Resources Required to Meet the National Housing Strategy Target on Homelessness in Calgary

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Data that Makes a Difference

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THE SCHOOL OF PUBLIC POLICY

National Housing Startegy

- The federal government released the National Housing Strategy (NHS) on November 22, 2017, including $40 billion in funding over 10 years.
- The NHS sets the first national target on homelessness: to decrease chronic homelessness in Canada by 50%.
- The NHS commits $2.2 billion over 10 years, beginning April 1, 2019, to expand the Homelessness Partnering Strategy, the federally funded homelessness program. This money was announced as part of Budget 2017.

Research question

- What are the resources necessary to achieve the federal target of 50% reduction in chronic homelessness in Calgary?

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- What are the resources necessary to achieve the federal target of 50% reduction in chronic homelessness in Calgary?
    - Our focus is only on **single adult** sector.

Data

Calgary's homeless-serving system of care data with traceable de-identified unique IDs:

1. Housing First Data
   - Date is from 2012:04 to 2019:03 (seven years)
   - Right censored since 2018:04 (no new move-in after 2018:03)
   - No. of unique single adults housed: 3,396
2. Non-Housing Data
   - All single adult shelters; 2005:05 – 2019:03.
   - All family shelters; 2009:01 – 2019:03.
   - Coordinated Access & Assessment (CAA); 2013:09 – 2019:03.
   - Three detox programs; 2012:09 – 2019:03.
   - Ten outreach programs; 2012:09 – 2019:03.
   - The Safe Communities Opportunity and Resource Centre (SORCe); 2013:09 – 2019:03.

In total, there more than 5.16 million data points for about 80,000 households.

Methodology

We follow five steps to address NHS target:

1. Identify the number of active chronic/episodic shelter users in 2018/19 fiscal year using shelters data.
2. Identify stay (s), graduation (g), return (r) and unknown (u) rates for those housed in Housing First programs.
3. Identify net flow (inflow minus outflow) of chronic/episodic shelter users.
4. Develop a simple model to calculate the number of people should be housed over 10 years to reduce chronic homelessness by 50%.
5. Calculate the capacity and budget are needed to achieve this goal.

Step 1: Active shelter users in 2018/19

- There are **9,713** active, unhoused shelters users.
- Assumption: Chronic/episodic shelter users = Chronic homeless population

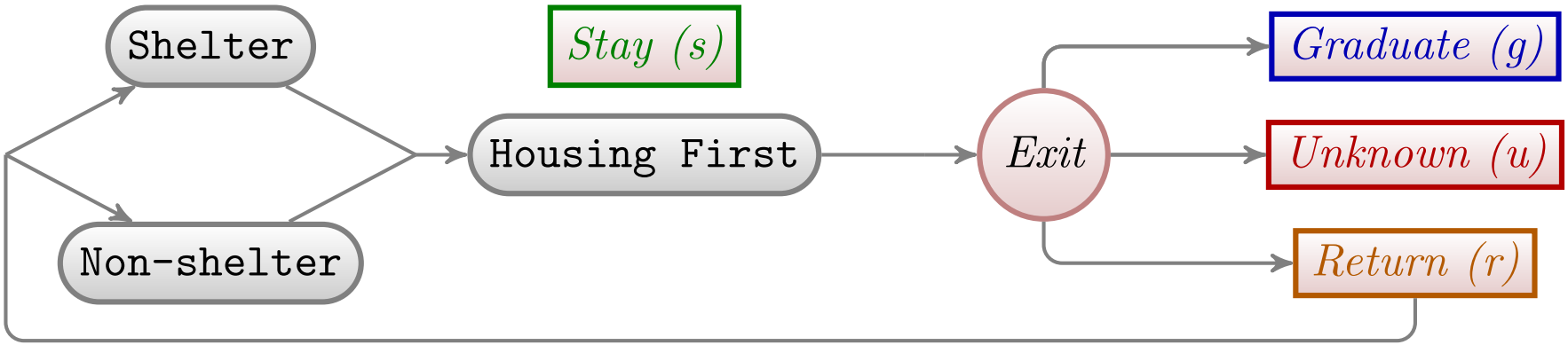
	Transitional	Episodic	Chronic	Target
Clustering				
Sample Size	6,738	2,004	524	2,528
% of Clients	71.2	22.3	6.4	
GoC				
Sample Size	7,463	1,130	673	1,803
% of Clients	80.5	12.2	7.3	
GoA				
Sample Size	50*	6,267	2,949	2,949
% of Clients	0.7	65.0	34.3	

