Social Determinants of Health and Patients with Serious Mental Illness

Community Health Needs Assessment

Montgomery County Emergency Service

Norristown, PA

September 2024

Summary:

This report represents the most recent MCES Community Health Needs Assessment. It focuses on the relationship of selected social determinants of need (SDOH) and serious mental illness and suicide risk. It is based on a review of information gathered in the course of admission to inpatient psychiatric care at Montgomery County Emergency Service (MCES) captured by a series of screening questions asked by staff of the MCES Crisis Intervention Department. The study is exploratory in nature and was undertaken to determine the value of SDOH data and the utility of the SDOH screening tool that is part of MCES's intake documentation package.

Social Determinants of Health:

"Social determinants of health" is a concept that has come to be used in health care planning in recent years. As defined by the World Health Organization (WHO), social determinants of health are "the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels."

These non-medical factors strongly influence individual health and wellbeing, including personal health-related knowledge, attitudes, beliefs, or behaviors. Social determinants of health can be thought of as being the primary determinants regarding whether individuals stay healthy or become ill.

The generally accepted social determinants of health include:

- Socioeconomic status
- Education
- Racism and discrimination
- Food security and nutrition
- Housing;
- Built environment
- Access to health care
- Environmental hazards
- Safety.

In practice at the community level, health care providers often focus on four primary domains:

1. Food insecurity
2. Housing instability, quality, and adequacy of necessary utilities
3. Lack of transportation
4. Personal safety and interpersonal violence

Individual information about these domains is gathered by screening questions intended to identify the unmet health-related resource needs of patients.

Social Determinants of Health and Mental Illness: Overview of Research

The social determinants of health play a key role in mental health outcomes. Where a person works, plays, lives, and prays not only impacts physical health, but also mental health.

There is compelling evidence that mental health is associated with life circumstances. Factors such as conflict, violence and maltreatment, life events and experiences, racism and discrimination, social interaction and support, financial factors, employment factors, housing and living conditions, and demographic factors are known determinants of mental illness.

Recent research has also found correlations between various social determinants of health factors and higher suicide risk. Those closely associated with higher suicide rates include environmental factors, exposure to violence, access to quality healthcare, and employment status.

Research has highlighted the role of social determinants of health on mental health outcomes, but their impact on suicide mortality is less well understood. The social determinants with the most available evidence in this regard are housing, income and social protection, unemployment, and early childhood development.

Studies have found social determinants of suicide mortality include being involved in the justice system, exposure to parental and others' suicide, firearm accessibility, divorce, experience in foster care, release from incarceration, and midlife unemployment. Adverse social determinants of health are also significantly related to non-suicidal self-injury (NSSI), which is itself a risk factor for intentional lethal self-harm.

Chart 1 summarizes the principal SDOH factors that have been found to be linked to both serious mental illness and suicide risk. Research on key SDOH factors is presented next.

Housing and Living Conditions

Housing factors such as infrastructure, aggregated socioeconomic deprivation, leisure opportunities, density, crime, community violence, and social cohesion are significant determinants of health that also impact mental health in the general population.

Physical aspects of housing have been consistently linked to negative mental health outcomes. This includes insecure tenure and frequent mobility, housing condition, discrimination in accessing housing, overcrowding and a sense of safety and social connections.

The threat of home eviction (i.e., being subject to foreclosure or being in high foreclosure activity areas) increases the likelihood of anxiety, depression, psychological distress and suicide, and negatively influences quality of life.

Living in neighborhoods with high crime rates, social unrest, or limited access to safe recreational spaces have also been found to contribute to stress and feelings of hopelessness. Similarly, the lack of greenspace and proximity to heavily trafficked roadways and railways can affect both physical and mental health.

Financial Factors

Socioeconomic disadvantage is a fundamental determinant of mental health outcomes over the life course. There is an association between income inequality and mental illness with major outcomes including depression, and mental illness symptoms and diagnoses. Other financial determinants include income insecurity debt/assets, food insecurity, financial strain, and lower household income or greater financial burdens. Job insecurity has been found to bear on the mental health of adult men. Children growing up in socioeconomic disadvantage are more likely to experience mental health problems.

