

## Comparison of Hospitalized Immigrants among Hospitals in Eastern Macedonia and Thrace Region

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**Abstract:** This paper reflects and compares the number of legal immigrants in 5 hospitals in the Region of Eastern Macedonia and Thrace for the period 2005 to 2011. The primary purpose is to compare the characteristics of Greek and foreign legal immigrants but also those between immigrants of different nationalities. In particular, presented annual data of the average number of hospitalization days, hospitalization cost and hospitalized frequency. The clinics on which the study is focused are the pediatric, gynecological/obstetrics, surgical and pathological, while the most frequently nationalities of the migrants are the Albanian, Bulgarian, Russian, Georgian and Armenian. The results presented by nationality, by hospital or clinic of hospitalization and show interesting differences among hospitals in the region as well as between Greeks and immigrants that are hospitalized.

**Keywords:** Health care services, Health systems, Immigrants, Hospitalization, Greece

**JEL Classifications:** I10, J15, P36

### 1. Introduction

The past two decades a variety of factors such as the collapse of the Eastern bloc, regional conflicts and demographic aging have changed both the role of Europe as a place of immigrants reception and the exact composition of the immigrant population. The South and Southeast regions of Europe gather a large number of illegal immigrants. Apart from the geographical location, an important role has also been played by the insufficient policies implemented, the bureaucratic management structures and more particularly the structures of labor markets, where high demand for cheap and flexible employment is combined with a State tolerance to common employer practice with extensive informal economic activity (Kasimis and Papadopoylos 2012, Sassen, 2000, King 2002, Baldwin-Edwards 2008, Triandafyllidou and Maroukis 2008, Triandafyllidou and Ambrosini 2011, Maroukis et al. 2011).

Greece from country of origin is turned into a country of destination of immigrants, especially after the first half of the 2000s. Around 2009 to 2010 Greece came to gather the majority (estimated at around 80%) of the total arrivals of immigrants to the EU (Triandafyllidou and Maroukis 2008, Kalofolias 2011, Arvanitidis and Skouras 2008).

Immigrants coming from Albania is the largest group in Greece and more specifically in the region of Eastern Macedonia and Thrace (Maroukis et al. 2011, Triandafyllidou 2013, Polychronidou, et al. 2012). Other important countries of origin of immigrants are Bulgaria and Georgia. The irregular immigration from Georgia continues unabated in recent years, and the Georgians follow the trail of asylum in order to secure, at least, temporary legal documents. In contrast, Greece is rather secondary destination for Ukrainians and the Ukrainian community seems to be decreasing in recent years (Hellenic League of Human Rights 2014, Maroukis et al. 2011, Triandafyllidou 2013, Tonchev 2007, Lazarescu and Broersma 2010, Triandafyllidou and Maroukis, 2012).

The vast majority of legitimate immigrants in Eastern Macedonia and Thrace have as country of origin primarily Albania and secondarily Bulgaria. In Albanian immigrants men outnumber women, while in immigrants from the countries of Eastern Europe and particularly Russia, Moldova and Ukraine women outnumber men by far. Perhaps this is due to the phenomenon of trafficking (Hellenic League of Human Rights 2014, Triandafyllidou 2013, Florou et al. 2013, Polychronidou et al. 2013).

The nationality of majority of hospitalized immigrants in the Kavala's hospital is Albanian, Russian, Georgian and Armenian. A percentage of 50.6% of immigrants who visit Kavala's hospital goes at emergency department. The corresponding percentage for Greeks is 34%. The average cost of immigrant emergency visit is lower than the average cost of Greek-born emergency visit. There is no significant difference between mean costs per year (Florou et al. 2013).

Immigrants in the Region of Eastern Macedonia and Thrace visit mainly pathologic, maternity, orthopedic and pediatric clinics (Polychronidou et al. 2012, Polychronidou et al. 2013, Florou et al. 2014).

