Public Health
Seattle & King County

2013

Health Care for the Homeless Network

Community Needs Assessment

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Service site partners:

- Catholic Community Services – Lazarus Day Center
- Chief Seattle Club
- Compass Housing Alliance – Adult Service Center
- DESC – Connections and Main Shelter
- Immanuel Lutheran Hygiene & Day Center
- King County Public Health's Mobile Medical Van Program and Site Partners
- Matt Talbot Center
- Recovery Café
- Union Gospel Mission
- YWCA – Angeline's Bellevue & Seattle

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Executive Summary

The 2013 Community Needs Assessment (CNA) is an integral part of the Health Care for the Homeless Network (HCHN) strategic planning process and orients the program's goals and vision for the next Health Resources Services Administration (HRSA) project period. The information contained in this report will be useful to providers, policy-makers, researchers and others interested in the chronic disease risk and prevalence of homeless adults, specifically users of homeless day services in Seattle and King County. The HCHN administrative team intends to use these data to inform their service delivery model and focus for the next five years of programming.

Key findings include:

- *Eighteen percent of HCHN community needs assessment respondents have diabetes.*
- *Sixty percent of HCHN community needs assessment respondents had a diabetes risk that is considered "high risk" by the American Diabetes Association.*
- *Of the roughly 800 respondents who do not have diabetes, 56 percent (449 individuals) have a risk score of four or higher.*
- *Forty-four percent of respondents have high blood pressure.*
- *Over 80 percent of respondents have three or more risk factors for heart disease.*
- *Sixty percent of respondents are overweight.*
- *Sixty-nine percent of respondents smoke tobacco.*
- *Thirty-seven percent of respondents are uninsured.*

Data Source:

One thousand interviews were conducted using a survey instrument developed by the HCHN CNA design team. The instrument adapted the American Heart Association and the American Diabetes Association risk self-assessment tools for use with this unique population. Respondents were selected for the sample based on convenience sampling and received a five dollar gift card to compensate them for their time in completing the interview. Public Health Reserve Corps volunteers and Public Health administrative staff conducted one-on-one interviews on multiple visit days at 15 homeless day service sites throughout Seattle and King County between May and August, 2013.

Data limitations:

The large sample size provides worthwhile information on a significant number of individuals within this population; however, it was gathered using convenience, rather than random sampling thus direct estimates from sample to population are not possible.

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Project Motivation

The stories of Chris, Sandy, and Bennett are composite sketches of homeless or formerly homeless clients seen by Health Care for the Homeless Network (HCHN) providers.

> *Chris is a 40 year old Alaska Native man, six feet tall, and weighs one-hundred and eighty pounds. He does day labor through the Millionair Club, and is a member of the Chief Seattle Club where he eats breakfast most weekdays. He reports having candy bars and soda for lunch when he works, and he eats dinner at the mission where he sleeps. Chris smokes two packs of cigarettes per day and the last few times the nurse at the day center checked his blood pressure it was very high. His mother had diabetes and Chris last saw a doctor five years ago when he broke his foot and describes himself as being "in pretty good shape, except for the smoking".*
>
> *Sandy is a 45 year old White woman who has been living in south King County for the past ten years. She became homeless two years ago and has been sleeping in her car ever since. She is twenty pounds overweight, has a history of gestational diabetes, and when she last saw her doctor (before she was homeless), she learned that she was "borderline diabetic". She visits the church-based meal programs in south King County most weeknights for dinner. Last night they served hotdogs and French fries, and a piece of cake for dessert. Sandy was told to modify her diet and increase her activity to avoid becoming diabetic-- but she finds it difficult given her current circumstances.*
>
> *Bennett is a 63 year old African American man who was homeless for twenty years. He now lives in supportive housing for formerly homeless people and spends most afternoons at the Lazarus Day Center in Pioneer Square. He is depressed and diabetic, has painful neuropathy in his feet, and blindness is starting to make it difficult to get around. He had his great toe amputated a little over a year ago. With help from the case managers on-site at his building, he sees a doctor every six months, but he is frustrated and doesn't see much use in continuing to go when he can't seem to take the medications the way he's supposed to anyway.*

Individuals like Chris, Sandy and Bennett motivated the HCHN administrative team to focus on chronic disease in its 2013 Community Needs Assessment (CNA). Providers in the Health Care for the Homeless Network (HCHN) see clients who not only struggle with homelessness, mental illness, and substance abuse—but also untreated diabetes, cardiovascular disease, and other chronic conditions that have major impacts on their quality of life. Too often, those homeless individuals who eventually find housing and have their mental health and substance abuse treatment needs met, too often face serious consequences of chronic diseases that have gone unmanaged for years. Though many of the determinants of individuals' health require larger systems change, HCHN recognizes an opportunity to more directly focus on these important chronic health issues affecting homeless patients in the upcoming project period.

Chronic Disease Focus: Heart Disease and Diabetes

Heart disease has persisted as the number one cause of death in the United States since the 1920s. Diabetes is ranked seventh as a cause of death and is a contributing risk factor in developing heart disease. As a homeless person, managing these two chronic diseases in particular is challenging. The conditions of homelessness often preclude the behavior modifications and medical interventions that are effective in reducing the most severe consequences of the disease. In addition to personal costs, people who have diabetes and heart disease are costly to the health care system overall. People with diagnosed diabetes have medical expenditures more than two times higher than what expenditures would be in the absence of diabetes, and over 60 percent of that cost is shouldered by government insurance programs (Medicare, Medicaid, and the Veterans Administration). Those with diabetes and without health insurance have 55 percent more emergency department visits than people who have insurance (American Diabetes Association, 2013). In proportion to the difficulty of management, the cost-savings potential of interventions is high if access to appropriate care and support can be ensured for this population.

Figure 1 is a conceptual map of the path of unmanaged chronic disease as imagined by the HCHN community needs assessment design team.

Figure 1: Path of Unmanaged Chronic Disease

Without community and individual health interventions, homeless individuals who get started on this path may proceed through each stage with declining quality of life and costly and unpleasant medical complications leading to an early death. Research conducted over the past forty years has demonstrated that a history of homelessness is strongly associated with chronic illness and an early death rate that is three to four times that of the general population (Connelly, 2011).The average age of death of homeless persons is between forty-two and fifty years, and the causes of death are mostly related to chronic medical conditions rather than overdose, suicide, or homicide as some might expect (O'Connell, 2005). The first step toward convening a solution that will divert homeless individuals from this path is focusing on chronic disease risk and prevalence in the adult homeless population in Seattle and King County.

