USING COMMUNITY DATA TO ADDRESS HOMELESSNESS

McGill

125 YEARS | MISSION OLD BREWERY

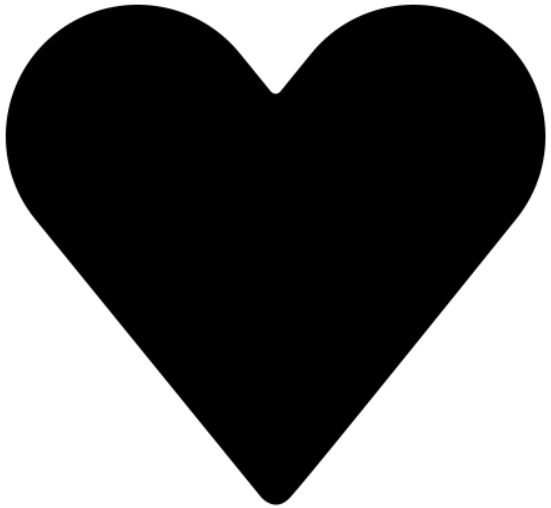
The Partnership:

A long-term community-level research project that started in 2011. It brings evidence to decision-makers at the shelter so they can make better policies. It generates place-based knowledge that incorporates expertise from key stakeholders including frontline practitioners and service users.

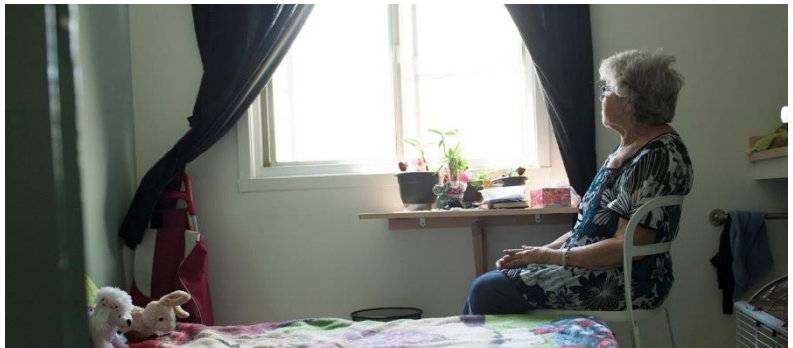
McGill

125 YEARS | MISSION OLD BREWERY

Scientific Rigor + Community Knowledge =



MISSION
OLD BREWERY



HISTORY

OLD MODEL

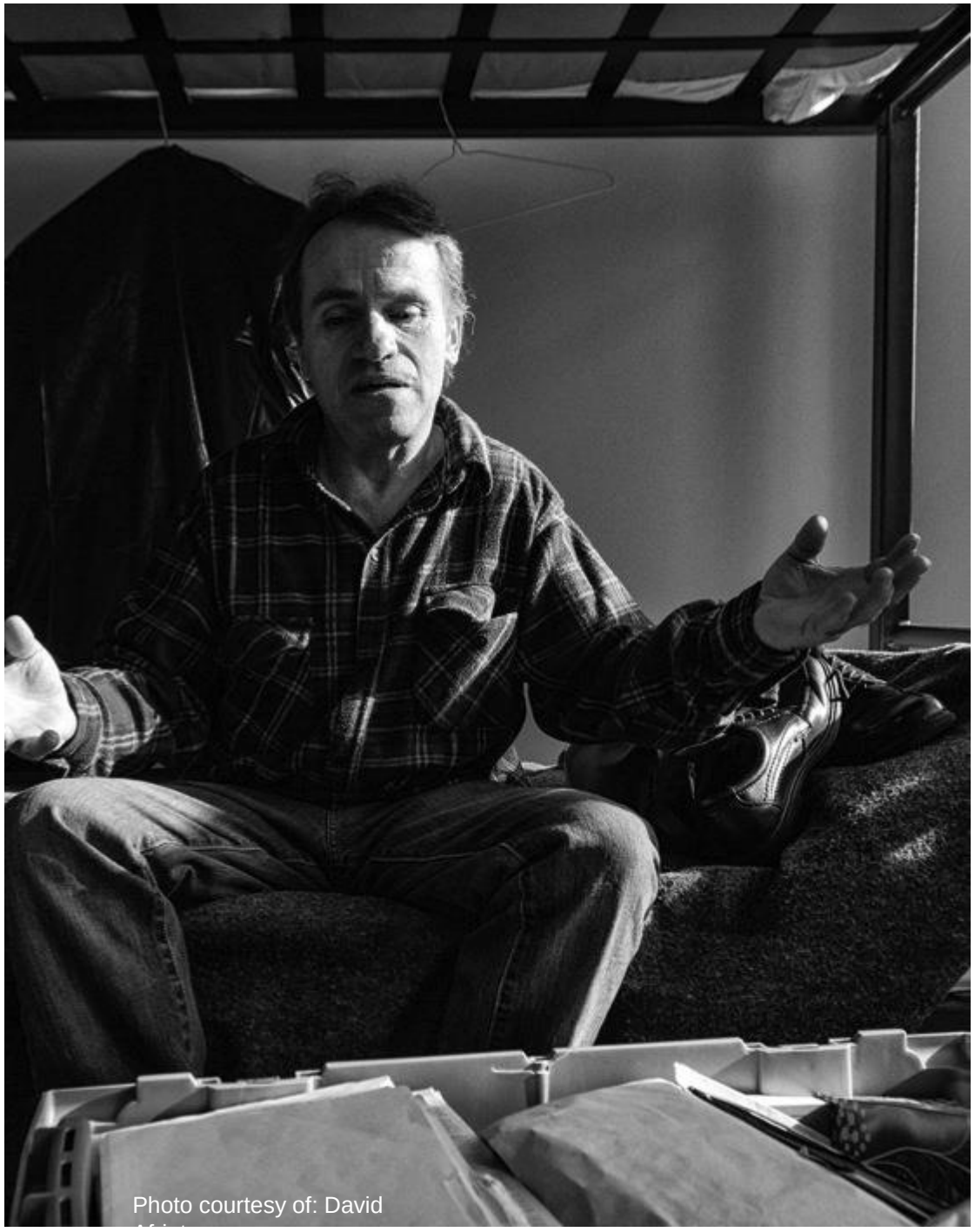
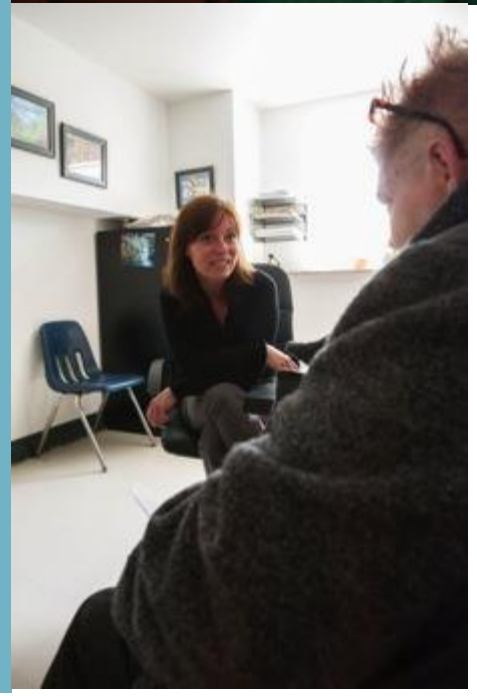


