Health Links Target Population

Ministry of Health and Long-Term Care

Ontario

Agenda

Items	Responsible
Strategic Context and objectives for Health Links	Michael Robertson
Approach for determining Target Population • Description of the approach: o *Target Populations /Vulnerable Populations* o *Socio-Economic Status* • Recommendations and Guidance	Nam Bains
Discussion & Questions	All

SECTION 1
STRATEGIC CONTEXT AND OBJECTIVES FOR HEALTH LINKS

Michael Robertson, Director , Capacity Planning and Priorities Branch, MOHLTC

Ontario

Context

- Identification of the complex patient population is a critical element for successful Health Links (HLs) implementation and for provincial scale-up of Advanced Health Links.

- Early adopter HLs have used different approaches to identify their complex patient cohort, and there is little standardization amongst HLs.

- Agreement on a common approach for patient Identification (4+ comorbidities) including a focus on the social determinants of health will provide consistency across the province and the ability to effectively share best practices amongst HLs.

- Use of the target population will help to define progress being made and enable new HLs to move from start-up to full implementation with a clear focus on providing care to complex patients

Context

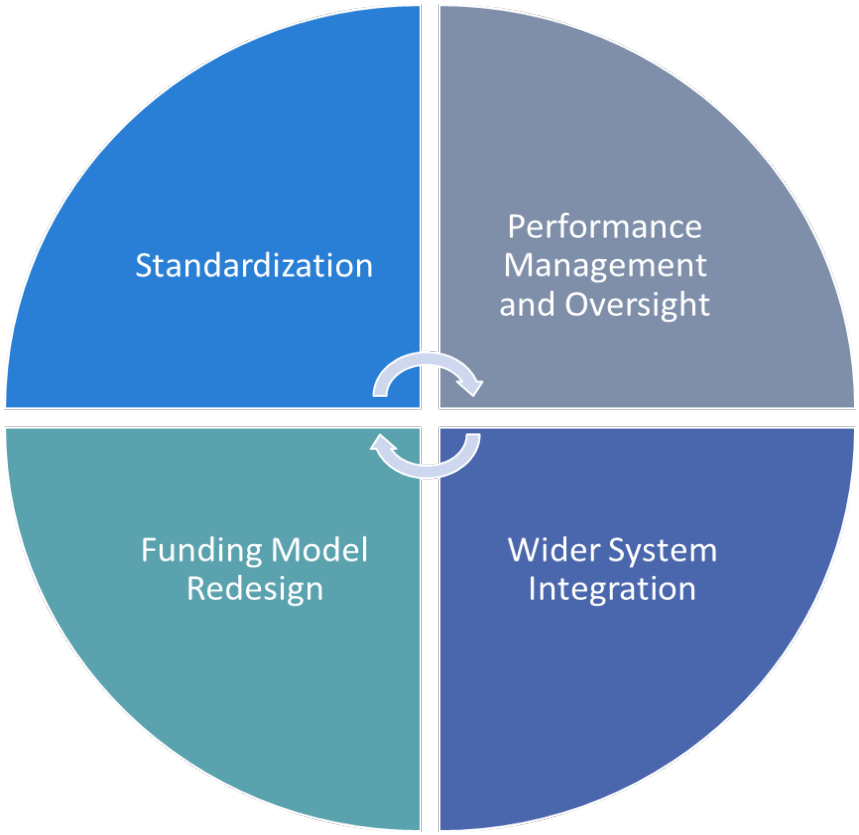
- Recognizing that some HLs have had initial challenges identifying their patient population and that various approaches to patient identification are underway, MOHLTC, with the Performance Measurement Sub-Committee*, developed a recommendation on the proposed Target Population for HLs.
- The purpose of the recommendation is to:
  - Describe the population target for HLs and LHIN
  - Provide guidance
  - Support performance monitoring to allow calculation of indicators that are comparable across HLs and the province
- This webinar will explain the common methodology for feedback to identify and describe the characteristics of complex/high needs patients and priority populations and the how this will be implemented going forward.

*Sub-committee of the Health Links Advisory Table

Advanced Health Links Model

- The current Model for HLs is evolving from its "pilot phase" to grow and achieve better results for the patient and for the health system.

- ✓ Effective provision of coordinated Care for **all** Ontario's complex patients
- ✓ Focus on vulnerable populations (frail elderly, mental health and addictions and palliative)
- ✓ Consistent, quality care across the health care continuum and social services sectors
- ✓ Evidence-based, measureable improvement of the patient experience through enhanced transitions in care
- ✓ Maximizing coordinated care to generation of system value and sustain the HLs Model
- ✓ LHINs accountability for performance
- ✓ Shared MOH/LHIN accountability for overall success



IMPLEMENTATION - Over 2015/16
EFFECTIVE FOR ALL HEALTH LINKS - 2016/17

Advanced Health Links Standardization: Common Target Population

A Common Process for Identifying Health Links Population:

- Staying with the 5% - Health Links will continue to focus on Ontario's Complex Patients.
- The common process will include:
  - Patients with four or more chronic/high cost conditions, including a focus on mental health and addictions conditions, palliative patients, and the frail elderly.
  - Economic characteristics (low income, median household income, government transfers as a proportion of income, unemployment).
  - Social determinants (housing, living alone, language, immigration, community and socials services etc.).
- Focus on adaptation of care planning for vulnerable populations (MHA, Frail/elderly and Palliative) to support strategic focus.

SECTION 2
DETERMINING HEALTH LINKS TARGET POPULATION APPROACH AND PROCESS

Nam Bains, Manager, Capacity Planning and LHIN Support, MOHLTC

Ontario

Why Focus on SES: Research from the Health System Performance Research Network

- *Measures of System Performance in Ontario's Health Links (Part 3),* Dr. Seija Kromm, Luke Mondor and Dr. Walter P. Wodchis (January 2015).

- **Key Findings:**
  - Socio---economic status (SES) was found to be highly related to system performance indicators, with high levels of marginalization corresponding to lower performance, and a strong relationship between performance in the full population and among the top 5% of health care users.
  - Measures of marginalization further emphasize the need to address issues such as lack of housing, low levels of education, unemployment (or under employment), and the importance of social supports.
  - Some HLs have begun to include organizations that provide social assistance in their discussions on how to integrate and coordinate care, and other services, for their targeted population.
  - While rural and low SES groups have lower performance than urban and high SES, there is substantial variation within these groupings, offering opportunities for comparative performance and potential learning from peer groups of HLs with similar local challenges.

Target Population Approach

- Provides a consistent, standardized way to define and describe the *complex/high needs* patients across LHINs and Health Links, and over time
- Allows us to describe the characteristics of complex/high needs patients

Analysis of high cost users established that approximately 5% of health service users account for 65% of costs. For determining a Target Population we proposed that:

1. The number of people identified as the Target should be close to 5% of the population
2. The Target population should include patients with high needs and/or complex conditions
3. The Target population for Health Links should overlap substantially with High Cost Users recognizing that:
    - Not all high cost users are high needs patients in the community (e.g., some patients received inpatient care for the entire fiscal year)
    - Not all high needs/complex patients are currently high cost users (patients with multiple physician or ED visits, patients receiving frequent home care services)

Target Population: Process for developing the approach

- Proposed a number of options for determining a Target Population, including:
  - High cost patients
  - Patients that used multiple sectors
  - Frequent use of ED
  - Patients with long hospital stays
  - Patients with mental health conditions
  - Presence of specific chronic conditions
  - Presence of multiple chronic/high cost conditions
- Options were reviewed by Measurement and Performance Sub-Committee (of the Health Links Advisory Table) which included representatives from LHINs, ICES, and health service providers

