

Measuring Health Equity: Using Equity Data to Enhance Person- and Community-Centred Care

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Presentation Objectives

Why is Measuring Health Equity important?

The need for health equity data collection in Toronto Central LHIN

How does this data impact care and planning?

Examples from three levels of health care delivery and planning

What have we learned?

Lessons learned through implementation and from our stakeholders

The Need for Health Equity in Toronto Central LHIN: Our unique population

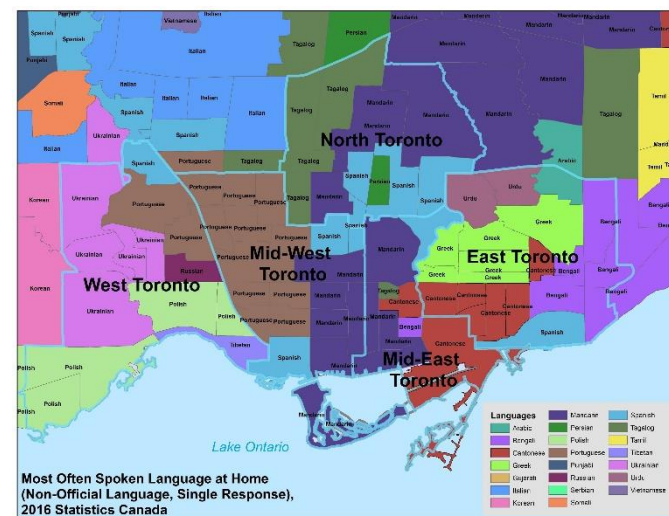
Urban city with the highest population density in ON

- 1.3M people in 2018 live in Toronto Central
- 14% of our population are seniors
- 8% are children and youth

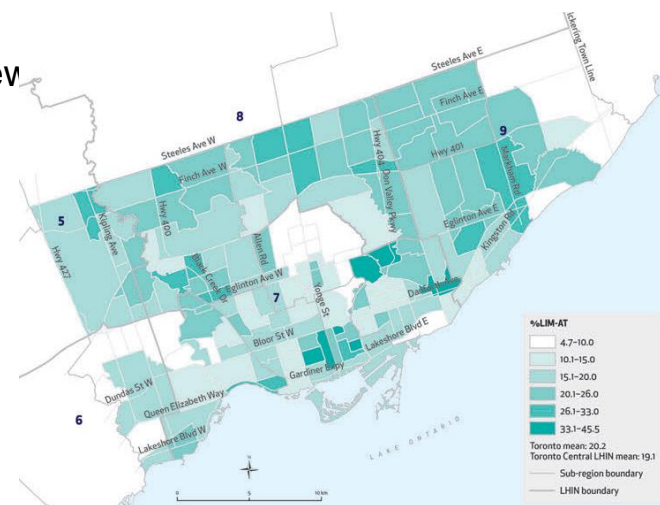
Our population and neighborhoods are incredibly diverse

- 36.4% immigrants (range: 19.7% - 64%), with 15% being new immigrants (range: 1% - 18.6%)
- ~ 200 countries of origin, ~ 140 languages and dialects (including 2.9% Francophone)
- 36% racialized groups (range: 12% - 79.1%)
- 17% with 2+ chronic conditions (range: 12% - 24%)
- 8,715 homeless in 2018; increased from 5,000 in 2013
- 19% of people live below low income measure (LIM-AT); Range 4.7% - 45.5%
- 33,000 – 58,000 Indigenous (*Our Health Counts study*)
- Largest LGBT community in Ontario

Languages



Income



How does Measuring Health Equity impact care and planning?

Measuring Health Equity allows us to improve patient care at three distinct levels of health service delivery and planning:



At the point of access: Asking these eight socio-demographic questions allows the provider to quickly flag patient characteristics that may impact care delivery and planning (e.g., self-identified gender)



At a Health Service Provider level: Aggregated to the provider level, socio-demographic data may flag emerging needs or populations that may require additional or customized support in their care delivery



At a system level: Looking at results across a geography, this data may illuminate gaps in service specific to local regions or smaller areas (which may not be a challenge across the broader LHIN), or link patient population characteristics to utilization in new ways

Health Equity 8 Demographic Questions

Spoken Language	What language do you feel most comfortable speaking in with your health care provider?
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Born in Canada	Were you born in Canada? If 'no', what year did you arrive?
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Race/Ethnicity	Which of the following best describes your racial or ethnic group?
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Disabilities	Do you have any of the following? (check all that apply)
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Gender	What is your gender?
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Sexual Orientation	What is your sexual orientation?
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Income	What was your total family income before taxes last year?
	How many people does this income support?

