Access to mental health services in Victoria:

A focus on ethnic communities

Yvonne Stolk, I.Harry Minas and Steven Klimidis

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Victorian Transcultural Psychiatry Unit

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Executive summary

Past research in Victoria has shown that ethnic communities have consistently lower rates of access to public community and inpatient mental health services, a higher proportion of involuntary admissions, and higher proportions who are diagnosed with a psychosis, relative to the Australian-born. The aim of the current study was to investigate whether disparities in access and treatment for ethnic communities in Victoria had changed over a decade with the introduction of interventions designed to improve culturally sensitive practice in mental health services, and ethnic communities' awareness of treatment and support available from mental health services. Analyses were undertaken of 2001 Census data and of Victorian community mental health and acute inpatient case registers for 2004/05. Comparisons are made in this report with findings from a similar study based on 1996 Census data and 1995/96 mental health case registers. The current research shows that previously identified disparities generally persist, and in some instances, have increased.

The population born in non-English-speaking countries (NESC) comprised 20% of the Victorian population, whereas NESC mental health service users comprised 13% of community clients and 15% of inpatients. Statistically significant findings for community mental health services in 2004/05 were as follows:

- NESC clients were older on average than Australian-born clients, and a higher proportion of NESC clients had no education or a primary education only.
- The majority of ethnic communities showed lower treated prevalence than the Australian-born population, but there was marked variation between communities.
- NESC clients had a higher number of case managed contacts than Australian-born clients.
- Higher proportions of NESC community clients were diagnosed with a psychosis and conversely, significantly fewer were diagnosed with less severe disorders. Treated prevalence of all diagnoses however, was lower for NESC populations than the Australian-born.
- NESC clients were more likely to be living with family members and less likely to be living alone than Australian-born clients.
- A higher percentage of NESC than Australian-born community clients were admitted to acute inpatient units.

In acute inpatient services:

- Treated prevalence for the majority of ethnic communities was again significantly lower than for the Australian-born population.
- NESC inpatients were more likely to have been admitted involuntarily than Australian-born inpatients. However, NESC patients diagnosed with schizophrenia or mood disorders were more likely to be admitted involuntarily than those diagnosed with less severe disorders.
- A higher percentage of NESC patients were diagnosed with schizophrenia, while significantly fewer were diagnosed with the less severe disorders.
- NESC patients had fewer readmissions, but duration of NESC admissions was significantly longer than that of the Australian-born.

These key findings closely resemble disparities found for Victorian mental health services in 1995/96. The main exceptions are:

- Treated prevalence for the Australian-born population increased by 65% from 1995/96 figures to 2004/05, while for NESC communities it increased by 38%, indicating an increase in the gap in access to mental health services by ethnic communities.
- The average number of community contacts with Australian-born clients declined from 1995/96 to 2004/05, but contact frequency with NESC clients showed little change over time. While contact frequency with NESC clients was not significantly different from Australian-born clients in 1995/96, it was significantly higher in 2004/05.

To explain the persisting low rates of access by ethnic communities it may be argued that rates of mental illness are lower than in the Australian-born population. This is not consistent, however, with international research showing that community prevalence of severe mental illness is similar across countries, or that levels of mental illness may be higher in immigrant and refugee than in host communities, due to pre-migration, migration, and settlement stresses.

Low treated prevalence therefore may be due to a range of service barriers and psychosocial factors in ethnic communities, contributing to presentation to mental health services by members of NESC communities late in the course of a disorder. If NESC clients present when severely disordered this would explain the disproportion in diagnoses of psychoses, a higher frequency of contacts, an increased likelihood of inpatient admission, the higher proportion of involuntary admissions and longer inpatient admissions. The finding that a higher proportion of NESC clients live with their families raises concerns regarding the burden of mental illness that may be experienced by both families and individuals.

Disparities in diagnosis and involuntary admission between NESC and Australian-born clients have been attributed in part to possible clinician bias, clinician unfamiliarity with cross-cultural presentations of mental illness and failure to engage interpreters when required. This view gains some support from research that has shown that mental health staff rated their competence in clinical assessments of NESC clients as lower than with Australian-born clients. Despite implementation of a range of policies and interventions in the last 10 years to increase staff cross-cultural competence, the disparities in access have increased and differences in service provision have generally persisted.

These differences in mental health service provision to ethnic communities are of no small moment in Victoria, where one fifth of the population were born in a non-English speaking country, representing some 200 birthplaces and 140 languages. In some local government areas such as Brimbank and Dandenong more than 40% of the population were NESC-born, and more than 52% spoke a language other than English at home.

Answers to the questions raised by the present findings await epidemiological studies (that have been lacking to date) into the community prevalence of severe mental disorder in Australia's very diverse ethnic communities, and their pathways to care. In addition, a need exists to examine cross-cultural clinical practices, and decision-making processes associated with the diagnosis and involuntary admission of NESC patients. Both these research undertakings need to be a priority to ensure that potentially high levels of mental health needs are identified and appropriate service responses developed.

Introduction

Research in Victoria in the 1990s showed disparities in mental health service provision to ethnic communities relative to the Australian-born population. Ethnic communities tended to have lower population rates of access to public community and inpatient mental health services, with some variations for specific ethnic communities (Klimidis et al., 1999a, 1999b; Minas, Ziguras, Klimidis, Stuart, & Freidin, 1995; Stolk, 1996a, 2005; Trauer, 1995). Furthermore, a consistent finding has been that higher proportions of patients born in non-English speaking countries were admitted to acute inpatient services involuntarily, higher proportions were diagnosed with a psychosis, and NESC patients had longer admissions than Australian-born patients (Klimidis et al., 1999a; Stolk, 1996a; Trauer, 1995). These findings are consistent with research in New South Wales (NSW) (McDonald & Steel, 1997) and Western Australia (Bruxner, Burvill, Fazio, & Febbo, 1997). The present paper examines whether these disparities have changed over time, as immigration patterns change, communities settle and acculturate, as state and federal government policies have been attuned towards improvements in access and quality of care issues for ethnic communities (Australian Health Ministers, 1998; Commonwealth of Australia, 1996; Minas, Klimidis, & Kokanovic, 2007), and as a range of interventions has been implemented to improve culturally sensitive practice in mental health services (Department of Human Services, 1996; Stolk, 2005; Stolk et al., 1998; Ziguras, Klimidis, Lewis, & Stuart, 2003; Ziguras, Stankovska, & Minas, 1999).

Access and Prevalence

Rates of access to mental health services represent treated prevalence of mental disorder but do not indicate the prevalence of mental illness in the community. For example, in the United States of America (USA) Epidemiologic Catchment Area study it was estimated that 32% of the general population with a diagnosable *DSM-III* disorder went untreated, but 51% of Mexican Americans with a diagnosable disorder had not sought treatment (Hough et al., 1987). The 1997 Australian National Survey of Mental Health and Wellbeing (NSMHW) found that 65% of the Australian population with a diagnosable mental disorder had not consulted a health or mental health professional (Andrews, Henderson, & Hall, 2001). However, the probability of consulting varied by diagnosis, with consultations occurring for 90% of people diagnosed with schizophrenia, 60% with depression and 15% for substance use and personality disorders (Andrews, Issakidis, & Carter, 2001). Unfortunately, low English proficiency was an exclusion criterion (Jablensky et al., 2000), consequently no conclusions could be drawn regarding prevalence and consultation for mental health problems by people with low English proficiency. It has been suggested that increased mental health problems may be associated with low English proficiency (Canadian Task Force on Mental Health Issues Affecting Immigrants and Refugees, 1988; Furnham & Sheikh, 1993; Westermeyer, Neider, & Vang, 1984). Moreover, the inclusion criterion of English proficiency may have biased selection towards NESC participants who were better educated and more enculturated into mainstream society (Kiropoulos, Klimidis, & Minas, 2004).

Lower community prevalence of mental illness might explain lower access rates to mental health services by ethnic communities, but this argument was not supported by the World Health Organisation's (WHO) 10-country study of the Determinants of Outcomes of Severe Mental Disorders (Jablensky et al., 1992), which reported that a narrowly defined syndrome of florid schizophrenia was found at a similar rate across countries.

There was in fact substantial variation in the prevalence of this syndrome across nations with the highest rate double that of the lowest rate (1.4 per 10,000 population in England, 0.7 in Denmark, respectively) (Jablensky et al., 1992). A broader syndrome - that included patterns of onset, recovery and symptomatology found in both developed and developing countries - showed significantly different rates of disorder across cultures, ranging from 1.6 per in Denmark to 4.2 in rural India (Andary, Stolk, & Klimidis, 2003; Jablensky et al., 1992).

The WHO study has been criticised for employing an etic Western methodology, ensuring that syndromes defined by Western psychiatry would be found (Kleinman, 1988; Patel & Winston, 1994). Moreover, studies of native-born populations do not necessarily throw light on the prevalence of mental illness in migrant communities. A Victorian community-based study found that aged Macedonian-, Spanish- and Italian-speaking migrant groups showed higher GHQ scores than an English-speaking (ES) group, but morbidity varied, with Italian-speakers scoring higher than other groups and women showing higher levels than men (Klimidis & Minas, 1998). Recent reviews and metanalyses of West European and United Kingdom (UK) studies of migration as a risk factor for schizophrenia, have concluded that first-generation migrants had an elevated rate of disorder up to four times higher than the native-born populations (Cantor-Graae & Selten, 2005; McGrath et al., 2004).

No representative and comprehensive epidemiological studies have been undertaken of the prevalence of mental disorder in Australia's ethnic communities. Studies that have been conducted have yielded conflicting findings, largely due to methodological differences. The NSMHW reported that high prevalence disorders tended to be lower for NESC groups (Andrews, Henderson et al., 2001), however, this result was obtained by combining anxiety and depressive disorders (which were comparable to the Australian-born) with substance use disorders, which were significantly lower for NESC respondents (Kiropoulos et al., 2004). As reported above, participants with low English proficiency were excluded, and thereby those at possible higher risk of mental disorder. In contrast, the New South Wales Health Survey used translated instruments in telephone interviews of NESC participants, who were more likely to report disability due to "psychological distress" than participants born in English speaking countries (ESC), but were less likely to use health services (Boufous, Silove, Bauman, & Steel, 2005).

The NSMHW study of low prevalence disorders did not report the relationship between low prevalence disorders and specific birthplaces, although this information was collected (Jablensky et al., 2000). A Queensland case-control study found a lower risk of psychosis in migrants, but 54% of the migrants were from English-speaking countries, and low English proficiency was also an exclusion criterion (McGrath et al., 2001). A mental health census of Victorian general practitioners (GPs) found that NESC groups were not under-represented in this sector, suggesting that under-representation in specialist mental health services was due to service barriers rather than to lower prevalence of mental illness in ethnic communities (Minas, Lambert, Kostov, & Boranga, 1996; Stuart, Klimidis, & Minas, 1998).

Diagnosis

No controlled Australian clinical studies have been identified that have investigated comparative diagnoses of Australian-born and NESC clients. However, early case register studies found that Eastern European migrants were diagnosed with schizophrenia at a population rate five times greater than for the Australian-born (Krupinski & Stoller, 1965; Krupinski, Stoller, & Wallace, 1973). Questioning these findings, Zalokar (1994) reviewed the diagnoses of East European patients and concluded that the language-barrier may have contributed to over-diagnosis of schizophrenia. Other case register studies have consistently found that a higher percentage of NESC patients have been diagnosed with a psychosis compared with Australian-born patients (Minas, 1991; Stolk, 1996a, 2005). This disparity may be attributable to misdiagnosis or to higher rates of psychosis in NESC communities, but Minas (1991) argued that NESC people with non-psychotic disorders may be less inclined to seek treatment than the Australian-born due service barriers and differing explanatory models of mental illness, thereby inflating the proportion presenting with a psychosis. On the other hand, a small study by Steel et al. (2006) found that ethnicity and English fluency were not related to delay in first contact with mental health services, but patients with psychotic disorders presented after a significantly shorter delay.

Frequency of community contacts

If NESC communities are less likely to access mental health services, it might also be expected that contact with a service, once established, would not be maintained because of language and cultural barriers, or a lack of cross-cultural clinician competence. If, however, NESC clients present when severely disordered, a higher level of contact than for Australian-born clients may be required. Research has yielded inconsistent findings. No difference was found in mean contacts between NESC and Australian-born clients in the Melbourne's North Eastern Region (Trauer, 1995), but in the Western Metropolitan Region, contacts were significantly lower for NESC clients (Stolk, 1996a). A Victorian case control study found no difference by birthplace in the number of contacts, concluding that under-representation in services was due to differential rates of access, rather than attrition once access was established (Klimidis, McKenzie, Lewis, & Minas, 2000).

Involuntary admission and admission duration

Several Victorian studies have found that a higher percentage of NESC than Australian-born patients were admitted involuntarily to acute inpatient services (Minas et al., 1996; Stolk, 1996a, 2005; Trauer, 1995). Similar findings were made in NSW (McDonald & Steel, 1997). The disproportion in NESC involuntary admissions may be attributable to clinician lack of confidence and competence in cross-cultural clinical assessments (Baycan, 1997; Stolk, 2005), but this explanation does not rule out that the disparities also may be due to presentation by NESC patients only when severely disordered and in need of admission. Evidence that NESC patients tend to have significantly longer admissions than patients from English-speaking countries (ESC) supports the latter argument (Minas et al., 1996; Royal Park Ethnic Advisory Committee, 1994; Trauer, 1995) On the other hand, Stolk (1996a) found no significant difference in admission duration for NESC and ESC patients.

Cross-cultural clinical competence

The argument that mental health staff may lack confidence and competence in cross-cultural clinical assessment is based on a range of training needs surveys in the 1990s. Up to 85% of Victorian mental health staff reported feeling unprepared by their professional training for cross-cultural clinical work (Minas, Stuart, & Klimidis, 1994; Stolk, 1996b), while 75% of rural staff rated their knowledge and skills in clinical assessment as poorer with NESC than with ESC clients (Baycan, 1997). Further investigation of this finding with 270 mental health staff in Melbourne's North Western Region found that clinicians rated their competence on each aspect of the mental state examination (MSE) as lower with NESC than with ESC clients, 70% rating their overall competence on the MSE as lower with NESC clients (Stolk, 2005). In consultation sessions, staff from Crisis Assessment and Treatment Teams (CATTs) also acknowledged that they should book interpreters more frequently with NESC clients, who were sometimes admitted involuntarily when staff were uncertain of the client's mental state (Stolk, 2005).

The disparities in mental health service provision to ethnic communities are of no small moment in Victoria, where in 2001, 19.8% of the total population (or 609,727 persons) were born in a non-English speaking country (Table 2), representing some 200 birthplaces and 140 languages (Victorian Office of Multicultural Affairs, 2003). In some local government areas such as Brimbank and Dandenong more than 40% of the population were NESC-born, and more than 52% spoke a language other than English at home (Victorian Office of Multicultural Affairs, 2003).

Aims of the study

The aim of the present study is to replicate and expand on previous Victorian research to identify trends over time that may provide direction for development of future policies and service provision strategies. The study investigates whether, in 2004/05 case register data, differentials are still to be found between Australian-born and NESC clients in:

1. Treated prevalence for community mental health services
2. The frequency of community case contacts
3. The diagnostic profile of community clients and prevalence of major diagnoses
4. Living arrangements
5. Acute admissions of community clients
6. Treated prevalence for acute inpatients
7. Readmissions
8. Legal status of admissions
9. The diagnostic profile of inpatients and prevalence of major diagnoses
10. Duration of inpatient admissions.

The sequence in which results are presented follows the general pathway of a client through a community mental health service and an acute inpatient unit.

Method

Sources of Data

Population figures for the top 21 birthplaces in Victoria were purchased from the Australian Bureau of Statistics' 2001 Census of Population and Housing. The Mental Health Branch (MHB) of the Victorian Department of Human Services provided mental health data from Victoria's RAPID (Redevelopment of Acute and Psychiatric Information Directions) community and bedbased case registers for the financial year 1 July 2004 to 30 June 2005. The 2001 Census data and the 2004/05 case register data were the most recently available at the time of analysis[1]. To deidentify mental health client information, the MHB replaced identification numbers in the case registers with common random identification numbers.

