

DAIP-CIP

Desenvolvimento e Avaliação de
Índices de Prognóstico em
Cuidados Intensivos Pediátricos em Portugal
(POCTI/ESP/41472/2001)

Development and assessment of optimal risk scores
for outcomes in pediatric intensive care



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Results of reports can be freely used if the following reference is mentioned:

DAIP-CIP Project (preliminary results); <http://daipcip.med.up.pt/>

Introduction

Continuous improvement of quality of care delivered by Pediatric Intensive Care Units (PICUs) allowed a progressive decline of the mortality rate. Although quality of care is not measured only by mortality rate and morbidity associated of delivered care is becoming increasingly more important, as well as the quality of life of survivors to pediatric intensive care. A prospective multicentric study designed to evaluate quality of life of children admitted to three Portuguese PICUs – H. D. Estefânia (Lisboa), H. Pediátrico de Coimbra and H. S. João (Porto) – started in March, 2001. This study is included in a three years larger project DAIP-CIP (Development and assessment of optimal risk scores for outcomes in pediatric intensive care), supported by “Fundação para a Ciência and para a Tecnologia” (POCTI/ESP/41472/2001) and FEDER.

Methods

Quality of life is evaluated through the Health Utilities Index Mark 3 (HUI3), a 40 items questionnaire about a group of eight attributes (Vision, Hearing, Speech, Ambulation, Dexterity, Emotion, Cognition and Pain) which allows evaluation of the health status of children six years of age or older.

HUI3 was applied prospectively through an interview, answered by someone close to the children (proxy), in two different moments: immediately after admission to the PICU (previous health status) and six months later. Simultaneously, demographic and other additional data were collected for each patients accordingly to the DAIP-CIP project protocol.

After application of the HUI3 algorithm the eight attributes and the global health status were evaluated, for each moment the questionnaire was applied and for the difference between the health status prior to and six months after admission to PICU.

Attribute values range from 0 to 1 in a continuous scale and from 1 to 5 or 6 in a categorical scale. Lack of attribute is represented by 0 in the continuous scale or by 5 or 6 in the categorical scale; completely functional attribute is represented by 1 in both scales.

HUI3 values range from -0,36 to 1,0 where 0=“death”, 1=“perfect health status” and the negative values means a health state of being “worst than dead”. In the evaluation between the health status prior to and six months after admission to PICU we defined three categories accordingly to the difference in the continuous scale: “deterioration” if the difference is $<-0,05$, “same status” if $[-0,05 - 0,05]$ and “improvement” if $>0,05$ (Annex 1).

Prior health status data are from children admitted to PICUs between 03/05/2002 and 15/10/2003 that met inclusion criteria and from the total of 269 subjects 178 (66%) were interviewed. Of these 178 subjects 103 (58%) were interviewed six months later; 45 interviews have not been done because the time from admission to PICU is still inferior to six months. (Annex 2).

Results will be presented in three sections: health status prior to admission to PICU, six months after admission and variation of health status.



Continuous variables were described by summary measures - mean, standard deviation (sd), quartiles and range (minimum-maximum) – and categorical variables by frequencies and percentages (%). HUI3 values for each attribute and globally were analyzed by gender, health status defined by the proxy (excellent/very good/good; fair/bad), kind of admission (elective/not elective), diagnostic group (postoperative elective; trauma; other) and by data collection Center (Coimbra; Lisboa; Porto).

Statistical analysis was done using SPSS® (Statistical Package for the Social Sciences) v.12.0 software.

Differences were considered statistically significant for values of $p < 0,05$, in all tests.



Results – Health status prior to admission

Table 1.1 - Minimum(min), percentile 25(P25), median, percentile 75(P75) and maximum(max) scores of HUI3 attributes and HUI3 global score.

	n	min	P25	me	P75	max
Vision	168	0,00	1,00	1,00	1,00	1,00
Hearing	174	0,00	1,00	1,00	1,00	1,00
Speech	177	0,00	1,00	1,00	1,00	1,00
Mobility	173	0,00	1,00	1,00	1,00	1,00
Dexterity	175	0,00	1,00	1,00	1,00	1,00
Emotion	170	0,00	0,91	1,00	1,00	1,00
Cognition	170	0,00	0,86	1,00	1,00	1,00
Pain	172	0,00	0,77	1,00	1,00	1,00
Global	160	-0,36	0,55	0,89	1,00	1,00

Table 1.2 - Frequency and percentage of HUI3 attribute categorical scores.

	Vision		Hearing		Speech		Mobility		Dexterity		Emotion		Cognition		Pain	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
1	137	(82)	171	(98)	154	(87)	144	(82)	157	(89)	111	(65)	116	(68)	105	(61)
2	19	(11)	0	(0)	11	(6)	10	(6)	2	(1)	18	(11)	23	(14)	21	(12)
3	0	(0)	1	(1)	0	(0)	1	(1)	0	(0)	28	(16)	7	(4)	9	(5)
4	7	(4)	0	(0)	4	(2)	1	(1)	1	(1)	10	(6)	10	(6)	20	(12)
5	2	(1)	0	(0)	8	(5)	5	(3)	7	(4)	3	(2)	4	(2)	17	(10)
6	3	(2)	2	(1)	N/A		12	(7)	8	(5)	N/A		10	(6)	N/A	

Table 1.3 - Minimum(min), percentile 25(P25), median, percentile 75(P75) and maximum(max) of HUI3 scores by gender.

