

## Obstetric Triage as a Gateway to Social Care:

### Social Needs, Disparities, and Implications for Advancing Equity

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### Abstract

**Objectives:** To estimate the prevalence and distribution of social needs among obstetric triage patients at ChristianaCare; examine associations with patient characteristics and insurance status; and identify implementation and policy implications for integrating social determinants of health (SDOH) screening into obstetric care in Delaware. **Methods:** We conducted cross-sectional SDOH screening among patients aged  $\geq 18$  years presenting to the obstetric triage unit at Christiana Hospital (November 2019–February 2020). An 11-item tool covering 10 social-need domains was administered; 326 (82%) patients participated, and 317 unique patients were analyzed. Descriptive statistics estimated social-need prevalence. Age-adjusted logistic regression assessed associations of race/ethnicity and insurance (Medicaid/self-pay vs other) with each domain and with cumulative needs. Screeners completed brief debriefs on feasibility and workflow. **Results:** Participants had a mean age of 30.2 years; 49.5% were White, 38.4% Black, and 10.7% Hispanic/Latine; 39.1% had Medicaid or were self-pay. Overall, 46.1% reported  $\geq 1$  social need and 7.0% reported  $\geq 4$  needs. Financial strain, food insecurity, and housing and transportation challenges were among the most frequently endorsed domains. Black and Hispanic/Latine patients and those with Medicaid or self-pay coverage experienced significantly higher odds of multiple social-need domains and  $\geq 4$  needs (all  $p < 0.05$ ). Screening was feasible and acceptable but required attention to privacy, timing, and referral pathways.

**Conclusions:** Nearly half of obstetric triage patients reported unmet social needs, with marked inequities by race/ethnicity and insurance. Triage-based SDOH screening is feasible and can connect patients to social, legal, and community supports. **Public Health and Policy**

**Implications:** Integrating SDOH and food insecurity screening into obstetric triage, linking patients to social, legal, and Food is Medicine supports, and advancing upstream policies on wages, housing, and racism may narrow racial and socioeconomic gaps in maternal and infant outcomes and advance reproductive justice in Delaware.

### Introduction

Maternal morbidity and mortality and adverse infant outcomes remain major public health challenges in the United States, with persistent and unacceptable racial and ethnic inequities.<sup>1–5</sup> Black and other patients of color and their infants experience disproportionately high rates of preterm birth, low birth weight, and mortality, even after accounting for individual clinical risk factors and health care use.<sup>1–5</sup> These patterns reflect not only clinical risk, but also longstanding

social, economic, and structural inequities that shape exposure to stress, resources, and care across the life course.<sup>2-5</sup>

A large and growing body of public health and social epidemiology research demonstrates that adverse social determinants of health (SDOH)--including low income, food and housing insecurity, neighborhood deprivation, discrimination and racism, and limited access to high-quality care--are major drivers of maternal and infant morbidity and mortality.<sup>1,2,5</sup> Life-course and “weathering” perspectives emphasize that poverty, structural racism, and related stressors accumulate over time, producing earlier onset of chronic disease and sustaining inequities in birth outcomes across generations.<sup>2-4</sup> Empirical studies have linked socioeconomic disadvantage and structural racism to higher risks of preterm birth, low birth weight, and maternal morbidity.<sup>1,5</sup>

Health systems have increasingly sought to respond to these upstream drivers by integrating SDOH screening and social care interventions into clinical practice.<sup>1,6</sup> In many settings, standardized tools are used to assess domains such as food security, housing stability, transportation, and financial strain, and patients who screen positive are linked to in-house social workers, community health workers, legal partners, and community-based organizations.<sup>1,6-9</sup> Early evidence suggests that well-designed social care interventions can improve some health and utilization outcomes, although the evidence base remains heterogeneous and evolving.<sup>10,11</sup>

Professional organizations have underscored the importance of this work for maternity care. The American College of Obstetricians and Gynecologists (ACOG) highlights SDOH and cultural awareness as core components of reproductive health care and recommends that prenatal care include assessment of social and structural drivers of health with linkage to appropriate services when needs are identified.<sup>12</sup> ACOG has also issued guidance on hospital-based triage of obstetric patients, emphasizing standardized acuity assessment to ensure timely and safe care.<sup>13</sup> Together, these recommendations position pregnancy and the perinatal period as critical windows for identifying and addressing social needs.

