FREQUENT UTILIZERS OF SERVICES IN ALLEGHENY COUNTY:

Mental Health Crisis Services

This series of reports explores the group of people who use crisis services frequently. By looking more closely at this population of frequent utilizers, the Allegheny County Department of Human Services hopes to gain insight into their needs, identify key intervention points, and find ways to encourage long-term wellness while reducing the need for repeat intense service usage.

Frequent utilizer: For the purposes of this report series, frequent utilizers are defined as those clients of a particular service system who accounted for roughly the top five percent of individuals using that service in the 2016–2017 period of analysis.

INTRODUCTION

In Allegheny County, a range of services are available to any resident experiencing an emergency mental health crisis. These services—available by phone, walk-in, or visit by a mobile team—are short-term interventions that help stabilize people and ensure their safety and the safety of others. Mental health crisis services are available for all Allegheny County residents—children, adolescents, adults and older adults—and no insurance is required.

Since these services are for the purpose of mental health emergencies, most people who use them utilize them infrequently. A small percentage of people use crisis services frequently, however. Allegheny County Department of Human Services (DHS) wanted to learn more about this frequent utilizer population and how we might help reduce their use of crisis interventions and sustain longer-term, non-crisis mental health treatment. By understanding the characteristics of the frequent utilizer population and other services they are accessing, we hope to provide the right supports at the right time to stabilize individuals and aid in ongoing wellness.

METHODOLOGY

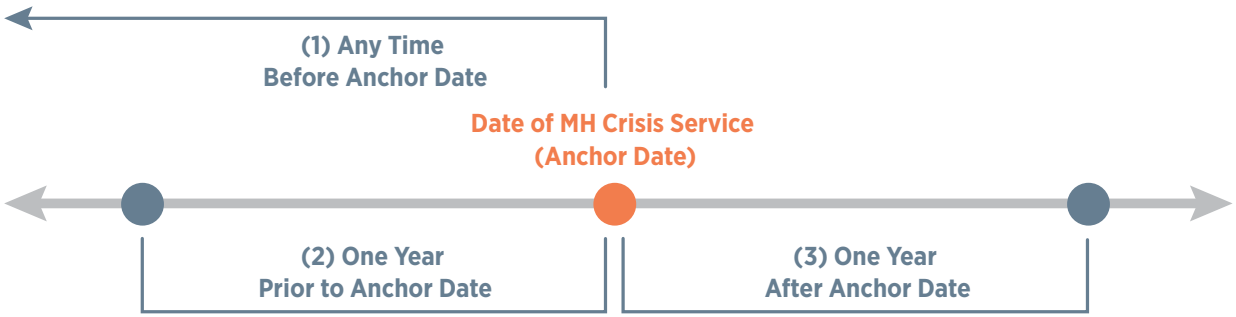
Mental health crisis service records were reviewed for January 1, 2016 through December 31, 2017. The services included in this analysis reflect those that are accessed or offered outside of the course of typical ongoing mental health treatment. This data was sourced from the County's managed care entity and is inclusive of all publicly

funded mental health service interactions. Mental health services paid for by private insurance or by patients is not included in this analysis. Each distinct date that a client utilized a mental health crisis service is considered a visit or a service utilization event.

In addition to analyzing clients' crisis service usage, we completed an analysis of frequent utilizers' service usage in four service domains: non-crisis mental health services, housing services, family-related services, and criminal justice system involvement (criminal filings and jail bookings). Using the mental health crisis service as an anchor date, we explored clients' use of services during three timeframes: (1) at any time before the anchor date, (2) in the year prior to the anchor date and (3) in the year after the anchor date.

Data for this part of the analysis comes from the Allegheny County Data Warehouse,[1] which brings together and integrates client and service data from a wide variety of sources internal and external to the County.

FIGURE 1: Involvement Windows for People Utilizing MH Crisis Services



DATA LIMITATIONS

The frequency metric is the total number of MH crisis services in the two-year period from 2016 through 2017. This definition skews our results in one respect: the frequency metric counts the number of times an individual returns to the MH crisis system for a period of anywhere from zero days to two years following their first episode, depending on when their first episode is. For example, those whose first episode is January 1, 2016, are followed for two years. Those whose first episode is December 31, 2017, are followed for one day.

