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Building a Profile of Health Related Services: Hamilton’s Immigrant and Refugee Communities

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ABSTRACT

While multiple social, environmental, economic, and demographic factors influence health as described in the Determinants of Health and Social Exclusion literatures, the presence of healthcare facilities and related social services, along with knowledge of these facilities (operating hours, contacts, location, and the like) remains key to the provision and maintenance of good health. Consultations with community groups highlighted significant issues regarding the availability, and the potential lack or awareness, of various health care and social services in the community. Immediately after arrival, for example, newcomers are typically engaged in settlement and employment issues, while health issues receive less attention.

The objectives of this research were twofold. First, the researchers mapped the distribution of health and health-related services relative to the immigrant population within Hamilton, Ontario, along with the health status of immigrants. Second, we evaluated the potential for spatial mismatch between immigrants and services. Results indicate a high degree of concentration in terms of health services catering to immigrants and a need for care amongst new arrivals.
KEY WORDS: health services, immigrant, service distribution, service concentration, Hamilton

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INTRODUCTION

Recent literature has firmly established that the health and health-seeking behaviour of Canada’s foreign-born (refugees and legal immigrants) diverges from that of the native-born population. For example, the observed ‘healthy immigrant effect,’ whereby the health status of immigrants at the time of arrival is high, but subsequently declines and converges toward the native-born population, is well documented (see, for example Ali 2002; Chen et al. 1996; Cho et al. 2004; Dunn and Dyck 2000; Gee et al. 2003; Globerman 1998; Ng et al. 2005; Pérez 2002; McDonald and Kennedy 2004; Newbold and Danforth 2003; Hyman 2007). According to the literature, recent immigrants are more likely to rank their health higher than the Canadian-born and are less likely to report chronic conditions or disability. This has been attributed to the fact that those in good health are more likely to immigrate to Canada. Furthermore, the screening process at the time of entry may disqualify those with serious medical conditions. Knowledge and use of health care, barriers to care, health-care restructuring, and other socially and culturally defined barriers may further contribute to declining health after arrival in Canada.

While multiple factors influence health as described in the Determinants of Health (DoH) and Social Exclusion (SE) literatures, including income and social status, social support, educational status, employment and working conditions, coping skills, and physical and social environments (see, for example Evans and Stoddart 1990; Evans et al. 1994; SEU 2001), the presence of health-care facilities and related social services, along with knowledge of these facilities with respect to operating hours, contacts, and location, remains key to the provision and maintenance of good health. In the period immediately after arrival, for example, newcomers are typically engaged in settlement and employment issues, while health issues receive less attention (Black and Zsoldos 2003). Lack of knowledge of specific health-care options or services has also been cited as a barrier to care within the broader literature (Deinard and Dunnigan 1987; MacKinnon and Howard 2000). Concurrently, new arrivals in particular, and immigrants in general, may not receive services in line with their individual health needs, meaning that some need for care remains unmet (Newbold 2008).

New immigrants to Canada are faced with multiple challenges – employment, housing, education and training, language, and health care, with local service providers or agencies typically filling the needs for new arrivals. It is reasonable to assume that the major immigrant magnets of Toronto, Montreal, and Vancouver are comparably ‘rich’ in terms of health service provision to new arrivals, given their history and role as major immigrant reception centres. With, however, the decentralization of immigrant settlement out of the major immigrant magnets and into smaller urban centres and suburban areas, has come the issue of adequate service provision. Places that traditionally have not received large volumes of immigrants will likely have fewer service opportunities and/or experience ‘spatial mismatch’ between the location of immigrants and service providers. Existing locations may not adequately serve new arrivals, and the spatial dispersion of some new immigrant groups has the potential to create further challenges for service provision. Work by Lo et al. (2007), for example, noted a general mismatch between immigrant settlement patterns and the provision of settlement services in the Toronto Census Metropolitan Area (CMA),
with the authors finding that most services remained in the region’s core city, while immigrants were increasingly establishing themselves in suburban residential areas. Moreover, Lo and her colleagues noted a general decline in services over the 1991-2001 study period. While their research focused on language training, housing, and employment services, it is unlikely that provision of health-related services would be all that different, with service location remaining in the core area of a metropolitan region, while immigrants increasingly were settling in outlying suburban areas.

Setting the current paper within the context of Hamilton, Ontario, a city with a growing immigrant population but potentially few and spatially mismatched services vis-à-vis new arrivals, the purpose of this paper is twofold. First, it provides a graphical overview of the distribution of health-related services relative to the immigrant population and other socioeconomic and sociodemographic indicators within Hamilton, Ontario, with reference made to the overall health status of immigrants. Second, it evaluates the potential for spatial mismatch between immigrant groups and service locations, ease of access for immigrant groups, and the type of services available across the Hamilton area.

UNDERSTANDING THE HEALTH NEEDS OF IMMIGRANTS

There is strong evidence within the existing literature that the health of immigrants at the time of arrival is significantly better than that of the native-born population, with recent immigrants typically ranking their health higher than the Canadian-born and less likely to report chronic conditions or disability. This ‘healthy immigrant effect’ has been observed in Canada (see, for example, Chen et al. 1996; Dunn and Dyck 2000; Gee et al. 2003; Globerman 1998; McDonald and Kennedy 2004; Newbold and Danforth 2003; Ng et al., 2005; Pérez 2002; Hyman 2007), the United States (Jasso et al. 2003; Marmot and Syme 1976), and Europe (see, for example, Doetvall et al. 2000; Gadd et al. 2003; Razum and Rohrmann 2002; 2001; Silman et al. 1985). However, the health of immigrants appears to deteriorate and converge toward the native-born with increasing duration of residency in Canada. Moreover, this decline in health – measured across a series of subjective and objective health indicators – occurs within five to ten years of arrival. Arrival cohort (the period defining arrival in Canada) effects also have been found to be important in this regard (Newbold 2005a; Pérez 2002). As Pérez (2002) correctly has pointed out, differences in health status across the immigrant population may result from cohort effects. That is, recent arrivals may simply have better health when they entered Canada than their counterparts did when they entered the country at an earlier time.