Photo courtesy of: David

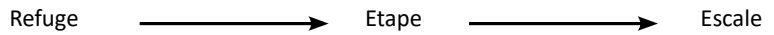
NEW MODEL



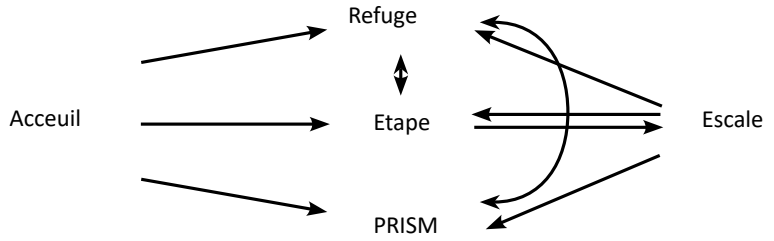
Social change at the shelter

LESS LINEAR, MORE ADAPTIVE PROGRAMMING

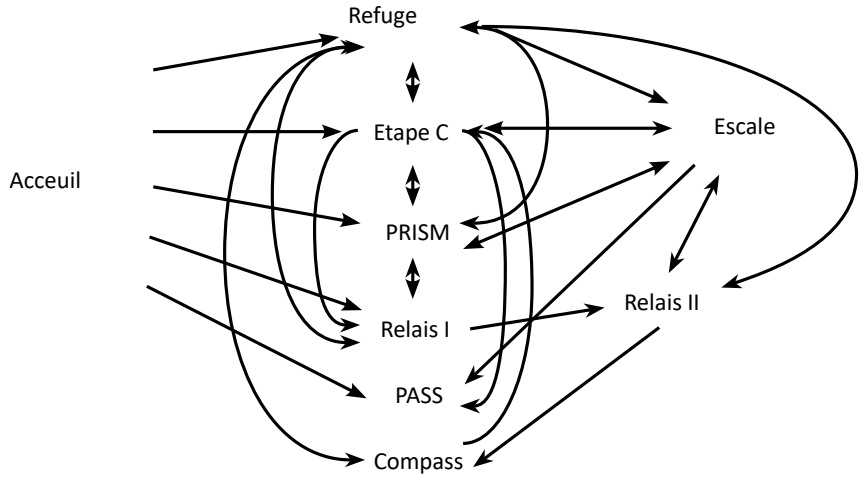
2010-2012



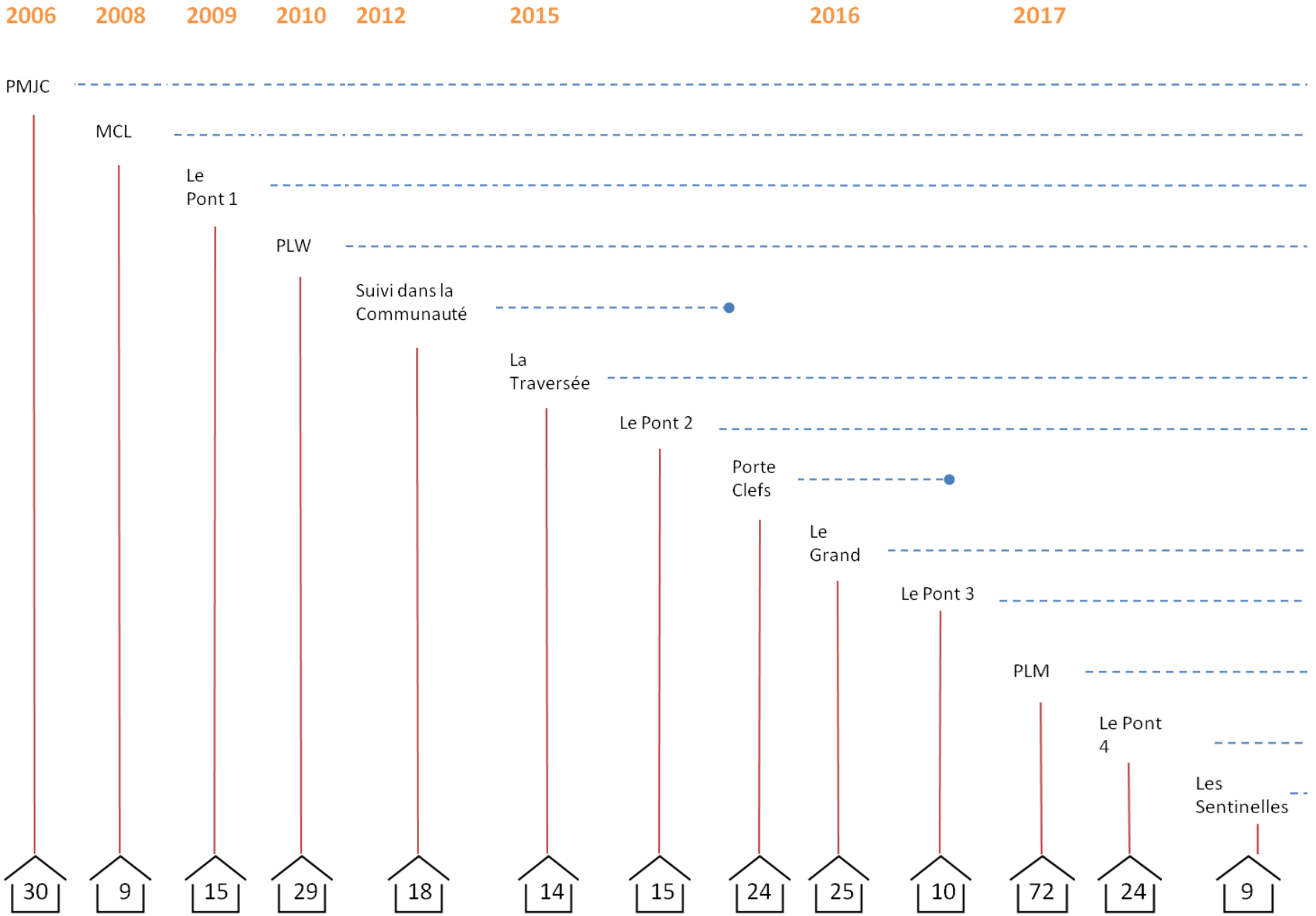
2013



2014




MORE COMMUNITY HOUSING SOLUTIONS!



2006: 30 appartements

Enough History…
Show. Me. The. Data!

1001001100100101010001010001010100100010001

What is in our database?

90,000 people and counting (2002-today)
Base information:

Age
Gender
Length of stay
Ever banned from shelter

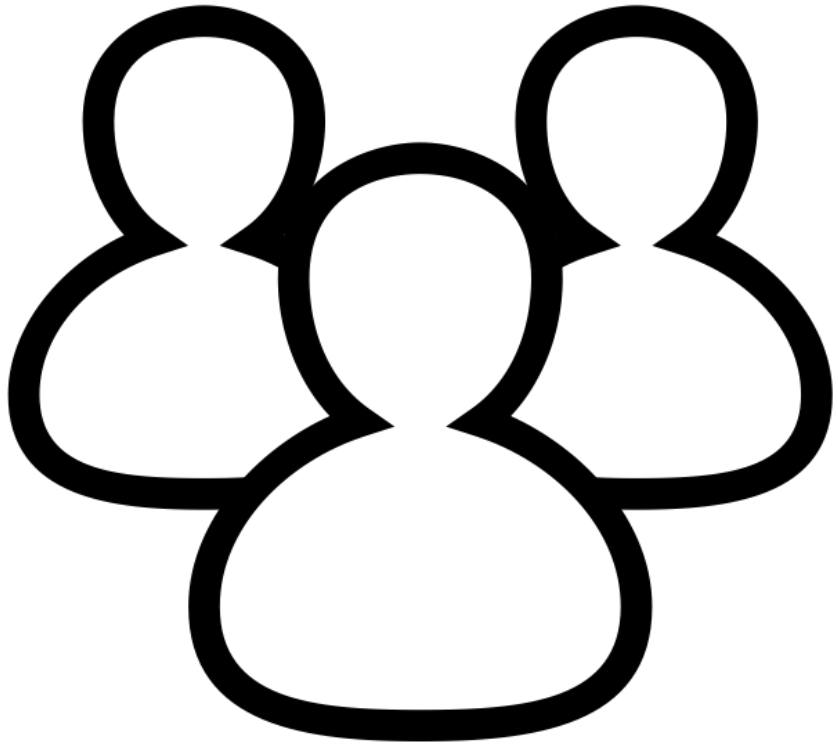
3800 transitional program clients and counting (2009-today)
Additional information:

Education
Case notes
Major health issues
Citizenship
Aboriginal status
Veteran status
Mental health issues