1 For more information, see https://www.alleghenycountyanalytics.us/index.php/2018/08/13/allegheny-county-data-warehouse/

As a result of the two-year cohort methodology, the differences between the frequent and non-frequent utilizer groups are somewhat compressed. The non-frequent utilizer group as we define it is likely to contain some individuals who (1) would qualify as frequent utilizers if we followed them for two years, and (2) are demographically similar to the frequent utilizer group, so any demographic differences between the groups appear to be smaller than they actually are. This should be borne in mind in interpreting our results.

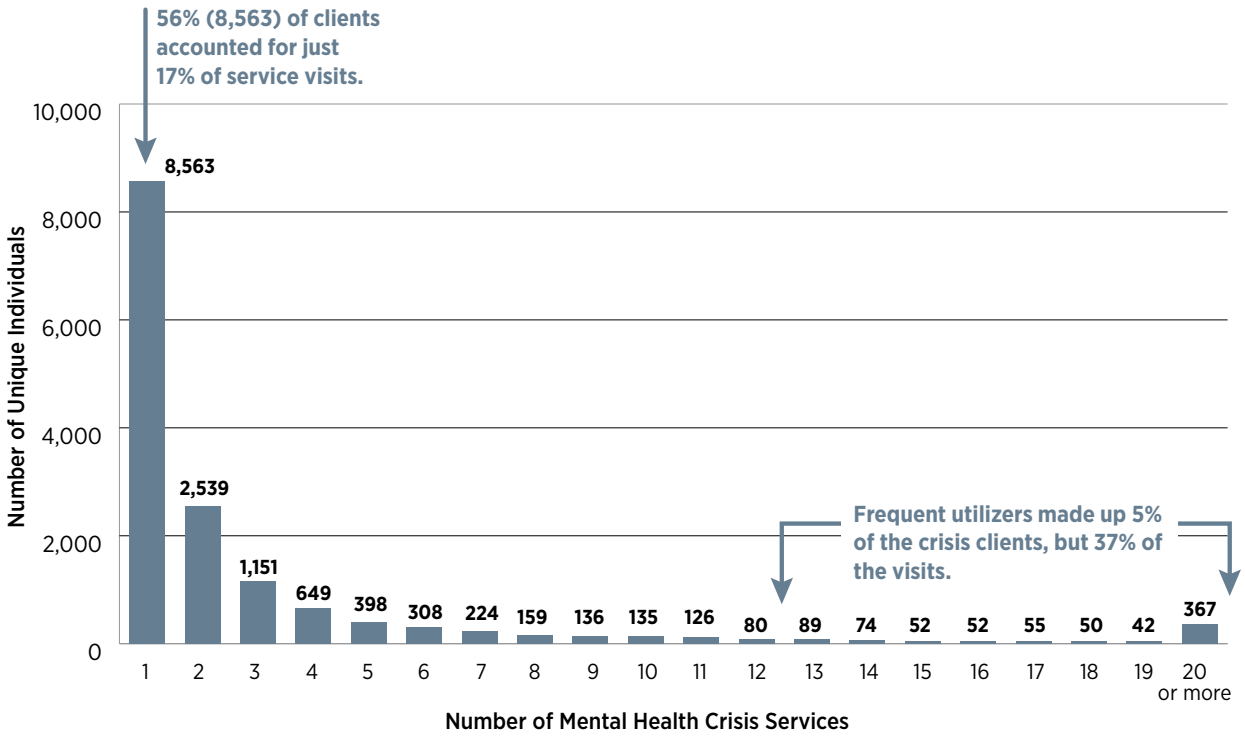
FINDINGS

Service Usage

In total, 15,249 distinct individuals accessed mental health crisis services for a total of 49,635 visits, averaging 3.3 visits per client, with a median of one visit per client. We categorized those who accessed mental health crisis services at least 13 times in 2016–2017 as frequent utilizers. Of the 15,249 people in the 2016–2017 cohort, 781 (5%) were frequent utilizers accounting for 37% of all crisis service interactions.

Figure 2 displays the number of visits that were made to mental health crisis services in 2016–2017 by number of people. More than half of individuals (56%, n = 8,563) who used a mental health crisis service during those years used that service only one time. The number of people accessing crisis services more than one time tapers quickly. At the right of the chart are frequent utilizers (those who accessed crisis services 13 or more times during the two-year period). The frequent utilizer group had an average of 23 visits per client, in comparison to an average of 2.2 visits per non-frequent utilizer client.