Housing disadvantage is a byproduct of financial insecurity associated with worse mental health, and may lead to increased residential mobility during childhood, which has been associated with more emotional and behavioral problems, depression and psychosis later in life.

Suicide and suicidal behavior are influenced by negative socioeconomic conditions. These can include economic hardship (such as high unemployment), poverty, limited affordable housing, lack of educational opportunities, and barriers to physical and mental healthcare access, among others.

A prominent risk factor for homelessness is the lack of affordable or stable housing. Homelessness is associated with a higher prevalence of mental and substance use disorders.

The prevalence of lifetime suicidal ideation in homeless individuals is high. Homelessness and behavioral health are inextricably linked and recognizing the social determinants of health is crucial to ending homelessness. Those with higher income uncertainty had higher odds of suicide death relative to those with lower income uncertainty. People who experienced longer periods of unemployment had higher odds of suicide death.

Conflict, violence, and maltreatment

Violence has been commonly reported as a mental illness determinant. This includes domestic violence, childhood or school violence, bullying, verbal abuse, sexual abuse, neighborhood crime and child abuse and neglect.

With regard to suicide attempts, experience of childhood abuse and maltreatment and sexual assault, gender and sexual minority status, and parental suicide mortality are strong risk factors.

Social interaction and support

About one third of US adults aged 50-80 years report feeling lonely and socially isolated in a study of data from 2018-2024. The findings suggest clinicians should screen for loneliness and isolation.

A lack of social support has been identified as a significant determinant of mental illness. Childhood adversity, weak parent–child relationships, and dysfunctional family life were also indicative of mental illness in adulthood.

Chronic loneliness, as indicated by consistent problems in forming and maintaining meaningful relationships, is likely to affect mental health adversely.

Both social isolation and loneliness are also associated with suicide among men, particularly older men. Relationship problems or feeling a lack of connectedness to others increases suicide risk. Loss of a significant other increases risk.

Family issues, including poor parent-child attachment, family support and cohesion, parental psychiatric symptoms, and frequent arguing with adult authority figures, have been identified as key risk factors for self-harm and suicide among youths

Both living alone and living with family are strongly associated with depression among older adults.

Higher loneliness and social isolation rates are frequently reported among individuals who did not work, lived alone, had lower household incomes, and who self-reported fair and poor physical and mental health more often than those who reported excellent, very good, or good health.

Inequalities experienced by the LGBTQ+ community

LGBTQ+ people may be exposed to acts of marginalization and moral panics, which can have harmful effects on their mental health. Marginalization occurs through discrimination, stigma, anti-queer and anti-trans policies, bullying/harassment, and other violence occurring at both micro-levels (e.g., micro-aggressions) and macro-levels (e.g., denial of human rights and health service access), placing them at greater risk of social exclusion and loneliness.

Minority stress following these experiences is thought to be a key process in determining mental health outcomes in LGBTQ+ people. Both youth and adults in the LGBTQ+ community have been found to have high suicide risk.

SDOH Documentation in Health Care Records

Adverse social determinants of health inpatients were associated with increased risk of serious mental illness and greater incidence suicide have led to calls o increase SDOH documentation in medical records. This is expected to improve understanding of SDOH prevalence and assist in identification and intervention among individuals at high risk of both serious mental illness and suicidal behavior.

Identifying key SDOH factors associated with serious mental illness and suicide risk is critical for informing clinical practices, guiding future research, and improving the value of policies and programs. In particular, assessing and targeting social drivers of health and mental health can be very useful for developing meaningful suicide prevention strategies.

Addressing social determinants of health is crucial in suicide prevention efforts. Strategies to reduce suicide rates should focus on improving socioeconomic conditions, promoting mental health awareness and education, increasing access to affordable and quality mental health services, reducing stigma, fostering supportive social networks, and creating safe and resilient communities.

