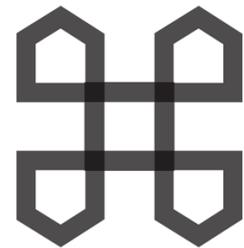


Measuring the Impact of Envision Community

Rough draft for community review and improvement
Version 8.4.2020



ENVISION

COMMUNITY

The main goal of our research:

Investigate how Envision Community can help empower people to live their healthiest lives



Homelessness destroys health. Coming off the streets and living in stable housing should improve health. We seek to learn if this hypothesis is true for the residents at Envision Community and what are the details behind it. What specific aspects of health improve? What parts of Envision seem to be the most beneficial? Is it the housing or the community that provides the most impact? Does any of this matter to Envision's residents? What is their measure of success? What is their measure of improved health?

This is **NOT** traditional research...

At Envision, the residents are equal partners in the research process



Traditional non-community-based research does not fully engage affected people or communities. Not only does this approach miss vital information by not including the community stakeholders, it also de-values their lived experience and knowledge. This method for research can lead to communities feeling like “lab rats” contributing to research fatigue and less willingness to contribute. Community-based participatory research addresses these strains on relationships by prioritizing collaborative partnerships guided by shared-values with communities and stakeholders. Research methods and measures are directed by the community to research what is meaningful and important to them. The reciprocal relationship allows for better use of scarce resources and more actionable results. The combined knowledge of communities and researchers create actionable change to improve health.

Envision Community uses Community-Based Participatory Research and Human-Centered Design principles to co-design the project with public health, healthcare and community organization representatives. The process follows a plan, do, study, act pattern where Envision community members are at the center of decision-making. A diverse group of stakeholders, including but not limited to residents, clinicians, healthcare leaders, health plans, public officials, policy thought leaders, healthcare innovates, were thoughtfully engaged in the process.

This is **NOT** traditional research...

Because we will constantly improve *during the research*



Including residents in the research changes researchers' roles as well. Traditionally, researchers observe people or communities and then share their results at the end. However, at Envision, residents and researchers will be constantly learning from their results and continually improving the community. Human-Centered Design (HCD) uses an iterative process that allows immediate implementation for improvement.

HCD is particularly useful for underserved populations because many of their needs may be overlooked through traditional approaches and by involving the help of the community, outcomes are more effective and useful (Doolittle, 2017). Prior studies have found that HCD also encourages immersion in the community to deepen empathy and allows teams to develop a more balanced view as a result of dedicating more time in the understanding and ideation phases (Vechakul, 2015). In a study that designed a screening tool to assess primary care women's health, women provided insight into their personal experiences with screenings to create a better product that suits their needs and comfort level (Foley, 2019).

Predictors of Success – Community Research



We expect the measurement of the community's priorities will work at Envision because it has worked well in other housing interventions and health education programs. Dignity Village is a self-governed intentional community in Portland, Oregon. Emerging from a former tent community, Dignity Village is a nonprofit with a council of nine residents elected to govern in the community. On any night they house up to 60 people ("In a tiny house village, Portland's homeless find dignity," n.d.). A participatory research project focused on mobilizing community engagement was able to help the community create an orientation video and identify barriers to community participation (Hoffman et al. 2017). Although it is not a housing project a community-based participatory research project was used to develop an oral health education program for low-income Black men. After people participated in the program there was significant increases in their correct answers for dental hygiene and knowledge test (Mosher 2010).

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We know Envision works when...

We do well on the measures that matter to residents at Envision Community



Our group began investigating housing and health measures that matter to people with lived experience of homelessness and we have written a draft of this work titled, *Proposal for Longitudinal Program Evaluation of Envision Community*. Below is the abstract for this proposal:

Objective: The goal of this project is to evaluate a novel micro-housing project called “Envision Community” using a set of outcome measures developed in partnership with stakeholders that reflect broad social interests and political expectations.

Methods: A program evaluation informed by principles of community-based participatory research (CBPR) seeks to survey and assess multiple stakeholders using patient-reported and clinical outcomes. Programmatic goals being assessed include: reintegration into community, perceptions of safety, self-efficacy, perceptions of responsibility and collective action, use of services, health outcomes, health care utilization, community engagement, interpersonal communication, and independence.

Participants: Individuals living in Envision Community, care providers, city officials, community members, police, and Envision Community management.

Findings from this work: will demonstrate the efficacy of this intentional community to meet expected goals and proposed outcomes. The evaluation will answer whether or not Envision Community achieved programmatic expectations as defined by residents and other community members. Health outcomes and health care utilization data will show changes in health and health care access over time and will give project backers a better understanding of how this intentional community model influenced resident attitudes and behaviors. Addressing changes in these over time will characterize the practical, ethical, professional, and organizational demands associated with intentional communities to inform future housing initiatives with similar goals.