HCHN obtained estimates of the number of adult homeless day center users who are at risk, diagnosed, and struggling with disease management (those who would be located within the first three phases of the continuum above). Interventions available to reduce risks of diabetes and cardiovascular disease such as improved access to healthy food, promotion of physical activity, campaigns to reduce tobacco use and increased access to stress management support

are well within the scope of influence of a Public Health department and the community partners that carry out the HCHN mission. In the coming project period, HCHN will more intentionally address these same intervention and prevention strategies in the work it funds within Seattle and King County.

HCHN Program

Health Care for the Homeless Network (HCHN), a program of Public Health – Seattle & King County, provides health care and ensures access to adapted health care to more than 20,000 people annually. HCHN's philosophy of care focuses on strengths-based assessment, motivational interviewing, harm reduction, and trauma informed care to support homeless clients in improving their health and well-being. Over 100 providers deliver primary care, nursing services, case management, mental health care, substance abuse services, referral services, and assistance for people enrolling in Medicaid and other entitlement programs throughout the Health Care for the Homeless Network in Seattle and King County. HCHN providers serve homeless patients in over 40 community settings and 10 public health centers, as well as on the streets, in parks, homeless encampments, under bridges, and wherever homeless people may be found. The HCHN sub-contracted service delivery model creates integrated teams of providers that deliver service to homeless clients 'where they are at' rather than requiring clients to access services within established clinic sites. HCHN is governed by King County Board of Health and an 18 member community-based Planning Council that advises the program's services and budget and ensures that the program is aligned with its mission.

2013 HCHN Community Needs Assessment Design

Target Population

The HCHN administrative team narrowed the focus of its 2013 community needs assessment to 'adults who use homeless day services in Seattle and King County'. Compared to any other service type, meal programs and hygiene services (often located within homeless day centers) are used by individuals who are least engaged in homeless services elsewhere in the continuum (City of Seattle Office of Housing, 2009).

Homeless service agencies that receive federal or local funding are required to collect data on the individuals they serve. Day centers, however, remain low-barrier by collecting very little data as a prerequisite for services, thus comparatively less is known about the population utilizing day services than other services within the continuum of care.

Safe Harbors, Seattle & King County's Homeless Management Information System (HMIS) is generally considered the most comprehensive count of homeless persons in Seattle and King County. This database may undercount homeless individuals and families who are doubled up (unstably housed with another family member or friend), those who sleep outside or in other places not meant for human habitation, and those who stay in shelters simply because the requirement to enter data into Safe Harbors is attached to certain funding streams, and individuals in the situations above may not enter into programs attached to those funding streams. In 2012, Safe Harbors reported data for 18,758 unique individuals served over the course of the year in emergency shelter, transitional housing, and permanent supportive housing; however as of late 2012, day centers were not yet entering clients into the HMIS

system. Therefore, HCHN was unable to obtain an estimate of the population of adult users of day centers in Seattle and King County from which a sample size target could be generated.

Sampling Method

HCHN used targeted convenience sampling on multiple visit days at 15 homeless day service sites between May 1 and August 31, 2013 to achieve its sampling goal. Public Health Reserve Corps volunteers and HCHN administrative staff conducted 1,000 interviews with homeless day center clients. To put the HCHN sample size into perspective: to represent the homeless population currently entered into the Safe Harbors HMIS (over 18,000 individuals) a researcher would need to randomly select 645 individuals for her sample to achieve representativeness with 99 percent confidence level and a margin of error of three.

HCHN gathered information on average number of clients seen per day from eight homeless day centers determined to be included in the CNA. A sample size calculator was used to derive target sample size based on average clients per day at those eight sites and initial assumptions regarding how much data could be gathered within the data collection time frame. After multiple visits to the two largest day center locations selected as sampling sites and one or two visits to smaller sites, it became clear that the 'churn' phenomenon of individuals who travel to multiple day centers within a single day would affect the ability to meet sample size goals at the eight initially selected sites. HCHN found that after reaching sample size goals at the two largest sites, it became more difficult— on visits to smaller service sites—to find individuals who had not already been interviewed. While the magnitude of the churn phenomenon was unanticipated, the HCHN administrative team used the opportunity to meet its sample size goals by expanding the list of sampling sites from eight to 15. The expansion of service sites to be included in the community needs assessment likely improved dramatically the representativeness of the sample selected.

Service Site Selection

The HCHN administrative team gathered a comprehensive list of homeless day centers beginning with the 2-1-1 community resource list and augmenting with programs known to be missing from that listing in order to select the sites to be included in the 2013 community needs assessment. Agencies that deny services on the basis of color, race, sexual orientation, gender, religious belief, national origin, or ancestry, as well as organizations whose services are not available to non-members or that require participation in religious activities or profession of faith to receive services must be excluded from the 2-1-1 listings. HCHN selected several day centers that were not listed in the 2-1-1 directory including: Chief Seattle Club, where services are only available to Native Americans whose membership in a tribe can be demonstrated, two recovery-based day center programs where some measure of abstinence from drugs/alcohol is required, and two day programs that exclusively serve women.

Table 1 is a summary of the service sites included in the HCHN 2013 community needs assessment, their estimated service numbers per day (where available), and the number of interviews HCHN conducted at each site.

Table 1: Service sites included in HCHN 2013 CNA sample

Homeless Day Services	Population Served	Estimated clients/day	Clients interviewed 2013
Angeline's Seattle	women 18+	200	68
Angeline's Bellevue	women 18+	25	10
CCS-Lazarus Center	men & women 50+	225	125
Chief Seattle Club	tribal-enrolled	100	85
Compass-ASC	adults	300	185
DESC - Main Shelter	highly vulnerable adults	300	161
DESC - Connections	adults whose homelessness is primarily related to economic conditions	150-200	53
Immanuel Lutheran	adults	35	12
Matt Talbot Center	adults in recovery	25	22
Meal Site - Auburn	adults	*	51
Meal Site - Burien	adults	*	26
Meal Site - Kent	adults	*	30
Meal Site - Renton	adults	*	33
Recovery Café	adults in recovery	150	71
Union Gospel Mission	men and women	80	68
Total	–	–	**1000**

*Daily use data for this site not available.

