

Capitation Experiences in Portugal

Local Health Units

Ana Sofia Ferreira

asferreira@acss.min-saude.pt

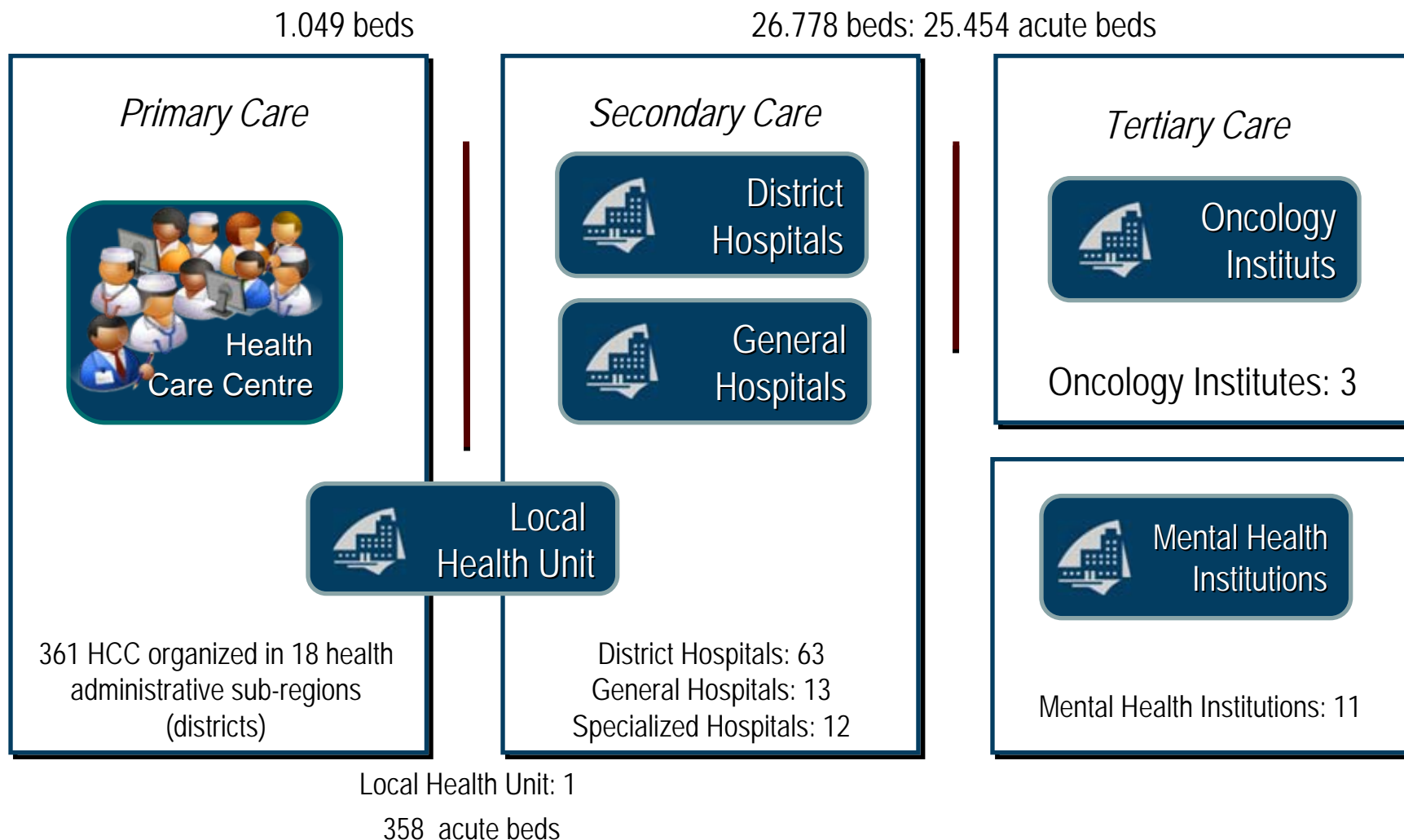
Alexandre Lourenço

alourenco@acss.min-saude.pt

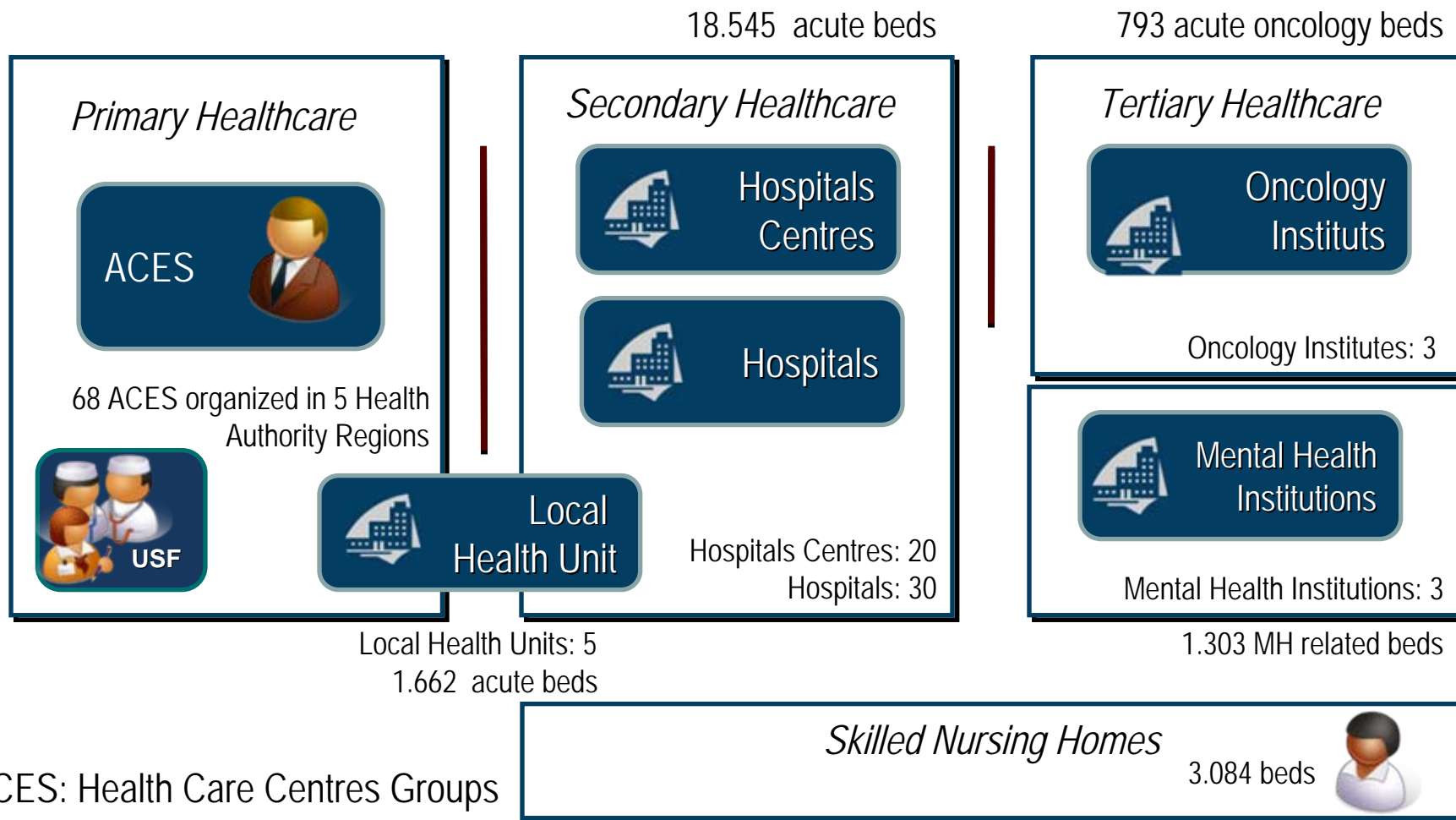


1. Local Health Units (LHU) in the context of the portuguese NHS
2. Current LHU funding scheme
3. Evaluation of the current model
4. Proposals for 2010

Healthcare provision organization - 2000



Healthcare provision organization - 2008



ACES: Health Care Centres Groups

USF: Family Health Unit

NHS Pooling of funds

Ministry of Finance

Annually sets the NHS budget based on historical spending and on plans presented by the Ministry of Health

Ministry of Health

Receives a global budget for the NHS which is then allocated to the many institutions within the NHS (Hospitals, Regional Health Administrations - RHA and Special Programmes)
Controls all capital expenditure

ACSS

Responsible for Financial Management & Contracting Models.

