Estimating capacity requirements for substance use treatment systems: A population-based approach

Dr. Brian Rush¹
Dr. Joël Tremblay²
Chantal Fougere¹

1. Centre for Addiction and Mental Health, Toronto, ON
2. Université du Québec à Trois-Rivières, Trois-Rivières, QC
The treatment “systems” of today are not systems at all – but rather a collection of hospitals and community agencies funded over time in response to local pressures, political advocacy, availability of funds for priority populations, etc.

No real sense of the right balance of treatment settings (detoxification, outpatient, residential)

No real sense of the required capacity of these services in relation to community needs

Goal should be a treatment system that maximizes population-level impact
Project Goals

- Develop a **needs-based planning model** for substance use services and supports across Canada that aligns with the estimated needs of the populations of local health regions.

- Estimate the **number of people** requiring services from each of several categories of substance use treatment services by using national survey data and conducting a national Delphi process on ‘placement matching’.

- Conduct a **gap analysis** between the estimated capacity and the current capacity of substance use services at five pilot sites across Canada.

- Refine the model and convert capacity requirements into **service delivery requirements** (e.g., number of beds; day/evening service slots; trained counsellors).
Estimate the Population In Need

- We aimed to define “need” in a way that most system planners and experienced clinicians could identify with for planning purposes.

- Using national mental health survey data (CCHS 1.2) we categorized the Canadian population into 5 need categories (Tiers).

- Integrate objective indicators of need (e.g., DSM-IV-TR) and subjective perceived need.
Levels of Need (Tiers)

- **Category (Tier) 1**
  Abstainers and light-to-moderate drinkers or drug users.

- **Category (Tier) 2**
  Heavy/binge drinkers or heavy drug users who reported few problems related to their substance use and **did not** meet the DSM criteria for alcohol or drug dependence.

- **Category (Tier) 3**
  People with four or more substance use related problems **OR** who met the criteria for substance abuse or drug dependence.
Levels of Need (Tiers)

- **Category (Tier) 4**
  These respondents experienced several substance use related problems or met the criteria for substance abuse or substance dependence **AND:**
  - had a positive response to the question "During the past 12 months, was there ever a time when you felt that you needed help for your emotions, mental health or use of alcohol or drugs but didn't receive it?" **OR**
  - utilized formal health services because of mental health or substance use issues within the past 12 months **OR**
  - showed significant interference in some aspect of their lives from their drug or alcohol use as indicated by the flag variables for alcohol or drug interference
Levels of Need (Tiers)

- **Category (Tier) 5**

  People placed in this category met all the criteria of Category 4 **AND** the criteria listed below:
  - met the DSM criteria for 2 or more (of five) mental diagnoses (major depression, manic episode, panic, social phobia, agoraphobia without panic) and;
  - had 1 or more mental disorders with significant interference (using the mental health interference flag variable) for at least one of these disorders and;
  - had a physical or mental condition that reduced ability sometimes/often in 1 of 4 areas (home, work, school, leisure)
National Prevalence of Need for SUD Services and Supports
Literature was synthesized to help estimate the rate of probable help seeking in Canada.

Studies of particular interest for this work report data on:
- 12-month help-seeking
- Seeking help specifically for substance use problems

Need to estimate help-seeking for each of the need categories (Tiers 2 – 5)
National Prevalence of Need for SUD Services and Supports and Help-Seeking

- National Prevalence:
  - 80.7%
  - 10.4%
  - 6.1%
  - .2%
  - 2.6%

- Help-Seeking:
  - 32.5%
  - 13%
  - 6%
  - 2%
Define the Service Delivery **Functions** and **Settings** That are Needed

- Assumption:
  - People at different levels of need require different types of assistance – **treatment functions**
## Universal Functions Organized by Tier

<table>
<thead>
<tr>
<th>Function</th>
<th>Prevention and health promotion and addressing stigma and discrimination</th>
<th>Harm reduction</th>
<th>Early identification and intervention</th>
<th>Provision of information, engagement and linkage supports, outreach</th>
<th>Problem identification, assessment of strengths and needs, and individualized treatment and support planning</th>
<th>Delivery of substance use specific and biopsychosocial interventions and supports</th>
<th>Delivery of substance use specific and highly integrated psychosocial, medical and psychiatric Interventions and supports</th>
<th>Continuing care/recovery monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tier 4</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Tier 3</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tier 2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tier 1</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Define the Service Delivery **Functions** and **Settings** That are Needed