Day centers excluded from 2013 HCHN sample

The HCHN administrative team sought to capture the diversity that exists among adult users of homeless day service centers and addressed as many sources of potential bias as possible by extending inclusion criteria to sites beyond those listed in 2-1-1. Elizabeth Gregory Home, Seattle Indian Center, and Bread of Life Mission, appear in the 2-1-1 listings and met the criteria for inclusion but were excluded from analysis due to constraints on staff time. HCHN ensured oversampling at other sites believed to draw a similar subset of the homeless day service users as those who use excluded sites mentioned above: women, Native American/Alaska Natives, and individuals drawn to religiously-based services respectively. HCHN also excluded two day centers that have hygiene services but lack the programming that is common among other sites selected: Urban Rest Stop and Compass Housing Alliance-Waterfront location. Finally, Mary's Place is a homeless day center serving single women and families, and excluding this site from the needs assessment presents bias by excluding adult women who are the primary caregivers for their children.

HCHN's methodological approach may have biased the sample in the following ways:

- Respondents received a $5 gift card as compensation for their time. This approach may have drawn individuals into the sample who are most motivated by small economic

reimbursements.

- Individuals who do not speak or understand English or Spanish are likely underrepresented in this sample due to limited translation services for data collection.

- Respondents with the most severe mental health barriers, brain injury, or cognitive impairments may have been under-sampled despite outreach attempts because volunteers were instructed to restrict their outreach to one attempt per person per site visit.

Survey construction

HCHN identified five areas of interest for the HCHN 2013 community needs assessment data collection: demographic information; risk and prevalence of selected chronic diseases; chronic disease management experience; and health care access. In order to efficiently and respectfully collect data in the five areas of interest, the planning team established two guiding principles in survey design: (1) the instrument would only include data elements relevant to the area of interest and (2) each element would be filtered through a trauma-informed lens.

The instrument was constructed to flow conversationally in an interview format with the intention that interviewers would create a comfortable dialogue with respondents. Questions were read aloud to respondents and answers were recorded on the instrument by the interviewer. Respondents were informed that they could refuse to answer any question and that they could stop the interview at any time.

HCHN attached a unique identifier to each completed survey comprised of the first two letters of the first and last name of the respondent, as well as their date of birth. This identifier was used to help identify duplicates during the data analysis phase. The complete survey instrument along with interviewer instructions may be found in Appendix A.

Demographic information: HCHN limited its demographic data collection to date of birth, gender, race, ethnicity, and current sleeping location. Gender and race questions were open-ended to gather rich qualitative data on identity construction within this population. Sleeping location was asked using open-ended construction as well, and interviewers were trained to encourage respondents to list all of the sleeping locations they had used recently. Figure 2 provides excerpts from the needs assessment instrument related to demographic information.

Figure 2: Demographic questions, HCHN 2013 CNA instrument

22. Where are you staying now? _____

25. What gender do you identify yourself as? _____

26. Which category best describes your race? _____

27. Are you of Hispanic, Latino or Spanish origin? NO ☐ YES ☐

Risk & Prevalence: HCHN adapted the widely used self-report risk assessment tools from the American Diabetes Association and the American Heart Association for use in the 2013 community needs assessment. The original tools can be found in Appendices B and C. Complex sentences were broken into component parts for ease of communication. Questions numbered 4., 5., 6., 8., 9., 10. in Figure 3, for example, are questions that are part of longer constructions in the original risk assessment tools.

Questions from the American Diabetes & Heart Associations risk assessment tools related to gestational diabetes and physical activity were not used due to perceived challenges in collecting high quality data on these measures given the resources available.

The risk assessment questions regarding prevalence of chronic disease were used without amendment in the HCHN community needs assessment. Prevalence-related questions are found in questions numbered 7., 11., 12., also shown in Figure 3.

Figure 3: Risk & Prevalence questions, HCHN 2013 CNA instrument

4. Did your mother have diabetes? DK ☐ NO ☐ YES ☐
5. Did your father have diabetes? DK ☐ NO ☐ YES ☐
6. Did your sister or brother have diabetes? DK ☐ NO ☐ YES ☐
7. Have you ever been told you have diabetes? Borderline ☐ DK ☐ NO ☐ YES ☐
8. Did your mother have: high blood pressure, (heart attack, heart disease, or stroke)? DK ☐ NO ☐ YES ☐
9. Did your father have: high blood pressure, (heart attack, heart disease, or stroke)? DK ☐ NO ☐ YES ☐
10. Did your sibling have: high blood pressure, (heart attack, heart disease, or stroke)? DK ☐ NO ☐ YES ☐
11. Have you ever been told you have high blood pressure? (Or ever had a heart attack or stroke)? Borderline ☐ DK ☐ NO ☐ YES ☐
12. Have you ever been told your cholesterol is a problem? DK ☐ NO ☐ YES ☐
13. Do you smoke tobacco? NO ☐ YES ☐
14. Do you know how tall you are? _____
15. Do you know your weight? _____

Chronic Disease Management: Those respondents who indicated that they had been told by a doctor that they have diabetes, high blood pressure, or high cholesterol, were asked an additional set of questions related to their management of those conditions. HCHN sought to capture what respondents understood about disease management and how often it was being addressed by the provider they last saw. Respondents were also asked if they had been prescribed medication for their illness (diabetes, high blood pressure, high cholesterol), and if so, they were asked for more information about medication compliance and management.

All respondents were asked about the things they do each day to manage their stress and about physical activities they would enjoy participating in if they were offered in the day center location they visited. Figure 4 includes all questions related to chronic disease management from the needs assessment instrument.

Figure 4: Chronic disease management questions, HCHN 2013 CNA instrument

18. The last time you saw your health care provider, did s/he talk about the things you can do to manage your illness?

(high blood pressure, high cholesterol, diabetes)

a. (if yes)

i. What things did s/he talk about?

b. (if no)

i. Do you know the kinds of things you can do to manage?

19. Has anyone ever told you, you should be taking medication for your illness (diabetes, high blood pressure, high cholesterol)? NO ☐ YES ☐

a. (If yes)

i. Did you take those medicines today? Some ☐ NO ☐ YES ☐

1. (if Yes) For some people taking medication is kind of hard, how 's it going for you?

2. (If No) What has been hard about getting or taking you medications?

23. Is there something you do every day that helps you keep in balance/manage your stress?

24. If you had 3 options for exercise or fun activities you'd be interested in doing – (any kind of movement, activity, class, equipment, practices…) What would they be?

a. _____ b. _____ c._____

Health Care Access: Respondents were asked whether they had a place where they receive regular medical care, the name of that clinic/provider, the approximate date of last visit, and the number of visits they had in the past year. Respondents were also queried regarding whether they obtained medical care anywhere else in the preceding year, and whether they had medical insurance coverage of any kind. Figure 5 provides excerpts of health care access questions from the needs assessment instrument.