In Delaware, these national concerns are highly salient. The state’s preterm birth and infant mortality rates remain above national benchmarks, with pronounced racial and geographic inequities.<sup>14,15</sup> State reports document persistent disparities in preterm birth, low birth weight, and infant mortality, with Black infants experiencing substantially higher mortality than White infants and adverse outcomes clustering in communities with concentrated social and economic disadvantage such as Wilmington.<sup>14-17</sup> Delaware has invested in several initiatives to respond, including the Healthy Women, Healthy Babies (HWB) program, which provides enhanced preconception, prenatal, and interconception care and bundled clinical and social services for women at highest risk of poor birth outcomes, and Healthy Communities Delaware, which supports community-driven investments in housing, transportation, and other “vital conditions” in high-vulnerability neighborhoods.<sup>18-20</sup> These initiatives reflect a growing recognition that improving maternal and infant outcomes requires addressing both individual clinical risks and the social and structural context in which patients live.<sup>1-5</sup>

At the same time, important gaps remain in how SDOH are assessed and addressed in maternity care workflows. Most reported SDOH screening efforts in pregnancy have occurred in outpatient prenatal clinics and high-risk perinatal programs, where brief tools are often acceptable to patients but screening remains inconsistent and implementation uneven.<sup>1,6-8,21</sup> In contrast, the obstetric triage literature has focused primarily on clinical acuity tools—such as the Maternal

Fetal Triage Index and other obstetric triage scales—and, more recently, on associations between neighborhood-level social vulnerability and triage acuity and other obstetric outcomes.<sup>22–25</sup> Acuity assessment refers to assigning an urgency level to each patient at presentation, based on maternal and fetal status, so that those with the most pressing needs are evaluated and treated first.<sup>13,22,23</sup> Studies linking triage acuity with the Centers for Disease Control and Prevention's Social Vulnerability Index (SVI) underscore how community-level disadvantage shapes who presents to triage and with what level of urgency, but they do not directly assess patients' individual social needs or incorporate routine SDOH screening into triage workflows.<sup>24,25</sup>

Obstetric triage is a high-volume point of unscheduled care and often serves as the de facto entry point into the health system for pregnant patients with limited or late prenatal care. Yet, to our knowledge, no prior U.S. studies have reported routine, patient-level SDOH or social needs screening conducted specifically in obstetric triage or obstetric emergency units. This leaves a critical evidence gap in understanding how triage could be leveraged to identify unmet social needs, inform care planning, and advance maternal health equity—particularly in states like Delaware, where maternal and infant health inequities are substantial and where state and health-system partners are actively investing in SDOH-focused strategies.<sup>14–20</sup>

In this study, we report findings from an SDOH screening initiative in an obstetric triage unit at ChristianaCare, a large regional health system in the Mid-Atlantic. We (1) describe the prevalence and types of social needs among obstetric triage patients; (2) examine associations of social needs with race/ethnicity and insurance status; and (3) summarize implementation lessons and policy implications, with a focus on how obstetric triage can function as a gateway to social care and upstream equity-focused interventions in Delaware.

## Methods

### Setting

This study was conducted in the obstetric triage unit at Christiana Hospital, part of ChristianaCare, a large private, non-profit, academic health system headquartered in Wilmington, Delaware. Christiana Hospital is the state's largest maternity center and a regional referral hospital serving patients from Delaware and parts of Pennsylvania, New Jersey, and Maryland. The obstetric triage unit is adjacent to the labor and delivery unit and provides unscheduled assessment and care for pregnant and postpartum patients presenting with concerns such as labor, decreased fetal movement, bleeding, pain, and other obstetric complaints. Patients are evaluated by obstetric nurses and providers, who assign triage acuity and determine the need for further evaluation, admission, or discharge with follow-up.<sup>13,22,23</sup>

### Development of the Screening Tool

The screening tool used in this study was developed as part of a larger effort to create and test an SDOH screening protocol for the health system. The tool was collaboratively developed by a working group comprised of leaders from the Office of Health Equity, researchers from the system's embedded research institute (then the Value Institute, now iREACH), and clinical and social work leads from high-need patient programs. Over several months, the group met to establish a vision for social needs screening, identify key domains, review existing instruments, and select questions for each domain. We reviewed items from validated and widely used screening tools, including the Accountable Health Communities Health-Related Social Needs

(AHC-HRSN) screener,<sup>22</sup> the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE),<sup>23</sup> and the Health Leads social needs screening toolkit.<sup>24</sup> Given concerns about adding length to workflow, the working group aimed for a relatively short tool and prioritized actionable domains not already captured in other assessments.

The final instrument included 11 items measuring ten social need domains: (1) financial insecurity, (2) utility needs, (3) housing quality issues, (4) housing insecurity, (5) food insecurity, (6) transportation needs, (7) interpersonal safety concerns, (8) limited health care access due to cost, (9) health literacy concerns, and (10) urgent needs (see Appendix). Before rollout, the working group decided to conduct screening studies in priority patient areas to inform planning and resource allocation. The first of these was conducted in ChristianaCare's obstetric triage unit.

## **Data Collection**

The screening study was conducted from November 2019 through February 2020. All data collection procedures were developed collaboratively with obstetric triage leadership, nurse managers, and frontline staff. The research coordinator shadowed and observed triage nurses, admissions staff, and medical assistants to identify appropriate screening times, ways to introduce the study, and feasible workflows. The ChristianaCare Institutional Review Board approved the study. Six researchers were trained on study procedures and tools. Recruitment and data collection took place in obstetric triage Monday through Friday from 12:00 pm to 9:00 pm. Multiple communications about the study were sent to triage staff, and a binder with study specifics and contacts was placed at the charge nurse's station.

