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DETROIT PEOPLE AND TRANSITIONS IN HOUSING-3 (DPATH-3): CHANGES IN THE COMPOSITION AND SERVICE NEEDS OF THE HOMELESS ADULT POPULATION

by

KIEL JAY OPPERMAN

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2019

MAJOR: PSYCHOLOGY (Clinical)

Approved By:

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Advisor   Date

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DEDICATION

This is dedicated to all our fellow citizens of Wayne County who find themselves

homeless. Let us never cease in bolstering the voice of those who need it the most.

ACKNOWLEDGEMENTS

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CHAPTER 1 "DETROIT PEOPLE AND TRANSITIONS IN HOUSING-3 (DPATH-3): CHANGES IN COMPOSITION AND SERVICE NEED OF THE HOMELESS COMMUNITY"

INTRODUCTION

Homelessness is a pervasive public health issue that affects an estimated 2.5 to 3.5 million Americans each year (National Law Center on Homelessness and Poverty, 2015). The federal government's response to eradicating homelessness focuses on funding in cities or counties through an administrative unit called the Continuum of Care (CoC). The CoC that encompasses Detroit, Michigan has the highest per capita rate of homelessness in the nation, at 216 per 10,000 people (Henry & Sermons, 2010). In 2015, the Homeless Action Network of Detroit (HAND), the Detroit CoC's lead agency, estimated the homeless population in Detroit to be 16,040 people, 92% of whom were African American (Homeless Action Network of Detroit, 2015).

The primary characteristic defining homelessness—the absence of stable housing—makes obtaining a representative sample of this population difficult. A number of methodologies have been used to better understand the homeless population. Point-in-time (PIT) counts, promoted and mandated by the U.S. Department of Housing and Urban Development (HUD) since 1983, estimate the number of homeless people who are living on the streets or in a homeless shelter on a single night (Culhane, Dejowski, Ibanez, Needham, & Macchia, 1994). PIT counts, however, have been shown to underestimate the homeless population, in one documented case by as much as fivefold (Culhane & Kuhn, 1998). Underestimates such as these may shift funding priority away from homeless people, resulting in worse service accessibility and greater health disparity.

An additional measurement technique, the Homelessness Management Information System (HMIS), is a nationwide system implemented by HUD which mandates participation of CoCs to be eligible for federal funding (HUD, 2015b). The Detroit CoC adopted HMIS in 2004

and has since produced unduplicated estimates of the size of the homeless population, services utilized, and basic demographic characteristics (HUD, 2015a). Data from this system are used to create the Annual Homelessness Assessment Report (AHAR), which informs Congress as it develops relevant policy. Although data from HMIS certainly strengthens our understanding of homelessness at both local and national levels, key methodological weaknesses limit the data's utility. First, universal and program-specific data elements are vague (e.g., mental health problem: yes or no) and thus do not provide a reliable or comprehensive understanding of the homeless population. Second, past research has identified missing data as a concern. For example, in Philadelphia, about 23% of adult shelter users did not complete an intake interview, resulting in a computerized central registry with limited utility and questionable representativeness of the homeless population (Culhane, Lee, & Wachter, 1996). Third, data is limited to visits within the public shelter system (i.e., agencies receiving funding from HUD) and thus does not include periods of homelessness that occur on the streets, in private shelters, or outside of the city (Culhane & Kuhn, 1998). Finally, convenience sampling, which typically takes the form of sampling exclusively from just a few sites (e.g., homeless shelters) has been found to produce nonrepresentative samples (Haber & Toro, 2004). For example, previous research has shown that, although a majority of homeless people (71-73%) used a shelter in the past year, the remaining 27-29% used a food program or other type of service (Toro, Wolfe, et al., 1999). The current study will employ a probability sampling methodology (described in C.2a) that improves upon the sampling weaknesses of the PIT count and HMIS techniques in several ways. The proposed methodology will recruit a representative sample (weakness of PIT) and provide in-depth composition information of the homeless population (weakness of HMIS).

Health Disparities Among Homeless People

The homeless population experiences a host of physical and mental health disparities, which lead to increased mortality rates (Baggett et al., 2013; Hwang, Wilkins, Tjepkema, O'Campo, & Dunn, 2009; Morrison, 2009; Nielsen, Hjorthøj, Erlangsen, & Nordentoft, 2011). In a nationally representative sample of U.S. Health Care for the Homeless Program clinics, homeless clients had worse overall health status and greater prevalence rates of chronic medical conditions such as asthma, diabetes, hypertension, AIDS/HIV, and tuberculosis, than the general U.S. population (Zlotnick & Zerger, 2009). Given these disparities, access to health care is of the utmost importance for homeless people. Unfortunately, service needs often go unmet, as Baggett and colleagues (Baggett, O'Connell, Singer, & Rigotti, 2010) found in a nationally representative sample of homeless adults, past-year rates of unmet needs were 32% for medical or surgical care, 21% for mental health care, 41% for dental services, and 36% for prescription medications (Baggett et al., 2010).

Prevalence rates of mental health problems within the homeless population range widely, as clearly demonstrated in a recent meta-analysis (Fazel, Khosla, Doll, & Geddes, 2008). Across Westernized countries, pooled prevalence estimates revealed alcohol dependence to be the most prevalent mental health diagnosis among homeless people (i.e., 37.9%; estimates ranged from 8.5% to 58.1%), followed by drug dependence (i.e., 24.4%; estimates ranged from 4.7% to 54.2%). Furthermore, results demonstrated that 12.7% (estimates ranged from 2.8% to 42.3%) of homeless people met criteria for psychotic illness, 11.4% met criteria for major depression (i.e., estimates ranged from 0.0% to 40.9%), and 23.1% met criteria for personality disorder (estimates ranged from 2.2% to 71.0%). Mental health disparities between people who are homeless and the general population become even more apparent when research demonstrates that, in the last year, only about 25% of those who are domiciled meet criteria for any mental health disorder (including

drug/alcohol disorders; Kessler, Chiu, Demler, & Walters, 2005). Accurately understanding the degree of health disparity in the homeless community is a difficult task when prevalence rates of disorders are found to range so widely. Oftentimes, these discrepancies are a consequence of study methodology, such as the specific sampling technique and the use of measures that do not have established psychometric properties for homeless people (Bellavia & Toro, 1999). The current study improves upon past studies by selecting measures that have demonstrated reliability and validity for use with homeless people and by using an established methodological procedure, probability sampling, to obtain a representative sample of the homeless community.

Changes in the Composition of the Homeless Population

Although research has shown great health disparities among the homeless population, little is known about whether these disparities are shrinking as policy at the local, state, and nationwide level is implemented. Over the past few decades, numerous homelessness policy initiatives (e.g., McKinney Act, National Housing Trust Fund, HEARTH Act, Opening Doors) have been implemented. Though local (e.g., Detroit; Homeless Action Network of Detroit, 2015) and national estimates (Henry, Shivji, de Sousa, & Cohen, 2015) have shown decreases in the homeless population, methods used to measure prevalence rates are limited methodologically and thus do not carefully investigate composition characteristics. No study to date has utilized a sophisticated sampling technique, such as probability sampling, to compare in-depth interview data across multiple time points spanning nearly three decades. Previous research (Israel, Toro, & Ouellette, 2010) has used in-depth interview data obtained via probability sampling to compare characteristics (e.g., physical and mental health problems, stressful events) across two samples separated by 8 years (the Detroit People and Transitions in Housing-1 [DPATH-1] sample from 1992-94 and the DPATH-2 sample from 2001-02). Results of this study showed that those

experiencing homeless in the early 2000s (after the economic boom of the mid-1990s) were older, showed higher rates of physical and mental health problems, and reported less social support from both family and friends than homeless people in the early 1990's.

Unfortunately, the data from the DPATH-2 study do not account for the impact that recent funding increases, and their yearly accumulative effects, may have on the composition of the homeless population. The McKinney Act provides the largest single source of federal funding for homelessness (Carlson, Toro, & Buck, 2016). During the first year of this legislation's enactment (i.e., 1987), about $500 million was allocated for use. Over the years, funding has ebbed and flowed; however, over the past 20 years (2000-2013), funding has reached almost $2 billion per year. After an increase in federal funding, similar to this scale, it is expected that in subsequent years the composition of the homeless population would show significant changes. Findings from Israel and Toro (2010), which compared the DPATH-1 and DPATH-2 homeless composition data, are in line with our hypothesis that, although funding increases may result in decreased prevalence rates of homeless, the risk factors seen in the homeless population may actually worsen. This seemingly contradictory pattern is hypothesized because permanently housing those with less severe life problems is a simpler task during and after robust economic periods (such as seen in the mid-1990s; Israel et al., 2010). A pattern of this sort would be very worrisome and require a shift in policy towards more intensive and long-term services for homeless people. Results consistent with this hypothesis may also be reflective of a scenario where the most vulnerable are falling through cracks in the social welfare safety net. Although increased funding during 2000-2013 may have reduced the rate of homelessness, the Great Recession of 2007-2008 that occurred in the middle of this time span probably operated in the opposite direction by increasing homelessness or, at least, the increasing the risk factors seen among those who remain homeless.

Preliminary Studies

The current study was inspired by the writer's interest in the overall effects of policy initiatives that target the homeless population. This research also builds on the faculty advisor's previous work. Dr. Toro's Research Group on Homelessness and Poverty completed two projects in the early 1990s and, again, in the early 2000s that followed similar methodology utilized in the current study. The original Detroit People and Transitions in Housing (DPATH-1) project was carried out over a two-year period, 1992-1994 (Toro, Wolfe, et al., 1999). DPATH-1 used the intensive 3-step probability sampling method also used in the current study. The primary aim was to provide a thorough investigation of the characteristics of the homeless population throughout the 9-county Detroit metropolitan area. DPATH-1 resulted in a representative sample of 249 homeless adults from Wayne County, the largest county in the Detroit metro area, which includes the City of Detroit. The estimated 2015 total population for Wayne County was 1,759,335 (U.S. Census Bureau, 2016).

In the early 2000s, the DPATH-2 project replicated the DPATH-1 3-step probability sampling methodology in Wayne County. By this time, the DPATH-1 project data were 7 years out of date, and the region had experienced an economic upturn. DPATH-2 resulted in a representative sample of 220 homeless adults from Wayne County. Data from DPATH-2 allowed for an assessment of whether changes in the composition of the homeless population had occurred since the early 1990s (Israel et al., 2010).

DPATH-3 Assessment of Homeless Adults in Wayne County, MI

In response to this pervasive public health issue and the federal strategy to end homelessness, "Opening Doors" (USICH, 2015), Detroit People and Transitions in Housing-3 (DPATH-3) conducted rigorous assessment of the composition and service needs of the homeless

community in Wayne County, Michigan. Aim 1 investigated the general composition of the homeless community, findings that will assist in describing the population of interest and provide insight into the troubles homeless people experience. Aim 2 directly investigated what services homeless people find important and how difficult it is to access each. These findings provide insight into service needs and utilization when aiming to ameliorate the previously identified troubles. The current economic, social, and political climate makes now an ideal time to conduct the proposed study. The economy is slowly recovering from the Great Recession of 2008, societal discourse on homelessness is increasing, and governmental agencies are being increasingly scrutinized regarding the public services they provide. Now is the time to reevaluate our response to eradicating homelessness by conducting research that informs empirically-driven policy decisions.

Specific aim 1. Examine differences in the composition and social service characteristics in a representative sample of the homeless population in Wayne County over 25 years (1992-1994; 2001-2002; 2017-2019). Using probability sampling, we collected data on demographic (e.g., race/ethnicity, income, education, housing history), physical health (e.g., acute symptoms, chronic health conditions), mental health (e.g., DSM-5 diagnoses, psychological distress indices), social network characteristics, and social service characteristics (e.g., utilization, importance, ease of accessibility). The *primary hypothesis* is that currently homeless adults will show substantively different demographics than those observed in prior decades, signaling the need to reallocate the limited resources appropriated to end homelessness. Specifically, it is hypothesized that the current composition of homeless adults will be older and will show worse health status, more mental health problems, less perceived social support, more months of lifetime income and homelessness; but

less education, higher rates of service utilization, and less service access than previous decades (based on DPATH-1 and DPATH-2 data).

Specific aim 2. We assessed DPATH-2 and DPATH-3 data on service importance and unmet needs of the homeless population in Wayne County by investigating difficulty of obtaining and importance of receiving each service. It is *hypothesized* that current priorities and accessibility of services *provided* are not well matched to the importance of the services *desired* from the perspective of the homeless adults served. The findings may provide evidence that policy and service creation need to be further informed by the specific homeless population it serves. Furthermore, it is hypothesized that services provided and desired will be *better* matched for DPATH-3 than DPATH-2 (the relevant measures were not included in the DPATH-1 study).

Exploratory aim. The study explored the pattern of barriers to accessing services experienced by the homeless population. The study (1) investigated barriers to obtaining services (e.g., knowledge of available services, transportation, waitlist, cost, legal concerns), and (2) investigated which barrier(s) were associated with service utilization (i.e., total lifetime months homeless; past year service utilization of homeless shelters, soup kitchens/food pantries, inpatient mental health, outpatient mental health, homeless programs' and past year time on the streets).

Implications

The implications from the current study span across many ecological systems. Within the microsystem, nonprofit organizations that provide services to the homeless community can utilize the disseminated results from this project to inform their strategic planning process. For example, needs assessment data can be used by individual organizations to inform the creation of services, filling gaps in service needs. The exosystem can be impacted by the results of this project by informing local policy decisions surrounding funding for services that need to be expanded.

