

End of life cost savings in the palliative care unit compared to other services

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Introduction

In Spain since Law 4/2017, of March 9, on the “Rights and Guarantees of People in the Process of Dying”, there is a right to receive quality palliative care at this state. 120,000 patients per year requires specialized palliative care but there is only coverage for a 50% of them.^{1, 2}

Objectives

The aim of this study is to evaluate end of life palliative care cost compared to other hospital services in a first line hospital. And the financial balance of the palliative care unit (H-PCU), considering the earnings and humans resources cost since 2016 to 2018.

Methods

Cost evaluation from the hospital perspective including treatments (pharmacological, chemotherapies, nutrition, transfusions), diagnostic test (imagen and blood test) and human resources (physician and nurse practitioner specialized in PC). Data from the unitary cost was provided from the Quiron Health Public Hospitals financial department, hospital pharmacy service and the dead patients registry from 2016 until 2018 with the resources consumed from Casiopea® system. Other data like the diagnostic test cost were taken from the Madrid and Osakidetza Community Official Public Price List.^{3,4} All cost expressed in 2020 euros.

Results

1389 patients died in Hospital Universitario Infanta Elena (HUIE) since 2016 until 2018. 31,1% in the H-PCU and 68,9% in other services. No differences were found in the basal patient’s characteristics (risk of death and severity index included). The median total cost was statistically significant lower (p<0,0001) for the H-PCU (230.35€) compared to the other services (479.32€) with a 248.97€ median earning per patient. Also, earnings are found when we include human resources cost, 21,054.91€ in 2016, 24,232.26€ in 2017 and 18,768,4€ in 2018.

Conclusions

Having the same risk of mortality, it is cheaper to die in a palliative care service. Although setting a H-PCU has some cost, it’s still an efficient investment.

Table 1: Patients baseline characteristics

	Total	H-PCU	No-HPCU	p
N	1389	432 (31.1%)	957 (68.9%)	
Age	85 (76-90)	83 (70-88)	85 (78-90)	p<0.001
Sex:				
male	673 (48.5%)	223 (51.6%)	450 (47.0%)	p= 0.118
female	716 (51.5%)	209 (48.4%)	503 (53.0%)	
Year of death:				
2016	436 (31.4%)	141 (32.6%)	295 (30.8%)	p=0.104
2017	480 (34.6%)	161 (37.3%)	319 (33.3%)	
2018	473 (34.1%)	130 (30.1%)	343 (35.8%)	
Severity Index:				
2	59 (4.2%)	14 (3.2%)	45 (4.7%)	p=0.269
3	685 (49.3%)	224 (51.9%)	461 (48.2%)	
4	645 (46.4%)	194 (44.9%)	451 (47.1%)	
Mortality risk:				
3	642 (46.2%)	208 (48.1%)	434 (45.4%)	p=0.352
4	747 (53.8%)	224 (51.9%)	523 (54.6%)	

Table 2. Cost per patient died between 2016 and 2018 in Infanta Elena Hospital, comparison between Palliative Care Unit and other hospital services like Internal Medicine.

Cost per patient	H-PCU		No-HPCU		p
	Median	IQ Range	Median	IQ Range	
Chemotherapy cost n=50	98.09 €	1,601.32 €	42.29 €	2,769.01 €	p=0.716
Other interventions cost	152.00 €	226.00 €	248.00 €	396.65 €	P<0.001
Other interventions without nutrition	122.00 €	163.50 €	212.00 €	255.50 €	p=0.001
Drug treatment cost	65.81 €	157.32 €	165.00 €	468.92 €	P<0.001
Total cost per patient	230.35 €	350.29 €	479.32 €	675.12 €	P<0.001
Total per day cost	65.32 €	101.20 €	92.85 €	121.88 €	P<0.001
N	432		957		

Table 3. Infanta Elena Hospital Palliative Care 2016, 2017 and 2018 financial balance considering healthcare personnel and last days patients.

	Medicine degree specialized in Palliative Care	Nursing staff	Total
Number of persons working in the PCU, HUIE	1	0.5	
Gross annual salary	45,000.00 €	11,500.00 €	56,500.00 €
Social security contribution (35% from the gross annual surgery)	15,750,00 €	4,025.00 €	19,775.00 €
% of working day hours with inpatients	75%	75%	57,206.25 €
% inpatients who died in the Hospital Palliative Care Unit in 2016	24.56% (141 deaths from 574 patients attended in 2016)		
Healthcare personnel cost	11,190.15 €	2,859.71 €	- 14,049.86 €
Earnings per patient in the last days	248.97€ median earning per patient; 141 patients attended in their last days in 2016		35,104.77
2016 Balance	21,054.91€		
% inpatients who died in the Hospital Palliative Care Unit in 2017	27.71% (161 deaths from 581 patients attended in 2017)		
Healthcare personnel cost	12,625.37€	3,226.48€	- 15,851.85 €
Earnings per patient in the last days	248.97€ median earning per patient; 161 deaths in 2017		40,084.11€
2017 Balance	+24,232. 26€		
% inpatients who died in the Hospital Palliative Care Unit in 2018	23.77% (130 deaths from 547 patients attended in 2018)		
Healthcare personnel cost	10,830.02€	2,767.71€	- 13,597.73 €
Earnings per patient in the last days	248.97€ median earning per patient; 130 deaths in 2017		32,366.10 €
2018 Balance	+18,768.4€		

1. Ley 4/2017, de 9 de marzo, de Derechos y Garantías de las Personas en el Proceso de Morir. Disponible en <https://www.boe.es/boe/dias/2017/06/23/pdfs/BOE-A-2017-7178.pdf> 2. Análisis y evaluación de los recursos de Cuidados Paliativos en España. Monografía SECPAL número 9 Mayo 2016. http://www.infocuidadospaliativos.com/ENLACES/monografia9_analisis_directorio.pdf 3. Dirección General Osakidetza. Tarifas para facturación de servicios sanitarios y docentes de Osakidetza 2020. Aprobadas en el acuerdo del Consejo de Administración del 19 de diciembre 2019. Disponible en: https://www.osakidetza.euskadi.eus/contenidos/informacion/osk_servic_para_empresas/es_def/adjuntos/LIBRO-DE-TARIFAS_2020_osakidetza.pdf 4. Área de Coordinación Legislativa y Relaciones Institucionales Subdirección General de Régimen Jurídico y Desarrollo Normativo S.G.T de la Consejería de Presidencia, Justicia y Portavocía del Gobierno. Comunidad de Madrid. ORDEN 727/2017, de 7 de agosto, del Consejero de Sanidad, por la que se fijan los precios públicos por la prestación de los servicios y actividades de naturaleza sanitaria de la red de centros de la Comunidad de Madrid. Disponible: http://www.madrid.org/wleg_pub/secure/normativas/contenidoNormativa.jsf?opcion=VerHtml&nmnorma=9930&cdestado=P#no-back-button