Please see our website to find the full document: *Proposal for Longitudinal Program Evaluation of Envision Community*.

We know Envision works when...

The physical health of our residents improves



People experiencing homelessness have a higher disease burden than people with housing (Bharel et al., 2013). They are more likely to report poor health limiting daily activities in the past month (Stahre, VanEenwyk, Siegel, & Njai, 2015). The most common chronic diseases among people experiencing homelessness are diabetes mellitus, hypertension, and asthma or COPD (Bharel et al., 2013; Schanzer, Dominguez, ShROUT, & Caton, 2007). Hepatitis C (HCV), HIV and liver conditions are also prevalent at high levels (Bharel et al., 2013; Lebrun-Harris et al., 2013). Around one quarter of people with housing instability also faced food insufficiency, meaning they sometimes or often did not get enough to eat (Lebrun-Harris et al., 2013). Housing instability is also associated with lower diet quality, such lower vegetables with lower nutrient value (Housing Instability and Poor Diet, n.d.). The combined factors such as sun exposure, smoking, and alcohol use, of homelessness also put people at higher risk for cancer (Schanzer et al., 2007; Stahre et al., 2015).

Physical Health Measures



Self-Rated Health

The RAND 36-Item Health Survey was created for researchers and health practitioners to more accurately measure perceived health. The 36 items in the questionnaire measure eight health concepts: physical function, bodily pain, role limitations due to physical health problems, role limitations due to person or emotional problems, emotional well-being, social functioning, energy/fatigue and general health perceptions. The first step in scoring the survey is recoding the original survey answers to their given values (higher numbers indicate more favorable health). The scores for each of the eight categories are then averaged together. In addition to measuring current perceived health status, the 36-Item Health Survey will measure health change over time (Monica & California 90401-3208, n.d.).

Sample Survey: https://www.rand.org/health-care/surveys_tools/mos/36-item-short-form/survey-instrument.html

Sample Analysis: https://www.rand.org/health-care/surveys_tools/mos/36-item-short-form/scoring.html

Weight Control

Obesity and weight control will be measured using the Body Mass Index (BMI). BMI is calculated by dividing a person's weight by their height, using kilograms and meters as units. BMI will be classified in three categories: 30-34, 35-39, and 40 or higher. To give context to have a BMI of 40 a woman who is 5 feet 4 inches would weigh 233 pounds. (Sanbonmatsu et al., 2012).

Physical Limitations

As mentioned in the Self-Rated health measures, the RAND 36-Item Health Survey consists of 10 questions related to physical functioning. Physical functioning questions ask whether a participant's health has limited their ability for vigorous activity, moderate activity, carrying groceries, climbing stairs, bending or kneeling, walking and bathing or dressing. Similar to other measures, the answers are scored and translated into a number to be averaged. The higher the average the less physical limitations someone experiences. (Monica & California 90401-3208, n.d.).

Physical Activity

International Physical Activity Questionnaire (IPAQ) is an established and validated measure for self-reported physical activity. The survey will ask participants about their physical activity in the last 7 days as it relates to their job, transportation, housework maintenance or caring for family, recreation or leisure, and time spent sitting during weekdays. Physical activity is classified as vigorous or moderate (Craig et al., 2003).

Healthy Diet

Rapid Eating and Activity Assessment for Participants Short Version (REAP-S) is a 13-item

survey designed to assess food intake and lifestyle factors in clinical and research settings. It was intentionally designed for people with lower literacy levels to assess fat, cholesterol, fiber, sugar and other select food groups. REAP-S has been found to produce similar results as larger survey methods across different types of diets (i.e. vegetarian, vegan), showing that it can be a useful tool for monitoring diet habits over time. REAP-S is completed using the previous week's food intake. Responses are scored as "usually/often" receive 1 point, "sometimes" receives 2 points and "rarely/never" or "does not apply to me" receives 3 points. Possible points range from 13 to 39 with higher points indicating a higher quality diet (Johnston, Bliss, Knurick, & Scholtz, 2018; Segal-Isaacson, Wylie-Rosett, & Gans, 2004).

Sleep Hygiene

A 3-question survey has been shown to measure sleep quality and duration almost as accurately as actigraphical methods, which monitor motor activity of participants 24 hours a day. The three questions used were:

- How many hours of sleep on work [/non-work] days do you usually get?
 - Do you generally consider yourself to be a good sleeper?
 - Do you fall asleep easily and sleep soundly?
- (Girschik, Fritschi, Heyworth, & Waters, 2012)

Diabetes

Diabetes prevalence and treatment will be measured using survey questions and electronic medical records (EMR). Additionally, blood samples were taken to measure glycosylated hemoglobin (HbA1c), or the average glucose level in the blood. HbA1c higher than 6.5 percent can be an indication of diabetes by the American Diabetes Association. Blood samples were taken because many people are unaware of diabetes if they haven't been diagnosed.