Furthermore, the new data will allow for an assessment of whether changes in the composition of the homeless population has occurred over the past couple decades and provide insight into the social and health trajectories of the homeless population in the Detroit metropolitan area. Finally, macrosystem changes may result from this project, being a part of a larger body of research which focuses on homelessness, greater attention may be given to this public health problem. Results from this proposed project will also contribute to the scientific literature by better understanding the similarities and differences in composition of the homeless population over almost 25 years. These results will also better inform policy at a national level as we better understand the trajectory the homeless population can be expected to take in the future and what services are needed to support the ever-changing population.

METHOD

Design

The current study, Detroit People and Transitions in Housing-3 (DPATH-3), collected a sample of 86 homeless people from Wayne County. Participants were recruited using the 3-step probability sampling methodology to investigate the changes in composition of the homeless population at three time points over the course of nearly 25 years. Our primary outcomes were: a) presence of mental health and substance use disorders (adapted Diagnostic Interview Schedule), b) physical health conditions (Physical Health Symptoms Checklist), c) stressful life events (Modified Life Events Inventory), and d) socioeconomic characteristics (derived from the Housing, Income, and Services Timeline); e) global psychological distress (Brief Symptom Inventory), f) social support (Social Network Interview), and g) service utilization, unmet need, and barriers to access (Needs Assessment Questionnaire, Barriers to service utilization).

Probability Sampling Methodology

Probability sampling, a well-established methodology for obtaining a representative sample of the homeless population within a specified geographical region, consists of a 3-step process, which includes 1) Key Informant Interviews, 2) Sample Surveys, and 3) Full-Length Interviews (Burnam & Koegel, 1988; Israel et al., 2010; Kalton, 2014; Toro, Wolfe, et al., 1999; Zlotnick, Robertson, & Lahiff, 1999). No exclusionary criteria was employed during the Sampling and Full-Length Interviews unless the individual is incapable of accurately completing the interview (e.g., severe intoxication or thought disturbance, limited cognitive abilities, aggressive behavior, currently experiencing significant distress). Furthermore, because some participants were expected to be illiterate, all interviews were conducted verbally by research team members with responses recorded for the participants. Interviewers recorded data on a tablet computer using

Qualtrics, a HIPAA compliant web-based application for data collection. Finally, all participants who completed a Sampling Survey or Full-Length Interview were provided with a list of social service resources (e.g., physical and mental health service providers) along with their incentive for participation.

This research study benefited greatly from a strong group of research assistants that assisted in collecting data. Our research team consisted of 13 members, eleven of which were females and included the following people: Ciara Cannoy, Kelly Toal, Brittnee Avritt, Shelby Darichuk, Katrail Davis, Emily Eicher, Shaylin Excell, Shoshana Krohner, Rebecca Rea, Cara Struble, Lindsey Tregenza, and Colin Wilson. All research team members completed 12 hours of training, which included lectures on the homeless community and mental illness, discussion of the risk management protocol, role playing of the interviews, and were shadowed for at least two interviews while collecting data.

Findings from the previous two DPATH studies support focusing on a range of shelters and food programs to obtain a representative sample of homeless people (Israel et al., 2010; Toro, Goldstein, et al., 1999). A probability sampling methodology was chosen because it provides several advantages. DPATH-3 was the second replication of the original DPATH study (first replication was DPATH-2) which utilized the same methodology, structured interviews, and measures at each of the three steps for recruitment, allowing for comparisons across three time points at each stage. Additionally, the most recent DPATH study was completed in 2002. Due to the economic, social, and cultural changes that have occurred since the early 2000's, it was worth investigating if the homeless population presented differently in these domains.

Key informant interviews. The first step of probability sampling was to conduct Key Informant Interviews. A total of 51 interviews were conducted with Key Informants who work

with, and advocate for, homeless people in the community. Specifically, potential Key Informants were contacted, via email to gauge interest, from the following agencies: governmental agencies, community mental health and substance use disorder agencies, neighborhood-based community organizations, shelters, food pantries, and other agencies whose mission is to serve homeless people and those living in poverty. Structured interviews were conducted over the phone and lasted between 15 and 40 minutes each. Key Informants were asked to select a geographical sector of the metropolitan area (map previously emailed to Key Informants) that they were most familiar with and to identify target sites (e.g., nonprofits) where the homeless population could be found in their sector. These results were used to identify the collection of target sites that were visited to conduct the Sampling Surveys and Full-Length Interviews. These interviews provided the research team and writer with the opportunity to build relationships with leaders in the community at target sites that acted as partners for the Sampling and Full-Length Interviews.

Sampling surveys. The second step of probability sampling was to visit target sites identified by the Key Informant Surveys that are estimated to have 1% or more of the overall Wayne County population of homeless adults. A total of 217 Sampling Surveys were conducted in total across the identified target sites, with the Key Informant Interview results informing the number of Sampling Surveys to be conducted at each target site. The seven target sites where Sampling Survey and Full-Length Interview data were collected included: Central City Integrated Health (i.e., CCIH), Coalition on Temporary Shelter (i.e., COTS), Neighborhood Services Organization – Tumaini Center (i.e., NSO), Capuchin Soup Kitchen – Connor Location (i.e., CSK-C), Capuchin Soup Kitchen – Meldrum Location (i.e., CSK-M), United Community Housing Coalition (i.e., UCHC), NOAH Project (i.e., NOAH). All individuals present at the target site were approached for possible participation. The 1 to 5-minute survey aimed to determine if the

individual was 18 years of age or older and met criteria for homelessness, defined as currently staying, or had stayed, at least one night in the past 30 days: a) in a shelter for homeless people, (b) on the streets or in other unconventional circumstances (e.g., abandoned buildings, bus stations, bridge underpasses), or (c) temporarily with friends or family without paying rent and considered themselves homeless. Individuals who meet criteria for homelessness were then asked to identify service utilization (from a complete list of social services) within the Detroit area over the past year. Sampling Survey results were used to identify the target sites where Full-Length Interviews were conducted, while accounting for the overlap in service utilization of the homeless community.

Collecting full-length interviews. The third, and final, step in the probability sampling methodology was to complete Full-Length Interviews, each of which lasted 2 to 4 hours. A total of 86 full-length interviews were completed across the seven target sites. Participants were randomly selected at each site and approached to gauge interest in participation. All participants had to meet criteria for homelessness, as described above. The strategy uses sampling survey service utilization data to create a hierarchical structure of target sites for use when determining inclusion criteria for the Full-Length Interviews. Sites that hosted the greatest number of unique homeless people were at the top of the hierarchy. Participants at sites lower in the hierarchy must not have received services in the past year at sites higher in the hierarchy, ensuring that heavy service users were not over-represented in the final interview sample.

Potential risk. Data collection during the Sampling Survey and Full-Length Interview steps posed potential risk. Precautions were taken to minimize risk to both participants and interviewers. Before collecting data at each target site, the writer and research team discussed with the site partner any crisis management procedures in effect at the site. Exclusion criteria disqualified homeless who were severely intoxicated, thought disturbed, aggressive, or were

currently experiencing significant distress. When a participant presented with significant distress during the encounter and/or reported suicidal thoughts or behaviors, the interviewer followed a risk management protocol which included contacting an onsite supervisor, the primary sponsor, or in extreme cases, 911 or the State of Michigan. Finally, de-escalation techniques were reviewed with all interviewers prior to entering the field. Extensive discussion and role plays were used to practice de-escalation techniques and prepare the research team for potential crisis events.

Community Involvement and Benefit

The Wayne County service community was involved throughout various stages of the research project. First, to create awareness of the project, receive feedback on methodology, and garner support, a research proposal presentation was conducted in the community at the Councilwoman Sheffield's Homelessness Task Force meeting in February 2016. Second, Key Informant Interviews were conducted to increase awareness of the project and allow another chance for methodological suggestions to be heard. Third, local Detroit governmental agencies, social service nonprofits, and faith-based organizations will be provided with information, based on the final results of this research project, regarding the current needs of the homeless community which aim to improve future health and service utilization. This aim will be achieved during the Full-Length Interview phase while surveying homeless people about their unmet needs. Conducting a needs assessment is an important first step to informing service expansion/creation (McKenzie, Neiger, & Thackeray, 2009) and creates the opportunity for change within a community (Ainsworth, Diaz, & Schmidtlein, 2013; Bopp et al., 2012). As studies have shown, there appears to be a meaningful discrepancy between the services that homeless people need and those that are provided by community organizations (Acosta & Toro, 2000; Ball & Havassy, 1984; Koegel, Burnam, & Farr, 1990; Padgett, Struening, & Andrews, 1990). Service creation and

expansion is often based on the intuition of the service provider or by the funding available for predetermined services. Conducting a needs assessment by surveying the homeless community is a rational method that ensures that provided services are those that are actually needed (Acosta & Toro, 2000). Finally, at the conclusion of the study, the writer and research team will disseminate project findings to local nonprofit and faith-based organizations, as well as, governmental agencies working with the homeless population. To accomplish this, the writer and research team will present the findings at community forums and service organization meetings. Additionally, the writer will work with Acorn Design Co. to develop a booklet summarizing key study findings. Results of this type can play an integral part in the strategic planning process of nonprofit organizations, helping to determine what additional services are needed to support our local homeless community.

Measures

Data were collected at each of the 3 steps of the probability sampling methodology. Eligibility for participation in the Key Informant surveys (step 1) included: 1) extensive experience working with or advocating for homeless people in Wayne County, and 2) speaks English. Key Informants were provided with an overview of the purpose and procedures of the study before beginning the interview. Because Key Informants are public figures providing public information, the Wayne State Institutional Review board exempted them from a signed informed consent and no incentive was provided for participation. Eligibility for participation for both the Sampling Surveys (step 2) and Full-Length Interviews (step 3) included the following: 1) meet criteria for homelessness, 2) age 18 or over, 3) speaks English, 4) capable of completing the survey/interview (e.g., not severely intoxicated or cognitively impaired), and if applicable 5) meets hierarchical sampling requirements. Potential participants for the Sampling Surveys and Full-Length Interview

steps were provided a brief overview of the study, explained the specifics found within the consent form, and asked if there were any questions. The potential participants were be informed of their reimbursement for study participation. Those who completed the Sampling Survey (step 2) were given one item (i.e., dollar store gifts) of their choosing from a bin full of gifts, while those who completed the Full-Length interviews (step 3) received $30 in cash or a VISA gift card. Individuals who agreed to participate signed a consent form and were assigned an ID number to ensure all participant data is grouped together.

Key informant interview. Key Informants were asked questions about the homeless population in Wayne County. A total of 14 questions investigated the Key Informant's understanding of the composition and service utilization of homeless people and the social service community in Wayne County. Target sites that Key Informants were asked to identify were organized into six different groups: homeless shelters, soup kitchens/food pantries, inpatient mental health settings, outpatient mental health settings, homeless programs, and street settings. The Key Informant Interview utilized in the DPATH-1 and DPATH-2 studies was adapted for use in the current study.

Sampling survey measures. Sample survey questions investigated if the individual fits criteria for homelessness (see above for definition) and if so, their service utilization over the past year. Service utilization was measured by selecting all of the social services and corresponding service organizations the homeless individual has used in the past year from a current list of all the nonprofit, faith-based, and governmental organizations and the social services accessible in the Wayne County area. The social services list was created by the research team.

Full length-interview measures. Several alternative measures were considered for the Full Length-Interviews. However, as previously stated, a weakness of many studies is the use of

measures that do not have established psychometric properties for use with the homeless population. Furthermore, in the interest of study feasibility and participant benefit, administration time was closely investigated. As such, measures with documented reliability and validity within a homeless population and measure length were important factors taken into consideration when the following measures were selected.

Demographics. Data was collected on age, gender, race, years of education, military service, dependent children, public assistance received, and presence of health insurance.

Needs Assessment Questionnaire (NAQ). The NAQ lists 25 significant needs of those who are homeless, generated through pilots, previous studies, and expert input. Acosta and Toro (2000) developed this measure for use in a needs assessment of over 300 homeless individuals. The NAQ asks participants to report, on a 5-point Likert scale (ranging from 1 = *not important* to 5 = *extremely important*), how essential specific needs are to their daily life. Difficulty of meeting these specific needs is also assessed on a 4-point Likert scale (1 = *always difficult* to 4 = *always easy*).

Barriers to service utilization. Potential barriers to service utilization were identified by previous literature (Czyz, Horwitz, Eisenberg, Kramer, & King, 2013; Gelberg, Gallagher, Andersen, & Koegel, 1997). A total of 13 barriers were identified, ranging from "transportation difficulties" to "embarrassed to get help." Participants were asked to respond using a 5-point Likert scale ranging from 0 ("Not at all") to 4 ("A lot").

Brief Symptom Inventory (BSI). The BSI is a 53-item short form of the Symptom Checklist-90-Revised and measures global psychological distress and psychological symptoms. Participants are asked to take into consideration the past two weeks when responding. Response choices are on a 5-point Likert scale, ranging from 0 ("Not at all bothered") to 4 ("Extremely

bothered"). A total of ten scales are produced from the BSI: somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, and global severity index. Derogatis and Melisaratos (Derogatis & Melisaratos, 1983) have demonstrated reliability and validity for the BSI and the measure has been used in a number of studies using homeless samples (Toro et al., 1997; Toro, Tulloch, & Ouellette, 2008; Toro, Wolfe, et al., 1999).

Diagnostic Interview Schedule (DIS). The DIS is a structured interview, investigating current and lifetime estimates of various psychiatric disorders based on DSM-III-R criteria (Eaton & Kessler, 2012). The DSM-III-R criteria were primarily used in order to allow for comparisons with the previous two PATH studies. In addition, interview questions based on DSM-5 criteria were also be completed to yield diagnostic information based on the most up-to-date classification system. The DIS has demonstrated strong reliability and validity (Robins, Helzer, Croughan, & Ratcliff, 1981) and is a well-established instrument for use in the homeless population (Fischer & Breakey, 1991; Israel et al., 2010). The following modules were used in the current study: mood disorders (including bipolar and major depressive disorders), schizophrenic disorders, and alcohol and drug use disorders.