Figure 5: Health care access questions, HCHN 2013 CNA instrument

16. Do you have a place you rely on for regular medical care? NO ☐ YES ☐

a. (If Yes)

i. Where do you go? (clinic/hospital name) _____

Ii. When is the last time you went for a visit? (month/year) _____

III. About how often did you go last year (times/year)? _____

Iv. Did you get medical care anywhere else last year (clinic/hospital name/ER)? _____

(if No)

i. what places have you gone in the past when you're sick? _____

17. Do you have health insurance or coverage of any kind? NO ☐ YES ☐

a. (if Yes)

i. what plan? _____

Preventive Health Screenings: Respondent 50 years or older were asked if they have had a colonoscopy (men and women), and mammogram (women only). Those questions are seen in Figure 6.

Figure 6: Preventive health screening questions, HCHN 2013 CNA instrument

AGE

(If client is 50 years old or older, born before 1963, please complete this section)

20. Have you ever been screen for colon cancer? NO ☐ YES ☐
(Prompt: colonoscopy, or checked for blood in stool)

Women Only:

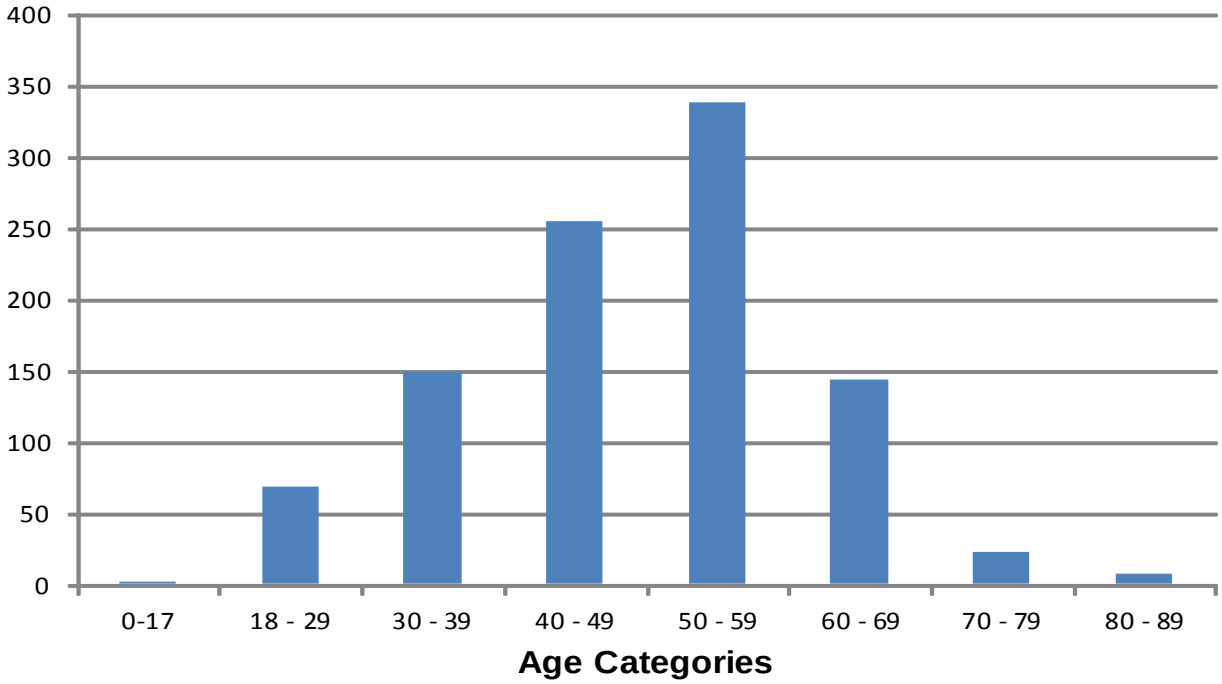
21. Have you ever had a mammogram? NO ☐ YES ☐

2013 Preliminary data discussion

HCHN interviewed 1,000 individuals, entered data into *EpiData,* and then exported to SPSS for analysis. Cases were discarded from analysis if they were identified as a duplicate or if fewer than 50 percent of fields contained data. The resulting data set includes 987 valid cases.

Age: Seventy-eight percent of respondents are 40 years of age or older. Chart 1 reflects the age distribution of HCHN's 2013 community needs assessment sample.

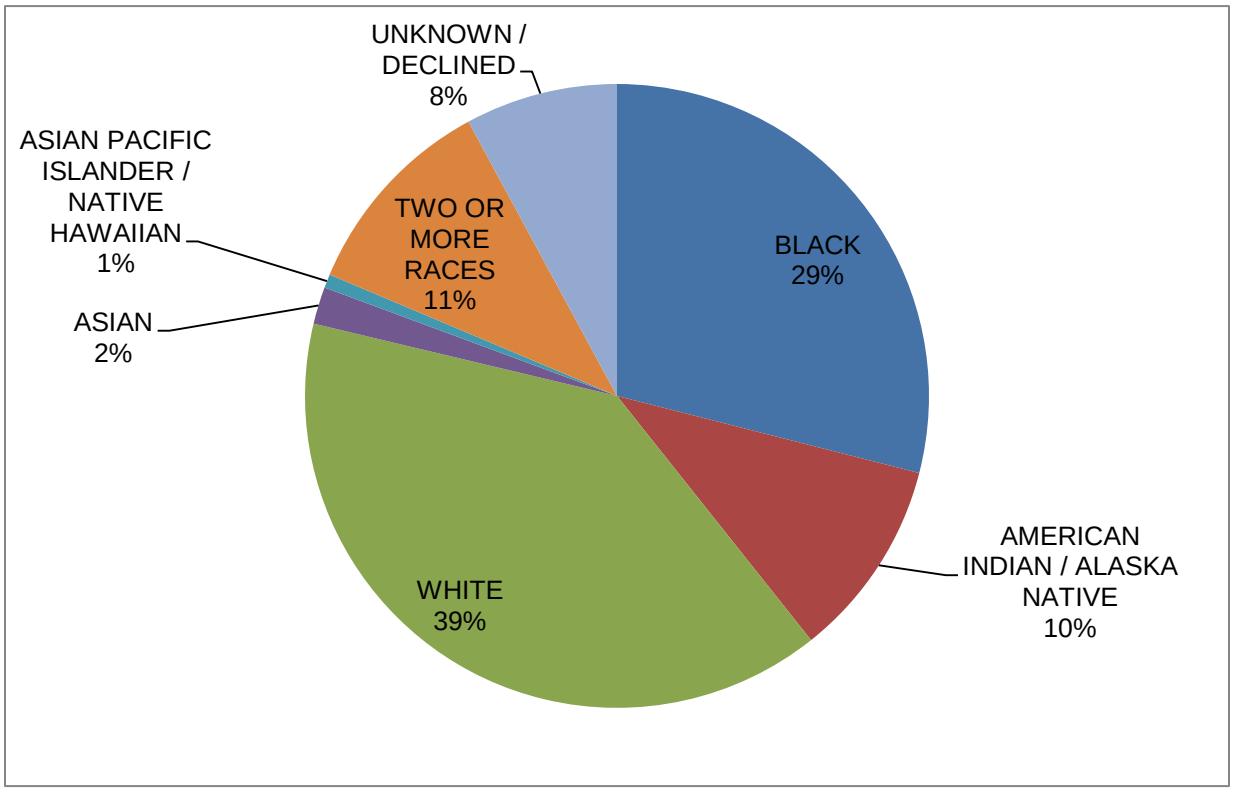
Chart 1: Age Distribution, HCHN 2013 CNA respondents



