

Hospitals' Inpatient Utilization in Portugal: Some Evidence of Access Barriers

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Overview

1. Setting the scene
2. Objectives
3. Data/Methods
4. Results
5. Discussion
6. Conclusions

1. Setting the scene

- Existence of a National Health Service

- With equal access for all citizens

2. Objectives

- Are there differences in inpatient rates per region?

- Can these differences be explained?

3.1 Data (1)

- Hospitals' administrative database, with information from DRGs and Disease Staging
- 2002
- 18 regions of "mainland" Portugal (Azores and Madeira not included)
- Patients transferred to other hospital excluded, to avoid double-counting

3.2 Data (2)

Selection of admissions in diseases which cause a **high loss of potential years of life** in Portugal*

- Cerebrovascular disease
- Coronary artery disease with/without prior coronary artery revascularization
- Diabetes mellitus type 1 / Diabetes mellitus type 2 and hyperglycemic states
- Malignant neoplasm
 - Female breast
 - Colon and rectum
 - Lungs, bronchi or mediastinum
 - Stomach

* Diseases defined by Disease Staging

9,6% of all admissions in 2002

3.3 N° of admissions per disease

Disease	N° admissions
Cerebrovascular disease	32662
Coronary artery disease	27066
Diabetes mellitus	12171
Malignant neoplasm, colon and rectum	9066
Malignant neoplasm, female breast	6782
Malignant neoplasm, lungs	4663
Malignant neoplasm, stomach	4484
All diseases	96894

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3.4 Inpatient rates

- Raw inpatient rate:** number of admissions per 100.000 inhabitants

Inpatient rate standardized

- For age/sex:** takes into account the differences in the population of each region (young/old)
- For health needs:** takes into account the differences in health needs, here measured by potential years of life lost (PYLL)

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3.5 Severity and complexity

□ Severity

- Measured from expected mortality of Disease Staging, recalibrated to Portuguese data
- Three levels, each containing 1/3 of admissions

□ Complexity

- Measured from relative weight of DRGs
- Three levels, each containing 1/3 of admissions

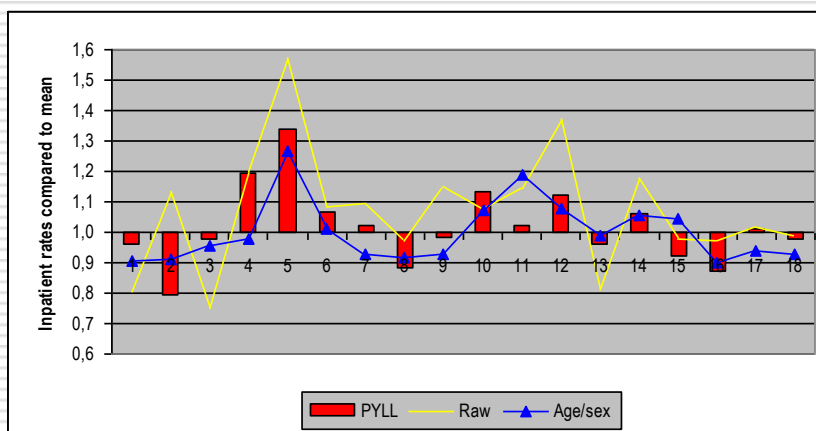
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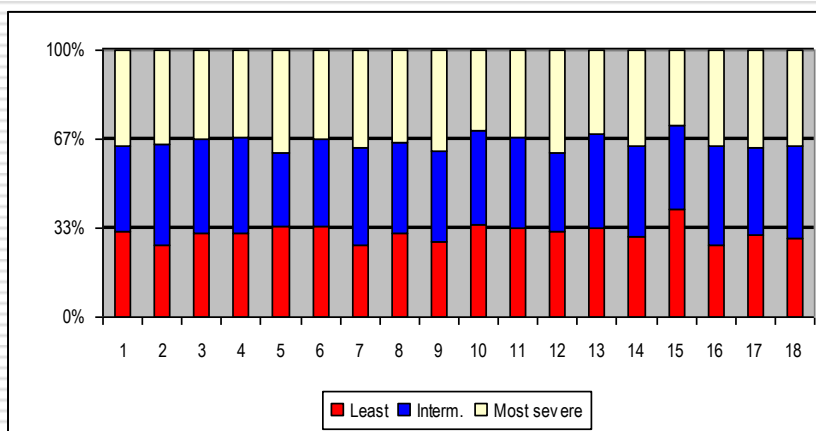
Are there differences in inpatient rates per region?