Housing, Income, and Service Timeline (HIST). The HIST was be used to measure housing history, total time homeless, lifetime income from public assistance, lifetime income from wages, educational attainment, and employment characteristics. Test-retest reliabilities for the three domains range from .73 to .94 in homeless adults populations (Toro et al., 1995; Toro et al., 1997).

Interpersonal Support Evaluation List (ISEL). The ISEL consists of 40 items, on a 4-point Likert scale, that investigate perceived social support (S. Cohen, Mermelstein, Kamarck, &

Hoberman, 1985). Four subscales (tangible support, appraisal of interpersonal support, self-esteem, and belonging) are summed to create a total scale composite score. Research has shown psychometric support for the ISEL's use in homeless samples (Bates & Toro, 1999; Toro et al., 2008).

Physical Health Symptoms Checklist (PHSC). The PHSC is a 78-item list which measures both chronic and acute physical health difficulties. The PHSC has a history of being used with homeless adults (Toro et al., 1995; Toro et al., 1997; Toro & Wall, 1991) and has demonstrated good internal consistency (Toro, Wolfe, et al., 1999) and test-retest reliability in this population (Wolfe & Toro, 1992).

Modified Life Events Interview (MLEI). The MLEI consists of 85 yes/no items that are used to measure stressful events over the past six months in five different life domains: social relationships, housing situations, employment, education/job training, and mental and physical health. The MLEI has demonstrated good internal consistency (α = .84-.89) and test-retest reliability (r = .84) in a sample of homeless people (Toro, Goldstein, et al., 1999; Toro, Wolfe, et al., 1999).

The Social Network Interview (SNI). The SNI is used to assess the characteristics within a person's social network and creates a total score from four standard scores on support network size, frequency of contact, length of relationships with supporters, and the satisfaction with help received. The SNI is an adapted version of the Network Interview (Rappaport et al., 1984; Stein, Rappaport, & Seidman, 1995). Test-retest reliability and validity has been demonstrated in a homeless sample (Bates & Toro, 1999; Toro et al., 2008).

Data Analysis

Data will be collected on a rolling-basis until a total full-length interview sample of 210 is obtained. Because the current project collects all data via one-on-one interviews, we did not have problems with missing data. The writer took a proactive approach to reduce the likelihood of missing data by training interviewers to use specific strategies (e.g., double check data before giving incentive to participant, encouraging and thanking participant throughout session) to ensure data is complete and survey finished in its entirety. Inevitably some missing data was found, in which case, we used multiple imputation strategies when appropriate (i.e., proration).

Specific aim 1. Examine differences in composition and social service characteristics across 25 years. Chi-square, ANOVA, and MANOVA statistical tests were used to compare the DPATH samples depending on whether the dependent variable(s) were continuous or categorical. First, chi-square analyses investigated differences in demographics and in the presence of mental health diagnoses across time points. ANOVAs were used to compare educational attainment and lifetime income across three time points. Finally, MANOVAs were conducted on related characteristics: 1) social network composition; 2) family environment characteristics; 3) homelessness and social service history; and 4) mental and physical health variables. Variables for each MANOVA were entered based on known empirical correlates and theory (Israel & Toro, 2010), resulting in step-wise tests of propositions which will assist in screening for complete, family-wide null effects. Because this approach does not account for alpha inflation (Jaccard & Guilamo-Ramos, 2002), we used a Bonferroni correction in a successive fashion. Post-hoc ANOVAs were used to follow-up on statistically significant findings. Bonferroni post-hoc t-tests were used in the case of statistically significant ANOVAs to account for family-wise error rate (Smith, 1971).

Specific aim 2. Access service importance and unmet needs of the homeless population. Descriptive statistics were used to explore the service importance and unmet needs in the homeless community. To assess current unmet service need, bivariate correlations were used to compare the perceived accessibility of each service and the perceived importance of receiving the service. Significant Pearson *r* correlations less than -.30 were interpreted as a mismatch between the services provided and the services desired by the homeless population. DPATH-2 and DPATH-3 data were compared. In particular, we were interested in correlations showing high importance, but limited accessibility.

Exploratory aim. Explore the pattern of barriers to accessing services experienced by the homeless population. Descriptive statistics were used to explore specific barriers to obtaining services. First, Pearson *r* correlations were used to identify if any services (e.g., past year homeless shelter days) were significantly associated with any barriers. Step-wise hierarchical regression analyses were then used to investigate which barrier(s) were associated with those services identified as statistically significant with the Pearson *r* correlations.

RESULTS

Key Informant Interviews: DPATH-3

A total of 51 community leaders who advocate for, or work with, the homeless population in Wayne County were interviewed for the purposes of identifying target sites where homeless adults could be found for the third installment of DPATH (i.e., DPATH-3). Key Informants identified a total of 25 homeless shelters (e.g., NSO, COTS), 47 food pantries (e.g., Capuchin Soup Kitchen, Manna Meals), 23 inpatient mental health settings (e.g., Mariner's Inn, Salvation Army), 28 outpatient mental health settings (e.g., Southwest Solutions, Central City Integrated Health), 50 homeless programs (e.g., United Community Housing Coalition, Neighborhood Legal Services), and 69 street settings (e.g., Hart Plaza, Roosevelt Park). A majority (91.4%) of target sites were identified within the Detroit Continuum of Care (i.e., Detroit CoC: City of Detroit, Hamtramck, and Highland Park). More specifically, 89.8% of homeless shelters, 89.7% of soup kitchens, 95.0% inpatient mental health settings, 92.2% of outpatient mental health settings, 95.9% of homeless programs, and 88.1% of street settings, were found within the Detroit CoC.

Sampling Surveys: DPATH-3

The Key Informant Interview results were compiled in order to create a list of potential target sites where Sampling Surveys could be completed. Table 1 outlines the target sites visited in the current study and the corresponding number of Sampling Surveys and Full-Length Interviews completed at each location. A total of 217 Sampling Surveys were completed at seven different target sites.

Participants ($n = 217$) who completed the Sampling Survey were between the ages of 18 and 80 ($M = 47.3$; SD = 13.2), about half were female (50.7%), and a majority had received public assistance (88.5%) in their lifetime. The self-identified racial and ethnic distribution was as

follows: 203 (93.5%) African American/Black, 9 (4.1%) Caucasian, 2 (0.9%) American Indian/Alaskan Native, 2 Hispanic (0.9%), and 1 (0.5%) "Other." Participants education was primarily (46.5%) at a high school graduate level; 31.3% did not graduate from high school, 18.0% had received some college training, 2.8% held a bachelor's degree, and 1.4 % received some graduate school level training.

Demographic and past year service utilization differences across target sites were investigated with chi-square analyses and ANOVAs (see Table 2). Statistically significant age differences were found across the seven target sites ($F(6,210) = 10.99$, $p < .001$). Bonferroni post-hoc analyses demonstrated participants at COTS were the youngest and were significantly different from CCIH, NSO, CSK-C, CSK-M, and NOAH. Additionally, UCHC participants were significantly younger than those at NSO and CSK-M. A chi-square analysis did not find significant differences when comparing target sites by race ($\chi_2(6)= 11.69$, $p = .069$), however, significant differences were found when comparing target sites by gender ($\chi_2(6)= 38.45$, $p < .001$). The primary difference was that COTS had the highest proportion of females ($n = 22$) to males ($n = 0$) interviewed. It is important to note that COTS is a homeless shelter primarily targeted to homeless families (mostly young women and their children).

Service utilization differences across the seven target sites were investigated with six separate ANOVAs and, if statistically significant, followed up with Bonferroni post-hoc analyses. Statistically significant differences were found across target sites for past year homeless shelter utilization ($F(6,210) = 9.50$, $p < .001$); NSO had the greatest number of days across all target sites and was significantly different than CSK-C, CSK-M, COTS, and UCHC. CCIH also demonstrated significantly greater number of homeless shelter days when compared to UCHC.

Statistically significant differences were also found across target sites for soup kitchen utilization ($F(6,210) = 10.81$, $p < .001$) with many post-hoc differences found. First, CSK-M participants used the greatest number of soup kitchen days and were significantly greater than COTS, NSO, and UCHC. Secondly, NOAH and CCIH participants utilized soup kitchens significantly more than COTS, NSO, and UCHC. Finally, CSK-C participants used soup kitchens significantly more than participants at COTS, which used them the least.

When inpatient mental health service usage was investigated, significant differences were found across the seven target sites ($F(6,210) = 4.89$, $p < .001$) and post-hoc analyses found that CSK-M demonstrated significantly less inpatient days than all other sites, except for NOAH. Outpatient mental health service usage also demonstrated significant differences across the seven target sites ($F(6,210) = 2.82$, $p = .012$). More specifically, CSK-M participants used outpatient mental health services significantly more than COTS, NSO, and UCHC.

Though significant differences in homeless program utilization were identified across target sites ($F(6,210) = 3.21$, $p = .005$) using an ANOVA, Bonferroni post-hoc analyses found no significant differences. Finally, when number of days on the street was investigated, significant differences were also found ($F(6,210) = 8.37$, $p < .001$), with several specific post-hoc differences identified. Participants at CCIH and CSK-M were both found to have spent more time on the street over the past year than those interviewed COTS, NSO, CSK-C, and UCHC.

Full-Length Interviews: DPATH-3

A total of 86 participants were randomly selected from those who completed a sampling survey to partake in the full-length interview. These participants were between the ages of 18 and 72 ($M = 47.4$; $SD = 12.8$), were about half female (46.5%), and a majority had received public assistance (94.2%) in their lifetime. The self-identified racial and ethnic distribution was as

follows: 77 (89.5%) African American/Black, 5 (5.8%) Caucasian, 2 (2.3%) American Indian/Alaskan Native, 1 Hispanic (1.2%), and 1 (1.2%) "Other." Participants education was primarily (45.3%) at a high school graduate level; 33.7% did not graduate from high school, 16.3% had received some college training, 3.5% held a bachelor's degree, and 1.2% received some graduate school level training. Lifetime months homeless length was primarily more than 3 years (59.3%); 16.3% were homeless for two months or less, 9.3% were homeless between three and 11 months, and 15.1% were homeless for one to three years.

Full-length interviews: DPATH comparisons – specific aim 1.

Demographics for each of the DPATH samples are presented in Table 3 along with corresponding results from statistical tests (i.e., ANOVA and chi-square) investigating differences across the three samples. Statistically significant differences were found in age across the three time points with an ANOVA. Bonferroni post-hoc analyses demonstrated that DPATH-3 participants were significantly older than DPATH-1 ($p < .001$) and DPATH-2 ($p < .001$) participants. Additionally, DPATH-2 participants were significantly older than DPATH-1 ($p < .001$). Chi-square analyses found the homeless sample in DPATH-3 consisted of more females ($p = .001$) than in the DPATH-1 and DPATH 2 samples. Additionally, a chi-square found DPATH-2 consisted of more Caucasians and fewer African American/Black than the DPATH-1 and DPATH-3 samples ($p = .015$). Using an ANOVA, no significant differences in participant years of education were found across the three DPATH samples ($p = .059$). Chi-square analyses found more participants in the DPATH-3 sample had medical insurance ($p < .001$) when compared to DPATH-2.

Service utilization over the past year, lifetime homelessness (in months), and lifetime income variables for each of the DPATH samples were compared using ANOVAs, unless

otherwise noted (see Table 3). No significant differences were found for soup kitchen visits (p = .556), inpatient mental health service days (p = .161), outpatient mental health service days (t-test used due to DPATH-1 data being unavailable; p = .068), homeless program days (p = .109), and months of public assistance received (p = .688). Though an ANOVA was statistically significant across the three samples when comparing days spent at a homeless shelter over the past year (p = .041), Bonferroni post-hoc analyses did not identify any significant differences, with DPATH-3 trending towards significance when compared to DPATH-1 (p = .052) and DPATH-2 (p = .063). Number of days on the street over the past year was statistically significant when compared across the three samples (p = .003). Post-hoc Bonferroni tests found that DPATH-3 participants lived on the street significantly more (p = .003) often than the homeless people surveyed in DPATH-1. Differences in time homeless across the three samples was found to be statistically significant (p < .001), where Bonferroni post-hoc analyses demonstrated that DPATH-3 participants were homeless for more months than both DPATH-1 (p < .001) and DPATH-2 (p < .001). Finally, lifetime months of earned employment income showed statistically significant differences across the three samples and post-hoc Bonferroni tests demonstrated that DPATH-3 participants received significantly more months of employment income than DPATH-1 (p < .001).

Chi-square analyses (see Table 3) were used to compare lifetime rates of affective disorder (major depressive disorder, dysthymia, bipolar, bipolar NOS), schizophrenia spectrum disorder (i.e., schizophrenia, schizophreniform), and overall mental illness consisting of the aforementioned categories. Chi-square analyses found the homeless sample in DPATH-3 consisted of more participants with lifetime affective disorders (p < .001) than in the DPATH-1 and DPATH 2 samples. Lifetime rates of schizophrenia spectrum disorders was found to be statistically greater (p < .026) for DPATH-2 participants than both DPATH-1 and DPATH-3.

Finally, the homeless sample in DPATH-3 consisted of more participants with lifetime mental illness ($p < .001$) than in the DPATH-1 and DPATH 2 samples.

Table 4 outlines Pearson r correlations between DPATH-3 total months homeless, past year service utilization, and income. Significant relationships included past year visits to a soup kitchen being positively correlated with total months homeless; employment income; days on the street; and past year service utilization of homeless shelters, inpatient mental health, homeless programs. Additional significant findings included a positive relationship between employment and public assistance income; inpatient mental health and homeless program service utilization; and employment income and total months homeless.