High Blood Pressure

Blood pressure will be measured by averaging two automated cuff readings. An individual will be considered hypertensive (high blood pressure) if they have 140 millimeters of mercury (mmHg) or higher systolic and 90 mmHg or higher diastolic. (Chobanian et al., 2003).

Predictors of Success – Physical Health



Housing people who are experiencing homelessness is known to improve a person's health (Walsh). Housing has been shown to be effective in improving the health of people with HIV as well as diabetes. People with housing were more likely to receive diabetic prescriptions and had a decreased risk of developing diabetes compared to people with unstable housing (Lim et al.). A study also found a decrease in rates of high blood pressure after people received housing (Schanzer et al., 2007). Most studies analyze mental health and substance use, specifically showing gaps in literature that Envision will contribute to. In people who found housing decreased podiatric dental visual complaints

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We know Envision works when...

The mental health of our residents improves



People experiencing homelessness not only experience a higher burden of physical health issues, but their mental health is affected as well. Sixty-eight percent of people experiencing homelessness have reported psychological distress, compared to 41 percent of people with housing; however, the burden of mental illness before experiencing homelessness is not associated with duration of homelessness (Lebrun-Harris et al., 2013; Schanzer et al., 2007). Additionally, over 50% of people experiencing homelessness have reported life-time anxiety, which could be worsened by the situations leading to homelessness (i.e. home foreclosure) (Lebrun-Harris et al., 2013; Schanzer et al., 2007). After experiencing homelessness for the first time, 33 percent of people in a New York study were diagnosed with major depression after 18 months (Schanzer et al., 2007). People experiencing homelessness and living on the streets or in the shelter system are more likely to experience trauma, which can negatively impact psychological well-being for years afterward (Walsh, n.d.). Interestingly homeless individuals were more likely to report needing mental health services, despite being more likely to receive treatment or counseling compared to stably housed people (Lebrun-Harris et al., 2013).

Mental Health Measures



Self-Rated Mental Health

The RAND 36-Item Health Survey contains 10 different items within three categories that will be used to measure the mental health of Envision residents: role limitations due to emotional problems, emotional well-being, and social functioning. Similar to the physical health questions the answers will be rescored accordingly and then averaged. A higher score indicates better health.

Psychological Distress

To assess adult mental health outcomes, we used responses on the survey and the structured diagnostic interview within the survey. We measured psychological distress with the Kessler 6 scale (K6), which consists of questions about sadness, nervousness, restlessness, hopelessness, feeling that everything is an effort, and feelings of worthlessness (Kessler et al., 2003). The raw scores from the K6 can range from 0 (no distress) to 24 (highest level of distress). (Kessler et al., 2003)

Depression

We measured major depressive disorder using the PHQ-9. The PHQ-9 is a modified version of the Patient Health Questionnaire focusing on depression diagnosis. It consists of 9-items rated on a Likert scale (not at all, several days, more than half the days, nearly every day).

Sample questions include:

- Over the last 2 weeks, how often have you been bothered by any of the following problems?
 - Little interest or pleasure in doing things
 - Feeling down, depressed, or hopeless

A person is considered to have major depression if 5 or more of the symptoms have been present at least “more than half the days” and one symptom is depressed mood or anhedonia. Additionally, if two to four of the depressive symptoms have been present “more than half the days” and one is depressed mood or anhedonia then other depression can be considered the diagnosis. If “thoughts that you would be better off dead or of hurting yourself in some way” is checked then a depression diagnosis is given, no matter other results. Severity scores are calculated by summing the question answers, given values 0 to 3. Values can range from 0 to 27 (Kroenke, Spitzer, & Williams, 2001)

Predictors of Success – Mental Health



For people with mental illness, the best treatment to start is housing. Housing First policies and programs have found to house people with mental illness more nights than other programs. A study had 84% of participants with mental illness remain in their Housing First project after one year (Pearson, Montgomery, & Locke, 2009; Kerman, Sylvestre, Aubry, & Distasio, 2018). According to a Minnesota-based report by the Wilder Foundation, quality housing leads people to feel safer, which may provide a foundation towards improved mental health (Nelson-Dusek et al., 2017). Particularly, it was reported that older adults, 50 years and older, had fewer depressive symptoms after they had found housing (Nelson-Dusek et al., 2017).

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We know Envision works when...

