word.

Healthcare systems try hard to be fair in dealings with others.

Healthcare systems' actions and behaviors are not very consistent. *

I like the healthcare systems' values.

Sound principles seem to guide healthcare systems' behavior.

Propensity

One should be very cautious with strangers.*

Most experts tell the truth about the limits of their knowledge.

Most people can be counted on to do what they say they will do.

These days, you must be alert or someone is likely to take advantage of you.*

Most salespeople are honest in describing their products.

Most repair people will not overcharge people who are ignorant of their specialty.

Most people answer public opinion polls honestly.

Most adults are competent at their jobs.

* reverse scored item

(Mayer & Davis, 1999)

Health Care System Distrust Scale

The next questions are about your opinion of the health care system in general. When we refer to the health care system, we mean hospitals, health insurance companies, and medical research. For each statement below, please check how strongly you agree or disagree.

1	*2*	*3*	*4*	*5*
Disagree Strongly	*Disagree*	*Neither agree nor disagree*	*Agree*	*Agree Strongly*

1. *Medical experiments can be done on me without my knowing about it.*
2. *My medical records are kept private. **
3. *People die every day because of mistakes by the health care system.*
4. *When they take my blood, they do tests they don't tell me about.*
5. *If a mistake were made in my health care, the health care system would try to hide it from me.*
6. *People can get access to my medical records without my approval.*
7. *The health care system cares more about holding costs down than it does about doing what is needed for my health.*
8. *I receive high-quality medical care from the health care system. **
9. *The health care system puts my medical needs above all other considerations when treating my medical problems. **
10. *Some medicines have things in them that they don't tell you about.*

*** reversed scored*

(Rose et al., 2004)

APPENDIX B. CONSENT LETTER

INFORMED CONSENT FOR Trust, trustworthiness, social determinants of health, and not-for-profit healthcare systems: Is there an impact on relationships?

You are invited to participate in a study that is assessing the impact of SDOH initiatives on the trustworthiness of NFP healthcare organizations. Participation in this survey is voluntary. The survey will take approximately 35 minutes to complete and does not pose any foreseeable risk. There are no right or wrong answers to the questions. All responses will be anonymous and only be reported in an aggregate manner.

My name is Heather Poddany, and I am a Doctoral Student at Bowling Green State University and Acute Care Practice Manager for ProMedica Health System.

Your participation in this study will help healthcare organizations understand the impact on the trust relationships that their programs are having in the community.

Your participation is completely voluntary. Your responses will be confidential and stored on a password-protected computer. Only the researcher will have access to your data. Your identity will be anonymous. The risk of participation is no greater than that experienced in daily life. Some employers may use tracking software so you may want to complete the survey on a personal computer. Please refrain from leaving the survey open if you are using a public computer or a computer that others may have access to. Please clear your browser cache and page history after completing the survey.

If you have any questions about the research or your participation in the research, you can contact me at hpoddan@bgsu.edu or 419-265-1957. My doctoral advisor, Dr. Michelle Brodke can be reached at mbrodke@bgsu.edu or 419-372-0699. You may also contact the Chair of the

Bowling Green State University Institutional Review Board, at 419-372-7716 or irb@bgsu.edu, if you have questions about your rights as participants.

Thank you for your time,

Heather L. Poddany, MBA, DODC Student

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