Four separate MANOVA's were used to compare the three samples on the sets of related characteristics previously outlined (see Table 5 for MANOVAs, ANOVAs, and Bonferroni post-hoc analyses). Social network composition variables included family network size, friend network size, and perceived social support (i.e., ISEL total score). The social network composition MANOVA was statistically significant ($F(3,546) = 10.5$, $p < .001$). Follow up ANOVA's were also statistically significant: family network size ($F(2,548) = 17.3$, $p < .001$), friend network size ($F(2,548) = 10.2$, $p < .001$), and perceived social support ($F(2,548) = 9.2$, $p < .001$). Bonferroni post-hoc analyses found family network size was greater in both DPATH-1 and DPATH-3 when compared to DPATH-2, ($p < .001$, $p < .001$, respectively); friend network size was greater in DPATH-1 when compared to both DPATH-2 ($p < .001$) and DPATH-3 ($p = .001$); and perceived social support was greater in DPATH-1 when compared to both DPATH-2 ($p < .001$) and DPATH-3 ($p = .030$).

Family environment variables included subscales from the FES: conflict, cohesion, expressiveness, and independence. The family environment MANOVA was statistically

significant ($F(8,1088) = 70.7$, $p < .001$). Follow up ANOVA's were also statistically significant for conflict ($F(2,546) = 16.1$, $p < .001$), cohesion ($F(2,546) = 181.0$, $p < .001$), expression ($F(2,546) = 37.8$, $p < .001$), and independence ($F(2,546) = 446.4$, $p < .001$). Bonferroni post-hoc analyses found conflict was greater in both DPATH-2 ($p < .001$) and DPATH-3 ($p = .048$) when compared to DPATH-1; cohesion was greater in DPATH-1 than both DPATH-2 ($p < .001$) and DPATH-3 ($p < .001$); expression was greater in DPATH-1 than both DPATH-2 ($p < .001$) and DPATH-3 ($p < .001$); and independence was greater in DPATH-1 than both DPATH-2 ($p < .001$) and DPATH-3 ($p < .001$) and DPATH-3 was greater than DPATH-2 ($p = .009$).

Homelessness and social service history variables included the following four: total number of days on the street and in a homeless shelter over the past year, total visits to a soup kitchen in the past year, and lifetime homelessness in months. The homelessness and social service history MANOVA was statistically significant ($F(8,1082) = 11.6$, $p < .001$). Follow up ANOVAs were statistically significant except for soup kitchen visits ($F(2,543) = 0.8$, $p = .473$): days on the street in the past year ($F(2,543) = 5.7$, $p = .004$), lifetime homeless months ($F(2,543) = 43.4$, $p < .001$), days in a homeless shelter in the past year ($F(2,543) = 3.5$, $p = .030$). Bonferroni post-hoc analyses found days on the street in the past year were greater in DPATH-3 when compared to DPATH-1 ($p = .003$); lifetime homeless months were greater in DPATH-3 than both DPATH-1 ($p < .001$) and DPATH-2 ($p < .001$); and days in a homeless shelter in the past year was greater in DPATH-3 than both DPATH-1 ($p = .039$) and DPATH-2 ($p = .045$).

Mental and physical health variables included ten subscales from the BSI including, global severity index, somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism; along with physical health problems (i.e., total PHSC score) and stressful life events (i.e., total MLEI score). The mental and physical

health MANOVA was statistically significant ($F(24,1034) = 6.9$, $p < .001$). Many of the follow up ANOVAs were statistically significant: global severity index ($F(2,530) = 5.1$, $p = .007$), obsession-compulsion ($F(2,530) = 4.0$, $p = .018$), depression ($F(2,530) = 9.2$, $p < .001$), hostility ($F(2,530) = 3.9$, $p = .021$), paranoid ideation ($F(2,530) = 7.1$, $p = .001$), psychoticism ($F(2,530) = 14.1$, $p < .001$), physical health problems ($F(2,530) = 5.6$, $p = .004$), and stressful life events ($F(2,530) = 14.1$, $p < .001$). The following were not statistically significant: somatization ($F(2,530) = 0.7$, $p = .487$), interpersonal sensitivity ($F(2,530) = 2.2$, $p = .111$), anxiety ($F(2,530) = 2.9$, $p = .055$), and phobic anxiety ($F(2,530) = 0.3$, $p = .751$). Bonferroni post-hoc analyses found global severity index was greater in DPATH-1 ($p = .015$) and DPATH-2 ($p = .007$) than DPATH-3; obsession-compulsion was greater in DPATH-1 ($p = .045$) and DPATH-2 ($p = .018$) than DPATH-3; depression was greater in DPATH-1 ($p < .001$) and DPATH-2 ($p = .003$) than DPATH-3; hostility was greater in DPATH-1 than DPATH-3 ($p = .017$); paranoid ideation was greater in both DPATH-1 ($p = .003$) and DPATH-2 ($p = .001$) than DPATH-3; psychoticism was greater in DPATH-2 than both DPATH-1 ($p < .001$) and DPATH-3 ($p < .001$); physical health problems were greater in DPATH-2 than DPATH-1 ($p = .007$) and greater in DPATH-2 than DPATH-3 ($p = .035$); and stressful life events were both greater in DPATH-1 ($p < .001$) and DPATH-2 ($p = .001$) when compared to DPATH-3.

Full-length interviews: Unmet service needs- specific aim 2.

Importance and accessibility (i.e., ease) of 25 different service needs associated with the homeless population were investigated. Table 6 presents the mean and rank of importance and accessibility for both DPATH-2 and DPATH-3 samples. Many similarities across the two samples were found in both importance and accessibility of service needs. Affordable housing is unsurprisingly the most important need identified in both samples of homeless people, and the

most difficult to access. Additional high importance service needs for both samples included transportation and medical and dental services. Drug and alcohol treatment, family counseling, English fluency, and parenting training were all among the lowest on importance and the easiest to access.

Regarding changes in importance across DPATH-2 and DPATH-3 samples (see Table 7; positive Cohen's *d* statistics are reflective of a greater value in DPATH-2 than DPATH-3), the largest were demonstrated in drug and alcohol treatment and English fluency, each of which were found to be less important in the DPATH-3 sample, with Cohen's *d* coefficients of 0.41 and 0.42, respectively. Mental health services were found to be more important in DPATH-3 ($d = -0.39$), whereas, job training and job placement both were identified as less important in DPATH-3, demonstrated with a Cohen's *d* statistic of 0.37 for both needs.

Generally, accessibility was found to be greater for service needs that were considered to be less important and vice-versa. For example, in the DPATH-3 sample the service needs that were most important were also among the most difficult to obtain (i.e., affordable housing and transportation). Similarly, across both samples, drug and alcohol treatment, English fluency, support groups, and mental health care were among the bottom third of importance and among the highest for ease of accessibility.

Regarding changes in accessibility across DPATH-2 and DPATH-3 samples, most services (i.e., 21 out of 25) were found to be easier to access in DPATH-3 than DPATH-2, as demonstrated by negative Cohen's *d* coefficients (see Table 7). The greatest changes in accessibility were found primarily among health care related services and those that were in the bottom half of service need importance for both the DPATH-2 and DPATH-3 samples: public benefits ($d = -0.53$), parenting training ($d = -0.52$), mental health care ($d = -0.47$), individual counseling ($d = -0.40$), health care

information (d = -0.38), medical and dental services (d = -0.33), and support groups (d = -0.30); each of where significantly different and reflect an increase in the ease of accessibility over the time between PATH-2 and PATH-3.

Pearson r correlations were used to investigate the match between importance and accessibility of each service need within each DPATH sample. Table 7 outlines the Pearson r coefficients. Ideally, coefficients would be positive and possess, at least, a weak relationship (+.30), demonstrating that service needs that are of high importance are easily accessible. However, as importance of need decreases, we might expect coefficients to be negative and possess, at least, a weak relationship (-.30), demonstrating that service needs that are of low importance are easily accessible or that needs of high importance are difficult to access. The ten most important and ten least important service needs will be outlined for both samples.

The ten most important service needs in the DPATH-3 sample are all negative coefficients each with less than a weak relationship (i.e., -.30) except for agency service information and physical safety. The ten least important service needs in the DPATH-3 sample are all negative coefficients each with less than a weak relationship (i.e., -.30), except for child care and drug and alcohol treatment. Additionally, support groups have a less than weak positive relationship.

The ten most important service needs in the DPATH-2 sample also all have negative coefficients, each of which shows less than a weak relationship, except for transportation and medical or dental services. Similarly, the ten least important service needs in the DPATH-2 sample all show less than a weak, negative relationship, except for support groups which has a less than weak positive relationship.

Full-length interviews: barriers to care- exploratory aim.

Thirteen different barriers to obtaining services were investigated, their means and standard deviations can be found in Table 8. The top five barriers to receiving treatment included: wait list length, cost of service, too much stress, transportation difficulties, and not knowing enough about the service and its benefits. The bottom five barriers to receiving treatment included: legal problems, needed identification, not having medical insurance, embarrassed to get help, and negative interaction with service providers.

Each barrier to treatment was correlated with total lifetime months homeless and past year service utilization of homeless shelters, soup kitchens/food pantries, inpatient mental health, outpatient mental health, homeless programs, and time spent on the streets (see Table 9). Significant correlations were found in the following four settings: soup kitchen/food pantries, outpatient mental health, homeless program, and street time. "Too much stress" was positively correlated with more soup kitchen/food pantry visits ($p = .038$), outpatient mental health visits ($p = .037$), and homeless program visits ($p = .030$). "Health problems" ($p = .001$) was positively correlated with outpatient mental health visits. "Not knowing where to go for services" ($p = .034$), "not knowing enough about services and their benefits" ($p = .012$), and "waitlist being too long" ($p = .014$) were all negatively correlated with days on the street. "Health problems" ($p = .044$), "legal problems" ($p = .002$), and "embarrassed to get help" ($p = .006$) were all positively correlated with days on the street. Next, step-wise hierarchical regressions were run for each of the four settings with significant correlations, two of which produced statistically significant models: outpatient mental health and street time (see Table 10 for regression models).

First, a step-wise hierarchical regression was conducted for outpatient mental health service use, where all thirteen barriers to care, as well as age and gender, were separately entered into the model to determine which variable accounted for the greatest amount of variance. Step 1

resulted in a significant model (F (1,40) = 7.74, p = .008) that accounted for 14.1% of the variance in the dependent variable after "legal problems" (B = .403, p = .008) was entered. The final model, step 2, (F (2,39) = 6.91, p = .003) for outpatient mental health accounted for 26.2% of the variance in the dependent variable when both "legal problems" (B = .456, p = .002) and "don't know enough about services and their benefits" (B = -.320, p = .027) were entered.

Next, a second step-wise hierarchical regression was conducted for the street setting, using the same variables and methodology described in the previous regression analysis. Step 1 resulted in a significant model (F (1,40) = 8.17, p = .007) that accounted for 14.9% of the variance in the dependent variable after "negative interactions" (B = .412, p = .007) was entered. The final model, step 2, (F (2,39) = 7.49, p = .002) for outpatient mental health accounted for 23.8% of the variance in the dependent variable when both "negative interactions" (B = .460, p = .002) and "don't know where to go to receive services" (B = -.328, p = .022) were entered.

DISCUSSION

This study investigated changes in the composition and social service characteristics of the homeless population in Wayne County, across three decades. Probability sampling methodology was used to obtain a representative sample of the homeless population during each decade: DPATH-1 (1992-1994) and DPATH-2 (2001-2002). Probability sampling was also used to obtain the DPATH-3 sample (2017-present), though data collection is not yet complete. The current study (86 full-length interviews) is a snapshot of the DPATH-3 sample which will consist of 210 full-length interviews. Probability sampling consists of a 3-step process, which includes 1) Key Informant Interviews, 2) Sample Surveys, and 3) Full-Length Interviews (e.g., Burnam & Koegel, 1988). The DPATH-3 full-length interview sample used in the current study consists of 86 participants. Data collection will be ongoing for the DPATH-3 (2017-present) sample until a total of 210 full-length interviews have been conducted. Because the DPATH-3 sample is not yet finalized, it is not fully representative of the homeless population in Wayne County, which is further explained in the limitations section below.

Specific Aim 1

The first specific aim examined differences in the composition of the homeless population across several characteristics, including demographic, physical and mental health, social network characteristics, and social service characteristics. The *primary hypothesis* was that current homeless adults would show substantively different demographics than those observed in prior decades, signaling the need to reallocate the limited resources appropriated to end homelessness. More specifically, it was hypothesized that the DPATH-3 homeless sample, when compared to DPATH-1 and DPATH-2 samples, would 1) be older; 2) have more health problems; 3) have more mental health problems; 4) have less social support; 5) have worse family environment; 6) show

more months of lifetime income; 7) show more lifetime months homeless; 8) have less education; and 9) show higher rates of service utilization.

Hypothesis 1.1.

Hypothesis 1.1 was supported as DPATH-3 participants were significantly older than both DPATH-1 and DPATH-2 participants. DPATH-2 participants were also older than DPATH-1 participants. This result supports literature that hypothesizes that, with each decade, the homeless population becomes older due to a cohort effect in which the latter half of the "baby boom" generation is most at risk for homelessness (Culhane et al., 2013). We are pleased that the DPATH-3 sample reported high rates of health insurance coverage and fewer physical health symptoms. We are also pleased that health insurance coverage was not perceived as a major barrier to obtaining needed services. However, the growing age of our homeless population has vast implications for medical providers. As the homeless population continues to age in the coming 10 to 20 years, we can expect an increase in age-related medical conditions. In this reality, easy access to health care and insurance will become even more essential and, therefore, it will be important to protect Medicaid and Medicare services for low-income people.

