



# Impact and lessons learned in the implementation of a NBP model across the province of Québec, Canada

Joël Tremblay, Université du Québec à Trois-Rivières

Brian Rush, Centre for Addiction and Mental Health

Karine Bertrand, Université de Sherbrooke

Nadine Blanchette-Martin, Service de recherche en Dépendance  
CIUSSS de la Capitale-Nationale / CISSS de Chaudière-Appalaches

Nadia L'Espérance, Services de réadaptation en dépendance du  
CIUSSS de la Mauricie et du Centre-du-Québec

Annie-Claude Savard, Université Laval

Geneviève Demers-Lessard, Université du Québec à Trois-Rivières

# Estimation of Needs for Addiction Services: A Youth Model

JOËL TREMBLAY, PH.D.,<sup>a,b,\*</sup> KARINE BERTRAND, PH.D.,<sup>c</sup> NADINE BLANCHETTE-MARTIN, M.SC.,<sup>d</sup> BRIAN RUSH, PH.D.,<sup>e,f</sup> ANNIE-CLAUDE SAVARD, PH.D.,<sup>g</sup> NADIA L'ESPÉRANCE, PH.D.,<sup>h</sup> GENEVIÈVE DEMERS-LESSARD, M.SC.,<sup>a</sup> & ROSALIE GENOIS<sup>a</sup>

<sup>a</sup>*Département de psychoéducation, Université du Québec à Trois-Rivières, Québec City, Québec, Canada*

<sup>b</sup>*RISQ (Recherche et intervention sur les substances psychoactives–Québec), Université du Québec à Trois-Rivières, Trois-Rivières, Québec, Canada*

<sup>c</sup>*Université de Sherbrooke, Longueuil, Québec, Canada*

<sup>d</sup>*Service de recherche en dépendance CIUSSS-Capitale-Nationale/CISSS-Chaudière-Appalaches, Québec City and Lévis, Québec, Canada*

<sup>e</sup>*Institute for Mental Health Policy Research at CAMH, Centre for Addiction and Mental Health, Toronto, Ontario, Canada*

<sup>f</sup>*Departments of Psychiatry and Public Health Sciences, University of Toronto, Toronto, Ontario, Canada*

<sup>g</sup>*Université Laval, Québec City, Québec, Canada*

<sup>h</sup>*CIUSSS-Mauricie-Centre-du-Québec, Trois-Rivières, Québec, Canada*

**ABSTRACT. Objective:** In the field of health care services, resource allocation is increasingly determined based on a population needs model. Although service needs models have been developed for adults with substance use problems, it would seem inappropriate to apply them indiscriminately to young people. **Method:** The method used proposes six steps: (1) targeting the population, (2) estimating the proportion of the population affected by substance misuse and (3) the proportion of youths who should receive services, (4) identifying categories of services, (5) estimating the proportions of youths who should have access to each category of services, and (6) applying the model to real use of services by youths to recalibrate it. **Results:** Youths ages 12–17 from the Province of Québec were classified within a tiered model comprising four levels of substance use severity. Youths in need of services varied from 38% (*weak response*) to 95% (*high response*) for the highest severity cases. Service categories retained are detoxification/intoxication, outpatient, and residential, with each one being subdivided into four categories. The proportion of youths from each tier who should access categories and subcategories of services varied widely. After a pre-experimentation, the model was adjusted. **Conclusions:** The model can be applied in different jurisdictions, with the caution of adjusting prevalence to local reality. Further improvement will be based on more accurate information concerning the path of clients through services, better strategies to reach youths