	Gender														<i>p</i> *
	Male							Female							
	n	min	P25	me	P75	max	n	min	P25	me	P75	max			
Vision	75	0,00	1,00	1,00	1,00	1,00	93	0,00	1,00	1,00	1,00	1,00	1,00	0,243	
Hearing	78	0,71	1,00	1,00	1,00	1,00	96	0,00	1,00	1,00	1,00	1,00	1,00	0,677	
Speech	79	0,00	1,00	1,00	1,00	1,00	98	0,00	1,00	1,00	1,00	1,00	1,00	0,153	
Mobility	78	0,00	1,00	1,00	1,00	1,00	95	0,00	1,00	1,00	1,00	1,00	1,00	0,890	
Dexterity	79	0,00	1,00	1,00	1,00	1,00	96	0,00	1,00	1,00	1,00	1,00	1,00	0,558	
Emotion	77	0,00	0,82	1,00	1,00	1,00	93	0,00	0,91	1,00	1,00	1,00	1,00	0,291	
Cognition	77	0,00	0,92	1,00	1,00	1,00	93	0,00	0,86	1,00	1,00	1,00	1,00	0,173	
Pain	77	0,00	0,77	1,00	1,00	1,00	95	0,00	0,77	1,00	1,00	1,00	1,00	0,372	
Global	73	-0,30	0,53	0,86	1,00	1,00	87	-0,36	0,65	0,92	1,00	1,00	1,00	0,498	

* Mann-Whitney test



Table 1.4 - Minimum(min), percentile 25(P25), median, percentile 75(P75) and maximum(max) of HUI3 by age (months).

	Age in months												<i>p</i> *
	72-125 months						126-216 months						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	89	0,00	1,00	1,00	1,00	1,00	79	0,00	1,00	1,00	1,00	1,00	0,178
Hearing	92	0,00	1,00	1,00	1,00	1,00	82	0,00	1,00	1,00	1,00	1,00	0,500
Speech	93	0,00	1,00	1,00	1,00	1,00	84	0,00	1,00	1,00	1,00	1,00	0,592
Mobility	91	0,00	1,00	1,00	1,00	1,00	82	0,00	1,00	1,00	1,00	1,00	0,029
Dexterity	92	0,00	1,00	1,00	1,00	1,00	83	0,00	1,00	1,00	1,00	1,00	0,744
Emotion	91	0,00	0,91	1,00	1,00	1,00	79	0,00	0,73	1,00	1,00	1,00	0,114
Cognition	88	0,00	0,92	1,00	1,00	1,00	82	0,00	0,86	1,00	1,00	1,00	0,379
Pain	91	0,00	0,77	1,00	1,00	1,00	81	0,00	0,77	1,00	1,00	1,00	0,382
Global	84	-0,30	0,67	0,93	1,00	1,00	76	-0,36	0,41	0,82	1,00	1,00	0,099

* Mann-Whitney test

Table 1.5 - Minimum(min), percentile 25 (P25), median, percentile 75 (P75) and maximum(max) of HUI3 by health status defined by the proxy.

	Health status												<i>p</i> *
	Excellent/Very good/Good						Fair/Bad						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	104	0,00	1,00	1,00	1,00	1,00	63	0,00	1,00	1,00	1,00	1,00	0,542
Hearing	105	1,00	1,00	1,00	1,00	1,00	68	0,00	1,00	1,00	1,00	1,00	0,030
Speech	105	0,00	1,00	1,00	1,00	1,00	71	0,00	1,00	1,00	1,00	1,00	0,009
Mobility	105	0,00	1,00	1,00	1,00	1,00	67	0,00	0,83	1,00	1,00	1,00	<0,001
Dexterity	105	0,00	1,00	1,00	1,00	1,00	69	0,00	1,00	1,00	1,00	1,00	0,001
Emotion	104	0,33	1,00	1,00	1,00	1,00	65	0,00	0,73	0,91	1,00	1,00	<0,001
Cognition	104	0,00	0,92	1,00	1,00	1,00	65	0,00	0,86	1,00	1,00	1,00	0,013
Pain	104	0,48	1,00	1,00	1,00	1,00	67	0,00	0,00	0,77	1,00	1,00	<0,001
Global	103	-0,30	0,84	0,97	1,00	1,00	56	-0,36	0,04	0,50	0,81	1,00	<0,001

* Mann-Whitney test

Table 1.6 - Minimum(min), percentile 25(P25), median(me), percentile 75(P75) and maximum(max) of HUI3 by kind of admission.