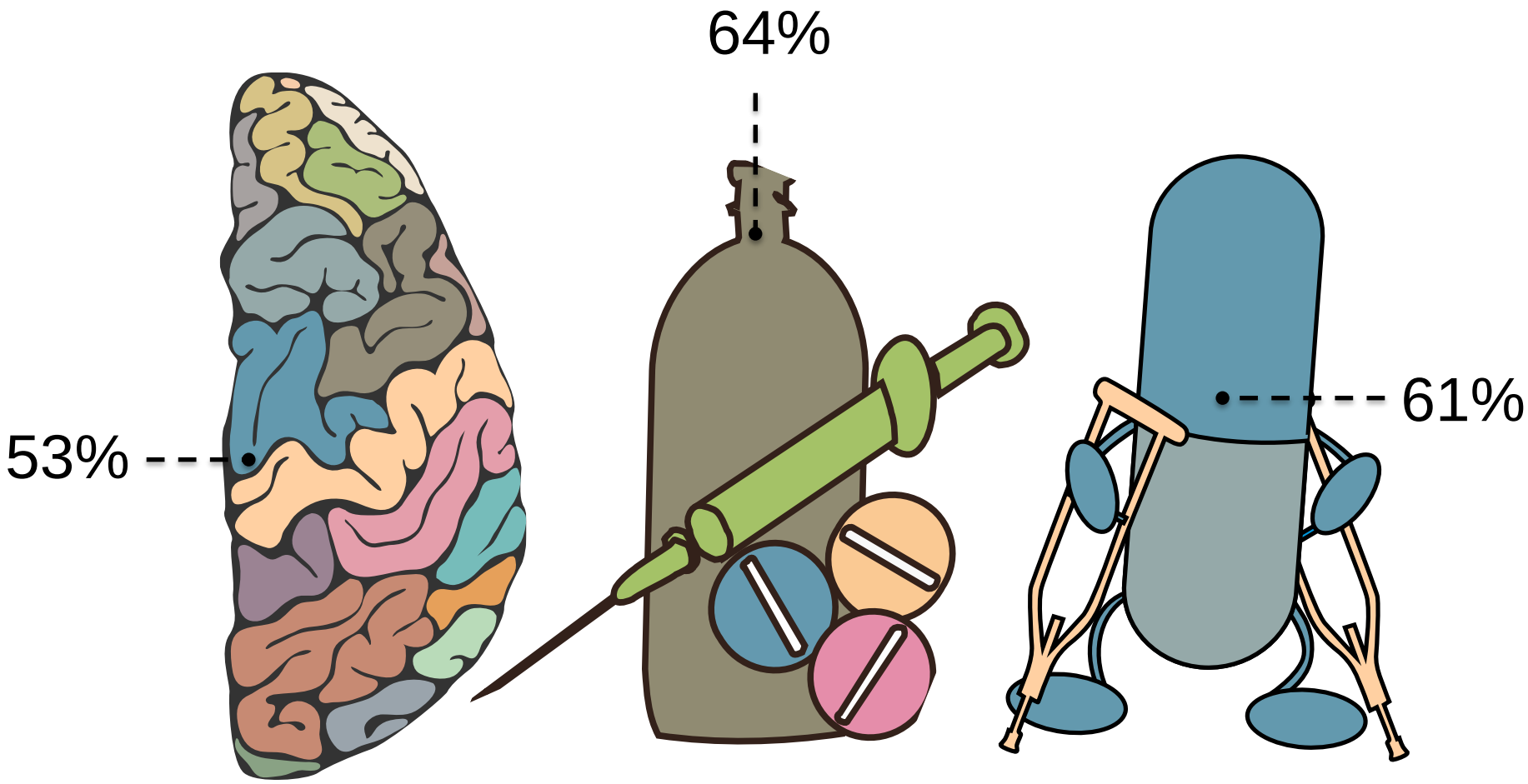
Reason for losing last apartment
Ever homeless before
Ever banned
Substance use issues
Psychosocial vulnerabilities
Disability

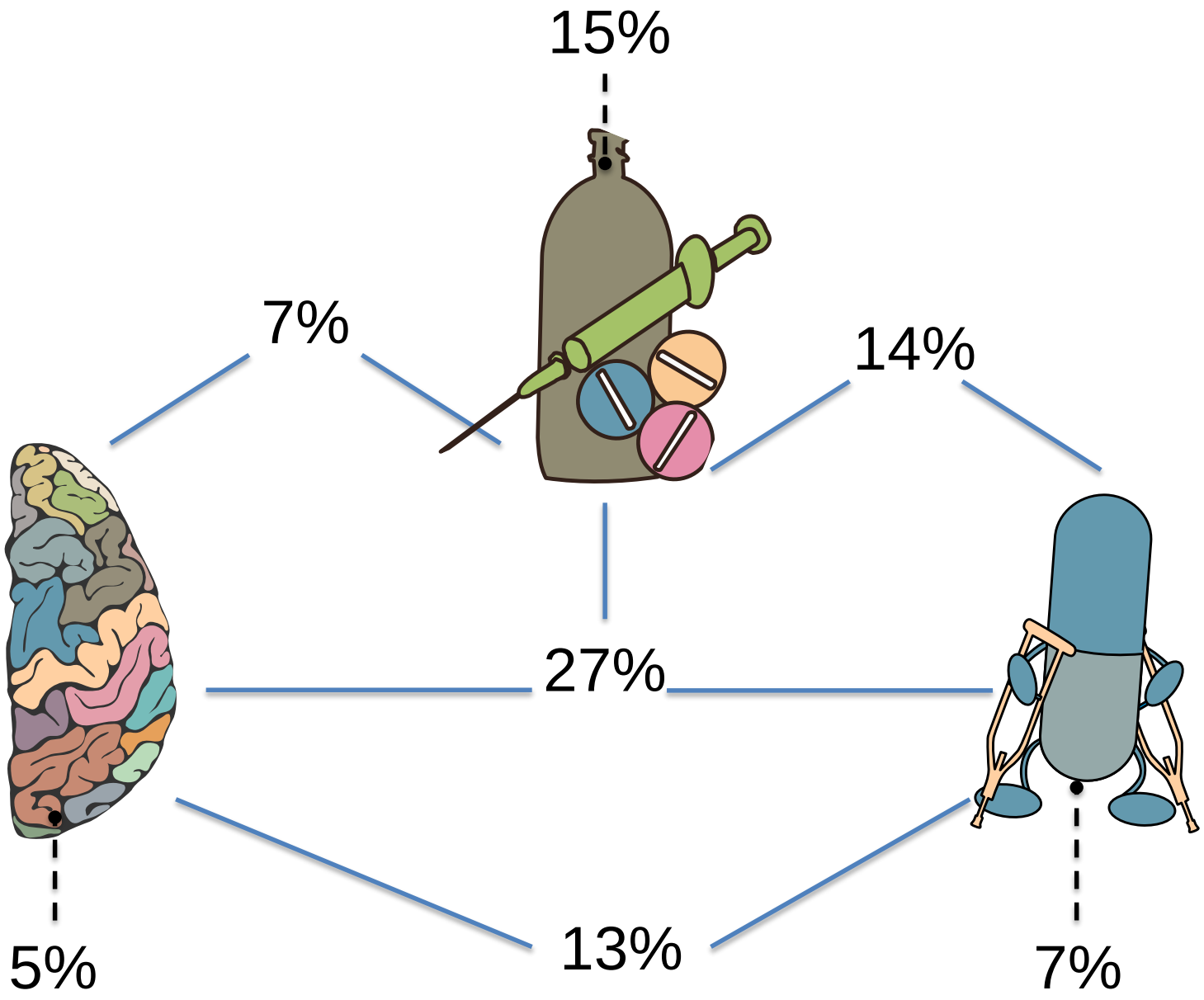
Eviction hx
Contact with family
Referrals
Closing survey
…and more!

Demographics




How prevalent are medical conditions?


