



## LETTER TO THE EDITOR

### Choice of critical care medicine: Analysis of the last 10 years<sup>☆</sup>



### La elección de la especialidad medicina intensiva: análisis de los últimos 10 años

Dear Editor:

In Spain, practicing the medical profession requires a Degree in Medicine. Furthermore, access to specialized training requires passing a State examination called on an annual basis by the Spanish Ministry of Health, Social Services and Equality (*Ministerio de Sanidad, Servicios Sociales e Igualdad* [MSSSI]), and known as the Internal Resident in Training (*Médico Interno Residente* [MIR]) exam.<sup>1</sup> Those candidates that reach an examination grade above the minimum cut-off point are listed from higher to lower total score and are assigned an order number with which they become potential choosers of one of the offered specialized training posts.<sup>2,3</sup> The higher the total score, the lower the order number: number one corresponds to the candidate with the maximum note, and this individual is the first to choose a specialized training post. The choice and designation of posts is called by the MSSSI, and the data are public.

The present communication analyzes the offer and demand referred to the specialty of Intensive Care Medicine in recent years, and presents the map of Spanish Autonomous Communities and chosen centers with the best order numbers. The analysis has been based on the official MIR posts designated by the MSSSI covering the annual examinations from 2006 to 2015—the latter corresponding to the post designation act of 2016. The data obtained from the different analyses are reported as the mean, maximum and minimum, median and percentiles 25 and 75 of the order number of the candidates that chose such training posts. We studied the association between the number of posts in Intensive Care Medicine and the total posts offered annually, based on the Pearson correlation coefficient.

In the period covering the years 2006 to 2015, the number of training posts in Intensive Care Medicine ranged from a minimum of 139 in 2006 to a maximum of 168 in the years 2009 and 2010. The number of posts offered gradually increased up until 2010, coinciding with a total of 6874 hospital training posts offered that same year. Since then the mentioned figure has decreased slightly, in parallel to the drop in total number of posts. The correlation between the offered number of posts in Intensive Care Medicine and the total number of training posts was 0.92 ( $p < 0.005$ ).

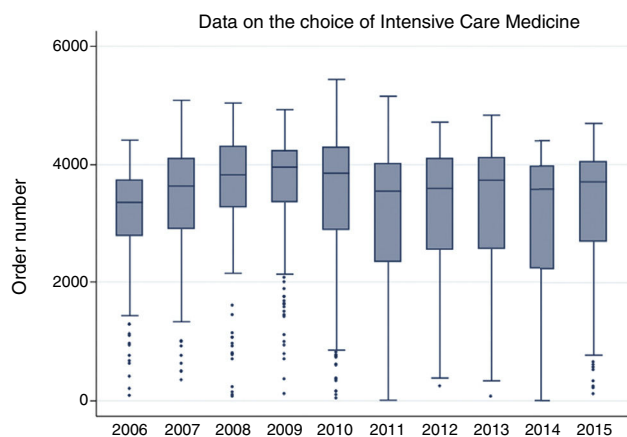
In the period between 2006 and 2015, the minimum order number for choosing the specialty of Intensive Care Medicine was 7 and the maximum 5441—the latter being the post chosen as last option in the considered time period.

The median order number for choosing Intensive Care Medicine in that period was 3677, with a mean of 3317. On limiting the analysis to the period covering the last 5 years, the median order number was 3621.5 and the mean 3196.1. Fig. 1 shows the annual evolution of the median and percentiles 25 and 75 from the year 2006 to the last examination call (2015). Slight variations are observed, influenced in part by the number of posts in Intensive Care Medicine offered each year. The maximum or highest median corresponded to the year 2009, with a value of 3960, and in that same year a total of 168 posts in Intensive Care Medicine were offered (the highest offered posts value). In contrast, the lowest median corresponded to the year 2006, with 3363, and with 139 offered posts (the lowest value in the period 2006–2015). Therefore, the median choice of each year for Intensive Care Medicine has varied little, and has done so in relation to the total resident training posts offered.

In relation to the choice of Intensive Care Medicine with respect to other specialties, based on pooled data covering the period from 2006 to 2010, the median for Intensive Care Medicine stood in position 28 of the ranking by specialties, while in the period 2011–2015 it stood in position 29. In the isolated analysis of the year 2015, the specialty remained in position 29 out of a total of 44 offered specialties. Fig. 2 shows the ranking of the different medical specialties by median order number corresponding to the choice in the examination of the year 2015.