Variables selected

2001 Census figures obtained included the top 21 birthplaces in Victoria, top languages spoken at home, and English proficiency of the population who spoke a language other than English (LOTE) at home. These figures were broken down by Statistical Local Area (SLA), a Census sub-division. Populations for each Area Mental Health Service (AMHS) catchment area were compiled by aggregating the SLAs comprising each catchment area, with reference to the boundaries defined by the MHB.

The community-based mental health case register was of 40,290 adult clients aged between 16-64 years who had had contact with Victoria's community mental health services in 2004/05, and the bed-based case register comprised 13,294 admissions of 8,655 adults admitted to acute inpatient units in 2004/05. Variables in both case registers included the client's SLA, AMHS, birth date, sex, with whom the patient was living, birthplace, preferred language, the principal *ICD-10* diagnosis and a major diagnostic grouping of the principal *ICD-10* diagnosis (see Appendix 1). In addition, the community case register included the number of registered contacts during the year with the community-based programs of the AMHS (including Continuing Care Teams, Mobile Support Teams, CATTs and "other adult services"[2]), and the number of separations or discharges from acute inpatient units during the year. The bedbased case register also included the legal status of patients' admissions, and the number of occupied bed days for admissions, excluding absconded and leave days.

To permit overall comparisons between Australian-born persons and those born in non-English speaking countries, a dichotomous variable was computed where people born in Australia, were coded 1, and all other birth countries (excluding other English-speaking countries) were coded 2 (NESC). In analyses examining individual birthplaces, New Zealand, the United Kingdom, Eire, Canada and the USA were combined as Other ESC (Other English speaking countries). A further dichotomous variable was computed for language spoken at home or preferred language, distinguishing between English-speakers (ES) and those who spoke a LOTE.

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[1] Because of the time gap between the Census data and the case registers it is acknowledged that prevalence calculations, which are made per 10,000 head of population, may somewhat overestimate prevalence as the population will have increased between 2001 and 2005. However, figures that estimate population increases between censuses tend to be unreliable, and comparisons of results in the current report with 2001/02 figures (unpublished VTPU report) suggest that there are no effects on substantive findings.

[2] So-defined in the RAPID case register.

While it may be argued that in combining non-English speaking countries, widely divergent cultures are collapsed and obscured (Edgerton & Cohen, 1994), we have chosen this approach because persons born in a non-English country share the interrelated challenges of learning a new language and of adapting to a new culture when they migrate and settle in Australia, with potential consequences for mental health and access to services (Minas et al., 1996; Stolk, 2005). The acronym NESC is used, as it is more specific than the more all-embracing term, culturally and linguistically diverse.

It should be noted that different questions about language are asked in the Census and in mental health services. In the Census respondents are asked, *What language do you speak at home?* while mental health clients are asked *What language do you prefer to speak?*. These questions tap into somewhat different groups as Census respondents who speak a LOTE at home may also be fluent in English, but this is less likely for mental health clients who indicate that they prefer to speak a LOTE. English proficiency is elicited by a question in the Census, *How well do you speak English?* which is asked of respondents who indicate they speak a language other than English at home. Respondents rate themselves on a 4-point scale of *Not at all, Not well, Well* and *Very well.* In some presentations of data that follow reference is made to population groups with low English proficiency. These figures are obtained by aggregating those groups who spoke English *Not at all* and *Not well*.

Data analysis

Data analysis primarily involved cross-tabulation with chi-square tests. Differences in median contacts, and occupied bed days for Australian-born and NESC clients, were analysed using the non-parametric Mann-Whitney *U* test as initial investigation showed that these variables were not normally distributed (Siegel, 1956). Standardised population rates (i.e., treated prevalence) per 10,000 head of population were calculated for community clients, inpatients, diagnoses and admission legal status by dividing the number of clients from each birthplace by the total respective population and then multiplying by 10,000. Confidence intervals for proportions for each rate were estimated at the 95% level using a modified formula for the interval estimate for a mean (Wonnacott & Wonnacott, 1977). Analyses were conducted using SPSS Release 12.0.1.

Results

Distribution of the NESC population across AMHS catchment areas

Table 1 and Figure 1 show the distribution of the adult NESC population across AMHS catchment areas, together with the percentages who speak a LOTE at home, and who speak English with low proficiency. Of the total adult Victorian population, 19.8% were born in a non-English speaking country in 2001. This percentage has shown little change from the 20.6% NESC-born in 1996 (Klimidis et al., 1999a).

It is evident from Table 1 and Figure 1 that there is wide variation in the distribution of the adult NESC population, with percentages of the total population ranging from 9% in the Glenelg AMHS to 37% in the Mid West AMHS catchment area. The figures also show that in a number of catchment areas a higher number of people speak a LOTE at home than were NESC-born. For example, almost half (46%) of the population in the Northern AMHS catchment speak a LOTE at home while 33.5% are NESC-born. This probably indicates that the adult children of immigrants speak a LOTE at home, thereby potentially contributing to maintenance of their parents' cultural heritage. This also indicates that cultural issues may extend beyond the population who are NESC-born.

Table 1. Distribution of the NESC population across AMHS catchment areas: 2001 Census

AMHS Catchment	NESC[1]		LOTE[2]		Low EP[3]	
Area	Population	%	Population	%	Population	%
Barwon	12,827	8.8	13,354	9.2	1,522	1.1
Glenelg	1,473	2.4	1,362	2.2	60	0.1
Grampians	4,972	3.9	3,949	3.1	302	0.3
Loddon South Mallee	5,146	3.6	4,384	3.0	314	0.2
Northern Mallee	2,616	8.0	3,584	10.9	545	1.7
Goulburn Valley	5,567	6.1	6,435	7.0	751	0.8
North Eastern Victoria	3,528	5.4	3,288	5.0	185	0.3
Gippsland	8,324	5.8	6,681	4.7	472	0.3
Inner West	32,735	26.7	43,352	33.5	4,913	4.0
North West	51,549	33.0	67,932	43.2	10,825	7.0
Mid West	61,301	36.8	71,795	42.9	13,021	7.8
South West	40,842	26.9	46,964	30.7	8,325	5.5
Northern	54,099	33.5	74,930	46.0	11,644	7.2
North East	15,183	13.0	16,880	14.4	1,299	1.1
Inner Urban East	30,885	20.3	34,062	22.1	4,963	3.3
Central East	64,768	30.1	72,099	33.1	8,365	3.9
Outer East	39,506	13.9	35,157	12.4	3,356	1.2
Inner South East	37,680	21.8	40,166	22.8	4,203	2.4
Middle South	41,844	25.1	45,690	27.1	5,769	3.5
Dandenong	79,930	31.4	77,166	30.2	15,270	6.0
Peninsula	14,952	9.7	12,588	8.1	1,027	0.7
Victoria	609,727	19.8	681,818	21.9	97,131	3.2

[1] NESC Non-English speaking country: born in a country where English is not the first language
[2] LOTE Language other than English
[3] Low EP Low English proficiency: speaks English *not at all,* or *not well.*

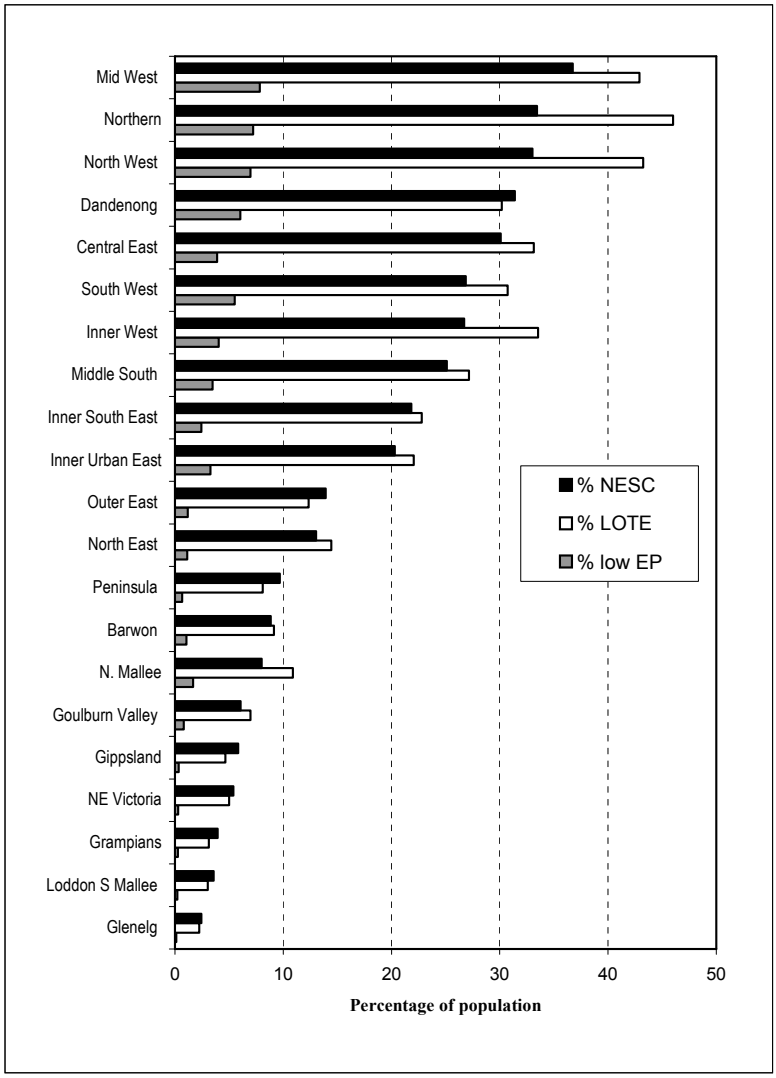

Figure 1. Percentage of the adult population born in a non-English speaking country (NESC), who speak a language other than English (LOTE) at home, and who speak English with low proficiency (low EP) by AMHS catchment area: 2001 Census.

The percentage of the population who speak English with low proficiency also varies by catchment area, with the highest percentages living in the Mid West, Northern and North West catchment areas. English proficiency varies markedly with the language spoken: 39% of the population who speak Vietnamese at home speak English with low proficiency and 23% of Chinese speakers, compared with 8% of Italian speakers and 1% of German speakers (for details see VTPU website at www.vtpu.org.au/resources/data).

Demographic profile of mental health service users

Table 2 shows the percentage of Victorian community clients and inpatients in 2004/05 who were born in a non-English speaking country and who preferred to speak a LOTE, as well as their sex, age and level of education. NESC service users comprised 13% of community clients and 15% of inpatients, while LOTE service users comprised 5% of both community clients and inpatients. NESC females were significantly over-represented relative to Australian-born women. NESC and LOTE community clients were significantly older than their Australian-born and ES counterparts. There were significant differences in education levels: 6% more NESC than Australian-born clients had received no education or only a primary education, a differential that was much more marked between LOTE and ES clients, with 18% and 3% respectively, having received limited education. Conversely amongst NESC clients, 10% more had received post-secondary education than Australian-born clients. The limited education received by LOTE clients may have implications for their level of literacy, a factor that may contribute to service barriers and effectiveness of communication and information provision in mental health services.

Table 2. Demographics of adult community clients and inpatients by birthplace and preferred language: Victoria 2004/05

Birthplace	Australian[1]	NESC[2]	% NESC	*p*
Community clients	31,743	5,300	13.2	
Inpatients	6,664	1,285	14.8	
Admissions	10,363	1,887	14.2	
% Female[3]	47.8	49.6		*
Mean Age	36.4(*SD*=12.0)	42.0(*SD*=12.5)		***
% No or primary education	2.8	8.6		***
% Post-secondary education	18.7	28.3		
Preferred language	English	LOTE[4]	%LOTE	
Community clients	37,017	1,852	4.8	
Inpatients	8,096	414	4.8	
Admissions	12,536	583	4.4	
% Female	47.9	53.2		***
Mean Age	36.9(*SD*=12.1)	43.4(*SD*=12.1)		***
% No or primary education	2.8	18.3		***
% Post-secondary education	20.3	21.3		

[1] Birthplace frequencies do not include Other English-speaking countries.
[2] NESC: non-English speaking country.
[3] Sex, age and education relate to community clients.
[4] LOTE: language other than English.
* $p < .05$, *** $p < .0001$.

Birthplace profile and treated prevalence for community clients

Table 3 shows 2001 population figures and 2004/05 client numbers for the largest birthplace groups in Victoria, as well as the treated prevalence for 40,290 adult clients aged 15-64 years seen by Victoria's community mental health services. Treated prevalence is also illustrated in Figure 2. Table 3 and Figure 2 also show comparisons with 1996 Census figures and 1995/9 client data that will be discussed below.

Table 3. Treated prevalence for adult clients of Victoria's community mental health services per 10,000 head of each population in 2004/05 and 1995/96 (ranked in order of client numbers)

	2004/2005							1995/1996[1]			
Birthplace	Rank[2]	Population	%	Clients	%	Prevalence	95% *CI*	Population	Clients	Prevalence	95% *CI*
Australia	1	2,119,156	68.7	31,743	78.8	**149.8**	148.1-151.4	2,032,717	18,483	**90.9**	89.6-92.2
Other ESC[3]	2	216,591	7.0	1,760	4.4	**81.3**	77.5-85.1	215,816	1,164	**53.9**	50.8-57.0
Italy	3	52,806	1.7	453	1.1	**85.8**	77.9-93.7	68,581	447	**65.2**	59.1-71.2
Vietnam	4	51,430	1.7	452	1.1	**87.9**	79.8-96.0	49,181	232	**47.2**	41.1-53.2
Greece	5	40,311	1.3	391	1.0	**97.0**	87.4-106.6	51,626	349	**67.6**	60.5-74.6
Turkey	18	13,618	0.4	244	0.6	**179.2**	156.7-201.7	13,224	179	**135.4**	115.5-155.2
Croatia	16	14,599	0.5	190	0.5	**130.1**	111.6-148.7	.	.	**.**	.
Malta	12	16,949	0.5	176	0.4	**103.8**	88.5-119.2	20,327	134	**65.9**	54.8-77.1
Germany	10	19,570	0.6	174	0.4	**88.9**	75.7-102.1	22,366	164	**73.3**	62.1-84.6
Philippines	11	19,343	0.6	167	0.4	**86.3**	73.2-99.4	16,327	89	**54.5**	43.2-65.8
Poland	21	11,805	0.4	155	0.4	**131.3**	110.6-152.0	12,948	92	**71.1**	56.5-85.6
China excl sar[4]	6	29,393	1.0	153	0.4	**52.1**	43.8-60.3	21,916	43	**19.6**	13.8-25.5
India	7	25,113	0.8	145	0.4	**57.7**	48.3-67.1	19,563	78	**39.9**	31.0-48.7
Macedonia	13	16,619	0.5	118	0.3	**71.0**	58.2-83.8	.	.	**.**	.
Netherlands	14	15,801	0.5	117	0.3	**74.0**	60.6-87.5	19,227	99	**51.5**	41.4-61.6
Sri Lanka	9	21,904	0.7	109	0.3	**49.8**	40.4-59.1	18,940	70	**37.0**	28.3-45.6
Lebanon	20	12,617	0.4	103	0.3	**81.6**	65.9-97.4	.	.	**.**	.
Malaysia	8	22,287	0.7	101	0.3	**45.3**	36.5-54.2	20,505	49	**23.9**	17.2-30.6
South Africa	19	12,619	0.4	77	0.2	**61.0**	47.4-74.6	.	.	**.**	.
Egypt	23	8,173	0.3	67	0.2	**82.0**	62.3-101.6	.	.	**.**	.
Hong Kong	17	14,039	0.5	63	0.2	**44.9**	33.8-56.0	12,906	21	**16.3**	9.3-23.2
Indonesia	22	9,783	0.3	62	0.2	**63.4**	47.6-79.2	.	.	**.**	.
Yugoslavia FR	15	15,107	0.5	47	0.1	**31.1**	22.2-40.0	47,569	301	**63.3**	56.1-70.4
Other NESC[5]		165,841	5.4	1,744	4.3	**105.2**	100.2-110.1	187,576	1,438	**76.7**	72.7-80.6
Total NESC		609,727	19.8	5,300	13.2	**86.9**	84.6-89.3	602,782	3,785	**62.8**	60.8-64.8
Missing data		137,331	4.5	1,487	3.7			.	.	**.**	.
Total		3,082,805	100.0	40,290	100.0	**130.7**	129.4-132.0	2,932,800	23,432	**79.9**	78.9-80.9

[1]. Empty cells indicate these data were not available for 1995/96. [2]. 2004/05 Population size rank order. [3]. ESC English speaking country. [4]. sar special administrative region. [5]. NESC Non-English speaking country.