64%
53%
61%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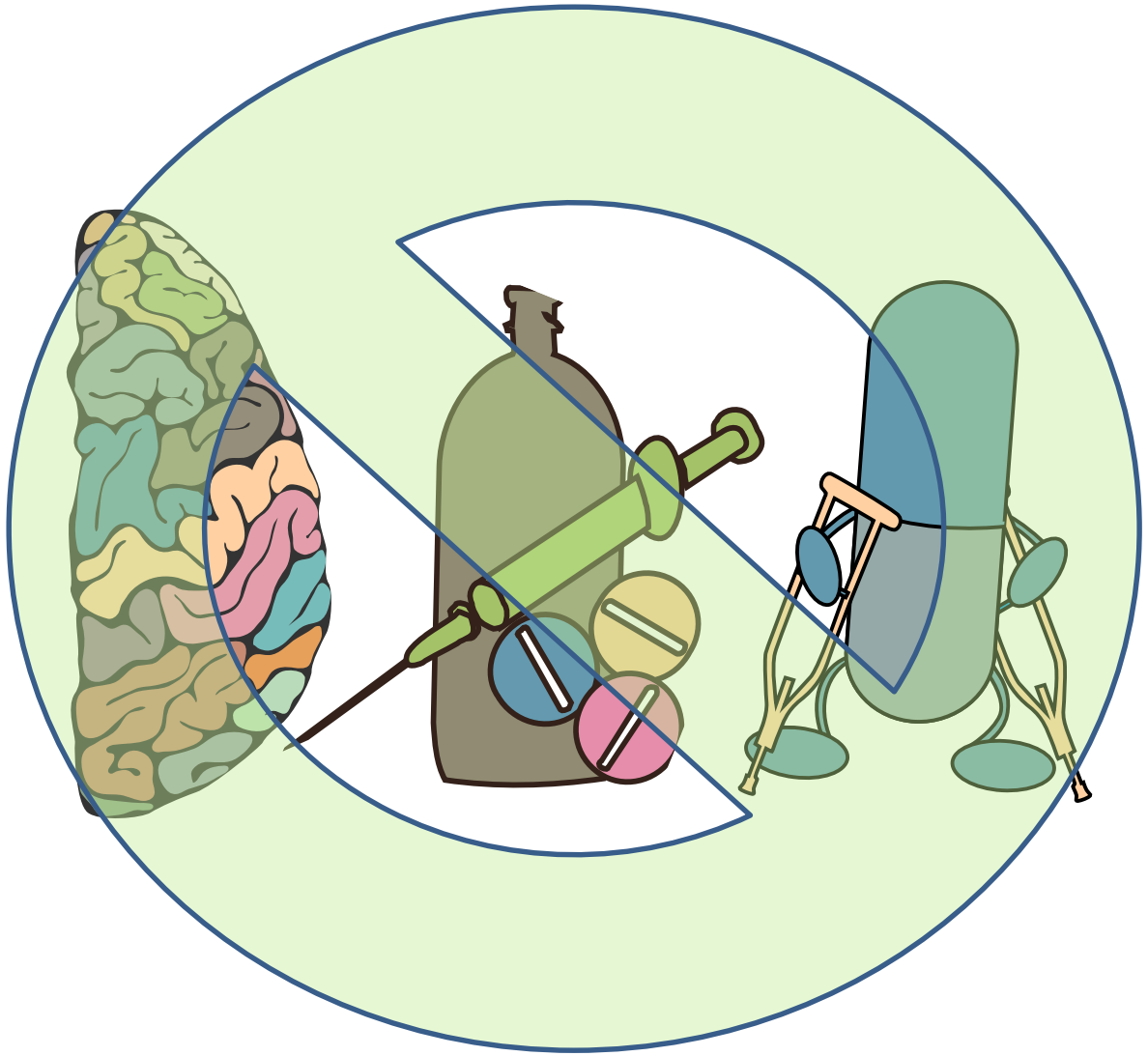
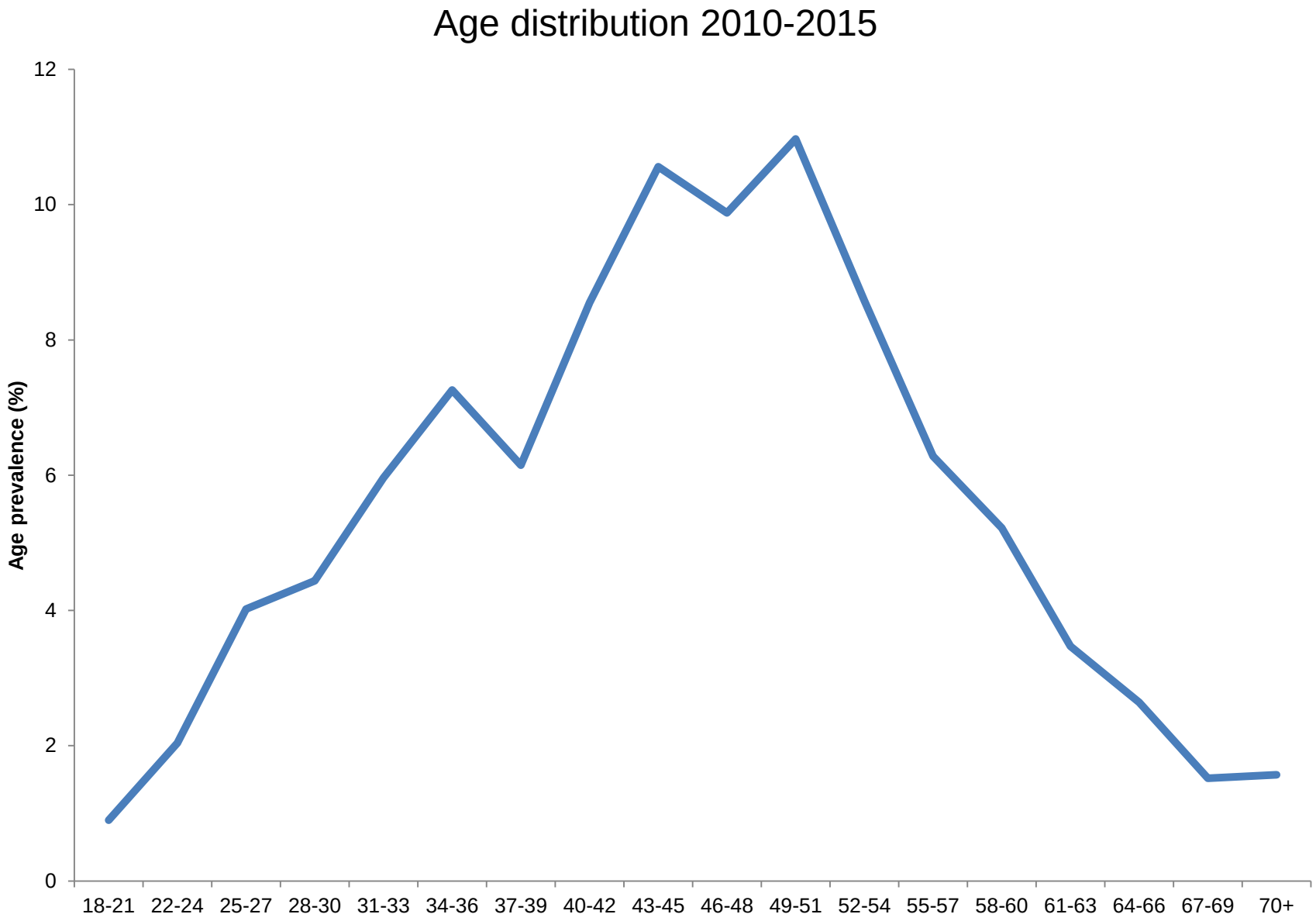
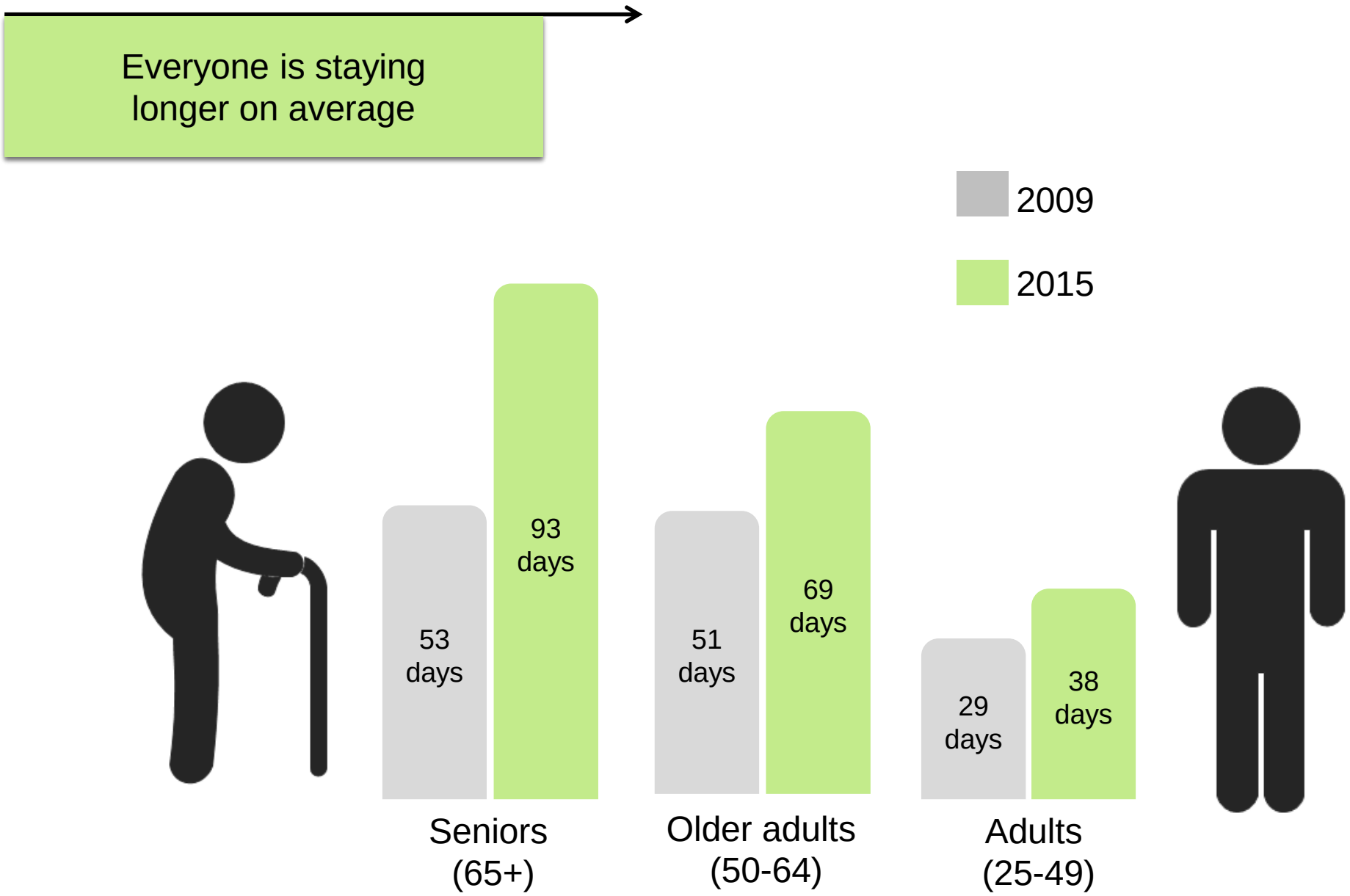