All patients aged 18 years or older who spoke English or Spanish were eligible to participate. Patients were excluded if a provider indicated that the patient was not fit to approach, if the patient was clinically unstable or required immediate emergency intervention, or if non-medical individuals (e.g., family members or friends) in the room would not leave when privacy was needed to complete the screener. Screeners reviewed patient charts to assess eligibility and approached all eligible patients present during their shifts, typically after the patient had been seen by a provider. This was therefore a convenience sample of patients presenting during staffed hours; no additional sampling or weighting was applied.

Screeners introduced themselves, described the study, confirmed eligibility, and obtained verbal consent from interested patients. Sociodemographic and screening questions were administered by interview in English or Spanish, and responses were entered into REDCap, a secure, web-based application for data capture in clinical and translational research.<sup>26</sup> Although study materials were translated into Spanish, only one researcher was able to conduct interviews in Spanish and interpretation services were not available for the research; consequently, relatively few Spanish-speaking patients were enrolled. At the end of each shift, screeners completed a brief debrief survey documenting any challenges or successes associated with that day's screening. The form included checkboxes and open-ended questions about perceived facilitators and barriers (e.g., patient acuity, time constraints, presence of visitors, language needs), patients' reactions to the questions, perceived safety concerns, and suggestions for improving the process. Debrief responses were reviewed iteratively and coded for recurrent themes related to feasibility, acceptability, and workflow barriers.

All participants received a \$25 gift card and a bilingual information card about the United Way 211 assistance line. Screeners notified the charge nurse whenever a patient screened positive for interpersonal safety concerns or indicated an urgent need so that appropriate support and/or intervention could be provided.

## Measures

The study questionnaire included items to assess sociodemographic characteristics and SDOH. Standardized questions were used to assess age (via date of birth), preferred language, and gender. Patients' primary insurance type was obtained from the electronic health record and classified for analysis as Medicaid/self-pay versus other insurance. Eleven SDOH screening questions measuring 10 domains were administered (Appendix). Questions addressing financial insecurity, utility needs, housing quality issues, and housing insecurity came from the AHC-HRSN screener.<sup>22</sup> Patients who reported one or more housing quality issues were classified as having housing quality problems. Food insecurity was assessed using the two-item Hunger Vital Sign; patients who responded affirmatively to either item were considered food insecure.<sup>25</sup> Health literacy concerns were measured using a single AHC-HRSN item asking how often patients needed help reading hospital materials; those who responded "often" or "always" were categorized as having health literacy concerns.<sup>22</sup> Items from PRAPARE were used to assess transportation needs and interpersonal safety; patients who reported transportation problems or responded "no" to the interpersonal safety question were classified as having those respective needs.<sup>23</sup> Limited health care access due to cost and urgent needs were assessed using items from the Health Leads screening tool.<sup>24</sup>

## Data Analysis

We used descriptive statistics to characterize the sample and estimate the prevalence of each social-need domain. All SDOH items were coded as binary variables (yes/no), and we examined the distribution of the total number of domains endorsed (0, 1, 2, 3, 4, 5, 6, 7, 8–10). For regression analyses, we created a dichotomous indicator of cumulative social needs ( $\geq 4$  vs 0–3) to capture concentrated social risk. To assess associations between patient characteristics and social needs, we fit separate age-adjusted logistic regression models with each SDOH domain (yes/no) as the dependent variable and race/ethnicity (non-Hispanic White [reference], non-Hispanic African American/Black, Hispanic/Latine) or insurance type (Medicaid/self-pay vs other) as the main independent variable. We also modeled the cumulative social-needs indicator ( $\geq 4$  vs 0–3) as a binary outcome. Analyses used available-case data; participants with missing values for a given variable were excluded from analyses involving that variable. A p-value  $<0.05$  was considered statistically significant. All analyses were conducted using Stata (Version 17.0, StataCorp, College Station, Texas).

## Results

### Participation Rate and Participant Characteristics

Eighty-two percent of patients approached agreed to participate. Of the 326 patients who completed the screening, nine were determined to be duplicate visits. For patients with multiple screenings, only the first screen was retained, resulting in a final analytic sample of 317 unique patients. Sociodemographic characteristics of the 317 participants are shown in Table 1. Participants were primarily non-Hispanic White (45.4%) and non-Hispanic African

American/Black (38.4%); 10.8% identified as Hispanic/Latine (White, Black, or other). Most participants identified as female (98.7%), and nearly all reported English as their preferred language (99.7%). The majority had commercial insurance (59.6%) or Medicaid (37.2%), and almost all were Delaware residents (90.2%).