Chosen approach identifies Target Population as being those with

4 or more chronic/high cost conditions

The Target Population includes complex, high needs patients

Target Population: Presence of multiple chronic and/or high cost conditions (4+)

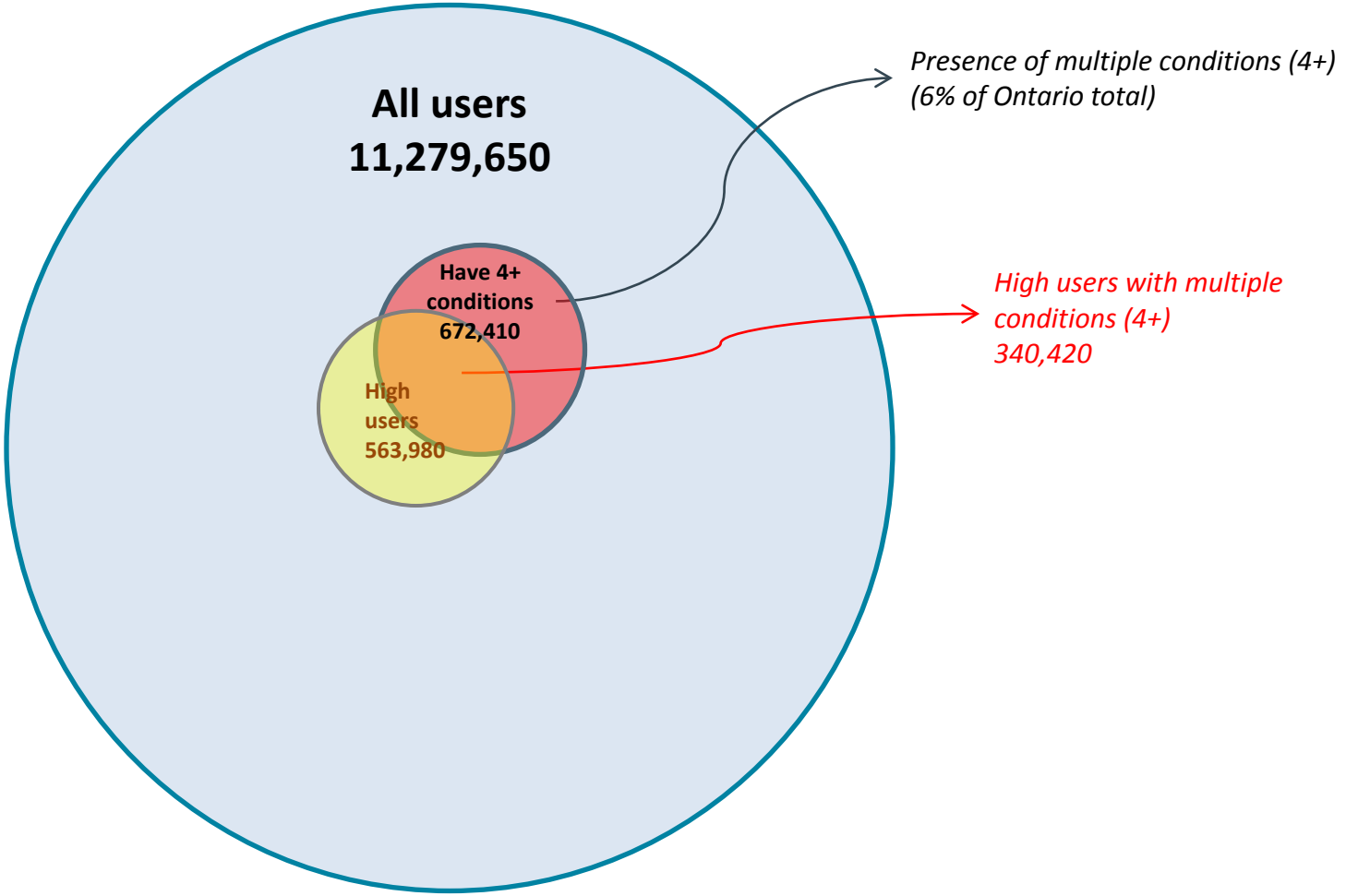
Approach	# of people identified	How many are high cost users? Number	(percent)	Of all high cost users, how many are in this category?
Top 5% High Cost Users	563,980	563,980	100%	100%
Presence of Multiple Chronic and/or High Cost Conditions (4+)	672,410	340,420	51%	60%

This approach:

- Identifies approximately 5% of the population
- Provides reasonable overlap between patients with multiple conditions and high cost users
- Although half of patients with multiple conditions (comorbidities) are not current high cost users, a coordinated care approach may prevent them from becoming high cost users
- Using 4+ as a cut-off achieves a good balance between not capturing too many non-high cost users, and capturing 3 out of 5 high cost users
- The average cost for patients with 4+ conditions is $21,540, compared to $1,240 for patients with <4 conditions
- Patients with 4+ conditions account for 6% of health care users and 52% of costs

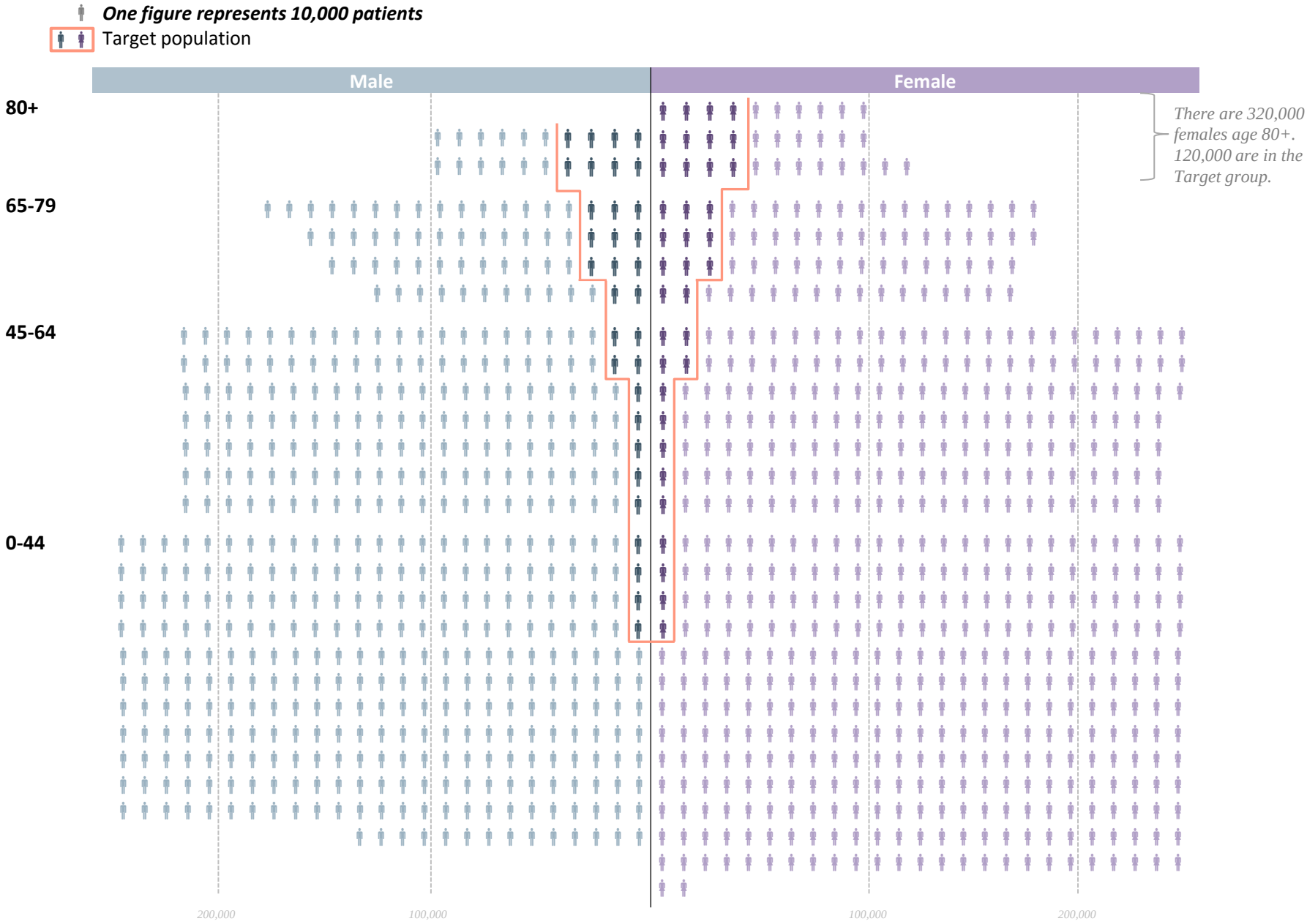
Target Population: Presence of multiple chronic and/or high cost conditions (4+)