# Estimate the population with the trouble

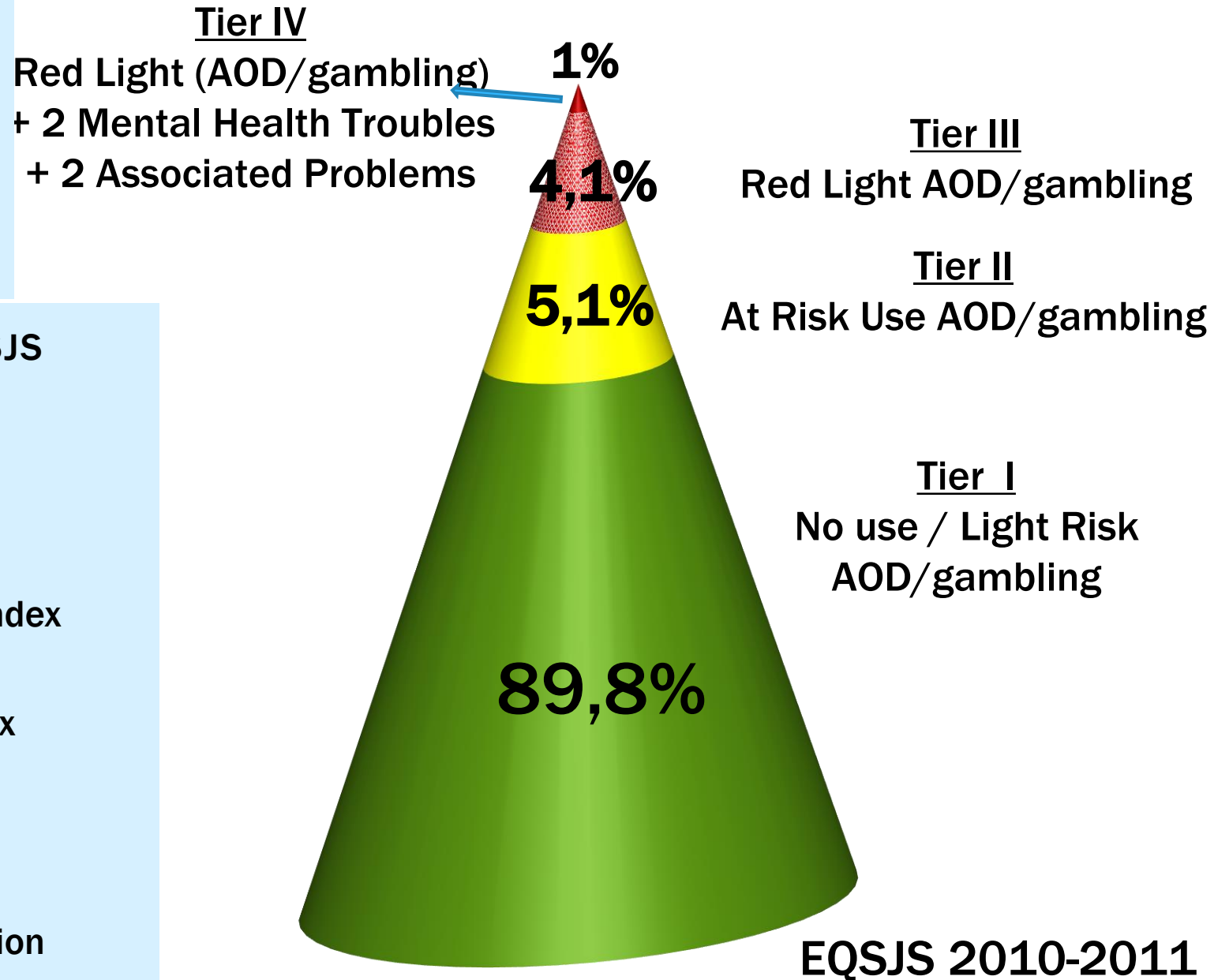
## ■ Mental Health

### problems(EQSJS 2010-2011)

- Dx /Dr: depression, Anxiety Trouble, Boulemia/Anorexia Trouble
- Psychological Distress Index
- Inattention Index