Higher diversity among CHC than Hospital patients/clients*, 2017/18



Language Other than English'

29.4% CHC clients
7% hospital patients



Born outside Canada

50.0% CHC clients
26.2% hospital patients



Non-White racial/ethnic group:

54.6% CHC clients
23.6% hospital patients



At least 1 disability

64.5% CHC clients
26.4% hospital patients



Identify** as 'Female'

57.8% CHC clients
48.4% hospital patients



LGBQ- identified

7.5% CHC clients
4.9% hospital clients



Family income under \$30,000

48.1% CHC clients
15.3% hospital patients

**1% of CHC clients identified as 'Trans' or another category
0.19% of hospital patients identified as 'Trans' or another category

Using Measuring Health Equity Data at the point of access: Clinician-Client Interaction



Communication

- Contextualize an intervention to the individual client
- Translation needs
- Reduce burden of disclosing identities and needs
- Serve as source of information on how to appropriately address patients and caregivers / family



Follow up

- Open conversation on appropriate support
- Highlights social and economic barriers facing patients
- Social prescribing opportunities



Medical decisions

- Provides information on types of tests needs
- May have implications for interpreting medical test results

Using Measuring Health Equity Data at a Health Service Provider Level



Both hospitals and CHCs reported using Measuring Health Equity data in their practice.

Projects that used this data include:

- Population identification
- Stratification analysis
- Program evaluation

Identifying an appropriate population



CHCs:

- Organizational strategies were developed for target areas that need improvement.
- **Target profiles** were pulled for tailored outreach for programming.
- **Top preferred languages are used to inform translations** of Client Experience Surveys and other materials.
- **Neighborhood-specific strategies** were informed by client demographic data.
- **Client profile summaries** increased the understanding in overall complexity of individuals being served.
- **Shared population characteristics with Board Quality Committee** and staff.

Hospitals:

- Used data to inform **automated follow up call service**. Demographic data to identify the top four languages used among clients, and translated the automated call into these languages.
- Used language data to identify top languages to **translate patient and family brochures**.
- Also used data to **cross-reference with other demographic data that hospital collects and current census data**.

Stratification



CHCs:

- Analysis showed relationship between **cervical cancer & income**, and **colorectal cancer screening & gender and income**. Clinicians were shown data and provided with tools to improve screening rates consistently for all clients (e.g., reminder in EMR)

Hospitals:

- Significant effect between **race / ethnicity and missed opportunities of care**. Led to implementation of a transportation program in certain areas to reduce missed care opportunities.
- Significant effect between **income and ALC & inpatient rehabilitation length of stay efficiency**; results informed **additional investment** in case management.
- Significant effect between **Chinese-speaking patients and LOS in stroke rehab**. Data was used to implement strategies to help transition / discharge process of this population (e.g., appropriate Speech Language Pathologist supports).

Using Measuring Health Equity Data as a System



- Hospitals submitted data to the Institute for Clinical and Evaluative Sciences (IC/ES)
- Analysis linked health equity data and health outcomes at an individual level
- Data from 2013 to 2015 was linked in this initial phase
 - Anticipate additional data will be analyzed once available – this will also illuminate trends over time
- Analysis will be completed this Spring and shared with key stakeholders, and internally, to support / validate planning and strategy
- Erin Graves, Staff Scientist, Health System Planning and Evaluation Program has led the analysis on behalf of IC/ES

Lessons Learned

- Making the case for equity: equity is both a process and an outcome

Asking these questions helps us, as health system participants, better meet client needs individually, within our organizations, and as system planners

- Embed this work in “business as usual”: asking these questions helps us ensure patients are being heard as we deliver client-centered care
- Knowledge translation and implementation supports are critical for overall success: providers need to be able to “phone a friend”
- Data quality, collection and training are intrinsically linked

When staff have a good understanding of why we are collecting data and clinical impact of this analysis, the data quality and collection rates increase

Thank you!

Appendix

8 Standardized Demographic Questions

We Ask Because We Care

We are collecting social information from patients to find out who we serve and what unique needs our patients have. We will also use this information to understand patient experiences and outcomes.

Do I have to answer all the questions?

No. The questions are voluntary and you can choose 'prefer not to answer' to any or all questions. This will not affect your care.