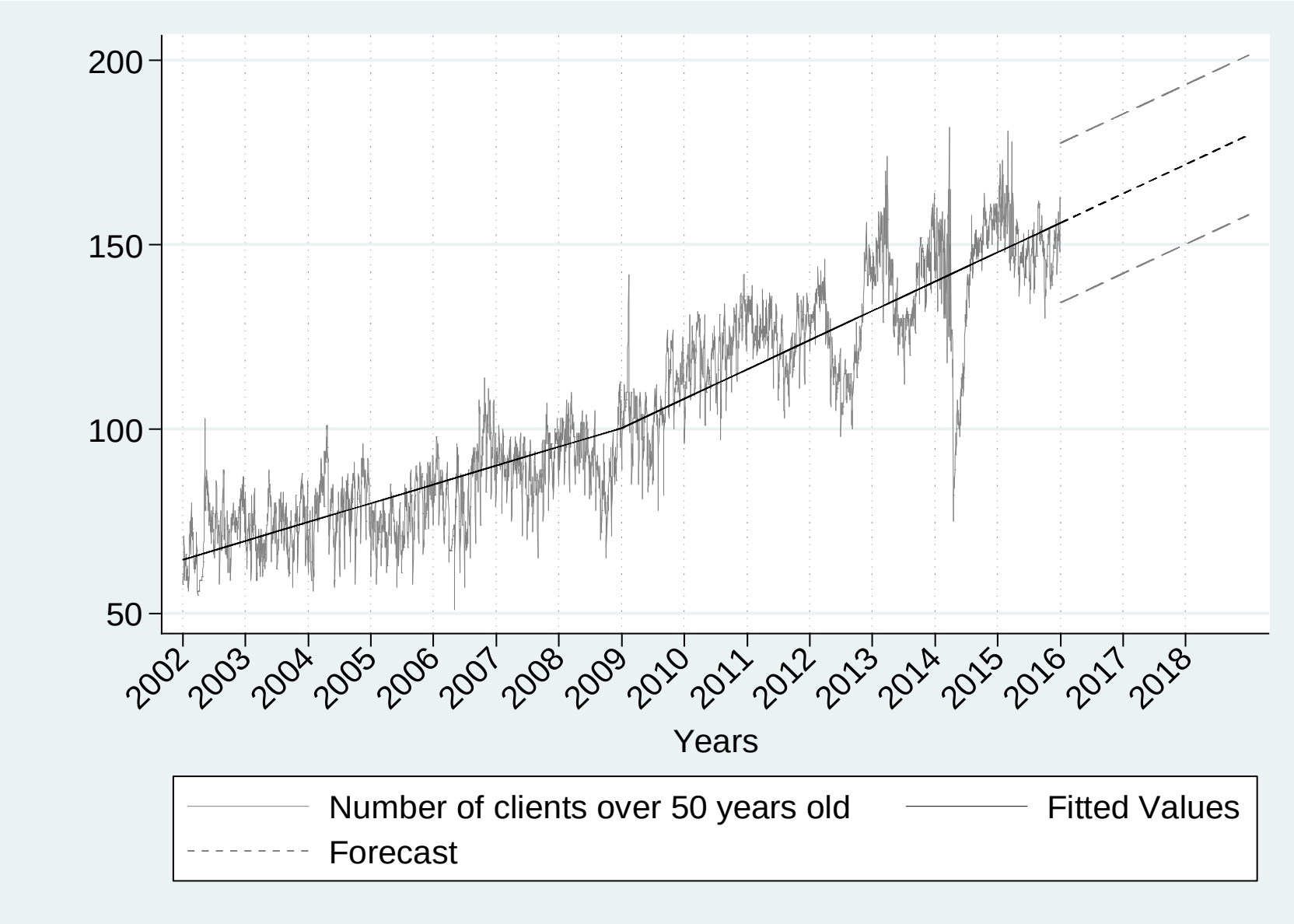
11% have no self-reported problems

How is homelessness affected by life course?


Age distribution 2010-2015
Age prevalence (%)
0
2
4
6
8
10
12
18-21
22-24
25-27
28-30
31-33
34-36
37-39
40-42
43-45
46-48
49-51
52-54
55-57
58-60
61-63
64-66
67-69
70+