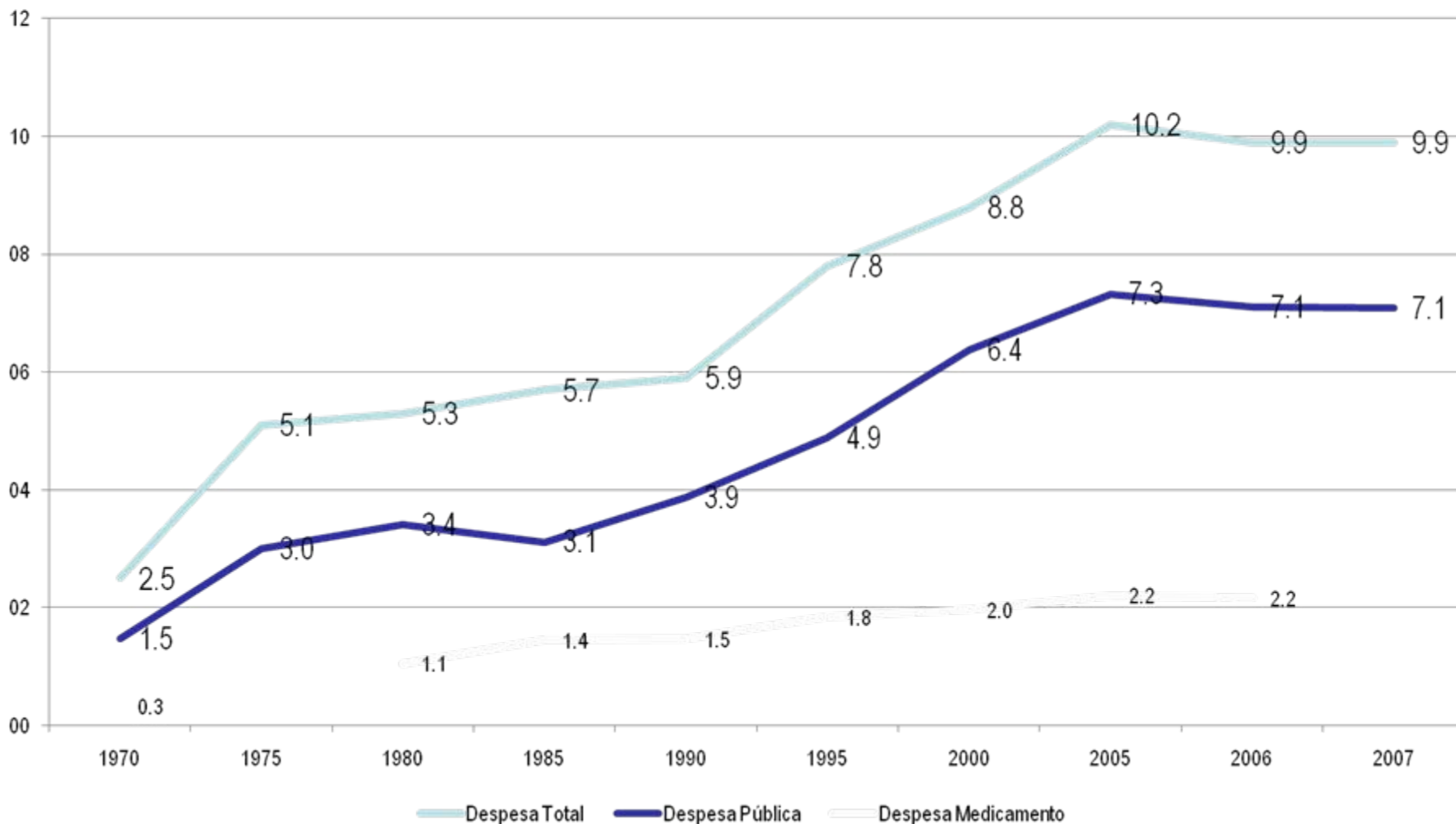
Prepares for approval estimates detailing the resources needed to support planned activities (NHS budget)



Proposes budget allocation to each RHA for the provision of Primary Health Care (PHC) to the population, according to the geographic defined areas. Defines Hospital & LHU funding models

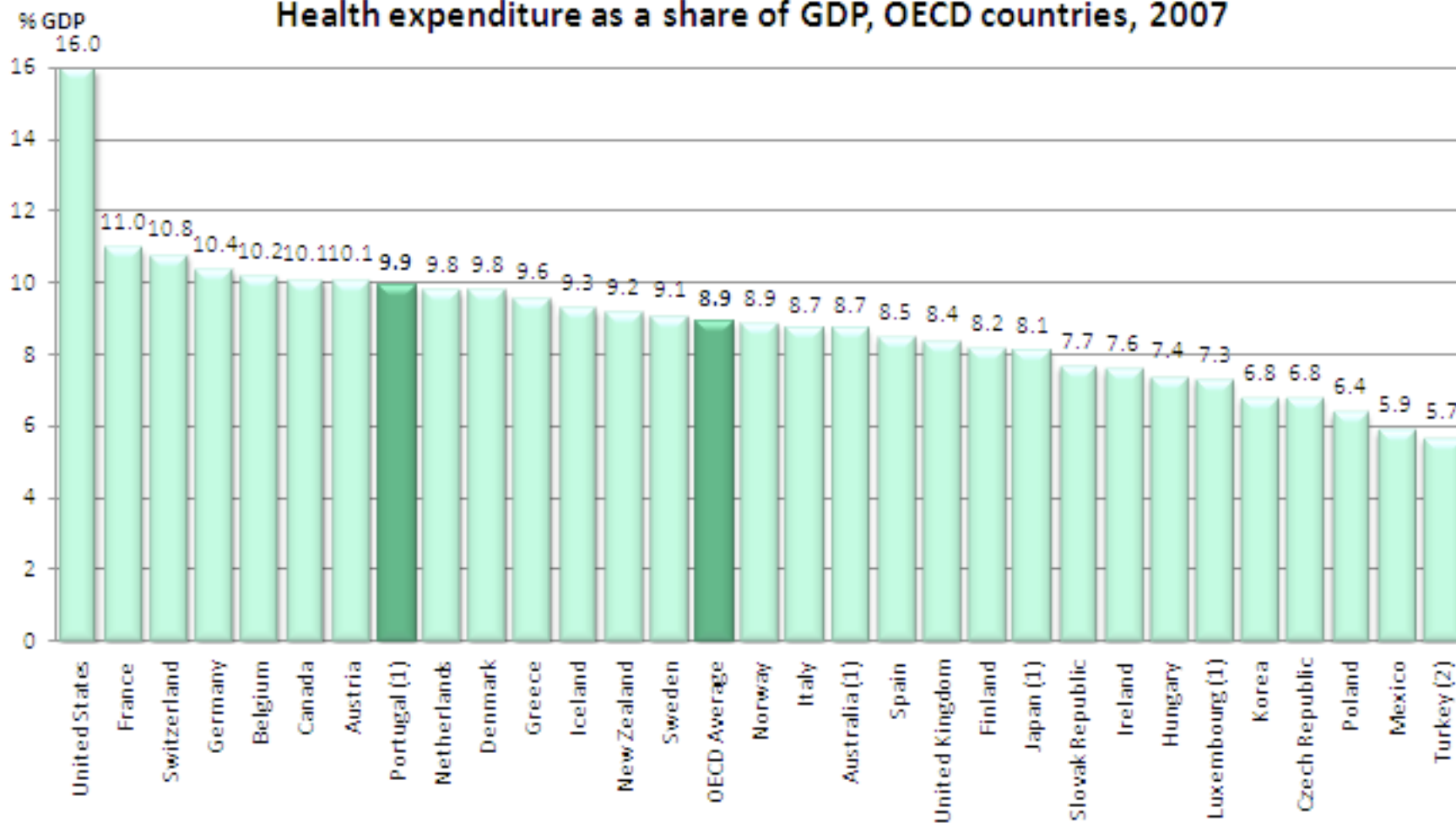
Reform proposals started in 1996 intended to increase the purchasing role in order to gradually move the health care system from an integrated model to a contracting model

