

Characteristics, processes, management and outcome of accesses to accident and emergency departments by citizenship

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Abstract

Objectives The aim of this study was to analyze the characteristics of accident and emergency department (A and E) access, process management and outcome after grouping patients by their citizenship.

Methods The study was conducted using the recorded linkage database at a local public health agency in north-east Italy. We investigated 35,541 adult patients (18–65 years) accessing the A and E.

Results An underutilization of primary care services and the use of A and E for nonurgent conditions is a problem affecting all nationalities, natives included. The length of the stay in A and E and the consistency between level of urgency and priority of the visits at entry and exit triage were similar for all citizenship groups. Illegal migrants were more frequently hospitalized after A and E visits than other groups.

Conclusions The potentially inappropriate use of A and E for non-urgent conditions was common among all the patient groups considered and barriers to primary care may enhance this behavior among migrants. This situation could also explain the higher odds ratio for migrants'

hospitalization and discharge to ambulatory services after A and E visits.

Keywords Emergency room · Triage · Immigrants · Illegal · Epidemiology

Introduction

When dealing with human migration phenomena, one of the great challenges is to manage the health needs of the potentially vulnerable populations involved and ensure equity of access to health care. Most European countries struggle to grant the same access to immigrants with permanent residence permits as to local residents because migrant healthcare and migrant access to healthcare are fundamental aspects of their integration and human rights (Nielsen et al. 2009).

Migrants are exposed to a number of health risks before, during and after they migrate, and they may have different disease profiles from those of host countries' resident populations (Norredam et al. 2010). While it is generally assumed that most migrant people have no major health problems on leaving their country of origin, they are likely to have been exposed to diseases before leaving that may have consequences afterwards (e.g. chronic infectious diseases) (Sabbatani et al. 2007), or they may be exposed to new risk factor patterns. They also often experience social and cultural barriers to their accessing health care systems, such as limited language skills, lack of knowledge of the health services available, precarious occupational conditions and illegal migrant status (Rue et al. 2008).

The impact of immigration on the use of health services has been analyzed in several international studies, but the lack of hospital registry data in 16 EU countries, a shortage

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of information on health care service usage, and different definitions of migrant status all hamper any cross-national comparisons (Nielsen et al. 2009).

In recent years, a growing body of literature has focused on differences between immigrants' and host populations' health service usage and access, showing that immigrant status coincides with disparities in the use of hospital services, even after adjusting for a broad array of control variables (Jimenez-Rubio and Hernandez-Quevedo 2011). Many studies on the topic have shown that migrants tend to use accident and emergency departments (A and E) rather than other hospital services (Cots et al. 2007) and they resort to A and E more than native-born individuals (Rue et al. 2008; Norredam and Krasnik 2004). Hospital emergency services appear to be a preferred setting for migrants dealing with any health issue, who go there for primary care "on demand" instead of seeking ambulatory care for non-urgent problems (Rue et al. 2008). This behavior often leads to higher rates of inappropriate reliance on A and E services, especially by illegal migrants and foreigners with temporary residence permits (Brigidi et al. 2008; Torres 2000). One study in Italy showed that hospitalizations of foreign patients from developing countries are increasing considerably, more than among Italian-born groups (Sabbatani et al. 2007). The A and E is a health care facility that is very often utilized by migrants, but very few Italian studies have analytically described the nature of their demand for such services and any differences with respect to native-born individuals. Only partial data are currently available on the topic: in particular, one study focused on rates of A and E access by regular and irregular migrants in the Liguria region (Testi et al. 2008); one described A and E access for psychiatric disorders (Gaddini et al. 2008), and one concerned the pediatric population (Grassino et al. 2009). A more recent Italian publication reported on emergency department attendance between 2007 and 2010 at six hospitals in the urban area of Reggio Emilia (a town in northern Italy with a significant migrant population), comparing the standardized access ratios by patient groups on the basis of their citizenship. In this report, the rates of male and female adult immigrant visits to the A and E departments were higher than for the autochthonous population in terms of total attendance rates and the proportion of non-urgent visits (defined as potentially inappropriate) (Bonvicini et al. 2011).

Several studies have focused on how appropriately migrants and autochthonous populations use A and E health care services, calculating their respective access rates, but little has been written about what happens to migrants after their admission to an A and E department, in terms of any differences in their management and outcome vis-à-vis the native population.