Table 1. Sociodemographic Characteristics of Patients Screened (N=317)

	<b>% or Mean</b>	<b>n or SD</b>
<b>Age, years</b>	30.2	7.1
<b>Age categories, years</b>		
18-24	23.3	74
25-34	56.8	180
35-44	16.7	53
45 and older	3.2	10
<b>Gender</b>		
Female	98.7	313
Male	1.3	4
<b>Preferred language</b>		
English	99.7	316
Spanish	0.3	1
<b>Race</b>		
American Indian or Alaska Native	0.3	1
Asian	3.8	12
Black or African American	38.4	125
White	49.5	157
Other	6.6	21
<b>Ethnicity</b>		
Hispanic or Latine	10.7	34
Non-Hispanic or Latine	89	282
<b>Race/Ethnicity</b>		
Non-Hispanic White	45.4	144
Hispanic White	4.1	13
Non-Hispanic Black	38.2	121
Hispanic Black	1.3	4
Non-Hispanic Other	5.4	17
Hispanic Other	5.4	17
<b>Insurance Type</b>		
Medicaid	37.2	118
Medicare	1.3	4
Private	59.6	189
Self-pay	1.9	6

*Note.* 1 person declined to report Race, Ethnicity, and Race. Age ranged from 18.0 to 73.4 years.

## Social Determinants of Health

Table 2 presents participants' responses to the 11 SDOH screening items. Table 3 summarizes the prevalence of positive screens by domain and age-adjusted ORs (95% CI) by race/ethnicity and insurance type. Overall, 46.1% of patients reported at least one social need. The most frequently endorsed domains were financial insecurity (25.2%) and food insecurity (21.8%). Similar proportions of participants reported worrying that food would run out before they had money to buy more and that food had run out without money to buy more (17.0% and 17.4%, respectively). Housing quality issues were also common: 13.6% reported one or more housing quality problems, and 4.1% reported two or more. The most frequently reported housing quality issues were pests (4.1%) and water leaks (3.8%). Other commonly endorsed domains included transportation needs (10.7%), health literacy concerns (10.8%), limited health care access due to cost (9.2%), and housing insecurity (8.2%). Among those with housing insecurity, 3.8% were currently homeless and 4.4% had a steady place to live but were worried about losing it. Fewer participants screened positive for utility needs (6.9%), urgent needs requiring immediate assistance (3.2%), or interpersonal safety concerns (0.6%). Overall, 39.1% of patients reported 1–3 social needs and 7.0% reported four or more. Among those who reported at least one social need, nearly one in six (15%) reported four or more distinct social needs, indicating substantial clustering of social risk in a subset of patients.

Table 2. Social Determinants of Health Needs Reported by Patients who Endorsed Screening Items (N=317)

	% or Mean	n or SD
Financial insecurity	25.2	80
Housing quality issues	13.6	43
Utility needs	6.9	22
Housing insecurity	8.2	26
Food insecurity	21.8	69
Transportation needs	10.7	34
Interpersonal safety concerns	0.6	2
Limited health care access due to cost	9.2	29
Health literacy concerns	10.8	34
Urgent Need(s)	3.2	10
<b>Number of SDOH endorsed (Mean <math>\pm</math> SD)</b>	1.0	1.4
Number of SDOH endorsed		
0	53.9	171
1	18.0	57
2	14.2	45
3	6.9	22
4	4.1	13
5	1.6	5
6	1.0	3
7	0.3	1
8 – 10	0.0	0

*Note.* 46.1% had one or more SDOH needs.

### ***Associations Between Patient Characteristics and SDOH***

Social needs clustered by race/ethnicity and insurance status (Table 3). Compared with non-Hispanic White patients, Hispanic/Latine patients had significantly higher odds of food insecurity (OR=2.90, 95% CI 1.38–6.10) and low health literacy (OR=3.04, 95% CI 1.25–7.40). African American/Black patients had higher odds of financial insecurity (OR=1.98, 95% CI 1.15–3.41), utility needs (OR=3.17, 95% CI 1.18–8.52), and housing insecurity (OR=4.51, 95% CI 1.74–11.67), and were more than twice as likely to report more than three social needs (OR=2.63, 95% CI 1.28–5.41; all  $p<0.05$ ). Patients with Medicaid or self-pay coverage had significantly higher odds of nearly all social-need domains with Medicaid estimates (all except urgent needs), including food insecurity (OR=2.69, 95% CI 1.56–4.65), housing insecurity (OR=10.19, 95% CI 3.42–30.38), and low health literacy (OR=3.25, 95% CI 1.54–6.84), as well as approximately four-fold higher odds of having more than three social needs (OR=4.08, 95% CI 2.06–8.07; all  $p<0.05$ ). Together, these patterns highlight pronounced inequities in the burden of social needs among obstetric triage patients, particularly along lines of race, ethnicity, and insurance coverage.