	Kind of admission												<i>p</i> *
	Elective						Not elective						
	n	min	P25	Me	P75	max	n	min	P25	me	P75	max	
Vision	61	0,00	,98	1,00	1,00	1,00	107	0,00	1,00	1,00	1,00	1,00	0,125
Hearing	65	1,00	1,00	1,00	1,00	1,00	109	0,00	1,00	1,00	1,00	1,00	0,179
Speech	67	0,00	1,00	1,00	1,00	1,00	110	0,00	1,00	1,00	1,00	1,00	0,013
Mobility	64	0,00	,83	1,00	1,00	1,00	109	0,00	1,00	1,00	1,00	1,00	0,002
Dexterity	66	0,00	1,00	1,00	1,00	1,00	109	0,00	1,00	1,00	1,00	1,00	0,000
Emotion	64	0,00	0,73	1,00	1,00	1,00	106	0,00	0,91	1,00	1,00	1,00	0,056
Cognition	64	0,00	0,86	1,00	1,00	1,00	106	0,00	0,86	1,00	1,00	1,00	0,771
Pain	65	0,00	0,48	1,00	1,00	1,00	107	0,00	0,92	1,00	1,00	1,00	0,226
Global	59	-0,30	0,30	0,75	0,97	1,00	101	-0,36	0,69	0,93	1,00	1,00	0,007

* Mann-Whitney test



Table 1.7 - Minimum(min), percentile 25(P25), median(me), percentile 75(P75) and maximum(max) of HUI3 by diagnostic group.

	Diagnostic group																		<i>p</i> *
	Postoperative elective						Trauma						Other						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	56	0,00	1,00	1,00	1,00	1,00	53	0,59	1,00	1,00	1,00	1,00	59	0,00	1,00	1,00	1,00	1,00	0,216
Hearing	59	1,00	1,00	1,00	1,00	1,00	53	0,00	1,00	1,00	1,00	1,00	62	0,00	1,00	1,00	1,00	1,00	0,397
Speech	61	0,00	1,00	1,00	1,00	1,00	53	0,41	1,00	1,00	1,00	1,00	63	0,00	1,00	1,00	1,00	1,00	0,151
Mobility	58	0,00	0,83	1,00	1,00	1,00	53	1,00	1,00	1,00	1,00	1,00	62	0,00	1,00	1,00	1,00	1,00	<0,001
Dexterity	60	0,00	1,00	1,00	1,00	1,00	53	1,00	1,00	1,00	1,00	1,00	62	0,00	1,00	1,00	1,00	1,00	0,003
Emotion	58	0,00	0,73	1,00	1,00	1,00	53	0,33	1,00	1,00	1,00	1,00	59	0,00	0,73	0,91	1,00	1,00	<0,001
Cognition	59	0,00	0,86	1,00	1,00	1,00	53	0,00	0,92	1,00	1,00	1,00	58	0,00	0,86	1,00	1,00	1,00	0,537
Pain	59	0,00	0,48	1,00	1,00	1,00	53	0,48	1,00	1,00	1,00	1,00	60	0,00	0,48	0,92	1,00	1,00	<0,001
Global	54	-0,30	0,39	0,80	0,97	1,00	53	-0,21	0,89	0,97	1,00	1,00	53	-0,36	0,35	0,71	1,00	1,00	<0,001

* Kruskal Wallis test

Table 1.8 - Minimum(min), percentile 25(P25), median(me), percentile 75(P75) and maximum(max) of HUI3 by data collection Center.

	Data collection Center																		<i>p</i> *
	Coimbra						Lisboa						Porto						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	60	0,59	1,00	1,00	1,00	1,00	37	0,00	0,98	1,00	1,00	1,00	71	0,00	1,00	1,00	1,00	1,00	0,392
Hearing	65	1,00	1,00	1,00	1,00	1,00	38	0,00	1,00	1,00	1,00	1,00	71	0,00	1,00	1,00	1,00	1,00	0,139
Speech	65	0,00	1,00	1,00	1,00	1,00	41	0,00	1,00	1,00	1,00	1,00	71	0,00	1,00	1,00	1,00	1,00	0,554
Mobility	64	0,00	1,00	1,00	1,00	1,00	39	0,00	0,83	1,00	1,00	1,00	70	0,00	1,00	1,00	1,00	1,00	0,055
Dexterity	65	0,00	1,00	1,00	1,00	1,00	39	0,00	1,00	1,00	1,00	1,00	71	0,00	1,00	1,00	1,00	1,00	0,983
Emotion	64	0,33	0,73	1,00	1,00	1,00	35	0,00	0,73	1,00	1,00	1,00	71	0,00	0,91	1,00	1,00	1,00	0,054
Cognition	63	0,00	0,86	1,00	1,00	1,00	37	0,00	0,86	1,00	1,00	1,00	70	0,00	0,86	1,00	1,00	1,00	0,980
Pain	63	0,00	0,48	1,00	1,00	1,00	38	0,00	0,48	0,92	1,00	1,00	71	0,00	1,00	1,00	1,00	1,00	<0,001
HUI3	57	-0,23	0,58	0,81	1,00	1,00	34	-0,36	0,33	0,73	1,00	1,00	69	-0,30	0,72	0,93	1,00	1,00	0,119

* Kruskal Wallis test



Results – Health status six months after admission

Table 2.1 - Minimum(min), percentile 25(P25), median, percentile 75(P75) and maximum(max) scores of HUI3 attributes and HUI3 global score.

	n	min	P25	me	P75	max
Vision	100	0,00	,96	1,00	1,00	1,00
Hearing	100	0,00	1,00	1,00	1,00	1,00
Speech	103	0,00	1,00	1,00	1,00	1,00
Mobility	102	0,00	1,00	1,00	1,00	1,00
Dexterity	103	0,00	1,00	1,00	1,00	1,00
Emotion	103	0,00	0,91	1,00	1,00	1,00
Cognition	99	0,00	0,70	1,00	1,00	1,00
Pain	103	0,00	0,92	1,00	1,00	1,00
Global	94	-0,36	0,43	0,77	1,00	1,00

Table 2.2 - Frequency and percentage of HUI3 attribute categorical scores.