FIGURE 2: **Number of people who utilized mental health crisis services one or more times by number of crisis service visits, 2016–2017 (n=15,249)**



DEMOGRAPHICS

Gender, Race and Age

Frequent utilizers of mental health crisis services are older and more likely to be male and Black. Non-frequent utilizers are largely White, equally male/female and trend younger in age (**Table 1**).

- Sixty-five percent of frequent utilizers are male; males and females are represented equally in the group of non-frequent utilizers.
- Sixty-three percent of frequent utilizers are age 35 or older; 43% of the non-frequent utilizers are age 35 or older.
- Fifty-eight percent of frequent utilizers are Black while 42% of non-frequent utilizers are Black.

TABLE 1: Gender, race and age of clients who used mental health crisis services, frequent vs. non-frequent utilizers, 2016–2017

	FREQUENT UTILIZERS (N = 781)	NON-FREQUENT UTILIZERS (N = 14,468)
Gender*		
Female	34%	48%
Male	65%	51%
Unknown	<1%	<1%
Race**		
Black	58%	38%
White	41%	58%
Other	1%	2%
Unknown	1%	2%
Age Range***		
Under 18	15%	26%
18–24	12%	13%
25–34	20%	19%
35–44	18%	12%
45–54	20%	13%
55–64	13%	11%
Over 64	2%	7%
Unknown	<1%	<1%

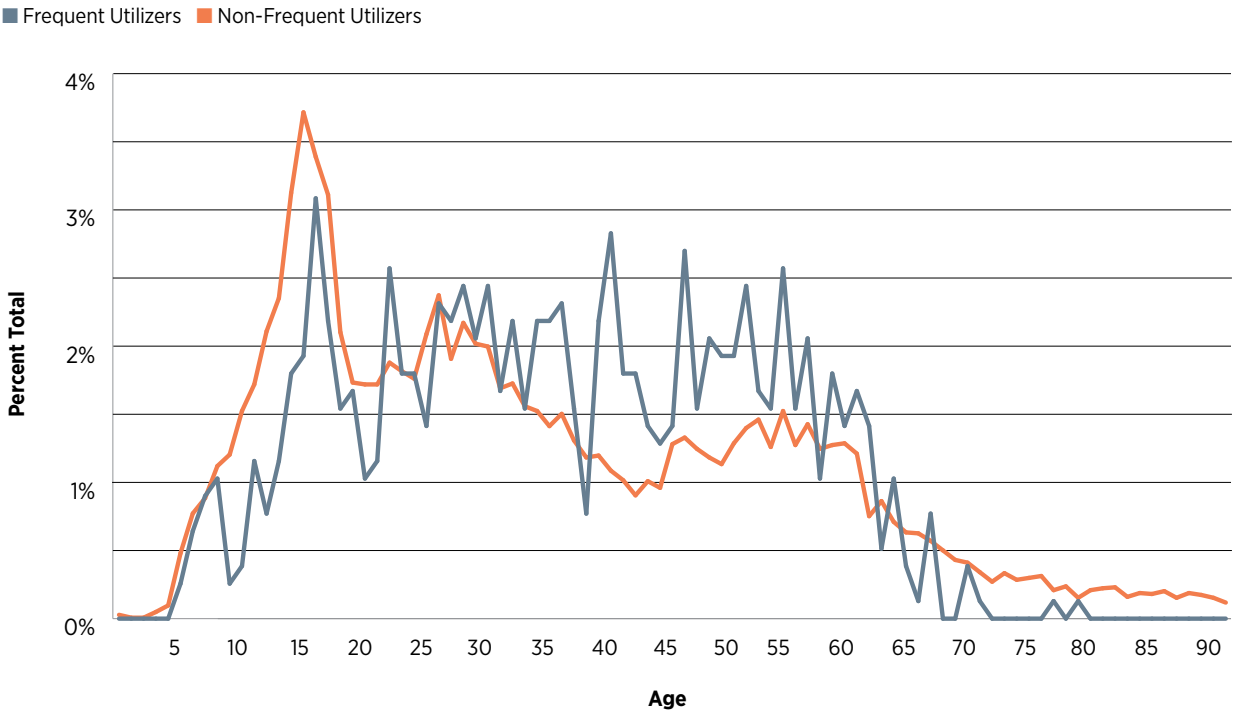
** Fifty-four individuals did not have a documented gender.*

*** Two percent of clients in the 2016–2017 cohort did not have a race identified (355) and approximately two percent had "other" as their identified race (238).*

**** Fifty-three individuals did not have a documented age/date of birth.*

Looking more closely at age of mental health crisis service utilizers, both frequent and non-frequent utilizers have the highest number of individuals in the mid-to-late teen bracket, possibly indicative of a common initial onset of serious mental health needs (**Figure 3**). In that situation, crisis services may be the easiest access point, especially in the absence of a diagnosis.