An important question, then, is ‘why’ this decline in health status occurs in such a short period of time. The existing literature recognizes that immigrants move from one set of health risks, behaviours, and constraints to an environment that potentially includes a very different mix (see, for example, Gordon 1957; Jasso et al. 2003; Marmot and Syme 1976). While Canada’s health screening of potential immigrants usually leads to the selection of healthier individuals into the immigrant
stream (Laroche 2001; Oxman-Martinez et al. 2000), this does not provide a reason why health status declines after arrival.

Post-arrival, barriers to care including language, gender, and cultural ones, may reduce health-care utilization. For instance, Deinard and Dunnigan’s (1987) analysis of health-care use and perceptions among Hmong refugees in the US demonstrated that different cultural beliefs and practices made some reluctant to follow the advice of health-care professionals. Instead, traditional forms of health care were preferred, even when individuals were knowledgeable about western facilities and options. Similarly, the relatively low uptake of cervical screening among Asian women for cultural reasons underscores the lack of culturally sensitive health care (Benthem et al. 1995). This illustrates that access encompasses more than just health care which is free at the point of delivery, but instead represents a complex interaction between culture, availability, and opportunity costs. Immigrants may also embody different perceptions of health relative to health professionals, hindering their understanding of health and illness (see, for example, Anderson 1987; Cook 1994; Health Canada 1999).

It may also be argued that the observed decline in health after arrival reflects supply-side issues. For example, the presence of health-care facilities and related social services, along with knowledge of these facilities with respect to operating hours, contacts, and location, remains key to the provision and maintenance of good health. Yet, there is conflicting evidence regarding immigrant health care utilization within the literature (Elliott and Gillie 1998; Epp 1986; Newbold 2005b). Given the observed declines in health status amongst new arrivals, which can be interpreted as an increasing need for care, it is reasonable to question whether the health needs of immigrants are being met. The literature would seem to suggest that immigrants as a whole are typically considered to be under-users of the health care system (Bentham et al. 1995; Cook 1994; Deinard and Dunnigan 1987; Raja-Jones 1999). Newbold (2008), for instance, noted that general-practitioner use increased as duration of residence increased and as health status declined. However, there was no difference in the use of hospital services between the foreign- and native-born populations, and the foreign-born were neither more nor less likely to experience a hospitalization relative to the native-born. Consequently, only limited support for increasing utilization of health-care facilities over time was found, despite concomitant declines in health, particularly the increasing number and prevalence of chronic conditions. As such, need for care amongst the foreign-born may not be met, and/or immigrants may receive poorer quality care than the native-born (Chappel et al. 1997; Chen et al. 1996; Elliott and Gillie 1994).

Structural, supply-side explanations provide a related line of reasoning. The restructuring of Canada’s health care system within the past decade has resulted in an increasing proportion of care that is non-insured, with unequal impacts across the population (Eyles et al. 1995). In particular, low-income groups and the poorly educated have become less able to deal with system restructuring, even within the publicly financed system (Birch and Gafni 2005), and the immigrant population may be particularly disadvantaged. Although income barriers have seemingly been removed by the Canada Health Act (CHA), lower-income immigrants, for example, have been found to be two times more likely to report unmet health needs than those with higher incomes (Chen et al. 1996). Other
non-income barriers have been observed as well (Matuk 1996). Dunn and Dyck (1998) noted that immigrants were more likely to report ‘very good’ or ‘excellent’ health if they were born in Europe, the US, or Australia, had a trade school or college diploma, and reported high incomes. The implication of this observation is that other immigrant groups are defined by unmet needs, a finding echoed by Pomerleau and Ostbye (1997) who found poor health and unmet needs to be pervasive within the immigrant population in a study based upon the Ontario Health Survey (OHS).

At a minimum, research suggests that immigrants have different utilization rates and/or that they tend to receive poorer quality health services than non-immigrants (Chen et al., 1996; Elliott and Gillie 1995; Wen et al. 1996). Contrary to the assumption of reduced demand for health care, Globerman concluded: "Over the complete life cycle, there may be little difference in health care utilization patterns, both across immigrant groups, as well as between immigrants and the native-born population” (Globerman 1998, 22). Furthermore, Laroche (2000) has argued that immigrants are not a burden to the health-care system, with use of services not significantly different from the native-born population, suggesting that need for health care was (at least partially) being met. Finally, Chappell et al., (1997) noted similar health-care utilization rates between immigrant Chinese seniors in British Columbia and Canadian seniors in general.

However, equality of use does not mean that need for care is being adequately met, findings echoed by Newbold (2008) who concluded that near equal levels of use between immigrants and the native-born did not reflect the greater need for care among immigrants. Geographical disparities in service provision and uptake may, in part, also contribute to observed differentials. In part, this may reflect an inability on the part of governments and other agencies in metropolitan areas with rapid immigrant population growth to respond to new needs, particularly if funding dollars are limited. Similarly, it may reflect a ‘spatial mismatch’ between residential and service locations, given that new trends in urban immigrant settlement patterns have emerged in recent years (Hiebert and Ley 2001). Arguably the most important has been the by-passing of traditional immigrant reception areas in the inner city for initial settlement in suburbs (Alba et al. 1999, 2000; Hiebert and Ley 2001; Zelinsky and Lee 1998). If, therefore, immigrants are no longer constrained to settle in traditional reception centres, it is unlikely that service providers will be able to follow quickly to new suburban locations.