Who will see this information?

This information will be visible only to your health-care team and protected like all your other health information. If used in research, this information will be combined with data from all other patients and no one will be able to identify any of the patients.

1. What language would you feel most comfortable speaking in with your health care provider? Check ONE only

<input type="checkbox"/> 1. Amharic	<input type="checkbox"/> 9. English	<input type="checkbox"/> 17. Korean	<input type="checkbox"/> 25. Somali	<input type="checkbox"/> 33. Urdu
<input type="checkbox"/> 2. Arabic	<input type="checkbox"/> 10. Farsi	<input type="checkbox"/> 18. Nepali	<input type="checkbox"/> 26. Spanish	<input type="checkbox"/> 34. Vietnamese
<input type="checkbox"/> 3. ASL	<input type="checkbox"/> 11. French	<input type="checkbox"/> 19. Polish	<input type="checkbox"/> 27. Tagalog	<input type="checkbox"/> 35. Other
<input type="checkbox"/> 4. Bengali	<input type="checkbox"/> 12. Greek	<input type="checkbox"/> 20. Portuguese	<input type="checkbox"/> 28. Tamil	(please specify): _____
<input type="checkbox"/> 5. Chinese (Cantonese)	<input type="checkbox"/> 13. Hindi	<input type="checkbox"/> 21. Punjabi	<input type="checkbox"/> 29. Tigrinya	_____
<input type="checkbox"/> 6. Chinese (Mandarin)	<input type="checkbox"/> 14. Hungarian	<input type="checkbox"/> 22. Russian	<input type="checkbox"/> 30. Turkish	<input type="checkbox"/> 88. Prefer not to answer
<input type="checkbox"/> 7. Czech	<input type="checkbox"/> 15. Italian	<input type="checkbox"/> 23. Serbian	<input type="checkbox"/> 31. Twi	
<input type="checkbox"/> 8. Dari	<input type="checkbox"/> 16. Karen	<input type="checkbox"/> 24. Slovak	<input type="checkbox"/> 32. Ukrainian	<input type="checkbox"/> 99. Do not know

2. Were you born in Canada? ☐ 1. Yes ☐ 2. No ☐ 88. Prefer not to Answer ☐ 99. Do not know

If NO, what year did you arrive in Canada? _____

3. Which of the following best describes your racial or ethnic group? Check ONE only

<input type="checkbox"/> 1. Asian - East (e.g. Chinese, Japanese, Korean)	<input type="checkbox"/> 11. Latin American (e.g. Argentinean, Chilean, Salvadoran)
<input type="checkbox"/> 2. Asian - South (e.g. Indian, Pakistani, Sri Lankan)	<input type="checkbox"/> 12. Metis
<input type="checkbox"/> 3. Asian - South East (e.g. Malaysian, Filipino, Vietnamese)	<input type="checkbox"/> 13. Middle Eastern (e.g. Egyptian, Iranian, Lebanese)
<input type="checkbox"/> 4. Black - African (e.g. Ghanaian, Kenyan, Somali)	<input type="checkbox"/> 14. White - European (e.g. English, Italian, Portuguese, Russian)
<input type="checkbox"/> 5. Black - Caribbean (e.g. Barbadian, Jamaican)	<input type="checkbox"/> 15. White - North American (e.g. Canadian, American)
<input type="checkbox"/> 6. Black - North American (e.g. Canadian, American)	<input type="checkbox"/> 16. Mixed heritage (e.g. Black - African & White – North American) Please specify: _____
<input type="checkbox"/> 7. First Nations	<input type="checkbox"/> 17. Other(s): Please specify: _____
<input type="checkbox"/> 8. Indian - Caribbean (e.g. Guyanese with origins in India)	
<input type="checkbox"/> 9. Indigenous/Aboriginal - not included elsewhere	<input type="checkbox"/> 88. Prefer not to answer
<input type="checkbox"/> 10. Inuit	<input type="checkbox"/> 99. Do not know

4. Do you have any of the following? Check ALL that apply

<input type="checkbox"/> 1. Chronic Illness	<input type="checkbox"/> 9. None
<input type="checkbox"/> 2. Developmental Disability	<input type="checkbox"/> 88. Prefer not to answer
<input type="checkbox"/> 3. Drug or Alcohol Dependence	<input type="checkbox"/> 99. Do not know
<input type="checkbox"/> 4. Learning Disability	
<input type="checkbox"/> 5. Mental Illness	
<input type="checkbox"/> 6. Physical Disability	
<input type="checkbox"/> 7. Sensory Disability (i.e. hearing or vision loss)	
<input type="checkbox"/> 8. Other (Please specify): _____	