The oral health of our residents improves



Oral health is a significant predictor of overall health, acting as a predictor for other health issues (“Basics | Division of Oral Health | CDC,” 2019). Adults and Children in poverty and experiencing homelessness are more likely to have tooth decay, untreated disease, and dental pain and less likely to receive proper dental care than people with higher incomes or stable housing (Chiu, DiMarco, & Prokop, 2013; DiMarco, Huff, Kinion, & Kendra, 2009). The mobility and lack of permanent address for people experiencing homelessness makes obtaining insurance coverage and follow-up difficult, especially for dental appointments (DiMarco et al., 2009). African American, non-White Hispanic and Indigenous/Native American children are at a significantly higher risk than their white counterparts (“Dental caries and childhood obesity: Roles of diet and socioeconomic status” Marshall 2007” Community Dentistry and Oral Epidemiology” Wiley Online Library,” n.d.) (See Zotero for another source)

Oral Health Measures



Learning about oral health

Residents will participate in a dental health curriculum combined with a pre and post-test of oral health knowledge. The Minority Men's Oral Health Dental Access Program (MOHDAP) in Atlanta, Georgia used community-based participatory research to develop their curriculum. Key topics in the three lessons were oral health's relationship to overall health, dental terminology, effect of oral health on heart disease, diabetes and stroke, dental hygiene knowledge and attitudes. Questions will include questions like:

- What is gingivitis? (An inflammation of the gums)
- Oral habits such as cheek biting and lip biting increase the chance for oral cancer (True/False)
- A hard toothbrush is better than a soft toothbrush (True/False)

(Hoffman et al., 2017; CDC and Prevention's Dental, Oral and Craniofacial Data Resource Center)

Access to preventative dental care

Using the National Health And Nutritional Examination Survey questions residents will be about their last dentist visit, primary reason for visiting the dentist and other treatments or screenings received. Examples of these questions include:

- About how long has it been since you last visited the dentist? Include all types of dentists.
- What was the main reason you last visited the dentist?
- In the past 12 months did a dentist, hygienist or other dental professional have a direct conversation with you about...
 - the benefits of giving up cigarettes or other types of tobacco to improve dental health
 - the dental health benefits of checking your blood sugar
- Have you ever had an exam for oral cancer in which the doctor or dentist pulls on your tongue, sometimes with gauze wrapped around it, and feels under the tongue and inside the cheeks?

("NHANES 2017-2018 Questionnaire Instruments," n.d.)

Eliminating dental disease

The World Health Organization's Oral Health Assessment Form for Adults will be used to assess resident's oral health over time. The assessment must be completed by a licensed dental professional. The exam will measure amount of cavities, gingival bleeding, pocket, loss of attachment, enamel softening, dental erosion, dental trauma, oral mucosal lesions, and intervention urgency. Whether or not Envision resident's receive necessary treatment

reviewed by the dental professional will be noted. The proportion of people who receive their recommended care will be measured. (WHO Oral Health Assessment)

ED visits and hospitalizations for dental disease

Emergency department utilization will be measured as an outcome of healthcare cost decrease. The reason for a person's ED visit will be recording and options will include dental disease related symptoms.

Predictors of Success – Oral Health



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Article: Canadian study on oral health of homeless people

- Measures they used to test for oral health = face-to-face interview and a clinical oral examination.
 - From the “OralHealthComponent of the Canadian Health Measures Survey – Statistics Canada 2008
- Questionnaire was composed of three sections: oral health, general health, and socio-demographics. **Measured aspects** such as Decayed, Missing, Filled teeth, perceived need for dental care (by participants), etc. Table 1 shows examples of questions asked.

[Withy, K. M., Amoa, F., Andaya, J. M., Inada, M., & Berry, S. P. \(2009\). Health Care Needs of the Homeless of O’ahu. 67\(8\), 213–217.](https://doi.org/10.1111/j.1752-7325.2009.00355.x)

Article: Dental health of homeless in O’ahu

- Measures for determining the dental health of their study were mainly surveys or questionnaires Questions related to self-perceived dental health, frequency of seeking dental care, medical insurance status, etc.

We know Envision works when...

The substance use of our residents decreases



People experiencing homelessness are known to have more cases of substance use disorder compared to people with stable housing (Fazel, Geddes, & Kushel, 2014). The National Coalition for the Homeless cites substance use disorder (SUD) as a cause and consequence of homelessness. Younger generations are more likely to have a drug related SUD compared to older generations where alcoholism is more prevalent. It is estimated 38% of people experiencing homelessness have a SUD (National Coalition for the Homeless, 2017). Additionally, people experiencing homelessness are more likely to have mental health concerns and SUD comorbidly (Lebrun-Harris et al., 2013; McNiel & Binder, 2005).

We embrace a harm reduction approach at Envision and welcome people who struggle with addiction. But we also know that leading our healthiest lives includes decreasing substance use and the terrible hold of addiction. For some of our residents, success means completely stopping all substance use and working on the process of recovery; while for other residents, completely quitting is out of reach and success means decreasing their substance use.

Substance Use Measures



Tobacco Use

The World Health Organization uses a survey to measure the amount of tobacco someone smokes in a day or week. The different tobacco products listed are manufactured cigarettes, hand-rolled cigarettes, kreteks, pipes full of tobacco, cigars, cheroots or cigarillos, number of water pipe sessions, and any others not listed. There is a similar survey to measure past and current use of smokeless tobacco products. (World Health Organization, n.d.)