BUILDING A PROFILE OF HEALTH-RELATED SERVICES: METHODS AND DATA

Hamilton, Ontario was chosen as the center of our research for three broad reasons. First, with nearly 25 per cent of its 2001 population defined as foreign-born (Statistics Canada, 2004), the city has become home to a substantial and growing immigrant population (Figure 1). Moreover, building upon its largely Northern European population base, successive waves of immigrants from Portugal and Italy in the post-World War II period established the importance of the city as an immigrant receiving centre, with many of these immigrants attracted to employment in the city’s steel industry. More recently, Hamilton has attracted in excess of 3,000 arrivals each year, coming
from a diversity of origins, including China, India, Pakistan, Vietnam, Bosnia, and Afghanistan, along with significant representations from Latin America and Africa. Many of these new arrivals have been attracted to Hamilton because of its lower cost of living and much cheaper housing opportunities, for both renters and owner-occupiers, relative to Toronto. At the same time, proximity and ease of transportation enables Hamilton residents to connect to immigrant and ethnic communities elsewhere in the province. Second, a large proportion of existing studies considering the adjustment of immigrants to Canada have focused upon the immigrant magnets of Toronto, Vancouver, and Montreal, with a relatively small number (and proportion) considering similar processes in smaller, but no less important, Census Metropolitan Areas. Given the Federal Government’s policy of regionalization of immigration, consideration of the health needs and experiences of immigrants in smaller, second-tier cities is both pertinent and timely (Lusis and Bauder 2008). Moreover, smaller, second-tier immigrant centres, such as Hamilton, may not yet have the capabilities and resources to offer to new immigrant arrivals and to assist in their incorporation and settlement within the city, an area that needs more research. Third, we have extensive knowledge of the city, and have developed links with staff in both Public Health Services and the Planning Department, along with local service providers and community groups, enabling both the research component of this project as well as facilitating transmission of results.

**Figure 1: Immigration to Hamilton, Counts and Per Cent of Canadian Total, 1966-2003**
To provide an overall understanding of the health care and social services that are available, an ‘inventory’ of existing formal and informal organizations in the City of Hamilton that contribute to health and provide services to the immigrant population was completed in the summer of 2005. Formal (conventional) health services include physicians, clinics, and other health-care providers. Informal organizations include religious and culturally based groups that provide services supporting good health, including such things as cultural support, counseling, language assistance, and employment placement. Moreover, according to the literature on immigrant health, there is a connection between mental and physical health, whereby even the stress of immigration and acculturation may result in decreased health status. As a consequence, newcomers have been found to often experience various degrees of distinct emotional stress and mental illness (Ali 2002; Bunker, Colquhoun, Esler et al., 2003; Hyman 2004, 2007; Matuk, 1996; Organista et al., 2003; Oxman-Martinez, 2000). In light of these findings, the search for immigrant health services in Hamilton was meant to be inclusive of both health services and health-promoting services. The database was compiled through directory searches (for example, phonebooks, yellow, and blue pages) and internet searches, along with consultation with community groups via e-mail and/or direct contact. Search results produced a list of service providers, their locations, hours of operation, and types of services provided. In many cases, provider location and the type of service(s) provided were verified through phone contact, and any additional relevant information was collected at that time. Of course, the search process may not have been able to capture all formal and informal health providers that cater to the immigrant population. Overall, we were able to identify 4 formal and 27 informal providers of health services for Hamilton's immigrant population. None of the city's many general practitioners served an exclusively immigrant population base.

Once identified and verified, the location of service providers was geocoded (address matched to its location on a map) using ESRI’s ArcView 8.1 with reference to a street network file from DMTI Spatial Inc. For the purpose of this study, the boundary of Hamilton follows the ‘new’ (2001) city boundaries, which includes the ‘old’ City of Hamilton, along with the outlying municipalities of Dundas, Ancaster, Stoney Creek, Flamborough, and Glanbrook (Figure 2). These data could then be overlaid with the census data.

The analysis then explored the spatial distribution of providers and immigrants in Hamilton at the Census Tract scale using standard statistical and spatial analytical techniques commonly employed in GIS analysis. Location quotients, for example, indicate whether each census tract contains an over- or under-representation of the immigrant population relative to the broader city. Since mapping by census tracts tends to produce a somewhat disjointed visual pattern, kernel estimates and/or spatial moving averages were produced to smooth the data (Bailey and Gatrell 1995).

Given the interest in the relationship between the presence of health services and the immigrant population, the analysis included two additional components. First, potential ‘need’ for health-related services was mapped using immigrant population data from the 2001 census (Statistics Canada, 2005), enabling comparisons between residential and service locations. That is, was there a ‘spatial mismatch’ between provider and residential locations? Mapped data included the total
immigrant population by major origin area, recent immigrants by major origin, and the native-born population. All information was recorded at the census tract scale and provided by Statistics Canada through a custom tabulation. In this case, ‘recent’ immigrants were those who had arrived in Canada within the past five years, concordant with definitions by Statistics Canada.