*This number refers to "un-captured" clients with GoA's definitions

GoC Definition GoA Definition

Step 2: *stay*, *graduation*, *return* and *unknown* rates in HF

Assumptions and definitions:



1. 'stay' includes the clients who have only one entry, and 12 months opportunity to stay in a housing program.
2. 'graduate' refers to clients who do not need case management after exiting a housing program.
3. 'return' refers to clients who return Calgary's homeless-serving system of care.
4. 'unknown' refers to the exited clients from the Housing First programs that we are not sure about their exit reason/destination.
5. $s + g + u + r = 1$

Step 2: *stay*, *graduation*, *return* and *unknown* rates in HF

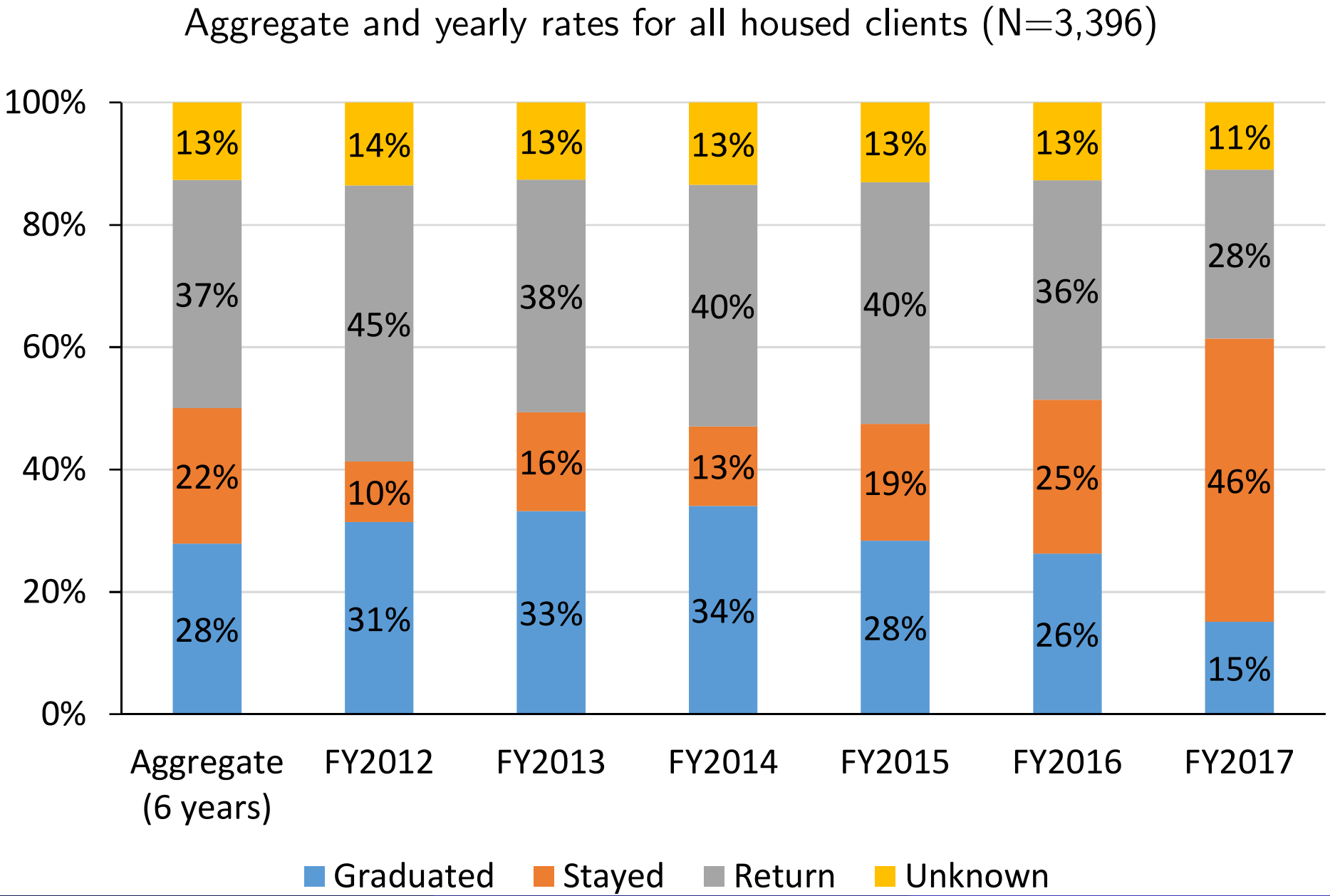
Return to the system:

- Shelters $\Longrightarrow$ Client stays 5 days or more
- Coordinated Access & Assessment (CAA) $\Longrightarrow$ Client ends up in CAA list
- Detox programs $\Longrightarrow$ Client utilize the programs 3 times or more
- Outreach programs $\Longrightarrow$ Client utilize the programs 5 times or more
- SORCe $\Longrightarrow$ Client receives housing services OR shows-up 5 times or more

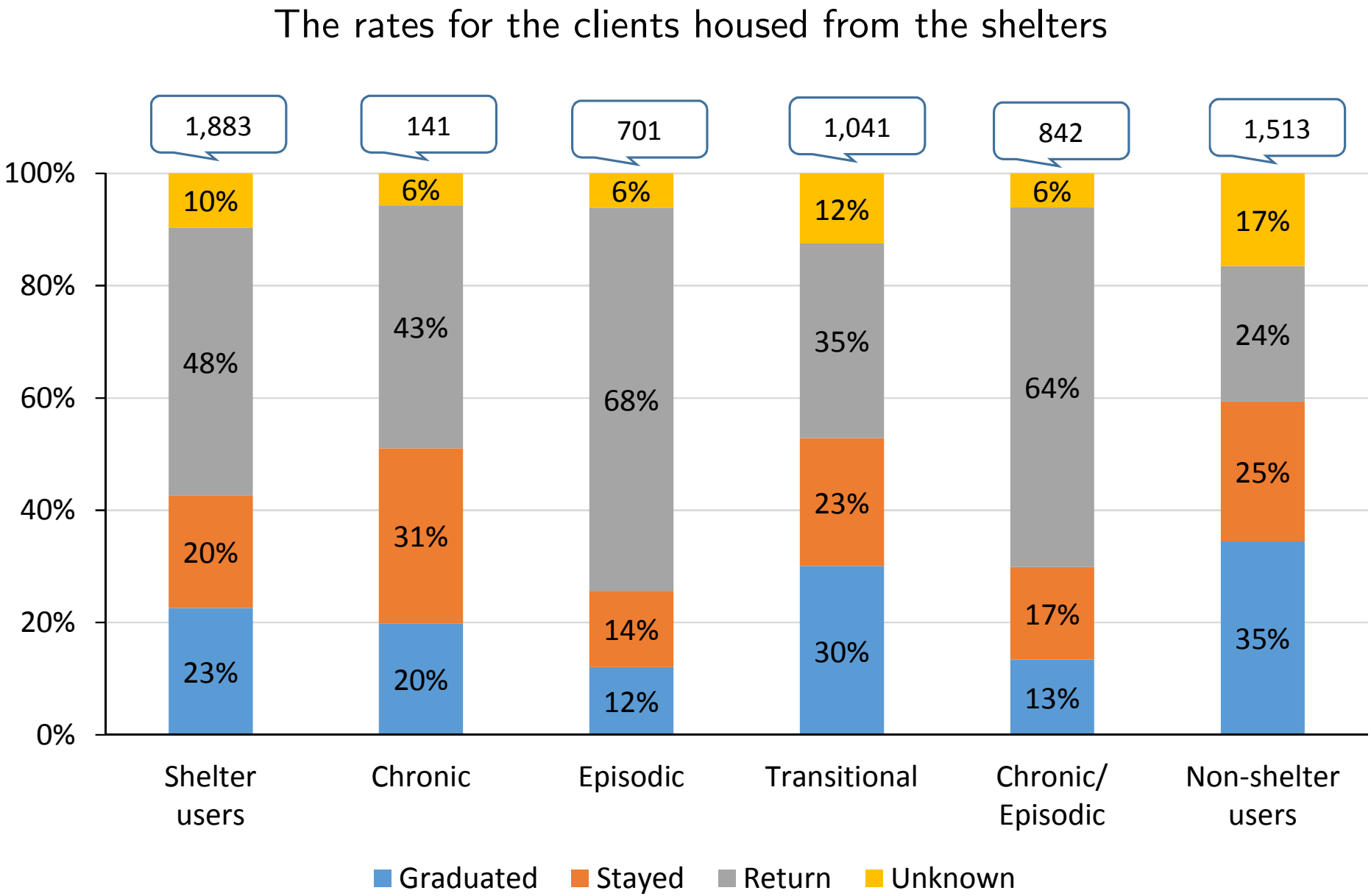
Step 2: *stay*, *graduation*, *return* and *unknown* rates in HF