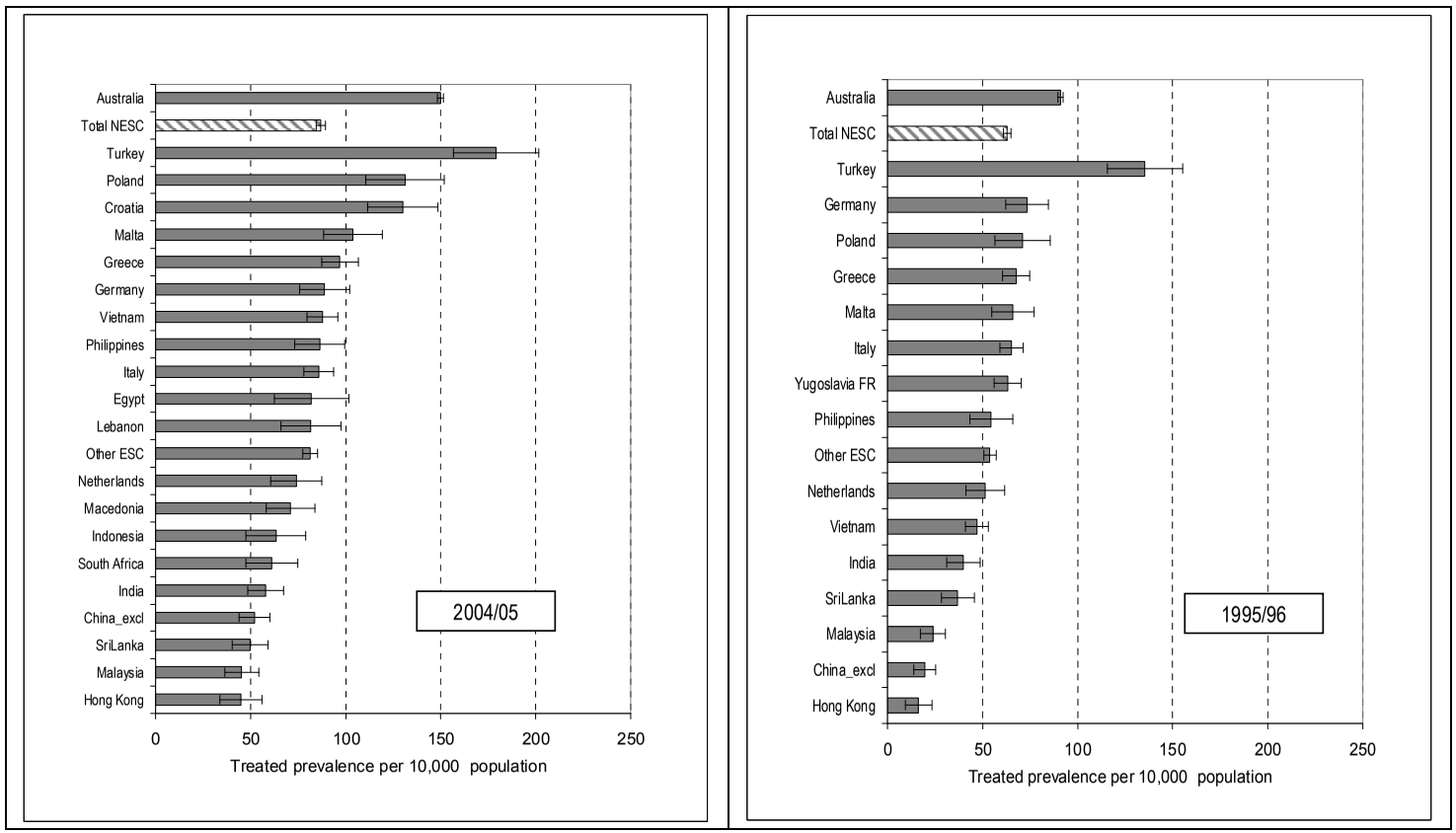

Figure 2. Treated prevalence for adult community clients: Victoria 2004/05 and 1995/96
(in rank order of NESC prevalence for each year).

In 2001/02 the birthplaces of the largest client groups were Italy, Vietnam, Greece and Turkey. While the NESC population comprised 19.8% of Victoria's adult population, NESC clients, who originated from over 160 birthplaces and preferred to speak over 60 languages, comprised only 13.2% (N = 5,300) of all clients in 2004/05. The under-representation of the NESC population in mental health services is represented in population access rates. Treated prevalence per 10,000 head of the total NESC population was 86.9 ($CI_{.95}$ = 84.6; 89.3), compared with 149.8 ($CI_{.95}$ = 148.1; 151.4) for the Australian-born population. There was no overlap in the confidence intervals (illustrated by the error bars in Figure 2) indicating that this difference was statistically significant.

However, Table 3 and Figure 2 show that access varied markedly for the various ethnic groups. Compared to the Australian-born population, treated prevalence was significantly higher for the Turkish-born, while it did not differ significantly for the Polish and Croatian populations. The confidence intervals for all other NESC groups do not overlap with those of the Australian-born population, indicating significantly lower treated prevalence. With treated prevalence of less than 50.0, access is particularly low for the populations born in Hong Kong, Malaysia, and Sri Lanka.

Comparison of treated prevalence for 1995/96 and 2004/05 in Table 3 and Figure 2 shows that there was access a marked overall increase in access of 63.5% over the 9-year period, and access increased for all communities for which comparative data were available[3]. However, the increase was notably greater for the Australian-born than the overall NESC population, with increases in treated prevalence of 65% for the former and 38% for the latter from 1995/96 to 2004/05. Clearly disparities in access for ethnic communities have not only persisted but have increased. Relative rates of access have generally remained similar for the various ethnic communities: both in 1995/96 and 2004/05 clients born in Turkey had the highest rate of access of all NESC groups and those born in Hong Kong-born had the lowest rate[4].

Community case contacts

Tables 4 and 5 show mean and median community contacts with mental health services in 2004/05 by birthplace and preferred language. As previously indicated, contact means were not normally distributed, therefore medians were analysed using non-parametric statistics. Table 4 shows that median contacts were significantly higher with NESC than with Australian-born clients (13.0 and 11.0, respectively, U = 81,765,904.5, $p < .001$). Both LOTE and ES clients made 12.0 median contacts (Table 5), however, a Mann-Whitney U test showed that LOTE clients made significantly fewer contacts than ES clients (U = 33,371,244, $p < .05$)[5]. As for treated prevalence, there was again considerable variation in the median number of contacts with different birthplaces, and more particularly, language groups (Table 5). Of note is the high number of contacts with

[3] Prevalence in the Former Republic of Yugoslavia was higher in 1995/96 than 2004, but this is largely attributable to the disaggregation and separate recording since the 2001 Census of birthplaces comprising the Former Republic (as evidenced by the population decline recorded for this birthplace from 1996 to 2001).

[4] Treated prevalence is not estimated for language groups as the Census question "What language do you speak at home?" is not equivalent to the question "What is your preferred language?" which is asked by mental health services of NESC clients. The populations tapped by the two questions are not comparable, as the first question may include persons who have been born in Australia, while the second does not.

[5] While this result may seem anomalous, it is consistent with the results in Table 5 showing lower mean contacts for LOTE than ES clients (29.3 and 33.7, respectively), a difference that a t-test showed was significant, $t(2168)=3.88$, $p < .0001$.

Table 4. Mean number of contacts for adult community clients by top birthplaces: Victoria 2004/05 (sorted in order of NESC median contacts)

	2004/05				1995/96[1]		
Birthplace	*N*	*M*	*SD*	Median	*N*	*M*	*SD*
Australia	31,743	33.1	59.2	11.0	18,483	39.4	70.1
Other ESC	1,760	31.6	57.4	10.0	1,164	45.6	91.9
Croatia	190	31.2	39.4	18.0	.	.	.
Sri Lanka	109	37.5	56.2	18.0	70	39.3	66.9
Philippines	167	35.7	43.5	17.0	89	33.1	47.3
Vietnam	452	34.5	49.0	16.0	232	34.8	48.0
China (excl sar)	153	27.1	34.1	16.0	43	31.5	56.5
Greece	391	35.9	71.4	15.0	349	40.0	72.4
Macedonia	118	42.9	57.5	15.0	.	.	.
Lebanon	103	31.2	46.5	15.0	.	.	.
South Africa	77	36.6	62.1	14.0	.	.	.
Bosnia-Herzegovina	96	26.1	36.4	12.5	.	.	.
Germany	174	36.5	69.9	11.0	164	53.1	97.8
Poland	155	31.7	44.8	11.0	92	29.5	38.9
Malaysia	101	33.5	48.4	11.0	49	39.0	61.9
Serbia-Montenegro	68	24.9	37.9	10.5	.	.	.
Turkey	244	29.9	50.4	10.0	179		38.0
Malta	176	29.1	50.8	10.0	134	47.1	67.9
India	145	25.9	38.6	10.0	78	23.8	30.8
Egypt	67	29.1	38.3	9.0	.	.	.
Italy	453	30.2	58.0	8.0	447	36.5	64.3
Netherlands	117	26.1	41.3	6.0	99	36.7	52.8
Other NESC	1,744				.	.	.
Total NESC	5,300	33.2	54.9	13.0	3,785	34.7	58.8
Sub-total clients	38,803	33.0	58.5	11.0	23,432	39.0	69.7
Missing data	1,487						
Grand total	40,290						

[1] Empty cells indicate comparable data were not available for 1995/96

some LOTE client groups, including Somali, Hakka, Vietnamese and Cantonese speakers, who each had 19 or more median contacts.

The right-hand columns of Tables 4 and 5 show the mean number of contacts in 1995/96, at which time there were no significant differences in number of contacts for Australian-born and NESC clients and for ES and LOTE clients (Klimidis et al., 1999a, pp. 39-40). Overall mean contact frequency has declined in the 9-year interval, but the decline appears to be greater for Australian-born clients, who made 39.4 mean contacts in 1995/96 and 33.1 in 2004/05, a 16.0% decrease. The respective figures for NESC clients were 34.7 and 33.3, a 4.3% decrease. Similar differences apply to ES and LOTE clients (Table 5), who showed respective decreases of 16.6% and 8.4%.

Table 5. Mean number of contacts for adult community clients by top preferred languages: Victoria 2004/05 (sorted in order of LOTE median contacts)

	2004/05				1995/96[1]		
Language	*N*	*M*	*SD*	Median	*N*	*M*	*SD*
English	37,017	33.7	59.4	12.0	21,042	40.4	71.5
Somali	21	56.0	55.0	40.0	.	.	.
Hakka	16	27.5	23.7	23.0	.	.	.
Vietnamese	289	39.1	52.6	20.0	161	38.2	54.4
Cantonese	85	34.3	59.5	19.0	22	45.5	73.3
Russian	24	31.5	40.7	18.0	14	36.2	60.0
Persian	17	39.5	40.5	17.0	.	.	.
Mandarin	64	28.5	33.5	17.0	19	20.0	23.8
Romanian	18	39.9	59.3	16.0	.	.	.
Maltese	24	35.8	53.4	14.0	20	32.2	29.8
Arabic, Lebanese	90	30.1	36.8	12.5	48	28.7	24.4
Greek	187	25.9	39.7	12.0	141	39.1	63.8
Serbian	48	33.9	49.3	11.5	.	.	.
Turkish	132	28.5	46.5	11.5	144	13.5	30.3
Croatian	90	30.5	47.1	10.0	.	.	.
Spanish	44	37.5	80.9	9.0	31	21.9	30.9
Macedonian	74	23.2	38.2	8.0	.	.	.
Polish	48	19.6	31.1	7.0	29	24.7	2.0
Bosnian	29	15.6	23.7	7.0	.	.	.
Italian	171	20.1	45.7	4.0	136	41.9	70.1
Australian Indigenous nec[2]	89	18.2	37.4	3.0	.	.	.
Other LOTEs	292				.	.	.
Total LOTEs	1,852	29.3	46.3	12.0	1,520	32.0	53.3
Sub-total	38,869	33.5	58.9	12.0	22,562	39.8	70.5
Missing data	1,421				.	.	.
Grand total	40,290				.	.	.

[1] Empty cells indicate comparable data were not available for 1995/96. [2] nec Not elsewhere classified

Diagnosis of community clients

Table 6 and Figure 3 show major primary diagnoses of community clients by birthplace (Table 1, Appendix 2 shows diagnoses by preferred language). Chi-square tests were performed for each diagnosis to test whether there were birthplace differences in the percentage of all clients who received that diagnosis. Consistent with previous research, a significantly greater percentage of NESC and LOTE clients were diagnosed with a psychotic disorder than Australian-born and ES clients, respectively (differences of 14%). Conversely, significantly fewer NESC and LOTE clients were diagnosed with other major disorders. An exception to this pattern was that a significantly higher percentage of NESC and LOTE clients were diagnosed with dementia.

Confidence in diagnoses

To investigate whether clinicians may have differed in confidence in diagnosing NESC and Australian-born clients, comparison were made in the proportions diagnosed with "Other and unspecified" disorders and with missing diagnoses. Figures in Table 6 (and Table 1, Appendix 2) show that significantly fewer NESC and LOTE clients were

Table 6. Major diagnoses of adult community clients by birthplace: Victoria 2004/05

Primary Diagnosis	Australia		NESC		Total		
Grouping	N	Valid %[1]	N	Valid %	N	Valid %	$\chi^2(1)$
Schizophrenia, psychotic disorders	9,291	33.4	2,288	47.9	11,579	35.5	374.0***
Mood, affective, bipolar disorder	7,303	26.2	1,060	22.2	8,363	25.6	35.2***
Neurotic, stress, somatoform disorders	4,310	15.5	423	8.8	4,733	14.5	144.6***
Disorder of personality & behaviour	1,251	4.5	84	1.8	1,335	4.1	77.8***
Mental/behavior disorder due to substance use	939	3.4	56	1.2	995	3.1	66.8***
Other & unspecified mental disorder	808	2.9	102	2.1	910	2.8	8.9**
Mental/behavior disorder due to alcohol use	579	2.1	64	1.3	643	2.0	11.6***
Child onset behaviour /emotional disorder	273	1.0	8	0.2	281	0.9	31.6***
Other organic mental disorder	190	0.7	53	1.1	243	0.7	10.0**
Dementia	140	0.5	66	1.4	206	0.6	50.1***
Eating disorders	146	0.5	13	0.3	159	0.5	5.4*
Other diagnoses	2,602	9.3	564	11.8	3,166	9.7	
Total clients diagnosed	27,832	100.0	4,781	100.0	32,613	100.0	
Missing diagnosis	3,874	12.2	515	9.7	4,389	11.8	26.9***
Grand total clients	31,743	100.0	5,300	100.0	37,043	100.0	

[1] Includes all cases where a diagnosis was given. * $p < .05$, ** $p <. 01$, *** $p < .001$.

