

Ethnic Differences in Mental Health and Race-Based Data Collection

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Abstract

There is strong evidence of ethnic disparities in chronic medical conditions, such as diabetes and cardiovascular diseases; however, less is known about ethnic differences in mental illness and health service utilization. Previous studies have shown that Asians are more likely to avoid or delay seeking help for their mental illness. We conducted a population-based study using Ontario health administrative data to examine ethnic differences in mental illness severity at hospital presentation. We found that Chinese and South Asian psychiatric patients were significantly more likely to be involuntarily admitted and exhibited more aggressive behaviours and psychotic symptoms compared to the general population. Our study highlights the need to better understand how individual, family and health-system factors contribute to the observed ethnic disparities. This paper also describes the current status of ethnicity and race-based data collection in Ontario and the benefits of routinely collecting more ethnicity data in our healthcare system to ensure equitable healthcare access and outcomes for all Ontarians.

The Issue

Canada is one of the most ethnically diverse regions in the world, with over 20% of its population being foreign-born – the highest proportion of any G8 country (Statistics Canada 2013). The Canadian province of Ontario is home to a large, diverse mix of visible minority groups, with the three largest groups being South Asian, Chinese and Black (Statistics Canada 2012, 2013). Ontario's culturally diverse environment and the availability of a large repository of linked administrative databases provide an ideal setting in which to conduct research on ethnicity and to investigate ethnic differences across a wide variety of medical and mental health outcomes.

There is strong evidence in the literature that ethnic disparities exist in chronic diseases, such as diabetes, smoking, obesity and hypertension (Anand et al. 2000; Chiu et al. 2010, 2011, 2012). Across ethnicities, studies have shown a significantly higher prevalence of diabetes among South Asian, Chinese and Black groups compared with the white population (Chiu et al. 2010; Tu et al. 2015). In Ontario, the prevalence of risk

factors for cardiovascular disease has also been increasing more rapidly among certain ethnic groups; between 2001 and 2012, rates of diabetes doubled among South Asian men and Black women and obesity rates more than doubled among Chinese men (Chiu et al. 2015). Sociocultural factors such as immigration and ethnicity are also key factors in the development and severity of mental illness; however, relatively little is known about the mental health status and health service utilization of ethnic minorities in Canada. Chinese immigrants in Canada have been shown to use less mental health services, that is, fewer visits to family physicians for mental health reasons, visits to psychiatrists and in-patient hospitalizations (Chen and Kazanjian 2005), even among those with severe and persistent mental illness (Chen et al. 2010). These data are in keeping with lower rates of mental healthcare utilization by Chinese and other Asian ethnic groups in Scotland and the US (Bansal et al. 2014; Sentell et al. 2013) and may influence the severity of psychiatric illnesses among Asian immigrants.

We conducted a large population-based study to investigate whether Asian patients in Ontario were presenting with more severe psychiatric symptoms when admitted to hospital.

The Study

We conducted a population-based study of patients aged 19–105 years who had a psychiatric hospitalization and were discharged between 2006 and 2014 (Chiu et al. 2016). We examined ethnic differences in four measures of disease severity: involuntary admissions, aggressive behaviours and the number and frequency of psychotic symptoms (i.e., hallucinations, command hallucinations, delusions and abnormalities in thought process). The patients were classified as South Asian, Chinese or general population using a surnames algorithm, which was developed and validated at the Institute for Clinical Evaluative Sciences (ICES) and has a very high positive predictive value (Shah et al. 2010).

Key Findings

Among the 133,588 psychiatric in-patients (2,582 Chinese, 2,452 South Asian and 128,554 general population patients),

illness severity was greatest among Chinese patients, followed by South Asian patients and the comparison group (Table 1). Compared to the general population, Chinese patients had a 1.79-fold, 1.36-fold and 1.39-fold (all $p < 0.001$) higher adjusted odds of involuntary admissions, severe aggressive behaviours and three or more psychotic symptoms, respectively (Figure 1). South Asian ethnicity was also an independent predictor of most measures of illness severity. The associations between ethnicity and illness severity were consistent, irrespective of sex, immigration status or discharge diagnosis (Chiu et al. 2016).