	Vision		Hearing		Speech		Mobility		Dexterity		Emotion		Cognition		Pain	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
1	75	(75)	97	(97)	85	(82)	85	(83)	88	(85)	63	(61)	54	(55)	71	(68)
2	12	(12)	1	(1)	4	(4)	1	(1)	2	(2)	20	(19)	15	(15)	11	(11)
3	0	(0)	0	(0)	2	(2)	2	(2)	0	(0)	11	(11)	3	(3)	7	(7)
4	8	(8)	1	(1)	6	(6)	0	(0)	1	(1)	6	(6)	11	(11)	6	(6)
5	2	(2)	0	(0)	6	(6)	1	(1)	3	(3)	3	(3)	12	(12)	8	(8)
6	3	(3)	1	(1)	N/A		13	(13)	9	(9)	N/A		4	(4)	N/A	

Table 2.3 - Minimum(min), percentile 25(P25), median, percentile 75(P75) and maximum(max) of HUI3 scores by gender.

	Gender														p*
	Male							Female							
	n	min	P25	me	P75	max	n	min	P25	me	P75	max			
Vision	48	0,00	1,00	1,00	1,00	1,00	52	0,00	0,95	1,00	1,00	1,00	1,00	0,561	
Hearing	47	0,86	1,00	1,00	1,00	1,00	53	0,00	1,00	1,00	1,00	1,00	1,00	0,615	
Speech	48	0,00	1,00	1,00	1,00	1,00	55	0,00	1,00	1,00	1,00	1,00	1,00	0,062	
Mobility	47	0,00	1,00	1,00	1,00	1,00	55	0,00	1,00	1,00	1,00	1,00	1,00	0,267	
Dexterity	48	0,00	1,00	1,00	1,00	1,00	55	0,00	1,00	1,00	1,00	1,00	1,00	0,078	
Emotion	48	0,00	0,91	1,00	1,00	1,00	55	0,00	0,91	1,00	1,00	1,00	1,00	0,669	
Cognition	47	0,00	0,86	1,00	1,00	1,00	52	0,00	0,70	0,86	1,00	1,00	1,00	0,027	
Pain	48	0,00	0,92	1,00	1,00	1,00	55	0,00	0,92	1,00	1,00	1,00	1,00	0,586	
Global	45	-0,28	0,63	0,84	1,00	1,00	49	-0,36	0,22	0,66	0,93	1,00	1,00	0,050	

* Mann-Whitney test



Table 2.4 - Minimum(min), percentile 25(P25), median(me), percentile 75(P75) and maximum(max)) of HUI3 by age (months).

	Age in months												p*
	72-125 months						126-216 months						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	46	0,00	1,00	1,00	1,00	1,00	54	0,00	0,95	1,00	1,00	1,00	0,270
Hearing	48	0,48	1,00	1,00	1,00	1,00	52	0,00	1,00	1,00	1,00	1,00	0,528
Speech	49	0,00	1,00	1,00	1,00	1,00	54	0,00	1,00	1,00	1,00	1,00	0,727
Mobility	49	0,00	1,00	1,00	1,00	1,00	53	0,00	0,92	1,00	1,00	1,00	0,028
Dexterity	49	0,00	1,00	1,00	1,00	1,00	54	0,00	1,00	1,00	1,00	1,00	0,219
Emotion	49	0,33	0,91	1,00	1,00	1,00	54	0,00	0,91	1,00	1,00	1,00	0,765
Cognition	48	0,00	0,70	0,96	1,00	1,00	51	0,00	0,86	1,00	1,00	1,00	0,180
Pain	49	0,00	0,96	1,00	1,00	1,00	54	0,00	0,77	1,00	1,00	1,00	0,127
Global	45	-0,23	0,42	0,78	1,00	1,00	49	-0,36	0,41	0,77	0,99	1,00	0,749

* Mann-Whitney test

Table 2.5 - Minimum(min), percentile 25 (P25), median, percentile 75 (P75) and maximum(max) of HUI3 by health status defined by the proxy.

	Health status defined by the proxy												p*
	Excellent/Very good/Good						Fair/Bad						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	65	0,00	1,00	1,00	1,00	1,00	35	0,00	0,95	1,00	1,00	1,00	0,038
Hearing	64	0,86	1,00	1,00	1,00	1,00	36	0,00	1,00	1,00	1,00	1,00	0,253
Speech	66	0,00	1,00	1,00	1,00	1,00	37	0,00	0,67	1,00	1,00	1,00	0,012
Mobility	66	0,00	1,00	1,00	1,00	1,00	36	0,00	0,17	1,00	1,00	1,00	0,005
Dexterity	66	0,00	1,00	1,00	1,00	1,00	37	0,00	0,94	1,00	1,00	1,00	0,035
Emotion	66	0,33	0,98	1,00	1,00	1,00	37	0,00	0,73	0,91	1,00	1,00	<0,001
Cognition	64	0,00	0,86	1,00	1,00	1,00	35	0,00	0,32	0,70	1,00	1,00	<0,001
Pain	66	0,77	1,00	1,00	1,00	1,00	37	0,00	0,48	0,92	1,00	1,00	<0,001
Global	63	-0,06	0,69	0,91	1,00	1,00	31	-0,36	0,01	0,44	0,66	1,00	<0,001

* Mann-Whitney test

Table 2.6 - Minimum(min), percentile 25(P25), median(me), percentile 75(P75) and maximum(max) of HUI3 by kind of admission.