Everyone is staying longer on average

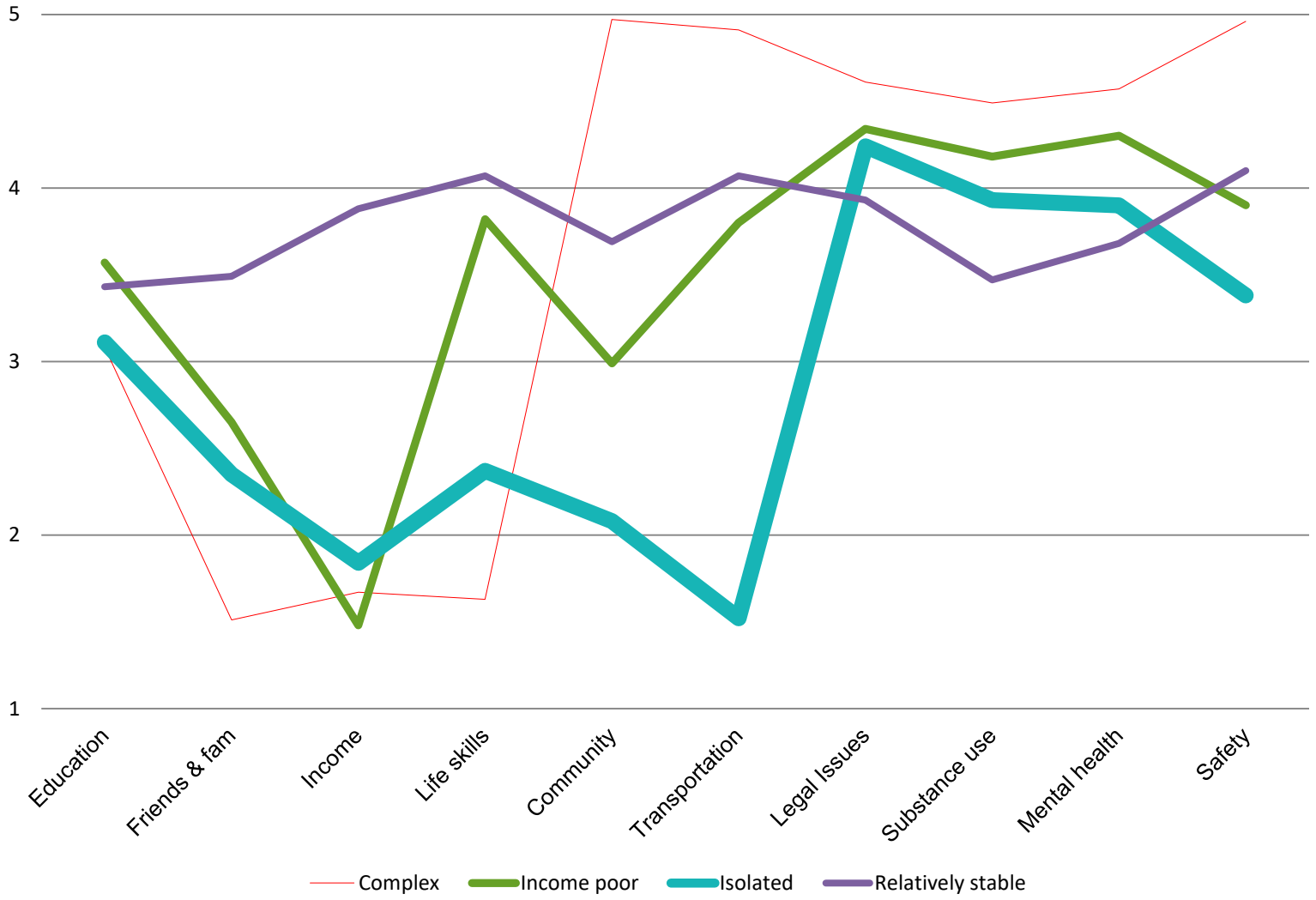



200
150
100
50
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Years
Number of clients over 50 years old
Fitted Values
Forecast

Now for some more in-depth analysis!

How are people different psychosocially?

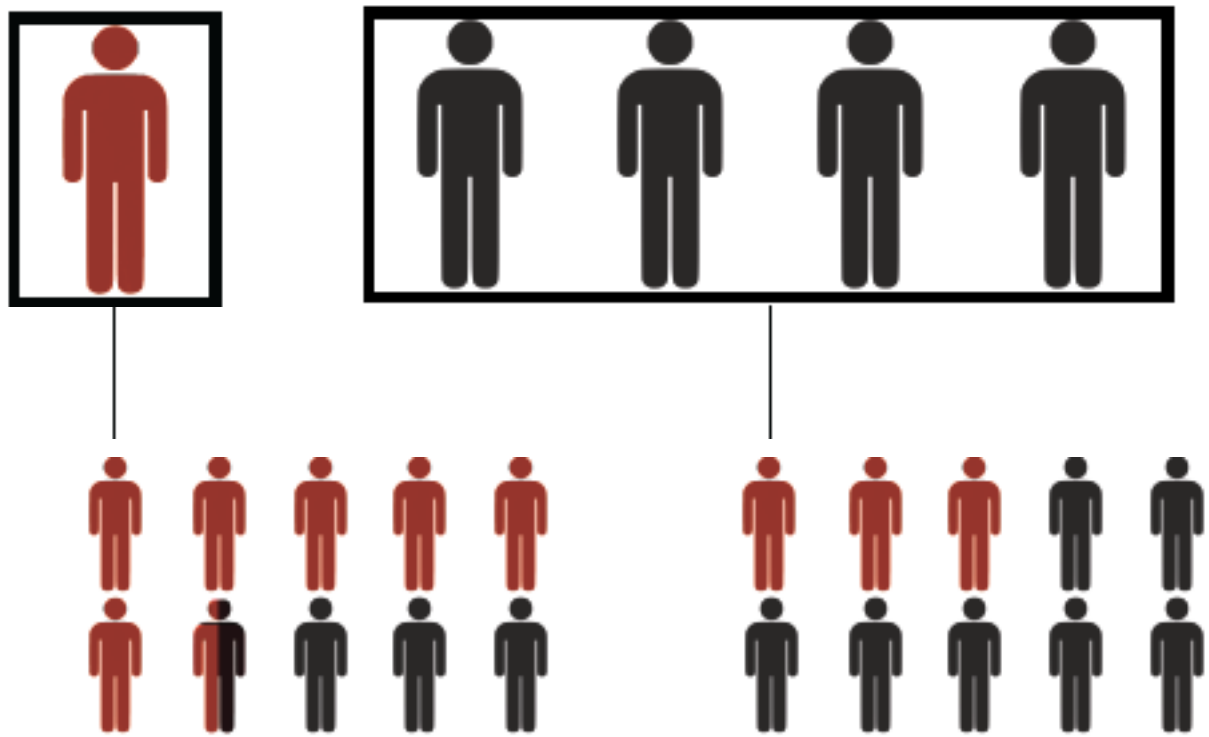
Latent Profile Analysis of OBM Transitional Clients



Who returns to the shelter and why?

1 in 5

program clients have an imposed departure



65%

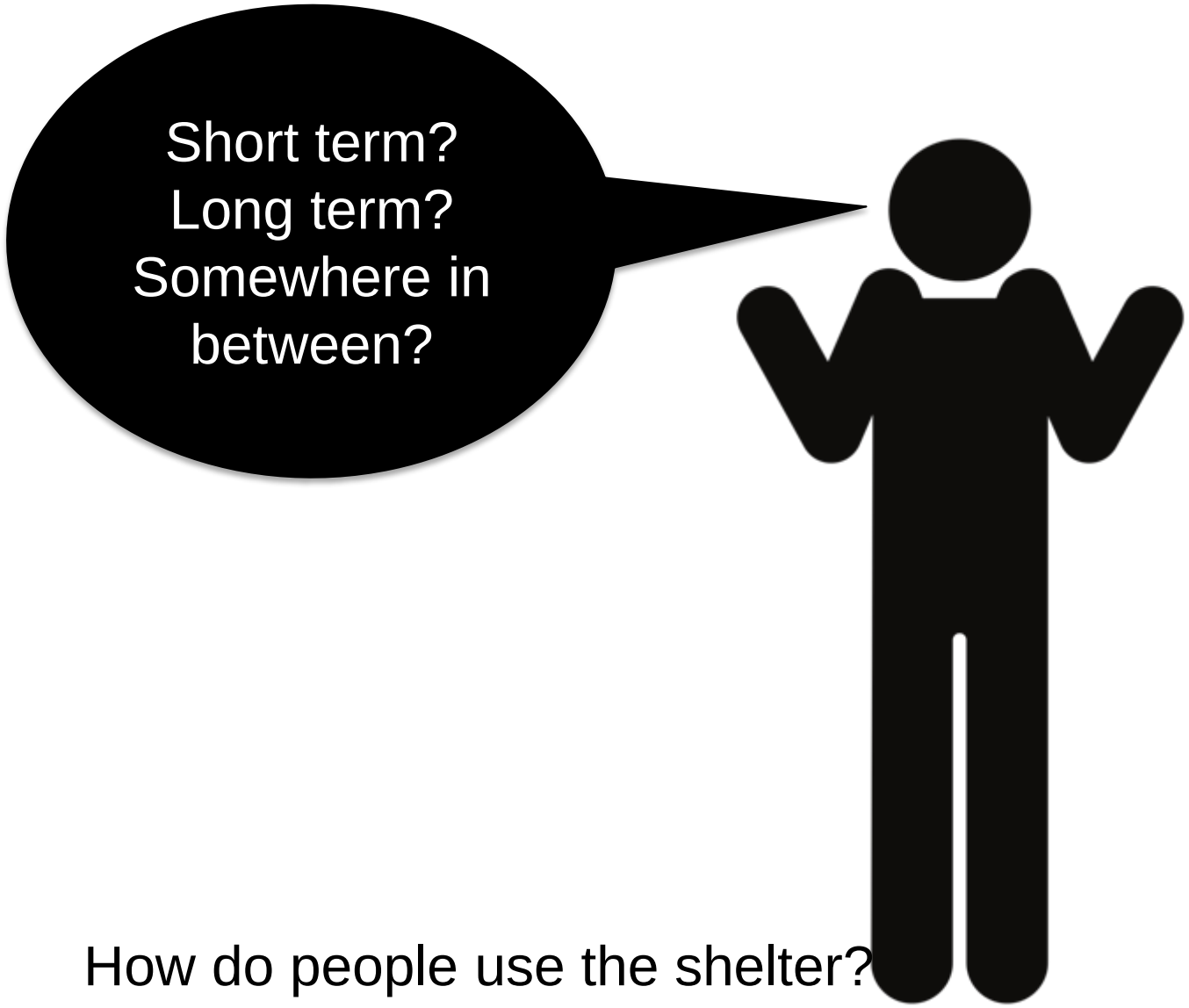
of imposed departures return within a year

<30%

of other departures return within a year

Family and friends SSM scores interact with departure to affect returns to the shelter!