- 51% of those with 4+ conditions are high cost users *[49% are not]*
- 60% of high cost users have 4+ conditions *[40% do not]*
- 3% of Ontario's health service users are high cost users with 4+ conditions



'High user' = Top 5% high cost user, 2011/12

Target Population: distribution by age and sex



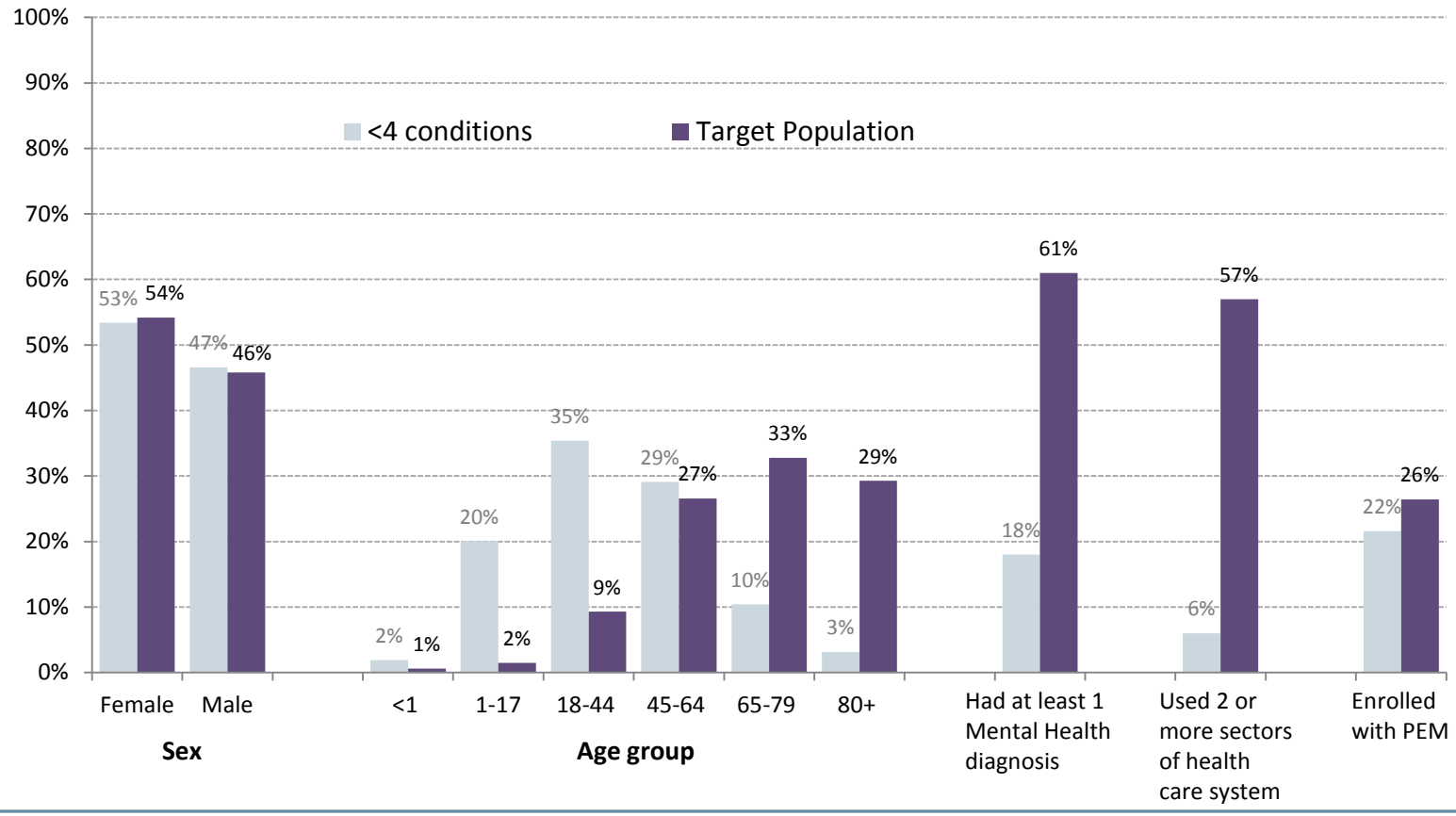
Describing the Target Population

The Target Population (patients with 4+ conditions):

- Has slightly more females than males
- Is older (over 60% are age 65 or over)

Six out of ten patients in the Target Population had a health care event where a mental health diagnosis was noted (a much higher proportion compared to patients with 0-3 conditions).

Patients in the Target Population are much more likely to use multiple sectors of the health care system.



Describing the Target Population

Examples of high cost user / Target Population (multiple condition) patients

	High Cost User	Not High Cost User
4+ conditions	**Male age 30** **A** **$717,000** **3 IP stays for total of 270 days + 1 DS visit + 7 oncology visits + 30 Homecare visits + 200 OHIP claims** **Diagnoses** **Depression, diabetes, purpura, neoplasm, sepsis**	**Female age 65** **B** **$8,600** **1 IP stay for 3 days + 4 ED visits + 5 Homecare visits + 18 OHIP claims** **Diagnoses** **Neoplasm, anxiety disorder, ischaemic heart disease, hernia, arthritis**
<4 conditions	Female age 55 $140,000 IP stay of 10 days + 150 dialysis visits Diagnoses: Renal failure, transplant	Male age 80 $1,500 14 OHIP claims Diagnoses: Dementia, hypertension, stroke

IP: *Acute inpatient hospital stay* *DS: Day surgery* *ED: Emergency dept visit* *MH: Mental health inpatient stay*

This figure show sample profiles for patients in the Target Population, to help illustrate how patients may be High Cost Users but not in the Target Population and vice versa (in the Target, but not necessarily a High Cost User)

Target Population (A and B)

A) Provides an example of a complex high needs patient with multiple conditions. The patient has had lengthy inpatient hospital stays, treatment for cancer, and received homecare. The patient is a high cost user.

B) Provides an example of a complex patient with multiple conditions who is not a high cost user. The patient has had multiple contacts with the health care system with a short hospital stay, repeat emergency department visits and homecare. The patient will likely benefit from a coordinated care approach which could help improve outcomes and patient experience.