Hypothesis 1.2.

Hypothesis 1.2 was not supported, in that DPATH-3 participants had the lowest number of physical health ailments but were only significantly lower than DPATH-2 participants. Lower levels of physical health ailments may be due to increased accessibility of public benefits (e.g., health insurance) and/or medical services found across the DPATH-2 and DPATH-3 samples (see Table 6 and 7). The Patient Protection and Affordable Care Act has increased accessibility of medical insurance among vulnerable groups throughout America (Sommers et. al, 2017), including the homeless population (Winetrobe et. al., 2015). When an individual is medically insured, health

care quality and consistency increases, which often leads to healthier people (Sommers, Gawande, & Baicker, 2017). Taken together, the significantly greater rates of medical insurance found in the DPATH-3 sample may be a mediator to the better physical health found in DPATH-3. It is also important to note, the better health observed in DPATH-3 is in spite of the fact that this sample was older than the prior samples (with older people expected to show more health symptoms).

Regarding increased medical services in the Wayne County area, numerous nonprofit organizations expanded or created services focusing on the health of the most vulnerable of Detroit's residents, including the homeless population. For example, in 2014 Central City Integrated Health (i.e., CCIH) received a grant from the Health Resources and Service Administration (i.e., HRSA) to open a federally qualified health center (i.e., FQHC) in Midtown Detroit. HRSA provided funding to CCIH in part because the service area for CCIH included a high prevalence rate of those who are homeless and living in poverty (UDS Mapper, 2013). Additionally, Street Medicine Detroit, a novel homeless program run by Wayne State University medical students since 2012, seeks out homeless people who otherwise may not be reached by traditional health clinics and provides medical services on location in the streets (Street Medicine Detroit, 2019). Novel homeless programs and the expansion of medical services by nonprofit organizations in Wayne County likely have assisted in the better physical health in the DPATH-3 sample.

Hypothesis 1.3.

Hypothesis 1.3 was investigated using two different measures, the global severity index, somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism subscales of the BSI and the schizophrenia, depression, and bipolar modules of the DIS. Hypothesis 1.3 was partially supported by lifetime

diagnosis of schizophrenia spectrum disorder, affective disorder, and overall mental illness (i.e., prevalence rate of either mental health disorder), as each was significantly more prevalent in the DPATH-3 sample when compared to the DPATH-1 and DPATH-2 samples. However, when past 2-week mental health symptoms were investigated, hypothesis 1.3 was not supported, as all DPATH-3 scores on BSI subscales (except phobic anxiety) were less than found in both DPATH-1 and DPATH-2 samples. The discrepancy observed between the lifetime diagnosis of a mental health disorder and past 2-week mental health symptoms may be due to the age differences observed across the three samples. Unsurprisingly, as individuals age, they have a greater chance of developing a mental illness. Furthermore, the discrepancy observed in this hypothesis could also be due to increased accessibility of mental health services in the DPATH-3 sample, resulting in fewer current mental health problems, even though more have a lifetime diagnosis of a severe mental disorder.

Hypothesis 1.4

Hypothesis 1.4 was investigated using two SNI indices (i.e., family and friend network size) and the ISEL measure. First, family and friend network size were investigated, which partially supported the hypothesis that DPATH-3 would have less social support than DPATH-1 and DPATH-2 samples. In line with the hypothesis, friend network size was the lowest in DPATH-3, with significant differences between DPATH-3 and DPATH-1. However, family network size was the greatest in DPATH-3, with significant differences between DPATH-3 and DPATH-2. ISEL perceived social support was significantly higher in DPATH-1 when compared to the other two samples. Though DPATH-2 had the lowest mean, it was not significantly lower than DPATH-3. Hypothesis 1.4, then, was only partially supported with perceived social support.

Hypothesis 1.5.

Hypothesis 1.5 was primarily unsupported when family environment was investigated with a total of four subscales: conflict, cohesion, expressiveness, and independence. The only subscale that provided partial support for the hypothesis was expressiveness, where DPATH-3 showed the lowest mean, though it was not significantly different than DPATH-2. Though the above discrepancies across the three samples are important to note, the disparity in the amount of support experienced in the homeless population when compared to those who are domiciled is of the utmost importance (Moos & Moos, 1994). The FES instrument's normative sample was used to compare to the DPATH-3 sample findings for the four subscales: cohesion (Cohen's $d = 2.02$), expressiveness (Cohen's $d = 1.16$), conflict (Cohen's $d = -0.72$), and independence (Cohen's $d = 2.82$); the Cohen's d statistics demonstrate large effect sizes and show lower levels of cohesion, expressiveness, and independence in the DPATH-3 sample, and higher levels of conflict in the DPATH-3 sample, as compared to norms. Taking hypothesis 1.4 and 1.5 together, the seemingly contradictory relationship between lower perceived support and increased family network size may be explained by the weaker family environment found in the above FES scales. Though one would hope that those with larger family networks would feel more support, this relationship may be mediated by the family environment.

Hypothesis 1.6.

Hypothesis 1.6 was primarily supported as total months of income from employment and public assistance were greatest in DPATH-3, though significantly greater only between DPATH-3 and DPATH-1 in months of income from employment. In line with these findings we found the DPATH-3 sample rated job placement and training as easier to access, which may account for part of the increase in months of employment income found in DPATH-3. Though not statistically

significant, we expected an increase in number of months of public assistance income in the DPATH-3 sample, due to the increase in mean age.

Hypothesis 1.7.

Hypothesis 1.7 was supported, as DPATH-3 participants showed significantly greater months of homelessness than both DPATH-1 and DPATH-2 samples. Though we anticipated this pattern of increased time homeless, the result remains surprising considering the findings that chronic homelessness is declining nationwide (HUD, 2017). Chronic homelessness is defined as an individual, with a disabling condition, who has been either consistently homeless for at least a year, or experienced four or more episodes of homelessness over the past three years (HUD, 2007). Because chronic homelessness and lifetime months homeless are measured in different ways, it may be beneficial for the service community to also introduce targeted interventions for those who have been homeless for the longest time, for example, 8 years or longer.

Hypothesis 1.8.

Hypothesis 1.8 was not supported, as no differences in education were found across the three samples. This result may be partly due to the increase in age of the participants found in each subsequent sample, as it is more difficult to obtain additional education as one gets older. Homelessness targets those living in poverty because of the financial vulnerably of being only one major financial crisis away from homelessness; it is well established that those living in poverty are less educated than those who are not living in poverty (Connell, 1994).

Hypothesis 1.9.

Hypothesis 1.9 was unsupported, as the DPATH-3 sample did not demonstrate significantly greater service utilization over the past year with homeless shelters, soup kitchens/food pantries, inpatient mental health, outpatient mental health, or homeless programs.

However, the DPATH-3 sample showed the highest mean number of days in the past year for homeless shelter, outpatient mental health, and homeless program utilization. DPATH-3 also demonstrated the lowest the mean number of days for past year inpatient mental health and soup kitchens/food pantry utilization. We anticipate that DPATH-3 service utilization totals will continue to trend in the direction we currently see, likely leading to significant findings when our sample size reaches the full 210 participants. Though we are surprised the above discrepancies were not large enough to be statistically significant, the patterns of service utilization across the three decades are in line with what we may expect.

Past year homeless shelter utilization would be expected to have a positive relationship with lifetime homeless months, which our results reflect. Further, homeless shelter utilization is influenced by a number of components including perceived safety, cleanliness, available privacy, space availability, gender restrictions, single person or family preferences, and ancillary service or program requirements. Our findings demonstrated that DPATH-3 participants considered physical safety as easier to satisfy than our DPATH-2 participants, perhaps this includes greater safety in homeless shelters as well. DPATH-3 participants also found short-term shelters as easier to access than DPATH-1 and DPATH-2, which may mean that shelters are less crowded and, therefore, may result in a more pleasant experience. Though we did not measure service satisfaction, it is also possible that homeless people are using homeless shelters more often because they are more satisfied with the service.

Soup kitchens/food pantry utilization in DPATH-3 was down when means were compared to DPATH-1 and DPATH-2. In keeping with the finding that more homeless people are using emergency shelters, anecdotally we are seeing more shelters provide food and drink for the

homeless people they serve and therefore, obtaining food from other sources may be less important for those temporarily sheltered.

Speaking of inpatient and outpatient mental health utilization, over the past several decades the State of Michigan has seen a decrease in psychiatric inpatient beds throughout our communities (NASMHPD, 2017). Fewer psychiatric inpatient beds lead to less availability of inpatient services and more outpatient mental health service utilization, an inverse relationship we see in our results. It is also possible that the increase in outpatient mental health utilization is partly due to higher rates of medical insurance coverage, which makes mental health care more accessible for those insured.

The increase we see in homeless program utilization may be related to the increase of days found on the streets and in total lifetime months homeless, in that escaping homelessness may be more difficult and require more time engaging in social services to find housing. An increase in accessibility of social service programs that we saw in the DPATH-3 sample may also account for some of this increase in homeless program utilization.

Finally, as we hypothesized that an increase in homeless shelter utilization may in part be due to the increased lifetime months homeless in our DPATH-3 sample, we similarly hypothesized the same is true for the number of days homeless people spend on the streets. Unfortunately, we see this positive relationship between days on the streets and lifetime months homeless. The increase in days on the streets for DPATH-3 may in part be due to the large number of abandoned homes around Detroit. Many homeless participants noted the popularity of living in an abandoned home instead of shelters because they felt more in control of their environment.

Specific Aim 2

The second aim investigated social service importance and unmet needs of the homeless population across DPATH-2 and DPATH-3 samples. The *primary hypothesis* is that 1) current priorities and accessibility of services provided are not well matched to the importance of the services desired from the perspective of the homeless adults served. Additionally, it was hypothesized that 2) services provided and desired would be *better* matched for DPATH-3 than DPATH-2 (the relevant measures were not included in the DPATH-1 study), and 3) DPATH-3 will show less service access than in DPATH-2.

Before discussing the hypotheses outlined above, it is important to note the consistency in rankings found across the DPATH-2 and DPATH-3 samples. There was very little variability across samples when ranking the least and most important five service needs. These results provide evidence that the homeless community's service needs do not change much over time. This degree of stability may prove beneficial for both homeless people and those providing services to this community. A well-done needs assessment, even at a single time-point, may be able to inform service providers of the priorities of the homeless community for several years in the future. When providers are confident that a specific social service will remain important for several years to the community they are serving, this may allow for long-term planning, improvements, and further investment of resources to be allocated to the service; each of which often lead to better service delivery and effectiveness.

Hypothesis 2.1.

Hypothesis 2.1 was primarily supported in that the services that were rated the most important in DPATH-3 were also rated as some of hardest to access and, inversely, the services that were rated the least important were rated as among the easiest to access. A similar pattern was found in the DPATH-2 sample as well, though not as pronounced. Additionally, similar results

were found by Acosta and Toro (2000) in Buffalo, New York in regard to importance and ease of accessibility of service needs. It is important to note, that research team members were trained to explain to the participants the difference between the constructs "importance" and "ease of accessibility" when rating each service need, in order to reduce the likelihood that one would influence the other. However, the observed negative correlations may in part be due to DPATH-3 participants believing ease of accessibility is higher for those services they do not frequently attempt to find. For example, a single male with no children who rated child care as "unimportant" may rate it as "easy to access" because he believes it would be easy to obtain.

Hypothesis 2.2.

Hypothesis 2.2 was primarily unsupported in that DPATH-3 importance-accessibility correlations were "well matched" for two services (i.e., at least a weak, negative correlation for services deemed less important; drug and alcohol treatment, child care) while DPATH-2 were "well matched" for zero services. Furthermore, the 11 most important services in DPATH-3 and corresponding DPATH-2 values would all be considered poorly matched as each demonstrated negative relationships between importance and accessibility, when ideally, we were seeking at least a weak positive relationship. Unfortunately, these results also provide evidence that the most important services, as identified by homeless adults, are the most difficult to obtain. This discrepancy is unsurprising, as it has been observed that oftentimes funding and subsequent services provided are not informed by needs assessments of the population of interest. Large governmental agencies often determine what services will be funded and what programs will be developed. These findings provide additional evidence that funding decisions need to take into consideration the self-reported needs of the homeless community.

Hypothesis 2.3.

Hypothesis 2.3 was found to be unsupported in that DPATH-3 participants judged most social services as easier to access when compared to DPATH-2 participants (i.e., 21 out of 25). This promising finding may be due to better communication and more collaboration among nonprofit organizations. When providers are more knowledgeable about the services provided in their community, it is easier to connect homeless people to an array of needed services provided by other organizations. This finding may also be due to the existence of coordinating entities such as the Homeless Action Network of Detroit (i.e., HAND) which organizes and funds homeless services in the Detroit Continuum of Care (i.e., CoC) by taking into consideration service needs. Finally, a push to provide integrated care services (Kodner & Spreeuwenberg, 2002) means that nonprofit agencies are developing and expanding services to make it easier for their clients to obtain needed services within one organization.

Interestingly, with a few exceptions (i.e., public benefits, medical or dental services, health care information), as services were identified as less important in DPATH-3, the more likely we were to find a greater increase in accessibility in DPATH-3 when compared to DPATH-2 ratings. These results are also in line with the previous finding that the least important services to the homeless community are the easiest to obtain and continue to be as time passes. This finding may in part be due to the previously noted reverse correlation found between "importance" and "ease of accessibility."

Other key findings for specific aim 2.

