Severely Addicted/Mentally Ill Population: What Do We Know & Potential Outcomes

- Dr. William Honer
- Dr. Michelle Patterson
Hotel study: Team, Supporters, Sponsors

- **UBC**: Drs. GW MacEwan, M Krausz, G Smith, F Vila-Rodriguez, R Procyshyn, W Panenka, A Barr, D Lang, T Vertinsky, H Wong, JJ Sidhu, T Buchanan, A Jones, V Strehlau, O Leonova
- **BC Centre for Disease Control**: Dr. M Krajden
- **Centre for Excellence in HIV/AIDS**: Dr. J Montaner
- **Simon Fraser University**: Dr. A Thornton, H Baitz, K Gicas, C Giesbrecht
- **Imperial College, London**: Dr. D Nutt
• Recruit from SRO hotels
• Psychiatry: diagnosis, symptom severity, cognitive function
• Addictions: history of drug use, current use, high risk behaviour, urine testing
• Physical illness: neurological exam, MRI scan, virus testing, blood chemistry and hematology
• Longitudinal design: Monthly follow-up for 1-5 years: health, ability to access health care services, change in housing and ability to function
Hotel study n=293

- **Housing**
- Months in hotel median = 16, range 0-240
- **Homelessness**
- Experienced homelessness: 195/293 = 66.6%
- Time since homeless: median = 38 mon (0-452)
- “Asylum” care for mental illness
- Riverview (or similar care): 30/293 = 10.2%
- **Jail**
- Previously incarcerated: 71/293 = 24.2%
- Time in jail: median = 24 mon, range 0-240
Hotel study (n=293) SROs at 1-year

- Same SRO hotel: 150/292 = 51.4%
- Homeless: 15/292 = 5.1%
<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addiction</td>
<td>95%</td>
</tr>
<tr>
<td>Mental</td>
<td>74%</td>
</tr>
<tr>
<td>Neuro</td>
<td>46%</td>
</tr>
<tr>
<td>HCV</td>
<td>67%</td>
</tr>
<tr>
<td>HIV</td>
<td>18%</td>
</tr>
</tbody>
</table>

Addiction, mental and medical illness: current
Addiction: current

- Stimulant(s): 82% (225 participants)
- Opioid(s): 39% (75 participants)
- Injection (yr): 62% (150 participants)

n=293
Saturday
Peter John +40
Peter John +40 Make P=20
Food +5 Cowboy +10 % P=10 D=5
D=20
Food +5 Cowboy +10 % P=10 D=5
Cuffed 10 D=John +20 P=10 D=10
John +20 More! John +100 Food + Misc = 5
P=20 D=40 Food +5 (50$ to my name)
P=30 A=20 D=Shimon John +140
P=20 45 D=Sunday John +40 5

P = powder
D = dawn
Off = add money
Spend money
Mental illness: current

- Psychosis: 47% (130 participants)
- Mood: 30% (90 participants)
- Anxiety: 24% (70 participants)

n=293
Psychosis

• “. . . the individual incorrectly evaluates the accuracy of his or her perceptions and thoughts and makes incorrect inferences about external reality, even in the face of contrary evidence.”

• Hallucinations: perceptual experiences in the absence of a stimulus (hearing voices)

• Delusions: firmly fixed, false beliefs that are unchanged by any rational argument or evidence (paranoia, special powers or mission)
Psychosis diagnoses (47% of participants)

Current n = 293
(Diagnoses of psychotic illness on BECED-II)
Brain structure

Brain function
Current neurological disorder (46% of participants)

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVT</td>
<td>60</td>
</tr>
<tr>
<td>TBI</td>
<td>30</td>
</tr>
<tr>
<td>Seizure</td>
<td>25</td>
</tr>
<tr>
<td>CVA</td>
<td>20</td>
</tr>
<tr>
<td>Cog</td>
<td>15</td>
</tr>
</tbody>
</table>

n=232-293  Sept, 2012
Bilat FL, left TL infarction and encephalomalacia

male 53 yr (HIV+, MVA, seizures, cognitive impairment, crack, heroin, past alcohol, past depression)
Treatment for three primary illnesses

- 62%: HIV+ total
  - ARV
  - Methadone

- 50%: Opioid+ total
  - Antipsychotic
  - No treatment

- 33%: Psychosis+ total
  - Antipsychotic
  - No treatment
Mortality in the cohort (n = 293)

Expected number of deaths over 2 yr for Canadians same age and gender

Actual number of deaths

Standardized mortality ratio = 4.8
(95% CI = 2.9 - 8.0)
Mortality

• No suicides
• 5 related to drug overdoses
  • Cocaine
  • Cocaine, morphine, methadone, MA
  • Cocaine, opioids
  • Cocaine, methadone
  • Cocaine, morphine, MA

• 10 related to physical illness
  • Acute subdural hematoma
  • Pneumonia
  • Subarachnoid hemorrhage
  • Uremia, AIDS, renal cancer
  • Lung cancer
  • Multiple organ failure, sepsis
  • Acute myelogenous leukemia
  • Sepsis, pneumonia, ulcer, HIV
  • Cryptococcal septicemia, liver failure
  • Pneumonia
• There is no simple cause and effect in this crisis
• There are risk and protective factors, poor and good outcomes
• Comprehensive, multidisciplinary assessment is needed to help individualize care and housing for better health
• Providing better choices for health, requires understanding of problems and capabilities
• Improving our service delivery requires assessment over time, to see what works and what does not
Vancouver At Home Study:

Randomized Controlled Trials of Housing First for Homeless Adults with Mental Illness

Michelle Patterson
Lead Investigator:
Julian Somers
Random Assignment

HIGH NEED
(n=297)

MODERATE NEED
(n=200)

- Housing First + ACT (n=90)
- Congregate Housing + Support (n=107)
- HNTAU (n=100)

- Housing First + ICM (n=100)
- MNTAU (n=100)

ACT = Assertive Community Treatment
ICM = Intensive Case Management
TAU = Treatment as Usual

Somers, Patterson, Moniruzzaman et al. (under review). Trials.
## Baseline Demographics

<table>
<thead>
<tr>
<th></th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely homeless</td>
<td>78</td>
</tr>
<tr>
<td>Male</td>
<td>73</td>
</tr>
<tr>
<td>Caucasian</td>
<td>57</td>
</tr>
<tr>
<td>Aboriginal</td>
<td>15</td>
</tr>
<tr>
<td>Incomplete High School</td>
<td>56</td>
</tr>
<tr>
<td>Age at enrollment (mean)</td>
<td>41 years</td>
</tr>
</tbody>
</table>
### Duration of Homelessness

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age first homeless (mean)</td>
<td>30 years</td>
</tr>
<tr>
<td>First homeless before age 25</td>
<td>44%</td>
</tr>
<tr>
<td>Lifetime duration (mean)</td>
<td>5 years</td>
</tr>
<tr>
<td>Longest single episode &gt;1 yr</td>
<td>50%</td>
</tr>
<tr>
<td>Lifetime duration &gt;3 yr</td>
<td>49%</td>
</tr>
</tbody>
</table>

*Patterson, Somers & Moniruzzaman (2011). Mental Health & Substance Use.*
# Mental Disorders & Service Use

<table>
<thead>
<tr>
<th>Mental Disorders &amp; Service Use</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental disorder (severe)</td>
<td>73</td>
</tr>
<tr>
<td>Mental disorder (less severe)</td>
<td>53</td>
</tr>
<tr>
<td>2 or more mental disorders</td>
<td>48</td>
</tr>
<tr>
<td>Substance dependence</td>
<td>58</td>
</tr>
<tr>
<td>Daily substance use</td>
<td>25</td>
</tr>
<tr>
<td>Poly-substance use</td>
<td>38</td>
</tr>
<tr>
<td>ER visit (past 6 months)</td>
<td>58</td>
</tr>
<tr>
<td>3 or more ER visits</td>
<td>22</td>
</tr>
<tr>
<td>Arrested (past 6 months)</td>
<td>36</td>
</tr>
</tbody>
</table>
In the year after enrollment, where were participants living?
Living Situation: mean % of Year 1

ACT
- Stable Housing: 72%
- Unstable: 9%
- Healthcare Institution: 6%
- Street: 8%
- Corrections: 6%

CONG
- Stable Housing: 69%
- Unstable: 13%
- Healthcare Institution: 6%
- Street: 7%
- Corrections: 16%

HNtau
- Stable Housing: 41%
- Unstable: 16%
- Healthcare Institution: 6%
- Street: 9%
- Corrections: 20%
Stable Housing by Substance Dependence

<table>
<thead>
<tr>
<th>Substance Dependence</th>
<th>YES (n=279)</th>
<th>NO (n=199)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Days in Stable Housing</td>
<td>% Days in Stable Housing</td>
</tr>
<tr>
<td>Housing First</td>
<td>72</td>
<td>71</td>
</tr>
<tr>
<td>TAU</td>
<td>19</td>
<td>20</td>
</tr>
</tbody>
</table>

Emergency Room Visits

Rusolillo, Somers, Moniruzzaman et al. (under review). Intl J Housing Policy.
Re-offending

- High Needs only
- 67% with criminal justice history (BC)
- 8.07 convictions per person over 10 yrs.
- Most common – property offences
- Up to 2 years post (compared to HNTAU):
  - ACT: 71% fewer
  - CONG: 45% fewer

Somers, Rezansoff, Moniruzzaman et al. (2013). PLOS-One.
Quality of Life

Patterson, Moniruzzaman, Palepu et al. (2013). Social Psychiatry & Psychiatric Epidemiology.
Community Integration

Patterson, Moniruzzaman & Somers (under review). Community Mental Health Journal.
Recovery Trajectories (Narrative interviews at 0 & 18 mo)

<table>
<thead>
<tr>
<th></th>
<th>Positive</th>
<th>Negative</th>
<th>Mixed</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing First (n=28)</td>
<td>17</td>
<td>0</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>TAU (n=15)</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Conclusions

*Housing First results in a number of benefits to individuals & society:*

- Good quality housing; range of neighbourhoods
- Intensive & high quality supports
- Re-housing after evictions & planned moves
- Choice
- Need for social and vocational opportunities

*HF is an important part of an array of housing & support services.*