- Treatment functions can be delivered in many different types of settings and service delivery models (placement matching)
Comprehensive Treatment System

- Alcohol Drug, Gambling & Mental Health Specialty Treatment & Support
  - Self Change
  - Criminal Justice
  - Schools
  - General Medicine Chronic Disease Treatment
  - Emergency Trauma Services
  - Mutual Help
  - Harm Reduction
  - Workplace Programs
  - Drinking Driving
  - Internet Supports
  - Primary Care
Pan-Canadian Service Delivery
Settings and Models

- **Generic Services** (e.g., SBIRT; addiction liaison)

- **Withdrawal Management Services**
  - Home-based/mobile
  - Social/community residential
  - Complexity enhanced/hospital-based

- **Community Treatment Services**
  - Minimal
  - Moderate
  - Intensive

- **Residential Treatment Services**
  - Supportive recovery
  - Residential treatment
  - Complexity enhanced (medical/psychiatric)
Pan-Canadian Service Delivery
Settings and Models ctd.

- Internet and Mobile-Based Services
- Mutual Aid Resources and Natural Supports
- Housing Services and Supports

- These three service categories are not included in the model at the present time
SCHEMATIC DIAGRAM OF NEEDS-BASED PLANNING MODEL FOR SUBSTANCE USE SERVICES AND SUPPORTS – SERVICE CATEGORIES 2 to 5

Region: ______________ Total Population of 15 and Over: ____________

IN-NEED POPULATION IN THIS SERVICE CATEGORY (N = XXXX)
Population-level Health Promotion, Prevention, Harm Reduction, Stigma and Discrimination, and Early Identification and Intervention

TOTAL HELP-SEEKING POPULATION IN THIS SERVICE CATEGORY (D = XXXX)
Health Promotion, Prevention, Harm Reduction, Stigma and Discrimination, Early Identification and Intervention, Provision of Information, Engagement and Linkage Supports, Problem Identification, Screening and Assessment of Needs and Strengths, and Individualized Treatment Support Planning

Internet and Mobile-Based Services and Supports

Mutual Aid Resources and Natural Supports

Delivery of substance use-specific and biophysical interventions and supports, continuing care/recovery monitoring, and highly-integrated professional, medical and psychiatric interventions and support
Limitations

- Challenge estimating prevalence of prescription opioid dependence (for sure underestimating need)
- Populations excluded from the need estimates include First Nations on reserve and people in institutions including correctional facilities – but covers 98% of population
- Projections from national to regional level with no information on community context
- Boundaries across the substance use treatment system – services are offered in other sectors (e.g., primary care) but are not captured in current data systems
## Gap Analysis Template: Withdrawal Management

<table>
<thead>
<tr>
<th>Withdrawal Management Service</th>
<th>Required Capacity</th>
<th>Current Capacity in Specialized Services</th>
<th># cases per year</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Program name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home-based/Mobile</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Community/Medical Residential</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hospital/Complexity Enhanced</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>
## Gap Analysis Template: Community Services

<table>
<thead>
<tr>
<th>Community Services and Supports</th>
<th>Required Capacity</th>
<th>Current Capacity in Specialized Services</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Program name</td>
<td></td>
</tr>
<tr>
<td>Community Minimal</td>
<td>0</td>
<td># cases per year</td>
<td>0</td>
</tr>
<tr>
<td>Community Moderate</td>
<td>0</td>
<td># cases per year</td>
<td>0</td>
</tr>
<tr>
<td>Community Intensive</td>
<td>0</td>
<td># cases per year</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>
## Gap Analysis Template: Residential Services

<table>
<thead>
<tr>
<th>Residential Services and Supports</th>
<th>Required Capacity</th>
<th>Current Capacity in Specialized Services</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Program name # cases per year</td>
<td></td>
</tr>
<tr>
<td>Supported Recovery</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Residential Services</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Complexity-enhanced/</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(medical/psychiatric)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
It’s not easy, but...

- This approach compliments other needs assessment strategies
  - Key informants
  - Referral patterns

- Despite the challenges with the current model, we understand that this work is needed to balance “political” factors associated with many funding decisions

- If we’re not doing this, how are we supporting funding decisions with research evidence?
Questions and Comments