A few findings stand out as particularly noteworthy when looking at the DPATH-2 and DPATH-3 rankings of "importance" for the outlined needs. We expected that affordable housing would be one of the most important needs and the most difficult to access, especially as identified by those who are defined by the lack of this need. We are particularly pleased to see that mental

health services are recognized as more important in the current homeless sample (DPATH-3) when compared to DPATH-1 and DPATH-2 samples. This pattern may in part be due to the increased perception of accessibility, signaling greater opportunity for obtaining these services or perhaps mental health stigma is on the decline in this population. The lower levels of importance found in DPATH-3 for both job placement and job training are also of particular interest. The economy was doing well while data were being collected for both DPATH-2 and DPATH-3 (Bureau of Labor, 2019). However, with unemployment rates at 3.7%, an all-time low since December 1969, it is possible that job placement and training services are currently viewed as less important, especially when unemployment rates during DPATH-2 ranged between 3.8-6.0% (Bureau of Labor, 2019). Typically, those who use job placement and job training services are unskilled laborers. Economic data show that unskilled workers are at greater demand when the unemployment rate decreases, resulting in a reduced need for skill development (Bartik, 1993; Hoynes, 2000).

Service needs that do not show movement in "importance" or "ease of accessibility" between DPATH-2 and DPATH-3 are also noteworthy, especially across a service that is identified as both highly important and difficult to access, such as transportation and physical safety. Though transportation has been identified as essential for homeless people (e.g., Acosta & Toro, 2000; Swick, 2010; Zur & Jones, 2014), it appears we have yet to make it a priority to strengthen and expand transportation services (e.g., public, private, agency service). A lack of transportation for a homeless person oftentimes acts as a barrier to obtaining the independence needed to improve and create stability in one's life (see Exploratory Aim for more on barriers to service needs). Improving physical safety in the homeless population is a complicated task and requires significant increases in funding, regulations, and shifts in societal opinion and priority.

As for ease of accessibility, we are pleased to see that both DPATH-2 and DPATH-3 homeless samples note mental health, drug and alcohol treatment, and support groups among some of the easiest services to access. However, these services were not even identified as being in the top half of services homeless people find important. It is true that the DPATH-3 homeless sample has a high prevalence rate of lifetime mental health diagnoses, but current mental health symptoms are declining (i.e., compared to previous DPATH samples). Taken together, we wonder if these services are abundant, in part, due to biases and negative perceptions of the homeless population.

When changes in the ease of accessibility are investigated across DPATH-2 and DPATH-3 samples, it is interesting to note that six of the top seven largest increases in accessibility are related to health care: public benefits (e.g., Medicaid), medical or dental services, health care information, mental health care, individual counseling, support groups). These observed greater levels of health care related service accessibility may be due to greater rates of health insurance in the DPATH-3 homeless sample (see Table 3) or better outreach across nonprofit organizations.

Exploratory Aims

The exploratory aims investigated barriers to social services experienced by the DPATH-3 homeless sample. More specifically, we investigated 1) what are the most difficult barriers to obtaining services and 2) which barrier(s) were associated with service utilization (i.e., total lifetime months homeless; past year service utilization of homeless shelters, soup kitchens/food pantries, inpatient mental health, outpatient mental health, homeless programs' and past year time on the streets).

Exploratory Aim 1.

We are not surprised that the top barrier, as identified by the DPATH-3 sample, was that wait lists are too long. As we know anecdotally, nonprofit organizations that work with homeless

people in the Detroit area (and other vulnerable populations) are underfunded, overworked, and crowded with clients. Increases in funding can ameliorate these issues, allowing for more providers to be hired and an increased ability to attract high caliber professionals to leadership positions. A long wait list reduces the likelihood an individual will receive the help they need; patience runs low as time goes on, increasing the chance that an individual will give up on receiving the service they are waiting for.

According to our results, homeless people worry about the cost of services as well, so much so that it was found to be more of a barrier than stress. Though many services are provided to homeless people free of charge, this finding provides evidence that cost is frequently on the minds of homeless people. The subsidized housing voucher (i.e., Section 8) provided by the Department of Housing and Urban Development is a good example of a service that accounts for the level of income for each recipient. No more than 30% of gross income, regardless of the gross income, is required for the rental payment. We would love to see other important services subsidized in a similar fashion, for example, transportation and child care. Transportation was also an important barrier identified by the DPATH-3 sample. The absence of reliable transportation can greatly impact an individual's opportunities for employment, housing, interpersonal relationships, leisure, and service accessibility, to name a few.

Finally, it is worth noting that embarrassment and a lack of medical insurance were both identified as only a minor barrier to receiving needed services. As previously noted, due to the increased rates of health insurance found in DPATH-3, we anticipated that it would currently not be a major barrier. Homeless people frequently encounter negative beliefs and attitudes about the homeless community from outside groups (e.g., Phelan, Link, Moore, & Stueve, 1997; Belcher & DeForge, 2012). When these stereotypes are internalized by homeless people, self-stigma occurs

and can lead to shame, guilt, and embarrassment (e.g., Belcher & DeForge, 2012). Though we know that self-stigma is prevalent in the homeless community, we are pleased to see that they believe it does not greatly impact their service utilization. It is possible that the homeless community finds comfort and satisfaction within the social service community, as partly evidenced by fact that homeless people identify negative interactions with service providers as only a minor barrier.

Exploratory Aim 2.

Both outpatient mental health services and days on the streets produced significant models when investigating associations with specific barriers. Legal problems (positive relationship) and not knowing enough about services and its benefits (negative relationship) were significant barriers when predicting the number of days of outpatient mental health treatment that were used over the past year. These results provide evidence that being aware of the benefits of these services increases the number of days homeless people will spend in outpatient mental health treatment during a year's time; demonstrating the importance of outreach and peer support for social service organizations. We were surprised by the positive relationship between legal problems being a barrier to number of days in outpatient mental health over the past year because of the observed influx of community re-entry programs. Perhaps more of an emphasis needs to be placed on expanding these services and recruiting those with legal problems to partake in the various programs. Community re-entry programs (e.g., McCoy et al., 2004; Anderson, 2002) boast lower recidivism rates for those who engage in these programs, findings that can be used as a recruitment tool.

Negative interactions with service providers (positive relationship) and not knowing where to go for services (negative relationship) were significant barriers when predicting the number of

days on the street over the past year. This result confirms what we heard from many homeless people while conducting this study, that negative interactions with those providing services have driven homeless people away from getting the help they need. It is of the utmost importance that our social service organizations are diligent about increasing client satisfaction and ensuring that employees are providing a safe, welcoming, and empathetic environment for homeless people. Additionally, these results provide further evidence that outreach and marketing is critical for social service organizations. When homeless people know where they are able to get help, this may reduce the likelihood that a homeless person will stay on the street.

Overarching Implications for Homeless People and the Service Community

Before integrating the results of this research project, reflecting on their implications, and developing localized recommendations (numbered below and outlined in more detail in the Localized Recommendations section), it is essential to discuss the case for conducting this study. Though the intellectual purpose of the study was to investigate the composition of the homeless population in Wayne County, this only begins to explain why this study was so incredibly important to our research team. The drive to conduct such a study came from the fact that DPATH-3 gives the local homeless population a voice. Low income and vulnerable citizens do not have the same platform to express what is important to them; oftentimes the homeless community's needs, opinions, preferences, stories, and dreams go unheard (Fopp, 2002). However, for the two to four hours our research team spent with each homeless participant, completing the full-length interview, a platform was created, and we were listening. It was amazing to see how willing and excited the homeless people were to speak with us and a true privilege to hear their stories. Though it was a short time together, we often shared laughter, heartbreak, snacks, and good-natured banter. We are keen to the reality that this study provided only a small fraction of the vocal platform the

homeless community deserves. It is our hope that the results of this study are not forgotten, like so many of our participants, and that the findings are a starting point for future discussions about the well-being of our homeless community in Wayne County.

We start by considering the overall trajectory of change in the homeless population across the three samples. As time passes, the homeless population in Wayne County has become older; a greater proportion minority; has spent more time homeless; has, over the past year, utilized homeless shelters at a greater rate and spent more time on the streets; has greater rates of health insurance; and has earned more months of income from working. Further, when compared to previous decades (i.e., DPATH-1 and DPATH-2), the current homeless sample (i.e., DPATH-3) demonstrated greater lifetime rates of mood disorders and lower rates of schizophrenia spectrum disorders; reported more close family members and fewer close friends, decreased perceived social support, a worse relationship with family, less current mental health symptoms, better physical health, and fewer stressful life events. Given the above results, we believe there is a need to reallocate the limited resources appropriated to end homelessness in order to maximize their efficacy. More specifically, 1) increase the number of permanent supportive housing options throughout the county. Supportive housing will ensure the necessary mental and physical health services are provided and utilized in our aging homeless population. Additionally, supportive housing has been shown to reduce hospitalizations and incarceration (e.g., Culhane, Metraux, & Hadley, 2002; Fontaine & Biess, 2012), both of which will off-set increased costs associated with this service expansion. 2) Develop a specialized court service for homeless people who are booked on criminal charges. This court service would be similar to drug court and mental health court, where the unique realities of life as a homeless person can be considered during sentencing. In some cases, a housing and/or treatment plan could be developed and implemented instead of

incarceration for the homeless person. 3) Expand outreach services (e.g., Projects for Assistance in Transition from Homelessness) to homeless people living on the streets and improve safety and private space available at homeless shelters. These two recommendations are important to complete in tandem because many homeless people who live on the streets, report they do not frequent homeless shelters because of safety and cleanliness concerns.

Next, we will discuss the integration of the homeless population, service need importance and ease of accessibility, and service barrier findings. Though we are pleased to see that homeless people are using social services more often (i.e., homeless shelters, outpatient mental health, homeless programs), we are concerned by the increase in lifetime months homeless and number of days spent on the streets in our most recent PATH-3 data.

Living on the streets introduces a great deal of instability to a person's life, and is a place where physical safety is a need that cannot be taken for granted. As endorsed by our homeless participants, physical safety is one of their most important needs. Unfortunately, our results provide evidence that little movement has been made, over the past 12 or so years, with improving physical safety. We recognize the difficulty of creating a safe environment for homeless people, as they live in public places, come in contact with the police frequently, are exposed to vulnerabilities at the homeless shelter, and are among precarious situations that occur on the street. Targeted interventions (5) may increase physical safety for homeless people, some of which include community policing, increasing privacy and protected personal space at homeless shelters (regulations), and reducing time on the street by expediting homeless people into permanent supportive housing.

Research demonstrates a positive relationship between time homeless and physical health problems. Based on past literature, we would expect worse physical health for the DPATH-3

sample after a significant increase in the total months homeless was found. However, results indicated a healthier homeless sample in DPATH-3, producing many questions about what was happening. Increased health insurance rates and access to health and dental services may be factors that assisted in producing a physically healthier current homeless sample. The Patient Protection and Affordable Care Act (ACA) increased the rates of health insurance in vulnerable populations (e.g., homeless people), as demonstrated by the Healthy Michigan Plan. For example, in southeast Michigan enrollment in Medicaid totaled 877,000 in April 2014, before the expansion with the Healthy Michigan Plan. After the implementation of Healthy Michigan, 1.12 million were enrolled in Medicaid by August 2015 (Fangmeier & Udow-Phillips, 2016). Additionally, the ACA provided funding for the development of federally qualified health centers (FQHC's), whose primary goal is to provide health care to vulnerable populations (Hennessy, 2013). For example, in 2014, Central City Integrated Health (i.e., CCIH) obtained funding to start an FQHC in Midtown Detroit which has resulted in hundreds of homeless people obtaining primary care services. Like CCIH, perhaps community health centers are expanding their reach by setting up clinics in areas where homeless people can be found. To further increase the reach of health centers, (6) mobile health care units could be dispatched to areas where homeless people are found to provide physical and mental health care. Homeless people are somehow connecting with medical services more often, and we know that homeless people do not believe transportation is easier to access.

Unfortunately, our two most recent homeless samples (i.e., DPATH-2, DPATH-3) both identified transportation as not only important and difficult to access, but also as a barrier to receiving services. A lack of transportation impacts the ability to achieve independence and personal freedom, especially for those who are homeless. More specifically, it can mean missing essential appointments, not being able to accept a job, and spending less time with family and

friends. Though transportation is widely known as essential for the homeless community (e.g., Zur & Jones, 2014), no perceived movement has been made over the past 12 years when it comes to ease of accessibility. Problems with accessing transportation must be solved through a multifaceted approach (7) and must include measures beyond increasing public options, such as, emphasizing the affordability of car ownership. For example, Cooney, Phillips, and Rivera (2019) investigated the link between economic mobility and transportation in the State of Michigan. Results showed that car insurance premiums in Detroit are the most expensive in the country, where an average annual premium cost $5,414. Cooney and colleagues found that the cost of automobile premiums reduce economic mobility and identified two important reforms that will assist in ending the cycle of poverty: 1) lower cost of automobile insurance, and 2) reduce gap in insurance premiums between Michigan's wealthiest and poorest citizens.

Thus far, a common theme for these recommendations is the expansion or development of services for the homeless community, each of which requires funding increases. However, we must also consider the efficiency of the current system. A comprehensive investigation of the supply and demand of social services in Wayne County must be conducted (8). The purpose of this endeavor would be to increase efficiency by eliminating overlaps in services and filling the gaps where services are needed. This type of investigation will also provide evidence for the need of those services that are in high demand. Organizations that have assurances their social programs will continue to obtain funding, because of their high demand and low supply, may invest more resources into their betterment, leading to potential improvements in service delivery and efficacy.