## **2. Data - Methodology**

The data used in this research and outline the current situation regarding the health services provided to immigrants by the central health units in the Region AMTh were drawn from the official documents recording the flow of patients in hospitals of AMTh Region, particularly from hospitals of "Kavala", "Drama", "Komotini", "Xanthi" and "Didimotichon" (no available data regarding the hospital of "Alexandroupolis"). The data were covered the period 2005 to 2011 with the exception of Drama and Komotini hospitals, for which we do not have available data for the years 2005 to 2007. These data contained the total number of hospitalization days, the average number of hospitalization days, mean budgetary hospitalization cost per hospitalized person separately per hospital per year.

We have also obtained data regarding the nationality of hospitalized, and the clinic of hospitalization, separately for Greeks and immigrants. Data were analyzed using descriptive statistics and the program SPSS v19.

### 3. Results

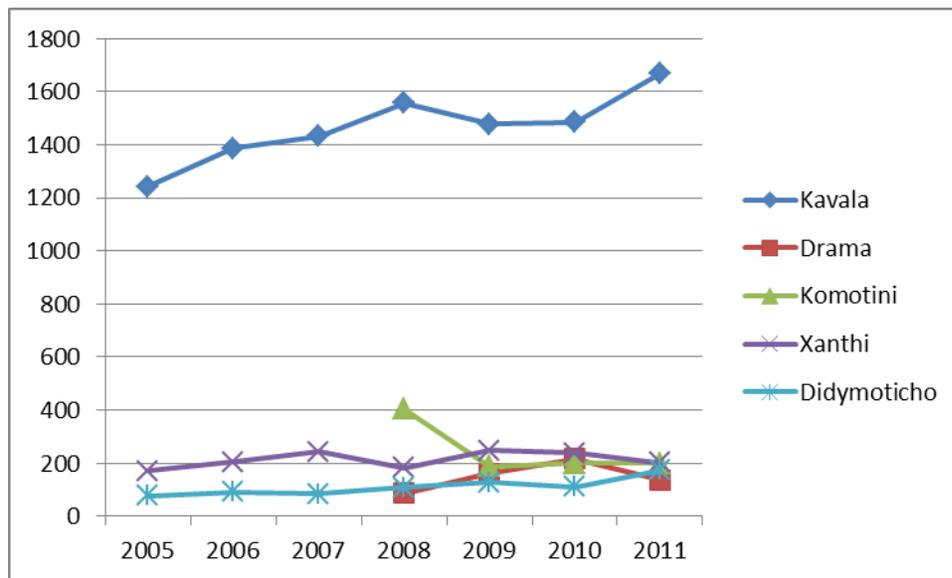
Table 1 presents over time the total number of hospitalization days of hospitalization inpatients in the particular five hospitals of Eastern Macedonia and Thrace Region. The first obvious conclusion is that the Hospital of Kavala is treating the largest number of immigrants. This is not only because in Kavala resides the largest number of immigrants, but mainly because this is the biggest hospital participating in the survey, in which often reach patients who are not possible to be hospitalized in some of the hospitals in the neighboring prefectures.

**Table 1** Descriptive statistics for hospitalization days of immigrants

Year	Kavala	Drama	Komotini	Xanthi	Didymoticho
2005	1243	na <sup>1</sup>	na <sup>1</sup>	172	77
2006	1387	na <sup>1</sup>	na <sup>1</sup>	204	91
2007	1432	na <sup>1</sup>	na <sup>1</sup>	242	85
2008	1557	87	403	182	108
2009	1478	162	188	248	127
2010	1485	217	200	238	110
2011	1667	138	200	202	173