Total, Public Health expenditure & expenditure on medication (%GDP)



Total Health expenditure (%GDP)

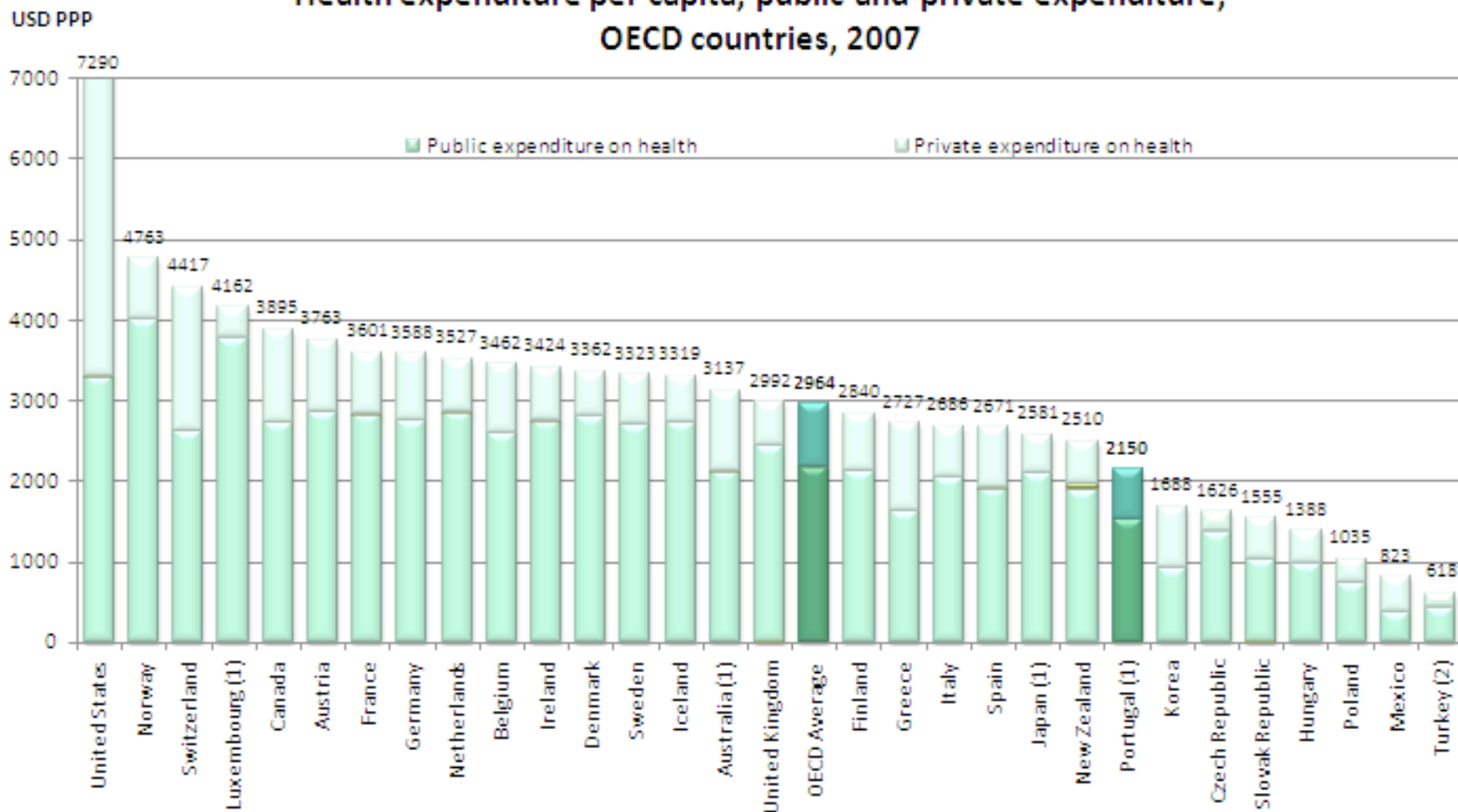
Health expenditure as a share of GDP, OECD countries, 2007



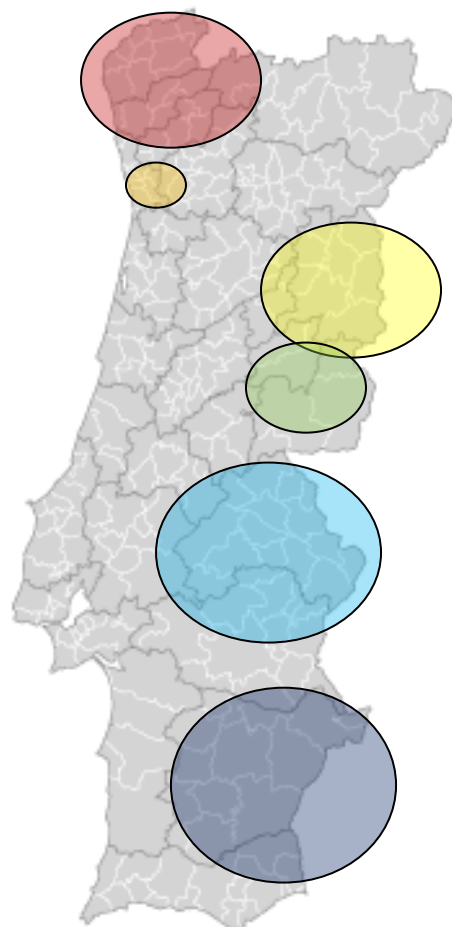
(1) 2006. (2) 2005. Source: OECD Health Data 2009. June 09.

Total, public & private health expenditure pc (USD ppp)

Health expenditure per capita, public and private expenditure, OECD countries, 2007



(1) 2006, (2) 2005. Data for Belgium, Denmark and the Netherlands are current expenditures (excluding investment). Source: OECD Health Data 2009, June 09.



