

# **A Collaborative Approach to Chronic Disease Management in persons in Permanent Supportive Housing**

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- PSH is the provision of a decent, safe and affordable community based housing that provides residents the rights of tenancy under state and local landlord tenant laws.
- The housing is linked to flexible support and services designed to meet the tenants needs
- Targeted to persons with barriers to employment and housing stability with multiple chronic health conditions
- Focus is for those most vulnerable medically/psychiatrically complex

## Definition of terms

- Create safe space
- Facilitate choice/empowerment
- Feel valued/patience
- Listen to patient
- Find new/create ideas
- Build rapport
- Create common goals



**Clinical approaches**

- Housing as basic human right
- Respect and compassion for all clients
- Commitment to ongoing care
- Scattered site housing
- Consumer choice
- Recovery orientation
- Harm Reduction

## **Principles of Housing First**

- Housing costing no more than 30% of households gross monthly income according to the US Dept of Housing and Urban Development



**Affordable Housing**

- Experiencing Homelessness for a year or longer or have experienced at least four episodes of homelessness in the last three years and have a disability



**Chronically Homeless**

- 2007 survey of six PSH programs note 67% serious mental illness
- Co morbid substance use ETOH 34%
- Chronically Homeless
- Disabled
  
- (Corporation for Supportive Housing, February 2008)



**Persons served / most  
marginalized**



- Marked reductions in shelter use
- Reductions in hospitalizations
- Decreased length of stay when hospitalized
- Reduced incarcerations
- Significant reduction in cost of public services
- Enhances quality of life
- Increased access to primary care
- Reduced cost from intervention to prevention

**Why permanent supportive housing?**



- Complexity of Needs: mental illness, chronic physical illness, substance abuse, social isolation
- Care coordination: comprehensive, continuous, consistent providers, accessible (not-traditional), data sharing
- Team members: PCP, BH, case manager, pharmacy, outreach, hospital liaisons, housing support staff, peer specialists
- Frequent meeting, shared outcomes, value each other's perspective
- Recovery oriented/peer services

## Operationalizing PSH

- Decreased ER visits
- Increased visits PCP
- Increased days housed
- Decreased number of incarcerations
- Improved quality of life: improved PHQ9, improved patient satisfaction
- Clinical indicators: Decreased substance use, decreased blood sugar, A1C, BP, BMI
- Decreased social isolation/increased peer support

## Outcomes in PSH

- Team approach to managing those with SMI/Chronic disease
- Multidisciplinary approach
- Collaborative goal setting
- Recovery oriented
- Peer specialist integral to success



**ACT team**

- Pathways to Housing First has noted that the cost incurred approx \$57
- Shelter bed \$73
- Jail, psychiatric hospitalization, ER visit over \$500
- One day hospitalization over \$1,185

(Tsemberis, 2010, Housing First)

**Cost effectiveness**



- Pathways to Housing conducted RCT in group of homeless individuals; after one year 85% of clients in experimental group were retained in housing, 25% of control group in service usual group were stably housed
- (Tsemberis, Gulcur and Narkae 2004).