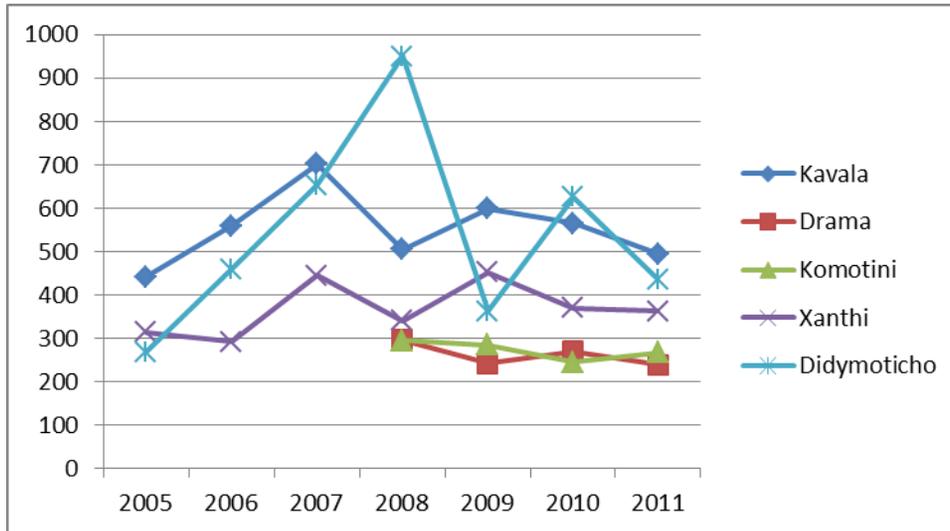
**Note:** <sup>1</sup>na indicates "not available".

We also observe that the number of days of hospitalization, especially in Kavala's hospital is increased over time. This trend in the number of hospitalization days is shown in Figure 1.



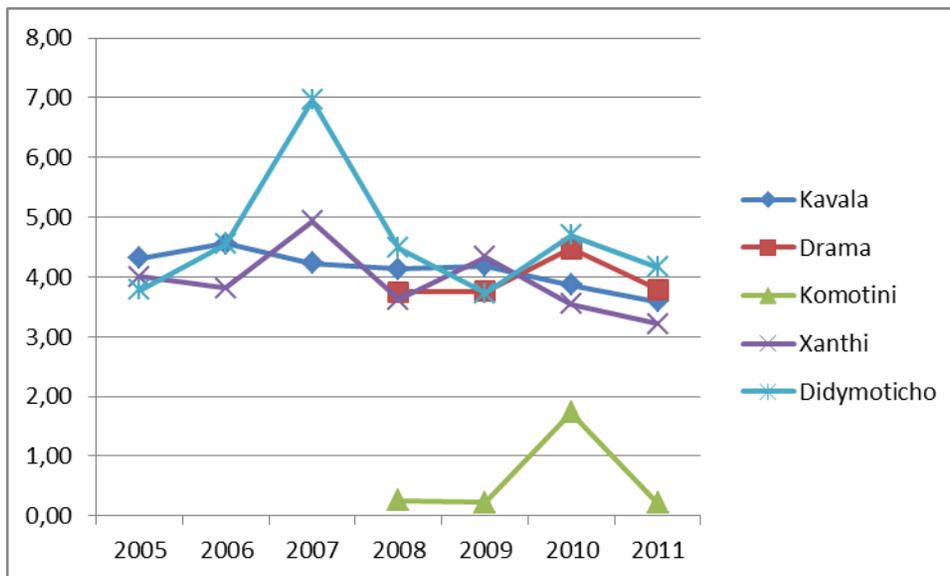
**Fig. 1.** Descriptive statistics about days of hospitalization of immigrants

The following figure 2 presents budgetary cost of hospitalization expenditure per immigrant for the five hospitals participating in the survey. Initially, we observe that Kavala's hospital has the highest budgetary expenditure which probably is due to the central role it is playing compared to the other four hospitals. The small difference in the budgetary cost of the Didymoteicho's hospital, that serves a relatively small number of patients, is surprising. Finally, Komotini's and Drama's hospitals have by far the smallest budgetary cost.



**Fig. 2.** Descriptive statistics about mean budgetary hospitalization cost per hospitalized immigrant

In figure 3 the average number of hospitalization days for immigrants during the period of survey is presented. This remains firmly close to four days for all hospitals for the duration of the survey. The only exception is the hospital of Komotini where the corresponding value is almost zero. Also, as already mentioned, the hospital of Didymoteicho serves a small number of patients, so the sharp increase which was noticed in 2007 could be due to the appearance of a very small number of cases with long term hospitalization, which would increase a lot the corresponding average.