**Figure 2: Hamilton, Ontario**

Second, we turned to the 2000/2001 Canadian Community Health Survey (CCHS, Cycle 1.1) (Beland 2002; Statistics Canada 2003), to evaluate the health status of Hamilton’s immigrant population. This nationally representative health survey was used to gauge the health of immigrants within Hamilton relative to (i) the native-born population, and (ii) recent (arriving in Canada between 1991 and 2001) versus older (pre-1991) arrivals. This analysis reflected the borders of the Hamilton-Wentworth health region, an area that is geographically more extensive than the City of Hamilton. At the same time, most immigrants remained likely to be found within the city boundaries, meaning that the analysis of the health of immigrants on the basis of the health region boundaries should be representative of the actual immigrant population in the City of Hamilton. Health variables included self-assessed health, distinguishing between those who rank themselves as ‘healthy’ (excellent self-assessed health) and ‘unhealthy’ (fair or poor self-assessed health), a measure that is a good proxy for health status, including that of minority populations (Idler et al. 1990; Kaplan and
Comacho 1993; Saravanabhavan and Marshall 1994). In addition, presence (yes/no) and number of chronic conditions, the Health Utilities Index (HUI3) (Furlong et al., 2001),\(^1\) and the presence of unmet health needs within the past year were used as more objective measures of health status. Use of health-care facilities was measured by whether or not an individual had consulted a general practitioner in the past year, if they had spent a night in hospital in the past year, and the mean number of patient nights spent in a hospital.

**RESULTS**

Figure 1 illustrates the level of immigration (yearly number and per cent share of all immigrants to Canada) into Hamilton between 1966 and 2003. While relatively small in comparison to centres such as Toronto, immigration inflows jumped in the 1980s, hovering around 3,000 entrants per year, placing it among the top-five immigrant centres in Canada. Including the well-established Italian and Portuguese communities, many of whom arrived in the 1950s and 1960s to work in Hamilton’s steel industry, the City of Hamilton is home to a large and growing immigrant population. As of 2001, Hamilton (based on its 2001 boundaries) was home to 119,805 immigrants (out of a total CMA population of 662,401), with the majority (74 per cent) residing in the ‘old’ City of Hamilton. Nearly 15,000 resided in Stoney Creek to the east of the downtown core. Hamilton’s outlying rural areas of Glanbrook and Flamborough, however, accounted for fewer than 8,000 immigrants in total, while somewhat fewer than 10,000 immigrants resided in Dundas and Ancaster. While some of the largest recent immigration flows have originated in China and Vietnam (CIC 2002; Statistics Canada, 2004), new arrivals came from a diverse set of origins including the former Yugoslavia, Pakistan, India, Turkey, Afghanistan, and Somalia. A large proportion of these new arrivals were refugees (33 per cent of total immigrant flows). Due to its proximity to Toronto and its lower cost of living, Hamilton also has become an increasingly important immigrant center for both ‘primary’ (that is, migrants who settled directly in Hamilton) and ‘secondary’ (that is, those who settled in Hamilton after an initial settlement elsewhere) immigrants.

Table 1 highlights selected socioeconomic and sociodemographic characteristics of recent immigrant arrivals within the Hamilton CMA. At the time of the 2001 census, recent arrivals from West Central Asia and the Middle East had the lowest average total income ($12,254) amongst all origin groups, and the lowest proportion employed (26.6 per cent), although only 18.7 per cent

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\(^1\) Measuring health-related quality of life on a generic scale, it ranges from –0.36 to 1.0, with 1.0 representing perfect health, 0 representing death, and negative values representing health states considered ‘worse’ than death. Eight core attributes (vision, hearing, speech, emotion, ambulation, dexterity, cognition, and pain and discomfort) provide information about the type and extent of disabilities. Utility scoring measures, based on pre-determined ranking of health conditions, are then used to calculate individual health utility scores. Since each of the eight attributes contains five or six levels, HUI3 scores can represent 972,000 unique health states, clearly allowing for greater variation than self-reported health (Furlong et al. 2001). The effectiveness and reliability of HUI3 has been demonstrated in the context of stroke and arthritis (Grootendorst et al. 2000), among other health conditions (Boyle et al. 1995; Gemke and Bonsel 1996).
reported less than a high school education. With an average total income of $32,554, recent immigrants from Northern and Western Europe fared better from an economic perspective, coincident with a comparably small proportion (11.3 per cent) with less than a high school education and a large proportion employed (53.7 per cent). Economically, recent immigrants from other origins fell somewhere between the extremes of these two groups. South Asians and East and Southeast Asians tended to have the largest proportions of individuals with post-secondary education (30.4 per cent and 36.1 per cent, respectively).

Table 1: Characteristics of Recent Immigrants (1996-2001) by Major Origin Group, Hamilton 2001

<table>
<thead>
<tr>
<th></th>
<th>Caribbean, South &amp; Central Americas</th>
<th>West Central Asia &amp; Middle East</th>
<th>East &amp; Southeast Asia</th>
<th>South Asia</th>
<th>Northern &amp; Western Europe</th>
<th>Southern Europe</th>
<th>Eastern Europe</th>
<th>Oceania, US, &amp; Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Aged 16-64</td>
<td>69.7</td>
<td>66.4</td>
<td>74.3</td>
<td>79.1</td>
<td>66.7</td>
<td>72.4</td>
<td>69.4</td>
<td>64.3</td>
</tr>
<tr>
<td>% Male</td>
<td>56.6</td>
<td>52.9</td>
<td>54.4</td>
<td>49.1</td>
<td>54.2</td>
<td>47.3</td>
<td>56.3</td>
<td>53.7</td>
</tr>
<tr>
<td>% Non-official language</td>
<td>21.7</td>
<td>41.6</td>
<td>46.9</td>
<td>51.7</td>
<td>5.1</td>
<td>56.0</td>
<td>45.0</td>
<td>22.4</td>
</tr>
<tr>
<td>% Visible Minority</td>
<td>73.4</td>
<td>83.2</td>
<td>99.5</td>
<td>98.3</td>
<td>10.2</td>
<td>0.7</td>
<td>1.6</td>
<td>65.1</td>
</tr>
<tr>
<td>% Less than High School</td>
<td>23.2</td>
<td>18.7</td>
<td>16.7</td>
<td>20.4</td>
<td>11.3</td>
<td>23.3</td>
<td>21.4</td>
<td>12.7</td>
</tr>
<tr>
<td>% Post-Secondary Education</td>
<td>21.3</td>
<td>23.5</td>
<td>36.1</td>
<td>30.4</td>
<td>17.5</td>
<td>5.1</td>
<td>21.6</td>
<td>20.2</td>
</tr>
<tr>
<td>% Employed</td>
<td>41.9</td>
<td>26.6</td>
<td>43.3</td>
<td>42.2</td>
<td>53.7</td>
<td>39.3</td>
<td>35.1</td>
<td>37.4</td>
</tr>
<tr>
<td>Average Total Income</td>
<td>19,131</td>
<td>12,254</td>
<td>17,456</td>
<td>18,881</td>
<td>32,554</td>
<td>18,478</td>
<td>17,795</td>
<td>25,515</td>
</tr>
</tbody>
</table>