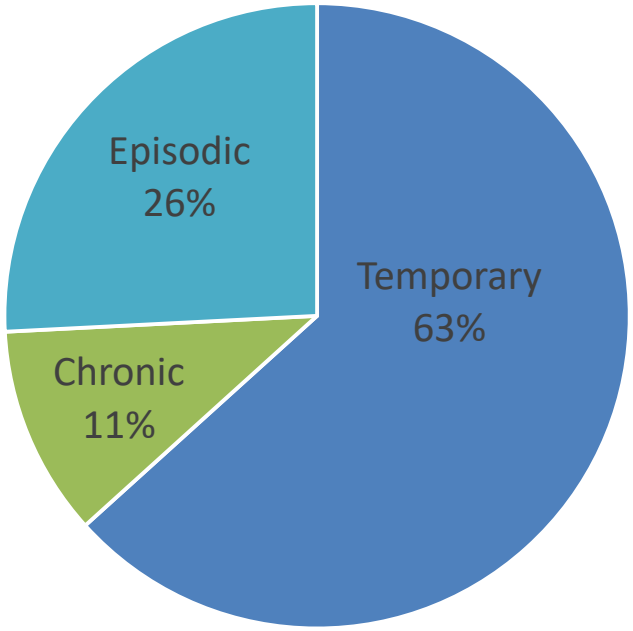
✓ = sufficient ✗ = insufficient					Predicted probability of return
support	✓	+	*organized departure*	→	25%
support	✗	+	*organized departure*	→	35%
support	✓	+	*imposed departure*	→	60%
support	✗	+	*imposed departure*	→	70%



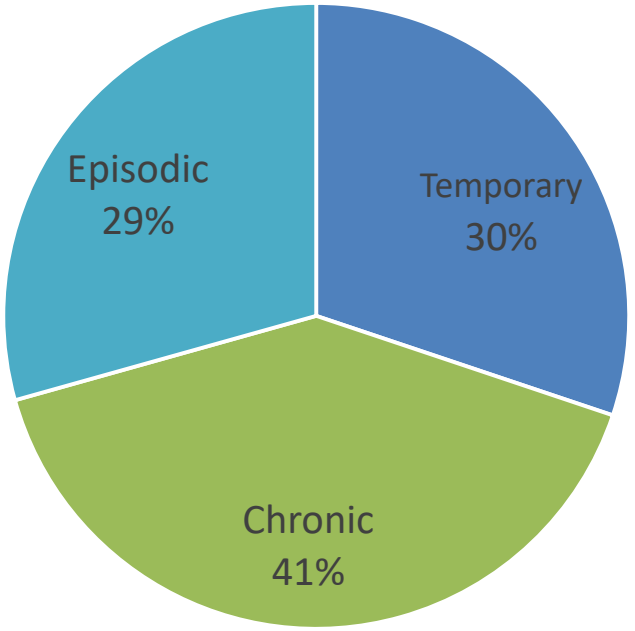
How do people use the shelter?

HOW DO PEOPLE USE SHELTER SERVICES?

Percent of transitional program population 2013-2015 (k-means clusters)



Percent of shelter services used over observation year by k-means clusters



*for all clients who agreed to participate in research and who used the shelter between 2013 and 2015

Une classification de la population du pavillon Webster selon la durée du séjour au cours d'un an (2014-2015).
Une analyse des différentes définitions de chronique, épisodique, et transitionnel.
N= 1100

Source	Chronique		Épisodique		Transitionnel	
	Définition	N (%)	Définition	N (%)	Définition	N (%)
Gouvernement de Canada (Stratégie contre l'itinérance)	Les individus qui sont actuellement sans abri et l'ont été pendant six mois ou plus au cours de la dernière année.	109 (10%)	Les individus qui sont actuellement sans abri et ont vécu au moins trois épisodes d'itinérance au cours de la dernière année	110 (10%)	Toutes les personnes qui ne sont pas chroniques ou épisodiques.	881 (80%)
Une définition construite par l'MOB	Les individus qui ont vécu au moins un épisode d'itinérance d'une durée d'au moins 6 mois au cours de la dernière année	109 (10%)	Les individus qui ont vécu au moins 3 épisodes d'itinérance au cours de la dernière année ou les individus qui ont accumulé au moins 6 mois en service d´hébergement pendant les dernières 12 années.	274 (25%)	Toutes les personnes qui ne sont pas chroniques ou épisodiques.	717 (65%)
Analyse de groupage (comme on trouve dans Kuhn et Culhane (1998))	Les individus qui ont eu un séjour relativement long en comparaison aux autres dans l'échantillon et qui ont aussi vécu peu d'épisodes d'itinérance.	137 (12.5%)	Les individus qui ont eu un séjour moyen en relation aux autres dans l'échantillon et qui ont aussi vécu plus d'épisodes d'itinérance.	302 (27.5%)	Les individus qui ont eu un séjour relativement court en comparaison aux autres dans l'échantillon et qui ont aussi vécu peu d'épisodes d'itinérance.	661 (60%)
	Nombre de jours moyen [95% CI]		Nombre de jours moyen [95% CI]		Nombre de jours moyen [95% CI]	
Gouvernement de Canada (Stratégie contre l'itinérance)	271 [259, 283]		71 [62, 79]		40 [37, 43]	
Une définition construite par l'MOB	271 [259, 283]		77 [71, 83]		31 [28, 33]	
Analyse de groupage (comme on trouve dans Kuhn etCulhane (1998))	247 [235, 260]		59 [54, 64]		31 [29, 34]	

Note: Dans tous les cas, un épisode est défini comme une période de temps entre les séjours consécutifs d'au moins 30 jours.

How about over a longer follow-up period?

Une classification de la population du pavillon Webster (2014) selon la durée du séjour au cours de deux années. chronique, épisodique, et transitionnel. N= 659						
Source	Chronique		Épisodique		Transitionnel	
	Définition	N (%)	Définition	N (%)	Définition	N (%)
Analyse de groupage (comme on trouve dans Kuhn et Culhane (1998))	Les individus qui ont eu un séjour relativement long en comparaison aux autres dans l'échantillon et qui ont aussi vécu peu d'épisodes d'itinérance.	56 (8.5%)	Les individus qui ont eu un séjour moyen en relation aux autres dans l'échantillon et qui ont aussi vécu plus d'épisodes d'itinérance.	101 (15.3%)	Les individus qui ont eu un séjour relativement court en comparaison aux autres dans l'échantillon et qui ont aussi vécu peu d'épisodes d'itinérance.	502 (76.2%)
	Nombre de jours moyen [95% CI]		Nombre de jours moyen [95% CI]		Nombre de jours moyen [95% CI]	
Analyse de groupage (comme on trouve dans Kuhn et Culhane (1998))	573.2 [535.5, 610.8]		96.8 [77.6, 116.1]		42.7 [37.6, 47.9]	
Note: Dans tous les cas, un épisode est défini comme une période de temps entre les séjours consécutifs d'au moins 30 jours.						


... BUT WHY?