Chart 1. Selected Risk Factors for Serious Mental Illness and Suicide Associated with Social Determinants of Health:

Individual Risk Factors

- Criminal/legal problems
- Job/financial problems or loss
- Housing instability
- Current or prior history of adverse childhood experiences
- Sense of hopelessness
- Violence exposure, victimization and/or perpetration

Relationship Risk Factors

- Bullying
- Family/loved one's history of suicide
- Loss of relationships
- High conflict or violent relationships
- Social isolation

Community Risk Factors

- Lack of access to healthcare
- Barriers to accessing mental health treatment
- Community violence
- Discrimination

Societal Risk Factors

- Stigma associated with help-seeking and mental illness
- Easy access to lethal means of suicide among people at risk
- Discrimination based on race, ethnicity, culture, and sexual identity

Stakeholders Consulter in Study Planning

MCES sought input on this study from the following internal and outside stakeholders:

Individual	Title and Organization
William Myers, MBA	Chief Executive Officer, MCES
Adrian Lamb, MD	Medical Director, MCES
Julie Peticca[1]	Director of Crisis Intervention, MCES
Rebecca Belding, CAADC	Allied Therapy Coordinator, MCES
Tory Bright	Director, Southeast Regional Mental Health Coordination Office
Michael Melcher, CADC	Co-occurring Disorder Counselor, MCES
Gabe Nathan, MA	Executive Director, OC87
Vera Zanders	Deputy Administrator, Montgomery County Office of Mental Health
Anna Trout, MSW	Crisis & Diversion Director, Montgomery County Office of Mental Health
Diane Conway, PhD	Chief Executive Officer, MAX Association
Cynthia Seyfert	Montgomery County Commitment Unit
Deborah Shanley	Compliance Officer/Director of Medical Records, MCES
Susan Shannon, MS	Executive Director, HopeWorx, Inc.
Christine Stutman ACSW, LSW	Executive Director, NAMI Montco

Study Background, Purpose, and Methodology:

Many hospitals are addressing social determinants of health to influence population health outcomes**.** Population health management involves targeting specific patient populations, such as people with serious mental illness. Socioeconomic and environmental factors have been found to determine approximately fifty percent of a person's health outcomes.

[1] Ms. Peticca is now on the staff of the Montgomery County Commitment Unit of the Montgomery County Department of Health and Human Services.

MCES has incorporated a social determinants of health screener into the Crisis Screening Packet used by the MCES Crisis Intervention Department with individuals assessed for inpatient admission.[2] It is expected that each new patient be asked each of the ten questions on the screener.

In 2022, it was decided to focus MCES's next community health needs assessment on how social determinants of need (SDOH) might be related to individuals with serious mental illness receiving inpatient psychiatric care at MCES. It was necessary to postpone undertaking the community needs assessment until June 2024 when the SDOH screen became part of the inpatient admission process at MCES.

Between June 1, 2024 and September 30, 2024, a purposeful sample of sixty-five patient admission charts were reviewed. The study was designed to be exploratory in nature to determine the feasibility and utility of capturing SDOH information with the screener. Data gathered on responses to the eleven-question SDOH screener and tabulated using the following variables:

- Patient Gender (Male/Female)
- Patient Admission Status (Voluntary or Involuntary)
- Readmissions within thirty days of most recent discharge
- Schizophrenia Spectrum Disorder Diagnosis (e.g., schizophrenia)
- Mood Spectrum Disorder Diagnosis (e.g., depression, bipolar disorder)
- Co-occurring Psychiatric and Substance Use Disorder Diagnosis
- Length of inpatient stay of ten (10) days or more
- Residence within a Montgomery County Mental Health Region[3]

Data was gathered from charts of patients who had responded positively to one or more questions on the SDOH screener.

It should be noted that some patients were found to have refused to answer any of the ten questions during the study period. The reason for nonresponses could not be determined, as all of the uncooperative patients had been discharged at that point.

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[2] The SDOH screener is also part of the Psychosocial Assessment employed in the admission of clients to Carol's Place, MCES's Crisis Residential Program (CRP).

[3] See https://namimainlinepa.org/wp-content/uploads/2017/09/Mental-Health-Presentation-_Services-in-Montco-2017.pdf.