Substance Use

Need to research substance use measures more

Alcohol or Drug Dependence

The Severity Dependence Scale (SDS) is used to measure psychological components of dependence through five questions. SDS consists of five questions about out-of-control use, anxiety or worry about missing a fix or a drink, worry about use, frequency of desire to end use, and difficulty of going without use. The questions can be adapted for different substances and time frames. The first four questions are rated on a scale of 0-3 where 0 is never/almost never, 1 is sometimes, 2 is often, and 3 is always/nearly always. The fifth question is rated as 0 is not difficult, 1 is quite difficult, 2 is very difficult and 3 is impossible. The SDS ranges from 0 to 15, and we consider a score of 3 or greater to indicate substance dependence. (Gossop et al., 1995).

Recovery

Measure and celebrate recovery.

Predictors of Success – Substance Use



Prior research has shown that housing first models have demonstrated success in decreasing substance use and improving the quality of life of individuals experiencing homelessness over time (Bean, 2013). In a Washington DC-based study, it was found that alcohol-dependent individuals can make significant mental and behavioral improvements in recovery within a year of housing (Tsemberis, 2012). Active substance users were also shown to have significantly greater decreases in Addiction Severity Index (ASI) scores, days intoxicated, and days of drug use over time than less active substance users as a result of housing (Rosenheck, 2012). Housing First models combined with peer support demonstrate success in decreasing substance use (Bean et al., 2013).

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We know Envision works when...

Our residents' access to healthcare improves



Healthcare Access Measures



Access to Primary Care

Despite higher disease burden and twice as many unmet medical needs people experiencing homelessness are more likely to delay doctor visits and use the emergency department as usual care, a sign of insufficient access to primary care (Lebrun-Harris et al., 2013; Stahre et al., 2015). People delayed doctor visits because of concerns about costs, inability to get care, de-centralized location of healthcare services (Lebrun-Harris et al., 2013; White & Newman, 2015). Increased chronic condition burden was associated with higher odds of emergency department usage and hospitalization; however people experiencing homelessness were less likely to use the emergency department or be hospitalized if they had a source of usual or primary care (Lebrun-Harris et al., 2013).

To measure primary care access residents will be asked questions from the National Health and Nutrition Examination Survey (NHANES) Hospital Utilization and Access to Care section. Questions in this section are:

- Is there a place that you go when you are sick or need advice about your health?
- What kind of place is it- a clinic, doctor's office, emergency room, or some other place? What kind of place do you go to most often?
- During the past 12 months how many times have you seen a doctor of other health care professional about your health at a doctor's office, a clinic or some other place? Do not include times you were hospitalized overnight, visits to hospital emergency rooms, home visits, or telephone calls.
- About how long has it been since you last saw or talked to a doctor or other health care professional about your health?

("NHANES 2017-2018 Questionnaire Instruments," n.d.)

Access to Dental Care

Dental care and oral health is vital for overall well-being (SOURCE). People experiencing homelessness have difficulty obtaining dental care due to poor or no insurance coverage, lack of permanent address and high mobility (Chiu, DiMarco, & Prokop, 2013; DiMarco, Huff, Kinion, & Kendra, 2009). Envision will work to eliminate this disparity. The National Health and Nutrition Examination Survey (NHANES) Oral Health section will be used to measure resident's access and usage of dental care. Questions asked will include:

- About how long has it been since you last visited a dentist? Include all types of dentists.
- What was the main reason you last visited the dentist?

("NHANES 2017-2018 Questionnaire Instruments," n.d.)

Access to Mental Health/Substance Use Treatment

People experiencing homelessness and housing instability are more likely to have mental health and substance use treatment needs. Envision wants to decrease these disparities by connecting residents to mental health and substance use treatment. The National Health and Nutrition Examination Survey (NHANES) Hospital Utilization and Access to Care section will be used to assess whether residents have seen a mental health professional in the last year.

(“NHANES 2017-2018 Questionnaire Instruments,” n.d.)

Optimal Disease Specific Care

Diabetes: People who have or are experiencing homelessness are more likely to develop diabetes than people who are not experiencing homelessness (SOURCE). Envision will monitor resident’s access and adherence to recommended diabetes specific care. According to the American Diabetes Association, diabetes care that includes emphasis on blood pressure, lipids, glucose, aspirin use and non-use of tobacco will maximize health outcomes (SOURCE). The Minnesota Community Measurement Optimal Diabetes Care measures the percentage of patients with Type I or Type II diabetes that meet all of the requirements:

- Blood pressure less than 140/90 mmHg
 - Hemoglobin A1c (HBA1c) less than 8
 - On a statin medication
 - Tobacco-free/ non-use
 - Daily aspirin for patients with ischemic vascular disease
- (Optimal Diabetes Care Specifications 2019, 2019)

Asthma: According to the CDC, about 25 million American have asthma. This is 7.6 percent of adults and 8.4 percent of children. Asthma has been increasing since the early 1980s in all age, sex and racial groups. People who have experienced or are experiencing homelessness experience a higher asthma burden compared to people with stable housing (SOURCE). For people with an asthma diagnosis the Minnesota Community Measurement Optimal Asthma Control The Optimal Asthma Control measure evaluates the percentage of patients with persistent asthma who attained all of the following targets to control their asthma:

- Patient has less than two emergency department visits due to asthma in 12 months
- INCLUDE OTHER COMPONENT?