TABLE 1.
Ethnic differences at hospital assessment among 133,588 mental health in-patients aged ≥19 years in Ontario (2006–2014) (Chiu et al. 2016)

| Measures of disease severity | Comparison group (ref.) (N = 128,554) | Chinese (N = 2,582) | | South Asian (N = 2,452) | |
|--|--|------------------------|----------------------|----------------------------|----------------------|
| | Value* | Value* | p-value [§] | Value* | p-value [§] |
| Involuntary admission | 46.0 | 67.1 | <0.001 | 59.7 | <0.001 |
| Aggressive behaviour scale | | | | | |
| 0 (none) | 76.2 | 65.8 | <0.001 | 71.2 | <0.001 |
| 1–2 (moderate) | 9.8 | 13.8 | <0.001 | 12.5 | <0.001 |
| 3+ (severe) | 14.0 | 20.4 | <0.001 | 16.3 | <0.001 |
| Positive symptoms (not mutually exclusive) | | | | | |
| Hallucinations | 16.0 | 28.6 | <0.001 | 25.0 | <0.001 |
| Command hallucinations | 4.4 | 7.5 | <0.001 | 6.5 | <0.001 |
| Delusions | 22.9 | 37.5 | <0.001 | 32.1 | <0.001 |
| Abnormal thought process/form | 27.7 | 39.2 | <0.001 | 34.0 | <0.001 |
| Number of positive symptoms | | | | | |
| 0 | 62.4 | 44.8 | <0.001 | 50.9 | <0.001 |
| 1–2 | 28.5 | 38.2 | <0.001 | 35.5 | <0.001 |
| 3+ | 9.1 | 17.0 | <0.001 | 13.7 | <0.001 |
| Positive symptom scale score ≥6 | 15.5 | 27.3 | <0.001 | 22.3 | <0.001 |

*Values are percentages unless otherwise specified. [§]p-values compare the Chinese and South Asian groups to the general population.

Collection of Race and Ethnicity Data in Ontario

While previous studies in Ontario provide strong evidence that race and ethnicity are important determinants of health, they have relied on either self-reported ethnicity data from surveys that capture a limited sample of the population or (as in the

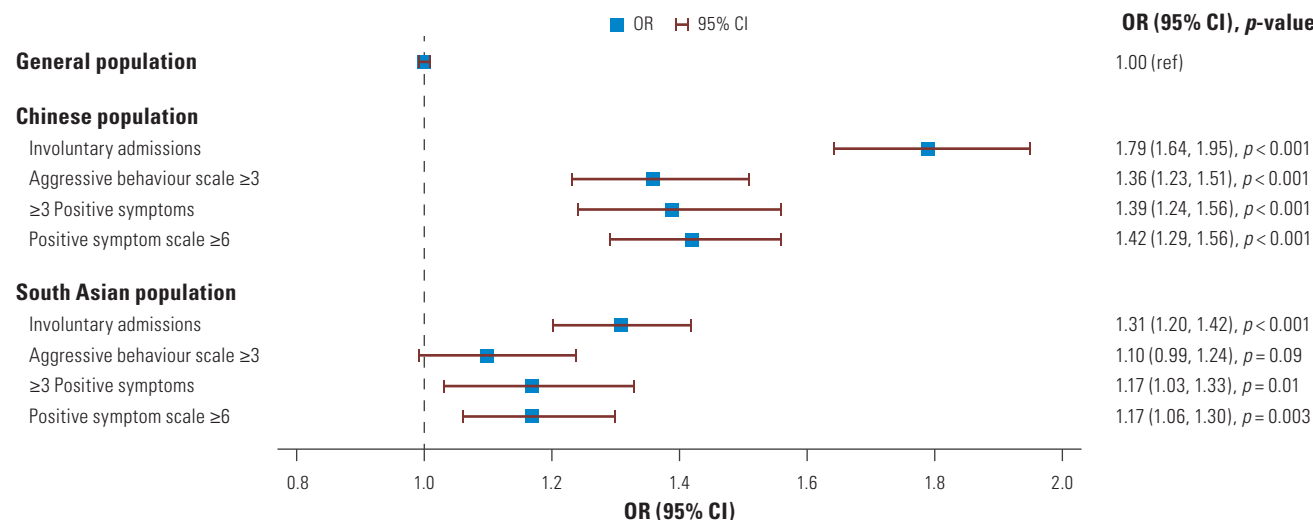
study reported here) on algorithms that identify a limited number of groups that have ethnic-specific surnames.