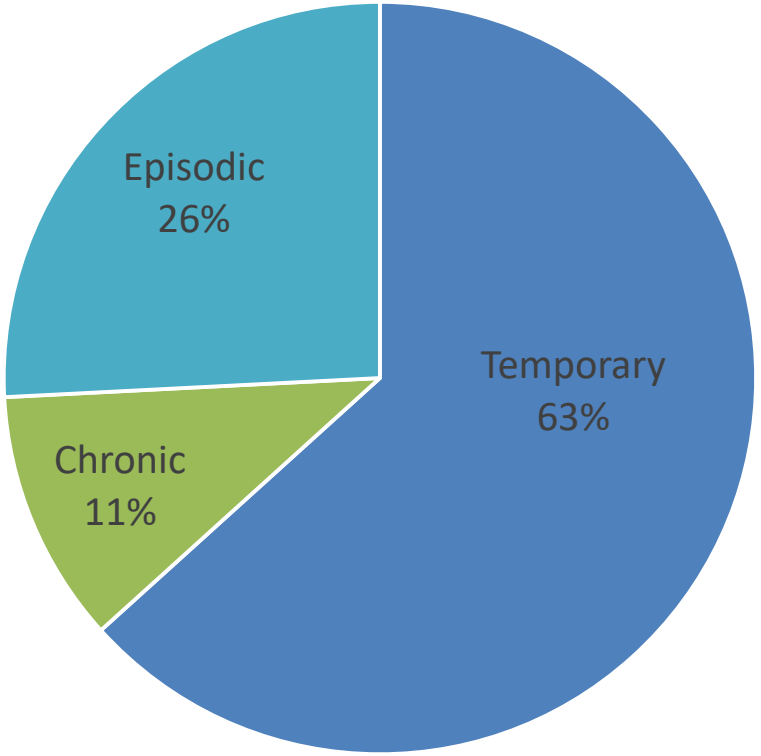

Episodic
26%
Temporary
63%
Chronic
11%

Table 2. Bootstrapped Multinomial Logistic Regression Examining The Differences Between Temporary, Chronic And Episodic Service Users (*N*= 1288)

	Relative risk ratio, Chronic vs. Temporary	95% CI	Relative risk ratio, Chronic vs. Episodic	95% CI	Relative risk ratio, Episodic vs. Temporary	95% CI
Lifetime physical health problem	1.27	0.76,2.14	0.94	0.54,1.63	1.35*	1.01,1.82
Mental health problem						
History of mental health problems	1.72*	1.09,2.71	1.43	0.88,2.33	1.20	0.88,1.63
Current mental health problems	0.97	0.53,1.76	1.06	0.56,2.02	0.92	0.63,1.33
Psychosocial vulnerability at program entry						
Education	0.97	0.57,1.66	1.25	0.71,2.20	0.78	0.53,1.14
Income	0.87	0.53,1.42	0.87	0.52,1.45	1.00	0.73,1.38
Employment	1.03	0.43,2.44	1.03	0.42,2.52	0.99	0.58,1.71
Housing	1.14	0.65,2.01	0.83	0.45,1.54	1.38	0.95,1.99
Legal issues	0.96	0.58,1.57	0.81	0.46,1.44	1.17	0.81,1.71
Life skills	1.30	0.53,3.15	1.28	0.54,3.04	1.02	0.61,1.70
Mobility	0.89	0.52,1.53	0.85	0.49,1.48	1.04	0.71,1.52
Community involvement	1.10	0.67,1.80	1.43	0.82,2.49	0.77	0.54,1.09
Safety	1.31	0.74,2.32	1.03	0.59,1.79	1.28	0.84,1.95
Over the age of 50	1.83*	1.14,2.93	1.99**	1.22,3.24	0.92	0.68,1.25
Legal problems (ever)	0.77	0.42,1.42	0.62	0.34,1.13	1.25	0.91,1.72
Disability	2.07**	1.31,3.29	1.44	0.88,2.34	1.44	0.96,2.17
Banned (ever)	2.23**	1.23,4.04	1.10	0.63,1.93	2.02**	1.37,2.96
Days of past shelter use	2.23**	1.68,3.60	1.39**	1.12,1.71	1.77**	1.26,2.49
Substance use problem # Support from Family and Friends						
Good support &History of substance use	0.34**	0.18,0.63	0.15**	0.07,0.31	2.25**	1.37,3.67
Good support & Current substance use	0.64	0.31,1.30	0.21**	0.10,0.45	3.03**	1.78,5.14
Inadequate support & No substance use	0.48*	0.21,1.05	0.25**	0.10,0.61	1.91*	1.09,3.35
Inadequate support &History of substance use	0.81	0.45,1.46	0.25**	0.12,0.50	3.26**	1.90,5.57
Inadequate support & Current substance use	0.36*	0.16,0.84	0.16**	0.07,0.36	2.24*	1.17,4.28

Note. McFadden's R2: 0.113, Cragg-Uhler R2: 0.219
Log-Lik Full Model: -1013.012, Prob> LR: 0.000
*P<0.05 **P<0.01

Chronic vs. Temporary

The chronic and temporary groups differed in a few areas:

- Those who were OVER THE AGE OF 50 compared to those under the age of 50 had 1.83 times the risk of being classified as chronic compared to temporary.

- Those with a HISTORY OF MENTAL HEALTH PROBLEMS compared to those with no problems had 1.72 times the risk of being classified as chronic compared to temporary. Through the groups did not differ in terms of current mental health problems.

- Those with a DISABILITY compared to those with no disability had 2.07 times the risk of being classified as chronic compared to temporary.

- Those who had ever been BANNED from the shelter compared to those who had never been banned had 2.23 times the risk of being classified as chronic compared to temporary.

Chronic vs. Temporary

- Each one standard deviation increase in TIME SPENT IN SHELTER BEFORE RECRUIMENT to the study was associated with a 2.23 increase in risk of being classified as Chronic vs. Temporary.

- Several combinations of SUBSTANCE USE AND SOCIAL SUPPORT were predictive of chronic homelessness. For those with good support and lifetime substance use compared to those with good support and no substance use, contrary to what was expected, the risk of being Chronic compared to Temporary was decreased by 0.34 times. As well, those with inadequate support and current substance use compared to those with good support and no substance use had a 0.36 times decreased risk of being classified as Chronic vs. Temporary.

- No other psychosocial variables were predictive of chronic homelessness

Chronic vs. Episodic

The chronic and episodic groups differed in a few areas:

- Those who were OVER THE AGE OF 50 compared to those under the age of 50 had 1.99 times the risk of being classified as Chronic compared to Episodic.

- Each one standard deviation increase in TIME SPENT IN SHELTER BEFORE RECRUIMENT to the study was associated with a 1.77 increase in risk of being classified as Chronic vs. Episodic.

- In this comparison group, every combination of SUBSTANCE USE AND SOCIAL SUPPORT was predictive of chronic homelessness. The risk of being Chronic vs. Episodic was decreased by between 0.15 and 0.25 times compared to those with no substance use and good social support. For example Those with inadequate support and current substance use had 0.16 times the risk of being Chronic Vs. Episodic compared to those with good support and no substance use.

Episodic vs. Temporary

The episodic and temporary groups differed in a few areas:

- Those with a HISTORY OF PHYSICAL HEALTH PROBLEMS compared to those with no history of physical health problems had 1.35 times the risk of being classified as Episodic vs. Temporary .

- Each one standard deviation increase in TIME SPENT IN SHELTER BEFORE RECRUIMENT to the study was associated with a 1.77 increase in risk of being classified as Episodic vs. Temporary.

- In this comparison group, every combination of SUBSTANCE USE AND SOCIAL SUPPORT was predictive of episodic homelessness. The risk of being Episodic vs. Temporary was increased by between 1.91 and 3.26 times compared to those with no substance use and good social support. For example Those with inadequate support and current substance use had 2.24 times the risk of being Episodic vs. Temporary compared to those with good support and no substance use.

Episodic vs. Temporary

- Those who had ever been BANNED from the shelter compared to those who had never been banned had 2.02 times the risk of being classified as Episodic compared to Temporary.

- No other health or psychosocial variables were predictive of episodic homelessness

But wait! Before you get too excited…

When we actually tested the model against real data, it's performance was… not great:

- Only 11% of those who were chronically homeless in real life were properly classified as chronically homeless using our model.
- Similarly, only 21% of those who were episodically homeless in real life were properly classified by our model.

But our overall model fit was good! How can this be?

- This is probably because it did a great job of classifying the Temporary homeless. Over 93% were correctly predicted with the model.
- The overall fit statistic does not take each group into account separately. It looks at an average for all three groups. This high predictive ability for the temporary group drove up the overall fit statistic to acceptable levels.

Policy implications

- This means that while there are certain individual characteristics that might be considered risk factors, using them to preferentially assign services will probably be ineffective in the fight to prevent chronic homelessness.

- We can't reliably predict who is going to become chronic based on the personal information that they give when they enter the shelter or based on counselor assessment. Therefore, providing Housing First and other supportive services to all individuals who qualify remains the most valid way to administer services and housing.

Next Steps

Qualitative & Mixed-Methods Studies