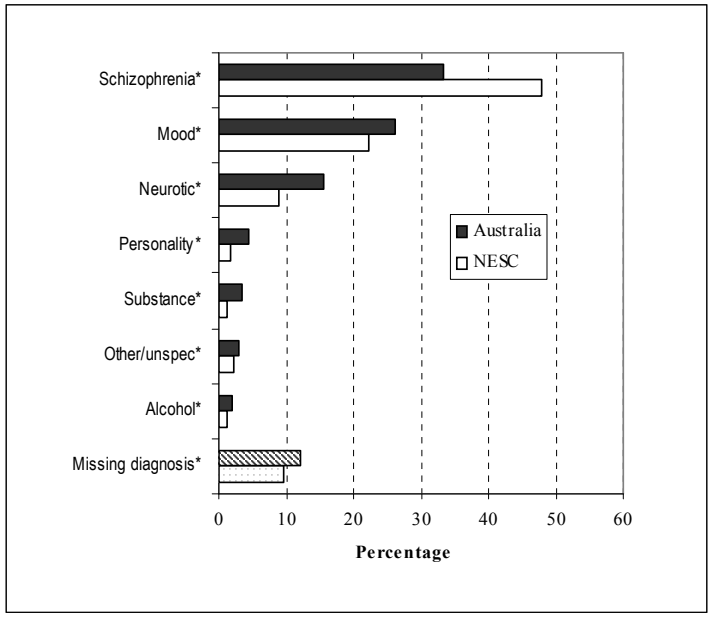

Figure 3. Major diagnoses of adult community clients by birthplace: Victoria 2004/05[6].

[6] Asterisks against diagnostic labels indicate a significant difference between Australian-born and NESC clients (see Table 6).

diagnosed with "Other and unspecified" disorders and fewer had a missing diagnosis, than Australian-born and ES clients. This suggests that clinicians are not lacking in confidence in assigning cross-cultural diagnoses.

Prevalence of community diagnoses

If members of NESC communities do not present to mental health services until severely disordered, it might be expected that NESC prevalence for disorders involving severe dysfunction, such as schizophrenia and dementia, would be comparable to prevalence for the Australian-born. This expectation receives only weak support from figures in Table 7 and Figure 4. There is no overlap in confidence intervals for NESC and Australian-born populations for any diagnosis except dementia, indicating that access is significantly lower for all other disorders. However, the magnitude of the difference is less for psychotic than other disorders.

Table 7. Treated prevalence for major diagnoses of adult community clients by major birthplace: Victoria 2004/05

	Birthplace					
	Australia			NESC[1]		
Diagnosis	Clients	Prevalence[1]	95% *CI*	Clients	Prevalence[2]	95% *CI*
Schizophrenia	9,291	43.8	43.0-44.7	2,288	37.5	36.0-39.1
Mood	7,303	34.5	33.7-35.3	1,060	17.4	16.3-18.4
Neurotic	4,310	20.3	19.7-21.0	423	6.9	6.3-7.6
Personality	1,251	5.9	5.6-6.2	84	1.4	1.1-1.7
Substance	939	4.4	4.2-4.7	56	0.9	0.7-1.2
Other/unspec	808	3.8	3.6-4.1	102	1.7	1.4-2.0
Alcohol	579	2.7	2.5-3.0	64	1.1	0.8-1.3
Dementia	140	0.7	0.6-0.8	66	1.1	0.8-1.3

[1] number of persons per 10,000 head of population, based on Australian-born adult population of 2,119,156
[2] based on NESC adult population of 609,727.

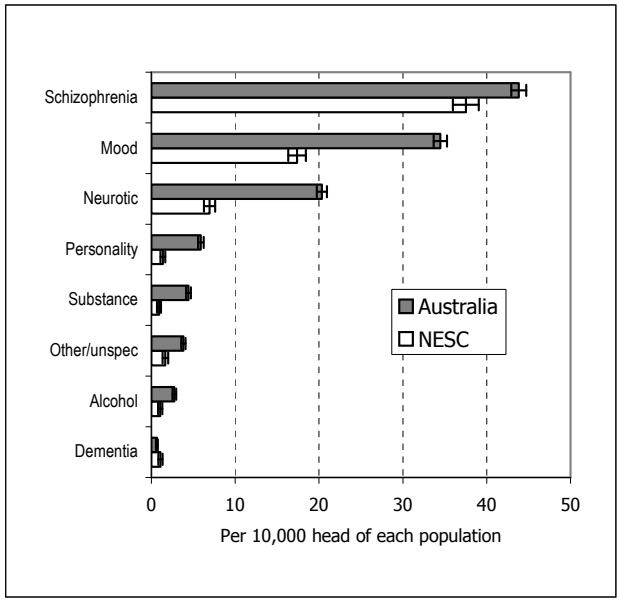

Figure 4. Treated prevalence for diagnoses of adult clients by birthplace: Victoria 2004/05.

Living arrangements

Table 8 and Figure 5 show the living arrangements of community clients. It is evident that the great majority of all clients (60.4%) live with their families. However, a significantly greater percentage of both NESC and LOTE clients lived with family members (including a spouse, children, siblings and other relatives) than Australian-born and ES clients. Conversely NESC and LOTE clients were less likely to be living alone or with people other than family members. The disparities are more marked for LOTE than NESC clients. In 1995/96 (Klimidis et al., 1999a) similarly found that, 53.8% of Australian-born inpatients lived with family members and 20.8% lived alone, while 59.9% of NESC inatients lived with family members, and 17.9% lived alone.

Table 8. Living arrangements of community clients by birthplace and preferred language: Victoria 2004/05

	Birthplace[1]					
	Australia		NESC		Total	
	N	%	*N*	%	*N*	%
Living alone	7,436.0	24.7	1,157	22.7	8,593	24.4
Living with family	17,996.0	59.7	3,282	64.3	21,278	60.4
Living with others	4,712.0	15.6	665	13.0	5,377	15.3
Total	30,144.0	100.0	5,104	100.0	35,248	100.0

	Preferred Language[2]					
	English		LOTE		Total	
Living alone	8,840	24.9	331	18.3	9,171	24.6
Living with family	21,188	59.7	1,252	69.3	22,440	60.2
Living with others	5,466	15.4	224	12.4	5,690	15.3
Total	35,494	100.0	1,807	100.0	37,301	100.0

1 $\chi^2(2) = 41.86$, $p < .0001$.
2 $\chi^2(2) = 66.82$, $p < .0001$.

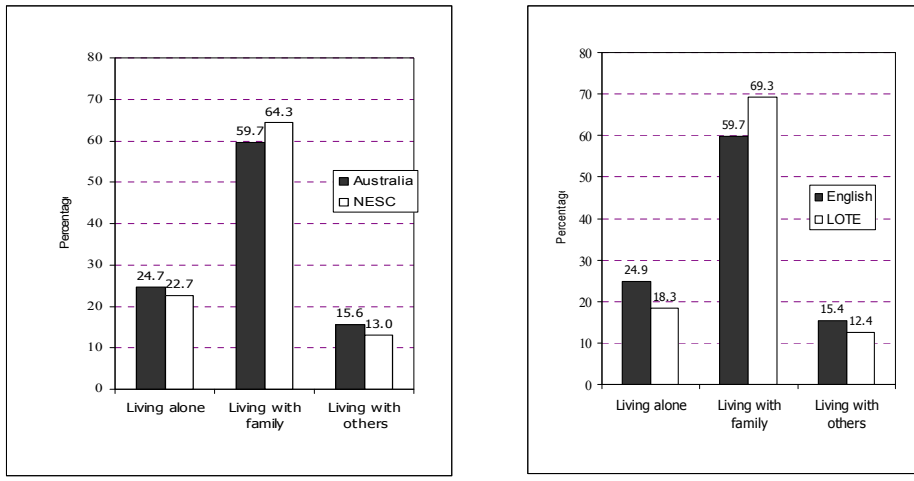

Figure 5. Living arrangements of community clients by birthplace and preferred language: Victoria 2004/05.

Acute inpatient admission of community clients

Of 40,290 clients who received contacts with community mental health services in 2004/05, 21.0% were admitted to acute psychiatric inpatient units at least once. As shown in Table 9, 2.7% more NESC clients were admitted (23.3%) than Australian-born clients (20.6%), a difference that was statistically significant. On the other hand, LOTE clients were no more likely to be admitted (21.2%) than ES clients (21.3%). Comparable data were not available for 1995/96.

Table 9. Percentage of community clients admitted to acute inpatient units by birthplace and preferred language: Victoria 2004/05

	Birthplace[1]					
	Australia		NESC		Total	
	N	%	*N*	%	*N*	%
Admitted	6,528	20.6	1,236	23.3	7,764	21.0
Not admitted	25,215	79.4	4,064	76.7	29,279	79.0
Total	31,743	100.0	5,300	100.0	37,043	100.0
	Preferred Language[2]					
	English		LOTE		Total	
Admitted	7,889	21.3	393	21.2	8,282	21.3
Not admitted	29,128	78.7	1,459	78.8	30,587	78.7
Total	37,017	100.0	1,852	100.0	38,869	100.0

[1] $\chi^2(1) = 20.82$, $p < .0001$ (missing data 3,247, 8.1%)
[2] $\chi^2(1) = 0.01$, *ns* (missing data 1,421, 3.5%)

Birthplace profile and treated prevalence for inpatients

Table 10 and Figure 6 show the largest birthplace groups admitted to acute inpatient units in 2004/05 and comparable figures for 1995/96. Treated prevalence for both years is also shown. The four largest NESC inpatient groups were from Vietnam, Italy, Greece, China and Turkey. The largest groups reflect those in community services, with the exception of the Chinese-born, who comprised the tenth largest group in community services.

Table 10 and Figure 6 illustrate that overall treated prevalence for NESC inpatients was significantly lower than for the Australian-born both in 1995/96 and 2004/05, as also found for community services. And like community services, there was marked variation for the different ethnic communities, but the majority showed lower treated prevalence than the Australian-born. The exceptions were the populations born in Poland, Turkey, Croatia and Macedonia, which showed no significant difference from the Australian-born. As with community services, there was an overall increase in treated prevalence for inpatients from 1995/96 to 2004/05 (12.0%), which was less marked than for community services. However, there was also a greater increase in inpatient access for the Australian-born (15.8%) than for NESC populations (10.8%).

Table 10. Treated prevalence: persons aged 15-64 admitted to Victoria's inpatient units per 10,000 head of each population in 2004/05 and 1995/96 (in rank order of patient numbers)

	2004/2005[1]						1995/96			
Birthplace	Population	%	Patients	%	Prevalence	95% *CI*	Population	Patients	Prevalence	95% *CI*
Australia	2,119,156	68.7	6,664	77.0	**31.5**	30.7-32.2	2,032,717	5,529	**27.2**	26.5-27.9
Other ESC	216,591	7.0	378	4.4	**17.5**	15.7-19.2	215,816	395	**18.3**	16.5-20.1
Vietnam	51,430	1.7	110	1.3	**21.4**	17.4-25.4	49,181	69	**14.0**	10.7-17.3
Italy	52,806	1.7	90	1.0	**17.0**	13.5-20.6	68,581	127	**18.5**	15.3-21.7
Greece	40,311	1.3	88	1.0	**21.8**	17.3-26.4	51,626	95	**18.4**	14.7-22.1
China excl sar	29,393	1.0	52	0.6	**17.7**	12.9-22.5	21,916	14	**6.4**	3.0-9.7
Turkey	13,618	0.4	47	0.5	**34.5**	24.7-44.4	13,224	31	**23.4**	15.2-31.7
Croatia	14,599	0.5	43	0.5	**29.5**	20.7-38.3	.	.	**.**	.
Poland	11,805	0.4	41	0.5	**34.7**	24.1-45.4	12,948	30	**23.2**	14.9-31.5
Macedonia	16,619	0.5	40	0.5	**24.1**	16.6-31.5	.	.	**.**	.
Malta	16,949	0.5	38	0.4	**22.4**	15.3-29.6	20,327	42	**20.7**	14.4-26.9
Philippines	19,343	0.6	37	0.4	**19.1**	13.0-25.3	16,327	28	**17.2**	10.8-23.5
Germany	19,570	0.6	37	0.4	**18.9**	12.8-25.0	22,366	48	**21.5**	15.4-27.5
India	25,113	0.8	34	0.4	**13.5**	9.0-18.1	19,563	19	**9.7**	5.3-14.1
South Africa	12,619	0.4	27	0.3	**21.4**	13.3-29.5	.	.	**.**	.
Sri Lanka	21,904	0.7	27	0.3	**12.3**	7.7-17.0	18,940	26	**13.7**	8.5-19.0
Lebanon	12,617	0.4	25	0.3	**19.8**	12.1-27.6	.	.	**.**	.
Malaysia	22,287	0.7	23	0.3	**10.3**	6.1-14.5	20,505	20	**9.8**	5.5-14.0
Hong Kong	14,039	0.5	20	0.2	**14.3**	8.0-20.5	12,906	10	**7.8**	2.9-12.6
Netherlands	15,801	0.5	18	0.2	**11.4**	6.1-16.7	19,227	27	**14.0**	8.7-19.3
Egypt	8,173	0.3	14	0.2	**17.1**	8.2-26.1	.	.	**.**	.
Indonesia	9,783	0.3	11	0.1	**11.2**	4.6-17.9	.	.	**.**	.
Yugoslavia FR	15,107	0.5	10	0.1	**6.6**	2.5-10.7	47,569	108	**22.7**	18.4-27.0
Other NESC	165,841	5.4	453	5.2	**27.3**	24.8-29.8	187,576	454	**24.2**	22.0-26.4
Total NESC	609,727	19.8	1,285	14.8	**21.1**	19.9-22.2	602,782	1,148	**19.1**	17.9-20.1
Missing data	137,331	4.5	706	3.8						
Total	3,082,805	100.0	8,655	100.0	**27.0**	26.4-27.6	2,932,800	7,072	**24.1**	23.6-24.7

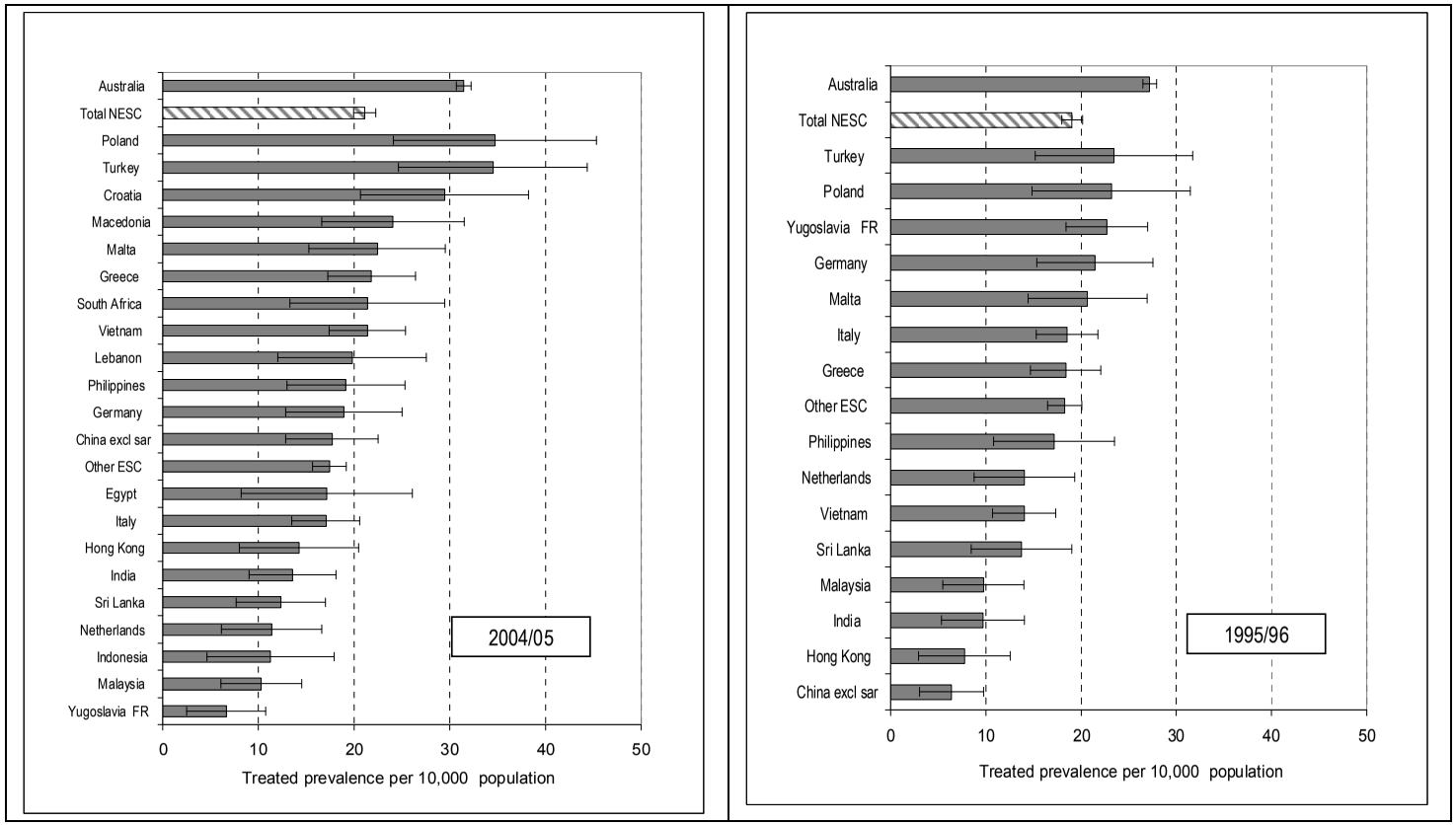

Figure 6. Treated prevalence for adult inpatients admitted in Victoria in 2004/05 and 1995/96 (in rank order of prevalence for each year).