**Sustainability of PSH**

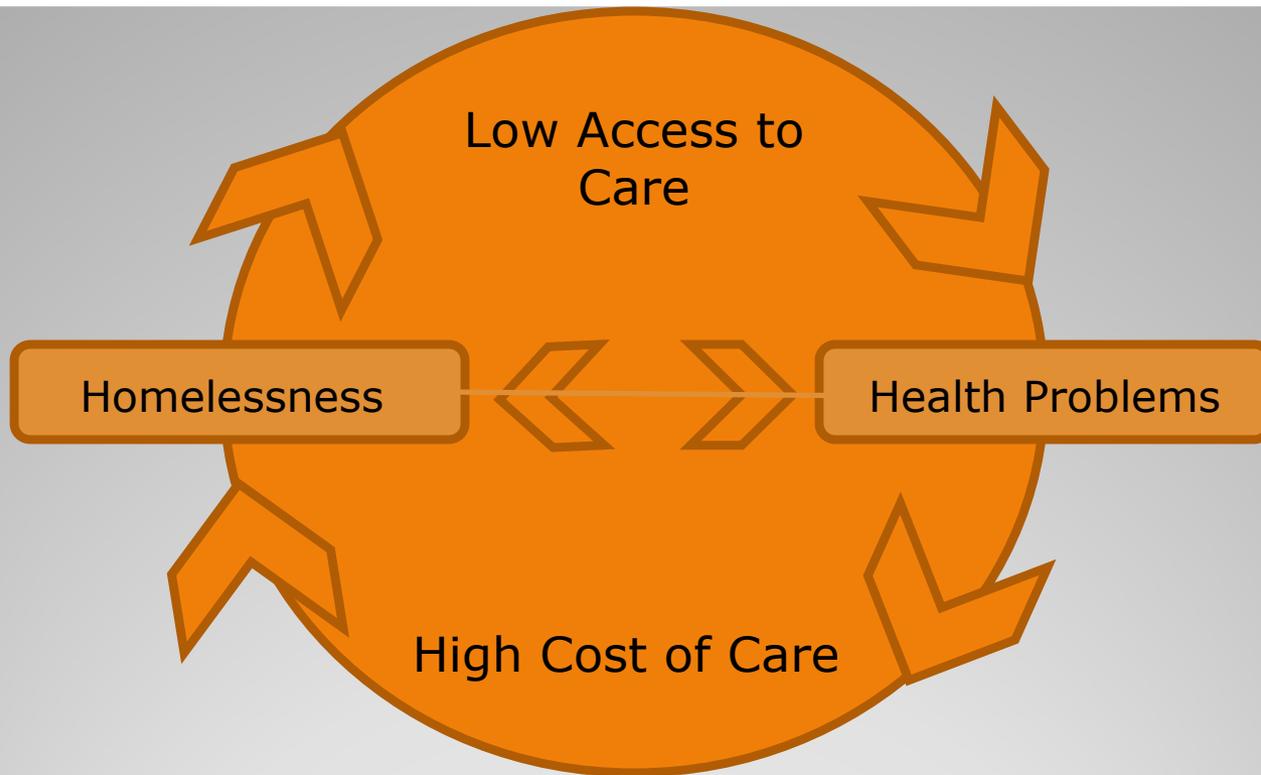
- HUD study of 3 Pathways housing first programs noted 84% retention after one year (HUD, 2007)
- Single site study Philadelphia after 2 year 84% retention rate (Dunbeck, 2006)
- Single site study Rhode Island noted 78% retention rate over 18 months (Hirsch @Glasser, 2008)

## **Sustainability / Effectiveness of PSH**

- Endemic nature of chronic diseases in the homeless population
- Increased rate of hospitalizations in homeless with chronic diseases/disproportionate use of resources
- Morbidity and mortality rates disproportionately higher in those who are homeless vs. housed
- Need to provide education on adaptive chronic care management strategies in an effort to reduce exacerbations of chronic disease
- Disproportionate number of disabled individuals experiencing homelessness 37% vs 15.3 % in general population (Maness & Khan, 2014)



## The Issue of Chronic Disease



- Homelessness may arise from physical or mental disability that brings on poverty, but once someone becomes homeless, poverty and deprivation reinforce each other in a vicious circle
  - Chronic disease follows the same model

- More than half of those living on the streets have one or more chronic diseases
- Higher rate of chronic disease if have history of substance abuse including tobacco, alcohol, etc.
- Most prevalent diseases: hypertension, coronary artery disease, diabetes, infectious diseases (Hep C, HIV, TB)

1. Heart Disease
2. COPD
3. Liver related disorders
4. Infectious disease
5. Diabetes
6. Cancer



## Prevalence of Chronic Diseases

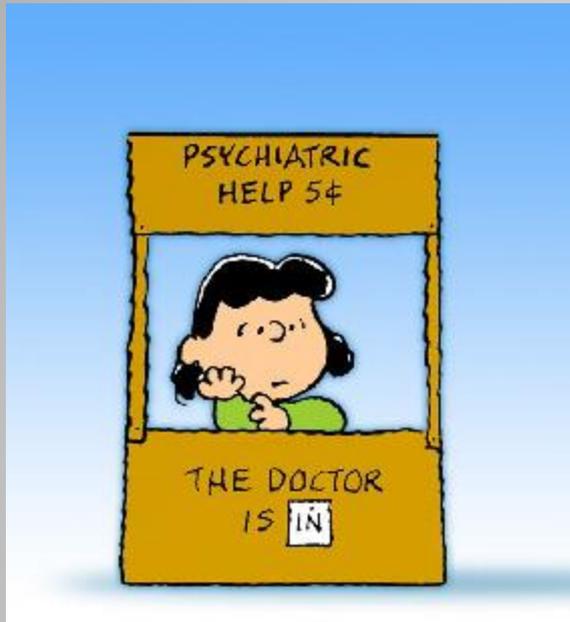
- More than 80% of homeless people have at least one chronic health condition & more than 50% have a mental health disease
- **The presence of chronic medical conditions such as CHF, cardiac arrhythmias, HIV/AIDS, & chronic diseases of the lungs, kidney & liver have all been documented to further increase the risk of death**
- **Substance abuse is also common and is estimated to affect 40-60% of the population**
- **High prevalence of HIV at 9-19%, hypertension at 30-60% and latent TB infection at 32-43% have been consistently documented**