Currently, race and ethnicity data are not routinely collected in health administrative databases in Ontario. This is unlike other multiethnic regions where the collection of these data are mandated by the government, such as through Directive No. 15 (Centers for Disease Control and Prevention 2005), the 2009 *Health Information Technology for Economic and Clinical Health (HITECH) Act* (Weissman and Hasnain-Wynia 2011) and the 2010 *Affordable Care Act* (Abdus et al. 2015) in the US, as well as the 2000 *Race Relations (Amendment) Act* (Office for National Statistics 2003) in the UK. These have enabled decades of race-based reporting and the monitoring of population health indicators through an equity lens. In Ontario, the Ontario Human Rights Code allows for the collection of ethnicity-based data (Government of Ontario 2016); however, race and ethnicity data fields are not legally required and are often incomplete or inconsistently filled. More recently, Bill 114 was passed on March 29, 2017 in Ontario to create an anti-racism framework to eliminate systemic racism and to promote racial equity across the province by maintaining a multi-year anti-racism strategy and reviewing it at least every five years (Coteau 2017). Bill 114 mandates race data collection for racial equity across policies, programs and services; however, the legislation exempts the collection of health data by health information custodians because of the *Personal Health Information Protection Act*, 2004 (Coteau 2017). If race and ethnicity data collection was legally mandated in Ontario, the province’s healthcare system and researchers would have richer data to aid with program planning and allocation of resources and to ensure that resources are shared equitably. For example, these data would be critical in identifying ethnic groups that are at high risk for certain health conditions, evaluating the effectiveness of programs across ethnicities, tracking whether healthcare resources are being distributed equitably and ensuring that all Ontarians, irrespective of race or ethnicity, have access to timely and high-quality healthcare.

Conclusions and Implications

Our study found significant ethnic differences in mental illness severity at hospital presentation, with Chinese and South Asian patients exhibiting worse mental illness severity than the general population. These findings are likely attributed to patient factors, as well as health system and provider factors. Self-stigma and feelings of shame are particularly heightened among Asian patients and their families and there may be cultural differences in the perception of mental illness (Bradby et al. 2007; Leong and Lau 2001; Loya et al. 2010; Tiwari and Wang 2008). For example, the view that mental illness should be managed within the family may result in delays in seeking help (Ng 1997).

FIGURE 1. Ethnic differences in involuntary admissions and mental illness severity among 133,588 mental health in-patients aged ≥19 years in ON (2006–2014) (Chiu et al. 2016)



Odds ratios (ORs) and 95% confidence intervals (95% CIs) were derived from logistic regression models adjusted for age, sex, income quintile, education, immigration status, marital status, urban/rural residence and discharge diagnosis. Chinese ($N = 2,582$) and South Asian ($N = 2,452$) patients were compared to the general population ($N = 128,554$). p -values compare the Chinese and South Asian groups to the general population for each illness severity measure.

There may also be some evidence of provider barriers, such as language barriers, ethnological mismatches between patients and healthcare providers and culturally insensitive health services (Ahmad et al. 2004; Bradby et al. 2007; Selkirk et al. 2014; Spencer and Chen 2004). Despite the existence of some provider-developed culturally sensitive programs and services, these lack initiatives to actively identify patients in need and often rely on patients to seek help (Chen et al. 2010). Currently, the majority of mental health services in Ontario are offered through the medical sector; however, given the barriers preventing Chinese and South Asian populations from seeking help, efforts are needed to improve access beyond the formal medical sector to involve education, community and social services and alternative health services so that interventions can occur earlier and in more culturally appropriate ways (Chen et al. 2009). Moreover, it is important to have standardized policies to routinely collect ethnicity and race-based data within the Ontario context, so that we can better identify gaps and disparities in healthcare provision and promote an equitable healthcare system. **HQ**

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