MCES Social Determinants of Need Screener:

The following ten-question screener was developed by an MCES staff committee based on ***A Guide to Using the Accountable Health-Related Social Needs Screening Tool*** issued by the Centers for Medicare & Medicaid Services in December 2023[4]:

Question	Yes	No
Are you worried that in the next 2 months you may not have a safe or stable place to live? (i.e., Risk of eviction, being kicked out, homelessness)		
Are you worried that the place you are living in now is making you sick? ((e.g., Mold, insects/rodents, water leaks, not enough heat)		
In the past 3 months, has the electric, gas, oil, or water company threatened to shut off services to your home?		
In the last 12 months, did you worry that your food could run out before you got money to buy more?		
In the last 3 months, has a lack of transportation kept you from medical appointments or getting your medications?		
In the last 3 months, did you have to skip buying medications or going to doctor's appointments to save money?		
Do you need help getting childcare or care for an elderly or sick adult?		
Do you need legal help? (e.g., Child family services, immigration, housing discrimination, domestic issues, etc.)		
Are you finding it hard to get along with a partner, spouse or family members that are causing you stress?		
Does anyone in your life hurt you, threaten you, frighten you or make you feel unsafe?		

[4] Available at https://www.cms.gov/priorities/innovation/media/document/ahcm-screeningtool-companion

For purposes of this study, these questions were codified as follows:

- Housing Stability
- Housing Environment
- Heat/Utilities
- Food Security
- Transportation Access to Health Care
- Financial Barriers to Health Care
- Dependent Person Care Need
- Legal Problems
- Interpersonal Relationships
- Personal Safety

Positive patient responses were tabulated in terms of the selected patient characteristics as presented in the following tables.

Table 1. Patient Positive Responses by SDOH Item (n=65)

Determinant	Number	Percent
Housing Stability	16	24.6
Housing Environment	25	38.5
Heat/Utilities	18	27.7
Food Security	19	29.2
Transportation Access to Health Care	11	16.9
Financial Barriers to Health Care	9	13.8
Dependent Person Care Need	2	3.1
Legal Problems	14	21.5
Interpersonal Relationships	27	41.5
Personal Safety	17	26.1

Table 2. Positive Responses by Gender by SDOH Item (n=65)

	Female (30)		Male (35)	
Determinant	**Number**	**Percent**	**Number**	**Percent**
Housing Stability	**7**	**23.3**	**9**	**25.7**
Housing Environment	12	40.0	13	37.1
Heat/Utilities	10	33.3	8	22.8
Food Security	11	36.7	8	22.8
Transportation to Health Care	6	20.0	5	14.3
Financial Barriers to Health Care	4	13.3	5	14.3
Dependent Person Care Need	2		0	0.0
Legal Problems	6	6.7	8	22.8
Interpersonal Relationships	10	33.3	17	48.6
Personal Safety	12	40.0	5	14.3

Table 3. Involuntary Patient (302) Positive Responses by SDOH Item (n=41)[5]

Determinant	Number	Percent
Housing Stability	14	34.1
Housing Environment	11	26.8
Heat/Utilities	9	21.9
Food Security	12	29.3
Transportation Access to Health Care	13	31.7
Financial Barriers to Health Care	8	19.5
Dependent Person Care Need	0	0.0
Legal Problems	15	36.6
Interpersonal Relationships	16	39.0
Personal Safety	7	17.1

[5] The number of patients answering “yes” to the specific SDOH screener question.

Table 4. Voluntary Patient (201) Positive Responses by SDOH Item (n=24)

Determinant	Number	Percent
Housing Stability	8	33.3
Housing Environment	6	25.0
Heat/Utilities	5	20.8
Food Security	7	29.2
Transportation Access to Health Care	4	16,7
Financial Barriers to Health Care	3	12.5
Dependent Person Care Need	2	8.3
Legal Problems	6	25.0
Interpersonal Relationships	6	25.0
Personal Safety	3	12.5

Table 3. Readmissions within 30 Days Positive Responses by SDOH Item (n=39)