Table 3. Associations between Patient Characteristics and Social Determinants of Health Needs Reported

	Age		Hispanic/Latinx		White		African American/Black		Other		Medicaid or self-pay	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
<b>Financial insecurity</b>	0.98	(0.94, 1.01)	1.50	(0.69, 3.2)	<i>Ref</i>	-	<b>1.98*</b>	(1.15, 3.41)	1.20	(0.50, 2.91)	<b>2.24**</b>	(1.34, 3.75)
<b>Housing quality issues</b>	0.99	(0.95, 1.04)	1.78	(0.72, 4.4)	<i>Ref</i>	-	1.91	(0.94, 2.89)	2.37	(0.88, 6.33)	<b>1.97*</b>	(1.03, 3.76)
<b>Utility needs</b>	1.03	(0.98, 1.08)	0.38	(0.05, 2.90)	<i>Ref</i>	-	<b>3.17*</b>	(1.18, 8.52)	1.50	(0.30, 7.89)	<b>4.62**</b>	(1.75, 12.15)
<b>Housing insecurity</b>	0.94	(0.88, 1.01)	-	-	<i>Ref</i>	-	<b>4.51*</b>	(1.74, 11.67)	0.74	(0.09, 6.35)	<b>10.19***</b>	(3.42, 30.38)
<b>Food insecurity</b>	<b>0.95*</b>	(0.91, 0.99)	<b>2.9**</b>	(1.38, 6.10)	<i>Ref</i>	-	1.46	(0.82, 2.58)	1.53	(0.65, 3.61)	<b>2.69***</b>	(1.56, 4.65)
<b>Transportation needs</b>	0.95	(0.89, 1.00)	1.51	(0.54, 4.20)	<i>Ref</i>	-	1.77	(0.81, 3.90)	2.50	(0.87, 7.20)	<b>3.78**</b>	(1.76, 8.04)
<b>Interpersonal safety concerns</b>	0.99	(0.81, 1.21)	-	-	<i>Ref</i>	-	1.25	(0.8, 20.32)	-	-	-	-
<b>Limited healthcare access</b>	0.93	(0.87, 1.00)	1.38	(0.45, 4.22)	<i>Ref</i>	-	1.52	(0.68, 3.4)	1.13	(0.30, 4.24)	<b>2.81*</b>	(1.29, 6.17)
<b>Health literacy concerns</b>	0.95	(0.89, 1.01)	<b>3.04*</b>	(1.25, 7.40)	<i>Ref</i>	-	1.29	(0.57, 2.88)	<b>3.28*</b>	(1.24, 8.68)	<b>3.25**</b>	(1.54, 6.84)
<b>Urgent needs</b>	0.88	(0.78, 1.00)	0.92	(0.16, 1.51)	<i>Ref</i>	-	1.59	(0.42, 6.06)	1.13	(0.12, 10.39)	2.4	(0.66, 8.69)
<b>0 social needs</b>	1.03	(1.00, 1.06)	0.49	(0.24, 1.02)	<i>Ref</i>	-	<b>0.46**</b>	(0.28, 0.74)	0.72	(0.34, 1.5)	<b>0.36***</b>	(0.23, 0.57)
<b>1 social need</b>	1.01	(0.97, 1.05)	1.47	(0.63, 3.43)	<i>Ref</i>	-	1.00	(0.54, 1.82)	0.74	(0.26, 2.10)	0.89	(0.49, 1.61)
<b>2 social needs</b>	0.96	(0.91, 1.00)	1.05	(0.38, 2.87)	<i>Ref</i>	-	1.96	(1.00, 3.83)	1.10	(0.33, 3.38)	<b>2.18*</b>	(1.15, 4.13)
<b>&gt;3 social needs</b>	0.97	(0.92, 1.02)	2.11	(0.89, 5.02)	<i>Ref</i>	-	<b>2.63**</b>	(1.28, 5.41)	<b>2.77*</b>	(1.01, 7.56)	<b>4.08***</b>	(2.06, 8.07)

Note. 37.2% of patients (n=118) had Medicaid and 1.9% (n=6) were self-pay.

## Discussion

In this obstetric triage setting, our principal findings were that nearly half of pregnant patients reported at least one unmet social need and that a substantial subset reported multiple, intersecting needs. Financial strain and food insecurity were the most frequently endorsed domains, and many patients also reported housing-related concerns, transportation barriers, and cost-related access problems. We observed pronounced disparities by race/ethnicity and insurance status: Black and Hispanic/Latine patients and those with Medicaid or self-pay coverage experienced a substantially higher burden of social needs, including greater odds of housing insecurity and cumulative social risk. These findings indicate that patients presenting for unscheduled obstetric care often face significant social and economic challenges that are tightly intertwined with maternal and infant health risk.<sup>1,2,5</sup>

### What This Study Adds

This study contributes in three key ways. First, to our knowledge it is the first U.S. report of routine, patient-level SDOH screening conducted specifically in an obstetric triage unit, a high-volume point of unscheduled care. Second, it documents substantial clustering of social needs and pronounced inequities by race/ethnicity and insurance status among patients seeking triage care, highlighting obstetric triage as a locus of concentrated social risk. Third, it illustrates how triage-based screening can be integrated into a broader health-system and state policy context--using Delaware as a case example--to inform clinical workflows, align with existing social care and Food is Medicine programs, and guide upstream investments in maternal and infant health equity.