	Kind of admission												p*
	Elective						Not elective						
	n	min	P25	Me	P75	max	n	min	P25	me	P75	max	
Vision	45	0,00	0,95	1,00	1,00	1,00	55	0,00	1,00	1,00	1,00	1,00	0,359
Hearing	44	1,00	1,00	1,00	1,00	1,00	56	0,00	1,00	1,00	1,00	1,00	0,121
Speech	46	0,00	1,00	1,00	1,00	1,00	57	0,00	1,00	1,00	1,00	1,00	0,467
Mobility	45	0,00	0,75	1,00	1,00	1,00	57	0,00	1,00	1,00	1,00	1,00	0,022
Dexterity	46	0,00	1,00	1,00	1,00	1,00	57	0,00	1,00	1,00	1,00	1,00	0,808
Emotion	46	0,00	0,91	1,00	1,00	1,00	57	0,00	0,91	1,00	1,00	1,00	0,450
Cognition	42	0,00	0,86	1,00	1,00	1,00	57	0,00	0,70	1,00	1,00	1,00	0,402
Pain	46	0,00	0,88	1,00	1,00	1,00	57	0,00	0,92	1,00	1,00	1,00	0,234
Global	40	-0,28	0,29	0,79	1,00	1,00	54	-0,36	0,43	0,77	0,97	1,00	0,622

* Mann-Whitney test



Table 2.7 - Minimum(min), percentile 25(P25), median(me), percentile 75(P75) and maximum(max) of HUI3 by diagnostic group.

	Diagnostic group																		<i>p</i> *
	Postoperative elective						Trauma						Other						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	41	0,00	0,95	1,00	1,00	1,00	25	0,59	1,00	1,00	1,00	1,00	34	0,00	0,95	1,00	1,00	1,00	0,165
Hearing	39	1,00	1,00	1,00	1,00	1,00	25	0,48	1,00	1,00	1,00	1,00	36	0,00	1,00	1,00	1,00	1,00	0,196
Speech	41	0,00	1,00	1,00	1,00	1,00	26	0,41	1,00	1,00	1,00	1,00	36	0,00	0,87	1,00	1,00	1,00	0,309
Mobility	40	0,00	0,75	1,00	1,00	1,00	26	0,00	1,00	1,00	1,00	1,00	36	0,00	1,00	1,00	1,00	1,00	0,177
Dexterity	41	0,00	1,00	1,00	1,00	1,00	26	0,00	1,00	1,00	1,00	1,00	36	0,00	1,00	1,00	1,00	1,00	0,589
Emotion	41	0,00	0,82	1,00	1,00	1,00	26	0,33	0,91	1,00	1,00	1,00	36	0,00	0,91	1,00	1,00	1,00	0,946
Cognition	39	0,00	0,86	1,00	1,00	1,00	26	0,00	0,32	0,86	1,00	1,00	34	0,00	0,82	1,00	1,00	1,00	0,151
Pain	41	0,00	0,92	1,00	1,00	1,00	26	0,00	0,92	1,00	1,00	1,00	36	0,00	0,81	1,00	1,00	1,00	0,659
Global	37	-0,28	0,22	0,79	1,00	1,00	24	-0,23	0,42	0,67	0,95	1,00	33	-0,36	0,45	0,79	0,99	1,00	0,791

* Kruskal Wallis test

Table 2.8 - Minimum(min), percentile 25(P25), median(me), percentile 75(P75) and maximum(max) of HUI3 by data collection Center.

	Data collection Center																		<i>p</i> *
	Coimbra						Lisboa						Porto						
	n	min	P25	me	P75	max	n	min	P25	me	P75	max	n	min	P25	me	P75	max	
Vision	46	0,38	0,99	1,00	1,00	1,00	24	0,00	0,95	1,00	1,00	1,00	30	0,00	1,00	1,00	1,00	1,00	0,510
Hearing	47	0,48	1,00	1,00	1,00	1,00	24	0,00	1,00	1,00	1,00	1,00	29	0,86	1,00	1,00	1,00	1,00	0,877
Speech	49	0,00	1,00	1,00	1,00	1,00	24	0,00	1,00	1,00	1,00	1,00	30	0,00	1,00	1,00	1,00	1,00	0,381
Mobility	48	0,00	1,00	1,00	1,00	1,00	24	0,00	1,00	1,00	1,00	1,00	30	0,00	1,00	1,00	1,00	1,00	0,737
Dexterity	49	0,00	1,00	1,00	1,00	1,00	24	0,00	1,00	1,00	1,00	1,00	30	0,00	1,00	1,00	1,00	1,00	0,467
Emotion	49	0,00	0,91	1,00	1,00	1,00	24	0,00	0,78	1,00	1,00	1,00	30	0,33	0,91	1,00	1,00	1,00	0,829
Cognition	47	0,00	0,86	1,00	1,00	1,00	23	0,00	0,86	1,00	1,00	1,00	29	0,00	0,32	0,86	1,00	1,00	0,274
Pain	49	0,00	0,92	1,00	1,00	1,00	24	0,00	0,92	1,00	1,00	1,00	30	0,00	1,00	1,00	1,00	1,00	0,300
Global	43	-0,28	0,60	0,83	1,00	1,00	23	-0,36	0,45	0,77	1,00	1,00	28	-0,06	0,38	0,65	0,96	1,00	0,619