(Chicago Housing for Health Partnership publication entitled : "Chronic Medical Illness and The Homeless")  
(August 2011 edition of International Public health journal)

## **Increased Prevalence of Chronic Diseases**

- Mental illness should not be overlooked in correlation to chronic disease; most prevalent diagnoses include:

1. Schizophrenia
2. Major Depression
3. Bipolar
4. PTSD
5. Anxiety



These conditions challenge overall health, wellbeing, and TX adherence.

## Mental Illness



- Traumatic brain injury (TBI) greater than 5 times rate in general population
- Multidisciplinary treatment approach: PCP, neuropsychiatric provider, cognitive rehabilitation.
- Treatment of comorbidities: Sleep disturbance, anxiety/depression, seizures

(Hwang, Colantonia & Chiu, 2008)

## Cognitive Disorders/TBI

- 90% of suicide victims have a history of mental illness
- Major depression/bipolar within 15-24% of all deaths
- High prevalence of depression among the homeless
- Rate of suicide attempt 24-46%
- 61% suicidal thoughts
- Increased risk of suicide in chronically homeless
- Risk factors: age younger than 30, Hispanic ethnicity, lower educational level

(Power et al, 2008)

# Suicide

- Addiction chronic, recurring and disabling
- **Precipitating factor and consequence of homelessness**
- Prevalence higher in homeless vs housed individuals



**Substance abuse**



- High cause of morbidity & mortality in homeless persons 45-64 yrs of age
- Stress secondary to insecurity related to food, shelter and safety
- High prevalence of hypertension
- 40-50% of homeless more likely to die from heart disease than counterparts
- Contributing factors include: hyperlipidemia, tobacco abuse, alcohol abuse, illegal stimulant abuse

(Current cardiology reviews, January 2009 5(1), 69-77)

## Cardiovascular Disease

- Majority of persons presenting with acute complaints have underlying chronic disease
- Chronically homeless consume an inordinate amount of resources as a result of frequent ER visits and prolonged hospitalizations
- Hospitalized at 4-5 times rate of those housed
- Higher rate of psychiatric hospitalizations
- Inadequately managed post-hospital care/increased readmission rates

## Hospitalizations

- The life expectancy for a homeless person ranges between 42 and 52 years.
- President and CEO of Health Care for the Homeless Maryland once said: "Homeless folks tend to live half as long as folks who have homes...**it's not always because they freeze to death.** The major cause is untreated chronic disease."



## Increased Mortality Rates

- Numerous studies have documented that the mortality rates among homeless people are 3-4 times greater than the general population
- **The average age at the time of death has consistently been in the mid-forties for those experiencing homelessness**
- Mortality rates in persons experiencing homelessness are 3-5 times greater than the general population
- Limited preventative care
- Poor control of risk factors: weight control, tobacco abuse, poor nutrition, poor hygiene, access to preventative health care

## Mortality Rates

- Prevalence is staggering; more than 30% go undiagnosed
- Contributes to high prevalence of renal disease
- Self monitoring and regular medical appointments are critical to disease management
- Dietary modifications integral to care
- Difficulty accessing supplies and equipment; storage of medication is a challenging



# Diabetes

- Prospective study in Boston 2003-2008 tracked over 28,000 patients' mortality rates among homeless vs housed patients.
- Higher rates of mortality in homeless secondary to drug overdose, cancer and heart disease.
- Conclude that interventions to reduce mortality centered around behavioral health and enhanced public health initiatives.

(Bagett et al, 2013)

## Mortality Study

- Reduction in screening due to decreased access to primary care services
- Increased risk factors including poor nutrition, smoking, alcohol use, decreased exercise, exposure to elements, lack of education
- Delay in diagnosis contributes to higher morbidity and mortality rates
- Lower socio-economic status associated with increased rates of cervical cancer, for example, often due to poor follow up on abnormal pap smears.