### Comparison with Prior Literature

Our prevalence estimates are consistent with prior work on SDOH screening in prenatal care and high-risk perinatal clinics, which has documented high rates of financial strain, food insecurity, and housing-related concerns among pregnant patients.<sup>2,22,27</sup> Some domains in our sample were reported at slightly lower rates than in clinic-based studies, which may reflect differences in patient populations, local social conditions, screening tools, or the acute-care context of obstetric triage. Despite these differences, our findings reinforce that social needs are common among pregnant patients across a range of settings and that addressing these needs is central to advancing maternal health equity.<sup>1,2,6</sup>

Our study extends existing work by focusing on obstetric triage, a high-volume point of unscheduled care that has rarely been examined as a venue for social needs assessment. Prior triage research has emphasized clinical acuity tools and, more recently, associations between neighborhood-level social vulnerability and triage acuity.<sup>22–25</sup> By demonstrating both a substantial burden of social needs and marked inequities in their distribution among triage patients, our findings suggest that obstetric triage is an important, and currently underused, opportunity to identify unmet social needs, inform care planning, and connect patients with resources during pregnancy.

Our results are also consistent with broader health services and social epidemiology research demonstrating that social needs are patterned along lines of race, ethnicity, and insurance status in ways that reflect structural racism and economic inequality.<sup>1–5</sup> The higher burden of social needs among Black and Hispanic/Latine patients and those covered by Medicaid or self-pay

underscores the importance of centering equity in the design and implementation of SDOH screening and response efforts. This includes not only identifying needs, but also ensuring that screening is linked to meaningful, accessible, and culturally responsive resources and interventions.<sup>1,6,28,29</sup>

## Implementation Lessons

Implementing routine social needs screening in obstetric triage yielded several practical lessons. First, patients were more receptive when screeners briefly explained why they were asking about social needs and how the information might be used to improve care and connect them with resources, consistent with prior work highlighting the importance of transparency and trust-building in SDOH screening.<sup>1,22,28,29</sup> Framing the screener as part of whole-person, family-centered care appeared to normalize the questions and reduce concerns about judgment or negative consequences.

Second, maintaining adequate privacy was essential yet challenging in a busy triage environment. Visitors were often present in the room, and screeners sometimes deferred or modified questions about interpersonal safety and urgent needs when privacy could not be ensured. These experiences highlight the importance of explicit workflows for securing privacy--such as standardized scripts for asking visitors to step out--when integrating SDOH screening into acute-care settings.

Third, successful implementation depended on clear roles and strong clinical champions. Support from triage charge nurses, attending obstetricians, and social workers helped integrate screening into routine processes, troubleshoot barriers (e.g., timing relative to clinical evaluation), and promote staff buy-in. Screeners emphasized the value of having straightforward responses to positive screens, such as simple “next step” pathways, standardized social work consults for higher-risk needs, and widely distributed 211 cards or resource lists that could be provided even when a full social work assessment was not feasible. The debrief process itself—inviting staff to reflect on what worked, what felt uncomfortable, and what might be improved—functioned as a low-cost quality improvement strategy and reinforced shared ownership of the screening initiative.

From a public health perspective, these findings suggest that obstetric triage is a critical touchpoint for identifying unmet social needs among pregnant patients in Delaware and the surrounding region. Nearly half of triage patients in this study reported at least one social need, with a disproportionate burden among Black and Hispanic/Latine patients and those with Medicaid or self-pay coverage. Leveraging triage as an opportunity for social needs assessment could help health systems and public health agencies identify individuals and communities facing concentrated social disadvantage and strengthen linkages to community-based supports.

## Strengths

This study has several strengths. It focuses on an obstetric triage setting--a high-volume point of unscheduled care that has been largely overlooked in prior work on social needs and pregnancy. By integrating screening into routine triage workflow, we were able to engage patients who may have limited or inconsistent contact with prenatal care and who may therefore be at particular risk for unmet social needs. The screening tool drew on items from widely used, evidence-informed instruments and covered multiple domains, allowing us to characterize both specific needs (e.g., food insecurity, housing quality) and cumulative social risk.<sup>7-9,27</sup> The study included

a racially and ethnically diverse sample with substantial Medicaid coverage, enhancing the relevance of the findings for populations disproportionately affected by adverse maternal outcomes and structural inequities.<sup>14–17</sup> Finally, pairing quantitative screening data with debriefing from screeners provided complementary insights about feasibility, acceptability, and workflow challenges.