Source: Derived from 2001 Census, Statistics Canada.

The Distribution of Hamilton’s Immigrant Population

Hamilton’s downtown core and north end has long served as the City’s immigrant reception centre, facilitated by low-cost housing, access to public transportation and employment opportunities, and proximity to service providers. While evidence of this clustering dates back to the 1960s (Taylor 1987), a secondary immigrant centre had started to emerge on Hamilton’s east side and further east into the former town of Stoney Creek by the 1980s. This secondary immigrant centre is more representative of immigrants from European origins who have been resident in Canada for
a period of time, and therefore tends to have higher socioeconomic status than the immigrant settlement area in the downtown core and north end (Taylor 1987). Immigrants typically have been under-represented in other suburban areas within Hamilton, including Dundas and Ancaster, along with rural Flamborough and Glanbrook.

Table 2 and Figures 3a and 3b shed light on the c.2001 distribution of immigrants across the City of Hamilton, with Figure 3a capturing the population density of Hamilton’s total immigrant population, while Figure 3b captures the distribution of the recent (1996-2001) immigrant population in the city. Reflecting historical patterns, immigrants at the time of the 2001 census were not equally distributed across the city, but, rather, were clustered in the downtown core and with an eastward extension toward and into Stoney Creek. Immigrants remain under-represented in the suburban towns of Dundas and Ancaster to the west and southwest, respectively, of the old City of Hamilton, as well as on Hamilton mountain, which is home to relatively new suburban development to the south of the downtown area.

Table 2. Recent Immigrants (1996-2001) by Major Origin Group, Hamilton CMA, 2001

<table>
<thead>
<tr>
<th>Origin Group</th>
<th>Caribbean, South &amp; Central Americas</th>
<th>West Central Asia &amp; Middle East</th>
<th>East &amp; Southeast Asia</th>
<th>South Asia</th>
<th>Northern &amp; Western Europe</th>
<th>Southern Europe</th>
<th>E. Europe</th>
<th>Oceania, US, &amp; Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton</td>
<td>885</td>
<td>2,210</td>
<td>2,475</td>
<td>2,125</td>
<td>270</td>
<td>2,935</td>
<td>.1725</td>
<td>1,055</td>
<td>13,680</td>
</tr>
<tr>
<td>Burlington</td>
<td>265</td>
<td>320</td>
<td>530</td>
<td>395</td>
<td>440</td>
<td>95</td>
<td>280</td>
<td>480</td>
<td>2,805</td>
</tr>
<tr>
<td>Grimsby</td>
<td>20</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td>10</td>
<td>20</td>
<td>10</td>
<td>35</td>
<td>125</td>
</tr>
<tr>
<td>Dundas</td>
<td>45</td>
<td>15</td>
<td>90</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>55</td>
<td>50</td>
<td>275</td>
</tr>
<tr>
<td>Stoney Creek</td>
<td>85</td>
<td>115</td>
<td>65</td>
<td>140</td>
<td>85</td>
<td>585</td>
<td>85</td>
<td>100</td>
<td>1,260</td>
</tr>
<tr>
<td>Flamborough</td>
<td>20</td>
<td>0</td>
<td>55</td>
<td>0</td>
<td>45</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>140</td>
</tr>
<tr>
<td>Ancaster</td>
<td>10</td>
<td>50</td>
<td>95</td>
<td>25</td>
<td>20</td>
<td>40</td>
<td>50</td>
<td>55</td>
<td>345</td>
</tr>
<tr>
<td>Glanbrook</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1,330</td>
<td>2,710</td>
<td>3,340</td>
<td>2,695</td>
<td>870</td>
<td>3,685</td>
<td>2,215</td>
<td>1,785</td>
<td>18,630</td>
</tr>
</tbody>
</table>

Source: Derived from 2001 Census, Statistics Canada.

Hamilton refers to the old City’s municipal boundaries.
Figure 3a: Immigrant Population Density, City of Hamilton, 2001
The concentration of immigrants in the downtown core is far from comprehensive when, however, individual origins are considered. Figures 4a – 4e, for instance, illustrate the distribution of individual origin groups across the city via location quotients (LQ), where values greater than 1 indicate increased concentration and values close to 0 indicate near equal distribution across space. Asian origins, including Chinese and Vietnamese, were found to be concentrated in the core, while Indians and Iraqis showed evidence of clustering on Hamilton’s mountain, and those from European origins (including Bosnians and Yugoslavians) were found on the mountain and in Stoney Creek. Even Hamilton’s Portuguese population, which first arrived in the 1950s, remains heavily concentrated to the north of the downtown core and in the areas associated with their initial settlement in the city.