The percentage of people at Envision meeting this requirement will be measured overtime. (Optimal Asthma Control Specifications 2019 Report Year, 2019)

Cardiovascular disease (CVD) is the leading cause of death for men and women in the United States. Considering the overall toll of cardiovascular disease, measures that assess clinical care performance are vital to reducing the negative impacts of CVD (SOURCE). The

Optimal Vascular Care measure evaluates the percentage of patients ages 18-75 with a diagnosis of vascular disease who have reached all four of the following treatment goals to reduce cardiovascular risk. Envision will use these measurements to assess resident's health status over time.

- Blood pressure less than 140/90 mmHg
- Statin use as recommended
- Tobacco-free status
- Aspirin use as recommended

("Optimal Vascular Care," n.d.)

Predictors of Success – Healthcare Access



- (White & Newman, 2015)
 - People who did not receive care at homeless tailored services more likely to complain about unfavorable experiences
 - Patient-provider relationship, cooperation among providers, accessibility/coordination of care, homeless specific needs
 - In tailored VA primary care medical home on health care needs and utilization patterns among newly enrolled homeless veterans at 6 months veterans with homelessness averaged 8.4 visits
 - Homeless veterans received new diagnosis for acute condition (74.8%) and chronic condition (67.7%)
 - Chronic conditions—hypertension, diabetes, hyperlipidemia chronic disease management improved for veterans using homeless tailored clinic
 - O'Toole
 - Competing priorities i.e. meeting basic needs associated with not seeking care in some people more so than actual access to healthcare

We know Envision works when...

Healthcare costs decrease



People experiencing homelessness use the emergency department (ED) more often than people with stable housing. ED visits are not necessarily negative, however when the ED is used frequently for condition easily managed by a primary care physician it clues to access barriers for patients. Twenty-one percent of people experiencing homelessness reported four or more ED visits in the past year compared to 9 percent of people with housing (Lebrun-Harris et al., 2013; Wright, Vartanian, Li, Royal, & Matson, 2016). Additional to having higher ED and hospital-based care usage people experiencing homelessness are less likely to use primary care (Lebrun-Harris et al., 2013). These patterns of healthcare system cause increased spending compared to the general population (Larimer et al., 2009; Wright et al., 2016) We aim to decrease healthcare costs enough to justify the investment of the healthcare system in housing.

Healthcare Cost Measures



Total cost of care

Electronic health records and claims data will be used to measure health care cost and utilization of residents one year before joining Envision and their year during Envision. Their total costs or expenditures will be compared to another gold-standard Permanent Supportive Housing (PSH) program or a comparable group of people who remain unhoused.

Emergency Department (ED) Utilization

Similar to the total costs of care emergency department visits for residents will be measured using EHR and claims data. Visits or admissions to the ED will be compared before Envision and during Envision and also compared to control groups, other PSH or unhoused.

Hospital Utilization

Hospital utilization or admissions will also be tracked before and after Envision using EHR and claims data. The length of stay and reason for admission will also be noted. Envision residents will be compared to another gold-standard PSH or a group who remains unhoused.

Predictors of Success

Programs and studies housing people experiencing homelessness have decreased medical expenditure significantly. A Housing First project focusing on people with serious mental illness and SUD compared individual costs of people receiving housing and people on the waiting list as the control. After 6 months of housing the average spending per person per month decreased by \$2,574. Compared to the control group the Housing First participants saved about \$2500 per month in expenditures. Nearly 60 percent of offset came from decreased billed medical services (Larimer et al., 2009). A similar study attributed cost savings of housing people to decrease the use of emergency departments, inpatient care and outpatient labs not decreased access (Wright et al., 2016). Even in smaller sample sizes a Minneapolis focused study found trends toward decreased ED usage and increased outpatient services (DeSilva, Manworren, & Targonski, 2011).

Predictors of Success – Healthcare Costs



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We know Envision works when...