## Limitations

Several limitations should be considered. This was a single-site study in one obstetric triage unit within a large health system, which may limit generalizability to other hospitals, geographic areas, or models of obstetric care. Recruitment occurred only during specific weekday hours; patients presenting overnight or on weekends were not systematically screened, and their social needs may differ from those captured in this sample. We excluded patients who were clinically unstable or required immediate emergency intervention, and screeners occasionally deferred or abbreviated the screener when privacy or safety concerns arose. As a result, our estimates may underestimate the true prevalence of social needs among all triage patients.

Social needs were measured using self-report, which is subject to social desirability bias and under-reporting, particularly for sensitive domains such as interpersonal safety and urgent needs. Concerns about child welfare involvement, immigration status, or stigma may have led some patients to withhold information even when confidentiality was emphasized. In addition, the 18% of eligible patients who declined participation may have had different social-needs profiles than participants; if those with the greatest social and economic adversity were less likely to participate, our findings may be conservative.

Finally, we relied on cross-sectional data collected at a single encounter and adjusted for a limited set of sociodemographic variables, so we cannot draw causal inferences about the relationship between social needs and clinical outcomes. Unmeasured factors such as immigration status, language proficiency, and experiences of discrimination may also contribute to the observed disparities.<sup>1–5</sup>

## Public Health and Policy Implications

Our finding that nearly half of obstetric triage patients screened positive for at least one social need, with a disproportionate burden among Black and Hispanic/Latine patients and those with Medicaid or self-pay coverage, underscores that social and economic conditions are not peripheral to perinatal care; they are core clinical concerns. The distribution of needs in this study—financial strain, food insecurity, housing problems, transportation barriers, and cost-related access difficulties—reflects both proximate social risks and deeper “fundamental” causes of health inequity, including low wages, racialized labor markets, historic disinvestment in communities of color, and the regional shortage of affordable housing. Simply asking patients about unmet needs without changing these underlying conditions risks placing responsibility for structural failures back onto pregnant people themselves.<sup>1–5,9,16,17</sup>

From a clinical and health-system perspective, obstetric triage is a uniquely high-leverage setting to identify and respond to social needs. Triage is often the first point of contact during pregnancy for patients with limited prenatal care and is already organized around time-sensitive assessment and escalation protocols.<sup>13,22,23</sup> Embedding brief, standardized social needs screening into triage workflows—and linking positive screens to warm handoffs, community health workers, or care coordinators—could transform what is currently a reactive encounter into a gateway for more

proactive, continuous care.<sup>1,6–11,21</sup> Evidence syntheses from the Social Interventions Research and Evaluation Network and others suggest that social care interventions embedded in clinical settings can reduce social risks and improve some health and utilization outcomes, especially when they go beyond screening alone to offer navigation, counseling, and ongoing support.<sup>10,11,28</sup> Delaware could strengthen this approach by explicitly incorporating triage-based SDOH screening and response into perinatal quality and safety efforts, adopting a common screener across obstetric triage units, building structured SDOH fields and alerts into the electronic health record, and tracking process and outcome measures stratified by social risk, race/ethnicity, and insurance. Aligning SDOH work with existing safety bundles would reinforce that addressing social risk is part of quality and patient safety rather than an optional add-on.

In Delaware, triage-based SDOH screening can be used as a front door to existing maternal and child health initiatives that address social risk and inequity. Healthy Women, Healthy Babies; evidence-based home visiting programs; Medicaid-covered doula services; Healthy Communities Delaware; medical–legal partnerships; and Medicaid managed care social care programs all provide potential downstream pathways for the high-need patients identified in this study.<sup>18–20,29–31</sup> Standardized referral protocols from obstetric triage to these programs—supported by embedded community health workers, social workers, or navigators in triage—could help ensure that pregnant patients with multiple or high-risk needs are connected to enhanced clinical, behavioral health, legal, and community supports before discharge. Evaluations of enhanced prenatal and interconception care, nurse home visiting, and doula care suggest that such models can improve perinatal outcomes and reduce disparities, particularly among Medicaid-insured and racially marginalized populations.<sup>19,30,31</sup> Medical–legal partnerships, which embed civil legal services into care teams, offer another strategy for addressing health-harming legal needs such as unsafe housing, eviction, utility shutoffs, benefit interruptions, and intimate partner violence; Delaware’s early maternal health MLP pilot and subsequent national work indicate that resolving legal needs during pregnancy may improve maternal and infant outcomes and reduce costs.<sup>29,32</sup>