Gender: Twenty-nine percent of respondents identified as female, 69 percent identified as male and two percent identified as transgender, gender-queer, or refused to answer the question. As mentioned previously, the gender identity question was open-ended and the richness of those qualitative data was reduced to three categories for the purposes of this preliminary analysis.

Race: The 2013 community needs assessment instrument included an open-ended question "Which category best describes your race?" which allowed clients to describe their racial identity in their own words. Data were then coded into the following major race categories: American Indian / Alaska Native, Asian, Asian Pacific Islander / Native Hawaiian, Black/African American, and White as seen in Chart 2.

Chart 2: Race, HCHN 2013 CNA respondents



Ten percent of respondents identified with two or more races; the multi-racial identities of those respondents are found in Table 2.

Table 2: Multi-race identification, HCHN 2013 CNA respondents

Two race categories identified	Respondents
American Indian / Alaska Native - White	41
American Indian / Alaska Native - Black	17
American Indian / Alaska Native - Asian	5
Asian-White	4
Asian - Asian Pacific Islander / Native Hawaiian	2
Asian Pacific Islander / Native Hawaiian - White	1
Asian Pacific Islander / Native Hawaiian - American Indian / Alaska Native	1
Black - White	5
"Mixed Race" (Categories unknown, default to two categories)	2
Three race categories identified	**Respondents**
American Indian / Alaska Native - Asian - White	3
Asian - Black - White	2
Asian Pacific Islander / Native Hawaiian- American Indian / Alaska Native -White	1
Black - American Indian / Alaska Native -White	8
Black - Asian Pacific Islander / Native Hawaiian - White	1
Total number identifying with two or more race categories	**93**

Thirteen percent of respondents reported Hispanic, Latino, or Spanish origin.

Living Situation: Interviewers were instructed to gather as much detail as possible about respondents' living situation histories and to ask follow-up questions to elicit the mix of shelter types known to be used by many homeless individuals. The majority of respondents, 53 percent, listed an emergency shelter first in their living situation history response. Sixteen percent of respondents reported that they were housed at the time of interview. Anecdotally, we know that even after a homeless person finds housing, day centers continue to meet their need for community, food, services and linkages to care. Fourteen percent of respondents reported sleeping outdoors and 11 percent reported that they were in a "doubled-up" situation (an unstable living arrangement with a family member or friend). An additional 10 percent of respondents reported sleeping outdoors (including cars) as part of their mix of sleeping locations, but listed their outdoor location either second or third in their list of sleeping locations. Table 3 reflects the first living situation reported by HCHN 2013 community needs assessment respondents (secondary and tertiary living situations not reported here).

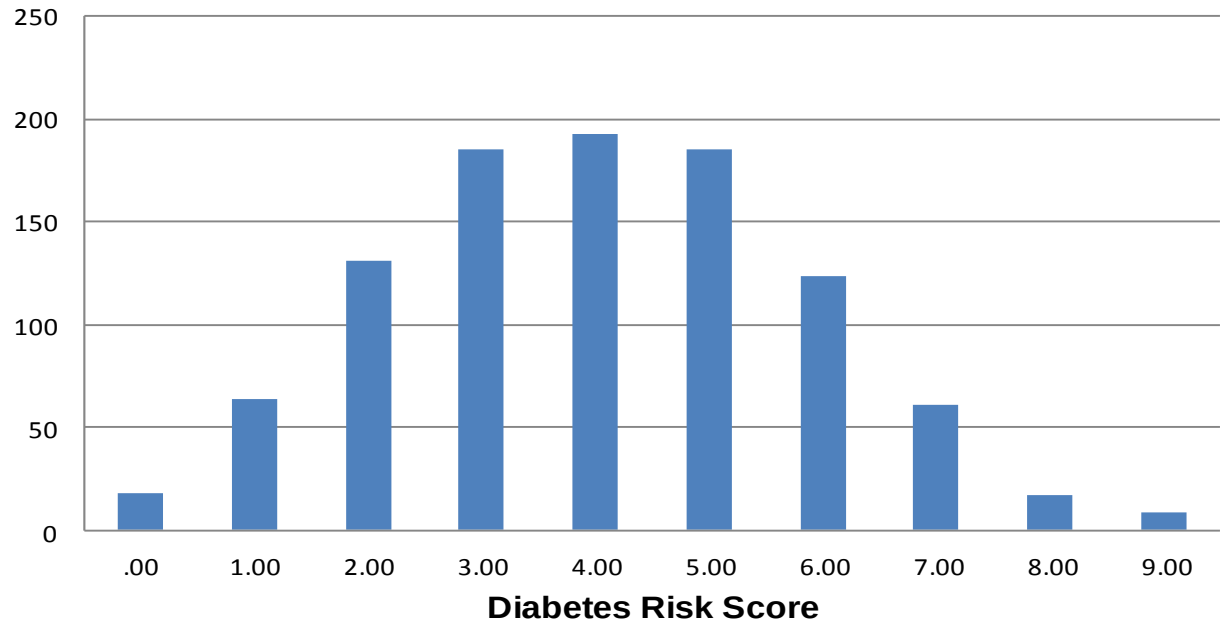
Table 3: First reported living situation, HCHN 2013 CNA respondents

Sleeping Place Category	Frequency	Percent
Car	29	2.9
Doubled Up	104	10.5
Not Homeless	158	16
Outdoors	139	14.1
Shelter	523	53
Transitional Housing	21	2.1
Unknown	13	1.3
Total	**987**	**100**

Diabetes Risk: The diabetes risk self-assessment tool includes seven measures: age, gender, gestational diabetes diagnosis/history, family history of diabetes, hypertension diagnosis, physical activity, and weight status. Age and weight status risk are assigned values from zero through three, with all other measures valued at zero or one, and the total possible risk points equaling eleven. HCHN omitted gestational diabetes risk and physical activity from the risk assessment for this survey, making a score of nine the maximum risk score for sample respondents.