Understanding priority populations

HLs are well-positioned to support the needs of vulnerable patient population sub-groups (e.g. palliative, mental health, frail elderly)

As HLs become embedded across the province, they may be leveraged to meet the needs of vulnerable groups in collaboration with other sectors

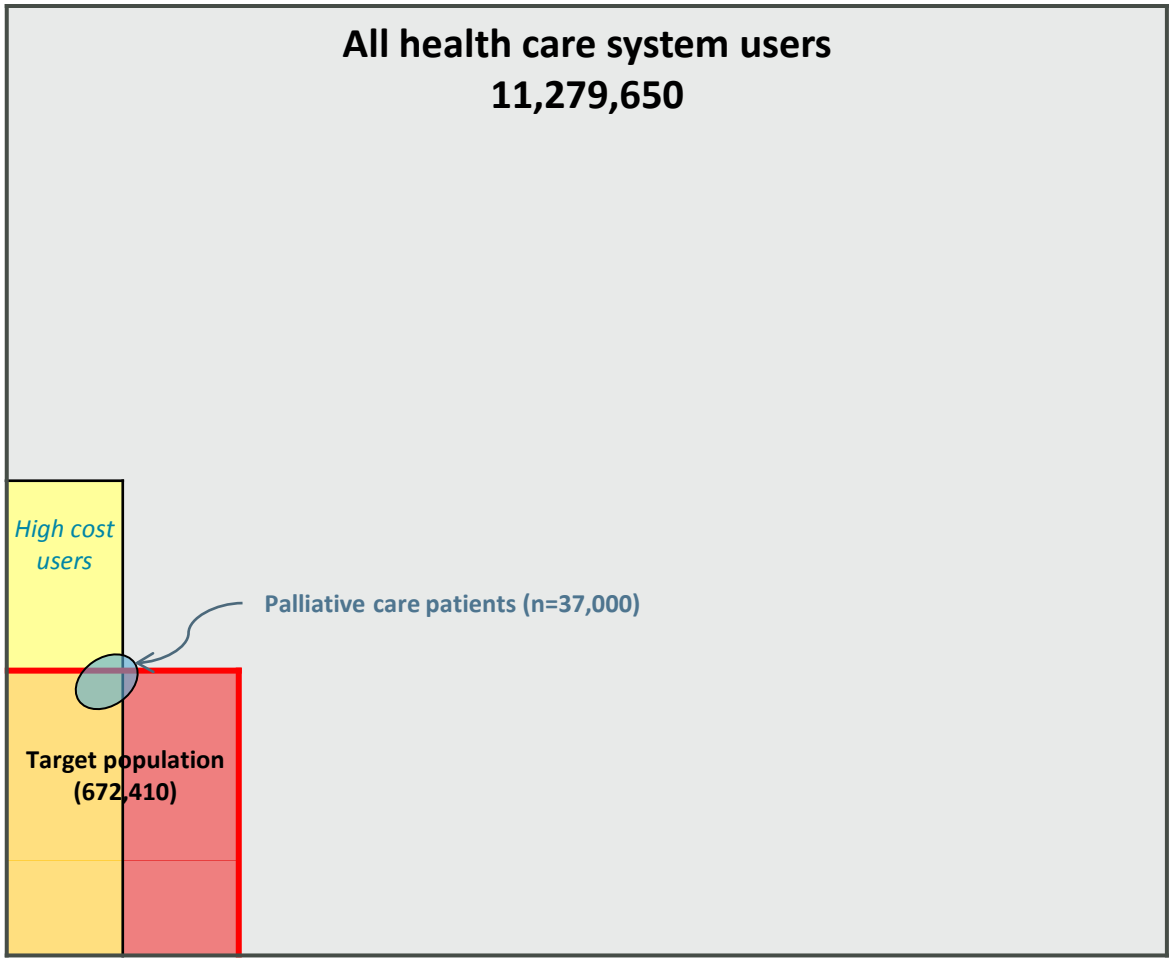
The recommended Target Population approach will help to identify priority sub-population groups

Results show there is substantial overlap between the Target Population and:

- ✓ **Palliative care** patients (9 of 10 palliative care patients are in the Target Population)
- ✓ **Mental health** patients (over half of patients in the Target Population have mental health conditions)
- ✓ **Frail seniors** (70% of frail seniors are in the Target Population)

Target Population: Presence of multiple chronic and/or high cost conditions (4+) AND *Palliative care patients*

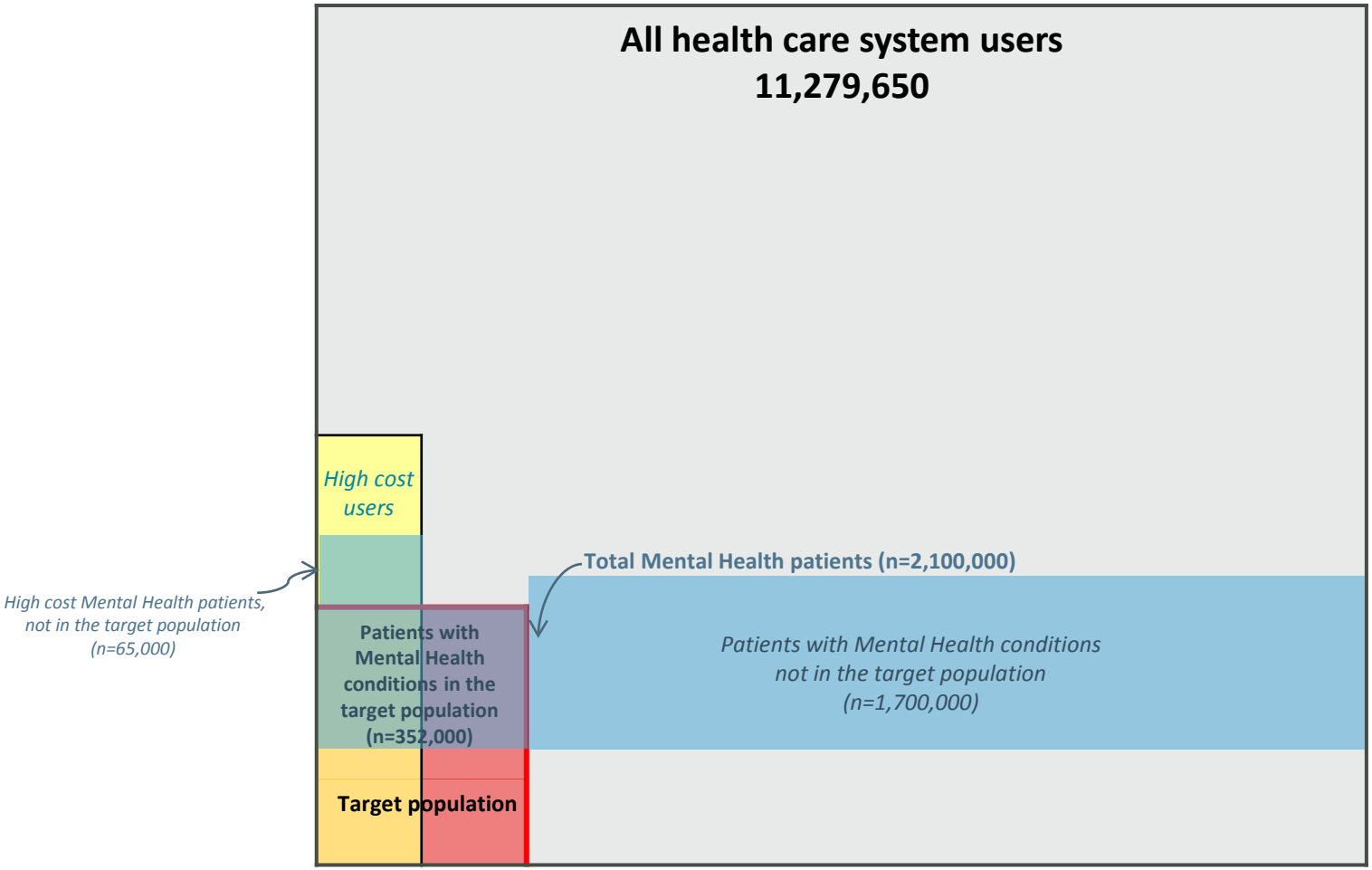
- 9 out of 10 palliative patients are in the Target Population