Determinant	Number	Percent
Housing Stability	12	30.8
Housing Environment	18	46.1
Heat/Utilities	9	23.1
Food Security	11	28.2
Transportation Access to Health Care	8	20.5
Financial Barriers to Health Care	7	17.9
Dependent Person Care Need	0	0.0
Legal Problems	9	23.1
Interpersonal Relationships	16	41.0
Personal Safety	8	20.5

Table 4. Positive Responses by SDOH/Schizophrenia Spectrum Disorder (n=28)

Determinant	Number	Percent
Housing Stability	14	50,0
Housing Environment	17	60.7
Heat/Utilities	9	32.1
Food Security	11	39.3
Transportation Access to Health Care	8	28.6
Financial Barriers to Health Care	5	17.8
Dependent Person Care Need	0	0.0
Legal Problems	9	32.1
Interpersonal Relationships	17	60.7
Personal Safety	8	28.6

Table 5. Positive Responses by SDOH/Mood Spectrum Disorder (n=36)

Determinant	Number	Percent
Housing Stability	2	5.5
Housing Environment	8	22.2
Heat/Utilities	9	25.0
Food Security	8	22.2
Transportation Access to Health Care	3	8.3
Financial Barriers to Health Care	4	11.1
Dependent Person Care Need	2	5.5
Legal Problems	5	13.9
Interpersonal Relationships	10	27.8
Personal Safety	9	25.0

Table 6. Positive Responses by SDOH/Co-occurring Disorders (n=30)

Determinant	Number	Percent
Housing Stability	12	40.0
Housing Environment	14	46.7
Heat/Utilities	7	23.3
Food Security	15	50.0
Transportation Access to Health Care	3	10.0
Financial Barriers to Health Care	3	10.0
Dependent Person Care Need	0	0.0
Legal Problems	5	16.7
Interpersonal Relationships	9	30.0
Personal Safety	8	26.7

Table 7. Positive Responses Length of Stay 10 Days or More (n=37)

Determinant	Number	Percent
Housing Stability	12	32.4
Housing Environment	13	35.1
Heat/Utilities	11	29.7
Food Security	10	27.0
Transportation Access to Health Care	7	18.9
Financial Barriers to Health Care	6	16.2
Dependent Person Care Need	0	0.0
Legal Problems	7	18.9
Interpersonal Relationships	15	40.5
Personal Safety	8	21.6

Table 8. Positive Responses Norristown MH Region (465) (n=39)[6]

Determinant	Number	Percent
Housing Stability	9	23.1
Housing Environment	11	28.2
Heat/Utilities	11	28.2
Food Security	10	26.6
Transportation Access to Health Care	6	15.4
Financial Barriers to Health Care	5	12.8
Dependent Person Care Need	2	5.1
Legal Problems	8	20.5
Interpersonal Relationships	15	38.5
Personal Safety	10	26.6

[6] Patients in the sample resided in only three of the six Mental Health Regions.

Table 9. Positive Responses Lansdale MH Region (463) (n=17)

Determinant	Number	Percent
Housing Stability	3	17.6
Housing Environment	6	35.3
Heat/Utilities	7	41.2
Food Security	4	23.5
Transportation Access to Health Care	2	11.8
Financial Barriers to Health Care	3	17.6
Dependent Person Care Need	0	0.0
Legal Problems	2	11.8
Interpersonal Relationships	7	41.2
Personal Safety	4	23.5

Table 10. Positive Responses Western MH Region (461) (n=9)

Determinant	Number	Percent
Housing Stability	4	44.4
Housing Environment	8	88.9
Heat/Utilities	5	55.5
Food Security	5	55.5
Transportation Access to Health Care	3	33.3
Financial Barriers to Health Care	1	11.1
Dependent Person Care Need	0	0.0
Legal Problems	4	44.4
Interpersonal Relationships	5	55.5
Personal Safety	3	33.3

Discussion: MCES Patient Response by SDOH Item

Housing Stability

Overall one-quarter of our patient sample identified this item. Responses were similar for both female and male patients. About one third of patients admitted both involuntarily (302) and voluntarily identified this item. Just over fifty percent of patients with Schizophrenia Spectrum Disorder diagnosis identified this item compared to less than six percent of patients Mood Spectrum Disorder diagnosis. Forty percent of patients with a co-occurring psychiatric and substance use disorder identified this item. A greater number of patients in the Pottstown area answered positively to this item than in the Norristown or Lansdale areas.