* Kruskal Wallis test



Results – Variation of health status (prior and six months after admission to PICU)

Quadro 3.1 - Frequency and percentage(%) of variation between HUI3 attributes scores, prior and six months after admission to PICU.

	Vision		Hearing		Speech		Mobility		Dexterity		Emotion		Cognition		Pain	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Deterioration	6	(6)	2	(2)	12	(12)	5	(5)	7	(7)	28	(28)	33	(34)	18	(18)
Same status	85	(90)	96	(98)	89	(86)	86	(85)	90	(88)	50	(50)	52	(54)	51	(51)
Improvement	4	(4)	0	(0)	2	(2)	10	(10)	5	(5)	22	(22)	12	(12)	31	(31)
Total	95		98		103		101		102		100		97		100	

Quadro 3.2 - Frequency and percentage(%) of variation between HUI3 attributes scores and HUI3 global score, prior and six months after admission to PICU, by gender.

	Gender						<i>p</i> *
	Total		Male		Female		
	n	(%)	n	(%)	n	(%)	
Vision							0,492
Deterioration	6	(6)	2	(33)	4	(67)	
Same status	85	(90)	42	(49)	43	(51)	
Improvement	4	(4)	1	(25)	3	(75)	
Hearing							0,930
Deterioration	2	(2)	1	(50)	1	(50)	
Same status	96	(98)	45	(47)	51	(53)	
Improvement	0	(0)	0	(0)	0	(0)	
Speech							0,280
Deterioration	12	(12)	3	(25)	9	(75)	
Same status	89	(86)	44	(49)	45	(51)	
Improvement	2	(2)	1	(50)	1	(50)	
Mobility							0,526
Deterioration	5	(5)	3	(60)	2	(40)	
Same status	86	(85)	38	(44)	48	(56)	
Improvement	10	(10)	6	(60)	4	(40)	
Dexterity							0,554
Deterioration	7	(7)	2	(29)	5	(71)	
Same status	90	(88)	44	(49)	46	(51)	
Improvement	5	(5)	2	(40)	3	(60)	
Emotion							0,469
Deterioration	28	(28)	15	(54)	13	(46)	
Same status	50	(50)	20	(40)	30	(60)	
Improvement	22	(22)	11	(50)	11	(50)	
Cognition							0,634
Deterioration	33	(34)	14	(42)	19	(58)	
Same status	52	(54)	27	(52)	25	(48)	
Improvement	12	(12)	5	(42)	7	(58)	
Pain							0,361
Deterioration	18	(18)	9	(50)	9	(50)	
Same status	51	(51)	20	(39)	31	(61)	
Improvement	31	(31)	17	(55)	14	(45)	
Global							0,288
Deterioration	37	(42)	14	(38)	23	(62)	
Same status	24	(27)	12	(50)	12	(50)	
Improvement	28	(31)	16	(57)	12	(43)	

* Pearson Qui-square test



Quadro 3.3 - Frequency and percentage(%) of variation between HUI3 attributes scores and HUI3 global score, prior and six months after admission to PICU, by age (months).

	Total		Age in months				<i>p</i> *
	n	(%)	72-125 months		126-216 months		
			n	(%)	n	(%)	
Vision							0,821
Deterioration	6	(6)	2	(33)	4	(67)	
Same status	85	(90)	39	(46)	46	(54)	
Improvement	4	(4)	2	(50)	2	(50)	
Hearing							0,137
Deterioration	2	(2)	2	(100)	0	(0)	
Same status	96	(98)	45	(47)	51	(53)	
Improvement	0	(0)	0	(0)	0	(0)	
Speech							0,981
Deterioration	12	(12)	6	(50)	6	(50)	
Same status	89	(86)	42	(47)	47	(53)	
Improvement	2	(2)	1	(50)	1	(50)	
Mobility							0,449
Deterioration	5	(5)	1	(20)	4	(80)	
Same status	86	(85)	42	(49)	44	(51)	
Improvement	10	(10)	5	(50)	5	(50)	
Dexterity							0,703
Deterioration	7	(7)	4	(57)	3	(43)	
Same status	90	(88)	41	(46)	49	(54)	
Improvement	5	(5)	3	(60)	2	(40)	
Emotion							0,471
Deterioration	28	(28)	15	(54)	13	(46)	
Same status	50	(50)	24	(48)	26	(52)	
Improvement	22	(22)	8	(36)	14	(64)	
Cognition							0,355
Deterioration	33	(34)	19	(58)	14	(42)	
Same status	52	(54)	22	(42)	30	(58)	
Improvement	12	(12)	5	(42)	7	(58)	
Pain							0,676
Deterioration	18	(18)	7	(39)	11	(61)	
Same status	51	(51)	26	(51)	25	(49)	
Improvement	31	(31)	15	(48)	16	(52)	
Global							0,340
Deterioration	37	(42)	19	(51)	18	(49)	
Same status	24	(27)	8	(33)	16	(67)	
Improvement	28	(31)	14	(50)	14	(50)	

* Pearson Qui-square test



Quadro 3.4 - Frequency and percentage(%) of health status defined by the proxy at admission, by health status defined by the proxy six months after admission.