Target Population: Presence of multiple chronic and/or high cost conditions (4+) AND *Mental Health patients*

The majority of patients with Mental Health conditions are neither high cost users nor in the target population

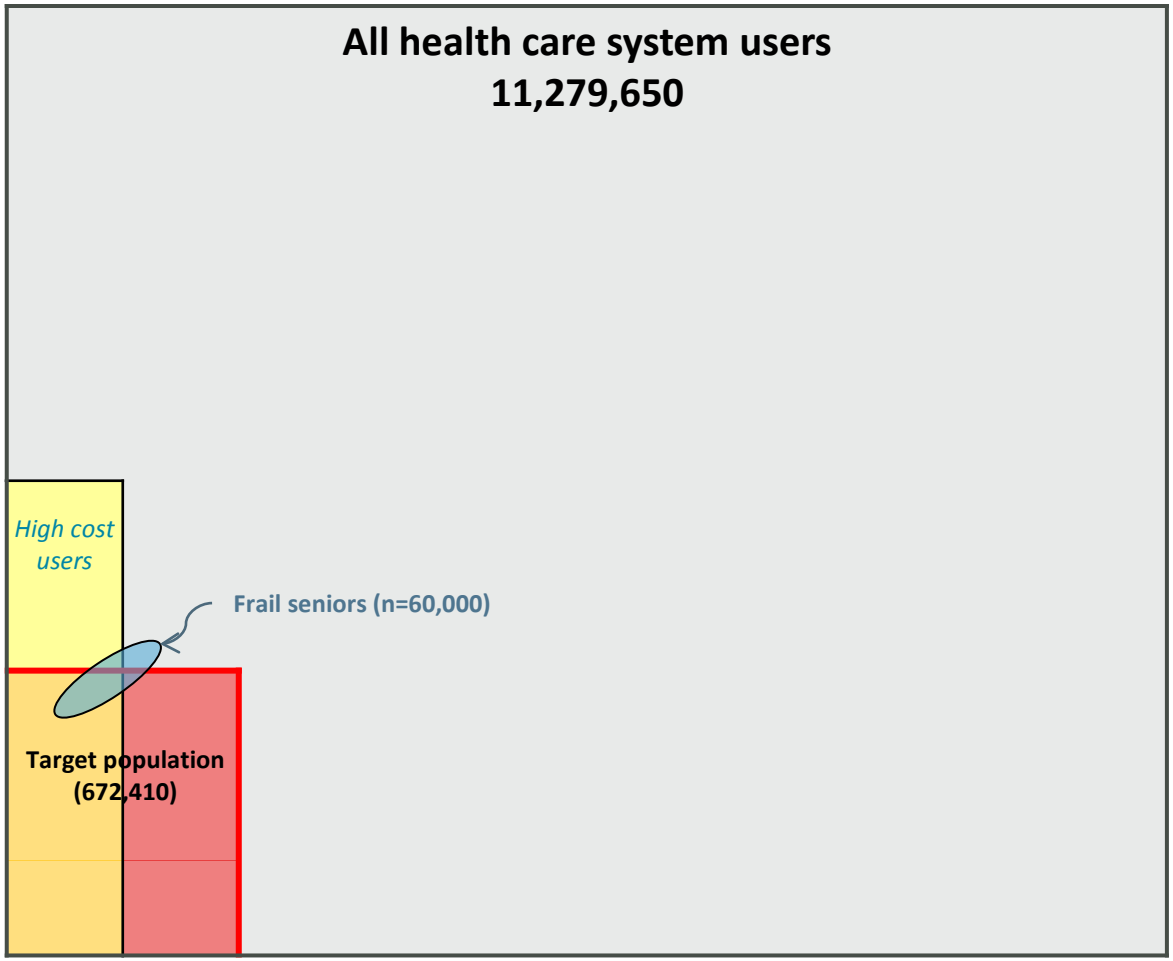
- 17% mental health patients are in the Target Population
- Over half of the target population is patients with Mental Health conditions



Target Population: Presence of multiple chronic and/or high cost conditions (4+) AND *Frail Seniors*

The Target Population definition captures the majority of frail seniors:

- 70% of frail seniors are in the Target Population
- Most frail seniors (60%) are both high cost users and have 4+ chronic/high cost conditions



Socio-economic overlay

SES overlay allows us to see if some areas, relative to other areas, may be experiencing higher levels of socio-economic stress. Patients that come from these areas may have higher levels of social, economic hardship relative to others.

By creating SES risk scores for areas across Ontario we can:

- See which HLs may have more people with high SES risk. HLs can use this information to understand their area and the population they serve.

By assigning the SES risk score of an area to patients in that area we can:

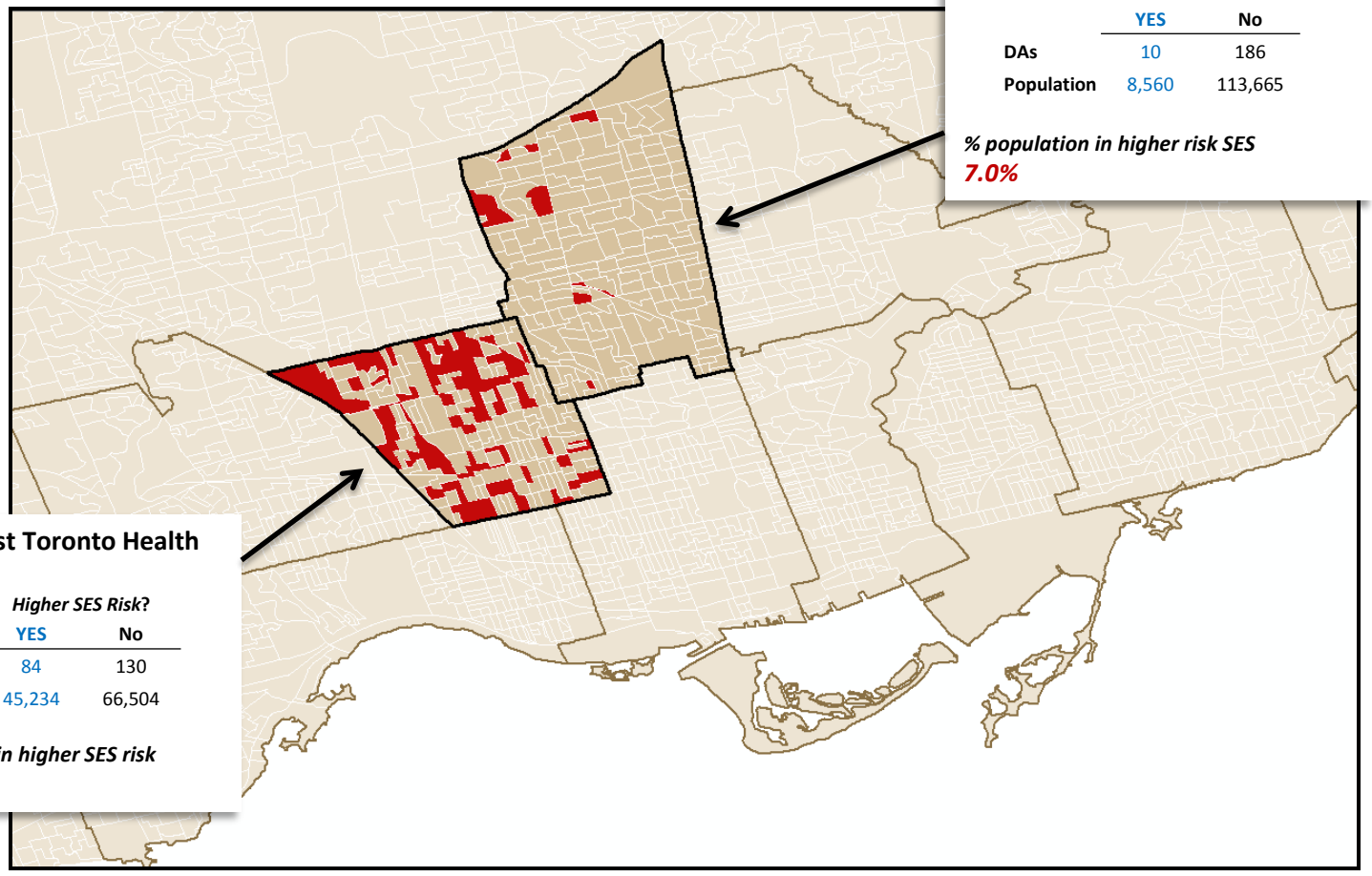
- Describe what proportion of Target Population patients (those with 4+ co-morbidities) may have additional challenges because of high SES risk and also
- Describe SES risk for those who are not in the Target