4.1 Inpatient rates per region, compared to mean value

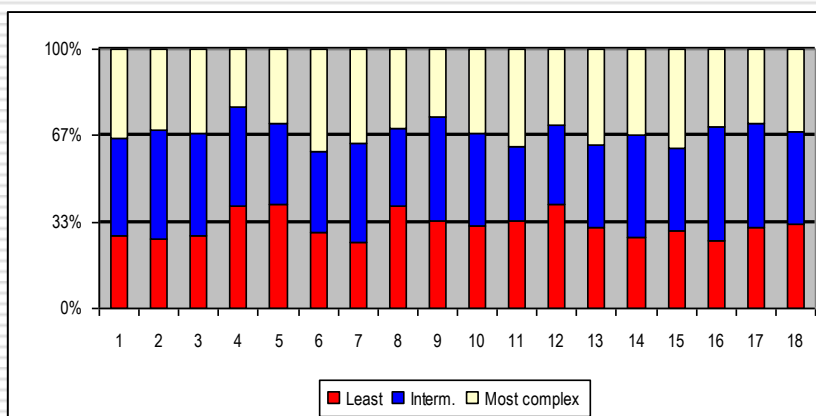


Do the regions behave differently in different types of patients?

4.2 Standardized inpatient rate (SIR) per level of severity, as perc. of total SIR



4.3 Standardized inpatient rate (SIR) per level of complexity, as perc. of total SIR



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4.4 Analysis of correlation between standardized inpatient rates (SIR)

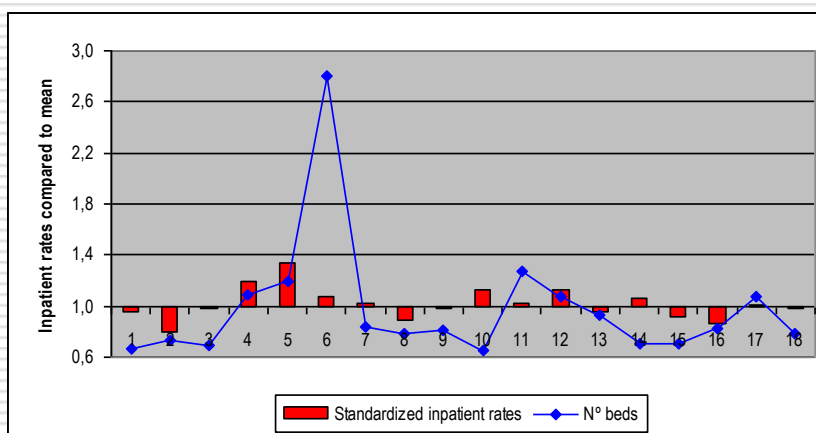
	Corr. with all admissions	Corr. with higher/lower levels	Corr. with equivalent level
Less severe	0,860**	0,475* (int) 0,581* (most)	0,773**
Int. severe	0,738**	0,536* (most)	0,714**
Most severe	0,873**	.	n.s.
Less complex	0,867**	n.s. (int) n.s. (most)	.
Int. complex	0,568*	n.s. (most)	.
Most complex	0,471*	.	.

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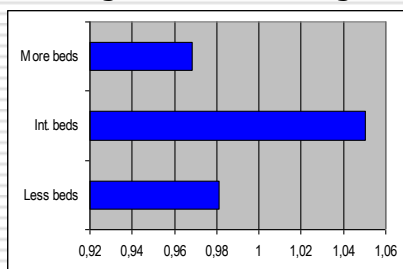
Are the differences in standardized inpatient rates related to differences in facilities available?

Facilities (beds) available and standardized inpatient rates (1)



Facilities (beds) available and standardized inpatient rates (2)

- Number of beds is not correlated to standardized inpatient rates (except most complex)
- Even when "corrected" for beds treating patients living outside the region



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Differences in inpatient rates are not related to...

- Differences in age/sex
- Differences in health needs
- Differences in the availability of facilities

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Now what?

Now what?

- There are similar situations with different inpatient rates

- Who is doing the best for patients?

- Possibilities
 - Use indicators of population health
 - Investigate early/late admissions



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Questions?