5. What is your gender? Check ONE only

<input type="checkbox"/> 1. Female	<input type="checkbox"/> 6. Other (Please specify): _____
<input type="checkbox"/> 2. Intersex	<input type="checkbox"/> 88. Prefer not to answer
<input type="checkbox"/> 3. Male	<input type="checkbox"/> 99. Do not know
<input type="checkbox"/> 4. Trans - Female to Male	
<input type="checkbox"/> 5. Trans - Male to Female	

6. What is your sexual orientation? Check ONE only

<input type="checkbox"/> 1. Bisexual	<input type="checkbox"/> 6. Other (Please specify): _____
<input type="checkbox"/> 2. Gay	<input type="checkbox"/> 88. Prefer not to answer
<input type="checkbox"/> 3. Heterosexual	<input type="checkbox"/> 99. Do not know
<input type="checkbox"/> 4. Lesbian	
<input type="checkbox"/> 5. Queer (a term used by people who do not follow common sexual orientations)	
<input type="checkbox"/> 6. Two-Spirit (a term used by Aboriginal people)	

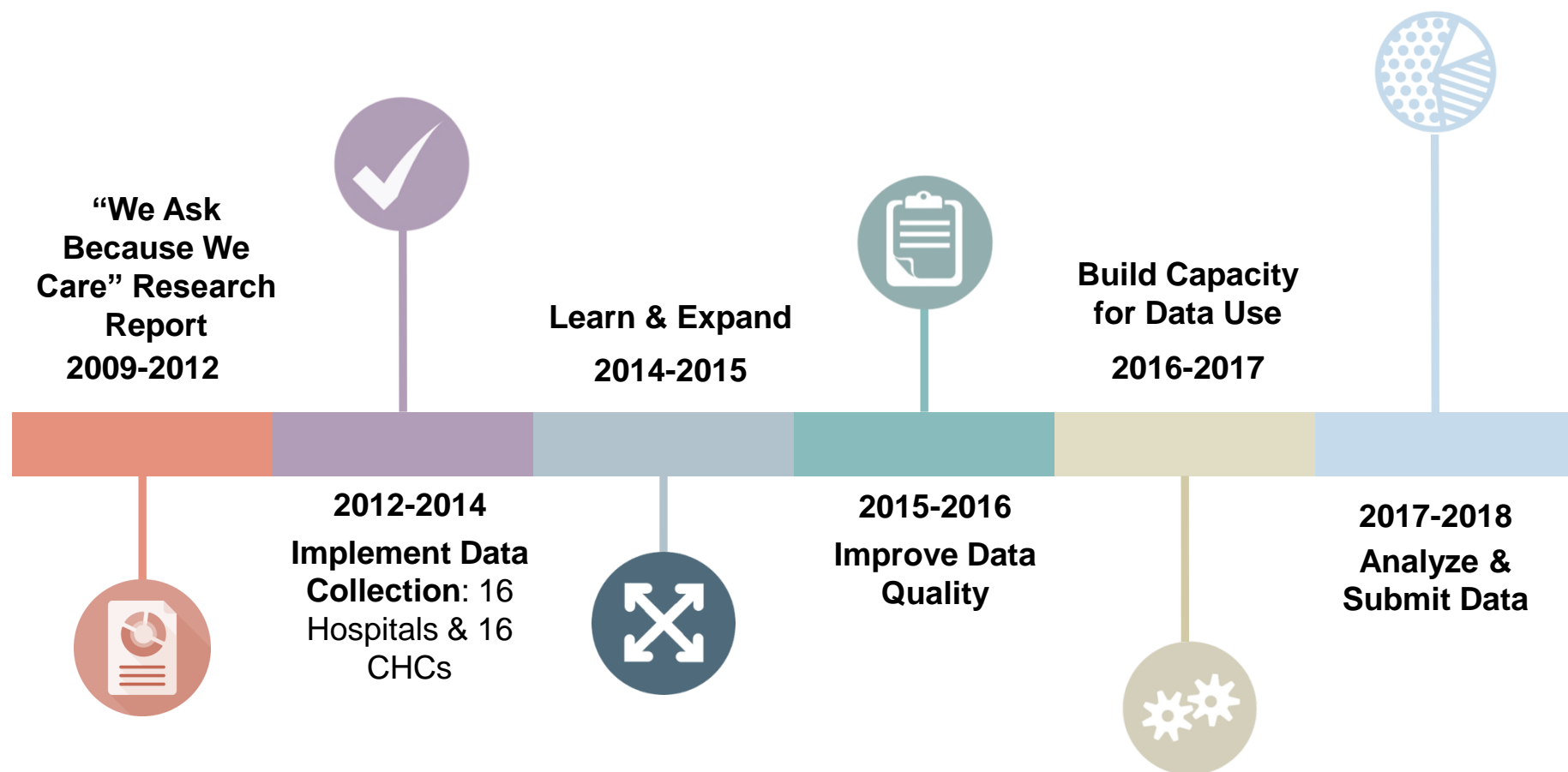
7. What was your total family income before taxes last year? Check ONE only