Analysis approach for SES risk

- Included 9 measures of socio-economic status that are consistent with Ontario's Poverty Reduction Strategy, and Ontario Marginalization Index* (including *low income prevalence*, *household income*, *government payments as a % of income, post-secondary education*, *households in need of repair*, *unemployment*, *living alone*, *recent immigration*, *no knowledge of official languages*)
- These tell us something about material deprivation (economic), and marginalization (social/ethnic)
- Analysed National Household Survey (2011) data for each Dissemination Area (DA; ~20,000 in Ontario). Divided DA results into Quintiles (1= lowest or 'best' score, and 5=highest or 'worst' score; Summed all 9 measures into one overall score).
- Assigned the SES risk score for the DA to postal codes associated with that DA.
- Examined distribution of scores. Identified cut-off (approximately 90th percentile) to flag **'higher SES risk'**

** Used in Measures of System Performance in Ontario's Health Links (Part 3), Dr. Seija Kromm, Luke Mondor and Dr. Walter P. Wodchis (January 2015).*

Socio-economic overlay:
sample findings for two neighbouring HL areas



North West Toronto Health Link

	Higher SES Risk? YES	No
DAs	10	186
Population	8,560	113,665

% population in higher risk SES
7.0%

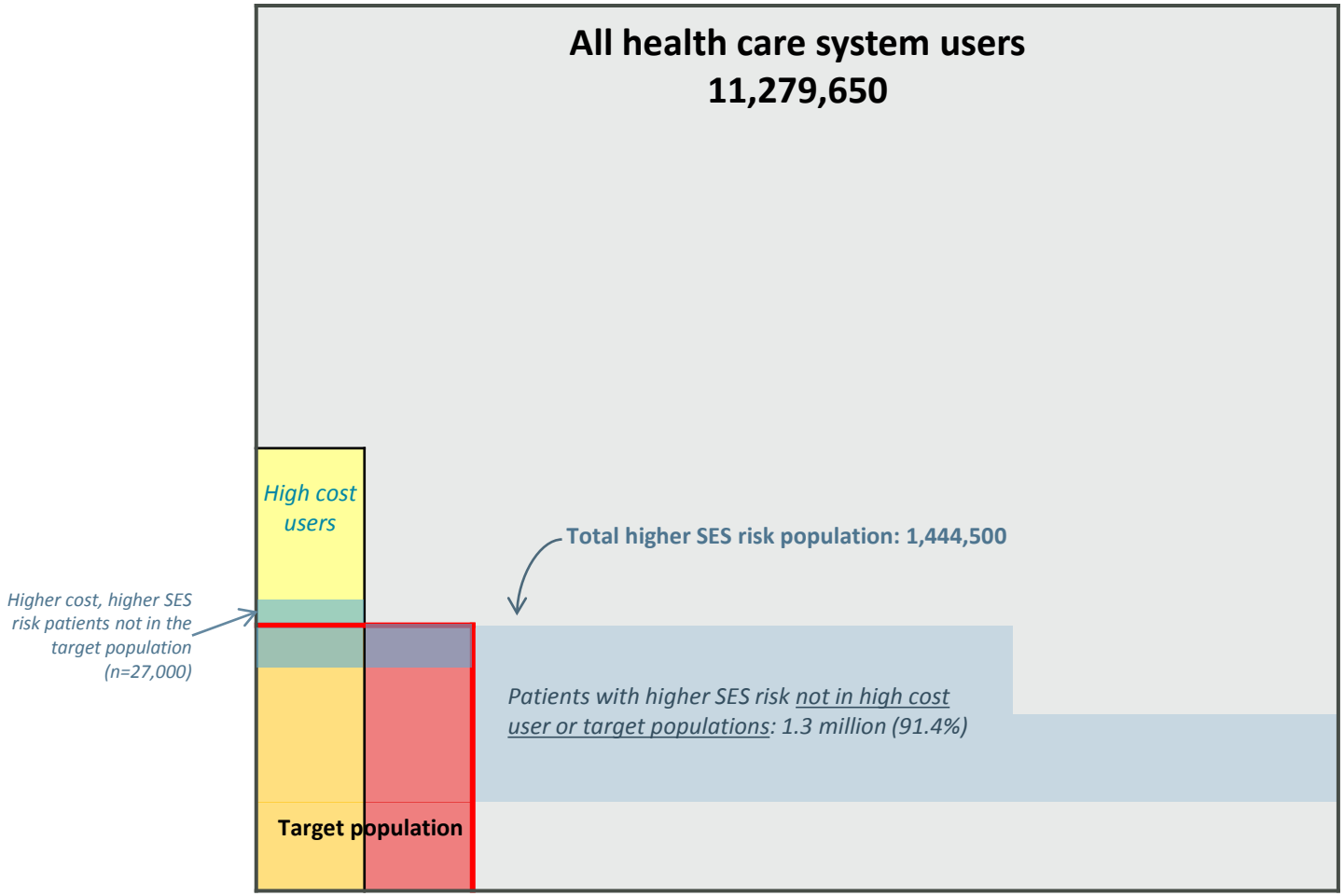
Central West Toronto Health Link

	Higher SES Risk? YES	No
DAs	84	130
Population	45,234	66,504

% population in higher SES risk
40.5%

Target Population: Presence of multiple chronic and/or high cost conditions (4+) AND *higher SES risk*

- 1.44M patients (12% of population) are in the higher SES risk group: the majority are neither high cost users nor in the target population
- 7% of higher SES risk patients are in the Target Population
- 14% of the Target Population have higher SES risk



SECTION 3
MOVING FORWARD

Ontario

Putting it into practice : What You Can Do Now

Q) How can HLs and LHINs apply this information?

- Conditions identified could be used to develop a simple 'check list' to flag potential HL patients.
- One LHIN is going to use the list to identify patients discharged from ED or Acute care who have 4 or more conditions. These patients will then be flagged so that information on these patients can flow to primary care.

Q) How can this information be used for planning?

- The current analysis provides information on the potential volume and characteristics of the target population in each HL. This can help LHINs and HLs understand their population.
- Future analysis on predictive modelling can help identify the patients who are at higher risk of becoming the target population
- Analysis of socio-economic data identifies areas that are experiencing higher levels of socio-economic stress relative to others; patients from these areas may have additional challenges.

Q) Expectations for Target population performance monitoring and reporting?

- Target population numbers can be approximated for each HL area and used by the HL to compare with the number of patients enrolled.

**** References:*** *Advanced Health Links Guide* (Out to the field by end of August) with expectations for the HLs including standardization of indicators and processes.