-  **ULS Alto Minho**
-  **ULS Matosinhos**
-  **ULS Guarda**
-  **ULS Castelo Branco**
-  **ULS Norte Alentejano**
-  **ULS Baixo Alentejo**

Local Health Units

	ULS Matosinhos	ULS Norte Alentejano	ULS Alto Minho	ULS Guarda	ULS Baixo Alentejo	ULS Castelo Branco
Year	1999	2007	2008	2008	2008	2010
Local Health Units	1 Hospital 4 PHCC	2 Hospitais 16 PHCC	2 Hospitals 12 PHCC	2 Hospitals 12 PHCC	2 Hospitals 13 PHCC	1 Hospital 9 PHCC
Population	169.122	118.066	251.676	158.055	127.581	114.997
NHS Funding (Contract Value)	107.807.949 €	88.019.878 €	135.510.083 €	81.632.903 €	77.392.597 €	68.140.624 €

PHCC – Primary Health Care Center

LHU: Portugal & Spain

	Hospitals	PHCC	Extensions
ULS Norte Alentejano	2	16	77
ULS Matosinhos	1	4	11
ULS Guarda	2	13	77
ULS Alto Minho	2	11	19
ULS Baixo Alentejo	2	13	67
La Ribera	1	8	21
Torre vieja	1	10	-

	Inhabitants	km ²	Pop. Density
ULS Norte Alentejano	118.066	6.084,44	19,4
ULS Matosinhos	169.122	62,24	2717
ULS Guarda	158.055	4930	32,06
ULS Alto Minho	251.676	2218	113,5
ULS Baixo Alentejo	127.581	8.542,7	14,9
La Ribera	240.000	1.011,50	237,3
Torre vieja	155.000 *	101.381	1.528,9

Indicators (2007)	ULSNA	ULSM	La Ribera
Secondary Health Care			
Average Length of Stay (days)	8,21	7,8	4,73
Mean cost per discharge (€)	10.021,59	7018,75	7.238,74
Mean cost per outpatient consultation (€)	1.048,41	608,89	408,58
Primary Health Care			
Mean cost per outpatient consultation (€)	194,39	-	113,59
Funding <i>per capita</i> (€) (2007)	636	595	535

Fee-for-service

- * Ill patients usually attractive
- * Overprovision of services
- * Underreferral
- * No incentive for high quality

Case payments

- * Very ill patients not attractive
- * Tendency to average provision
- * Weak quality incentives

Capitation

- * Ill patients not attractive
- * Underprovision of services
- * Overreferral
- * Quality: bad results
-> more work

* No incentives for appropriate continuity of care across providers

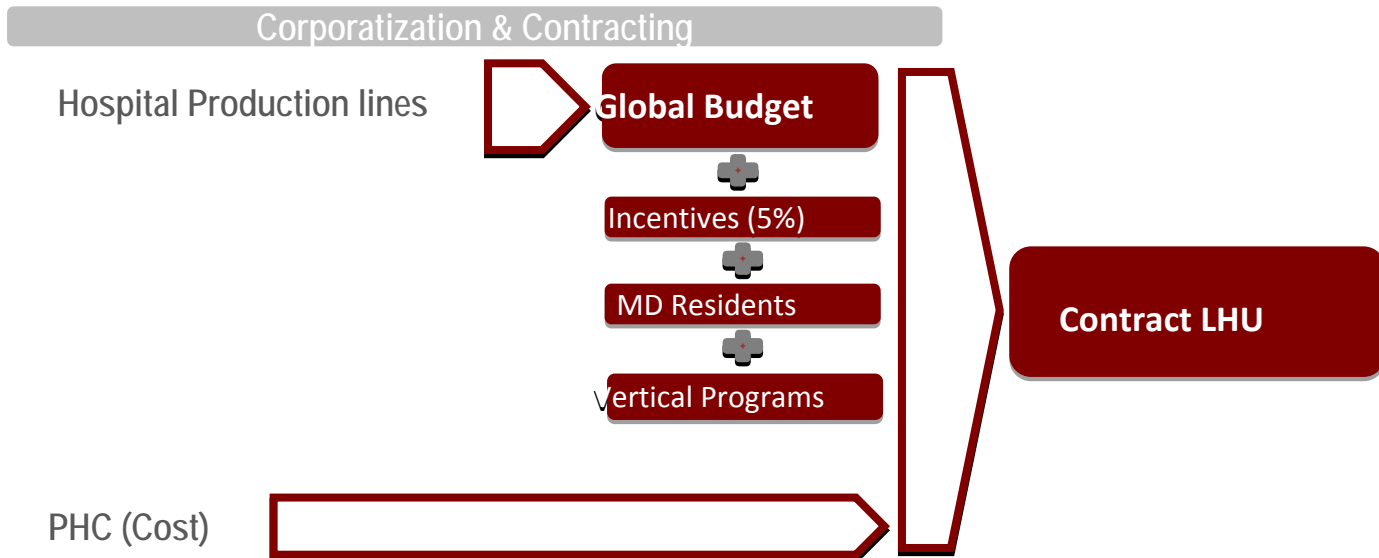
* Busse, 2009 (*Chec Republic's Presidency*)

LHU funding scheme:

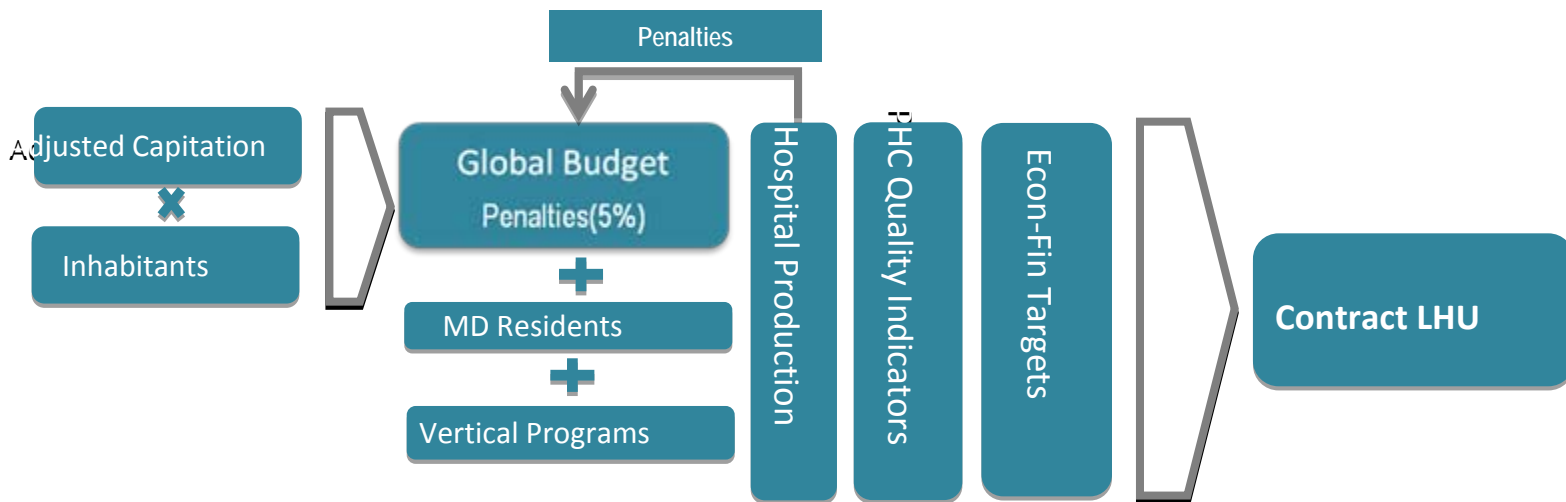
2008 Prospective Payment - **Production based**