In the analysis according to Autonomous Communities, Madrid was the Community offering the largest number of training posts in Intensive Care Medicine during the period 2011–2015, with a total of 130 (17.3% of the global offer). This Community was followed by Andalusia with 123

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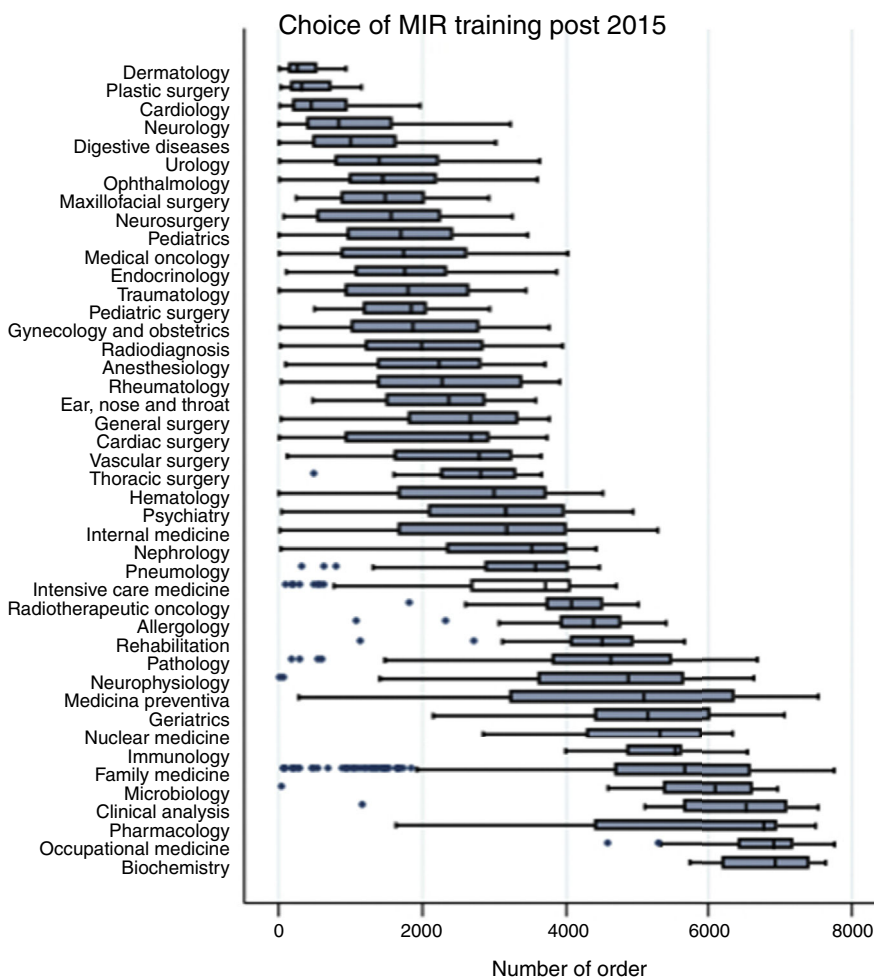
**Figure 1** Distribution of order numbers in the choice of Intensive Care Medicine according to year of examination call.

posts (16.4%) and Catalonia with 109 (14.5%). In contrast, the Communities with the fewest posts in Intensive Care Medicine during the period were La Rioja, Navarre and Asturias, with 5, 8 and 12 posts, respectively. In the ranking by Autonomous Communities during the period 2011–2015,

Madrid was the Community with the lowest median order number, with a value of 2225, followed by Cantabria with 2410 and the Basque Country with 2743. Table 1 shows the Autonomous Communities listed from best to worst median order number. Likewise, for each Community, the table shows the hospital with the lowest order number for that period and region. In the Communities of La Rioja, Cantabria and Navarre the Community and hospital data coincide, since these Communities have a single center offering training posts in Intensive Care Medicine.

Table 2 shows the pooled data since 2011, corresponding to the 15 best ranking hospitals in term of Intensive Care Medicine throughout the country. The list is headed by Hospital Universitario Doce de Octubre, Hospital Clínico San Carlos and Hospital Miguel Servet. Their median order numbers were 428, 762 and 1388, respectively.

The data presented in this study are the result of an objective analysis of the choice of training posts in Intensive Care Medicine, based on official information from the MSSSI. The study does not intend to afford an analysis of health-care or training quality of the teaching hospital centers. The choice of training post is conditioned by many individual variables of the candidate that have not been considered in this study. The analysis is no less interesting as a result



**Figure 2** Representation of the medical specialties offered, listed by median order number of choice corresponding to the examination call of the year 2015.

**Table 1** Ranking of the Spanish Autonomous Communities according to median order number with the data corresponding to the period 2011–2015. The hospital with the lowest median in that period is shown for each Community.