Moving Forward

- Further testing and scoping and socializing of the Social Economic Status' component of the patient identification approach.
- Methodology to be used as a guide to shape the complex patient population by Health Links a guideline to identify the HLs common patient population and enables standardization of a core element of the HLs program.
- Over 2015/16, the ministry, LHINs and HLS with HQO support as required will pursue a number of activities to determine how the methodology will be more formally operationalized and adopted in 2016/17 in conjunction with the advanced health links model, specifically:
  - to establish a baseline for HL performance indicators.
  - Standardization of quarterly reporting
  - To ensure alignment with target population ID best practices

Discussion and Questions

Questions related to Target Population methods or analysis can be directed to Health Analytics Branch.

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Appendix

List of selected conditions that are chronic and/or high cost

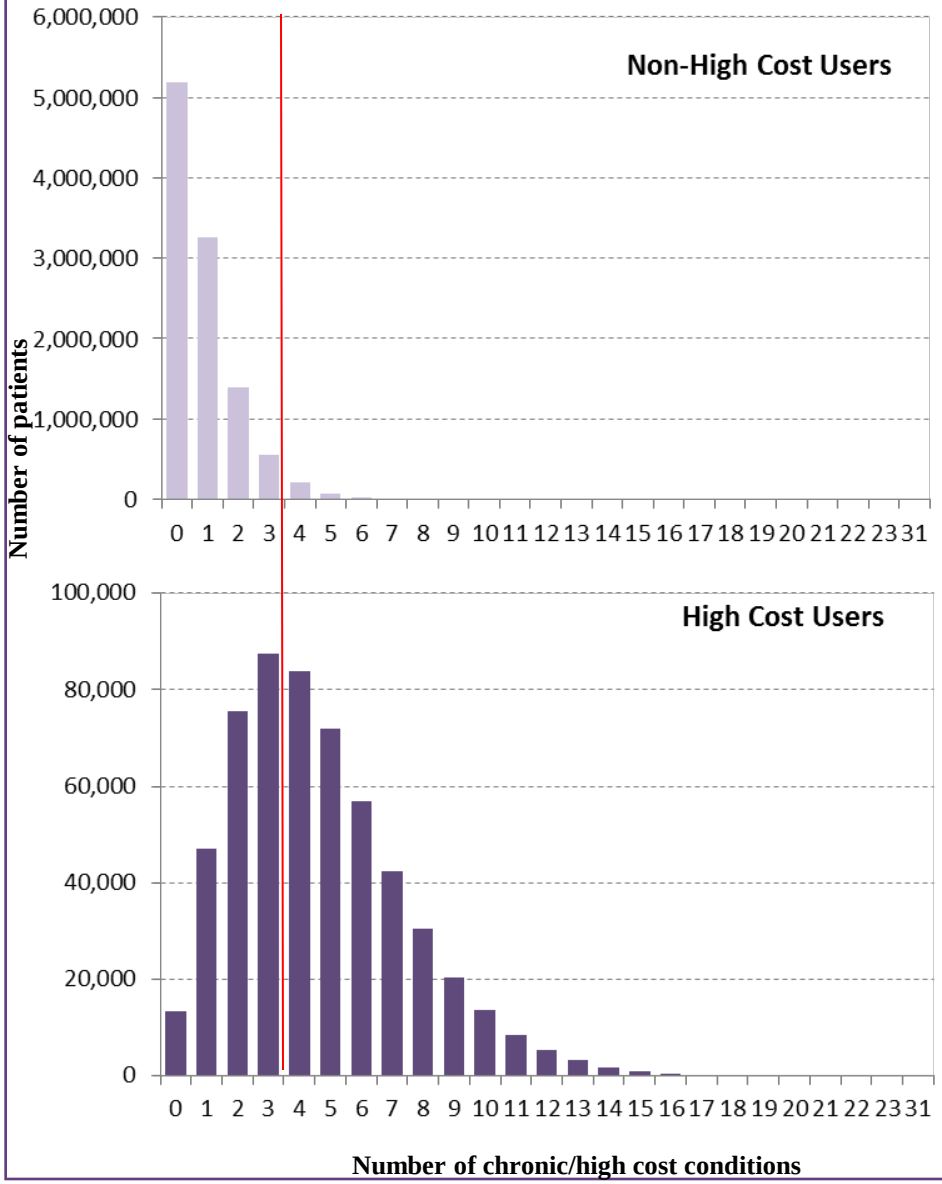
97.6% of high cost users have at least one of these conditions

1	Sepsis	28	Ischaemic Heart Disease
2	Brain Injury	29	Cardiac Arrhythmia
3	HIV/AIDS	30	(Congestive) Heart Failure
4	Malignant Neoplasms (cancer)	31	Stroke
5	Blood disorders (anemia , coagulation defects)	32	Peripheral Vascular Disease and Atherosclerosis
6	Coma	33	Influenza
7	Diabetes	34	Pneumonia
8	Cystic Fibrosis	35	Chronic Obstructive Pulmonary Disease
9	Mental Health conditions	36	Asthma
10	Dementia	37	Ulcer
11	Substance-related disorders	38	Hernia
12	Schizophrenia & delusional disorders	39	Crohn's disease/colitis
13	Depression	40	Liver disease (cirrhosis, hepatitis etc.)
14	Bipolar	41	Arthritis and related disorders
15	Anxiety disorders	42	Osteoporosis including pathological bone fracture
16	Eating disorders	43	Renal Failure
17	Personality disorders	44	Low Birth Weight
18	Developmental disorders	45	Other Perinatal Conditions
19	Huntington's disease	46	Congenital Malformations
20	ALS (Lou Gehrig's disease)	47	Fracture
21	Parkinson's disease	48	Amputation
22	Multiple Sclerosis	49	Palliative care
23	Epilepsy & Seizure disorders	50	Pain Management
24	Muscular Dystrophy	51	Hip Replacement
25	Cerebral Palsy	52	Knee Replacement
26	Paralysis and spinal cord injury	53	Transplant
27	Hypertension		

Notes: The conditions included are those that: affect a large number of patients, are risk factors for other chronic conditions, or contribute to significant LOS and/or cost in one or more health care sector.