Readmissions

Table 11 show the mean number of admissions by birthplace and preferred language. To correct for the non-normal distribution of means, two outlying means of 29 and 32 admissions were replaced with the overall average of 1.5 admissions. Although the difference in admissions was small, *t*-tests showed that NESC patients had significantly fewer readmissions than Australian-born patients, $t(2119) = 2.70$, $p < .01$.

Table 11. Mean number of admissions of adult patients by birthplace and preferred language: Victoria 2004/05 and 1995/96

	2004/05			1995/96		
Birthplace	*N*	*M*	*SD*	*N*	*M*	*SD*
Australia	6,664	1.56	1.25	5,529	1.60	1.37
NESC	1,285	1.47	1.01	1,148	1.47	1.03
Total	7,949	1.54	1.21	.	.	.
Language						
English	8,096	1.55	1.22	6,549	1.60	1.36
LOTE	414	1.41	0.97	362	1.49	0.95
Total	8,510	1.54	1.21	.	.	.

LOTE patients also had significantly fewer mean admissions than ES patients, $t(481) = 2.82$, $p < .05$ (Table 11). Findings in 1995/96 by Klimidis et al. (1999a) also showed that NESC patients had significantly lower mean number of admissions than Australian-born patients, but the mean number of admissions for LOTE and ES patients did not differ significantly (pp. 64-65). One reason for the lower number of NESC admissions may be that NESC patients had longer admissions, therefore being less available for readmission. Data on occupied bed days, presented in a later section, will examine this proposition.

Admission legal status

Table 12 shows the legal status of inpatient admissions for the largest patient birthplaces for 2004/05 (Table 2, Appendix 2 shows data for preferred language). The overall percentage of involuntary admissions increased from 49.7% in 1995/96[7] (Klimidis et al., 1999a) to 56.0% in 2004/05. In 1995/96, 48.4% of admissions of Australian-born patients were involuntary, compared with 59.6% of NESC admissions (Klimidis et al., 1999a). This difference of 11% has remained stable in 2004/05, although, as shown in Table 12 and Figure 7, the percentages admitted involuntarily have increased to 54.5% for Australian-born and 65.1%, for NESC admissions, a difference that was significant, $\chi^2(1) = 72.11$, $p < .0001$. A significantly greater percentage of LOTE than ES admissions also were involuntary in 2004/05 (Table 2, Appendix 2, $\chi^2(1) = 15.08$, $p < .0001$). Admission legal status by preferred language was not reported by (Klimidis et al., 1999a), however, the findings are consistent with findings in Melbourne's Western Metropolitan Region in 1993/94, where a significantly

[7] 1995/96 figures on admission legal status relate to adult and aged patients combined.

Table 12. Legal status of adult acute inpatient admissions by top patient birthplaces[8]: Victoria, 2004/05 (in rank order of percentage of NESC admission involuntary)

	Legal status					
	Voluntary		Involuntary		Total	
Birthplace	*N*	%	*N*	%	*N*	%
Australia	4,712	45.5	5,651	54.5	10,363	100.0
Other ESC	267	47.7	293	52.3	560	100.0
Hong Kong	4	14.3	24	85.7	28	100.0
Philippines	13	21.0	49	79.0	62	100.0
Lebanon	6	21.4	22	78.6	28	100.0
India	11	24.4	34	75.6	45	100.0
Bosnia-Herzegovina	7	25.9	20	74.1	27	100.0
Vietnam	44	27.8	114	72.2	158	100.0
Malta	16	28.1	41	71.9	57	100.0
Macedonia	17	28.3	43	71.7	60	100.0
China (excl Taiwan)	18	30.0	42	70.0	60	100.0
Italy	51	35.7	92	64.3	143	100.0
Croatia	22	36.1	39	63.9	61	100.0
Germany	17	36.2	30	63.8	47	100.0
Greece	47	36.4	82	63.6	129	100.0
Sri Lanka	13	37.1	22	62.9	35	100.0
South Africa	17	41.5	24	58.5	41	100.0
Turkey	33	42.3	45	57.7	78	100.0
Netherlands	15	50.0	15	50.0	30	100.0
Malaysia	17	54.8	14	45.2	31	100.0
Russian Fed'n	20	60.6	13	39.4	33	100.0
Poland	57	62.6	34	37.4	91	100.0
Other NESC	214	33.3	429	66.7	643	100.0
Total NESC	659	34.9	1,228	65.1	1,887	100.0
Sub-total admissions	5,638	44.0	7,172	56.0	12,810	100.0
Missing data					484	3.64
Grand total					13294	100.0

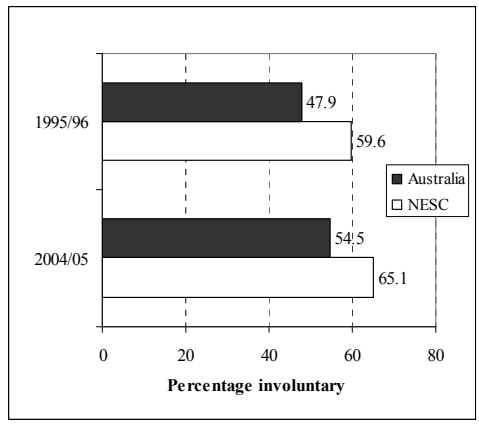

Figure 7. Percentage of adult acute admissions involuntary by birthplace: Victoria 1995/96 & 2004/05.

[8] The top birthplace groups in Tables 10 and 12 differ, as birthplaces of clients in Table 10 are matched with the top birthplaces in Victoria, but the birthplace profile of mental health service inpatients (Table 12) is not identical to that of the overall Victorian population.

greater proportion of both LOTE and NESC patients were admitted involuntarily compared with ES and ESC patients (Stolk, 1996a).

Of note are the figures which show that, of the 20 largest NESC and LOTE groups shown in Table 12 and Table 2, Appendix 2 , at least 14 experienced a higher proportion of involuntary admissions than the Australian-born. This suggests that the admission process is a prevailing issue for NESC patients.

Inpatient diagnoses

Table 13 and Figure 8 show major primary diagnostic groups for inpatients by birthplace (Table 3, Appendix 2 shows diagnoses by preferred language). The inpatient diagnostic profile is similar to that for community clients. As may be expected, a higher percentage of patients overall were diagnosed with a psychotic disorder. However, 14% more NESC than Australian-born patients were so-diagnosed and 12.6% more LOTE than ES patients, differences that were statistically significant. On the other hand, significantly fewer NESC and LOTE patients were diagnosed with less severe disorders. The exception was mood disorder, where there was no significant difference by birthplace or preferred language. In this respect NESC inpatients differ from NESC community clients, of whom significantly fewer were diagnosed with a mood disorder than Australian-born clients. Inpatient figures for the diagnosis of dementia are not shown due to small numbers, however a Fischer's Exact Test showed that there was no significant difference by birthplace. This contrasts with the finding that a significantly higher percentage of NESC than Australian-born community clients were diagnosed with dementia (Table 6).

Confidence in diagnoses

Diagnostic data again do not support the proposition that clinicians might experience uncertainty regarding cross-cultural manifestations of disorder. A significantly lower percentage of NESC patients received an "Other and unspecified diagnosis", and the difference between LOTE and ES patients was not significant (Table 13 and Table 3, Appendix 2). Furthermore, there was no significant difference in the proportion of NESC and Australian-born patients with missing diagnoses, while there were significantly fewer missing diagnoses for LOTE than ES patients.

Table 13. Major diagnoses of adult acute inpatients by birthplace: Victoria 2004/05

Primary Diagnosis	Australia		NESC		Total		
Grouping	N	Valid %	N	Valid %	N	Valid %	$\chi^2(1)$
Schizophrenia, psychotic disorders	2,920	45.6	738	59.6	3,658	47.8	83.1***
Mood, affective, bipolar disorder	1,719	26.8	302	24.4	2,021	26.4	3.01 *ns*
Neurotic, stress, somatoform disorders	545	8.5	61	4.9	606	7.9	18.1***
Disorder of personality & behaviour	344	5.4	25	2.0	369	4.8	25.2***
Mental/behavior disorder due to substance use	297	4.6	21	1.7	318	4.2	22.4***
Mental/behavior disorder due to alcohol use	138	2.2	10	0.8	148	1.9	9.9**
Other & unspecified mental disorder	125	2.0	11	0.9	136	1.8	6.7**
Other diagnoses	320	5.0	70	5.7	390	5.1	
Total clients diagnosed	6,408	100.0	1,238	100.0	7,646	100.0	
Missing diagnosis	237	3.6	46	3.6	283	3.6	0.00 *ns*
Grand total clients	6,664	100.0	1,285	100.0	7,949	100.0	

** $p <$ .01, *** $p <$ .001, *ns* not significant.

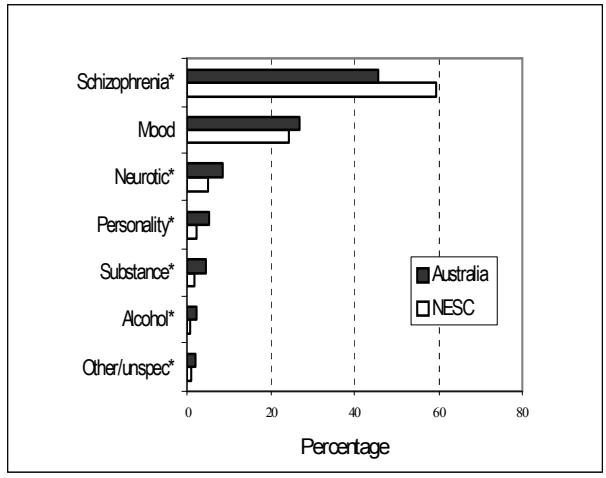

Figure 8. Major diagnoses of adult acute inpatients by birthplace: Victoria 2004/05[9].

[9] * Asterisks against diagnostic labels denote a significant difference between Australian-born and NESC patients (see Table 13)

Prevalence of diagnoses

Table 14 and Figure 9 show the prevalence of major inpatient diagnoses per 10,000 head of Australian-born and NESC populations. Compared with community prevalence of diagnoses, the differences in prevalence between Australian-born and NESC populations are not as marked, particularly for psychotic disorders. Nevertheless, the lack of overlap of confidence intervals for the two populations indicate that access for all disorders remains significantly lower for NESC communities. Previous comparable Victorian data on inpatient diagnoses are not available.

Table 14. Prevalence for major diagnoses of adult acute inpatients by birthplace: Victoria 2004/05

	Birthplace					
	Australia			NESC		
Diagnosis	Clients	Prevalence[1]	95% *CI*	Clients	Prevalence[2]	95% *CI*
Schizophrenia	2,920	13.8	13.3-14.3	738	12.1	11.2-13.0
Mood	1,719	8.1	7.7-8.5	302	5.0	4.4-5.5
Neurotic	545	2.6	2.4-2.8	61	1.0	0.7-1.3
Personality	344	1.6	1.5-1.8	25	0.4	0.2-0.6
Substance	297	1.4	1.2-1.6	21	0.3	0.2-0.5
Alcohol	138	0.7	0.5-0.8	10	0.2	0.1-0.3
Other/unspec	125	0.6	0.5-0.7	11	0.2	0.1-0.3

[1] number of persons per 10,000 head of population, based on 2001 Australian-born adult population of 2,119,156.
[2] based on 2001 NESC adult population of 609,727.

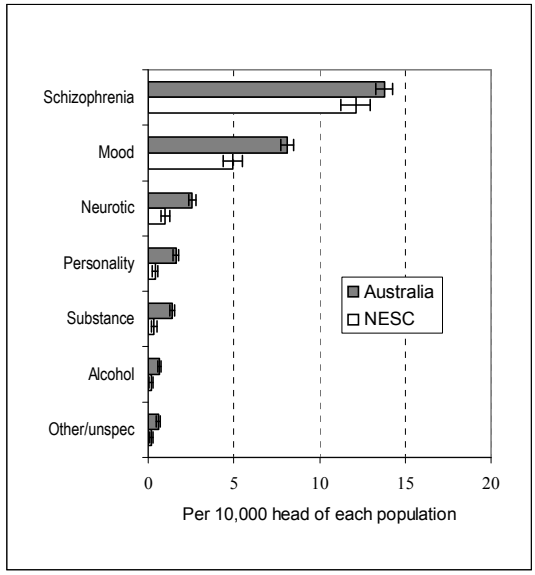

Figure 9. Prevalence for major diagnoses of adult acute inpatients by birthplace: Victoria 2004/05.

Involuntary admission and diagnosis

To determine whether the nature of a NESC patient's disorder was associated with the legal status of an admission, each of the largest diagnostic groups was cross-tabulated

Table 15. Legal status of admissions by major diagnosis, birthplace and preferred language: Victoria 2004/05

	Birthplace								
	Australia				NESC				
	Voluntary		Involuntary		Voluntary		Involuntary		
Diagnosis[1]	*N*	%	*N*	%	*N*	%	*N*	%	$\chi^2(1)$
Schizophrenia	1,410	29.4	3,391	70.6	269	24.5	830	75.5	10.51***
Mood	1,539	59.6	1,045	40.4	213	47.7	234	52.3	22.15***
Neurotic	506	70.4	213	29.6	53	71.6	21	28.4	0.05 *ns*
Personality	465	67.6	223	32.4	22	62.9	13	37.1	0.34 *ns*
Substance	175	41.3	249	58.7	10	28.6	25	71.4	2.17 *ns*
Other/unspec	102	53.1	90	46.9	6	46.2	7	53.8	0.24 *ns*
Alcohol	123	64.1	69	35.9	6	54.5	5	45.5	0.41 *ns*
	Preferred language								
	English				LOTE[3]				
Schizophrenia	1,697	28.6	4,245	71.4	90	25.4	264	74.6	1.62 *ns*
Mood	1,810	58.0	1,310	42.0	73	52.9	65	47.1	1.42 *ns*
Neurotic	580	70.0	249	30.0	22	78.6	6	21.4	0.96 *ns*

1 Figures are provided for only three diagnoses under preferred language as cells for other diagnoses contain counts of less than 5.