The financial health of our residents improves



Financial Health Measures



Self-Rated Financial Health

The Moving to Opportunity (MTO) project randomly assigned families living in poverty with housing vouchers allowing them to move out of concentrated poverty neighborhoods, typical Section 8 rental assistance without mobility counseling or no housing aid with typical program help. The MTO project used a mixed methods approach to measure “economic self-sufficiency of adults”. Participants were asked about their employment status, yearly income, and if they were receiving food stamps or Temporary Assistance for Needy Families (TANF). Envision will use a similar approach focusing on self-reported financial health with questions from the Current Population Survey (Labor Force.pdf, n.d.; Sanbonmatsu et al., 2012).

Predictors of Success – Financial Health



Usual housing and employment programs have had difficulty delivering effective employment services to people transition from chronic homelessness. Barriers include biases towards people experiencing homelessness such as motivation or reliability, appearance, habits and person related factors such as trauma or personal doubts (“Overcoming Employment Barriers,” n.d.). However, LA’s HOPE was able to increase employment rates, earnings and days housed for their participants versus their comparison group. Nearly 60 percent of participants found participated in employment and about half were in competitive employment, rather than transitional employment. LA HOPE was able to be successful through their infrastructure including a housing first approach, permanent rental assistance, case managers with adequate resources to help clients, such as training, classes and work clothing. Although this population may seem hard to serve LA Hope’s projects shows that it is not impossible, it just takes proper resources, team and infrastructure. (Burt, 2012).

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We know Envision works when...

**Envision is faster and less expensive to
build than traditional housing**



Development Measures



Development Time

The amount of time from the beginning of the development process to when the first resident moves in.

Construction Time

Time from getting all the approvals to the first resident moving in.

Total Development Cost

The amount of money needed to develop the entire demonstration project and per person.

Construction Cost

Construction costs for the entire development and per person.

Predictors of Success – Development Measures



<https://shelterforce.org/2019/03/15/tiny-house-villages-in-seattle-an-efficient-response-to-our-homelessness-crisis/>

Web Article: Tiny home villages in Seattle for the homeless

- “creating a tiny house village can be **done in less than six months** and costs between \$100,000 and \$500,000... each village can serve 20 to 70 people”

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Web Article: Tiny home villages in Seattle for the homeless

- “creating a tiny house village can be **done in less than six months** and costs between \$100,000 and \$500,000... each village can serve 20 to 70 people”
- “Hundreds of dedicated students, volunteers, churches, and businesses have built and donated over 325 tiny houses at an **average cost of \$2,500 each** for construction materials”

<https://www.curbed.com/maps/tiny-houses-for-the-homeless-villages>

Web Article: Article showing different homeless villages around the country and how much it costs to start each one.

<https://charterforcompassion.org/problem-solving/tiny-houses-for-the-homeless-an-affordable-solution-catches-on>

Web Article: Quixote Village in Olympia, Washington, details about their cost for construction. No direct sources to cite from besides the article which isn't done by a study.

- “The typical development for extremely low-income housing is trending up toward \$200,000 per unit”
- “The cost of units at Quixote Village is significantly higher than at Second Wind—about \$88,000 per unit”

We know Envision works when...

Operational costs are sustainable



Operational Cost Measures



Operating Costs

Envision seeks to empower the community to be self-reliant and cut the operating costs by exploring what operations that are typically paid for can be handled by the community.

Predictors of Success – Operational Costs



<https://shelterforce.org/2019/03/15/tiny-house-villages-in-seattle-an-efficient-response-to-our-homelessness-crisis/>

Web Article: Tiny home villages in Seattle for the homeless

- “Each village can serve 20 to 70 people on an annual budget of \$60,000 to \$500,000, depending on staffing and services”

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- Page 58, measures for cost effectiveness of permanent supportive housing. Looks at program costs compared to induced cost changes as a result of the PSH implementation. More “cost effectiveness” in terms of individuals served rather than logistics of the constructed community, buildings, etc.
- Can measure cost effectiveness with QALY’s. “Useful measures such as healthcare utilization and various physical and mental health outcomes, including reductions in sickdays and substance dependence, may help measure quality of life”
- “Another benefit is accrued from gains in productivity, which may be measured by increases in work days or earned income”

We know Envision works when...

**The community is a source of stability
and transition to better opportunities**



Stability and Transition Measures



Housing Stability

The time a person stays at Envision.

Reason for leaving

People who transition out, did they go to a better opportunity?

Criminal background

Did leaving correlate with criminal background?

We know Envision works when...

The surrounding neighborhood is safer and more beautiful



People who are homeless and or using subsidized housing are stereotyped as contributing to crime. However, people experiencing homelessness are more often victims of crime than perpetrators and most arrests are for petty crimes associated with life sustaining activities (Fischer, 1988; Maniglio, 2009). Envision, however, will address more than just safety and crime. Our goal is to ensure that the Envision's neighborhood is a safer and a more engaged community. Neighborhood engagement and cohesion can be measured through the concept of collective efficacy. Collective efficacy is inversely linked to violence and is defined as the "social cohesion among neighbors" and "their willingness to intervene on behalf of the common good." Collective efficacy can be broken down into two main components: informal social control and social cohesion and trust. Informal social control is the methods neighbors create order together without formal powers such as law enforcement (Sampson, Raudenbush, & Earls, 1997).