## ■ Associated Problems (EQSJS 2010-2011)

- School Dropout Probablility
- School Attachment
- Victimization Index
- Low social support from friends Index
- Direct Aggressivity
- Rebellious / Risky Behaviors Index
- Delinquant Behaviours
- Parental Supervision
- Social support from Family
- High social / material defavorisation

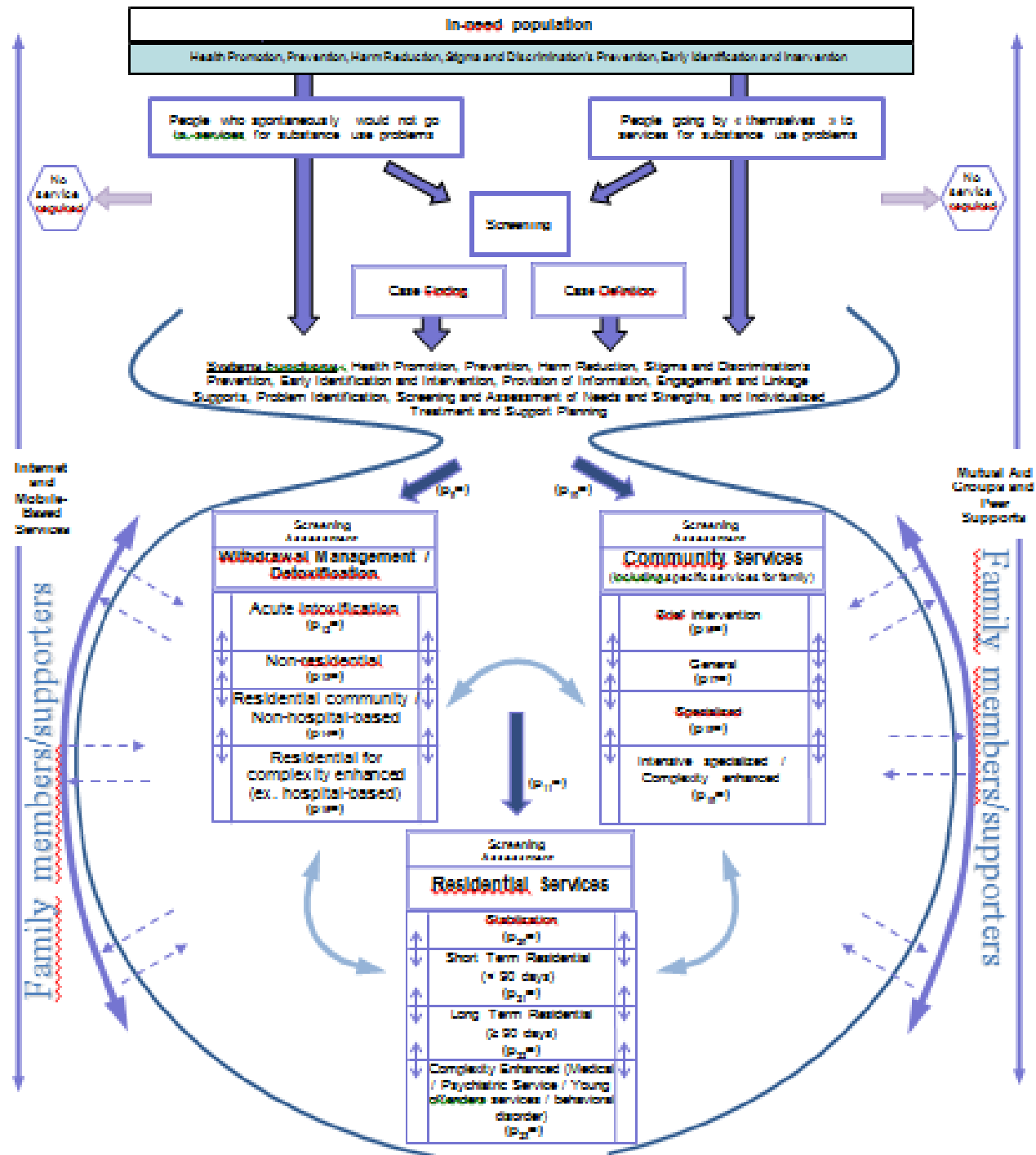


**Define services categories to  
respond to the full range of  
needs**

# Delphi Consensus Groups

Meetings	Delphi Groups		Nb of participants
	Québec	Outside Québec	
<b>Identify services categories</b>			
<b>1 (in person)</b>	7	3 (Vancouver, Calgary et Toronto)	63
<b>2 (phone &amp; in person)</b>	5	2 (Toronto et Calgary)	45
<b>Identify % of youth in each category</b>			
<b>3 (in person)</b>	6	3 (Vancouver, Calgary et Toronto)	47
<b>4 (phone &amp; in person)<sup>5</sup></b>	3	1 (Toronto)	16

<sup>5</sup> Les groupes de la 4<sup>e</sup> ronde de consultation sont moins nombreux car plusieurs participants ont été regroupés mais aussi, selon la durée du 3<sup>e</sup> groupe, certains ont pu atteindre un consensus lors de cette 3<sup>e</sup> rencontre, ne nécessitant pas alors une 4<sup>e</sup> rencontre.



# In-need population

Health Promotion, Prevention, Harm Reduction, Stigma and Discrimination's Prevention, Early Identification and Intervention

People who spontaneously would not go to services for substance use problems

People going by « themselves » to services for substance use problems

No service required