Housing Environment

Slightly less than forty percent of all patients in total responded positively to this items. Women and men in the sample identified this item at similar rate. It was identified strongly by patients readmitted within thirty days of discharge, patients with a Schizophrenia Spectrum Disorder diagnosis, patients with co-occurring disorders, and patients with residences in the Pottstown area.

Heat/Utilities

With the exception of patients with Schizophrenia Spectrum Disorder diagnoses of whom over one-third identified this item, for most other patient groups in the sample about one-quarter responded to positively to it.

Food Insecurity

This item was responded positively by more women than men, by more patients with Schizophrenia Spectrum Disorder diagnoses, more patients with co-occurring disorders, and more patients resided in the Pottstown area than in either the Lansdale or Norristown areas.

Transportation Access to Health Care

Less than twenty percent of the patients in our sample answered yes to this item. It was opted for by more women than men, more patients with a Schizophrenia Spectrum Disorder diagnosis, and more patients with a Pottstown area place of residence,

Financial Barriers to Health Care

Less than fifteen percent of patients in total in the sample identified this item. It was chosen by more female patients and more involuntary patients. About one-fifth of patients readmitted within thirty days of discharge cited this item as a problem and it was more of an issue for patients with a Schizophrenia Spectrum Disorder diagnosis than those with a Mood Spectrum Disorder diagnosis. Responses did not vary significantly in terms of area of residence.

Dependent Patient Care Need

Only two patients in the sample identified this item. Both were women who were voluntary admissions, who had Mood Spectrum Disorder diagnoses, and resided in the Norristown area.

Legal Problems

Approximately one-fifth of those in the patient sample in total identified legal problems as a concern at admission. More men, patients admitted involuntarily, those with a Schizophrenia Spectrum Disorder diagnosis, and patients residing in the Pottstown area responded positively to this item. About twenty to twenty-five percent of those in the sample selected this item were voluntary admissions, readmissions with thirty days of discharge, and Norristown area residents

Personal Safety

This item was identified by just over twenty-five percent of patients surveyed at admission. It was responded to positively by a significant percentage of women, patients with a Schizophrenia Spectrum Disorder diagnosis, those with co-occurring disorders, and patients residing in the Pottstown area. Patients with a Mood Spectrum Disorder diagnosis and patients who lived in the Lansdale and Norristown areas identified it less often.

Implementation Strategy

1. Submit this report for review and discussion to the following MCES internal groups to determine its relevance to each area of interest:
    - Co-occurring/OARS Committee
    - Emergency Medical Service (EMS) Committee
    - Environment of Care Committee
    - Suicide Prevention Committee
    - Trauma Informed Care Task Force
    - Treatment Plan Task Force

2. Educate MCES Crisis Intervention Department staff on techniques for increasing patient participation in the SDOH screening at intake.

3. Explore follow-up SDOH screenings during inpatient stay of patients opting to not respond to questions during intake.

4. Promote use of SDOH information in patient treatment and discharge plans.

5 .Consider a similar analysis of SDOH data gathered as part of the Psychosocial Assessment of clients admitted to Carol's Place, MCES's Crisis Residential Program, to determine if acuity of symptoms is associated with SDOHs.

6. Use SDOH data to assess the outcomes of patients participating in the OARS (Ongoing Abstinence Recovery Schedule) Program (e.g., completion of program during inpatient stay, frequency of post-program inpatient readmissions, recurrence of substance use, etc.).

7. Explore gathering SDOH information on a sample of 988 callers by adding the screener to the iCarol Contact Form. This could be done using the MCES SDOH screener and asking callers if they would be willing to provide this information on a voluntary basis.

8. Propose inclusion of the SDOH screener in the electronic medical record in MCES's new EMR system when implemented to facilitate SDOH data collection and analysis.

9. Explore a specific analysis of SDOH factors and suicidality available in MCES patient charts as a possible student intern project.