The aim of this study was therefore to analyze the characteristics of A and E access, process management and outcome after grouping patients by their citizenship, in an urban area in a country where large-scale immigration is a relatively recent phenomenon.

Methods

Setting

In Italy, immigration on a large scale is only a recent phenomenon: the country's net migration rate became positive in the 1980s but the number of immigrants has risen sharply since the 1990s. It is estimated that about 3 million migrants have come to Italy in the last two decades, around 400,000 of them remaining illegally for lengthy periods of time (Sabbatani et al. 2007). The numbers of immigrants arriving from less-developed countries have doubled every 10 years since the 1970s: there were only 156,000 foreigners from poorly developed countries legally residing in Italy in 1971, then this figure rose to 330,000 in 1981 and to more than 1,300,000 in 2001 (Baglio et al. 2010). Such extensive waves of migration have prompted profound changes in the country's cultural, social and economic conditions, and in its health care system. In Italy, hospital care is provided by a national health system organized on a regional basis that delivers hospital care to all citizens registered with the national health services. Access to A and E units for basic, urgent conditions that cannot be deferred is guaranteed to everyone. So-called "TPF" cards are issued by the local health authorities to illegal immigrants, and these cards guarantee primary outpatient care and hospital care for health care needs that are urgent (cannot be postponed), essential (healthcare, including the diagnosis and treatment of diseases and their complications that could further damage the patient's health or place their life at risk), or continuous (therapy for such diseases and rehabilitation), as well as for preventive medicine and nursing care designed to safeguard individual and community health, and for basic medication.

Database

We conducted a study using the record linkage database at "Unità Locale Socio-Sanitaria ULSS 18, Rovigo" a local health unit localized in the Veneto Region (north-east Italy) in the catchment's area of Rovigo town. The database contains patients' personal details, pharmaceutical prescriptions, A and E access, hospital discharge data, histological examinations, and mortality data. In particular, the database's details on A and E access include the patients' date of birth, gender, citizenship, mode of access

to A and E, mode of referral to A and E, details of their access, times of arrival and departure from departments, triage color code, and medical judgment of whether it was appropriate to resort to the A and E services, diagnosis, and mode of discharge. Four triage code colors are used to indicate the level of urgency and to decide the priority of cases to be seen: red (emergency, failure of vital signs); yellow (urgency with no immediate life-threatening condition), green (minor urgency), white (non-urgent condition).

For the purposes of the present study, we considered the A and E access details recorded from January 1st to December 31st, 2010, for patients aged 18–65 years ($n = 35,541$). Patients were grouped by citizenship. Where no information on citizenship was recorded, citizenship was inferred from the patient's Italian tax code (which indicates their country of birth). If the country of birth was Italy, patients were assumed to be Italian. For patients whose country of birth was not Italy, their nationality was assumed to be that of their country of birth. In cases where no information was available on a patient's citizenship or tax code, their nationality was recorded as unknown and these patients were excluded from the study ($n = 613$). The various nationalities were grouped into four categories, i.e. Italian citizens, foreigners from highly developed countries (HDC), temporarily present foreigners (TPF) and foreigners from high migration pressure countries (HMPC). This classification is commonly used in Italy to distinguish between citizens coming from developed or developing countries on the basis of their economic conditions, according to the national project for promoting the immigrant population's health ("Promozione della salute della popolazione immigrata in Italia. Accordo Ministero della Salute/CCM-Regione Marche"). The definition of HMPC and HDC was based on the gross national income per capita reported for each country by the World Bank, as shown in the Human Development Report 2007–2008 (Kevin Watkins et al. 2009). The rationale behind this classification is that citizens from lower per capita income countries are presumably more likely to migrate towards richer and more developed countries, so they have been defined "individuals from high migratory pressure countries". The HMPC included new member states of the European Union, countries in Central-Eastern Africa, Asia (except for Israel and Japan), and Central and South America; by extension, stateless persons were also included in this group. The HDC included the other European countries, North America, Oceania, Israel and Japan. The TPF (temporarily present foreigners) group is composed of immigrants with no legal residence permit who are considered "irregular" by national immigration law and, since 2003, they are entitled to receive hospital care as

temporarily resident foreigners by obtaining a "TPF" card from the local public health unit. This feature enabled us to identify them as a subgroup of migrants and to consider them as a separate category. From our data, we nonetheless established that 43 of our 102 TPF patients came from Eastern Europe, 18 were from Northern Africa, 9 from sub-Saharan Africa, and 25 from Pacific Asia, while 7 provided no information about their provenance.