No service required

Screening

Case Finding

Case Definition

Systems Functions : Health Promotion, Prevention, Harm Reduction, Stigma and Discrimination's Prevention, Early Identification and Intervention, Provision of Information, Engagement and Linkage Supports, Problem Identification, Screening and Assessment of Needs and Strengths, and Individualized Treatment and Support Planning

Internet and Mobile-

(p<sub>9</sub>=)

(p<sub>10</sub>=)

Mutual Aid Groups and Peer



Internet and Mobile-Based Services

Mutual Aid Groups and Peer Supports

Family members/supporters

Family members/supporters

Screening Assessment	
<b>Withdrawal Management / Detoxification</b>	
Acute intoxication (p <sub>12</sub> )	↕
Non-residential (p <sub>13</sub> )	↕
Residential community / Non-hospital-based (p <sub>14</sub> )	↕
Residential for complexity enhanced (ex. hospital-based) (p <sub>15</sub> )	↕

Screening Assessment	
<b>Community Services</b> <i>(including specific services for family)</i>	
Brief intervention (p <sub>16</sub> )	↕
General (p <sub>17</sub> )	↕
Specialized (p <sub>18</sub> )	↕
Intensive specialized / Complexity enhanced (p <sub>19</sub> )	↕

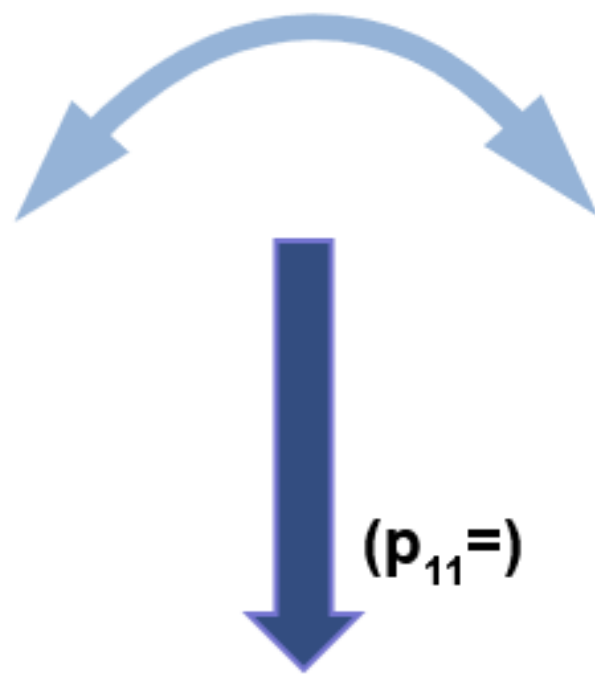
Screening Assessment	
<b>Residential Services</b>	
Stabilization (p <sub>20</sub> )	↕
Short Term Residential (< 90 days) (p <sub>21</sub> )	↕
Long Term Residential (≥ 90 days) (p <sub>22</sub> )	↕
Complexity Enhanced (Medical / Psychiatric Service / Young offenders services / behavioral disorder) (p <sub>23</sub> )	↕