<input type="checkbox"/> 1. \$0 - \$29,999	<input type="checkbox"/> 88. Prefer not to answer
<input type="checkbox"/> 2. \$30,000 – \$59,999	<input type="checkbox"/> 99. Do not know
<input type="checkbox"/> 3. \$60,000 – \$89,999	
<input type="checkbox"/> 4. \$90,000 – \$119,999	
<input type="checkbox"/> 5. \$120,000 – \$149,999	
<input type="checkbox"/> 6. \$150,000 or more	

8. How many people does this income support?

_____person(s) ☐ 88. Prefer not to answer ☐ 99. Do not know

History of project of Measuring Health Equity in Toronto Central LHIN



- Mandated sociodemographic data collection from patients/clients in 16 hospitals and 16 CHCs
- First Canadian effort to standardize data collection in hospitals and across multiple sectors
- Internationally unique in scope of questions

Data Stratification: Clinical Indicators

Hospital Rehab/CCC Hospitals	Alternative Level of Care
	Evaluating a hospital program (indicator: whether patient discharged from hospital, transferred to Acute Care)
	Functional Independence Measure* (FIM) Total, FIM Cognitive, FIM Motor, FIM efficiency on admission + discharge
	Length of stay [LOS] for inpatients
	Falls
	Missed Opportunities of care
Hospital Acute Care & Specialty Hospitals	Access to hospital programs
	ALC Length of Stay [LOS] for acute inpatients
	Cataracts Quality Based Procedure Cases
	Diabetes measures
	LOS for ED admitted patients
	LOS for inpatients
	SA/DVCC patients by population vs 2016 Census
	Patients Experience
CHC	Cervical Cancer screening

*FIM: “Measures the level of a patient's disability and indicates how much assistance is required for the individual to carry out activities of daily living” ([Abilitylab, 2015](#)).

Highlights of Hospital & CHC Results (FY 2017/18)

Participation in Equity Data Collection (FY 2017/18)		
	Hospitals	CHCs
# of patients w/quality demographic data 2017/18	249,051	41,768
Participation rate FY 2017/18	36.1%	69.8%
Range across organizations	1.7% - 100%	43.6% - 90.6%

Data Quality (Q1-Q2 2017/18)				
	Hospitals		CHCs	
	Lowest	Highest	Lowest	Highest
Prefer not to answer	5.6% (Gender)	32.1% (Income)	0% (Spoken Language)	13.9% (Income)
Do not know	0.03% (Gender)	5.4% (Income)	0.02% (Spoken Language)	13% (Income)
Missing	3.4% (Spoken Language)	23.5% (Disability)	3.6% (Gender)	17% (Disability)

Multivariate logistics regression predicting mental health and addictions related primary care visits among patients with 1+ primary care visits (following survey administration)