For years the homeless community was subject to societal stereotypes, biases, and agendas. Homeless people were told that, in order to obtain housing, they first must abide by an arbitrary set of rules created by the nonprofit organization. For example some homeless people were

informed they must be sober from alcohol and drugs, receive mental health services two times a week, and/or attend independent living skills groups four times a month. The Housing First initiative (Tsemberis, 2011) removed these requirements from obtaining stable housing, reducing the likelihood of yet another displacement. The theory behind Housing First is that creating stability in one's life is extremely difficult without a place to call home. Once an individual has stable housing (i.e., permanent) it is more feasible to attend appointments, obtain employment, improve mental and physical health, and stay away from risky activities that occur on the street. Our results are in line with the Housing First initiative, in that the homeless samples identified affordable housing as the most important service need. Let's listen to the voice of our homeless citizens by first getting them housed quickly, further invest in preventative services aimed at reducing homelessness (9), encourage home ownership (10), and continue to provide social services necessary for those living in poverty.

Localized Recommendations

The following recommendations are based on the results from this research project.

1. Increase the number of permanent supportive housing options throughout the city to ensure mental and physical health services are utilized, leading to reductions in hospitalizations and incarceration. Significant investments will be needed by local and state governmental agencies, nonprofit organizations, developers, and our citizens.

2. Develop a specialized court for homeless people where sentencing can be reduced or eliminated if a housing/treatment plan is developed and followed.

3. Expand outreach services for homeless people in order to connect them to more services that are of need. Outreach workers should be experts in services provided and bring with them a comprehensive outline of services provided within Wayne County.

4. A comprehensive outline of social services accessible in Wayne County should be created. This resource should include at least the following: brief explanation of service, inclusion and exclusion criteria, service length, and direct contact information. This resource guide should be updated annually, funded by all social service providers, and organized by a committee made up of service providers, community leaders, and consumers.

5. The physical safety of the homeless community requires attention. Interventions and regulations that may assist with increasing safety include, community policing that focuses on developing rapport with homeless people, introducing regulations and standards that address privacy and protected personal space in homeless shelters, and increasing efficiency in connecting homeless people with permanent supportive housing.

6. Provide funding for mobile health care units to increase the reach of physical and mental health services for those who may otherwise not have access. We may be able to increase service utilization by taking the clinic to the homeless people.

7. To help reduce accessibility problems with transportation provide more investment in public transportation, create legislation that will reduce car insurance premiums, support nonprofit and governmental collaborations with ride sharing companies, develop transportation services within current nonprofit agencies, and strengthen partnerships with organizations that donate vehicles and provide subsequent repair needs.

8. Conduct a comprehensive, region wide need assessment that will investigate the supply and demand of social services in Wayne County. This project would aim to identify overlaps and gaps in services to increase the efficiency of our service community.

9. Preventive services aimed at reducing homelessness and increasing housing stability must be fully funded. It is not enough for us to only build or designate housing for homeless

people, we must also work to keep people in their homes when faced with legal or financial displacement. Organizations like United Community Housing Coalition which provide this type of assistance to those displaced due to new rental code laws, tax foreclosures, or landlord disputes, need our full support to prevent homelessness.

10. When housing homeless people, we typically think low-income rental vouchers as being the only option available. Let's also consider home ownership for the homeless community. Organizations like Cass Community Social Services are doing just that, by investing in tiny home communities with rent-to-own financial agreements. By encouraging home ownership, we can increase the financial assets of those formerly homeless, introducing another barrier to future homelessness.

Limitations

The current study is an early snapshot of the larger DPATH-3 research project, which will yield about 130 more participants and cover all of Wayne County. Because we are still working on obtaining our representative sample of the homeless population through the probability sampling methodology, it is difficult to judge if our current sample is, in fact, representative. At this time, we have interviewed more women than we expected, primarily due to our interviews conducted at COTS, a shelter primarily for women and families. However, as we continue to recruit more participants at gender inclusive sites, the male to female ratio will increase, and may ultimately look more like what we observed in PATH-1 and PATH-2). Further, we have so far focused our PATH-3 data collection on the City of Detroit. DPATH-1 and DPATH-2 samples were representative of all of Wayne County and included other cities in addition to Detroit (e.g., Canton, Westland, Dearborn). DPATH-3 will place more of an emphasis on the remainder of Wayne County after recruitment in Detroit reaches around 120. It is important to note that we

expect about 10-15% of our DPATH-3 sample will be recruited outside of the Detroit CoC because in Wayne County a majority of homeless people reside in the cities of Detroit, Highland Park, and Hamtramck. For these reasons, it is possible that results from the final sample (i.e., about 210 participants) will be different than those found in our current sample of 86, limiting the generalizability of the present findings.

The definition of homelessness in the current study included those who are precariously housed, such as those living with family members but not paying rent. Though the definition was kept constant across the three DPATH samples, comparing our data to other research studies that do not include precarious housing would be more difficult.

Some limitations in the measures our study utilized are noted. Though the consistent measurement across time was a strength of the study, the Diagnostic Interview Schedule (i.e., DIS) was originally created to parallel criteria in the DSM-III-R. Though items were added to the DIS to be in line with the DSM-5 criteria, we used the DSM-III-R criteria in our comparisons across the three samples. Using an up to date version of the Structured Clinical Interview for DSM-5 would have ensured that prevalence rates of various mental health disorders were reflective of the most recent consensus. Another limitation of this study is the absence of qualitative data. Looking back, we wish we would have included more questions where the homeless participants were able to not be restrained by our forced response choices, giving them the freedom to explore what is important to them without our direction.

Finally, the amount of time required to complete the full-length interview (i.e., 2-4 hours) naturally excluded some of the homeless people from participating in the assessment. Though we set few exclusionary criteria (i.e., intoxication, psychosis, cognitive deficits, aggression) not including these individuals in the full-length interview will result in a sample that is better adjusted.

For example, due to this limitation, we would expect our sample to have slightly lower rates of substance use disorders and mental health symptoms.

Future Directions

The collection of DPATH-3 data opens up new avenues for follow-up studies. A future study could look at the quality of the Homeless Management Information System (i.e., HMIS) data collected by all federally funded homeless shelters in the Detroit CoC. A study of this nature would compare the results from the DPATH-3 sample to HMIS data on an individual level. More specifically, the following constructs could be compared: service utilization of homeless shelters over the past year, presence of a mental health problem, and time homeless. Detailed interview data from all 3 DPATH studies could be used as predictors of later HMIS outcomes (e.g., use of emergency shelters).

A fourth installment of the DPATH project could be completed in another 10 years from now and, similarly, give the homeless population a voice by using the results to develop community wide recommendations on how to best support the homeless community. Dr. Toro conducted a longitudinal PATH study in Buffalo, New York during the 1990's. A third installment of the study could be conducted in Buffalo and the results compared to those of the current study. Finally, a follow-up study that investigates the importance and accessibility of social services in Wayne County should be conducted in the upcoming couple years to determine whether or not the City of Detroit is supporting this vulnerable community during the city's proclaimed "resurgence."

TABLES

Table 1: Sampling Survey and Full-Length Interview Data by Target Site

Target Site	Type of Setting	Sampling Surveys	Full-Length Interviews
Capuchin Soup Kitchen – Conner St.	Soup Kitchen	31	5
Capuchin Soup Kitchen – Meldrum St.	Soup Kitchen	31	7
Central City Integrated Health	Outpatient MH	19	19
COTS	Homeless Shelter	23	10
NOAH Project	Soup Kitchen	10	2
NSO – Tumaini Center	Homeless Shelter	83	35
United Community Housing Coalition	Homeless Program	20	8
Totals		217	86

Note: CCIH = Central City Integrated Health, COTS = Coalition on Temporary Shelter, NSO = Neighborhood Services Organization – Tumaini Center, CSK-C = Capuchin Soup Kitchen – Connor Location, CSK-M = Capuchin Soup Kitchen – Meldrum Location, UCHC = United Community Housing Coalition, NOAH = NOAH Project, MH = Mental Health.

Table 2: Sampling Survey Age and Past Year Service Utilization by Target Site

Variable	CCIH %	COTS %	NSO %	CSK-C %	CSK-M %	UCHC %	NOAH %	Overall %
Male	68.4%	0.0%	48.2%	64.5%	64.5%	25%	80.0%	49.1%
African American	78.9%	95.7%	91.6%	100.0%	96.8%	100.0%	90.0%	93.5%

Variable	F	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
		CCIH	COTS	NSO	CSK-C	CSK-M	UCHC	NOAH	Overall
Age	10.99***	50.2 (10.7)	31.3 (11.4)	50.4 (11.5)	47.8 (12.8)	53.1 (10.2)	39.7 (11.0)	48.2 (17.7)	47.2 (13.2)
Shelter	9.50***	138.2 (144.1)	86.3 (71.5)	182.5 (146.9)	32.0 (72.7)	89.6 (125.1)	14.6 (32.1)	139.2 (157.9)	116.2 (135.7)
Soup Kitchen	10.81***	209.0 (225.0)	2.7 (6.8)	70.7 (175.5)	147.6 (137.0)	257.1 (166.4)	9.6 (24.0)	247.9 (257.3)	115.8 (181.5)
Inpatient MH	4.89***	6.9 (12.6)	0.6 (2.9)	5.7 (23.4)	6.7 (32.3)	32.1 (49.2)	1.2 (5.4)	0.0 (0.0)	8.5 (28.4)
Outpatient MH	2.82*	36.5 (55.5)	3.0 (7.5)	17.5 (55.8)	14.1 (51.6)	59.3 (106.4)	2.3 (7.3)	36.5 (115.4)	22.6 (65.3)
Homeless Program	3.21**	46.0 (106.2)	4.0 (18.7)	8.8 (30.7)	3.4 (10.9)	48.2 (119.3)	31.7 (87.8)	70.8 (114.4)	21.4 (70.6)
Street	8.37***	128.9 (134.4)	4.3 (13.7)	33.7 (76.4)	5.2 (17.7)	97.6 (132.2)	14.7 (32.6)	42.4 (64.8)	42.6 (89.6)

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$; CCIH = Central City Integrated Health, COTS = Coalition on Temporary Shelter, NSO = Neighborhood Services Organization – Tumaini Center, CSK-C = Capuchin Soup Kitchen – Connor Location, CSK-M = Capuchin Soup Kitchen – Meldrum Location, UCHC = United Community Housing Coalition, NOAH = NOAH Project.

Table 2: Background Characteristic Comparisons Across Three Homeless Samples

Variable	DPATH-1 1992-1994 M (SD)	DPATH-2 2000-2002 M (SD)	DPATH-3 2018-2019 M (SD)	Statistical Test
Age	36.0 (8.9)	42.3 (9.6)	47.4 (12.7)	$F(2,550) = 50.41$***
	%	**%**	**%**	
Gender				$\chi^2(2) = 13.58$**
Male	71.8%	74.4%	53.5%	
Female	28.2%	25.6%	46.5%	
Race				$\chi^2(2) = 12.40$*
African-American	87.9%	78.0%	89.5%	
White	8.5%	17.0%	5.8%	
Other	3.6%	5.0%	4.7%	
Years of Education[a]				$F(2,544) = 2.85$
Less than high school	44.0%	44.1%	33.7%	
High school graduate	31.7%	38.7%	45.3%	
Some college	24.3%	28.6%	21.0%	
Medical Insurance	-	25.1%	84.9%	$\chi^2(1) = 90.58$***
	M (SD)	**M (SD)**	**M (SD)**	
Service Utilization[b]				
Homeless Shelter	82.7 (103.1)	83.1 (110.4)	116.1 (137.7)	$F(2,550) = 3.20$*
Soup Kitchen[c]	134.7 (220.5)	124.0 (213.4)	105.9 (203.9)	$F(2,550) = 0.59$
Inpatient MH	12.1 (35.8)	12.1 (42.9)	3.8 (14.9)	$F(2,550) = 1.83$
Outpatient MH	-	9.3 (48.9)	21.7 (54.3)	$t(142.1) = -1.84$
Homeless Program	13.8 (43.6)	12.6 (35.2)	24.6 (72.2)	$F(2,550) = 2.22$
Streets	24.0 (68.3)	37.6 (81.5)	57.2 (102.8)	$F(2,550) = 5.80$**
Time Homeless[d]	33.3 (45.9)	35.9 (49.9)	111.5 (138.8)	$F(2,543) = 43.42$***
Income				
Employment Months	119.0 (106.8)	185.3 (122.9)	197.4 (263.1)	$F(2,543) = 15.25$***
Public Assist. Months	60.5 (69.6)	59.3 (82.3)	74.6 (321.3)	$F(2,542) = 0.37$
	%	**%**	**%**	
Lifetime Diagnosis				
Mental Illness	26.6%	34.7%	57.0%	$\chi^2(2) = 33.96$***
Mood Disorder	23.4%	29.7%	57.0%	$\chi^2(2) = 26.19$***
Schizophrenia Spect.	5.6%	11.1%	3.5%	$\chi^2(2) = 7.32$*

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$. [a]Though presented in categories above, samples were compared in an ANOVA; [b]Services measured in days utilized over past year; [c]Measured as visits to soup kitchens in past year; [d]Measured in months. MH = Mental Health. Assist.=Assistance. Spect.=Spectrum.

Table 4: DPATH-3 Full-Length Interview Past Year Service Utilization and Time Homeless Correlations

Variable	Months HML	Shelter	Soup Kitchen	Inpatient MH	Outpatient MH	Homeless Program	Street	Employment Income	Public Assist. Income
Months HML	-	.054	.006	.080	.388	.574	.053	.047	.223
Shelter	.209	-	<.001	.063	.718	.565	.843	.173	.063
Soup Kitchen	.295	.382	-	.007	.665	.036	.002	.013	.745
Inpatient MH	.190	.063	.290	-	.102	.019	.162	.586	.771
Outpatient MH	.094	-.039	.047	.177	-	.954	.094	.672	.853
Homeless Program	.061	.063	.226	.253	-.006	-	.521	.831	.812
Street	.210	-.022	.328	.152	.182	.070	-	.509	.756
Employment Income	.215	.148	.267	-.059	-.046	-.023	.072	-	<.001
Public Assist. Income	.133	.201	-.036	-.032	-.020	-.026	-.034	.489	-

Note: The lower portion of the diagonal are correlations, while the upper portion of the diagonal are the associated *p*-values. HML = Homeless; MH = Mental Health.