FIGURE 3: Age distribution of frequent and non-frequent utilizers



Diagnoses of Frequent and Non-Frequent Utilizers

The overwhelming majority of individuals (both frequent and non-frequent) received a diagnosis of "diagnosis deferred" as part of their administrative claim. Excluding diagnosis deferred, the most common diagnosis in both groups was for depressive disorder. Frequent utilizers were more than eight times more likely to have a diagnosis of schizoaffective disorder or an unspecified psychosis than non-frequent utilizers and six times more likely to have a diagnosis of bipolar disorder.

TABLE 2: Most frequent mental health diagnoses of clients who used mental health crisis services, frequent vs. non-frequent utilizers, 2016–2017

TOP MENTAL HEALTH DIAGNOSIS	FREQUENT N=781		NON-FREQUENT N=14,463		DISTINCT TOTAL N=15,244		RATIO (F:N)
Diagnosis Deferred	778	99%	12,582	87%	13,360	8%	1.1
Depressive Disorder	291	37%	1,582	11%	1,873	12%	3.4
Schizoaffective Disorders	107	14%	224	2%	331	2%	8.8
Adjustment Disorders	95	12%	532	4%	627	4%	3.3
Bipolar Disorder	91	12%	271	2%	362	2%	6.2
Unspecified Psychosis	72	9%	154	1%	226	1%	8.6
Anxiety Disorders	41	5%	287	2%	328	2%	2.6
Conduct Disorder	36	5%	280	2%	316	2%	2.4
Acute Stress Disorder	34	4%	129	1%	163	1%	4.9
Alcohol Use Disorder	32	4%	200	1%	232	1%	3.0
Other	158	20%	1,024	7%	1,182	8%	2.8

Other System Involvement Before and After Crisis Services

Analysis explored the use of other human services by people who used mental health crisis services. In summary, one year after the mental health crisis service anchor date, many more frequent utilizers (as compared to non-frequent utilizers) used housing support services (20% versus 6%), homeless shelters (33% versus 5%), a hospital emergency department (75% versus 45%) or had been under supervision by juvenile probation (55% versus 20%). This is evidence of individuals accessing services across systems and suggests avenues for interventions to alter the frequent utilizer trajectory. It is important to remember, however, that this analysis only describes the occurrence of those services, not causality. Further analysis is necessary to guide practice and policy decisions.

Housing Services

The most significant overlap of service utilization is between crisis mental health services and housing resources (**Table 3**).

- Frequent utilizers are four times more likely to use an emergency shelter and twice as likely to access general housing supports in the years prior to their mental health crisis service.
- During the one year after a person's anchor date (i.e., the date of their first mental health crisis service during the study period), the frequent utilizer group stayed in an emergency shelter six times more often than the non-frequent utilizer group.
- When looking at one year prior and one year after a person's anchor date, rates of service utilization increased for frequent utilizers and remained stable or minimally increased for non-frequent utilizers. Before their crisis mental health service, frequent utilizers used housing and emergency shelter at 12% and 13% respectively. Post anchor date, the rates rose to 20% for housing supports and 33% for emergency shelter. This represents a doubling of service utilization across a two-year period.

TABLE 3: MH crisis utilizers' usage of housing services — ever before, one year before and one year after anchor date

INVOLVEMENT	PROGRAM AREA	FREQUENT UTILIZERS (N=781) SERVICE RATE	NON-FREQUENT UTILIZERS (N=14,468) SERVICE RATE
Ever Before Anchor Date	General Housing Supports	20%	9%
	Emergency Shelter	22%	5%
One Year Before Anchor Date	General Housing Supports	12%	5%
	Emergency Shelter	13%	3%
One Year After Anchor Date	General Housing Supports	20%	6%
	Emergency Shelter	33%	5%

Family-Related Services

There is little difference between frequent utilizer and non-frequent utilizer rates of involvement for parents in child welfare cases. However, there are disparate rates of involvement as a child for frequent utilizers as compared to non-frequent utilizers.