	Freq.	Rates
Stayed (s)	**752**	**22%**
Graduated (g)	**948**	**28%**
Completed program	810	
Death	128	
Family re-unification	10	
Return (r)	**1,265**	**37%**
System return	830	
Re-housed	358	
Non-compliance with program	39	
Criminal activity / violence	38	
Unknown (u)	**431**	**13%**
Unknown/Disappeared	102	
Referred to another program	184	
Needs could not be met	55	
Non-payment of rent	37	
Disagreement with rules/persons	17	
Moved out of service area	15	
Other	21	
Total	3,396	

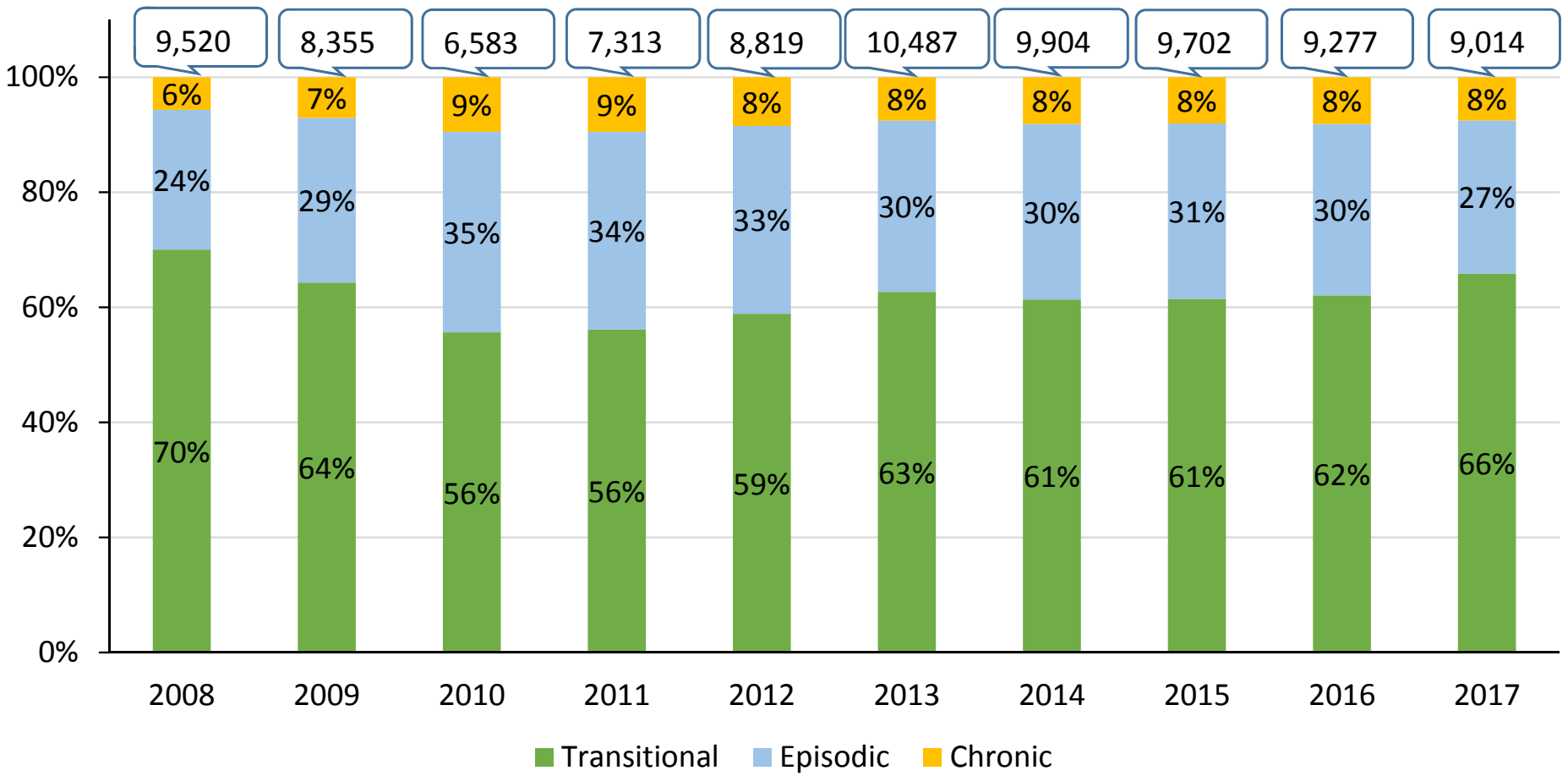
Step 2: *stay*, *graduation*, *return* and *unknown* rates in HF



Step 2: *stay*, *graduation*, *return* and *unknown* rates in HF



Step 3: Net Flow of Chronic Shelter Users



Assumption

We assume that the new flow into chronic homelessness is fixed and equal to zero.

Step 4: Model

Assumptions:

1. We have assumed status quo on macroeconomic factors that influence inflow into the system such as vacancy rates, government funding, oil prices, unemployment rate etc.
2. All residuals and externalities are negligible over the 10 year period.
3. We assume s, g, r and u remain constant over time.

Variables

- $t = 0, 1, \cdots, 10$: Time in years
- X_0: Number of chronically homeless shelter stayers at $t = 0$
- s, g,r and u: Our rates
- $h_t = h_1, \cdots, h_{10} = \bar{h}$: Number of people we house each year over 10 year period
- $\bar{h} =?$

Step 4: Model

Target in NHS: 50% reduction in people experiencing chronic homelessness after 10 years.

$$X_{10} = \frac{X_0}{2}$$

At $t = 1$:

$h_1 = \bar{h}$: No. of people we house in the first year

$sh_1 = s\bar{h}$: No. of people stay

$gh_1 = g\bar{h}$: No. of people graduate

$rh_1 = r\bar{h}$: No. of people return to homelessness

$uh_1 = u\bar{h}$: No. of people their exit reason/destination is unknown

$\vdots$

At $t = 10$:

$h_{10} = \bar{h}$

$sh_{10} = s\bar{h}$

$gh_{10} = g\bar{h}$

$rh_{10} = r\bar{h}$

$uh_{10} = u\bar{h}$

Step 4: Model

After 10 years (cumulative)