(p<sub>11</sub>)

(p<sub>9</sub>)

(p<sub>10</sub>)

Screening Assessment	
<b><u>Withdrawal Management / Detoxification</u></b>	
↑	Acute intoxication ( $p_{12} =$ )
↓	<u>Non-residential</u> ( $p_{13} =$ )
↑	Residential community / Non-hospital-based ( $p_{14} =$ )
↓	Residential for complexity enhanced (ex. hospital-based) ( $p_{15} =$ )



Screening Assessment	
<b>Community Services</b> (including specific services for family)	
↑	Brief intervention ( $p_{16} =$ )
↓	General ( $p_{17} =$ )
↑	<u>Specialized</u> ( $p_{18} =$ )
↓	Intensive specialized / Complexity enhanced ( $p_{19} =$ )

## Screening Assessment

# Residential Services

## Stabilization

( $p_{20} =$ )

Short Term Residential  
( $< 90$  days)

( $p_{21} =$ )

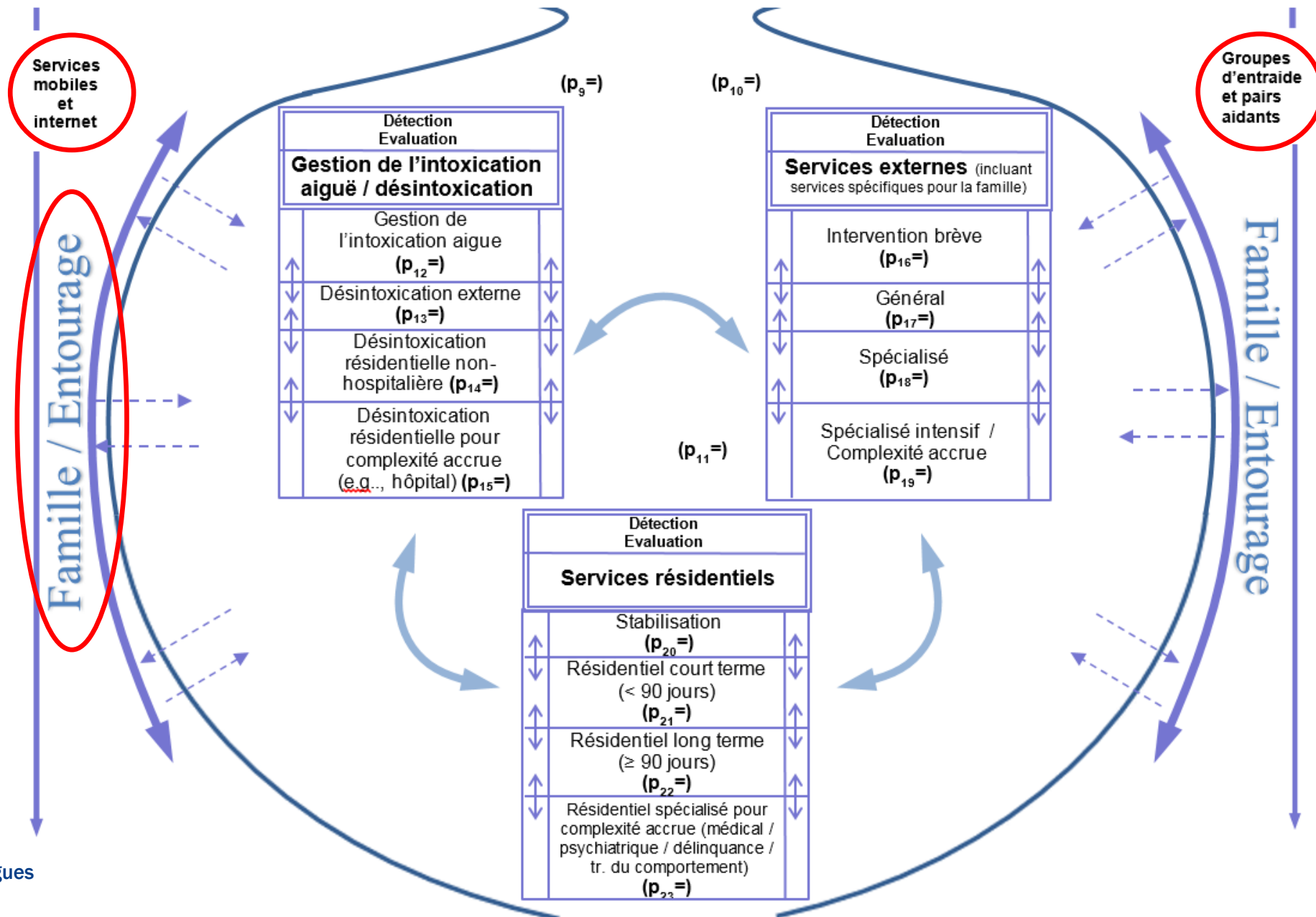
Long Term Residential  
( $\geq 90$  days)