In the year prior to a youth frequent utilizer's (n=131) first contact with crisis mental health services, as well as the year after, the youth is twice as likely as a non-frequent utilizer to have been child on a child welfare case.

Youth frequent utilizers of crisis mental health services are also twice as likely to be placed under supervision by juvenile probation than non-frequent utilizers. This continues in the twelve months following that initial mental health crisis event, where frequent utilizers are again two times more likely to be involved with juvenile probation.

TABLE 4: MH crisis utilizers' usage of family-related services — ever before, one year before and one year after anchor date

INVOLVEMENT	PROGRAM AREA	FREQUENT UTILIZERS (N=781) SERVICE RATE	AGE-ELIGIBLE POPULATION	NON-FREQUENT UTILIZERS (N=14,468) SERVICE RATE	AGE-ELIGIBLE POPULATION
Ever Before Anchor Date	Child Welfare as Child	25%	326 (42%)	17%	7,655 (53%)
	Child Welfare as Parent	12%	727 (93%)	7%	12,622 (87%)
	Juvenile Probation	43%	223 (29%)	19%	5,727 (40%)
One Year Before Anchor Date	Child Welfare as Child	32%	131 (17%)	15%	3,977 (27%)
	Child Welfare as Parent	6%	727 (93%)	4%	12,622 (87%)
	Juvenile Probation	36%	107 (14%)	15%	3,298 (23%)
One Year After Anchor Date	Child Welfare as Child	41%	120 (15%)	21%	3,667 (25%)
	Child Welfare as Parent	7%	737 (94%)	5%	12,995 (90%)
	Juvenile Probation	55%	98 (13%)	20%	3,181 (22%)

Other Mental Health Services

In the year prior to the first crisis mental health service in the analysis timeframe, 72% of frequent utilizers had accessed a non-crisis mental health service. This is compared to 46% of non-frequent utilizers. The high rate of connection with mental health services in the year prior to a frequent utilizer's crisis event suggests the possibility that these individuals are not being served adequately to prevent emergency situations.

In the year following the first mental health crisis service visit in the analysis timeframe, nearly all frequent utilizers (99%) had another crisis event, despite 89% of those same individuals being involved with non-crisis mental health services. Nearly half of the non-frequent utilizer group (41%) had another crisis mental health service visit and 55% were accessing non-crisis mental health supports. Both these data points suggest more follow up may be necessary after a crisis event to avoid additional emergency mental health needs, even for the non-frequent utilizer group.

TABLE 5: MH crisis utilizers' usage of mental health services — one year before and one year after anchor date

INVOLVEMENT	PROGRAM AREA	FREQUENT UTILIZERS (N=781) SERVICE RATE	NON-FREQUENT UTILIZERS (N=14,468) SERVICE RATE
One Year Before Anchor Date	Mental Health Treatment	72%	46%
	Mental Health Crisis	37%	9%
One Year After Anchor Date	Mental Health Treatment	89%	55%
	Mental Health Crisis	99%	41%

Other Health Services

Rates of drug and alcohol service utilization during the year before and the year after the anchor date increased for frequent utilizers and remained stable or minimally increased for non-frequent utilizers. For example, pre-anchor-date utilization rate of drug and alcohol services for frequent utilizers was 22% and rose to 34% post anchor date, a 55% percent change over 24 months. The same services and dates for non-frequent utilizers show an initial utilization rate of 14% and post of 18%.

Emergency department utilization from one year pre-anchor date to one year post-anchor date for frequent utilizers of mental health crisis services rose from 62% to 75%, while the same date range for non-frequent utilizers increased slightly from 42% to 45%. The rise in emergency department visits may be a sign of gaps in preventative and regular physical or mental health care and suggests a need for increased capacity in crisis response resources.