Some of the observed spatial patterning of the immigrant population reflected the settlement pattern of older immigrant arrival groups within the city, including the Portuguese and Italians. These groups settled in the downtown core and then later moved east toward Stoney Creek. With recent (1996-2001) arrivals accounting for 15,750 immigrants and reflecting a greater diversity of sources, they may have somewhat different settlement patterns. Still, the majority (87 per cent) first settled in the old city. With the exception of recent Asian arrivals who have continued to cluster near
the downtown core, other new arrivals have shown more dispersed patterns of settlement, echoing settlement patterns observed elsewhere (Alba et al. 1999, 2000; Hiebert and Ley 2001; Lo and Wang 1987; Zelinsky and Lee 1998). In particular, recent arrivals from India, Pakistan, and Iraq are spread across the mountain, with no identifiable clustering. Other recent immigrants, including Bosnians and Yugoslavians, however, were found to be concentrated in Hamilton’s east end and Stoney Creek.

Figure 4a: Portuguese Immigrant Distribution, City of Hamilton, 2001
Figure 4b: Indian Immigrant Distribution, City of Hamilton, 2001

Figure 4c: Vietnamese Immigrant Distribution, City of Hamilton, 2001
Figure 4d: Chinese Immigrant Distribution, City of Hamilton, 2001

Figure 4e: Yugoslavian Immigrant Distribution, City of Hamilton, 2001
Immigrant and Newcomer Health and Health Services in Hamilton

Given the observed ‘healthy immigrant effect,’ health differentials, and differences in need for care between immigrants and the native-born population in general, we wondered whether the same differences in health status could be observed in Hamilton. Referencing the 2001 Canadian Community Health Survey (Cycle 1.1) and statistics for the Hamilton-Wentworth Public Health Unit, Table 3 lists various measures of health status for the total immigrant population, new arrivals, and the native-born population, and provides comparisons to both Canada and Ontario.

### Table 3: Health Status of Immigrants and Native-Born in Hamilton-Wentworth, 2001

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>Ontario</th>
<th>Total</th>
<th>Canadian-Born</th>
<th>Immigrants</th>
<th>10+ years</th>
<th>1-9 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent (%)</td>
<td>25.6</td>
<td>26.5</td>
<td>27.6</td>
<td>29.3</td>
<td>23.0</td>
<td>18.2</td>
<td>33.7</td>
</tr>
<tr>
<td>Fair/Poor (%)</td>
<td>12.0</td>
<td>12.2</td>
<td>14.8</td>
<td>11.8</td>
<td>22.1</td>
<td>24.6</td>
<td>13.0</td>
</tr>
<tr>
<td>Chronic (%)</td>
<td>63.9</td>
<td>65.1</td>
<td>66.7</td>
<td>66.6</td>
<td>67.0</td>
<td>75.7</td>
<td>42.9</td>
</tr>
<tr>
<td>Unmet Needs (%)</td>
<td>12.5</td>
<td>12.1</td>
<td>13.7</td>
<td>15.3</td>
<td>9.5</td>
<td>10.7</td>
<td>10.4</td>
</tr>
<tr>
<td>GP Use (%)</td>
<td>78.4</td>
<td>80.7</td>
<td>80.3</td>
<td>80.5</td>
<td>79.8</td>
<td>83.1</td>
<td>71.4</td>
</tr>
<tr>
<td>Hospital Use (%)</td>
<td>8.1</td>
<td>7.4</td>
<td>8.7</td>
<td>8.1</td>
<td>9.6</td>
<td>10.4</td>
<td>11.8</td>
</tr>
<tr>
<td># Chronic</td>
<td>2.2</td>
<td>2.2</td>
<td>2.4</td>
<td>2.3</td>
<td>2.4</td>
<td>2.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Mean HUI 3</td>
<td>0.877</td>
<td>0.869</td>
<td>0.847</td>
<td>0.858</td>
<td>0.818</td>
<td>0.796</td>
<td>0.894</td>
</tr>
<tr>
<td>Average # Hospital Nights</td>
<td>6.7</td>
<td>6.6</td>
<td>7.5</td>
<td>5.7</td>
<td>11.7</td>
<td>13.1</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Source: Derived from CCHS, cycle 1.1  
HUI 3 = Health Utilities Index, Mark 3

While many of the relationships between immigrants and the native-born show no significant difference, immigrants in Hamilton-Wentworth in 2001 were approximately twice as likely to report fair or poor health (22.1 per cent) as compared to the total population (11.8 per cent), a difference which is statistically significant ($p < 0.05$). Conversely, immigrants were less likely ($p < 0.10$) to report an unmet health need (9.5 per cent) than the native-born population (15.3 per cent) and were more likely to have reported at least one night in hospital (9.6 versus 8.1 nights for immigrants and native-born, respectively ($p < 0.10$)). In many cases, recent immigrants reported better health than immigrants who have been here for 10 or more years, something that is illustrated by the higher percentage of recent immigrants reporting excellent health (33.7 versus 18.2), and smaller proportions reporting chronic conditions or fair/poor health (42.9 versus 75.7 and 13.0 versus 24.6, respectively) ($p < 0.05$). Recent immigrants also were more likely to register a higher HUI3 score.
Despite apparent equity in health status between immigrants and the native-born population within Hamilton, it is possible that some of their health needs remained unmet. In an analysis based upon the longitudinal component of the National Population Health Survey, Newbold (2008) noted that immigrants were neither more nor less likely to have used a hospital, and reported similar volumes of hospital use as measured by the number of nights relative to the native-born population. However, no systematic increase in either incidence of use or mean number of nights was noted, despite corresponding declines in self-assessed health over the 1994/95 – 2000/01 period. Moreover, spatial differences in provider and population locations could exacerbate access to health-care providers, in addition to the other barriers to health accessibility often noted within the immigrant health literature (see, for example Eyles et al., 1995; Globerman 1998; Hyman 2004, 2007; Li et al. 1999; Pérez 2002).