Diagnoses are coded using the International Classification of Diseases system, IX Revision-Clinical Modification (ICD-9-CM), version 1997 (US Department of Health and Human Services 1997). The distribution of discharge diagnoses by citizenship group was only analyzed for diagnostic categories with more than 500 cases for each gender.

Statistical analysis

We summarized our data as means with standard deviations (SD) for continuous variables and as numbers (percentages) of patients for categorical variables. We used the χ^2 test to identify significant differences in the frequency distribution of the categorical variables by group, while Fisher's exact test was used when one or more of cells had an expected frequency of 5 or less. ANOVA was used to identify significant differences between means for the continuous variables by group. The Kendall rank correlation coefficient was applied to assess the agreement between the two ordinal variables. Multivariate logistic regression analyses were performed using the different outcomes of access to A and E as the dependent variable, and citizenship as the independent variable, adjusting for sex, age, and triage color code. All analyses were performed using STATA software, ver.12.

Results

The study considered 35,541 patients accessing A and E services, involving 18,277 males (51.43 %) and 17,264 females (48.57 %). The patients' mean age was 41.29 years $\pm$ 12.68. Italians accounted for 84.85 % of the sample (30,156 patients), immigrants from HMPC for 13.78 % (4,897), and foreigners from HDC for 1.08 % (386), while temporarily present foreigners accounted for 0.29 % (102). The description of the geographical macro-area of origin showed that patients from HMPC came mainly from Eastern Europe and North Africa (see Table 1).

The gender distribution of patients by citizenship group showed that more of the Italians were males (52.32 %), while

Table 1 Characteristics of the sample of Accident and Emergency Department visits during 2010 in Rovigo, Veneto Region, Italy

	<i>n</i>	%
Age bracket		
18–25	4,577	12.88
26–35	8,345	23.48
36–45	8,723	24.54
46–55	7,790	21.92
56–65	6,106	17.18
Gender		
Male	18,277	51.43
Female	17,264	48.57
Citizenship		
Italian	30,156	84.85
High migration pressure countries	4,882	13.78
Highly developed countries	384	1.08
Temporarily resident foreigners	102	0.29
Geographical area of origin		
Italy	30,156	84.87
Western Europe (other than Italy)	384	1.08
Eastern Europe	1,876	5.28
North Africa	1,848	5.20
Sub-Saharan Africa	364	1.02
Middle East	28	0.08
Pacific Asia	610	1.72
South-East Asia	86	0.24
Oceania	2	0.01
Central and South America	162	0.46
Stateless	17	0.05
Age (mean $\pm$ SD)	41.29 $\pm$ 12.68	

more of the other groups were female (females from HMPC 53.24 %; from HDC 54.40 % and from TPF 65.69 %). The mean age of patients in the three groups was: 42.49 $\pm$ 12.76 years for the Italians, 34.52 $\pm$ 9.70 years for patients from HMPC, 34.96 $\pm$ 10.16 for those from HDC, and 33.15 $\pm$ 10.97 years for TPF ($p < 0.001$), i.e. patients were younger in all the foreign groups.

On analyzing the characteristics of patients' access to A and E services (Table 2), we found that arrivals at weekend and bank holidays mainly came from the TPF and HMPC groups. Patients in all groups mainly arrived between 8:00 and 16:00 hours, and those most often arriving between 16:00 and 24:00 hours were from the HMPC group.

Patients generally came to A and E without having consulted a doctor first, and this was particularly true of foreigners (92.77 % TPF, 84.43 % HMPC and 88.34 % HDC vs 81.97 % Italians). Only 7.97 % of Italians, 5.15 % of HMPC, 4.37 % of HDC and 2.41 % of TPF patients went to their own primary care physician before going to

the A and E department. The most frequent means of travel to the A and E department was by “private means” in all groups, though the proportion was lower for the TPF group (73.08 % Italians, 80.21 % HDC, 73.25 % HMPC and 62.75 % for TPF).