( $p_{22} =$ )

Complexity Enhanced (Medical  
/ Psychiatric Service / Young  
offenders services / behavioral  
disorder)

( $p_{23} =$ )

■ 3 types de services, déclinés en 4 sous-types



# Proportion of cases from Step 3 who should access to each services

# Experts groups: % of youth in real need of services/year

Niveau	Groupes	Types de services		
		<u>Désin-</u> <u>tox.</u> (P <sub>9</sub> )	<u>Serv.</u> <u>ext.</u> (P <sub>10</sub> )	<u>Serv.</u> <u>int.</u> (P <sub>11</sub> )
IV	<u>Qc</u> 12fév2015	60	100	95
	C-A 16fév2015	20	100	55
	<u>Mtla</u> 19fév2015	20	100	60
	Laur 27fév2015	20	100	95
	MCQ 27fév2015	17	100	92
	<u>Mtlf</u> 3mars2015	15	100	70
	Toronto 13fév2015	30	100	30
	<u>Vanc</u> 2mars2015	60	100	35
	Calgary 3mars2015	70	100	85
		<b>Médiane</b>	<b>20,00</b>	<b>100,00</b>
	<b>Moyenne</b>	<b>34,67</b>	<b>100,00</b>	<b>68,56</b>

Niveaux	groupes	Type de services			Gestion du sevrage / Désintoxication (P9)			
		Gest. sevrage (P9)	S. externes (P10)	S. internes (P11)	Gest. intox. Aigue (P12)	Externe (p13)	Rési. non-hosp. (p14)	Rési. complex. accrue (P15)
4	Qc 12fév2015	60	100	95	25	75	20	0,5
	C-A 16fév2015	20	100	55	5	90	20	0,5
	Mtla 19fév2015	20	100	60	2,5	100	35	5
	Laur 27fév2015	20	100	95	25	10	75	1
	MCQ 27fév2015	17	100	92	20	80	5	0,25
	Mtlf 3mars2015	15	100	70	30	67	10	2
	Toronto 13fév2015	30	100	30	12	50	40	10
	Vanc 2mars2015	60	100	35	9	25	65	5
	Calgary 3mars2015	70	100	85	15	15	85	1
	<b>Médiane</b>	<b>20,00</b>	<b>100,00</b>	<b>70,00</b>	<b>15,00</b>	<b>67,00</b>	<b>35,00</b>	<b>1,00</b>
	<b>Moyenne</b>	<b>34,67</b>	<b>100,00</b>	<b>68,56</b>	<b>15,94</b>	<b>56,89</b>	<b>39,44</b>	<b>2,81</b>
3	Qc 12fév2015	35	100	20	25	80	10	0,5
	C-A 16fév2015	15	100	10	5	95	10	0,5
	Mtla 19fév2015	10	100	20	2	100	30	4
	Laur 27fév2015	10	100	10	25	50	50	0,5
	MCQ 27fév2015	8,5	100	40	12,5	90	3	0
	Mtlf 3mars2015	10	100	30	45	50	5	1
	Toronto 13fév2015	25	100	25	12	50	40	10