2009 Prospective Payment - **Population based**

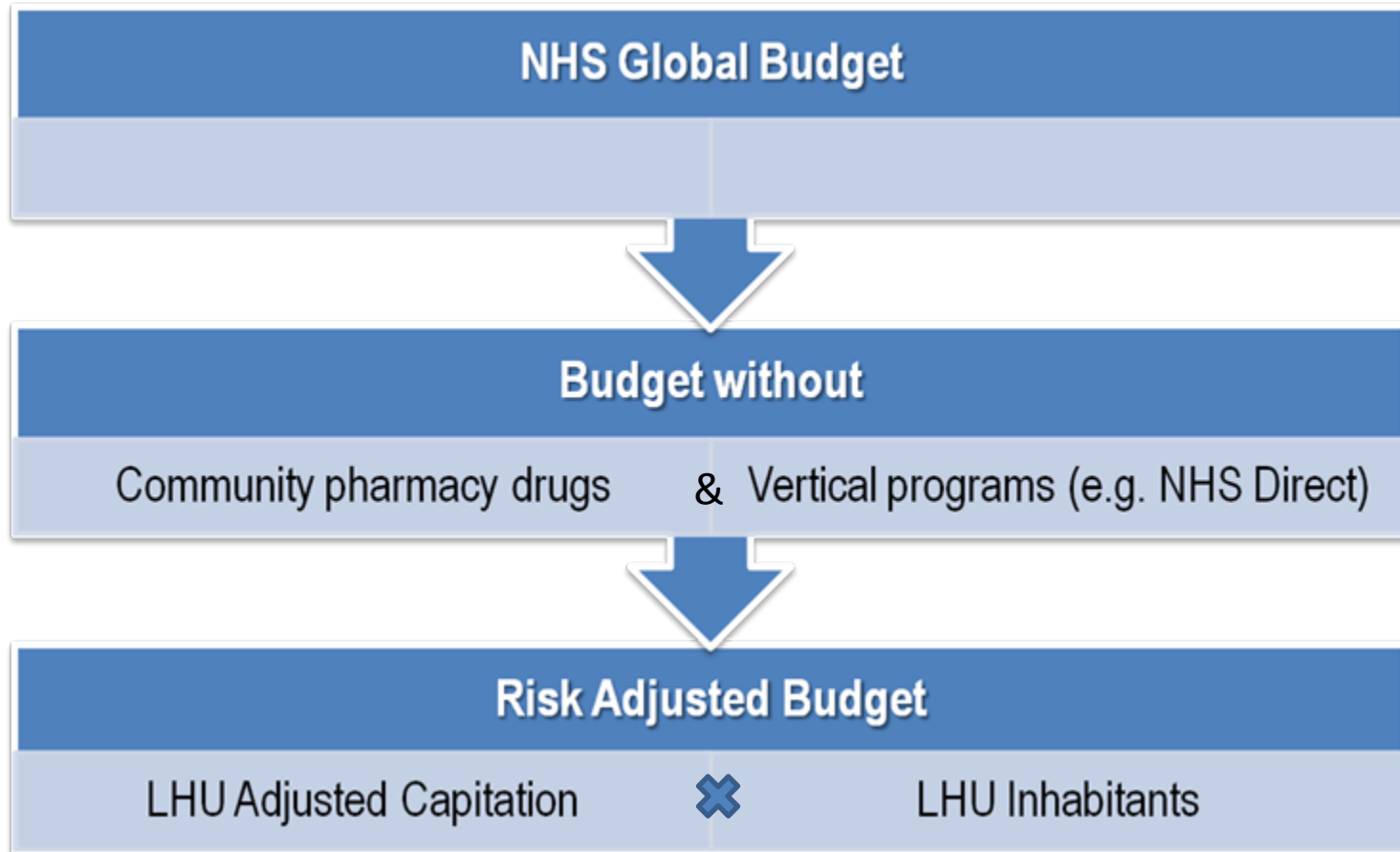
2008



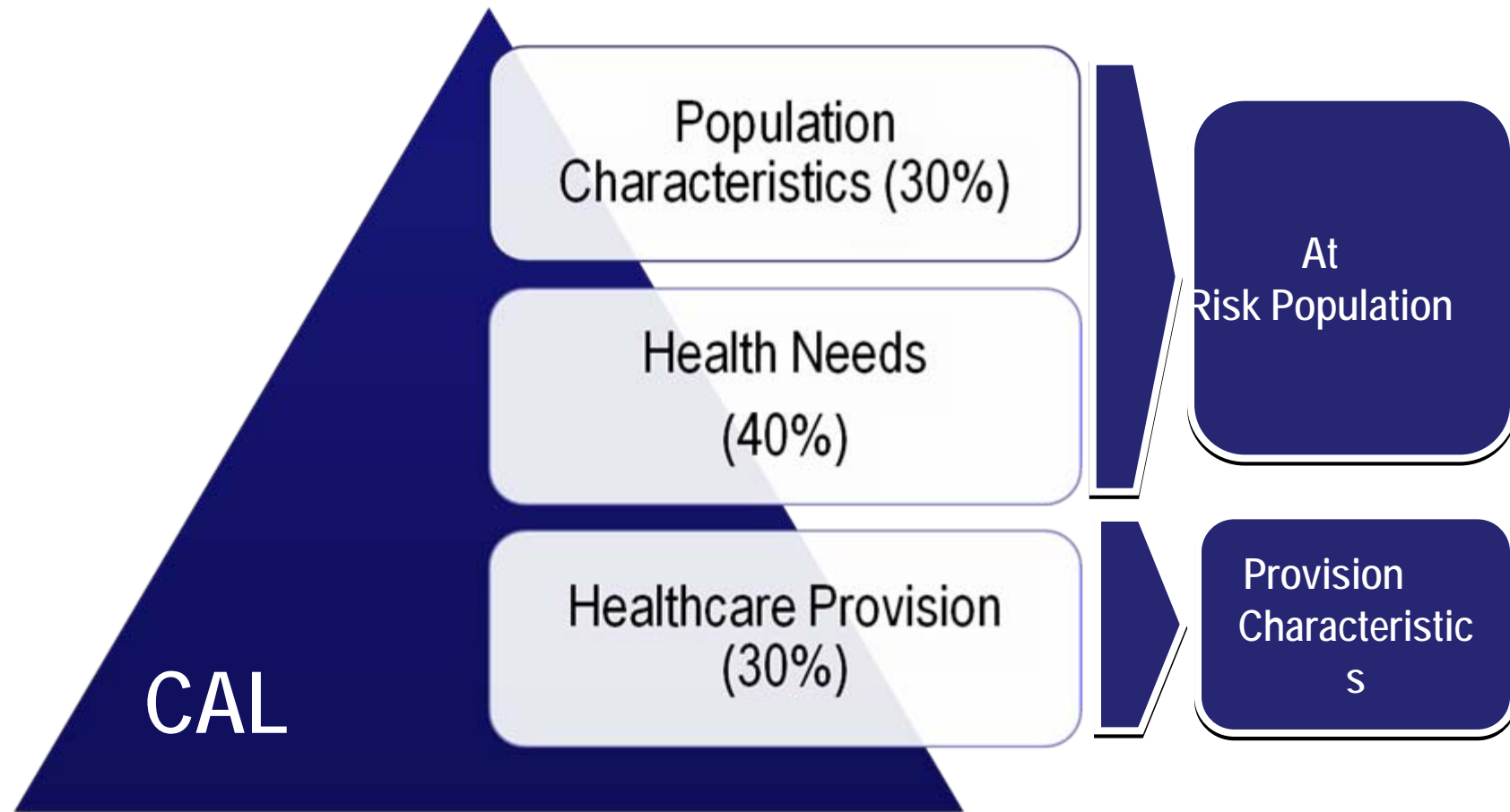
2009



LHU capita calculation methodology

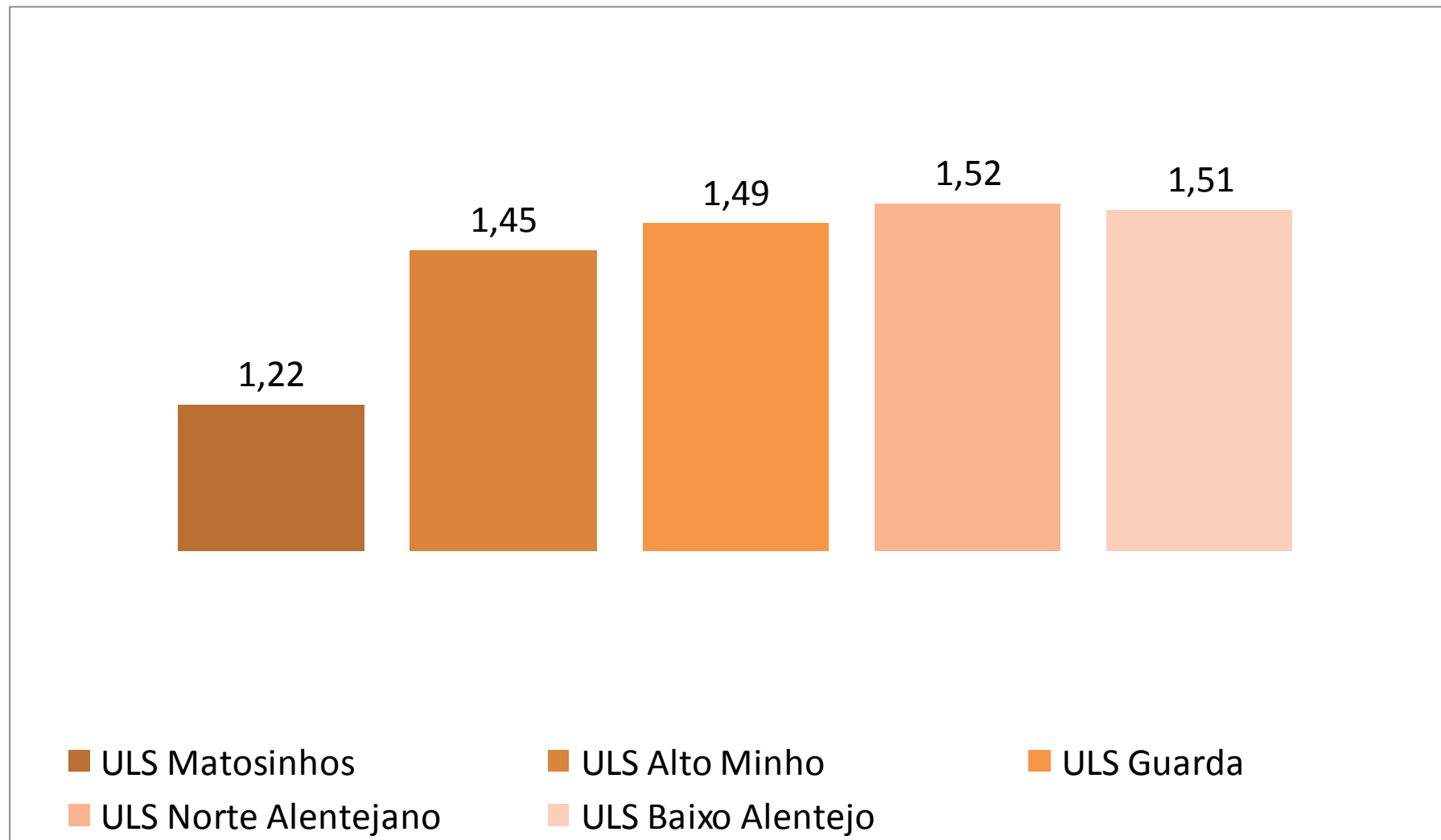


Local adjustment coefficient (CAL) - 2009

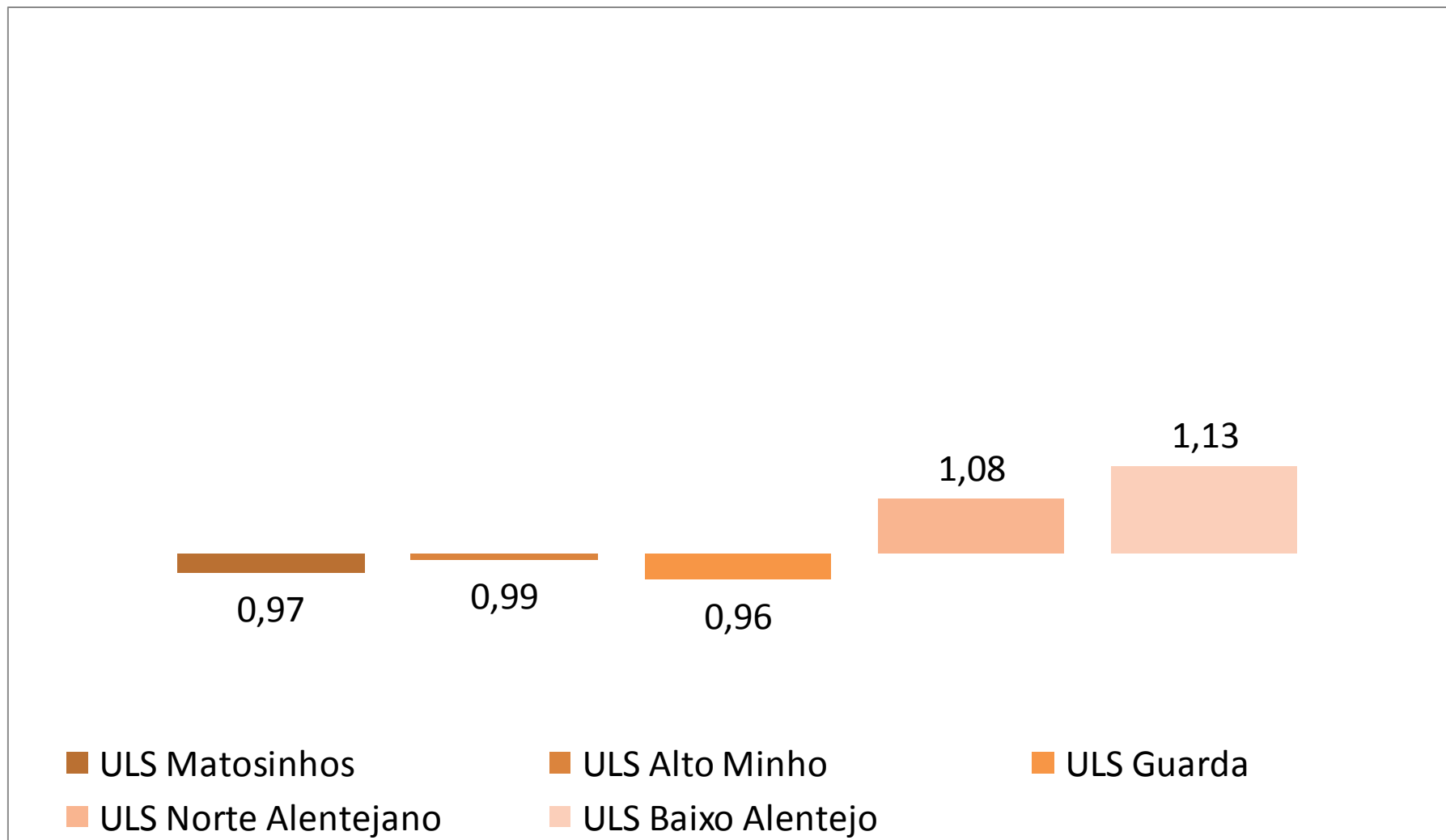


Criteria and Indicators	Source	Weight	ULS Matosinhos	ULS Alto Minho	ULS Guarda	ULS Norte Alentejano	ULS Baixo Alentejo
Demographic characteristics		0,30	Max.	Min.			
			1,20	0,90			
Rate of feminin resident population	INE	0,15	1,00	1,03	1,01	1,00	0,98
Total Dependency ratio	INE	0,15	0,90	1,09	1,20	1,20	1,20
Ageing ratio	INE	0,20	0,83	1,20	1,20	1,20	1,20
Unemployment rate	INE	0,15	1,17	1,17	0,90	1,17	1,17
% of residents with mandatory education level	INE	0,15	0,90	1,20	1,20	1,20	1,20
GDP <i>per capita</i> , current prices	INE	0,10	1,00	1,20	1,20	1,20	1,08
Purchasing power <i>per capita</i>	INE	0,10	0,90	1,20	1,20	1,20	1,20
	A	1,00	1,22	1,45	1,49	1,52	1,51
Health Needs		0,40					
Padronized global mortality rate	DGS	0,50	0,97	0,97	0,99	1,10	1,17
Rate (/100000 hab) of potential life years lost until 70	DGS	0,50	0,97	1,01	0,92	1,07	1,10
	B	1,00	0,97	0,99	0,96	1,08	1,13
Healthcare Provision		0,30	Max.	Min			
			1,20	0,90			
PHC utilization rate (Users/residents)	ACSS	0,50	1,02	1,14	0,96	1,14	1,12
Surgical production	ACSS	0,10	1,08	0,70	0,58	0,70	0,71
Medical production	ACSS	0,10	1,08	0,96	1,02	0,91	0,90
Population density	INE	0,30	0,90	1,00	1,20	1,20	1,20
	C	1,00	1,00	1,04	1,00	1,09	1,08
GLOBAL LOCAL ADJUSTMENT COEFFICIENT			1,053	1,144	1,129	1,218	1,231