Patient management on arrival by citizenship group is shown in Table 3. A “white” color code at triage (low level of urgency) was the most common on presentation for all groups, and even more for the foreign groups than for Italians (62.56 % HMPC, 62.13 % HDC and 58.82 % TPF vs 56.91 % Italian). The greater proportion of “white” color codes at triage was also more evident from the physician's opinion of the case's level of urgency at the time of discharge, which confirmed that foreigners go to A and E more often than Italians with non-urgent clinical issues (52.47 % HMPC, 52.96 % HDC and 51.49 % TPF vs 47.16 % Italian). There was a higher proportion of yellow and red (most urgent) codes among TPF patients. The agreement between nurses' code color at triage on arrival at the A and E department and the physician's opinion of the level of urgency was high in all groups, but highest for the TPF patients. The length of stay in A and E was similar for all groups.

Diagnoses and outcomes by citizenship group are shown in Table 4. A diagnosis of “trauma” ranked second after “undefined diagnosis” and was the most common among Italian female patients. Obstetric-gynecological diseases were more frequent among female TPF patients (13.43 vs 3.25 % of Italians). Gastroenterological diseases were more common in TPF patients than in the other groups, in both male and female patients.

Death was a rare event in all categories, accounting for 0.020 % for HMPC, 0.026 % for HDC, 0.000 % for TPF, and 0.010 % for Italians. Logistic multivariate regression nonetheless identified a higher odds ratio for mortality (OR 16.58, IC 95 % 1.70–161.78) for HDCs than for Italians (data not shown). Figure 1 shows that the odds ratio for discharge home was lower for HMPC patients than for Italians (OR 0.83, IC 95 % 0.77–0.89), the odds ratio for discharge to ambulatory care was slightly higher for HMPC cases than for Italians (OR 1.07, IC 95 % 1.00–1.14), and for hospitalization it was higher for TPF patients than for Italians (OR 3.81, IC 95 % 2.19–6.60). Finally, the odds ratio for withdrawal was higher for HMPC cases than for Italians (OR 1.27, IC 95 % 1.16–1.40).

Discussion

The present study describes patients' access to A and E services by citizenship and our data suggest that there were no relevant disparities in the length of stay or the

Table 2 Characteristics of Accident and Emergency Department arrivals by citizenship group during 2010 in Rovigo, Veneto Region, Italy

Patients' characteristics	HMPC		HDC		TPF		Italian		<i>p</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Holidays/workdays									
Workdays	4,123	84.45	349	90.89	84	82.35	26,083	86.44	<0.001
Holidays	759	15.55	35	9.11	18	17.65	4,090	13.56	
Time of day									
8:00–16:00	2,462	50.45	204	53.13	61	59.80	17,259	57.20	<0.001
16:00–24:00	1,787	36.60	139	36.19	33	32.36	9,357	31.01	
00:00–08:00	633	12.96	41	10.68	8	7.84	3,557	11.79	
Referred by									
GP or pediatrician	219	5.15	15	4.37	2	2.41	2,061	7.97	<0.001
Continuity of care doctor	82	1.93	9	2.62	0	0.00	818	3.16	
Specialist	54	1.27	0	0.00	0	0.00	452	1.75	
Nursing home	3	0.07	0	0.00	0	0.00	29	0.11	
Ambulance service team	304	7.15	16	4.66	4	4.82	1,300	5.03	
Self-referral	3,591	84.43	303	88.34	77	92.77	21,191	81.97	
Mode of arrival									
Ambulance	482	9.91	26	6.77	12	11.76	2,191	7.26	<0.001
Own means	3,576	73.25	308	80.21	64	62.75	22,049	73.08	
Police	10	0.20	3	0.78	0	0.00	22	0.07	
Other	814	16.67	47	12.24	26	25.49	5,911	19.59	

Table 3 Patient management by citizenship group in 2010 Accident and Emergency Department, Rovigo, Veneto Region, Italy