Table 5: MANOVA Groupings of Social Support, Family Environment, Homelessness, and Health Compared Across Samples

MANOVA Grouping/Variable	DPATH-1 1992-1994 M (SD)	DPATH-2 2000-2002 M (SD)	DPATH-3 2018-2019 M (SD)	F	Post Hoc Tests
Social Support				10.5***	
Family network size	4.0 (3.1)	2.8 (2.6)	4.9 (3.7)	17.3***	D1>D2, D1=D3, D2<D3
Friend network size	2.4 (2.6)	1.6 (1.7)	1.4 (2.1)	10.2***	D1>D2, D1>D3, D2>D3
Perceived support	113.9 (17.4)	107.0 (18.4)	107.9 (20.2)	9.2***	D1>D2, D1>D3, D2=D3
Family Environment				71.0***	
Conflict	4.0 (2.3)	5.2 (2.4)	4.7 (2.0)	16.1***	D1<D2, D1<D3, D2=D3
Cohesion	6.4 (2.4)	2.3 (2.5)	2.8 (2.3)	181.0***	D1>D2, D1>D3, D2=D3
Expressiveness	5.1 (1.7)	4.0 (1.8)	3.5 (1.8)	37.8***	D1>D2, D1>D3, D2=D3
Independence	6.5 (1.5)	2.5 (1.5)	3.1 (1.3)	446.4***	D1>D2, D1>D3, D2<D3
Homelessness				11.6***	
Days on street[b]	24.0 (68.5)	37.2 (81.9)	57.2 (102.8)	5.7**	D1=D2, D1<D3, D2<D3
Time literally homeless[a]	33.3 (45.8)	35.9 (49.9)	111.5 (138.9)	43.4***	D1=D2, D1<D3, D2<D3
Days in shelters[b]	81.5 (101.7)	81.5 (108.7)	116.1 (137.7)	3.5*	D1=D2, D1<D3, D2<D3
Soup kitchen visits[b]	135.3 (220.8)	118.0 (202.9)	105.9 (203.9)	0.8	D1=D2, D1=D3, D2=D3
Health				6.9***	
Global Severity Index	0.80 (0.56)	0.83 (0.62)	0.59 (0.65)	5.1**	D1=D2, D1>D3, D2>D3
Somatization	0.58 (0.61)	0.61 (0.72)	0.51 (0.66)	0.7	D1=D2, D1>D3, D2=D3
Obsession-Compulsion	0.96 (0.70)	1.00 (0.86)	0.72 (0.85)	4.0**	D1=D2, D1>D3, D2>D3
Interpersonal Sensitivity	0.87 (0.72)	0.82 (0.82)	0.66 (0.81)	2.2	D1=D2, D1>D3, D2>D3
Depression	1.04 (0.72)	0.95 (0.82)	0.63 (0.78)	9.2***	D1=D2, D1>D3, D2>D3
Anxiety	0.66 (0.68)	0.79 (0.81)	0.58 (0.82)	2.9	D1=D2, D1>D3, D2=D3
Hostility	0.77 (0.75)	0.73 (0.75)	0.52 (0.62)	3.9*	D1=D2, D1>D3, D2>D3
Phobic Anxiety	0.52 (0.67)	0.48 (0.63)	0.48 (0.84)	0.2	D1=D2, D1>D3, D2=D3
Paranoid Ideation	1.15 (0.88)	1.19 (0.81)	0.79 (0.88)	7.1**	D1=D2, D1=D3, D2>D3
Psychoticism	0.62 (0.58)	0.88 (0.77)	0.47 (0.69)	14.1***	D1<D2, D1=D3, D2>D3
Physical health symptoms	13.16 (9.55)	16.01 (11.20)	12.80 (9.45)	5.6**	D1<D2, D1=D3, D2>D3
Stressful events	19.91 (8.31)	18.30 (8.30)	14.43 (7.87)	14.1***	D1=D2, D1>D3, D2>D3

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$. [a]Measured in months. [b]Past year service utilization.

Table 6: Mean Importance and Accessibility (Ease) of NAQ Items Across DPATH Samples

Item	DPATH-2				DPATH-3			
	Importance		Accessibility (Ease)		Importance		Accessibility (Ease)	
	Rank	Rating	Rank	Rating	Rank	Rating	Rank	Rating
Affordable Housing	1	4.57	25	1.61	1	4.66	25	1.75
Transportation	4	4.14	19	2.23	2	4.09	23	2.10
Medical or Dental Services	2	4.22	17	2.30	3	4.03	12	2.64
Agency Service Information	9	3.92	8	2.57	4	3.95	11	2.67
Physical Safety	8	4.01	16	2.38	5	3.93	18	2.43
Health Care Information	7	4.02	4	2.71	6	3.86	5	3.07
Education	6	4.04	12	2.53	T7	3.69	14	2.55
Public Benefits	14	3.37	23	2.04	T7	3.69	15	2.54
Job Placement	3	4.16	22	2.13	9	3.66	22	2.11
Job Training	5	4.07	20	2.21	10	3.59	20	2.31
Free Meals	17	3.25	1	3.21	11	3.48	1	3.37
Short-Term Shelter	11	3.46	11	2.54	12	3.41	21	2.30
Temporary Housing	10	3.55	24	2.00	13	3.40	24	2.03
Case Management	15	3.35	6	2.62	14	3.36	9	2.82
Budgeting Money	12	3.44	18	2.28	15	3.20	16	2.51
Legal Assistance	13	3.41	21	2.17	16	3.19	17	2.44
Mental Health Care	23	2.53	5	2.64	17	3.15	2	3.13
Individual Counseling	18	3.10	9	2.56	18	2.93	7	2.93
Support Groups	16	3.33	3	2.80	19	2.90	4	3.08
Life Skills Training	19	2.96	7	2.60	20	2.81	10	2.79
Family Counseling	21	2.74	14	2.48	21	2.51	13	2.61
Drug and Alcohol Treatment	20	2.78	2	2.94	22	2.12	3	3.10
English Fluency	22	2.60	10	2.55	23	2.00	8	2.83
Parenting Training	24	2.34	13	2.52	24	1.94	6	3.00
Child Care	25	2.21	15	2.43	25	1.81	19	2.38

Note. Importance was measured on a 5-point scale, ranging from 1 = *not important* to 5 = *extremely important*; difficulty was measured on a 4-point scale ranging from 1 = *always difficult* to 4 = *always easy.*

Table 3: DPATH Sample Comparisons of Importance vs. Accessibility and Change in Importance and Accessibility Over Time

| | DPATH-2 | DPATH-3 | DPATH-2 vs. DPATH-3 | |
| | | | Importance | Accessibility (Ease) |
	Pearson's *r*	Pearson's *r*	Cohen's *d*	Cohen's *d*
Affordable Housing	-.176*	-.180	-0.13	-0.16
Transportation	-.332***	-.127	0.04	0.03
Medical or Dental Services	-.367***	-.093	0.17	-0.33*
Agency Service Information	-.043	-.074	-0.04	-0.11
Physical Safety	-.073	-.265*	0.07	-0.05
Health Care Information	-.065	-.181	0.13	-0.38**
Education	-.108	-.001	0.29*	-0.03
Public Benefits	-.081	-.217	-0.23	-0.53***
Job Placement	-.256***	-.265*	0.37**	0.02
Job Training	-.178*	-.200	0.37**	-0.11
Free Meals	-.052	-.292**	-0.18	-0.19
Short-Term Shelter	-.122	-.068	-0.04	0.26
Temporary Housing	-.165*	-.009	0.11	-0.04
Case Management	-.057	-.042	-0.01	-0.24
Budgeting Money	-.254***	-.289*	0.18	-0.23
Legal Assistance	-.138*	-.164	0.15	-0.27
Mental Health Care	-.057	-.159	-0.39**	-0.47**
Individual Counseling	-.126	-.019	0.12	-0.40**
Support Groups	.023	.047	0.32*	-0.30*
Life Skills Training	-.242***	-.289*	0.10	-0.21
Family Counseling	-.058	-.124	0.16	-0.13
Drug and Alcohol Treatment	-.148*	-.343	0.42**	-0.17
English Fluency	-.292***	-.092	0.41**	-0.27
Parenting Training	-.004	-.034	0.27*	-0.52*
Child Care	-.109	-.499*	0.27*	0.05

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Table 4: Means and Standard Deviations of DPATH-3 Barriers to Receiving Needed Services

Barrier	*M* (SD)
Wait list too long	3.66 (1.48)
Cost too much	3.55 (1.43)
Too much stress	3.25 (1.60)
Transportation difficulties	3.20 (1.68)
Don't know enough about services and their benefits	3.01 (1.58)
Don't know where to go to receive services	2.96 (1.54)
Health problems	2.45 (1.44)
Thought problems would get better by itself	2.05 (1.31)
Negative interactions with service providers	1.92 (1.24)
Embarrassed to get help	1.73 (1.19)
Not having medical insurance	1.72 (1.37)
Needed identification	1.71 (1.27)
Legal problems	1.66 (1.24)

Note: Frequency of experience with each barrier was measured on a 5-point scale ranging from 1 *Not at all* to 5 *A lot*.

Table 9: Correlations of Barriers to Care and Service Utilization

Barrier	Homeless Months	Shelter	Soup Kitchen	Inpatient MH	Outpatient MH	Homeless Program	Street
Transportation difficulties	.008	-.110	.090	.014	.010	.060	-.038
Don't know where to go to receive services	-.048	.069	.069	.145	.062	.155	-.234*
Don't know enough about services and their benefits	-.155	-.112	.067	.040	-.024	.155	-.273*
Wait list too long	-.047	-.055	.010	.105	.007	.118	-.270*
Cost too much	-.091	-.022	-.014	-.030	.042	.197	-.197
Too much stress	-.007	-.032	.227*	.179	.228*	.237*	.090
Health problems	.005	-.022	.154	.143	.365**	.097	.221*
Legal problems	.131	-.015	.126	.097	.114	.053	.339**
Embarrassed to get help	-.021	.049	.056	-.085	-.066	-.028	.299**
Needed identification	-.074	.129	-.036	-.087	.002	-.059	.108
Negative interactions with service providers	.001	-.036	.050	.045	.180	.007	.175
Thought problems would get better by itself	.016	.087	.074	-.106	-.111	.108	.155
Not having medical insurance	-.015	-.005	.249	-.115	-.106	.150	-.067

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$. MH = Mental Health.

Table 5: Step-Wise Hierarchical Regression Models

Variable		Outpatient Mental Health					
	F	R^2	ΔR^2	β	SE β	B	p
Step 1	7.74	.141	-				.008
Legal problems				8.93	3.21	.403	.008
Step 2	6.91	.262	.121				.003
Legal problems				10.11	3.10	.456	.002
Don't know services				-5.51	2.40	-.320	.027
		Street					
	F	R^2	ΔR^2	β	SE β	B	p
Step 1	8.17	.149	-				.007
Negative interactions				36.65	12.82	.412	.007
Step 2	7.40	.238	.089				.002
Negative interactions				40.91	12.27	.460	.002
Don't know where				-21.44	9.00	-.328	.022

Note: "Don't know services" = Don't know enough about services and their benefits; "Don't know where" = Don't know where to go to receive services.

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ABSTRACT

THE DETROIT PEOPLE AND TRANSITIONS IN HOUSING-3 (DPATH-3): CHANGES IN THE COMPOSITION AND SERVICE NEEDS OF THE HOMELESS ADULT POPULATION

by

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Major: Psychology (Clinical)

Degree: Doctor of Philosophy

The current research study explores the composition and service need of the homeless community in Detroit, Michigan and its surrounding county, Wayne. The project aims to 1) examine differences in composition and social service characteristics across three decades and 2) access service utilization and unmet needs of the homeless population. The study's central hypothesis is that demographic shifts in the homeless population indicate the need to make specific and substantive shifts in the distribution of the limited resources allocated to homelessness. Results demonstrated significant changes across the three time points, where the current sample of homeless people were older, spent more time homeless; had, over the past year, utilized homeless shelters at a greater rate and spent more time on the streets; had greater rates of health insurance; had earned more months of income from working; demonstrated greater lifetime rates of mood disorders and lower rates of schizophrenia spectrum disorders; reported more close family members and fewer close friends, but decreased perceived social support; had a worse relationship with family; less current mental health symptoms; better physical health, and fewer stressful life events. Additionally, results also provided evidence that the most important services, as identified

by the homeless, are the most difficult to obtain, of which included, affordable housing and transportation. Implications for these results and localized recommendations are discussed.

AUTOBIOGRAPHICAL STATEMENT

Kiel J. Opperman is a doctoral candidate in the clinical psychology program at Wayne State University. Kiel's work as a graduate student in the program has focused on research, clinical work, and community advocacy in the areas of homelessness, community mental health, serious mental illness, and forensic psychology. Kiel sought out clinical training placements at the Ann Arbor VA and Center for Forensic Psychiatry while completing his Ph.D. at Wayne State University. Kiel is very proud of the work he has done as a board member of Central City Integrated Health over the past six and a half years, a nonprofit organization that provides physical and behavioral health services to the most vulnerable in Detroit. Kiel is currently completing his pre-doctoral internship at the Detroit VA Medical Center with focused training in acute inpatient mental health services, serious mental illness, and substance use. Upon graduation, Kiel will begin working for Central City Integrated Health as their Director of Program Development and Research.