TABLE 6: MH crisis utilizers' usage of health-related services — ever before, one year before and one year after anchor date

INVOLVEMENT	PROGRAM AREA	FREQUENT UTILIZERS (N=781) SERVICE RATE	AGE-ELIGIBLE POPULATION	NON-FREQUENT UTILIZERS (N=14,468) SERVICE RATE	AGE-ELIGIBLE POPULATION
Ever Before Anchor Date	Drug and Alcohol Services	52%	727 (93%)	31%	12,622 (87%)
	Emergency Department	67%	-	49%	-
One Year Before Anchor Date	Drug and Alcohol Services	22%	727 (93%)	14%	12,622 (87%)
	Emergency Department	62%	-	42%	-
One Year After Anchor Date	Drug and Alcohol Services	34%	737 (94%)	18%	12,995 (90%)
	Emergency Department	75%	-	45%	-

Criminal Justice

In the one year prior to adult frequent utilizers' (n=657) first contact with crisis mental health services in the analysis window, clients were two times more likely to have received a criminal filing and two and a half times more likely to have been booked in the jail, as compared to non-frequent utilizers. This pattern is consistent through the twelve months following the crisis mental health service anchor date, in which twice as many frequent utilizers as non-frequent utilizers receive criminal filings or are booked in the jail.

TABLE 7: MH crisis utilizers' usage of family-related services — ever before, one year before and one year after anchor date

INVOLVEMENT	PROGRAM AREA	FREQUENT UTILIZERS (N=781) SERVICE RATE	AGE-ELIGIBLE POPULATION	NON-FREQUENT UTILIZERS (N=14,468) SERVICE RATE	AGE-ELIGIBLE POPULATION
Ever Before Anchor Date	Jail Booking	61%	657 (84%)	33%	10,714 (74%)
	Criminal Filing	58%	-	34%	-
One Year Before Anchor Date	Jail Booking	25%	657 (84%)	10%	10,714 (74%)
	Criminal Filing	24%	-	11%	-
One Year After Anchor Date	Jail Booking	24%	675 (86%)	12%	11,193 (77%)
	Criminal Filing	26%	-	13%	-

DISCUSSION

The intent of this analysis was to learn more about individuals who frequently use human services — in this case, crisis mental health services. It is useful to describe the population and their history and experiences with services. However, real intervention efforts to improve outcomes for service recipients comes from deeper analyses of those who are experiencing adverse outcomes and appropriately targeting the needs that are driving repeated intense service interactions.

There are two main findings from this analysis that should guide policy and practice:

1. Individuals who are frequent utilizers of crisis mental health services, when compared to non-frequent utilizers, are older and more likely to be Black.

   It is well-supported in the literature that BIPOC (Black, Indigenous and People of Color) individuals have very different experiences with the mental health system than white individuals.[2,3] Quantitative and qualitative data reveal five themes underlying the mental health treatment disparity between White and Black individuals: cost, stigma, minimization, low perceived effectiveness of treatment and accessibility barriers. This research and the findings from this analysis have powerful implications for our mental health service system. In the context of this analysis, it is suggested that barriers to early supportive and preventive mental health services may contribute to the eventual frequent utilizer status of older Black individuals.

2. Frequent utilizers of crisis mental health services often use emergency shelter during the year after their anchor event. This finding has strong policy implications for how, when and where services are offered. The main goal should be to prepare and train crisis mental health staff on the housing needs of clients, and vice versa. A secondary goal should be to make the client experience easier through physical location, technology, shared case management, and other policy and practice changes that will more holistically support clients with multiple needs.

   The analysis also revealed that for frequent utilizers there is a pattern of subsequent service usage one year after a mental health crisis service anchor date in nearly all of the other service systems included in the analysis, including emergency department visits, juvenile probation, jail bookings, criminal filings, drug and alcohol treatment, and child welfare involvement. This rate of subsequent service utilization after a crisis mental health event suggests that crisis events could signal other significant needs and possibly provide an early opportunity to connect individuals to services before more intense services (like emergency shelter, child welfare, emergency room or juvenile probation) become involved. However, the analysis discussed here is exclusively descriptive in nature and should only be used to guide deeper analyses to determine more detailed profiles of service usage and outcomes which will support design of appropriate interventions and timing.

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2 Breslau J, Kendler KS, Su M, Gaxiola-Aguilar S, Kessler RC. Lifetime risk and persistence of psychiatric disorders across ethnic groups in the United States. *Psychol Med*. 2005: 35(03):317-327.

3 Alang SM. Mental health care among blacks in America: Confronting racism and constructing solutions. *Health Serv Res*. 2019; 54:346-355.