	HMPC		HDC		TPF		Italian		<i>p</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Nurse's color coding at triage on admission									
Color code red	17	0.35	3	0.80	2	1.96	125	0.43	0.058
Color code yellow	673	14.04	54	14.40	21	20.59	4,509	15.41	0.038
Color code green	1,104	23.04	85	22.67	19	18.63	7,972	27.25	<0.001
Color code white	2,998	62.56	233	62.13	60	58.82	16,651	56.91	<0.001
Doctor's color coding at discharge									
Color code red	13	0.27	3	0.81	2	1.98	119	0.41	0.019
Color code yellow	488	10.23	44	11.83	18	17.82	3,034	10.42	0.076
Color code green	1,765	37.02	128	34.41	29	28.71	12,233	42.01	<0.001
Color code white	2,502	52.47	197	52.96	52	51.49	13,731	47.16	<0.001
Concordance									
−2	4	0.08	0	0.00	1	0.99	32	0.11	<0.001
−1	540	11.29	43	11.56	6	5.94	3,186	10.95	
0	3,996	83.53	312	83.87	90	89.11	24,044	82.65	
+1	220	4.60	14	3.76	4	3.96	1,702	5.85	
+2	24	0.50	3	0.81	0	0.00	128	0.44	
Agreement using Kendall's tau coefficient	0.78		0.79		0.88		0.79		
Length of stay (h) mean ± SD	3.22 ± 3.41		3.08 ± 3.06		3.62 ± 3.85		3.26 ± 3.66		0.49

Table 4 Diagnostic categories at discharge by gender and citizenship group based on International Classification of Diseases (ICD-9-CM) (groups with >500 cases) at Accident and Emergency Department during 2010 in Rovigo, Veneto Region, Italy

Diagnostic categories	ICD-9-CM codes	<i>N</i>	HMPC		HDC		TPF		ITA		<i>p</i>
			<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Males											
Nervous system, sense organs	320–389	1,206	141	6.44	12	7.19	1	2.94	1,052	6.81	0.737
Circulatory system	390–459	559	38	1.74	5	2.99	2	5.88	514	3.33	0.001
Digestive system	520–579	531	90	4.11	4	2.40	3	8.82	434	2.81	0.002
Skin, subcutaneous tissue	680–709	588	79	3.61	7	4.19	3	8.82	499	3.23	0.209
Musculo-skeletal system	710–739	1,031	149	6.80	10	5.99	0	0.00	872	5.65	0.079
Conditions not classified elsewhere	780–799	4,083	477	21.78	37	22.16	10	29.41	3,559	23.05	0.452
Injury and poisoning	800–999	8,441	1,016	46.39	78	46.71	13	38.24	7,334	47.51	0.547
Females											
Nervous system, sense organs	320–389	1,035	127	5.00	11	5.39	2	2.99	895	6.34	0.043
Circulatory system	390–459	514	42	1.65	4	1.96	1	1.49	467	3.31	<0.001
Digestive system	520–579	512	99	3.90	7	3.43	4	5.97	402	2.85	0.017
Genitourinary system	580–629	610	146	5.75	10	4.90	2	2.99	452	3.20	<0.001
Pregnancy, childbirth, puerperium	630–677	649	169	6.25	13	6.37	9	13.43	458	3.25	<0.001
Skin, subcutaneous tissue	680–709	660	84	3.31	9	4.41	1	1.49	566	4.01	0.257
Musculo-skeletal system	710–739	761	96	3.78	8	3.92	1	1.49	656	4.65	0.146
Conditions not classified elsewhere	780–799	5,249	1,003	39.47	72	35.29	24	35.82	4,150	29.41	<0.001
Injury and poisoning	800–999	5,820	617	24.28	57	27.94	20	29.85	5,126	36.33	<0.001

concordance between triages by nurses and physicians (features that can be considered as reliable management process indicators), whereas some difference were detected in access to these services, and in the needs and outcomes by citizenship.