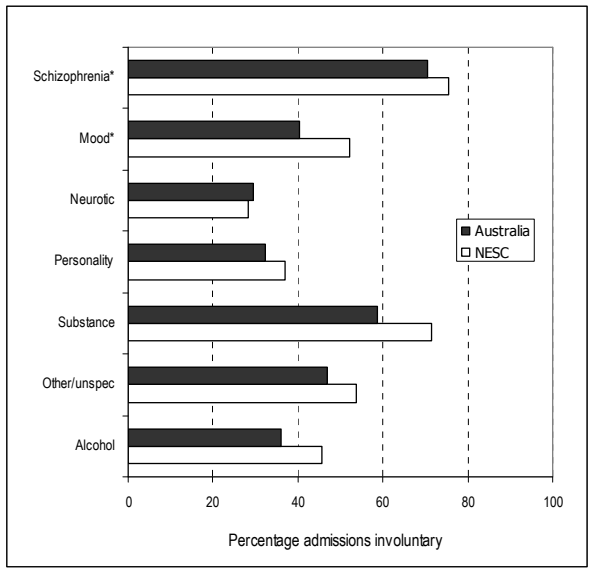

Figure 10. Percentage of adult acute admissions involuntary by diagnosis and birthplace: Victoria 2004/05[10].

[10] * Asterisks against diagnostic labels denote a significant difference between Australian-born and NESC patients (see Table 13)

with legal status and birthplace or preferred language. Table 15 and Figure 10 show that a significantly greater percentage of NESC patients diagnosed with schizophrenia or a mood disorder were admitted involuntarily than comparable Australian-born patients. However, differences in legal status for neurotic, personality, substance-related, alcohol-related and other/unspecified disorders did not differ significantly by birthplace.

Diagnosis was not associated with involuntary admission for LOTE patients (Table 15). Although there was a trend for more LOTE patients diagnosed with a psychosis or a mood disorder to be admitted involuntarily than ES patients, the differences were not significant.

Admission duration

Table 16 shows the mean duration of admissions by birthplace for 2004/05 and 1995/96 (Table 4, Appendix 2 shows figures for preferred language). In 2004/05 NESC (and LOTE) patients had median admissions of 11.0 days, which was 37.5% longer than the median of 8.0 days for Australian-born and ES patients, differences that were

Table 16. Mean occupied bed days by top birthplaces: Victoria, 2004/05 and 1995/96 (in rank order of 2004/05 patient numbers)

	2004/05				1995/96[1]		
Birthplace	*N*	*M*	*SD*	*Median*	*N*	*M*	*SD*
Australia	10,333	13.8	20.6	8.0	5,529	27.4	38.0
Other ESC	559	13.7	17.7	8.0	395	28.7	32.7
Other NESC	642	18.8	17.5	11.5	.	.	.
Vietnam	157	17.5	17.3	13.0	69	25.2	34.8
Italy	143	15.9	15.8	11.0	127	36.2	49.8
Greece	128	17.9	23.2	11.0	95	29.0	31.6
Poland	90	10.5	13.0	4.5	30	21.9	17.5
Turkey	78	16.0	41.6	7.0	31	22.5	34.7
Philippines	61	17.0	16.6	13.0	28	31.6	37.1
Croatia	61	14.4	14.8	10.0	.	.	.
Macedonia	59	18.2	24.2	10.0	.	.	.
China (excl Taiwan)	59	17.1	12.7	14.0	14	21.3	32.9
Malta	56	18.4	15.7	15.5	42	41.0	50.6
Germany, FR	47	16.9	13.8	12.0	48	25.4	28.4
India	45	18.3	14.7	15.0	19	20.0	20.4
South Africa	41	19.7	22.8	12.0	.	.	.
Sri Lanka	35	14.3	21.5	10.0	26	20.1	16.0
Russian Fed'n	33	11.3	18.3	1.0	.	.	.
Malaysia	31	16.0	16.8	10.0	20	27.9	30.3
Netherlands	30	18.8	29.9	10.5	27	24.4	28.2
Hong Kong	28	21.1	15.7	18.5	10	44.2	39.7
Lebanon	28	14.6	11.8	11.5	.	.	.
Bosnia-Herzegovina	27	18.3	17.3	17.0	.	.	.
Total NESC	1,879	17.3	22.6	11.0	1,148	29.5	39.4
Total admissions	12,771	14.3	20.8	8.0	.	.	.

[1] Source Klimidis *et al* (1999a); medians were not reported. Empty cells indicate comparable data were not reported for 1995/96.

significant, $U = 8{,}308{,}466.0$, $p < .0001$ for birthplace, and $U = 3{,}104{,}916.5$, $p < .0001$ for preferred language. Length of stay was generally longer for all patients in 1995/96 than in 2004/05, but there were similar birthplace- and preferred language-related differences in duration in 1995/96, with NESC and LOTE patients spending significantly more time as inpatients than Australian-born patients (Klimidis et al., 1999a). While findings that NESC and LOTE patients had longer admissions are consistent with the above-mentioned suggestion that these patients had fewer readmissions because they spent more time as inpatients during the year, the difference of only three days in duration between birthplace and language groups does not seem sufficient to warrant this conclusion.

Discussion

The present study compared mental health service access and service provision to Victoria's ethnic communities in 2004/05 and 1995/96 to determine whether disparities identified nine years previously had changed over time and following implementation of strategies to enhance cultural sensitivity of mental health services. These strategies have included the implementation of the policy *Improving services for people from a non-English-speaking background* (Department of Human Services, 1996), implementation and evaluation of a Bilingual Case Management Program (Ziguras et al., 2000), the Ethnic Mental Health Consultant program, in addition to a wide range of professional development, service development and research activities by the Victorian Transcultural Psychiatry Unit.

Key findings for 2004/05 will be reviewed first, providing a current cross-sectional perspective, followed by comparisons with findings in 1995/96, to provide a temporal perspective.

Key findings

Key results from the 2004/05 RAPID and 2001 Census data indicate that, compared to the Australian-born, NESC service users: showed significantly lower treated prevalence in both community and acute inpatient mental health services, although there was marked variation between different communities; contact frequency was higher; a higher percentage were diagnosed with a psychotic disorder and dementia, and a lower percentage were diagnosed with other disorders. Treated prevalence for all disorders (except dementia) was significantly lower for NESC community clients and inpatients, although the disparity was less marked for psychotic disorders. A higher percentage of NESC community clients were admitted to acute inpatient units, and higher percentages of NESC inpatients were admitted involuntarily. However, NESC inpatients diagnosed with a psychotic or a mood disorder were more likely to be admitted involuntarily than those diagnosed with other disorders. NESC inpatients had significantly fewer readmissions than Australian-born inpatients during 2004/05, but NESC inpatients had admissions that were significantly longer, possibly making them less available for readmission. A greater proportion of NESC than Australian-born community clients lived with their families, and significantly less lived alone, differences that were more marked for clients who preferred to speak a LOTE.

As limited English proficiency may be a barrier to effective service provision for LOTE service users (Minas et al., 1994; Stolk et al., 1998), an unexpected finding was that differences found for NESC clients generally were not more marked for the 35% of NESC clients who preferred to speak a LOTE. Compared to NESC clients, LOTE clients showed similar diagnostic profiles, LOTE service users were no more likely to be re-admitted, or admitted involuntarily, and admissions were of the same duration as NESC patients. LOTE clients were distinguished from NESC clients in having significantly fewer contacts than ES clients, whereas NESC clients had more contacts than Australian-born clients. Furthermore, LOTE and ES community clients were equally likely to be admitted while NESC clients were more likely than Australian-born clients to be admitted. As LOTE clients comprised a (smaller) sub-group of NESC clients, it might be argued that differences due to preferred language lacked power for statistical significance. However, mean and median scores and

percentage differences showed no trends for LOTE clients that might have reached significance given greater numbers. It would appear that nomination of a LOTE as a preferred language is not a primary factor in explaining differences in service provision to NESC clients. However, the finding of lower contact frequency with LOTE than ES clients may be attributable to the language barrier, as clinicians may be reluctant to book interpreters due to costs, the additional administrative work, and the challenges of communicating effectively with the aid of interpreters (Miletic et al., 2006; Stolk, 2005).

Comparing 1995/96 and 2004/05 to provide a perspective over time, the most important findings to emerge relate to increases in the gap in community and inpatient treated prevalence between Australian-born and NESC populations, and an increase in community contacts, with NESC clients relative to Australian-born clients. Treated prevalence for community mental health services showed an overall increase across birthplaces above that for 1995/96, but the increase was 38% for NESC populations compared to 65% for the Australian-born, indicating that the gap in access for ethnic communities has increased in the nine years to 2004/05. The increase in overall treated prevalence for acute inpatient services was less marked, showing more stability than access to community services, possibly due the constraints imposed by limited bed numbers. However the increase in inpatient treated prevalence was again less marked for NESC populations than the Australian-born.

Community contact frequency showed no significant differences by birthplace or preferred language in 1995/96, but in 2004/05 NESC clients received significantly more contacts than Australian-born clients, which was primarily due to a marked decrease in contacts with Australian-born clients over the 9-year period, while there was only a minimal reduction with NESC clients. Given that overall access to community services has shown a marked increase, it is possible that mental health staff are unable to see clients as frequently as a decade ago, but culturally sensitive service provision to NESC clients may require time that cannot be reduced. Moreover, NESC clients may present at a more severely disturbed stage of their disorder, when more time and contacts will be required before referral to an external agency can occur. This would be consistent with the lower treated prevalence found for ethnic communities.

In the following sections the major findings are examined in further detail and compared with previous research.

Access

In both years under study, treated prevalence showed marked variation for different ethnic communities, with clients born in Turkey showing higher rates of access to community services than the Australian-born, while clients born in Hong Kong showed lowest access; relative rankings that have been maintained from 1995/96 to 2004/05. Access by clients born in Croatia and Poland did not differ from Australian access, but all other communities showed significantly lower access. These findings are generally consistent with NSW research which found no significant differences in community access by the Turkish, Polish and Former Yugoslav[11] populations compared to the Australian-born, while the Hong Kong, Malaysian and Sri Lankan communities were

[11] Croatia was a member country of the Former Yugoslavia.

among the communities with the lowest rates of access (McDonald & Steel, 1997). Relatively high rates of access by the Turkish community may be attributed to greater familiarity with such services, as special psychiatric hospitals were established in the late 14th century (Pridmore & Pasha, 2004). A study of pathways to care in East European countries, of relevance to access by Victoria's Croatian and Polish communities, found that direct access to mental health services was a common pathway to care in these countries, while GPs played a limited role in referral (Gater et al., 2005).

Low rates of access have been attributed to a range of factors including the language barrier, lack of knowledge of services and differing explanatory models of mental illness (Commander, Cochrane, Sashidharan, Akilu, & Wildsmith, 1999; Fan, 1999; Li, Logan, Yee, & Ng, 1999), continuing family care and preference for traditional treatment (Lam & Kavanagh, 1996), reluctance to seek treatment due to stigma (Meiser & Gurr, 1996; Rooney, O'Neill, & Bakshi, 1998), and failure of case recognition by GPs (Commander, Dharan, Odell, & Surtees, 1997).

As a result of differences in explanatory models of mental illness neither the mentally ill person, nor their family may recognise symptoms as a mental disorder (Commander et al., 1999; Li et al., 1999; Ran et al., 2003) and may seek treatment from traditional healers or religious leaders. A review of 15 studies of pathways to care conducted in the UK, Europe, North America, Australia and Singapore concluded that traditional healers and religious agencies were not frequently used on the pathway to mental health services, but that health professionals were usually the first point of contact (Singh & Grange, 2006). However, an 11-country WHO study found that native healers were an important part of the pathway to psychiatric care in all but European and Cuban centres, and native healers were associated with longer delays in arrival (Gater et al., 1991). An epidemiological study in China (Ran et al., 2003) found that 55% of patients identified with schizophrenia had sought spiritual treatment from a traditional healer. On the other hand, in Eastern European countries religious healers had minimal involvement in pathways to care (Gater et al., 2005). Little is known of the pathways to care by ethnic communities in Australia, but a recent Sydney study of adult English, Chinese, and Arabic speaking first-contact clients found no difference between the groups in median time to reach a mental health service (Steel et al., 2006). This was a small study, and an important flaw in pathways to care studies is that the majority are retrospective studies of clients who have reached mental health services (Singh & Grange, 2006). This does not illuminate the help-seeking choices of mentally ill NESC persons who have not accessed a mental health service. Epidemiological studies of mental disorder and help-seeking in ethnic communities are required to provide explanations of the apparently low access rates.

Particularly low access rates by Chinese communities are consistent with UK and New Zealand studies, which found that Chinese immigrants reported difficulties in accessing health services due to cultural and language barriers, and low acculturation to the host culture (Abbot et al., 2003; Li et al., 1999). A Canadian study of elderly Chinese immigrants found that Chinese GPs were reluctant to refer to mental health services unless they employed Chinese-speaking staff (Sadavoy, Meier, & Ong, 2004). Instead they tended to refer to Chinese-speaking private psychiatrists who had long waiting lists. Failure by family members to recognise a mental illness contributed to delays in accessing mental health services by rural Chinese individuals with symptoms of schizophrenia (Ran et al., 2003). However, a Melbourne study found that members of

the Chinese community more accurately recognised vignettes of schizophrenia and depression than Australian-born respondents (Klimidis, Hsiao, & Minas, 2007). These conflicting findings further indicate the need to conduct epidemiological studies in Australia within specific ethnic communities.

Contacts

The significantly higher frequency of contacts with NESC clients in 2004/05 is a finding that differs from previous research, which has found either no difference by birthplace or significantly lower contacts with NESC clients (Klimidis et al., 1999a; Klimidis et al., 2000; Stolk, 1996a; Trauer, 1995). However, these studies were all conducted in the early or mid-1990s when treated prevalence, and possibly work pressures on clinicians, were lower. The relatively higher overall contact frequency with NESC clients suggests that strategies to increase cultural sensitivity may have resulted in clinicians spending more time with NESC clients, possibly booking interpreters more frequently to ensure adequate communication. However, the generally lower frequency of contacts with LOTE than ES clients does not support this argument. On the other hand, the 2004/05 data show that particularly high numbers of contacts were made with some LOTE client groups, including Somali, Hakka, Vietnamese and Cantonese speaking clients. These groups that may be considered more culturally distant than, for example, the longer established and more familiar Italian or Greek speaking groups, (Minas et al., 1994), possibly posing greater assessment and treatment difficulties for mental health clinicians, and therefore requiring more frequent contact. These difficulties would be exacerbated if these groups also represented clients who present late in the course of their disorder. The questions raised may warrant further research.

Diagnosis

Consistent with previous research (Minas, 1991; Stolk, 1996a, 2005), current findings showed that a higher proportion of NESC than Australian-born clients were diagnosed with a psychosis and conversely, lower percentages were diagnosed with other major disorders, in both community and inpatient services. An exception to these findings was that the percentage of NESC community clients diagnosed with dementia was significantly higher than for the Australian-born, a finding that tends to be consistent with research showing that disorders associated with severe dysfunction are more likely to reach mental health services (Andrews, Issakidis et al., 2001; Jablensky et al., 2000). This explanation also may apply to the other anomalous finding that the percentage of NESC and Australian-born inpatients diagnosed with a mood disorder was not significantly different. That these NESC patients may have presented displaying severe dysfunction would be consistent with the finding (discussed below) that a greater proportion of NESC inpatients diagnosed with mood disorder were admitted involuntarily than their Australian-born counterparts.

While the finding that a disproportionate number of NESC service users were diagnosed with a psychosis or dementia may be attributable to presentation at a severe stage of disorder, misdiagnosis by clinicians unfamiliar with cross-cultural manifestations of disorder may be an alternative, though not mutually exclusive explanation. Surveys have shown that mental health clinicians rated their cross-cultural competence on the MSE as lower with NESC than with ESC clients (Baycan, 1997;

Stolk, 2005). However, current findings that diagnoses of "Other & unspecified disorders", or missing diagnoses were significantly lower (or comparable) for NESC and LOTE service users suggests that clinicians were not lacking in confidence in assigning cross-cultural diagnoses. Whether this apparent confidence is justified cannot be judged from these data.

