RURAL AND REMOTE SPECIALIZED COMMUNITY MENTAL HEALTH SERVICES

THE GORDIAN KNOT OF EARLY INTERVENTION

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1. Canadian Mental Health Association – Thunder Bay Branch
2. Northeast Mental Health Centre
3. University of Toronto, Department of Psychiatry
4. Centre for Addiction and Mental Health
EPI (early psychosis intervention) developed in early 1990’s in Australia, UK

In Ontario, >$100 million Health Accord funds invested in targeted community mental health

Significant proportion invested in EPI

5 original EPI programs based in large urban academic centres in Ontario

Over 35 new programs, expansion of original sites

Most have an outreach or rural component
EPPIC SERVICE MODEL

EPPIC Service Model:
The Original model from which most EIP programs were based

Referral from external agencies

Youth Access Team (YAT)
Referral gateway to EPPIC. Mobile assessment, crisis intervention, and brief community treatment

Referral from external agencies

Personal Assessment and Crisis Evaluation (PACE) clinic
Identification and treatment of young people at risk of developing psychosis

Early Psychosis Prevention and Intervention Centre (EPPIC) outpatient case management
Specialist comprehension programme for young people 15-29 years with psychosis.

EPPIC Inpatient Unit (16 beds)

Family Work
Multi-family groups and individual family sessions

Group Programmes
Tailored, group-based interventions

Accommodation
Housing and Support Services

Research Programmes

TREAT/STOPP

Vocation

EPPIC Statewide Services
Assist external agencies to incorporate an early psychosis focus into clinical programmes

Prevention Promotion and Primary Care (PPP) Programme
Prevention and promotion activities; facilitating partnerships with community service providers; development of early intervention programmes

Key:
--- External referral pathway
- - - Internal referral pathway

Source:

NORTHWESTERN ONTARIO

Population:
234,599

Land Mass:
406,819.56 km²

Population Density:
0.6/km²

% Urban Population:
61.6%

% Rural Population:
38.4%
NORTHEASTERN ONTARIO

Population: 551,691

Land Mass: 395,576.72 km²

Population Density: 1.4/km²

% Urban Population: 71.5%

% Rural Population: 28.5%
EXPERIENCES OF EPI CLIENTS LIVING IN
NON-RURAL AND RURAL REGIONS

Data from the Matryoshka Project
QUALITY OF LIFE MEASURES

**Multnomah Community Ability Scale (MCAS)**

<table>
<thead>
<tr>
<th></th>
<th>Non-Rural (n=74)</th>
<th>Rural (n=96)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Score</td>
<td>25.7</td>
<td>30.2</td>
</tr>
<tr>
<td>High Score</td>
<td>74.3</td>
<td>69.8</td>
</tr>
</tbody>
</table>

**SF-12 Physical Health Component**

<table>
<thead>
<tr>
<th></th>
<th>Non-Rural (n=25)</th>
<th>Rural (n=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Score</td>
<td>28.0</td>
<td>48.3</td>
</tr>
<tr>
<td>High Score</td>
<td>72.0</td>
<td>51.7</td>
</tr>
</tbody>
</table>

**SF-12 Mental Health Component**

<table>
<thead>
<tr>
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<th>Non-Rural (n=25)</th>
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<tbody>
<tr>
<td>Low Score</td>
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<td>48.3</td>
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<tr>
<td>High Score</td>
<td>48.0</td>
<td>51.7</td>
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</table>
ADMISSIONS TO HOSPITAL

**Number of Hospital Admissions in Last 12 Months**

<table>
<thead>
<tr>
<th>Non-Rural (n=38)</th>
<th>Rural (n=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 1 Admission</td>
<td>47.4</td>
</tr>
<tr>
<td>1 Admission</td>
<td>52.6</td>
</tr>
</tbody>
</table>

**Number of Nights in Hospital in Last 12 Months**

<table>
<thead>
<tr>
<th>Non-Rural (n=38)</th>
<th>Rural (n=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 30 nights</td>
<td>36.8</td>
</tr>
<tr>
<td>30 nights or less</td>
<td>63.2</td>
</tr>
</tbody>
</table>

Admitted to Hospital in Last 12 Months

- Non-Rural (n=64): 59.4%
- Rural (n=80): 36.3%

(p<0.05)
EMERGENCY ROOM VISITS

ER Visit in Last 12 Months (p<0.05)

<table>
<thead>
<tr>
<th></th>
<th>Non-Rural (n=72)</th>
<th>Rural (n=79)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes 56.9</td>
<td>No 43.1</td>
<td></td>
</tr>
<tr>
<td>Yes 62.0</td>
<td>No 38.0</td>
<td></td>
</tr>
</tbody>
</table>

Number of ER Visits in Last 12 Months

<table>
<thead>
<tr>
<th></th>
<th>Non-Rural (n=41)</th>
<th>Rural (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1 ER Visit 53.7</td>
<td>1 ER Visit 46.3</td>
<td></td>
</tr>
<tr>
<td>&gt;1 ER Visit 56.7</td>
<td>1 ER Visit 43.3</td>
<td></td>
</tr>
</tbody>
</table>
Nipissing, ON

“Big Nickel” Sudbury, ON
EPPIC HUB-SPOKE SERVICE MODEL

EPPIC Services Hub (Melbourne)

SAFE Project SPOKE (NSW)

District Center

District Center
NORTHWESTERN ONTARIO
SPECIALIZED OUTREACH SERVICE MODEL

C.M.H.A. Thunder Bay Branch

Kenora/Rainy River District (rural remote northern reserves)

Thunder Bay District

Kenora/Rainy River District (urban remote)
NORTHEASTERN ONTARIO
HUB-SPOKE SERVICE MODEL