	Total		Health status six months after admission				<i>p</i> *
	n	(%)	Excellent/ Very good/Good		Fair/Bad		
			n	(%)	n	(%)	
Health status at admission							0,136
Excellent/Very good/Good	61	(60)	43	(70)	18	(30)	
Fair/Bad	41	(40)	23	(56)	18	(44)	
Total	102	(100)	66	(65)	36	(35)	

* Pearson Qui-square test

Quadro 3.5 - Frequency and percentage(%) of variation between HUI3 attributes scores and HUI3 global score, prior and six months after admission to PICU, by health status defined by the proxy at admission.

	Total		Health status at admission				<i>p</i> *
	n	(%)	Excellent/Very good/Good		Fair/Bad		
			n	(%)	n	(%)	
Vision							0,285
Deterioration	6	(6)	2	(33)	4	(67)	
Same status	84	(90)	54	(64)	30	(36)	
Improvement	4	(4)	2	(50)	2	(50)	
Hearing							0,251
Deterioration	2	(2)	2	(100)	0	(0)	
Same status	95	(98)	57	(60)	38	(40)	
Improvement	0	(0)	0	(0)	0	(0)	
Speech							0,251
Deterioration	11	(11)	7	(64)	4	(36)	
Same status	89	(87)	54	(61)	35	(39)	
Improvement	2	(2)	0	(0)	2	(100)	
Mobility							0,003
Deterioration	4	(4)	3	(75)	1	(25)	
Same status	86	(86)	56	(65)	30	(35)	
Improvement	10	(10)	1	(10)	9	(90)	
Dexterity							0,159
Deterioration	7	(7)	4	(57)	3	(43)	
Same status	89	(88)	56	(63)	33	(37)	
Improvement	5	(5)	1	(20)	4	(80)	
Emotion							<0,001
Deterioration	27	(27)	20	(74)	7	(26)	
Same status	50	(51)	36	(72)	14	(28)	
Improvement	22	(22)	4	(18)	18	(82)	
Cognition							0,341
Deterioration	32	(33)	21	(66)	11	(34)	
Same status	52	(54)	32	(62)	20	(38)	
Improvement	12	(13)	5	(42)	7	(58)	
Pain							<0,001
Deterioration	17	(17)	12	(71)	5	(29)	
Same status	51	(52)	41	(80)	10	(20)	
Improvement	31	(31)	7	(23)	24	(77)	
Global							<0,001
Deterioration	36	(41)	28	(78)	8	(22)	
Same status	24	(27)	18	(75)	6	(25)	
Improvement	28	(32)	7	(25)	21	(75)	

* Pearson Qui-square test



Quadro 3.6 - Frequency and percentage(%) of variation between HUI3 attributes scores and HUI3 global score, prior and six months after admission to PICU, by kind of admission.

	Total		Kind of admission				<i>p</i> *
	n	(%)	Elective		Not elective		
			n	(%)	n	(%)	
Vision							0,419
Deterioration	6	(6)	3	(50)	3	(50)	
Same status	85	(90)	36	(42)	49	(58)	
Improvement	4	(4)	3	(75)	1	(25)	
Hearing							0,206
Deterioration	2	(2)	0	(0)	2	(100)	
Same status	96	(98)	43	(45)	53	(55)	
Improvement	0	(0)	0	(0)	0	(0)	
Speech							0,966
Deterioration	12	(12)	5	(42)	7	(58)	
Same status	89	(86)	40	(45)	49	(55)	
Improvement	2	(2)	1	(50)	1	(50)	
Mobility							0,427
Deterioration	5	(5)	3	(60)	2	(40)	
Same status	86	(85)	36	(42)	50	(58)	
Improvement	10	(10)	6	(60)	4	(40)	
Dexterity							0,031
Deterioration	7	(7)	2	(29)	5	(71)	
Same status	90	(88)	39	(43)	51	(57)	
Improvement	5	(5)	5	(100)	0	(0)	
Emotion							0,083
Deterioration	28	(28)	9	(32)	19	(68)	
Same status	50	(50)	22	(44)	28	(56)	
Improvement	22	(22)	14	(64)	8	(36)	
Cognition							0,183
Deterioration	33	(34)	11	(33)	22	(67)	
Same status	52	(54)	27	(52)	25	(48)	
Improvement	12	(12)	4	(33)	8	(67)	
Pain							0,492
Deterioration	18	(18)	9	(50)	9	(50)	
Same status	51	(51)	20	(39)	31	(61)	
Improvement	31	(31)	16	(52)	15	(48)	
Global							0,218
Deterioration	37	(42)	12	(32)	25	(68)	
Same status	24	(27)	11	(46)	13	(54)	
Improvement	28	(31)	15	(54)	13	(46)	

* Pearson Qui-square test



Quadro 3.7 - Frequency and percentage(%) of variation between HUI3 attributes scores and HUI3 global score, prior and six months after admission to PICU, by diagnostic group.