(Chaus, Chin, Chang et al, 2002)

**Cancer**

- Hepatitis C: **10-20 times higher prevalence** in homeless persons
- Risks include needle sharing, previous incarceration, poor health, tattooing (when poor infection-control practices are used)
- More than half unaware of hepatitis status
- Increased comorbidity with HIV infection

Wulffson, June 2012, Hepatitis C, Examiner.com

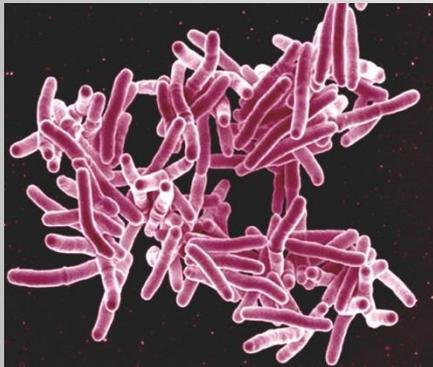
**Liver Disease**



- Increased prevalence of infectious diseases including STIs
- Due to lack of preventative measures (i.e. condoms) and reality of survival sex / abuse / etc.
- Many cases of syphilis go undetected due to lack of access to care
- For syphilis, it is difficult to reassess titers post treatment due to issues related to adherence
- Requires collaboration with state officials in tracking and treating cases/challenge is unstable housing

## Infectious Diseases

- **6.1 to 6.7% prevalence** in homeless population
- Increased incidence in males age 30-59 years of age, increase in African-Americans
- Notable increased risk in those with history of substance use
- **Co-infection rate with HIV 30%**



Haddad et al, 2005, JAMA, 293(22), 2762-2766

# Tuberculosis

- Incidence in general population 0.4%
- Homeless population **3 to 4%**
- Increased likelihood in those participating in risky behaviors: substance use, needle sharing, unprotected sex, exchange of sex for drugs or money

(National Coalition for the Homeless, July, 2009)

**HIV**



- Must be regular and uninterrupted
- Difficult to achieve due to lack of access to stable housing, refrigeration, clean water, bathrooms and food

(CDC, National Prevention Information Network, 2010)

**Treatment for HIV/TB**

- Tobacco/Alcohol abuse
- Lack of housing
- Intravenous drug use
- Stress / trauma
- Environmental exposure
- Suppressed immunity
- Lack of preventative care
- Sleep deprivation
- Malnutrition: high sodium, high carb diet



## **Risk Factors Associated with Chronic Diseases**

- Lack of housing / respite
  - Social isolation
  - Transportation
  - Lack of financial resources
  - Access to medications
  - Medication storage
  - Limited access to nutritious food
  - Literacy
- 
- **Barriers to treatment resemble risk factors associated with chronic diseases.**

## **Barriers to Treatment**

- Discuss limitations in patient ability to follow treatment plan
- Empower patient to set goals and determine priorities
- Assess clinical outcomes
- Treat patient in multidisciplinary manner

(Health Care of Homeless Persons, 2004, O'Connell)



## General Treatment Approaches in Chronic Disease Management

- Modify medication management to enhance compliance and reduce exacerbations of chronic disease
- Reduce barriers related to storage, access and cost of medications to maintain uninterrupted medication regimens
- Institute special considerations for medication use: diuretics causing dehydration, statins can precipitate liver injury with underlying hepatic disease, bupropion can be pulverized to get high
- Institute preventative screening tests: HIV, Hepatitis, Pap, BP, FBS, FOBT, PHQ9, PPD



(Maness & Khan, 2014)