	Vanc 2mars2015	45	100	35	10	50	45	5
	Calgary 3mars2015	70	100	85	12	25	75	1
	<b>Médiane</b>	<b>15</b>	<b>100</b>	<b>25</b>	<b>12</b>	<b>50</b>	<b>30</b>	<b>1</b>
	<b>Moyenne</b>	<b>25,39</b>	<b>100,00</b>	<b>30,56</b>	<b>16,50</b>	<b>65,56</b>	<b>29,78</b>	<b>2,50</b>
2	Qc 12fév2015	5	100	5	100	0	0	0
	C-A 16fév2015	3	100	0	100	0	0	0
	Mtla 19fév2015	1	100	0	100	1	1	0,5
	Laur 27fév2015	1	100	0	100	1	0	0
	MCQ 27fév2015	5	100	1,5	95	5	0	0
	Mtlf 3mars2015	1	100	2	100	0	0	0
	Toronto 13fév2015	5	100	1	100	0	0	0
	Vanc 2mars2015	5	100	2	100	0	5	0
	Calgary 3mars2015	3	100	1	95	0	5	0
	<b>Médiane</b>	<b>3,00</b>	<b>100,00</b>	<b>1,00</b>	<b>100,00</b>	<b>0,00</b>	<b>0,00</b>	<b>0,00</b>
	<b>Moyenne</b>	<b>3,22</b>	<b>100,00</b>	<b>1,39</b>	<b>98,89</b>	<b>0,78</b>	<b>1,22</b>	<b>0,06</b>

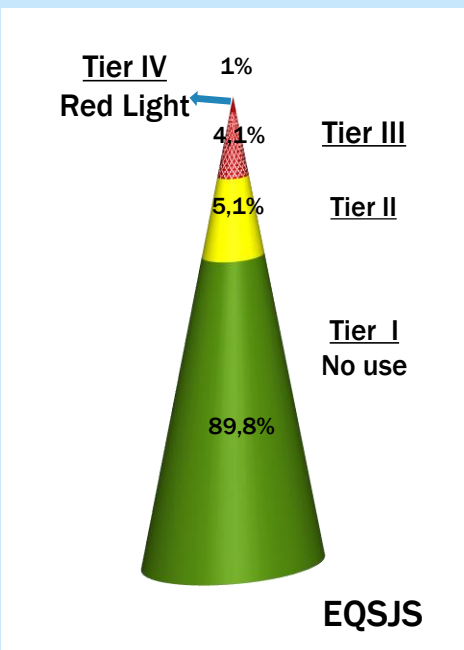
# Ponderation

- Use of stats on the flow of 1500 youths in consecutive admission five specialized addiction centers in Quebec (MAJT)
- Realist and not idealistic
- \* Ambulatory general services
  - Utilisation des proportions connues concernant les taux d'acceptation des services spécialisés
    - Parmi les jeunes orientés vers ces services 95,2% accepteront
    - Parmi ceux ayant accepté, 89,7% débiteront
    - Donc sur 100% des jeunes pour qui il est recommandé de recevoir ces services, 85,4% les débiteront
- Ambulatory specialized
  - Utilisation des proportions connues concernant les taux d'acceptation des services spécialisés
    - Parmi les jeunes orientés vers ces services 93,5% se rendront à une 1<sup>re</sup> rencontre
    - Parmi ceux s'étant rendus à cette 1<sup>re</sup> rencontre et ayant été orientés vers des services spécialisés externes 95,2% accepteront
    - Parmi ceux ayant accepté, 89,7% débiteront
    - Donc sur 100% des jeunes pour qui il est recommandé de recevoir ces services, 79,8% les débiteront