A risk score of four on the American Diabetes Association risk assessment tool indicates high risk for having type two diabetes (Bang, et al., 2009). Sixty percent of HCHN community needs assessment respondents had a risk score of four or higher. Considering the HCHN truncated scoring due to the omission of two risk questions the actual percentage of the population at risk is likely even higher than 60%.

Chart 3: Diabetes risk distribution in HCHN 2013 CNA sample



To better understand the overlap between respondents who have high risk scores and those who reported being told by their doctor that they have diabetes, it is helpful to look at a cross tabulation of these two variables. In Table 4, total diabetes risk scores are displayed in rows and respondent diabetes diagnosis (Yes/No) is displayed in columns. Of the roughly 800 respondents who report they have not been told they have diabetes, 56 percent (449 individuals) have a risk score of four or higher. Considering the barriers to care that homeless individuals experience and the high risk scores of people who report that they have not been told they have diabetes, we expect the actual prevalence of diabetes within the population to be higher than the 18% found in the sample.

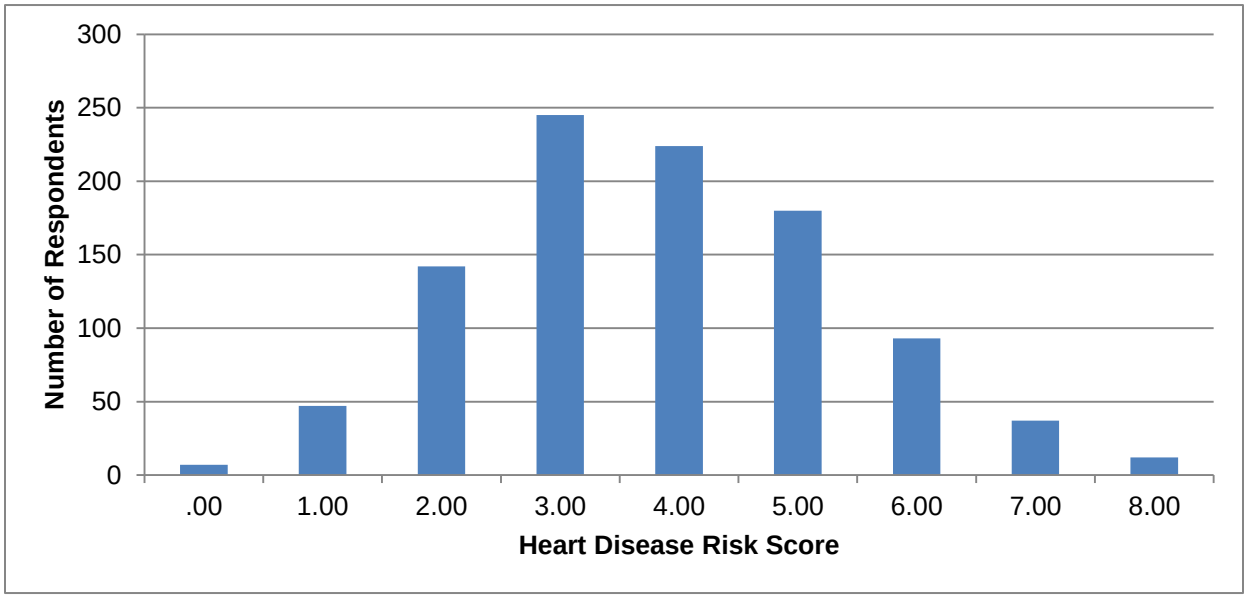
Table 4: Total diabetes risk and respondent diabetes diagnosis, cross tabulation

	Diabetes Diagnosis		
Diabetes Risk Score	**No**	**Yes**	**Total**
.00	17	1	18
1.00	59	5	64
2.00	121	10	131
3.00	161	24	185
4.00	164	29	193
5.00	145	40	185
6.00	97	27	124
7.00	32	29	61
8.00	7	10	17
9.00	4	5	9
Total	**807**	**180**	**987**

Heart Disease Risk: The American Heart Association risk assessment tool includes the following nine measures: age, family history of heart disease or diabetes, race/ethnicity, diabetes diagnosis, tobacco use, hypertension, hyperlipidemia, obesity, and inactivity. Each risk measure is valued at zero or one and the total possible risk score is nine. HCHN omitted 'inactivity' from its risk assessment due to perceived difficulty in collecting high-quality data for this measure, thus the HCHN community needs assessment maximum risk score for heart disease is eight.

In the American Heart Association risk assessment, presence of one risk factor indicates a risk for heart disease that is two times the risk of a person who has no risk factors. However, due to the multiplier effect, presence of three risk factors indicates that an individual's risk for heart disease is *ten* times higher than a person who has no risk factors for the disease. Chart 4 displays the heart disease risk factor distribution in the HCHN 2013 community needs assessment sample. Over 80 percent of respondents have three or more risk factors for heart disease.

Chart 4: Heart disease risk distribution in HCHN 2013 CNA sample



In Table 5, total heart disease risk scores are displayed in rows and high blood pressure diagnosis (Yes/No) is displayed in columns. Seventy percent (390 individuals) of respondents who reported that they do not have high blood pressure have three or more risk factors for heart disease, which means that they are ten times more likely to have heart disease than someone with zero risk factors.

Table 5: Total heart disease risk and hypertension diagnosis, cross tabulation

	High Blood Pressure Diagnosis		
Heart Disease Risk Score	**No**	**Yes**	**Total**
0	7	0	7
1	44	1	45
2	112	6	118
3	154	50	204
4	119	84	203
5	74	98	172
6	29	89	118
7	10	61	71
8	4	26	30
9	0	12	12
10	0	6	6
11	0	1	1
Total	**553**	**434**	**987**

Table 6 summarizes the percentage of community needs assessment respondents who smoke, have high blood pressure, high cholesterol, or diabetes, all of which are characteristics for which national comparisons of adults in the general population are available.

Table 6: Prevalence summary, HCHN CNA sample, general population

Risk factor	HCHN respondent prevalence	General population prevalence
High blood pressure	44%	32%[1]
High cholesterol	26%	13%[2]
Diabetes	18%	11%[3]
Tobacco use	69%	19%[4]

[1] http://www.cdc.gov/nchs/fastats/hyprtens.htm
[2] http://www.cdc.gov/nchs/data/databriefs/db92.htm
[3] http://www.cdc.gov/diabetes/consumer/research.htm
[4] http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm

Access: Respondents were asked if they had health coverage of any kind at the time of interview. Thirty-five percent of respondents reported having Medicaid coverage, 10 percent reported having both Medicaid and Medicare, 11 percent reported having Medicare only, and four percent reported having Veterans Administration coverage. Thirty-seven percent of respondents reported having no health coverage at all. The remaining three percent reported a mix of private and other public health coverage.