If clinicians were over-diagnosing NESC clients with psychotic disorders, it would be expected that treated prevalence for psychosis in NESC communities would be inflated and higher than for the Australian-born. On the contrary, the current findings show that treated prevalence for psychosis was lower for NESC than Australian-born populations, suggesting that the higher percentage of NESC clients diagnosed with a psychosis in mental health services is due to low rates of presentation by NESC communities with less severe disorders (Minas, 1991). The present study's finding of lower treated prevalence for psychosis in the NESC population is not consistent with findings that psychotic disorders tend to show a similar cross-cultural prevalence (Jablensky et al., 1992). However, McDonald & Steel (1997) in NSW also showed a generally lower likelihood of admission for psychosis in the NESC population, although Northern and Eastern European and USSR groups showed higher treated prevalence. In Western Australia Bruxner et al. (1997) showed widely varying treated prevalence for different ethnic groups admitted with psychoses.

Admission and admission legal status

A relatively higher proportion of NESC than Australian-born community clients were admitted to an acute inpatient unit in 2004/05, which again tends to support the argument that NESC clients may present when severely disordered, so that admission is required when services are accessed. This also may serve to explain why, in both 1995/96 and 2004/05, a significantly higher percentage of NESC than Australian-born patients were admitted involuntarily, findings consistent with previous research (Minas et al., 1996; Stolk, 1996a, 2005; Trauer, 1995). As suggested above, severe dysfunction at presentation may also explain the current finding that involuntary admission was more likely if NESC patients were diagnosed with a psychosis or a mood disorder, but not with less severe disorders. This finding contrasts with findings by McDonald & Steel (1997) and Stolk (2005) who found that involuntary admissions of NESC patients occurred regardless of diagnosis. It may be speculated that clinicians have become more aware of the high frequency of involuntary admissions of NESC patients, and give greater consideration before deciding to utilise this process.

Admission duration and readmission

The evidence that NESC patients had significantly longer admissions than Australian-born patients in both 1995/96 and 2004/05 is consistent with previous research (Minas et al., 1996; Royal Park Ethnic Advisory Committee, 1994; Trauer, 1995) and appears to add support to the view that NESC patients may present at a late stage of their disorder, therefore requiring a longer admission to recover. On the other hand, no differences in admission duration were found in NSW by McDonald and Steel (1997) and in Melbourne's Western Metropolitan Region by Stolk (1996a). Where longer admissions occur this may be because NESC inpatients with limited English proficiency do not have equal opportunities for communication because interpreters are booked only for medical assessments and reviews (Royal Park Ethnic Advisory Committee,

1994; Stolk et al., 1998). On the other hand, the present finding that LOTE clients did not have longer admissions than NESC clients does not support this conclusion. Nevertheless, a study of NESC inpatient care found that budgetary considerations limited interpreter bookings in inpatient units to medical interviews (Carter, 2006).

As longer admissions are likely to make a patient less available for readmission this may explain the findings that NESC patients had significantly fewer readmissions than Australian-born patients. However, the difference in median admission duration was only three days which does not seem sufficient to explain the lower readmission rate. Stolk (2005) made similar findings of lower readmissions in Victoria between 1998 and 2000. In NSW McDonald and Steel (1997) found that 28-day readmissions were significantly lower for NESC patients and suggested that this may "reflect [NESB patients and families'] continued reticence in seeking hospital treatment … doing all they can to avoid further hospitalisation" (p. 53) because of stigma in their community or perhaps due to dissatisfaction with the hospital experience.

Family presence

Sixty percent of Australian-born clients lived with family members in 2004/05, but two-thirds of NESC clients lived with their families, which was a significant difference and NESC clients were less likely to be living alone, than Australian-born clients, findings that replicate previous research (Klimidis et al., 1999a; Stolk, 1996b, 2005). While research in the UK has shown that the absence of family support for Asian and black patients was associated with delays in access to inpatient care and involuntary admission (Commander et al., 1999; Flannigan et al., 1994; McGovern, Hemmings, Cope, & Lowerson, 1994), the present findings raise the question whether families may contribute to delays in seeking treatment. Ran et al. (2003) found that families in rural China failed to recognise the symptoms of mental illness in their relatives, perceived psychosis to be associated with stigma, and were likely to tolerate psychopathology in their family member until their behaviour became severely disruptive. A Canadian study found that Chinese immigrants were more likely to persevere with family care and were reluctant to accept referral to a mental health service, while European migrants were more likely to initiate help-seeking and maintain service contact (Lin, Tardiff, Donetz, & Goresky, 1978). In Eastern European countries, family and friends most often made the first suggestion to seek care (Gater et al., 2005). These findings again suggest that cultural factors are likely to differ by ethnic community. While mental health data can show the living arrangements of NESC clients who access services, epidemiological research is required to discover the living arrangements and family involvement of those who have not accessed services.

Another perspective on the finding that NESC clients are more likely to live with their families, is that the client and their family may have experienced significant suffering and burden prior to accessing mental health services, as found by Collins et al., (2002). Low rates of access suggest that these are issues that go unacknowledged for mentally ill NESC individuals and families who are not accessing mental health services. If it is the case that rates of mental illness may be up to four times higher in immigrant compared to host communities (Cantor-Graae & Selten, 2005; Klimidis & Minas, 1998; McGrath et al., 2004), then this unacknowledged and untreated suffering and burden may be high indeed.

Conclusions

Despite a range of interventions to reduce cultural and linguistic barriers and improve cultural sensitivity of mental health services over the last decade, the gap in treated prevalence appears to have increased while disparities in service provision to ethnic communities have been shown to persist. Clearly the two major arguments advanced to explain these disparities are not mutually exclusive. The evidence seems compelling that, due to cultural and linguistic barriers and stigma, ethnic community members may not access mental health services until the dysfunction associated with severe mental illness causes the individual or family to seek intervention. Consequently involuntary admission may be required and overrepresentation of diagnoses of psychoses occurs amongst NESC clients. This does not rule out that mental health staff may be lacking in cross-cultural clinical competence, possibly misdiagnosing unfamiliar manifestations of mental disorder, and resorting to involuntary admission when lacking confidence in their assessment of a NESC client (Minas et al., 1994; Stolk, 2005). Consequently a multifaceted approach is required to obtain further understanding of community prevalence of mental illness, and of clinical practices and processes in service provision to NESC clients. Multiple strategies also need to be developed to overcome the disparities.

Future strategies

Primary amongst these strategies is the need to conduct a comprehensive epidemiological study of mental illness in Victoria that uses oversampling of ethnic communities, to ensure that needs are identified and appropriate approaches developed for each community to meet these needs. If large investments can be made in conducting regular national surveys to identify and meet the mental health needs of the Australian-born community, then it is surprising that the section of the population who may have particularly high needs can be overlooked. A complex study of pathways to care associated with severe mental illness in diverse communities could be a complementary aspect of epidemiological research that would provide invaluable answers to the questions raised by the current study.

Collaborative community education strategies need to be developed to improve ethnic community knowledge of mental health services and to reduce stigma. As pointed out by McDonald and Steel (1997), "Any strategies that lead to more timely access to appropriate specialist care of NESB people with mental disorders will lead to a decrease in the proportion of NESB patients who are admitted involuntarily" (p. 122). Among the disparities identified by the present study, the deprivation of rights involved in involuntary admission of NESC patients is of particular concern. Studies also are required comparing the clinical and decision-making processes when involuntary admissions are arranged of NESC and Australian-born clients. Cross-cultural clinical training and professional development should be an ongoing strategy, as there is a regular turnover of mental health staff. A Bilingual Case Management Program in four Melbourne mental health services was found to increase access and equity in service delivery, and NESC client satisfaction (Ziguras et al., 2000): a review and restructuring of this program may help to improve its uptake in other Victorian mental health services.

Limitations and further analysis

The major limitation of this report is that it is based on data that are removed from the direct experiences of service users and their families. These findings can only point to issues that need further investigation in the community and in clinical practice. However, the RAPID and Census databases are a rich source of information and further analyses would enable future research to be targeted most effectively. As treated prevalence for mental disorder varies by age and sex, and because NESC clients were found to be significantly older than Australian-born clients, a further analysis should be conducted controlling for these variables. Further analyses that may enhance understanding include: more detailed analyses for each community using several years' case registers to increase numbers and the power of the analysis; investigation of sources of referral; and multiple and logistic regression analysis to predict factors contributing to contact frequency, involuntary admission, and admission duration. Use of several years' case registers linked over time also would provide a longitudinal perspective that is lacking in the current study, which analysed two cohorts nine years apart. This does not permit comment on continuity of issues over time for clients from ethnic communities.

The current report also does not include a comparable examination of mental health service provision to child, adolescent and aged populations in Victoria's ethnic communities so that we do not know whether these age groups face similar issues as adults. It is important that future research address access and equity issues for all age groups.

References

Abbot, M. W., Wong, S., Giles, L. C., Wong, S., Young, W., & Au, M. (2003). Depression in older Chinese migrants to Auckland. *Australian and New Zealand Journal of Psychiatry, 37*, 445-451.

Andary, L., Stolk, Y., & Klimidis, S. (2003). *Assessing mental health across cultures*. Brisbane: Australian Academic Press.

Andrews, G., Henderson, S., & Hall, W. (2001). Prevalence, comorbidity, disability and service utilisation: Overview of the Australian National Mental Health Survey. *British Journal of Psychiatry, 178*(2), 145-153.

Andrews, G., Issakidis, C., & Carter, G. (2001). Shortfall in mental health service utilisation. *British Journal of Psychiatry, 179*(5), 417-425.

Australian Health Ministers. (1998). *Second National Mental Health Plan*. Canberra: Mental Health Branch, Commonwealth Department of Health and Family Services.

Baycan, S. (1997). *Exploration of training needs of mental health professionals in transcultural psychiatric practice: A survey of clinical staff in the Barwon South West Victoria.* Unpublished Graduate Diploma in Mental Health Sciences (Transcultural Mental Health), Melbourne.

Boufous, S., Silove, D., Bauman, A., & Steel, Z. (2005). Disability and health service utilization associated with psychological distress: The influence of ethnicity. *Mental Health Services Research, 7*(3), 171-179.

Bruxner, G., Burvill, P., Fazio, S., & Febbo, S. (1997). Aspects of psychiatric admissions of migrants to hospitals in Perth, Western Australia. *Australian and New Zealand Journal of Psychiatry, 31*, 532-542.

Canadian Task Force on Mental Health Issues Affecting Immigrants and Refugees. (1988). *Review of the literature on migrant mental health* (Vol. Cat. No. Ci96-37/1988E). Canada: Ministry of Supply and Services.

Cantor-Graae, E., & Selten, J. P. (2005). Schizophrenia and migration: A meta-analysis and review. *American Journal of Psychiatry, 162*(1), 12-24.

Carter, J. (2006). *Knowing the "middle bit": An exploration of the organisation dynamics of a psychiatric inpatient unit and their relationship to client care and cultural diversity.* Unpublished Advanced Medical Science Research Report, University of Melbourne, Melbourne.

Collins, J., Stolk, Y., Saunders, T., Garlick, R., Stankovska, M., & Lynagh, M. (2002). *I feel so sad … it breaks my heart: The Mid West AMHS carers of non-English speaking background research project*. Melbourne: NorthWestern Mental Health.

Commander, M. J., Cochrane, R., Sashidharan, S. P., Akilu, F., & Wildsmith, E. (1999). Mental health care for Asian, black and white patients with non-affective psychoses: Pathways to the psychiatric hospital, inpatient and after-care. *Social Psychiatry and Psychiatric Epidemiology, 34*, 484-491.

Commander, M. J., Dharan, S. P. S., Odell, S. M., & Surtees, P. G. (1997). Access to mental health care in an inner-city health district. II: Association with demographic factors. *British Journal of Psychiatry, 170*, 317-320.

Commonwealth of Australia. (1996). *National Standards for Mental Health Services*. Canberra: Mental Health Branch, Commonwealth Department of Health & Family Services.

Department of Human Services. (1996). *Victoria's mental health service: Improving services for people from a non-English-speaking background*. Melbourne: Psychiatric Services Branch, Victorian Government Department of Human Services.

Edgerton, R. B., & Cohen, A. (1994). Culture and schizophrenia: The DOSMD challenge. *British Journal of Psychiatry, 164*, 222-231.

Fan, C. (1999). A comparison of attitudes towards mental illness and knowledge of mental health services between Australian and Asian students. *Community Mental Health Journal, 35*(47-56).

Flannigan, C. B., Glover, G. R., Feeney, S. T., Wing, J. K., Bebbington, P. E., & Lewis, S. W. (1994). Inner London collaborative audit of admissions in two health districts. I: Introduction, methods and preliminary findings. *British Journal of Psychiatry, 165*, 734-742.

Furnham, A., & Sheikh, S. (1993). Gender, generational and social support correlates of mental health in Asian immigrants. *The International Journal of Social Psychiatry, 39*(1), 22-33.

Gater, R., de Almeida e Sousa, B., Barrientos, G., Caraveo, J., Chandrashekar, C. R., Dhadphale, M., et al. (1991). The pathways to psychiatric care: a cross-cultural study. *Psychological Medicine, 21*, 761-774.

Gater, R., Jordanova, V., Maric, N., Alikaj, V., Bajs, M., Cavic, T., et al. (2005). Pathways to psychiatric care in Eastern Europe. *British Journal of Psychiatry, 186*(6), 529-535.

Hough, R. L., Landsverk, J. A., Karno, M., Burnam, M. A., Timbers, D. M., Escobar, J. I., et al. (1987). Utilization of health and mental health services by Los Angeles Mexican Americans and non-Hispanic whites. *Archives of General Psychiatry, 44*, 702-709.

Jablensky, A., McGrath, J., Herrman, H., Castle, D., Gureje, O., Evans, M., et al. (2000). Psychotic disorders in urban areas: an overview of the Study on Low Prevalence Disorders. *Australian and New Zealand Journal of Psychiatry, 34*(2), 221-236.

Jablensky, A., Sartorius, N., Ernberg, G., Anker, M., Korten, A., Cooper, J. E., et al. (1992). Schizophrenia: Manifestations, incidence and course in different cultures. *Psychological Medicine, Monograph Supplement 20*.

Kiropoulos, L. A., Klimidis, S., & Minas, H. (2004). Depression and anxiety: A comparison of older-aged Greek-born immigrants and Anglo-Australians. *Australian and New Zealand Journal of Psychiatry, 38*, 714-724.

Kleinman, A. (1988). *Rethinking psychiatry: From cultural category to personal experience*. New York: Free Press.

Klimidis, S., Hsiao, F. H., & Minas, I. H. (2007). Chinese-Australian's knowledge of depression and schizophrenia in the context of their under-utilisation of mental health care: An analysis of labelling. *International Journal of Social Psychiatry, 53*(5), 464-479.

Klimidis, S., Lewis, J., Miletic, T., McKenzie, S., Stolk, Y., & Minas, I. H. (1999a). *Mental health service use by ethnic communities in Victoria: Part I, descriptive report*. Melbourne: Victorian Transcultural Psychiatry Unit.

Klimidis, S., Lewis, J., Miletic, T., McKenzie, S., Stolk, Y., & Minas, I. H. (1999b). *Mental health service use by ethnic communities in Victoria: Part II, statistical tables*. Melbourne: Victorian Transcultural Psychiatry Unit.

Klimidis, S., McKenzie, D. P., Lewis, J., & Minas, I. H. (2000). Continuity of contact with psychiatric services: immigrant and Australian-born patients. *Social Psychiatry and Psychiatric Epidemiology, 35*(12), 554-563.

Klimidis, S., & Minas, I. H. (1998). *The mental health of ethnic elderly groups in Australia: Part 1, illness prevalence, 'risk' prevalence, and the association of 'risks' to illness*. Melbourne: Victorian Health Promotion Foundation, Victorian Transcultural Psychiatry Unit.

Krupinski, J., & Stoller, A. (1965). Incidence of mental disorders in Victoria, Australia, according to country of birth. *Medical Journal of Australia, August*, 265-269.

Krupinski, J., Stoller, A., & Wallace, L. (1973). Psychiatric disorders in East European refugees now in Australia. *Social Science and Medicine, 7*, 31-49.