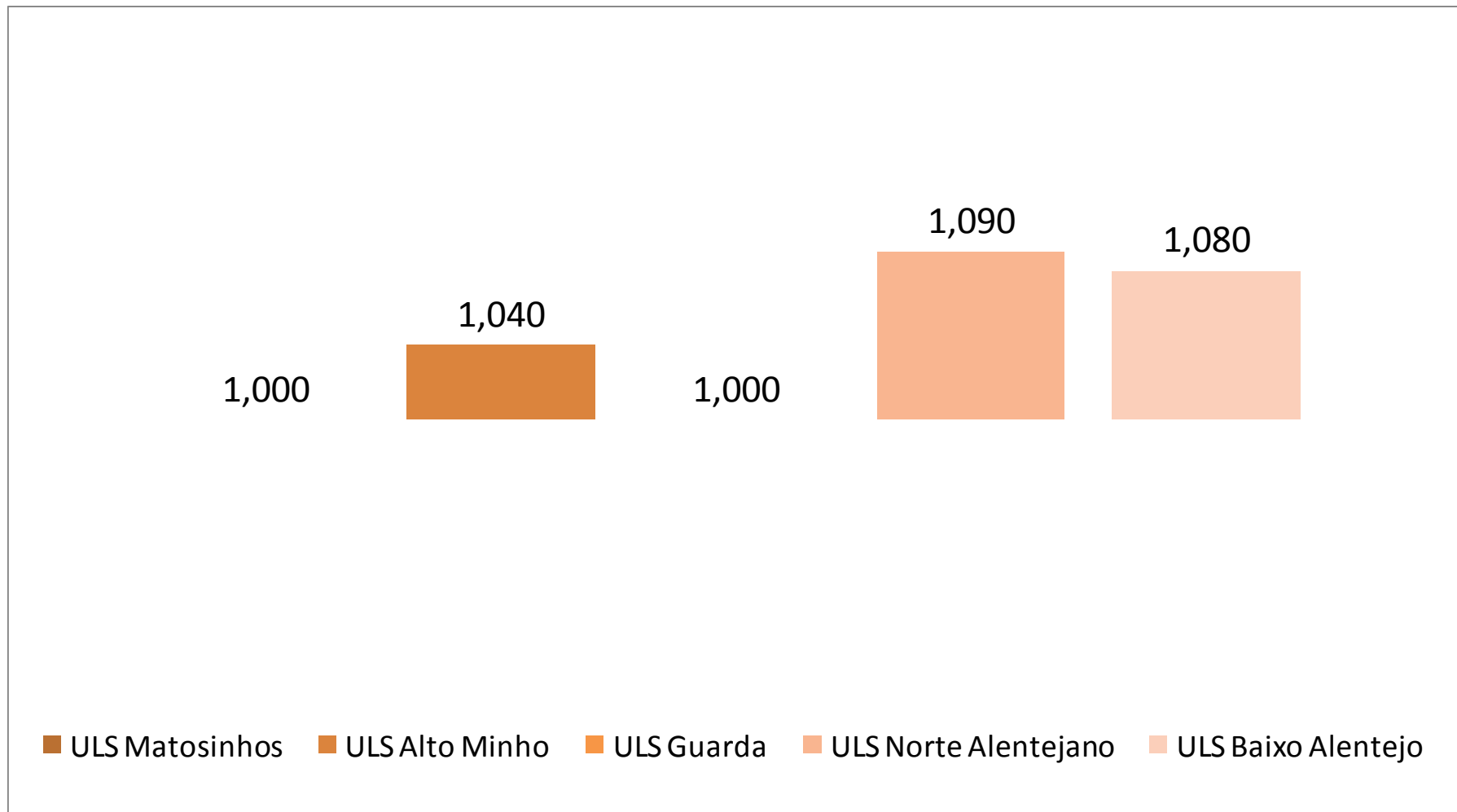
Demographic characteristics (30%)



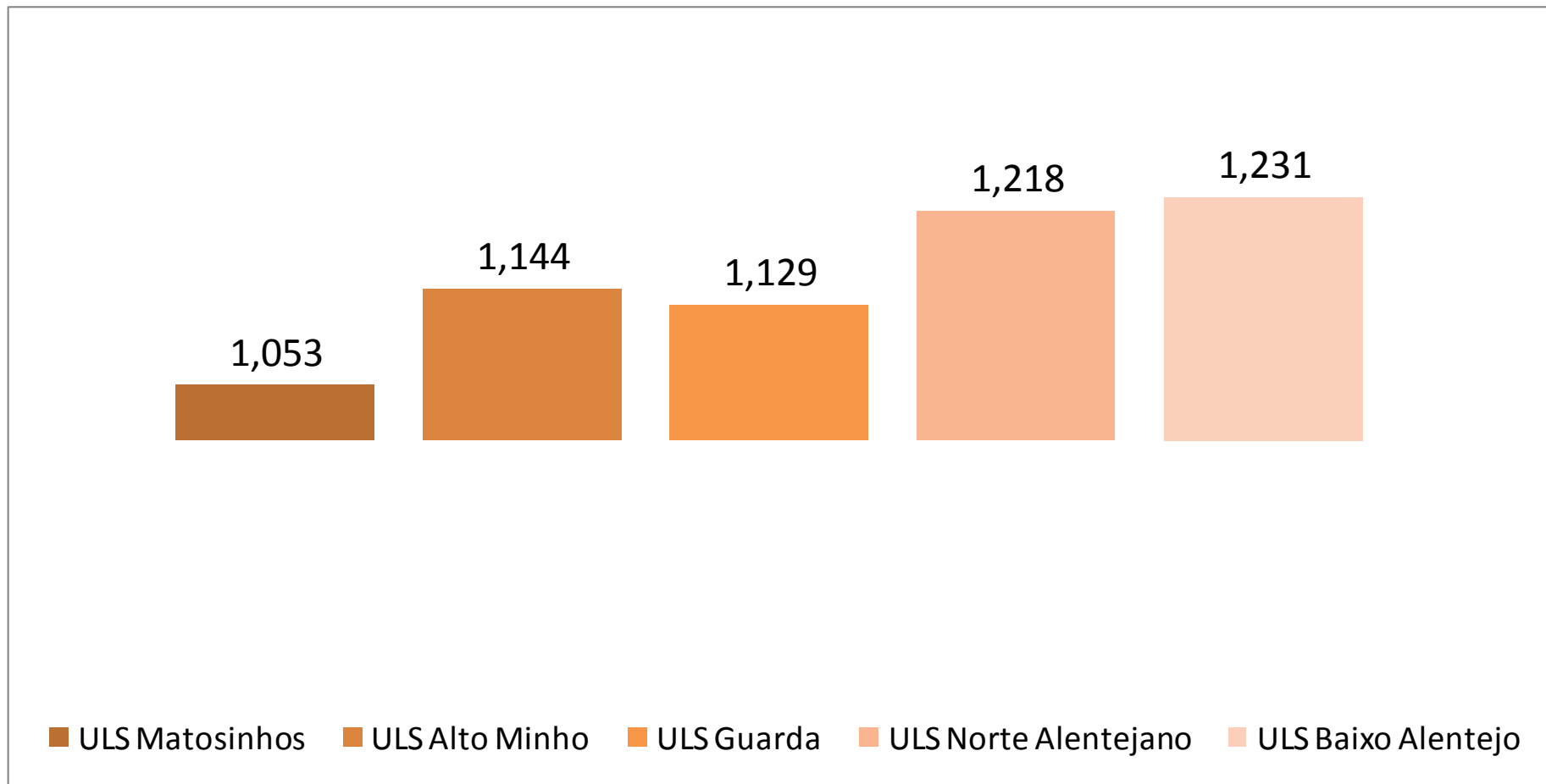
Health needs (40%)



Healthcare provision (30%)



Local adjustment coefficient – global values



Risk adjusted capitation under improvement...