Food insecurity was one of the most common needs in our sample, and Delaware is already investing in Food is Medicine models that can be linked to triage findings. The Delaware Food Farmacy model provides medically tailored groceries, nutrition education, and community health worker support for adults with chronic conditions, and the maternal Food Farmacy pilot extends this approach to pregnant patients through produce prescriptions and pregnancy-focused wraparound supports.<sup>33,34</sup> Early evaluations of Food is Medicine programs, including Delaware’s maternal Food Farmacy, point to benefits for food security, diet quality, cardiometabolic outcomes, and perceived dignity and respect, while also highlighting the complexity of implementation and scaling.<sup>11,33–35</sup> At the policy level, federal guidance on health-related social needs and section 1115 Medicaid demonstrations have begun to treat medically supportive food and nutrition (e.g., medically tailored meals, food pharmacies, produce prescriptions) as allowable Medicaid supports, including for some pregnant and postpartum individuals.<sup>35</sup> In several states, these policies are being operationalized through partnerships between Medicaid managed care plans and community-based Food is Medicine organizations, which provide medically tailored meals and produce prescriptions to pregnant people with nutrition-sensitive conditions and seek to integrate nutrition supports into standard care pathways.<sup>34,35</sup> The evidence base for maternal health outcomes is still developing, but early program evaluations and implementation studies underscore both the promise and the complexity of scaling these interventions.<sup>34,35</sup>

Medicaid coverage and managed-care policy remain powerful tools for advancing both social care and structural equity. Building on Delaware's Medicaid expansion and extended postpartum coverage, policymakers and health plans could incentivize routine SDOH screening in obstetric settings; reimburse community health workers, doulas, and social workers for navigation and advocacy; integrate Food is Medicine programs—such as the Delaware Food Farmacy for pregnant patients—into covered benefit structures; and incorporate social risk and response measures into quality dashboards.<sup>10,11,18–20,28,30,32–35</sup> At the same time, clinic-based interventions must be coupled with upstream policies that address fundamental causes of maternal health inequities: living wages and predictable work schedules; expansion of high-quality, truly affordable housing; anti-racist zoning and lending policies; enforcement of fair housing laws; and investments in transportation, childcare, and digital infrastructure in communities with the greatest social and health vulnerability.<sup>1–5,9,16,17</sup>

## Conclusion

In summary, obstetric triage-based SDOH screening offers a pragmatic way to identify high-need patients and connect them to evidence-based social care, legal, and Food is Medicine interventions, including those already operating in Delaware. However, the public health impact of these efforts depends on whether they are paired with policies that address the root causes of social and racial inequities—low and unequal wages, unstable housing, and structural racism across institutions. Aligning triage-based screening, Medicaid benefits (including nutrition supports for pregnant people), and broader economic and housing justice policies is essential to improving maternal and infant outcomes and advancing reproductive justice in Delaware. All such efforts should be explicitly designed, implemented, and evaluated with a focus on racial and economic equity to ensure they narrow, rather than inadvertently widen, existing gaps in maternal and infant health.

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## Appendix

### Social Determinants of Health Domains and Screening Items

Domain	Screening Item(s)
Financial insecurity	<p>In the past 12 months, have you been worried about, or been unable to pay any type of bills? For example, your heating bill, electric bill, phone bill, cable bill, medical co-pays, prescriptions, etc.?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
Housing quality issues	<p>Think about the place you live. Do you have problems with any of the following? Please tell me all that apply to you.</p> <p><input type="checkbox"/> Pests such as bugs, ants, or mice  <input type="checkbox"/> Mold  <input type="checkbox"/> Lead paint or pipes  <input type="checkbox"/> Inadequate heat  <input type="checkbox"/> Oven or stove not working  <input type="checkbox"/> No or not working smoke detectors  <input type="checkbox"/> Water leaks  <input type="checkbox"/> No, do not have any of these problems</p>
Housing insecurity	<p>What is your living situation today?</p> <p><input type="checkbox"/> You have a steady place to live  <input type="checkbox"/> You have a place to live today but are worried about losing it in the future  <input type="checkbox"/> You do not have a steady place to live (are temporarily staying with others in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)</p>
Utility needs	<p>In the past 12 months has the electric, gas, oil, or water company threatened to shut off or shut off services in your home?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No  <input type="checkbox"/> Already shut off</p>
Food insecurity	<p>Within the past 12 months, did you worry that your food would run out before you got money to buy more?</p> <p><input type="checkbox"/> Often true  <input type="checkbox"/> Sometimes true  <input type="checkbox"/> Never true</p> <p>Within the past 12 months, did the food you bought just not last and you didn't have money to get more?</p> <p><input type="checkbox"/> Often true  <input type="checkbox"/> Sometimes true  <input type="checkbox"/> Never true</p>

Transportation needs	<p>In the past 12 months, has lack of reliable transportation kept you from medical appointments or getting your medicine, from non-medical meetings, appointments, work or from getting things needed for daily living?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
Interpersonal safety concerns	<p>Do you feel physically and emotionally safe where you currently live?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
Limited health care access due to cost	<p>In the past 12 months, have you needed to see a doctor but could not because of cost?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
Health literacy concerns	<p>How often do you have a problem understanding what is told to you about your medical condition?</p> <p><input type="checkbox"/> Never  <input type="checkbox"/> Rarely  <input type="checkbox"/> Sometimes  <input type="checkbox"/> Often  <input type="checkbox"/> Always</p>
Urgent needs	<p>Are any of your needs urgent? For example, you don't have food tonight or you don't have a place to sleep tonight.</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>

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