Equity Survey Question	Response Option	Adjusted for Comorbidity Index			
		OR	95% CI	p-value	model p-value
Participant Age Group	18 or less	ref			
	19-24	.55	.18 .92	0.0018	<.0001
	25-44	.57	.24 .90	0.0009	
	45-64	.51	.18 .84	<.0001	
	65-84	.33	-.01 .67	<.0001	
	85+	.25	-.16 .66	<.0001	
	Missing				
What language do you feel most comfortable speaking in with your healthcare provider?	English	ref			0.0134
	East/Southeast Asian	.91	.53 1.29	0.6084	
	Eastern European	2.36	1.72 3.00	0.0089	
	French	.54	-.36 1.44	0.1820	
	Middle Eastern	.44	-.31 1.19	0.0325	
	Prefer not to answer	.77	.36 1.18	0.2267	
	Russian	.79	.03 1.55	0.5471	
	South Asian	.84	.29 1.39	0.5285	
	Western European	.85	.54 1.16	0.3037	
	Other	.25	-.86 1.36	0.0154	
	Missing/Do not know/Invalid	.96	.61 1.31	0.8431	
Were you born in Canada?	Yes	ref			0.0513
	No	.93	.81 1.05	0.2415	
	Missing/Do not know	1.34	1.09 1.59	0.0199	
	Prefer not to answer	1.09	.52 1.66	0.7769	
If no, how long have you lived in Canada?	1 year or less	1.00	.34 1.66	0.9952	<.0001
	2-5 years	.83	.47 1.19	0.3212	
	6-9 years	.87	.51 1.23	0.4600	
	10+ years	ref			
	Invalid	1.15	.30 2.00	0.7505	
	Missing	1.60	1.41 1.79	<.0001	
Which of the following best describes your racial or ethnic group?	White	ref			<.0001
	Black	.68	.48 .88	0.0001	
	East/Southeast Asian	.56	.39 .73	<.0001	
	Latin American	.69	.37 1.01	0.0230	
	Middle Eastern	1.20	.87 1.53	0.2792	
	Missing/Do not know/Invalid	.77	.56 .98	0.0143	
	Mixed Heritage	.98	.63 1.33	0.9207	
	Others	.77	.56 .98	0.0150	
	Prefer not to answer	.77	.34 1.20	0.2296	

Equity Survey Question	Response Option	Adjusted for Comorbidity Index			
		OR	95% CI	p-value	model p-value
Do you have any of the following? (check all that apply) (ref=No for all conditions)	None	.58	.12 1.04	0.0203	0.0203
	Chronic illness	.81	.67 .95	0.0035	0.0035
	Developmental disability	1.43	.94 1.92	0.1513	0.1513
	Drug or alcohol dependence	3.50	3.27 3.73	<.0001	<.0001
	Learning disability	.73	.39 1.07	0.0735	0.0735
	Mental disability	3.71	3.54 3.88	<.0001	<.0001
	Physical disability	1.03	.88 1.18	0.7193	0.7193
	Sensory disability	.91	.70 1.12	0.3640	0.3640
	Other disability	.99	.79 1.19	0.9033	0.9033
	Any disability	.87	.40 1.34	0.5716	0.5716
	Do not know/Missing	.99	.53 1.45	0.9647	0.9647
	Prefer not to answer	1.18	.70 1.66	0.5015	0.5015
What is your gender?	Male	ref			
	Female	1.03	.94 1.12	0.5961	0.0005
	Intersex or Transgender	2.08	1.12 3.04	0.1337	
	Other/Missing/Do not know	.60	.30 .90	0.0010	
	Prefer not to answer	2.65	1.84 3.46	0.0181	
What is your sexual orientation?	Heterosexual	ref			
	Bisexual	1.34	.99 1.69	.10	0.0373
	Homosexual	1.27	1.03 1.51	.05	
	Other/Missing/Do not know	1.24	1.05 1.43	.03	
	Prefer not to answer	1.06	.80 1.32	.67	
What was your total family income before taxes last year?	\$0-\$29,999	1.57	1.38 1.76	<.0001	<.0001
	\$30,000-\$59,999	1.37	1.17 1.57	0.0017	
	\$60,000-\$89,999	1.14	.93 1.35	0.2340	
	\$90,000-\$149,999	1.06	.86 1.26	0.5527	
	\$150,000 or more	ref			
	Missing/Do not know	1.79	1.57 2.01	<.0001	
How many people does this income support?	Prefer not to answer	1.21	1.00 1.42	0.0691	
	2 or less	ref			
	4 to 5	1.01	.88 1.14	0.9128	0.2082
	5 to 7	.92	.65 1.19	0.5615	
	8 or more	.89	.15 1.93	0.8241	
	Missing/Do not know	1.24	1.07 1.41	0.0130	
	Prefer not to answer	1.08	.90 1.26	0.3851	
	No hospitalizations	ref			
Charlson Comorbidity Index	0	1.07	.97 1.17	0.2116	0.0517
	1	1.10	.94 1.26	0.2654	
	2	.98	.81 1.15	0.8007	
	3+	.87	.72 1.02	0.0817	

*Includes patients from all 8 participating hospitals