Service Provision: Spatial Mismatch or Overlap?

Despite Hamilton’s on-going role as an immigrant destination, the region does not have a clear and well-established immigrant reception system. While individual physicians or clinics may include immigrants within their service population, our search identified only four organizations that provided formal health services directed specifically to the immigrant population, all of which were located within or near the downtown core. Formal services included pre- and post-natal support and classes, primary health care, sexual health, dental, and health-promotion services. In addition, these organizations typically offered informal health-related services, including newcomer support, English-as-a-Second-Language (ESL) training, counseling, legal assistance, and other settlement services such as employment placement, health card application assistance, and résumé assistance.

In addition, 27 immigrant specific informal providers were located across the city, with the majority of service providers (25) located within the old City of Hamilton boundaries and near the core, and the remaining two in Stoney Creek. Most (22) of these services were faith based (that is, offered by churches, temples, and the like), providing a mix of services (or a standalone service) including counseling (22), language assistance (8), ESL instruction (3), and child care (1). Only one church provided primary health-care services to the immigrant population in addition to its informal services, with a physician working out of the church on a part-time basis. The remaining five organizations or groups were geared toward particular communities (such as Hamilton’s Afghan or Congolese communities), women’s health, or delivering general health services.

On average, immigrant health services in Hamilton have remained relatively concentrated in the older portions of the city, including its downtown core and the east-end-Stoney Creek axis. They are under-represented, however, in the out-lying municipalities to the west and south. While not having a proportionately or numerically large immigrant population, no formal or informal
services were located in these outlying areas. Still, this finding was not all that surprising, given traditional settlement patterns (Taylor 1987) and differentials in the cost of living across the city. Only the old City of Hamilton had a share of immigrant services that reflected its role as a long-established immigrant reception centre. Like its outlying suburban areas, Hamilton’s own suburbs – located south of the downtown core on the ‘mountain’ – also were relatively under-served.

Although it may be the case that the majority of settlement services were located where most immigrants were found in 2001, namely in the old city, this did not mean that services were equally distributed throughout the old city. The clustering of GPs near the core, no doubt, was a greater reflection of the location of hospitals and related clinics than it was of the locations of service populations, per se. Likewise, local providers may be ill equipped to deal with the needs of new arrivals (for example, in terms of language). In large part, then, spatial balance depends upon the metric used to measure service provision. For instance, if the total number of physicians relative to the immigrant population (the so-called ‘population-doctor ratio’) is considered, there is a relatively uniform pattern of service availability across the old city (Figure 5a) that is nearly equivalent to the pattern that emerges if the entire population is considered (rather than just the immigrant population). If, however, the density of immigrant health-provider services is considered, there is a clear clustering of services in the downtown core (Figure 5b). Likewise, informal services are clustered in the city’s core, and extend eastward toward Stoney Creek.

**Figure 5a: Ratio of GP Clinics to Immigrant Population, City of Hamilton, 2001**
CONCLUSIONS

This paper has used GIS and a variety of data sources, including the CCHS, 2001 Census, and an inventory of local services to explore the spatial distribution and relationships between health-care providers and immigrants in Hamilton at the Census Tract scale. This has enabled a graphical overview of the distribution of health-related services relative to the immigrant population and an evaluation of the potential for spatial mismatch between providers and immigrants across the city. That health-service provision matches the needs of new immigrants is crucial to their ultimate success, as well as to Canada’s overall success as a receptor of immigrants.

While Census data can hint at economic or social disparities amongst new arrivals or other groups, they typically do not address health needs of this population. In large part, cities such as Toronto, Montreal, or Vancouver are likely better positioned to provide immigrant-related services, reflecting their longer histories as reception centres and immigrant magnets. Still, service provision is far from equal across, for example, the Greater Toronto Area, with the bulk of services
concentrated in the City of Toronto as compared to the outlying suburban areas (Lim et al. 2005; Lo et al. 2007). Like Toronto and other major immigrant reception centres, the multicultural character of Hamilton has meant that there is a growing need for health-service provision directed towards the immigrant population and where they are located. While this need is not unique to Hamilton, the city may be faced with a greater need to ensure that these services are available, reflecting both its smaller role as an immigrant reception centre (relative to Toronto) and the diversity of its new arrivals.

It is clear from the preceding analysis that the distribution of conventional health services within the City of Hamilton is not even, with the majority of services geared towards immigrants located inside the old City of Hamilton boundaries, and specifically within the downtown core, along with an eastward extension into the former town of Stoney Creek. While the search process used to identify both formal and informal health-service facilities may not have been able to capture all of the providers who cater to Hamilton’s immigrant population, we remain confident that the exercise did uncovered a majority of such services, and the mapped results are likely to be close to reality. In the traditional downtown core, only a handful of service providers actually deliver health-care services specifically to the immigrant population. Other service providers, and most notably religious-based organizations, were found to provide informal services that can support health, such as language training, counseling, and employment placement, but these, too, tended to be located in the old city and proximate to long-standing immigrant settlement areas. At the same time, even the agencies in the downtown core may no longer be able to provide sufficient services for newcomers to Hamilton, particularly with reference to the breadth of the language abilities of their staff members and their ability to offer culturally sensitive health-care provision. Moreover, many of the existing providers already appear to be stretched thin.