Our results emphasize, however, that an underutilization of primary care services and an inappropriate use of emergency departments is a problem affecting all nationalities, natives included. There are several important aspects to consider in dealing with this issue. For a start, an inappropriate use of A and E services makes it difficult to guarantee the necessary level of care for genuine emergencies, reducing their readiness and generating negative spillover effects on the quality of the service, as already reported in the literature (Carret et al. 2007, BMC health services); secondly, this inappropriate use is costly. However, we found HMPC and TPF migrants even less likely than Italians to contact primary care physicians (family physician, or doctors for continuity of care), who should act as the health system's gatekeepers and be consulted before seeking secondary healthcare services. In fact the present study showed that 84.43 % of HMPC and 92.77 % of TPF patients went to A and E at their own discretion, as opposed to 81.97 % of Italians. These findings are consistent with those published in a recent cross-sectional study investigating A and E use by immigrants in Spain (Jimenez-Rubio and Hernandez-Quevedo 2011). Our

findings also confirm that HMPC patients are more likely than Italians to go to A and E for non-urgent conditions that could be treated elsewhere, as demonstrated previously in Spanish and Italian studies (Jimenez-Rubio and Hernandez-Quevedo 2011; Bonvicini et al. 2011).

This inappropriate use of the public health services could be interpreted as an indirect indication of a barrier to migrants' access to primary care services (Norredam et al. 2007). As said above, primary care system is widely underutilized also by autochthonous patients. Anyway the slightly lower utilization of primary care ambulatories showed by foreigner groups could be due partially to having little knowledge of the health care system and services, or finding it more difficult to take time off work to see a doctor (in the case of people from HMPC), and such issues might also explain the differences in the times of patients' arrival at A and E accessing more frequently out of work-time. Other published studies (Norredam and Krasnik 2004; Bonvicini et al. 2011) have likewise reported higher A and E usage rates among immigrant groups.

Patient management process appeared to be no different for the citizenship groups in terms of length of stay or consistency between the color code attributed by the nurse at triage on arrival and by the doctor. To the best of our knowledge, this finding has no comparison in the international literature and it seems to demonstrate that any cultural and language barriers generate no significant