1. Internacional benchmarking
2. Statistical evaluation of current formulae
3. Proposal of a new CAL and risk adjusted capitation funding scheme

Local adjustment coefficient (CAL) analysis

Without restrictions to variation

		Dependent variable					
		Inpatient costs		PHC Costs		Total Costs	
Independent variable	CAL	Coefic.	P-value	Coefic.	P-value	Coefic.	P-value
		424	0,00%	775	0,00%	1199	0,00%
		R²	Signif F	R²	Signif F	R²	Signif F
		0,12	0,00%	0,18	0,00%	0,21	0,00%

Without restrictions to variation

		Dependent variable					
		Inpatient costs		PHC Costs1		Total Costs	
Independent variable	CAL	Coefic.	P-value	Coefic.	P-value	Coefic.	P-value
		47,4	0,00%	115,4	0,00%	286,4	0,00%
		R²	Signif F	R²	Signif F	R²	Signif F
		0,14	0,00%	0,25	0,00%	0,28	0,00%

Selected variables for modelling & excluded correlated variables

	PHC or Drug cost as proxy	Secondary care
• Gender ratio	✓	✓
• Total Dependency ratio	✓	✓
• Ageing ratio		
• Unemployment rate		
• Proportion of residents with mandatory education level	✓	
• Average monthly (gross) earning		
• Consumer price index		
• Population density		
• Medical production index		
• Surgical production index		
• PHC Users/inhabitants	✓	
• Age-standardized death rates		
• Life years lost		✓
• Inpatient Diagnostics		

Individual Analysis (cross sectional)

dependent variable (cost) and the predictor variables

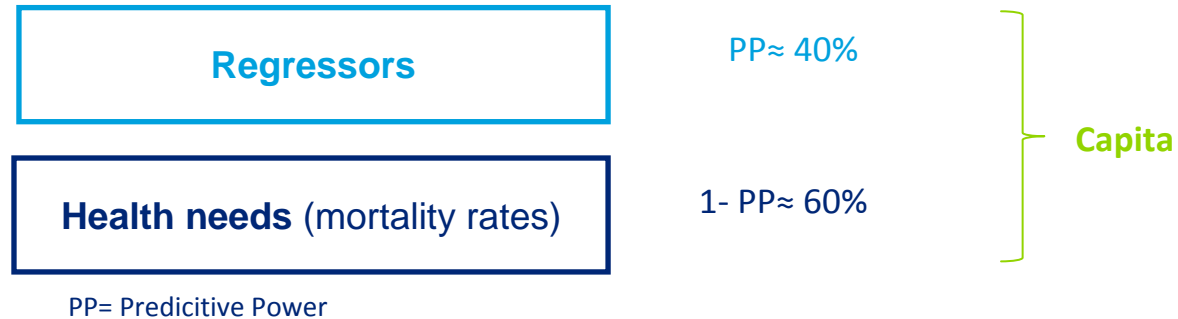
	PHC		Drugs		Drugs.+ Lab exams		Hosp.		PHC + Hosp.		Hosp.+ Drugs		Transports	
	R ²	P-value	R ²	P-value	R ²	P-value	R ²	P-value	R ²	P-value	R ²	P-value	R ²	P-value
Sex ratio	6%	0%	5%	0%	6%	0%	10%	0%	9%	0%	11%	0%	0%	34%
Total dependency ratio	21%	0%	46%	0%	30%	0%	14%	0%	25%	0%	31%	0%	20%	0%
Ageing ratio	27%	0%	43%	0%	29%	0%	21%	0%	34%	0%	38%	0%	24%	0%
Unemployment rate	4%	0%	4%	0%	3%	1%	6%	0%	7%	0%	8%	0%	2%	1%
Proportion of students graduated in secondary education	20%	0%	25%	0%	23%	0%	2%	4%	17%	0%	5%	0%	13%	0%
Average monthly (gross) earning	13%	0%	13%	0%	11%	0%	1%	12%	7%	0%	0%	30%	6%	0%
Consumer price index	19%	0%	23%	0%	18%	0%	0%	36%	11%	0%	2%	2%	11%	0%
Population's density	6%	0%	9%	0%	5%	0%	0%	60%	4%	0%	1%	12%	5%	0%
Medical production index	8%	0%	16%	0%	2%	2%	62%	0%	24%	0%	50%	0%	3%	1%
Surgical production index	8%	0%	15%	0%	9%	0%	65%	0%	26%	0%	59%	0%	3%	0%
PHC Usage/inhabitants	9%	0%	27%	0%	26%	0%	1%	17%	8%	0%	7%	0%	4%	0%
Age-standardized death rates	0%	46%	2%	1%	0%	87%	4%	0%	1%	8%	5%	0%	6%	0%
Life years lost	1%	8%	0%	46%	2%	1%	2%	2%	0%	56%	1%	12%	1%	22%
Inpatient Diagnostics	16%	0%	16%	0%	10%	0%	95%	0%	39%	0%	80%	0%	8%	0%

Estimators & variation

Estimators	coefficient	p-value	Min	Max	Max Amplitude	DEVPAD
Intercept	-889,6	0,0%				
Gender ratio	2.340,6	0,0%	42%	55%	303	29
Total Dependency ratio	5,1	0,0%	47	88	211	50
Proportion of students graduated in secondary education	-2,2	0,0%	19	56	82	24

$(R^2) = 43\%$

Prospective Payment estimation



Value per capita - Target

LHU	Population	Regressors costs index (IR)	Health needs Index (INS)	Global Index (IG=40%*IR+60%*INS)	Capita target ² (IG* Capita national)
Main land	10.135.309	1,00	1,00	1,00	605 €
ULSM	169.261	0,90	0,97	0,94	570 €
ULSAM	250.951	1,14	0,97	1,04	628 €
ULSG	156.466	1,17	0,99	1,07	645 €
ULSCB	113.545	1,25	1,03	1,11	674 €
ULSNA	116.830	1,17	1,10	1,13	681 €
ULSBA	126.234	1,07	1,17	1,13	683 €

Resource allocation model – LHU in 2010

Global budget

- Adjusted capita:
 - Regressors + Health needs

Medication Cost Reduction Incentives

- New incentives for medication cost reduction, based on a Target for medication per capita cost (capita pool); currently, all LHU are above the respective Target
- Reducing cost until Target value, means 80% retaining in the LHU. Reducing value below the Target implies 90% retention of attained reduction

Quality Standards

- Setting Quality and Integration objectives
- 10% of Global Budget retained if goals are not achieved by LHUs (approximately 60ME for 6 ULS)

1. Risk adjustment or cost adjustment?
2. Data collection: existence & reliability
3. Pooling Capita – Medication,...
4. PHC classification systems needed
5. Integration of care: how to measure & incentive it further?
6. Governance & monitoring: new demands
7. IT issues (from *hospitalocentrism* to LHU..)