While the downtown core is home to a large immigrant population, many new immigrant arrivals are locating outside the core, particularly in Stoney Creek or in Hamilton’s suburban developments on the ‘mountain.’ Clearly missing from the mix, therefore, are providers geared toward this new immigrant population, including alternative health providers located in the more suburban areas of the city where immigrants have become increasingly likely to settle. This spatial mismatch between service need and providers may be the result of faster population growth in the more suburban locations relative to the core, or the failure of service providers to both recognize and react to changes in the residential distribution of recent arrivals to Hamilton. A growing presence in these suburban areas, however, should not be assumed to imply greater financial resources amongst immigrants, and hence reduced health needs. A closer balance between immigrants and service providers will likely emerge over time, but the combination of inertia, funding opportunities, and/or constraints will likely limit, or, at a minimum, shape, how the system evolves. In other words, suburban areas within the City of Hamilton will likely remain relatively under-serviced for the foreseeable future, despite the relative growth of new Canadian communities in these areas.

The differential distribution of service providers and the immigrant population reflects broader trends within the city, with the distribution of most health services disproportionately concentrated in the urban core, a reflection of the historic location of hospitals in the city. In
addition, the location of doctors in the downtown area does not mean they only serve residents of the downtown. Instead, their location may have been determined by access to hospitals and/or other clinics, and patients, therefore, may have to travel from suburban locales to the core to remain with their doctors. There is a broad similarity between the health status of immigrants within the City of Hamilton and the broader native-born population, and there is some evidence that immigrants may have fewer unmet health needs and greater hospital use. It still may be the case, however, that some health needs of the immigrant community remain unmet because of a lack of formal and informal services that specifically cater to them. Also, the apparent spatial mismatch between the location of immigrants and health services suggests some health needs probably go unmet. In the past, new arrivals built community services that would provide informal health care out of necessity, but such facilities often were directed toward particular groups, such as the established Portuguese or Italian communities. In Hamilton, few formal health-service operations have been geared toward the broader immigrant community and new arrivals as the scale and distribution of services attest. Services that are geared toward new arrivals already are spread thin.

Since the large-scale arrival of European immigrants through the 1950s and 1960s, Hamilton’s immigrant population has undergone significant demographic change. New immigrant arrivals, however, are no longer typified by people from European origins, but are instead characterized by Asian or other origins and low-income arrivals. Beginning with the Vietnamese ‘boat people’ of the 1970s, many new arrivals to Hamilton also have been refugees. In fact, up to one-third of all the foreign-born in the city entered Canada as refugees. Refugees frequently present different profiles from the broader immigrant population in terms of their mental and physical health conditions, and may exhibit symptoms of trauma as a result of resettlement pressures and their experiences as refugees (Lawrence and Kearns 2005). Thus, refugees may well have very different health needs, especially in relation to mental health needs, in comparison with either family-class arrivals or economic immigrants. Refugees also may have more tenuous contacts with the health-care system, either in the host country or in previous locations. Other unseen barriers to health care potentially include unease or discomfort with hospitals on the part of immigrants, discrimination based upon race or ethnicity in granting access, structural issues, an inability to navigate past a physician and/or to communicate adequately a need for care to their physician, and language or other social and cultural barriers to care (Gerrish et al. 2004). It is, therefore, likely that the foreign-born are actually under-served vis-à-vis their health care needs.

Likewise, the challenges of access to health services, and ultimately to overall health, may be greater among immigrant women whose family, job, or cultural expectations and roles may make it difficult to access and use resources (Anderson et al. 1993; Dyck 1995; MacKinnon and Howard 2000; Oxman-Martinez et al. 2000; Weerasinghe et al., 2000), with immigrant women preferring a health-care provider with the same culture, language, and gender (Black and Zsoldos 2003). Together, these examples suggest that new and emerging health needs must be met by health-care providers within the city, and particular groups, including refugees, may be at a service disadvantage.

This conclusion is generally reinforced by anecdotal evidence from local health-care and social-service providers. Indeed, it is generally recognized that health services for immigrants and
newcomers within the City are frequency *ad hoc*, with funding or service provision shared across federal, provincial, and local governments. Moreover, many local community groups and health services are already stressed and unable to provide sufficient health services to new arrivals. Beyond health care *per se*, other services, such as employment counseling or assistance, are also limited. In as much as health care is important, access to related resources, including food, shelter, transportation, and employment may be ranked as high or higher than access to health-care services *per se*. As such, there is a broad implication for the need for immigrant-only services, particularly given Hamilton’s diverse immigrant community.

Finally, much of the existing research has explored ‘aggregate’ effects, with relatively little attention given to local conditions, populations, and the individual, the importance of which is becoming increasingly recognized (see, for example: Duncan *et al.* 1998; Kaplan 1996; Kawachi and Kennedy 1997). Without explicit consideration of local effects, including the distribution of the immigrant population by faith, ethnicity, and origin, along with how place might influence health within population groups, we cannot clearly identify the context in which intervention succeeds (Birch *et al.* 2000). Indeed, there is no *a priori* reason to assume that similar spatial effects will be visible for different geographical scales, population groups, socioeconomic, or cultural contexts.
REFERENCES


McDonald, J. T. and Kennedy, S. 2004. Insights into the ‘Healthy Immigrant Effect’: Health Status and Health Service Use of Immigrants to Canada. *Social Science and Medicine* 59 (8), 1613-1627.


CERIS - The Ontario Metropolis Centre

CERIS - The Ontario Metropolis Centre is one of five Canadian Metropolis centres dedicated to ensuring that scientific expertise contributes to the improvement of migration and diversity policy.

CERIS - The Ontario Metropolis Centre is a collaboration of Ryerson University, York University, and the University of Toronto, as well as the Ontario Council of Agencies Serving Immigrants, the United Way of Greater Toronto, and the Community Social Planning Council of Toronto.

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Canada Economic Development for Quebec Regions (CEDQ)
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Statistics Canada

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Launched in 1996, the Metropolis Project strives to improve policies for managing migration and diversity by focusing scholarly attention on critical issues. All project initiatives involve policymakers, researchers, and members of non-governmental organizations.

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