**Fig. 3.** Mean number of hospitalization days for immigrants

Table 2 provides the total number of hospitalized immigrants during the period 2005-2011 in regards with nationality (the 5 nationalities with the largest frequencies are presented). The corresponding rates sum up for each hospital. Albanian immigrants is the most frequent hospitalized nationality, followed by Bulgarians, Russians and Georgians.

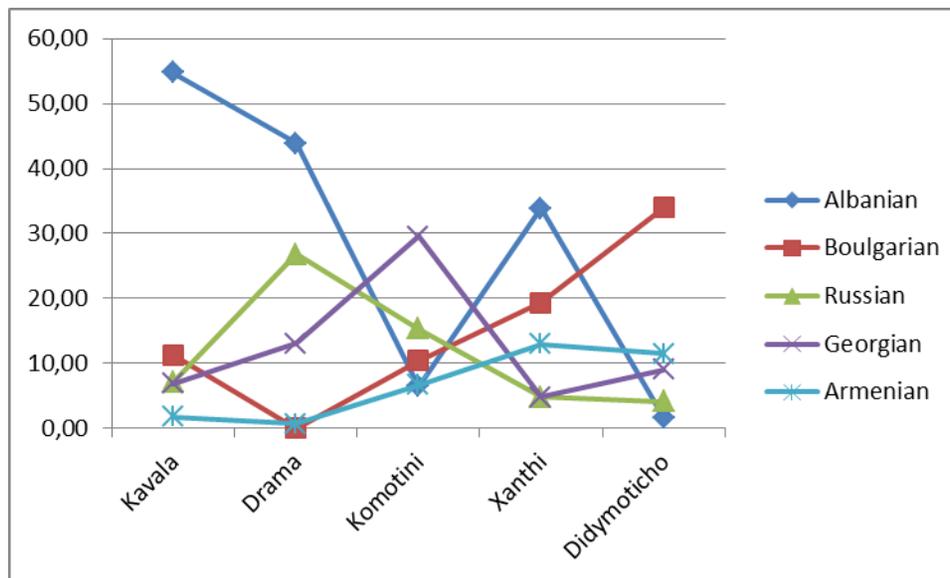
**Table 2** Frequency distribution of hospitalized immigrants by nationality cumulative (2005-2011)<sup>1</sup>

	Albanian		Bulgarian		Russian		Georgian		Armenian		Total immigrants inpatients
	Count	%	Count	%	Count	%	Count	%	Count	%	
Kavala	5619	54.8	1158	11.3	731	7.1	706	6.9	183	1.8	10249
Drama	265	43.9	0	0	162	26.8	79	13.1	4	0.7	604 <sup>2</sup>
Komotini	64	6.5	103	10.4	152	15.3	293	29.6	66	6.7	991 <sup>2</sup>
Xanthi	504	33.9	287	19.3	71	4.8	72	4.8	193	13.0	1488
Didymoticho	12	1.7	242	34.0	29	4.1	64	9.0	82	11.5	711
Total	6464	46	1790	12.7	1145	8.2	1214	8.6	528	3.8	14043

**Notes:** <sup>1</sup>The corresponding rates sum up for each hospital.

<sup>2</sup>At Drama and Komotini Hospitals, the corresponding sizes are during the years 2008-2011.

As shown in Figure 4, the Albanians constitute over half of inpatients in Kavala’s hospital and they are the most populated ethnicity in hospitals of Drama and Xanthi. The Bulgarians are the most frequent nationality in Didymoteicho’s hospital, while the Georgians ate respectively in Komotini’s hospital. Notable is the almost null presence of Armenians in Kavala and Drama hospitals, while in Xanthi and Didymoteicho exceeds 10%. Generally, the distribution of hospitalized of various nationalities varies among the five hospitals, which obviously reflects the differences in nationalities as to the place of residence.