Table 7: Medical Insurance Coverage Type

Insurance Coverage Type	Number of respondents	Percent
None	363	37
Medicaid	349	35
Medicare	106	11
Medicaid/ Medicare	99	10
Veterans Administration	44	4
Other/ Private	26	3
Total	**987**	**100**

When respondents were asked if they have a place they rely on for regular medical care, 71 percent responded affirmatively. When asked where they receive care, 58 percent responded with the name of a community health center, public health clinic, the VA, or other places where primary care is likely to be offered. Of those respondents who reported receiving care at a location where primary care is offered, one-third also reported one or more emergency departments as another place they regularly receive care.

Twenty-four percent of respondents did not have a place where they receive medical care, fourteen percent listed an emergency department as their primary source of medical care, and four percent listed a shelter, meal site, or other place that likely does not offer primary care as the place they receive care. Table 8 summarizes the places respondents reported receiving care.

Table 8: Place respondent receives medical care

Where do you go for medical care?	Number of respondents	Valid Percent
Place where primary care is likely offered	573	58
Emergency department	138	14
Other	42	4
No place reported	234	24
Total	**987**	**100**

Risk, Prevalence, and Access: Of the 234 individuals (24 percent of respondents) who reported that they had not received medical care at all in the past year, 170 (71%) have a heart disease risk score of three or higher, which is 10 times the risk of a person who has no risk factors; 42 percent have a diabetes risk score of four or higher which puts them at high risk for undiagnosed diabetes.

Cancer screenings: High quality self-report data of both the timing and type of colon cancer screenings was deemed unlikely given the resources available for this needs assessment and the population of interest. The 2013 CNA required interviewers to ask respondents age 50 and older if they had ever had a screening for colon cancer by colonoscopy or fecal occult blood test. Forty-four percent of male respondents and 56 percent of female respondents in this age category had received colon cancer screening at the time of interview. The Center for Disease Control reports that the National Health Interview Survey, 2010, found the overall screening rates for the U.S. population overall is around 59 percent (Centers for Disease Control and Prevention, 2012), however, the national data collect much more detailed information regarding timing and type of screening, thus direct comparison must be done with caution.

In 2010, 73 percent of women in the U.S. ages 50 to 74 had had a mammogram within the past two years (Centers for Disease Control and Prevention, 2012). Of the 142 female respondents age 50 or older, 77 percent reported ever having had at least one mammogram. HCHN community needs assessment respondents were not asked about the date of their last mammogram so direct comparison with national breast cancer screening rates are not appropriate. However, HCHN finds it noteworthy that the breast and colon cancer screening rates are as high as they are given the barriers to health care access within this population.

Conclusions and next steps

Health care providers, planners, and policymakers know that promoting health in the homeless population presents a formidable challenge at the individual and population level. The stress of poverty, co-occurring conditions such as mental illness and chemical dependency, and trauma, compounded with homelessness, speeds the onset and exacerbates the symptoms of many chronic diseases. Locally, there is still minimal understanding of the population-level health status of homeless individuals, and even less is known about users of homeless day center services as a sub-group that may be the least engaged in health services. The results of the preliminary analysis of the HCHN 2013 community needs assessment indicate that of the 987 individuals for whom complete data could be analyzed, almost 700 smoke tobacco, over 600 are not maintaining a healthy weight, more than 400 have high blood pressure, and almost 200 are diagnosed diabetics. These results indicate a clear demand for intervention and prevention. Tobacco use, weight, diet and exercise are risk factors that can be addressed by collaborations between Public Health, homeless service providers, and funders whose respective interests could align to benefit homeless individuals already on the path of unmanaged chronic disease.

Further analysis of these data must be done to examine the chronic disease management issues of those who have been diagnosed with high blood pressure, high cholesterol, or diabetes, and to learn more about the kind of support homeless people may need. Additionally, analysis of the stress management practices and activity interests of respondents could provide planners and service providers with ideas for interventions that would be welcomed by this population.

As health systems in Washington state begin to shift in 2014 with the implementation of the Affordable Care Act and expansion of Medicaid, Public Health - Seattle & King County's Health Care for the Homeless Network (HCHN) hopes this needs assessment will both inform community stakeholders within the homeless services industry of the shockingly high risk and prevalence of chronic disease currently afflicting the adult homeless day center population and motivate action toward better integration of health promotion in all facets of homeless service delivery.

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Appendix A: HCHN 2013 Community Needs Assessment Instrument

Health Care for the Homeless
Community Needs Assessment
2013

Hi. My name is _____ and I'm a volunteer with the Health Department. We want to know more about chronic health conditions that people here might have.

If you are interested in talking with me for a little while about your health, family history of heart disease and diabetes, and a little bit about your access to medical care, we are able to offer you a $5 gift card to Bartell's to thank you for your time.

This should take about 20 minutes or so. Would you like to start now?

☐ YES ☐ NO, Stop Interview

- **We will record just the first two letters of your first name, and the first two letters of your last name—and your Date of Birth.**

☐☐	☐☐	☐☐	☐☐	☐☐
First	Last	Birth Month	Birth Day	Birth Year

1. What is your first name? (Enter first two letters in boxes above)
   a. What do you like to be called?
2. What are the first 2 letters of your last name? (Enter first two letters in boxes above)
3. What is your date of birth? (Enter MM/DD/YY in boxes above) (Born before 1963?) NO ☐ **YES** ☐ Complete AGE section

- **Next I'll ask about your history and your family history with diabetes and heart disease. If you don't know an answer it's okay to say "Don't Know".**

4. Did your mother have diabetes? DK ☐ NO ☐ YES ☐
5. Did your father have diabetes? DK ☐ NO ☐ YES ☐
6. Did your sister or brother have diabetes? DK ☐ NO ☐ YES ☐
7. Have you ever been told **you** have diabetes? **Borderline** ☐ DK ☐ NO ☐ **YES** ☐ Complete DX section
8. Did your mother have: high blood pressure, (heart attack, heart disease, or stroke)? DK ☐ NO ☐ YES ☐
9. Did your father have: high blood pressure, (heart attack, heart disease, or stroke)? DK ☐ NO ☐ YES ☐
10. Did your sibling have: high blood pressure, (heart attack, heart disease, or stroke)? DK ☐ NO ☐ YES ☐
11. Have you ever been told **you** have high blood pressure? (OR ever had a heart attack or stroke)? **Borderline** ☐ DK ☐ NO ☐ **YES** ☐
12. Have you ever been told your cholesterol is a problem? DK ☐ NO ☐ **YES** ☐ Complete DX section
13. Do you smoke tobacco? NO ☐ YES ☐
14. Do you know how tall you are? _____
15. Do you know your weight? _____