Ranking by Autonomous Communities and hospitals in each Community in the period 2011–2015							
	No.	Mean	Minimum	Maximum	p25	Median	p75
<i>Madrid</i>	130	2257	7	4102	1226	<b>2225</b>	3439
H. U. 12 de Octubre	15	621.7	7	1475	237	<b>428</b>	1039
<i>Cantabria</i>	15	2521.8	443	4075	1744	<b>2410</b>	3567
H. U. Marqués de Valdecilla	15	2521.8	443	4075	1744	<b>2410</b>	3567
<i>Basque country</i>	29	2881	371	4378	2101	<b>2743</b>	3972
H. U. de Donostia	10	2129.2	371	3972	1605	<b>1939.5</b>	2675
<i>Aragon</i>	26	2753.3	336	4837	1388	<b>2827.5</b>	3982
H. U. Miguel Servet	11	1612.4	336	2893	1001	<b>1388</b>	2310
<i>Catalonia</i>	109	2964.1	110	4523	2361	<b>3281</b>	3860
H. U. Germans Trias i Pujol	13	1563.1	110	2784	361	<b>1974</b>	2930
<i>Valencian Community</i>	85	3201.8	235	4839	2569	<b>3556</b>	3934
H. U. i Politècnic La Fe	15	1665.9	235	3073	1153	<b>1517</b>	2323
<i>Asturias</i>	12	3587.1	923	4676	3350.5	<b>3665</b>	4161
H. U. Central de Asturias	7	3159	923	4104	3055	<b>3437</b>	3823
<i>Navarre</i>	8	3374.5	1898	4422	2512	<b>3642.5</b>	4183.5
C. H. de Navarra	8	3374.5	1898	4422	2512	<b>3642.5</b>	4183.5
<i>Andalusia</i>	123	3415.1	331	4581	3218	<b>3754</b>	4000
H. Regional U. de Málaga	12	2464	331	3673	1658.5	<b>2778</b>	3236
<i>Murcia</i>	32	3589.8	642	4763	3541	<b>3829</b>	4105.5
H. Clínico. U. Virgen de la Arrixaca	14	2983.7	642	3922	2586	<b>3541</b>	3755
<i>Balearic Islands</i>	16	3355.6	1011	4265	3007	<b>3838.5</b>	4018.5
H. U. Son Espases	11	3216.1	1011	4054	3002	<b>3791</b>	3986
<i>Castilla La Mancha</i>	26	3946.7	3221	4725	3594	<b>3952</b>	4310
C. H. de Toledo	6	3628.2	3475	4000	3538	<b>3576</b>	3604
<i>Galicia</i>	25	3899.8	2155	4536	3771	<b>4041</b>	4346
C. H. U. A Coruña	11	3658.1	2155	4467	3621	<b>3905</b>	4025
<i>La Rioja</i>	5	4126.4	3804	4498	3949	<b>4123</b>	4258
H. San Pedro	5	4126.4	3804	4498	3949	<b>4123</b>	4258
<i>Canary Islands</i>	41	4087.5	1796	4982	3946	<b>4207</b>	4470
H. U. de Canarias	8	3827	2485	4525	3557	<b>3972.5</b>	4273.5
<i>Castilla y León</i>	48	3857.6	466	5156	3596.5	<b>4248.5</b>	4433.5
H. U. Río Hortega	5	2904.4	1820	4349	2245	<b>2886</b>	3222
<i>Extremadura</i>	20	4159.9	2165	4695	4115.2	<b>4252.5</b>	4484.5
C. H. U. de Badajoz	10	4143	3382	4597	4009	<b>4167.5</b>	4253

C.H.U.: university hospital complex (*complejo hospitalario universitario*); H.: hospital; No.: total number of posts offered in the period; p25: percentile 25; p75: percentile 75; U.: university.

**Table 2** Ranking of the 15 hospitals with the lowest median order number in the choice of Intensive Care Medicine with the pooled data corresponding to the period 2011–2015.

Ranking of hospitals at national level in the period 2011–2015							
	No.	Mean	Minimum	Maximum	p25	Median	p75
H. U. 12 de Octubre	15	621.7	7	1475	237	<b>428</b>	1039
H. U. Clínico San Carlos	14	833.6	109	1522	614	<b>762</b>	1118
H. U. Miguel Servet	11	1612.4	336	2893	1001	<b>1388</b>	2310
H. U. Puerta de Hierro	10	1574.4	686	2968	915	<b>1488</b>	2018
H. U. i Politècnic La Fe	15	1665.9	235	3073	1153	<b>1517</b>	2323
H. U. de Donostia	10	2129.2	371	3972	1605	<b>1939.5</b>	2675
H. U. Germans Trias i Pujol	13	1563.1	110	2784	361	<b>1974</b>	2930
H. U. La Paz	15	1983.5	525	3368	1636	<b>2034</b>	2321
H. U. de Getafe	10	2275	822	3625	1619	<b>2046.5</b>	3094
H. U. Fundación Jiménez Díaz	5	2416.8	874	3647	2044	<b>2059</b>	3460
H. U. Vall d'Hebron	15	2023.9	237	3588	1549	<b>2174</b>	2536
H. General U. Gregorio Marañón	10	2312.7	1489	3468	1924	<b>2222.5</b>	2550
H. U. Marqués de Valdecilla	15	2521.8	443	4075	1744	<b>2410</b>	3567
H. U. Cruces	5	2542	1458	3290	2577	<b>2660</b>	2725
H. Regional U. de Málaga	12	2464	331	3673	1658.5	<b>2778</b>	3236

C.H.U.: university hospital complex (*complejo hospitalario universitario*); H.: hospital; No.: total number of posts offered in the period; p25: percentile 25; p75: percentile 75; U.: university.

of this, however, since the data reflect a constant demand for the specialty over the years and highlight the trends in terms of geographical setting and training hospitals.

### Conflicts of interest

The authors declare that they have no conflicts of interest.

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