**Fig. 4.** Distribution of hospitalized immigrant rates by nationality (percentage of the total of immigrants of each hospital) cumulatively for the years 2005-2011<sup>1</sup>

**Note:** <sup>1</sup>At Drama and Komotini Hospitals, the corresponding sizes are during the years 2008-2011.

Table 3 shows the frequency of hospitalized patients separately for immigrants and Greeks per clinic of hospitalization and hospital, cumulatively during 2005-2011. For Drama and Komotini Hospitals there are no corresponding items. The Clinics presented are the four that have the greatest number of patients and these are Pathology, Surgery, Gynecology/Obstetrics and Pediatrics.

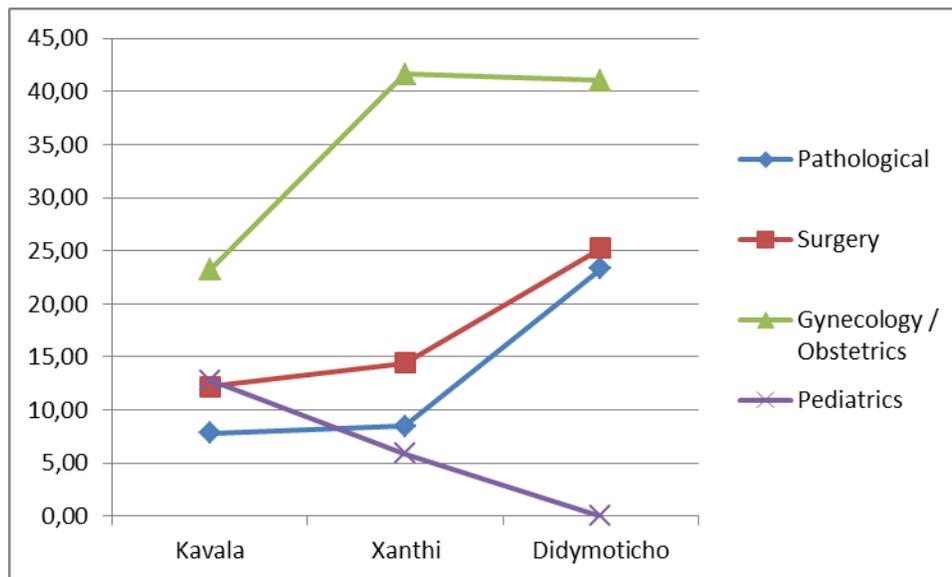
**Table 3** Frequency for each hospital and corresponding percentage, hospitalized immigrants and Greeks per clinic of hospitalization, cumulatively for the years 2005-2011<sup>1,2</sup>

		Pathological		Surgery		Gynecology/Obstetrics		Pediatrics	
		Count	%	Count	%	Count	%	Count	%
<b>Immigrants</b>	Kavala	808	7.8	1246	12.2	2379	23.2	1316	12.8
	Xanthi	127	8.5	214	14.4	619	41.6	88	5.9
	Didymoticho	169	23.3	179	25.2	292	41.0	0	0
<b>Greek</b>	Kavala	33284	16.1	17170	8.8	7233	3.50	8146	4.0
	Xanthi	20852	13.6	19293	12.6	17139	11.2	11349	7.4
	Didymoticho	23137	38.7	16741	28.0	5727	9.5	0	

**Notes:** <sup>1</sup>The corresponding rates are summed up for each hospital.

<sup>2</sup>At Drama and Komotini Hospitals, the corresponding sizes are during the years 2008-2011.