- **In this next section I want to ask some questions about where you go when you're sick.**

16. Do you have a place you rely on for regular medical care? NO ☐ YES ☐
    a. **(If Yes)**
       i. Where do you go? (clinic/hospital name)_____
       ii. When is the last time you went for a visit? (month/year)_____
       iii. About how often did you go last year (times/year)? _____
       iv. Did you get medical care anywhere else last year (clinic/hospital name/ER)? _____
    b. **(If no)**
       i. What places have you gone in the past when you're sick? _____
       _____
17. Do you have health insurance or coverage of any kind? NO ☐ YES ☐
    a. **(If Yes)**

i. What plan? _____

DX

18. The last time you saw your health care provider, did s/he talk about the things you can do to manage your illness? (high blood pressure, high cholesterol, diabetes)
    a. **(If yes)**
        i. What things did s/he talk about?

        (**prompts**: insulin **s**alt stress mgmt. oral meds monitoring with strips feet exercise lose weight diet)

    b. **(If no)**
        i. Do you know the kinds of things you can do to manage?

19. Has anyone ever told you *you* should be taking medication for your illness (diabetes, high blood pressure, high cholesterol)? NO ☐ YES ☐
    a. **(If Yes)**
        i. Did you take those medicines today? Some ☐ NO ☐ YES ☐
            1. (If Yes)
                a. For some people taking medication is kind of hard, how's it going for you?

            2. **(If No)**
                a. What has been hard about getting or taking your medications?

    b. **(If NO) No one has told respondent they should be taking medication, skip to next section)**

AGE

(If client is 50 years old or older, born before 1963, please complete this section)

- **It has been recommended that people over 50 be screened for colon cancer and breast cancer.**

20. Have you ever been screened for colon cancer? NO ☐ YES ☐
    (Prompt: colonoscopy, or checked for blood in your stool)

- **Women Only:**

21. Have you ever had a mammogram? NO ☐ YES ☐

- **Next I want to ask about your living situation and the things you do to manage your stress.**

22. Where are you staying now? (record as much detail as provided, building name, shelter name, colloquial name, street location, all OK, multiple locations expected—please capture as much detail as possible)

23. Is there something you do every day that helps you keep in balance/manage your stress?

24. If you had 3 options for exercise or fun activities you'd be interested in doing—(any kind of movement, activity, class, equipment, practices…)What would they be?

    a. _____ b. _____ c. _____

- **I just have 3 more questions that I have to ask. We ask about gender because we don't like to make any assumptions. We ask about race and ethnicity because some races and ethnic groups have a higher chance of having diabetes or hypertension.**

25. What gender do you identify yourself as? _____

26. Which category best describes your race? _____

27. Are you of Hispanic, Latino, or Spanish origin? NO ☐ YES ☐

28. Is there anything you'd like me to know about your health or about services that would help you manage your health better? **(Offer FYI Card if response is longer than space allows)**

Appendix B: American Diabetes Association Risk Self-Assessment Tool

Table 1 The Self-Assessment Screening Score

Question	Answer *(Score)*	Enter Your Score *(Enter 0 If You Don't Know)*
1. How old are you?	• <40 years *(0 point)* • 40–49 y years *(1 point)* • 50–59 years *(2 points)* • ≥60 years *(3 points)*	
2. Are you a woman or man?	• Woman *(0 point)* • Man *(1 point)*	
3. Do your family members (parent or sibling) have diabetes?	• No *(0 point)* • Yes *(1 point)*	
4. Do you have high blood pressure or are you on medication for high blood pressure?	• No *(0 point)* • Yes *(1 point)*	
5. Are you overweight or obese? *(see definition below to answer this question more accurately)*	• Not overweight or obese *(0 point)* • Overweight *(1 point)* • Obese *(2 points)* • Extremely obese *(3 points)*	
6. Are you physically active?	• No *(0 point)* • Yes *(-1 point)*	
TOTAL SCORE *(add points from questions 1–6)*		

If your TOTAL SCORE is ≥4, you are at high risk for undiagnosed diabetes or prediabetes.

If your TOTAL SCORE is ≥5, you are at high risk for undiagnosed diabetes.

See your doctor for a blood test to look for diabetes if your score is high.

Obesity definition: If (BMI ≥ 40 kg/m^2) or (waist ≥ 50 in for man) or (waist ≥ 49 in for woman) then extremely obese; Else if (30 kg/m^2 ≤ BMI < 40 kg/m^2) or (40 in ≤ waist < 50 in for man) or (35 in ≤ waist < 49 in for woman) then obese; Else if (25 kg/m^2 ≤ BMI < 30 kg/m^2) or (37 in ≤ waist < 40 in for man) or (31.5 in ≤ waist < 35 in for woman) then overweight; Else not overweight or obese.

Source: Adapted from: Bang H, et al. *Ann Intern Med.* 2009;151:775-783.

Appendix C: American Heart Association Risk Self-Assessment Tool

Risk factors that you cannot control:

Yes	No	
□	□	Increasing age For men: are you over age 45? For women: are you post-menopausal or over age 55?
□	□	Heredity (Including race) Does anyone in you immediate family have a history of heart disease or diabetes?
□	□	Are you black American or Latino American?

Risk factors that you can control[1,2]:

Yes	No	
□	□	Do you have diabetes?
□	□	Do you smoke?
□	□	High blood pressure Is your blood pressure140/90 mmHg or higher? (normal is below 120/80 mmHg)
□	□	High cholesterol Is your total cholesterol over 200?
□	□	Obesity Are you 30 pounds or more over your recommended weight? For men: is your waist measurement greater than 40 inches? For women: is your waist measurement greater than 35 inches?
		Inactivity
□	□	Do you exercise less than three times per week?

1.American Heart Association, Heart Disease and Stroke Statistics 2009 Update. Available at www.americanheart.org
2.U.S. Department of Human Services, National Institute for Health & National Heart Lung & Blood Institute. "Your Guide to aHealthy Heart"NIH Publication No: 06-5269, November 2005. Available at www.nhibi.nih.gov
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