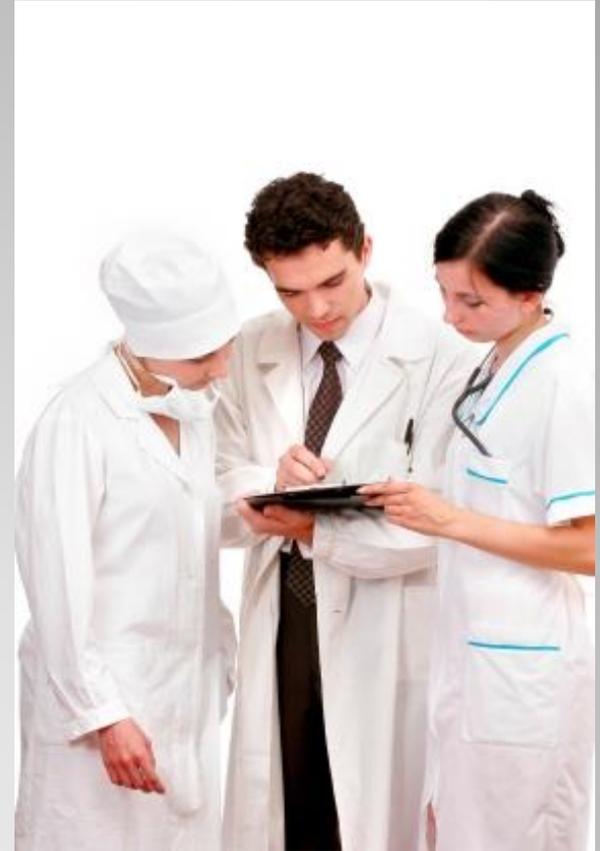
# Treatment

- Continuity of care suffers when providers lose their patients to the streets, with no ability to follow up on their efforts or ascertain outcomes
- Without a secure location to live, patients have difficulty adhering to the medical advice of their providers, ranging from difficulty following recommended medication schedules to inability to rest, eat appropriately and drink plenty of liquids
- The patient's inability to adhere to the recommended treatment may then result in complications and emergencies, which in turn result in increased costs to the medical system
- Patients and providers are both frustrated and dissatisfied when medical treatment seems ineffective, due to incomplete recuperation and can impact upon trust

*(Reference: Medical Respite Services for Homeless People: Practical Models)*

## **Negative Outcomes, Why?**

- Integration of primary care and behavioral health, outreach (including street outreach)
- Recognize importance of collaboration
- Results include enhanced rates of adherence with medical regimens; improved clinical endpoints



## **Multidisciplinary Management**

- 70% of all patient visits have psychosocial basis
- High prevalence of anxiety/depression
- Two thirds of patients are users of ETOH/substance use and/or have underlying mental illness accounting for 69% of hospitalizations
- **One third of those with chronic illness have underlying depression**

## **Multidisciplinary Management: A Rationale**

- **Integration of primary care and behavioral health is critical**
- Provide recovery oriented supportive services: Peer mentoring, group therapy
- Collaboration with detox program staff, outpatient addiction treatment programs (i.e. adapted clinical guidelines for opiate use disorders)

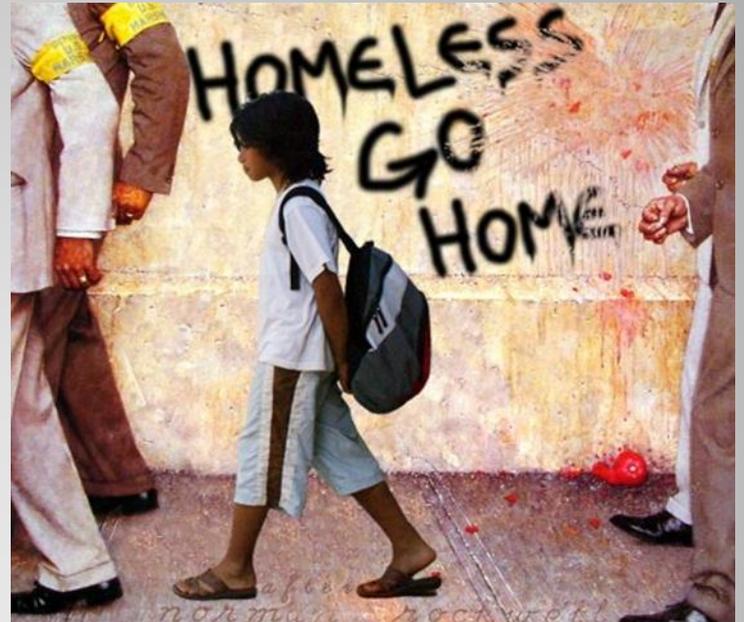
## **Substance Abuse Treatment Strategy**

- Care initiated post exacerbation of chronic disorders
- Modify management strategy in controlled environment
- Provision of shelter, food, support, transportation and case management services
- Minimize rate of hospitalization
- Cost effective approach

## **Chronic Care Management and Recuperative Care**

- Intensive case management services
- Multidisciplinary approach
- Enables implementation of preventative health recommendations
- Prevents exacerbations of chronic disease
- Reduction in hospitalizations, overall cost

Doran et al, 2013



# Permanent Supportive Housing

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**Thank You!**