Nursing and Improving Outcomes in Supportive Housing

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SF Health Dept’s Housing

• Direct Access to Housing- 1730 units in 43 buildings
  o 6 buildings (N=510; 33%) with nurses

• Tailor housing to the needs of an individual

• Initially SRO, now new buildings

• Priority to people with multiple disabilities

• 7.6% HIV+

• Housing first, harm reduction, supportive housing
DAH Portfolio

![Bar chart showing the growth of the DAH Portfolio from 1999-2000 to 2011-2015. The chart includes data for both new and master-lease categories, with a significant increase in the latter half of the period.](image-url)
Achieves the “Triple Aim”

• Reduces cost
  o For high users of the healthcare system, it is cheaper to be housed than homeless

• Improves population based outcomes
  o Reduces mortality for homeless people with AIDS

• Improves patient experience
  o More self determination, improved health, better quality of life
Mortality DAH vs Regular Care 1996-2003
HIV, Homeless and Survival

Figure 2b: Persons diagnosed with HIV/AIDS, 2002-2006 (N=3,157)

Log-Rank <.0001

Number at risk:

<table>
<thead>
<tr>
<th>Homeless</th>
<th>289</th>
<th>269</th>
<th>261</th>
<th>252</th>
<th>245</th>
<th>230</th>
<th>210</th>
<th>177</th>
<th>137</th>
<th>101</th>
<th>55</th>
<th>13</th>
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</thead>
<tbody>
<tr>
<td>Housed</td>
<td>2868</td>
<td>2786</td>
<td>2753</td>
<td>2718</td>
<td>2693</td>
<td>2646</td>
<td>2534</td>
<td>2206</td>
<td>1703</td>
<td>1210</td>
<td>618</td>
<td>175</td>
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</tbody>
</table>
HIV, Homeless and Survival

Figure 2c: Persons diagnosed with HIV/AIDS, 2007-2011 (N=2,315)

- Proportion surviving
- Months since HIV diagnosis
- Log-Rank p=0.3898

Number at risk:

<table>
<thead>
<tr>
<th></th>
<th>Homeless</th>
<th>Housed</th>
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<tbody>
<tr>
<td>2007</td>
<td>269</td>
<td>2046</td>
</tr>
<tr>
<td>2008</td>
<td>251</td>
<td>1945</td>
</tr>
<tr>
<td>2009</td>
<td>217</td>
<td>1696</td>
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<tr>
<td>2010</td>
<td>166</td>
<td>1282</td>
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<tr>
<td>2011</td>
<td>112</td>
<td>915</td>
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<tr>
<td>2012</td>
<td>54</td>
<td>456</td>
</tr>
<tr>
<td>2013</td>
<td>20</td>
<td>142</td>
</tr>
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</table>
Plaza High Utilizer Study

- 106 Chronically homeless adults
- Cost year before housing: $3,132,856
- Cost year after housing: $906,228
- Reduction in healthcare costs: $2,226,568
- Cost of program: $1.1 million/year
- Reduction in public cost in first year: $1.1 million
Death rate Le Nain vs. Mission Creek 2006-2011

Death Rate/year

Le Nain death %
MCSC death %
KCC Random assignment trial

- Brand new building with 174 units
- Homeless, high users of a managed care system
- Comprehensive healthcare utilization
- Randomly assigned to treatment or regular care
- Followed prospectively for 5 years
- Outcomes included: Healthcare cost, mortality, jail
Hypotheses

1. Those who live in DAH buildings with on-site nursing show a decrease in health care utilization compared to people living in non-nursing buildings.

2. Those who are the sickest will have the greatest reduction in utilization while under nursing care.
Methods

DAH cohort from 2007 - 2013 cross-matched with AIRES (n=1,573)

* 243 people were matched (15.4%)
* 26 people excluded
* A random sub sample of 151 was reviewed

- Before vs. after comparison of individuals (nest case-cohort design)

- Comparison of buildings with nursing to those with support staff only
Cohort Demographics

- Mean age at DAH placement is 46.9 years

- Racial composition: 37% white, 37% black, 13% hispanic, 4% other (Asian, Hawaiian, Indian), 9% decline to state

- Males comprise 70%, female 14%, and transgender 16% (71% of which are male to female transition)

- Mortality while in DAH =4 (2.6% of cohort)
Substance Abuse Demographics

Those with any substance use in their history = 112 (74%)

- Alcohol = (34%)
- Stimulants = (56%)
- Opiates = (23%)
- Opiates on methadone maintenance = (4%)
- Other substance use pattern = (9%)
No Triple Diagnosis (N=77) vs. Triple Diagnosis (N=74)
Triple Dx: nurse vs. no nurse

<table>
<thead>
<tr>
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<th>Nursing</th>
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<tbody>
<tr>
<td>Number of tenants with triple diagnoses</td>
<td>27</td>
<td>47</td>
</tr>
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</table>

$p < .01$
Mean ED visits/year before and during DAH by on-site nursing

Mean ED visits per year

No nursing

Nursing

ED visits/year before DAH

ED visits/year as DAH tenant
A difference of **4.2 ED visits** per person per year
Cost difference

An ED visit = $540

Yearly reduction in ED visits = 4.2

For 100 people, the cost reduction in ED visits is $226,800

A full time Nurse costs $100,000

The net cost reduction is $126,800 / year for 100 people

= 1,268$ per person per year
Yearly cost savings per person on ED visits in buildings with Nursing (USD$)

Cost of a full-time Nurse

Number of persons

No triple dx

Triple Dx
Yearly inpatient days before and after DAH

Nursing sites compared to non-nursing sites

<table>
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<th>No nursing</th>
<th>Nursing</th>
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<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
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inpt days/year before DAH | inpt days/year during DAH

Graphs by Nursing
Role of the Nurse in Supportive Housing

Adrianne Wynacht, RN
Kelly Cullen Community

Vernon Sanders, RN
Polk Geary Senior Housing

San Francisco Department of Public Health Housing and Urban Health
Role of the Nurse in Supportive Housing

DIRECT NURSING CARE

• TRIAGE
• Ongoing Clinical Assessment
• Symptom Management
• First Aid/ Wound Care
Role of the Nurse in Supportive Housing

NURSING CASE MANAGEMENT

• Coordination of care/ Real-time Point Person
• System Navigation/ Liaison
• Transitional Care
  - Hospital Discharge, transitioning from higher level of care, transitioning to higher level of care, end-of-life
• On-site Clinical Resource
Role of the Nurse in Supportive Housing

CHRONIC DISEASE MANAGEMENT

• Highly Individualized
• Medication Adherence Support/Management
• Patient Education
Role of the Nurse in Supportive Housing

CASE STUDY

• 44 yo
• MEDICAL: CD4<100, CVA, white matter disease
• PSYCH: schizophrenia (doc), delusional
• SOCIAL/BEHAV: SA, DD, illiterate
Role of the Nurse in Supportive Housing

CASE STUDY- NURSING PLAN

• Medication maintenance
• Health maintenance goals
• Coordination of care
• Escorts to appointments
• On demand healthcare
• Trusted advisor
CASE STUDY

• 65 yo AA male
• MED: glaucoma, DM2, HTN, FTT, CRF
• Psych: Depression
• Social/Behav: cocaine now in remission, blind 2/2 and refusing ed referral, forensic history
CASE STUDY

Role of RN Relationship in Pt Care

- Med management
- Triage
- Enhanced ability for follow-up
- Coordination and alliance with providers
Role of the Nurse in Supportive Housing

CARE FOR THE CAREGIVER

• Stressful environment
• Healthy boundaries
• Find unique opportunities for support
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