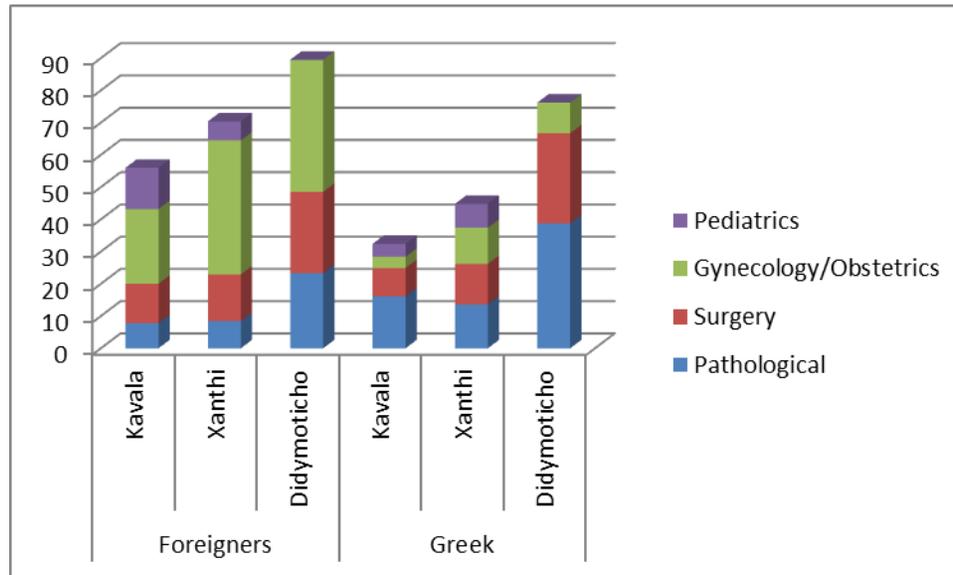
As expected, the number of hospitalized Greeks is larger than immigrants several times. So, in order for us to make a comparison between immigrants and Greeks regarding the clinic they are mainly hospitalized, separately for each hospital, in Figures 5 and 6 we used corresponding rates per hospital. Figure 5 presents the corresponding rates only for immigrants. Notice that, in all three hospitals, the largest percentage of hospitalized appears on Gynecology/Obstetrics clinic. Actually, in Xanthi and Didymoteichon the rate of hospitalized immigrants exceeds 40%. Surgery and Pathology clinic follow by far.



**Fig. 5.** Distribution of hospitalized immigrants rates by inpatient's clinic (percentage of total hospitalized immigrants in each hospital) cumulatively for the years 2005-2011<sup>1</sup>

**Note:** <sup>1</sup>The corresponding rates are summed up for each hospital.

In Figure 6 we attempt to show whether the clinics that hospitalize the greatest percentage of immigrants are the same clinics that hospitalize the majority of Greeks. In all three hospitals we note that in Gynecology/Obstetrics clinic is hospitalized a much smaller proportion of Greeks. In contrast, hospitalization rate in Pathology clinic for Greek patients are two to three times the rate of immigrants. Finally, the corresponding percentages are similar in the surgical clinic.



**Fig. 6.** Comparison of rates among hospitalized immigrants and Greeks by clinic of hospitalization (percentage of all hospitalized immigrants and Greeks respectively for each hospital) cumulatively for the years 2005 to 2011<sup>1</sup>

**Note:** <sup>1</sup>The corresponding rates as sum up for each hospital.

#### 4. Conclusions

In this paper official data regarding hospitalization of immigrants in 5 hospitals of the Region of Eastern Macedonia and Thrace were presented and analyzed for the period 2005 to 2011. Results show differences among hospitals in the region as well as between Greeks and immigrants patients.

Kavala's hospital is treating the largest number of immigrants and it has the highest budgetary expenditure. The hospitalization days in Kavala's hospital is increased over time. In regards to country of immigrant's origin, the majority is from Albania, followed by Bulgaria, Russia and Georgia. Immigrants from Albania are more than half of total immigrant inpatients in Kavala's hospital. The clinics that hospitalize the majority of immigrants are those of Pathology, Surgery, Gynecology/Obstetrics and Pediatrics. Gynecology/Obstetrics clinic the hospitalized are more immigrants than Greeks, while in Pathology clinic the hospitalized are more Greeks than immigrants.

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