$H = h_1 + \cdots + h_{10} = 10\bar{h}$ Total housed

$S = sh_1 + \cdots + sh_{10} = 10s\bar{h}$ Total stayed

$G = gh_1 + \cdots + gh_{10} = 10g\bar{h}$ Total graduated

$R = rh_1 + \cdots + rh_{10} = 10r\bar{h}$ Total return

$U = uh_1 + \cdots + uh_{10} = 10u\bar{h}$ Total unknown

$$X_0 - S - G = X_{10} = \frac{X_0}{2}$$

$$X_0 = 2(S + G)$$

$$X_0 = 2(10s\bar{h} + 10g\bar{h})$$

$$\boxed{\bar{h} = \frac{X_0}{20(s+g)}}$$

Step 4: Model: Example 1

Rates based on all housed clients (N=3,207)

	Clustering	**GoC**	**GoA**
X_0	2,528	1,803	2,949
s	22%	〃	〃
g	28%	〃	〃
r	37%	〃	〃
u	13%	〃	〃
$\bar{h}$	253	180	295
10 Years	2,525	1,801	2,946

Result

To reduce chronic homelessness in single adult sector by 50%, we need to house about 260 chronic/episodic shelter users each year.

Step 4: Model: Example 2

Rates based on chronic/episodic clients housed from the shelters (N=687)

	Clustering	**GoC**	**GoA**
X_0	2,528	1,803	2,949
s	17%	〃	〃
g	13%	〃	〃
r	64%	〃	〃
u	6%	〃	〃
$\bar{h}$	422	301	493
10 Years	4,223	3,012	4,927

Result

To reduce chronic homelessness in single adult sector by 50%, we need to house about 420 chronic/episodic shelter users each year.

Step 5: Capacity and Budget

Number of housed clients in CHF-funded programs (2012-2017)

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Total
Housing							
Housed	713	899	850	786	654	673	4,575
Re-housed	5	41	93	166	259	317	881
Program type							
Single adult	465	587	606	532	443	473	3,106
Youth	82	78	71	73	81	59	444
Family	166	234	173	181	130	141	1,025

Policy

On average CHF funded agencies have housed 518 clients each year in single adult programs over last six years. To achieve NHS goal, they need to house 260–420 individuals from the X_0 list.

Step 5: Capacity and Budget

A back-of-the-envelope calculation:

- Total budget allocated in 2017/18 for single adult programs=\$32 M
- Number of newly housed and already housed clients served in 2017/18= 1,177
- If CHF allocates 70% of its capacity to NHS target, it is going to need \$22.4 M each year, and \$224 M over the next 10 years without considering inflation rate (add up 2% Alberta inflation rate annually) $\Longrightarrow$ 10% of NHS \$2.2 billion
- Note that this is operational cost. We have not considered capital costs.

Appendix

Definitions: Government of Canada

Definitions

- *Chronically homeless*: Currently homeless and have been homeless for six months or more in the past year, often with disabling conditions.
- *Episodically homeless*: Currently homeless and have experienced three or more episodes of homelessness in the past year, often with disabling conditions.

Notes:

- There is overlap problem: There are 18 clients who stayed more than 180 days and have 3 or more episodes in the past year. I consider them as "episodic".
- This definitions do not capture those who stayed less than 180 and had less than 3 episodes. We can consider them as "Transitional".
- Those who stayed and exited before 2017-04-01 are not captured with this definition.

Back

Definitions: Government of Alberta

Definitions

- *Chronically homeless*: Those who have either been continuously homeless for a year or more, or have had at least four episodes of homelessness in the past three years.
- *Episodically homeless*: A person who is homeless for less than a year and has fewer than four episodes of homelessness in the past three years.

Notes:

- An individual experiencing homelessness, is either episodic or chronic.
- There are clients who are not captured, because
  - The definition of 'episodic' only considers last three years of homelessness.
  - Those who stayed and exited before 2015-04-01 are not captured with this definition.

Back