	Diagnostic group								<i>p</i> *
	Total		Postoperative elective		Trauma		Other		
	n	(%)	n	(%)	n	(%)	n	(%)	
Vision									0,962
Deterioration	6	(6)	3	(50)	1	(17)	2	(33)	
Same status	85	(90)	33	(39)	23	(27)	29	(34)	
Improvement	4	(4)	2	(50)	1	(25)	1	(25)	
Hearing									0,051
Deterioration	2	(2)	0	(0)	2	(100)	0	(0)	
Same status	96	(98)	38	(40)	23	(24)	35	(36)	
Improvement	0	(0)	0	(0)	0	(0)	0	(0)	
Speech									0,376
Deterioration	12	(12)	4	(33)	3	(25)	5	(42)	
Same status	89	(86)	37	(41)	23	(26)	29	(33)	
Improvement	2	(2)	0	(0)	0	(0)	2	(100)	
Mobility									0,167
Deterioration	5	(5)	3	(60)	2	(40)	0	(0)	
Same status	86	(85)	32	(37)	24	(28)	30	(35)	
Improvement	10	(10)	5	(50)	0	(0)	5	(50)	
Dexterity									0,406
Deterioration	7	(7)	1	(14)	3	(43)	3	(43)	
Same status	90	(88)	37	(41)	23	(26)	30	(33)	
Improvement	5	(5)	3	(60)	0	(0)	2	(40)	
Emotion									0,008
Deterioration	28	(28)	9	(32)	11	(39)	8	(29)	
Same status	50	(50)	22	(44)	15	(30)	13	(26)	
Improvement	22	(22)	9	(41)	0	(0)	13	(59)	
Cognition									0,161
Deterioration	33	(34)	10	(30)	14	(43)	9	(27)	
Same status	52	(54)	24	(46)	9	(17)	19	(37)	
Improvement	12	(12)	5	(42)	3	(25)	4	(33)	
Pain									0,005
Deterioration	18	(18)	8	(45)	6	(33)	4	(22)	
Same status	51	(51)	19	(38)	19	(37)	13	(25)	
Improvement	31	(31)	13	(42)	1	(3)	17	(55)	
Global									0,004
Deterioration	37	(42)	12	(32)	17	(46)	8	(22)	
Same status	24	(27)	12	(50)	5	(21)	7	(29)	
Improvement	28	(31)	11	(39)	2	(7)	15	(54)	

* Pearson Qui-square test



Quadro 3.8 - Frequency and percentage(%) of variation between HUI3 attributes scores and HUI3 global score, prior and six months after admission to PICU, by data collection Center.

	Data collection Center								<i>p</i> *
	Total		Coimbra		Lisboa		Porto		
	n	(%)	n	(%)	n	(%)	n	(%)	
Vision									0,301
Deterioration	6	(6)	4	(67)	2	(33)	0	(0)	
Same status	85	(90)	36	(42)	20	(24)	29	(34)	
Improvement	4	(4)	3	(75)	0	(0)	1	(25)	
Hearing									0,688
Deterioration	2	(2)	1	(50)	0	(0)	1	(50)	
Same status	96	(98)	46	(48)	22	(23)	28	(29)	
Improvement	0	(0)	0	(0)	0	(0)	0	(0)	
Speech									0,032
Deterioration	12	(12)	9	(75)	1	(8)	2	(17)	
Same status	89	(86)	40	(45)	21	(24)	28	(31)	
Improvement	2	(2)	0	(0)	2	(100)	0	(0)	
Mobility									0,251
Deterioration	5	(5)	4	(80)	0	(0)	1	(20)	
Same status	86	(85)	39	(45)	19	(22)	28	(33)	
Improvement	10	(10)	5	(50)	4	(40)	1	(10)	
Dexterity									0,249
Deterioration	7	(7)	5	(71)	0	(0)	2	(29)	
Same status	90	(88)	40	(45)	22	(24)	28	(31)	
Improvement	5	(5)	4	(80)	1	(20)	0	(0)	
Emotion									0,711
Deterioration	28	(28)	12	(43)	6	(21)	10	(36)	
Same status	50	(50)	24	(48)	10	(20)	16	(32)	
Improvement	22	(22)	13	(59)	5	(23)	4	(18)	
Cognition									0,530
Deterioration	33	(34)	13	(40)	7	(21)	13	(39)	
Same status	52	(54)	29	(56)	11	(21)	12	(23)	
Improvement	12	(12)	5	(42)	3	(25)	4	(33)	
Pain									0,020
Deterioration	18	(18)	12	(66)	1	(6)	5	(28)	
Same status	51	(51)	19	(37)	11	(22)	21	(41)	
Improvement	31	(31)	17	(55)	10	(32)	4	(13)	
Global									0,302
Deterioration	37	(42)	14	(38)	7	(19)	16	(43)	
Same status	24	(27)	11	(46)	6	(25)	7	(29)	
Improvement	28	(31)	15	(53)	8	(29)	5	(18)	

* Pearson Qui-square test