**Recalibrate: Based on pre-experimentation with regions known to have a high/low penetration rate of specialized outpatient AOD services for youth**

# Recalibrate based on two regions with high and low penetration rates of youth's services



Severity Level	Level III is the reference	Level of institutional response		
		Low	Moderate	High
<b>Level IV</b> DEP-ADO 20+ / ICJA-SGPJ 6+ ET 2+ problèmes de santé mentale ET 2 facteurs aggravants	X 2,5	38%	83%	95% <sup>7</sup>
<b>Level III</b> DEP-ADO 20+ / ICJA-SGPJ 6+ ET ne répond pas aux critères du niveau IV	0	15%	33%	50%
<b>Level II</b> DEP-ADO 13 à 19 ou ICJA-SGPJ 2 à 5	÷3	5%	11%	17%
<b>Level I</b> DEP-ADO 0 -12 / ICJA-SGPJ 0-1	Pas besoin de services Promotion de la santé Prévention universelle	0%	0%	0%

<sup>7</sup> La proportion est ici modifiée à 95%. Si on multiplie 50% par un facteur 2,5, on obtient 125%, ce qui est impossible et il est irréaliste de rencontrer 100% des jeunes de niveau IV, on retient donc 95%.

# Estimation of youth (12-17 years old) substances addiction services needs: Quebec Province

Type de services				Gestion de l'intoxication aiguë / Désintoxication				Services externes				Services résidentiels				
Gest. Sev.	Serv. ext.	Serv. int.	Gest. intox. aigue	Ext.	Rés. non-hosp.	Rés. Complexité accrue	Interven-tion brève	Général PR: 85,4%	Spé-cialisé PR:79,8 %	Spé-cialisé intensif PR:57,6 %	Stabili-sation PR:57,6 %	Court terme PR:35,1 %	Long terme PR:35,1 %	Com-plexité accrue		
<b>Estimation des besoins</b>																
Taux péné-tration	Faible	858	6108	2055	98	473	265	8	6108	2435	3491	790	1139	425	162	196
	Moyen	1888	13437	4520	834	1040	582	18	13437	5357	7681	1738	2506	935	357	932
	Élevé	2566	18887	5818	1717	1379	779	24	18887	7677	10639	2210	3204	1236	432	2404
<b>Données disponibles, fournies par le MSSS, concernant l'utilisation réelle des services</b>																
Jeunes ayant reçu ces services en CRD 2012-13 (SIC-SRD)											5757			507	369	
Admission urgence CH 2014-2015 (SIURGE)											755					
Hospitalisa-tions (MED-ECHO)	2013				123				18						667	
	2012				143				20						641	
	2011				139				24						651	
	Taux		Estimation besoin													
pénétration		nombre de lits / année														
Faible		59		53												
Moyen		130		116												
Élevé		171		141												

# IMPLEMENTATION IMPLICATIONS

- Large interest from government
- Need of recalculate for each region
- Large need of support to use the model
  - Regular meetings with regional directors
- Rotation of directors, the new ones don't know about the model...
- Benefits
  - Provides an understanding of the services spectrum
  - Indicates rapidly the most important gaps
  - Guides decisions about where to invest new money
  - Help to « calm » the pressure from specific authorities (e.g., money to develop new beds when the model illustrates the excess of beds in a specific area)

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**Obrigado**  
**Thank you**  
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