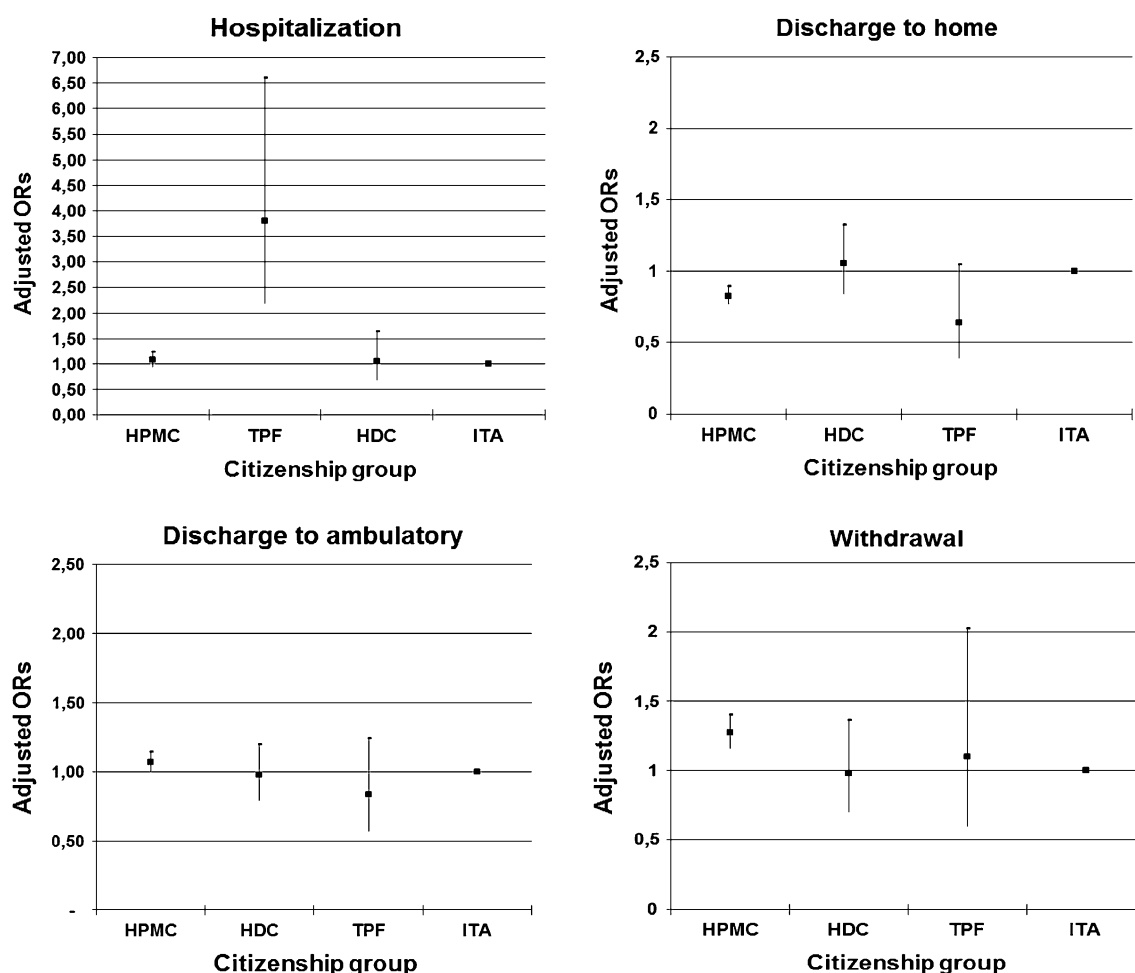


Fig. 1 Logistic multivariate regression: adjusted odds ratios by Citizenship Groups

inequalities in the diagnostic and clinical processes involved in A and E visits between autochthonous and foreign patients. This is an important aspect of the organization of emergency departments because it suggests that the provision of health care strives to be equal for all patients, whatever their citizenship, in accordance with the principle of universality in the public health care. In fact, migrants do not appear to be penalized by their status. This result may have been achieved thanks to the availability of cultural mediator services and the will to provide standardized care and reproducible diagnostic and clinical patterns, features that are typical of A and E services.

The findings about the main diagnostic categories involved in A and E visits show that there is a significantly higher proportion of digestive diseases in TPF and HMPC migrant populations than among native Italians. The reasons for this disparity probably lies in migrants having an unhealthy diet due to their lower incomes, or to their experiencing more severe stress and this predisposing them to gastrointestinal diseases (Sonnenberg 1988). Obstetric and gynecological diagnoses were higher in TPF and

HMPC than in Italian women, possibly due to the former's higher reproduction rates (Carret et al. 2007). The higher frequencies of foreign women being seen at A and E for injuries than Italian women is consistent with previously published hospitalization data (Baglio et al. 2010) any might feasibly be because more Italian women have their own means of transport incurring more frequently in accidents. The higher percentage of undefined diagnoses among all the foreign women than among the Italians may reflect cultural and language barriers interfering with the patient–doctor relationship (Carret et al. 2007). The same excess was seen in a study on diagnoses prompting hospitalization (Cacciani et al. 2006).

Our findings show that, even after adjusting for urgency on admission, TPF patients had higher odds for hospitalization than Italians, probably because this group of foreigners had no access to primary care services that could take care of conditions requiring a specialized continuity of care and follow-up. The higher odds of patients from HMPC being referred to ambulatory services than Italians could be attributable to doctors being convinced that such

people find it more difficult and are consequently less likely to go to a family physician on their own (this is another aspect that has not been discussed elsewhere in the literature to date).

Conclusions

In conclusion, there are differences in the outcome for patients accessing the A and E and in their needs (in terms of their pathological conditions) by citizenship group; on the other hand, our results show that there are no inequalities in the length of their stay or the consistency between their triage color coding by nurses and physicians on arrival (and this last aspect can be seen as an indirect indicator of a fair management of all patients).

The present study also confirms a potentially improper use of A and E services by both foreigners and native Italians, in almost equal proportions. Much effort has been made in Italy to contain health care costs while responding to the population's needs. An important way to contain these costs is to provide services at the lowest appropriate (and therefore least expensive) level of care, avoiding the use of higher than necessary health service levels. This makes it necessary to educate the whole population, including foreigners, to use the services of A and E departments properly, and a television advertising campaign is now underway in Italy to urge people to use this emergency service appropriately. It is also important to offer people an alternative solution that is as convenient and accessible as the A and E; however so an experiment is also underway in Italy in which family physicians join forces to provide a round-the-clock service, 7 days a week, to take care of non-urgent health care needs for all citizenship groups, overcoming any barriers to contacting the GP, prompting recourse to the more expensive emergency care and thereby reducing the efficiency of health system in times of severe constraints on its resources.

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