Safety and Beauty Measures



Neighbor Reported Measures & Engagement

Informal social control will be measured with a five-item questionnaire. Respondents were asked about the likelihood of each question on a Likert-type scale (very likely, likely, neither likely nor unlikely, unlikely, very unlikely). The questions were: the likelihood that their neighbors could be counted on to intervene if

- (a) children were skipping school and hanging out on a street corner,
- (b) children were spray-painting graffiti on a local building,
- (c) children were showing disrespect to an adult,
- (d) a fight broke out in front of their house, and
- (e) the fire station closest to their home was threatened with budget cuts.

Social cohesion and trust are measured through a similar five-item questionnaire.

Participants are asked how strongly they agreed with:

- (a) people around here are willing to help their neighbors,
- (b) this is a close-knit neighborhood,
- (c) people in this neighborhood can be trusted,
- (d) people in this neighborhood generally don't get along with each other, and
- (e) people in this neighborhood do not share the same values.

(Sampson, Raudenbush, & Earls, 1997)

Crime Rate

A Minneapolis based study evaluated three aspects of the neighborhoods (“neighborhood vitality, property values, crime” and stability) surrounding subsidized housing projects. To measure crime, they accessed crime-call data from the Minneapolis Police Department. The number of police calls, crime reports filed, and arrests made were counted and charted. A similar method will be used to measure crime pre and post Envision (Goetz, Lam, & Heitlinger, 1996).

Predictors of Success – Safety and Beauty



In many shelter systems and temporary encampments there is a sense of community between people. Envision will acknowledge this sense of community and build on it by creating and supporting intentional living. It's more than four walls and a roof for people. It is a place to belong. Similar communities across the United States have been successful in building and maintaining tiny home communities. For example, Community First! Village in Austin, Texas has lower crime rates than the area surrounding the community (Community First! Village). Dignity Village in Portland, Oregon also has a no violence policy within their community.

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We know Envision works when...

People flourish!!!



Envision Community is designed by residents for residents, to promote complete human well-being, or more simply flourishing (VanderWeele). The goal for our entire Envision Community initiative is not to just put up more housing. Housing is just the basic requirement all people need to lead their healthiest lives and flourish as human beings. We are most interested in what comes after housing: that process of human flourishing!!!

Flourishing can mean different things for different people. For some it will be making more connections in the community, while others it will mean finding employment or volunteer opportunity. For everyone, it means being able to work on the goals that are important to them. Research shows there are four aspects to flourishing: happiness & life satisfaction, mental & physical health, character & virtue, and close personal relationship. Researchers add financial stability to the idea of flourishing (VanderWeele, 2017).

Flourish Measures



Flourish Measure

The Flourish measure is a 6-item survey asking a question for each domain of flourishing. Responses are rating on a scale of 0-10, with 10 being closer to flourishing. The scores from each question (domain) are summed. Questions will include:

- Overall, how satisfied are you with life as a whole these days?
- In general, how would you rate your physical health?
- Overall, to what extent do you feel the things you do in your life are worthwhile?
- I always act to promote good in all circumstances, even in difficult and challenging situations.
- I am content with my friendships and relationships.
- How often do you worry about being able to meet normal monthly living expenses?

(VanderWeele, 2017)

Capturing Stories of Flourishing

Quantitative data will not be able to capture the depth of stories and experiences of Envision residents. Semi-structured interviews are designed to guide the interviewee through topics but also probe for deeper held truths. They begin with simple questions to build trust between the interviewer and interviewee then gradually lead into more personal questions. Questions are designed to have the main question address a specific component and follow-up questions inquire about context. Topics that would be addressed through interviews are:

- Envision's role in substance use. What role does the intentional community have in aiding people with substance use?
- Achieving personal goals. How does the community support you in your personal goals?
- Financial stability. What role has the Envision community had in your financial stability?
- How is Envision different from other communities you've lived in?
- What role did the iterative or rapid design process play in daily life?

(Kallio, Pietilä, Johnson, & Kangasniemi, 2016; Clifford, French, & Valentine, 2010; Gill, Stewart, Treasure, & Chadwick, 2008)

Achieving Personal Goals

Quality of Life Improves

[Need to determine a standard, well-accepted, and validated QOL measure we could use before and during the demonstration project.]

Gradual Improvement

Human centered design prototyping that creates and tests small changes with the community seeking continual community improvement.

Vocation Training

Measure the number of residents who undergo vocational training.

Employment

Number of job offers and employment outcomes.

Volunteer Opportunities

Number of volunteer opportunities and volunteer outcomes.

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