Lam, A. P., & Kavanagh, D. J. (1996). Help seeking by immigrant Indochinese psychiatric patients in Sydney, Australia. *Psychiatric Services, 47*(9), 993-995.

Li, P.-L., Logan, S., Yee, L., & Ng, S. (1999). Barriers to meeting the mental health needs of the Chinese community. *Journal of Public Health Medicine, 21*, 74-80.

Lin, T. Y., Tardiff, K., Donetz, G., & Goresky, W. (1978). Ethnicity and patterns of help-seeking. *Culture, Medicine and Psychiatry, 2*, 3-13.

McDonald, B., & Steel, Z. (1997). *Immigrants and mental health: An epidemiological analysis*. Sydney: Transcultural Mental Health Centre.

McGovern, D., Hemmings, P., Cope, R., & Lowerson, A. (1994). Long-term follow-up of young Afro-Caribbean Britons and white Britons with a first admission diagnosis of schizophrenia. *Social Psychiatry and Psychiatric Epidemiology, 29*, 8-19.

McGrath, J., El-Saadi, O., Cardy, S., Chapple, B., Chant, D., & Mowry, B. (2001). Urban birth and migrant status as risk factors for psychosis: An Australian case-control study. *Social Psychiatry and Psychiatric Epidemiology, 36*(533-536).

McGrath, J., Saha, S., Welham, J., El Saadi, O., MacCauley, C., & Chant, D. (2004). A systematic review of the incidence of schizophrenia: The distribution of rates and the influence of sex, urbanicity, migrant status and methodology. *BMC Medicine, 2*(1), 13.

Meiser, B., & Gurr, R. (1996). Non-English speaking person's perceptions of mental illness and associated information needs: An exploratory study of the Arabic-, Greek-, and Italian-speaking communities in New South Wales. *Health Promotion Journal of Australia, 6*(3), 44-48.

Miletic, T., Piu, M., Minas, I. H., Stankovska, M., Stolk, Y., & Klimidis, S. (2006). *Guidelines for working effectively with interpreters in mental health settings* Melbourne: Victorian Transcultural Psychiatry Unit.

Minas, I. H. (1991). *Mental health services for immigrant communities*. Paper presented at the Federation of Ethnic Communities Councils of Australia, Sydney.

Minas, I. H., Klimidis, S., & Kokanovic, R. (2007). Depression in multicultural Australia: Policies, research and services. *Australian & New Zealand Journal of Health Policy, 4*, 16.

Minas, I. H., Lambert, T. J. R., Kostov, S., & Boranga, G. (1996). *Mental health services for NESB immigrants*. Canberra: Bureau of Immigration, Multicultural and Population Research.

Minas, I. H., Stuart, G. W., & Klimidis, S. (1994). Language, culture and psychiatric services: A survey of Victorian clinical staff. *Australian and New Zealand Journal of Psychiatry, 28*, 250-258.

Minas, I. H., Ziguras, S., Klimidis, S., Stuart, G. W., & Freidin, S. P. (1995). *Extending the framework: A proposal for the establishment of a statewide Transcultural Mental Health Clinical and Service Development Program*. Melbourne: Victorian Transcultural Psychiatry Unit.

Patel, V., & Winston, M. (1994). 'Universality of mental illness' revisited: Assumptions, artefacts and new directions. *British Journal of Psychiatry, 165*(October), 437-440.

Pridmore, S., & Pasha, M. I. (2004). Psychiatry and Islam. *Australasian Psychiatry, 12*(4), 380-385.

Ran, M.-S., Xiang, M.-Z., Li, S.-X., Shan, Y.-H., Huan, M.-S., Li, S.-G., et al. (2003). Prevalence and course of schizophrenia in a Chinese rural area. *Australian and New Zealand Journal of Psychiatry, 37*(452-457).

Rooney, R., O'Neill, K., & Bakshi, L. (1998). *Investigation of stigma and mental illness amongst non-English speaking background communities and development of approaches to its reduction*. Perth: Commonwealth Department of Health and Family Services, Mental Health Branch and the Australian Transcultural Mental Health Network.

Royal Park Ethnic Advisory Committee. (1994). *Ethnic health audit: Interim report May 1994*. Melbourne: Royal Park Ethnic Advisory Committee.

Sadavoy, J., Meier, R., & Ong, A. Y. M. (2004). Barriers to access to mental health services for ethnic seniors: The Toronto study. *Canadian Jounral of Psychiatry, 49*(3), 192-199.

Siegel, S. (1956). *Nonparametric statistics for the behavioural sciences*. New York: McGraw-Hill.

Singh, S. P., & Grange, T. (2006). Measuring pathways to care in first-episode psychosis: A systematic review. *Schizophrenia Research, 81*, 75-82.

Steel, Z., McDonald, B., Silove, D., Bauman, A., Sandford, P., Herron, J., et al. (2006). Pathways to the first contact with specialist mental health care. *Australian and New Zealand Journal of Psychiatry, 40*, 347-354.

Stolk, Y. (1996a). *Access to psychiatric services by people of non-English speaking background in the Western Metropolitan Region of Melbourne: An analysis of psychiatric service use in 1993/94* (Vol. 1). Melbourne: Victorian Transcultural Psychiatry Unit.

Stolk, Y. (1996b). *Access to psychiatric services by people of non-English speaking background in the Western Metropolitan Region of Melbourne: Aspects of service provision* (Vol. 2). Melbourne: Victorian Transcultural Psychiatry Unit.

Stolk, Y. (2005). *Development and evaluation of a training program in Cross-Cultural Psychiatric Assessment for Crisis Assessment and Treatment Teams (CATTS).* Unpublished PhD thesis, University of Melbourne, Melbourne.

Stolk, Y., Ziguras, S., Saunders, T., Garlick, R., Stuart, G., & Coffey, G. (1998). Lowering the language barrier in an acute psychiatric setting. *Australian and New Zealand Journal of Psychiatry, 32*, 434-440.

Stuart, G. W., Klimidis, S., & Minas, I. H. (1998). The treated prevalence of mental disorder amongst immigrants and the Australian-born: Community and primary care settings. *International Journal of Social Psychiatry, 44*(1), 22-34.

Trauer, T. (1995). Ethnic differences in the utilisation of public psychiatric services in an area of suburban Melbourne. *Australian and New Zealand Journal of Psychiatry, 29*, 615-623.

Victorian Office of Multicultural Affairs. (2003). *The People of Victoria - Statistics from the 2001 Census*. Melbourne: Victorian Office of Multicultural Affairs.

Westermeyer, J., Neider, J., & Vang, T. F. (1984). Acculturation and mental health: A study of Hmong refugees at 1.5 and 3.5 years postmigration. *Social Science and Medicine, 18*(1), 87-93.

Wonnacott, T. H., & Wonnacott, R. J. (1977). *Introductory statistics (3rd ed.)*. New York: John Wiley & Sons.

Zalokar, J. (1994). *Psychological and psychopathological problems of immigrants and refugees*. Radovljica, Slovenia: Didakta.

Ziguras, S., Klimidis, S., Lewis, J., & Stuart, G. (2003). Ethnic matching of clients and clinicians and use of mental health services by ethnic minority clients. *Psychiatric Services, 54*(4), 535-541.

Ziguras, S., Stankovska, M., & Minas, I. H. (1999). Initiatives for improving mental health services to ethnic minorities in Australia. *Psychiatric Services, 50*(9), 1229-1231.

Ziguras, S., Stuart, G., Klimidis, S., Minas, I. H., Lewis, J., Pennella, J., et al. (2000). *Evaluation of the Bilingual Case Management Program*. Melbourne: Victorian Transcultural Psychiatry Unit.

Appendix 1.
Major primary diagnostic categories for classification of mental disorders by the Victorian Mental Health Branch[12]

Dementia
Other organic mental disorder
Mental/behavior disorder due to alcohol use
Mental/behavior disorder due to substance use
Schizophrenia, psychotic disorders
Mood, affective, bipolar disorder
Neurotic, stress, somatoform disorders
Eating disorders
Non-organic sleep disorder
Mental/behavior disorder associated with puerperium
Harmful use of non-dependence producing substances
Disorder of personality & behaviour
Mental retardation
Autism
Child onset behavioural/emotional disorder
Tic disorders
Other & unspecified mental disorder
Huntington's disease
Parkinson's disease
Alzheimer's disease
Sleep disorders
Poisoning by drugs etc
Other Non-Chapter V mental & behaviour diagnoses code
General psychiatric examination

[12] As categorised in RAPID case registers.

Appendix 2. Tables.

Table 1. Major diagnoses of adult community clients by preferred language Victoria 2004/05.

Primary Diagnosis Grouping	English N	English Valid %	LOTE N	LOTE Valid %	Total N	Total Valid %	$\chi^2(1)$[1]
Schizophrenia, psychotic disorders	11,342	34.6	805	48.0	12,147	35.3	125.8***
Mood, affective, bipolar disorder	8,567	26.2	362	21.6	8,929	25.9	17.1***
Neurotic, stress, somatoform disorders	4,866	14.9	142	8.5	5,008	14.5	52.1***
Disorder of personality & behaviour	1,396	4.3	12	0.7	1,408	4.1	51.1***
Mental/behaviour disorder due to substance use	1,033	3.2	19	1.1	1,052	3.1	21.9***
Other & unspecified mental disorder	881	2.7	32	1.9	913	2.7	3.7*
Mental/behaviour disorder due to alcohol use	683	2.1	17	1.0	700	2.0	9.2**
Child onset behavioural/emotional disorder	272	0.8	3	0.2	275	0.8	**
Other organic mental disorder	240	0.7	26	1.6	266	0.8	14.0***
Dementia	186	0.6	41	2.4	227	0.7	86.0***
Eating disorders	164	0.5	0	0.0	164	0.5	***
Other diagnoses	3,122	9.5	217	12.9	3,339	9.7	
Total clients diagnosed	32,752	100.0	1,676	100.0	34,428	100.0	
Missing diagnosis	4,224	11.4	175	9.4	4,399	11.3	6.8**
Grand total clients	37,017	100.0	1,852	100.0	38,869	100.0	

2 Where cells have a count of less than 5, significance of Fisher's Exact test is shown.
* $p < .05$, ** $p <. 01$, *** $p < .001$.

Appendix 2 cont'd

Table 2. Legal status of adult inpatient admissions by top patient preferred languages, Victoria, 2004/05[1]

	Legal status					
	Voluntary		Involuntary		Total	
Language	*N*	%	*N*	%	*N*	%
English	5,539	44.2	6,997	55.8	12,536	100.0
Somali	2	18.2	9	81.8	11	100.0
French	1	20.0	4	80.0	5	100.0
Bosnian	2	25.0	6	75.0	8	100.0
Cantonese	9	26.5	25	73.5	34	100.0
Vietnamese	33	27.0	89	73.0	122	100.0
Serbian	5	29.4	12	70.6	17	100.0
Croatian	6	30.0	14	70.0	20	100.0
Khmer	3	30.0	7	70.0	10	100.0
Turkish	14	31.8	30	68.2	44	100.0
Mandarin	7	33.3	14	66.7	21	100.0
Polish	6	33.3	12	66.7	18	100.0
Hakka	3	37.5	5	62.5	8	100.0
Greek	21	38.9	33	61.1	54	100.0
Italian	11	40.7	16	59.3	27	100.0
Spanish	6	42.9	8	57.1	14	100.0
Arabic, Lebanese	11	44.0	14	56.0	25	100.0
Macedonian	8	44.4	10	55.6	18	100.0
Thai	3	50.0	3	50.0	6	100.0
Australian Indigenous nec[2]	10	58.8	7	41.2	17	100.0
Russian	18	81.8	4	18.2	22	100.0
Other LOTEs	31	37.8	51	62.2	82	100.0
Total LOTE	210	36.0	373	64.0	583	100.0
Sub-total admissions	5,749	43.8	7,370	56.2	13,119	100.0
Missing data					175	1.3
Grand total					13,294	100.0

[1] sorted by percentage of LOTE admissions involuntary
[2] nec Not elsewhere classified.

Appendix 2 cont'd

Table 3. Major diagnoses of adult inpatients by preferred language: Victoria 2004/05.

Primary Diagnosis	English		LOTE		Total		
Grouping	*N*	Valid *%*	*N*	Valid *%*	*N*	Valid *%*	$\chi^2(1)^1$
Schizophrenia, psychotic disorders	3,650	47.0	242	59.6	3,892	47.6	25.04***
Mood, affective, bipolar disorder	2,076	26.7	99	24.4	2,175	26.6	1.03 *ns*
Neurotic, stress, somatoform disorders	633	8.2	22	5.4	655	8.0	3.86*
Disorder of personality & behaviour	383	4.9	5	1.2	388	4.7	11.63***
Mental/behavior disorder due to substance use	333	4.3	8	2.0	341	4.2	5.15*
Mental/behavior disorder due to alcohol use	156	2.0	2	0.5	158	1.9	*
Other & unspecified mental disorder	142	1.8	3	0.7	145	1.8	*ns*
Other diagnoses	391	5.0	25	6.2	416	5.1	
Total clients diagnosed	7,764	100.0	406	100.0	8,170	100.0	
Missing diagnosis	311	3.8	8	1.9	319	3.7	4.0*
Grand total clients	8,096	100.0	414	100.0	8,510	100.0	

[1] Where cells have a count less than 5, the significance of Fisher's exact test is shown.
** $p <$ .01, *** $p <$ .001, *ns* not significant.

Appendix 2 cont'd

Table 4. Mean occupied bed days by top preferred languages: Victoria, 2004/05 and 1995/96

	2004/05				1995/96[1]		
Language	*N*	*M*	*SD*	Median	*N*	*M*	*SD*
English	12,502	14.1	20.6	8.0	6549	27.5	37.5
Vietnamese	121	18.6	20.0	14.0	43	26.3	40.4
Greek	54	15.4	14.2	11.0	42	30.9	31.2
Turkish	44	11.1	11.2	9.5	19	29.4	41.3
Cantonese	33	19.5	15.2	18.0	8	25.5	32.7
Italian	27	12.2	12.2	10.0	46	41.6	56.0
Arabic, Lebanese	25	15.7	16.2	8.0	11	60.9	93.5
Russian	22	6.5	14.9	1.0	6	23.3	15.3
Croatian	20	23.2	35.2	11.0			
Mandarin	20	20.7	13.8	20.5	7	23.9	24.6
Australian Indigenous nec	17	41.4	86.3	11.0	.	.	.
Macedonian	17	14.2	11.9	11.0	.	.	.
Polish	17	13.4	9.3	11.0	10	21.3	23.0
Serbian	17	14.9	8.0	14.0	.	.	.
Spanish	14	23.3	22.0	19.0	11	15.7	13.3
Somali	11	21.7	29.7	17.0	.	.	.
Khmer	10	6.4	5.6	5.0			
Bosnian	8	12.5	9.0	12.0	.	.	.
Hakka	8	15.0	11.7	13.0	.	.	.
Thai	6	17.3	7.9	16.0			
French	5	10.2	5.3	10.0	.	.	.
Other LOTEs	82	20.2	10.1	12.0	101	34.3	46.1
Total LOTEs	578	17.6	25.1	11.0	362	31.3	43.8
Total admissions	13,080	14.3	20.8	8.0	.	.	.

1 Source Klimidis *et al* (1999a). Empty cells indicate comparable data were not reported for 1995/96.

"Mental health services are expected to be equally accessible to all sections of the community and to provide treatment and care in a way that respects the individual needs of consumers and carers. However, …[this] research in Victoria has shown that people born in non-English speaking countries have lower levels of access to mental health services, higher rates of involuntary inpatient admissions, and longer lengths of stay in psychiatric inpatient units."

"Equality is an existing core standard to be delivered [by] mental health services. …'Managing for diversity' is part of core business … and should be built into mainstream mental health policies and practice guidelines, the development of workplace systems, the delivery of services, and quality monitoring and evaluation at all levels."

Cultural diversity plan for Victoria's specialist mental health services 2006-2010
(Department of Human Services, 2006, pp. vii, 9)

Victorian Transcultural Psychiatry Unit