Northeast Mental Health Centre

- Algoma
- Timiskaming
- Cochrane
- Muskoka/Parry-Sound
- Sudbury/Manitoulin
- Nipissing
SPECIALIZED OUTREACH VS HUB-SPOKE: QUALITY OF LIFE

**Multnomah Community Ability Scale (MCAS)**

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sp. Outreach (n=15)</td>
<td>26.7% Low, 73.3% High</td>
</tr>
<tr>
<td>Hub-Spoke (n = 77)</td>
<td>29.9% Low, 70.1% High</td>
</tr>
</tbody>
</table>

**SF-12 Physical Health Component**

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sp. Outreach (n=4)</td>
<td>25.0% Low, 75.0% High</td>
</tr>
<tr>
<td>Hub-Spoke (n = 22)</td>
<td>36.4% Low, 63.6% High</td>
</tr>
</tbody>
</table>

**SF-12 Mental Health Component**

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sp. Outreach (n=4)</td>
<td>50.0% Low, 50.0% High</td>
</tr>
<tr>
<td>Hub-Spoke (n = 22)</td>
<td>45.5% Low, 54.5% High</td>
</tr>
</tbody>
</table>
SPECIALIZED OUTREACH VS HUB-SPOKE: HOSPITAL ADMISSIONS

Admitted to Hospital in Last 12 Months (p<0.05)

- Sp. Outreach (n=10)
  - Yes: 30.0%
  - No: 70.0%
- Hub-Spoke (n = 66)
  - Yes: 31.8%
  - No: 68.2%

Number of Hospital Admissions in Last 12 Months

- Sp. Outreach (n=7)
  - > 1 Hospital Admission: 42.9%
  - 1 Hospital Admission: 57.1%
- Hub-Spoke (n =21)
  - > 1 Hospital Admission: 33.3%
  - 1 Hospital Admission: 66.7%

Number of Nights in Hospital in Last 12 Months

- Sp. Outreach (n=7)
  - > 30 nights: 28.6%
  - 30 nights or less: 71.4%
- Hub-Spoke (n =21)
  - > 30 nights: 42.9%
  - 30 nights or less: 57.1%
SPECIALIZED OUTREACH VS HUB-SPOKE: EMERGENCY ROOM VISITS

- **ER Visit in Last 12 Months**
  - Sp. Outreach (n=12): 58.3%
  - Hub-Spoke (n=63): 65.1%

- **Number of ER Visits in Last 12 Months**
  - Sp. Outreach (n=7): 42.9
  - Hub-Spoke (n=22): 40.9

Legend:
- Yes
- No
- >1 ER Visit
- 1 ER Visit
NORTHERN ONTARIO SERVICE MODELS

Northwest: Specialized Outreach

C.M.H.A. Thunder Bay Branch

Kenora/Rainy River District (urban remote)

Kenora/Rainy River District (rural remote northern reserves)

Thunder Bay District

NorthEast: Hub and Spoke

Northeast Mental Health Centre

Algoma

Timiskaming

Muskoka/Parry-Sound

Nipissing

Cochrane

Sudbury/Manitoulin
SUCCESES

NorthWest

- Education initiatives
- Use of videoconferencing
- Shared care across region
- Fidelity to EPI model
- Quality, flexibility
- Service <16 yrs youth
- Consistent, regular psychiatry services

NorthEast

- Regular training
- Use of videoconferencing
- Coordination across 10 agencies in 6 districts
- Local clinicians
- New EPI services in remote areas
- Formalized partnerships
### CHALLENGES

#### NorthWest
- Providing EPI services equally across region
- Erosion of funding
- Wide scope of practice
- Psychiatric services dependent on “good will” of hospital

#### NorthEast
- Variable access to GP/NP
- Variable access to psychiatric services
- No funding for psychiatry
- Part-time equivalent staffing
- Wide scope of practice
TOTAL NUMBER OF PEOPLE SERVED IN THE NORTH EAST EIP: 2007-2010

Timiskaming
Nipissing
Muskoka Parry Sound
Sudbury/Manitoulin
Cochrane
Algoma
TOTAL NUMBER OF PEOPLE SERVED IN THE NORTH WEST EIP: 2007-2010

- 2007/2008
- 2008/2009
- 2009/2010

- Northern/Remote Communities
- Kenora/Rainy River District
- Thunder Bay District
- City of Thunder Bay
RURAL VS NON-RURAL & SP. OUTREACH VS HUB-SPOKE

30 Day Gap in Service (p<0.05)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
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<tbody>
<tr>
<td>Non-Rural (n=71)</td>
<td>94.4</td>
<td>5.6</td>
</tr>
<tr>
<td>Rural (n=91)</td>
<td>82.4</td>
<td>17.6</td>
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</table>

30 Day Gap in Service

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Sp. Outreach (n=13)</td>
<td>92.3</td>
<td>7.7</td>
</tr>
<tr>
<td>Hub-Spoke (n=74)</td>
<td>79.7</td>
<td>20.3</td>
</tr>
</tbody>
</table>
POLICY IMPLICATIONS

- Two different models of delivering specialized mental health services
  - NE developed hub-spoke, modeled after Australia
  - NW developed specialized outreach
- Total numbers serviced in NE is double that of NW
- Each trying to provide specialized services across vast region in equitable manner
- Trends in cross-sectional data show distinct outcomes differences between rural vs. non-rural and two models
- Need follow up research to determine why differences
  - is it due to inequitable access to services?
  - Is it because of the models of care?
ACKNOWLEDGEMENTS

- Centre for Addiction and Mental Health
  - Ms. Anna Marie Danielson
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- Canadian Mental Health Association-Thunder Bay
  - Ms. Mirella Fata
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- Northeast Mental Heath Centre
  - Ms. Nicolle Plante-Dupuis