Multiple Conditions, 4+

Distributions of Non-High Cost and High Cost Users by Number of Conditions

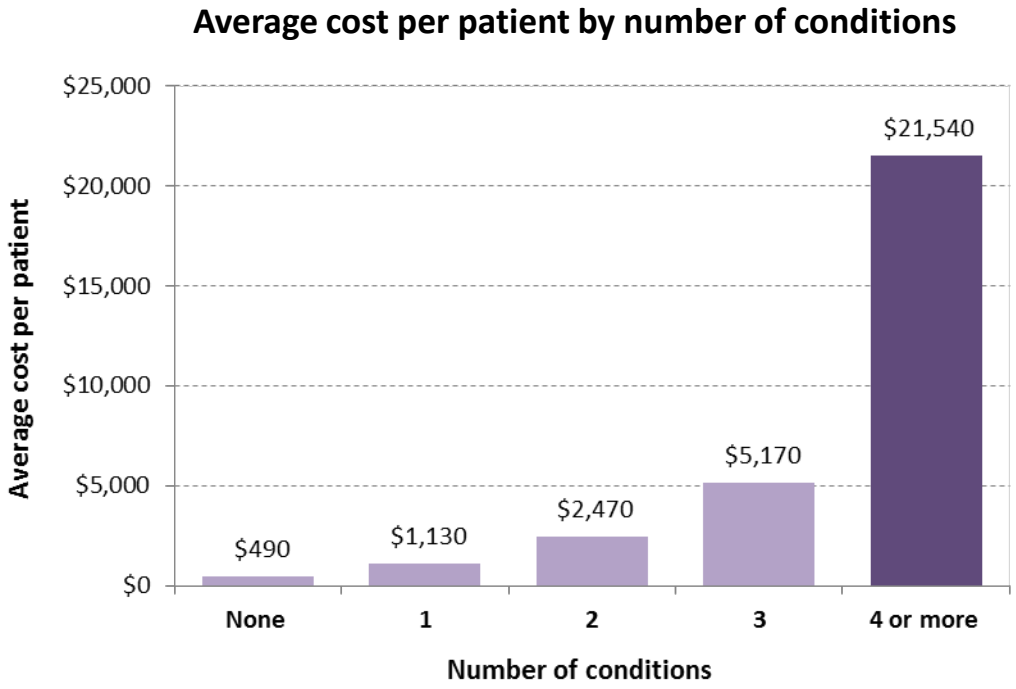


# of conditions	High Cost Users		Non-High Cost Users		All Patients	
Average #	4.6		0.9		1.1	
Median #	4		1		1	

# of conditions	# of patients	(%)	# of patients	(%)	# of patients	(%)
1 or more	550,710	(98%)	5,522,470	(52%)	6,073,180	(54%)
2 or more	503,530	(89%)	2,263,770	(21%)	2,767,300	(25%)
3 or more	427,860	(76%)	878,330	(8%)	1,306,190	(12%)
4 or more	340,420	(60%)	331,990	(3%)	672,410	(6%)
5 or more	256,600	(45%)	122,400	(1%)	379,010	(3%)

High cost users have an average of 4.6 of the selected conditions, whereas non-high cost users have 1 condition.

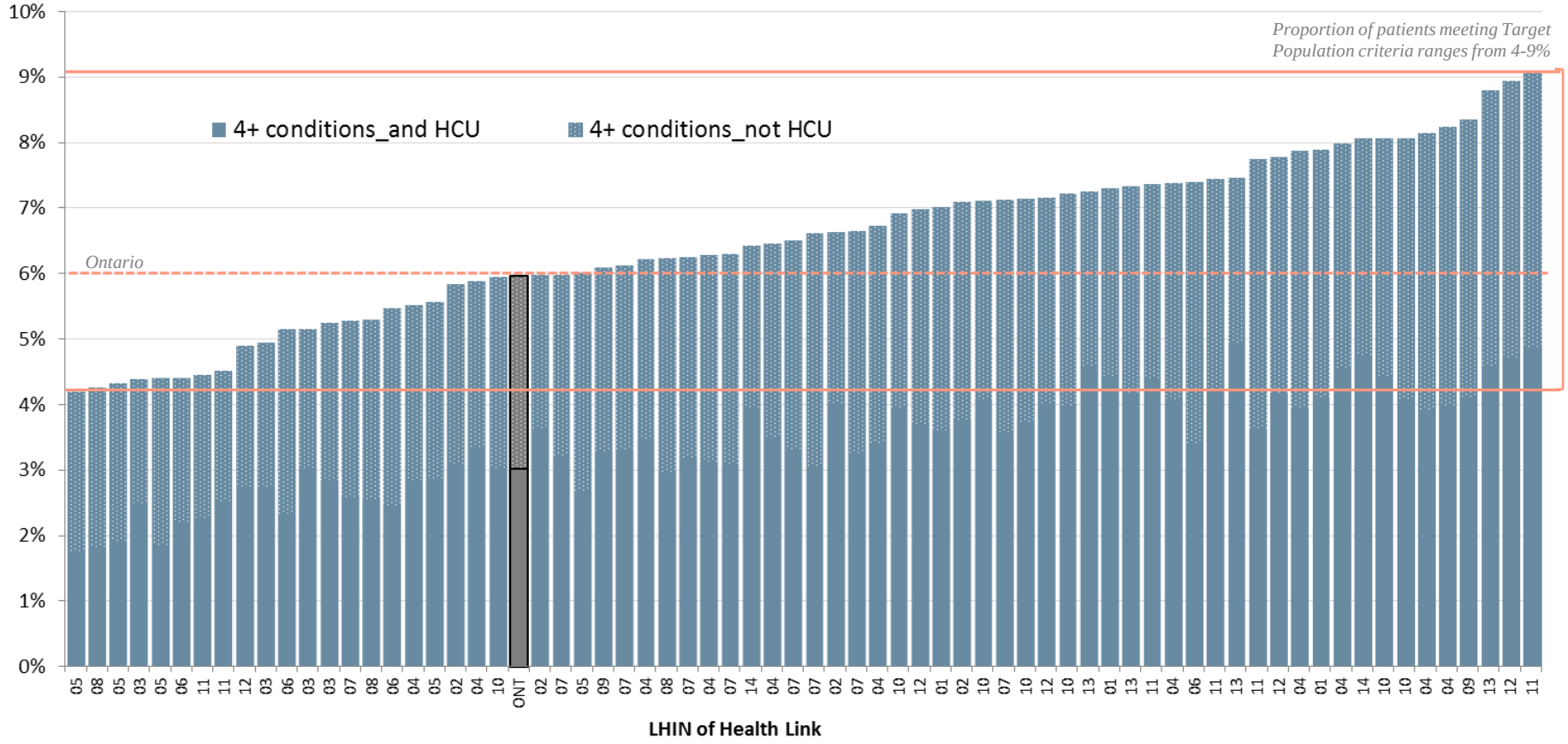
Among high cost users, 76% of them have 3 or more selected conditions; 60% of them have 4 or more conditions.
Among non-high cost users, only 8% have 3+ conditions and 3% have 4+ conditions.



- The average cost per patient basically doubles with each additional condition

Percentage of patients that meet Target Population Criteria by HL

Provincially, 6% of patients are in the Target Population with approximately half of those in the Target Population also being High Cost Users.
Across HLs however, the proportion patients who meet the Target Population criteria varies (ranging from 4 to 9% of patients) because of different age structures and health profiles among HLs.



Methods for Target Population Analysis

- Analysis is based on the 2011/12 HBAM files for DAD, NACRS, OMHRS, NRS, CCRS-CCC, as well as HCD, RPDB, CCRS-LTC, NARCS (oncology , dialysis), and CHDB. Analysis is limited to records where the encrypted health card number is not missing and the responsibility of payment is Ontario.

- All patients who used these services in 2011/12 were categorized according to the presence/absence of approximately 60 chronic or high cost conditions/interventions according to all diagnoses recorded within their hospital (inpatient acute, day surgery, emerg, inpatient rehab, inpatient mental health or complex continuing care), LTC, homecare, or OHIP records. These conditions may not be the main reason for treatment (our analysis considers the presence of the conditions/interventions within any diagnosis field in any clinical record).

- The conditions chosen are those that:
  - Have a high burden on the population (high prevalence) or the system (frequent use of the health care system)
  - Have an individual high burden (infrequent but expensive to treat)
  - Are risk factors for other chronic conditions or an important co-morbidity
  - Contribute to significant LOS and/or cost in one or more health care sectors.
- High cost users are defined as the 5% of Ontario patients with the highest combined healthcare cost for acute care, day surgery, emergency, ambulatory oncology, ambulatory dialysis, inpatient mental health, inpatient rehabilitation, complex continuing care, homecare, long-term care, and physician visits.

SES analysis: caveats

Data source:

- Relies on the National Household Survey 2011 (not equivalent to Census)
  - 269 DAs with no data (many of these are Indian Reserves)
  - 446 DAs with no income data
  - 2363 DAs with data with high non-response rates

Methodology:

- Limitations of using area-based measures of SES as a stand-in for individual measures (neighbourhood characteristics may not reflect individual characteristics)
- SES index reflects the variables that were included.
- 'Higher SES risk' depends on what cut-off is applied (90^{th} percentile is somewhat arbitrary)