Special Article

Catalonia WHO Palliative Care Demonstration Project at 15 Years (2005)

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Abstract

Since 1990, a wide range of palliative care services has been implemented throughout the Catalan Health Care System. In 2005, 21,400 patients received palliative care; 59% had cancer (79.4% of all cancer patients) and 41% had other noncancer diagnoses (25.0%–56.5% of all noncancer patients). Today, more than 95% of Catalonia is covered by palliative care services. Fourteen districts have comprehensive palliative care networks. A total of 140 full-time physicians work in 183 specialty programs, including 63 palliative care units (with a total of 552 beds), 34 hospital consult teams, 70 home care teams, 16 outpatient clinics, and specialized pediatric and HIV/AIDS consult teams. Opioid consumption increased from 3.5 mg per capita in 1989 to 21 mg per capita population in 2004. The cost of the specialist palliative care network is more than 40 million Euros annually. However, the cost efficiency is striking. Due to the radical change in the use of acute and emergency beds, the project saves the Catalan Health Care System an estimated 48 million Euros annually, a net savings of 8 million Euros annually. Additional preliminary data suggest that symptom control and patient/family satisfaction are both improved by these services. J Pain Symptom Manage 2007;33:584–590.

Key Words

Public health, planning, WHO Demonstration Projects, palliative care services, opioid consumption, cost effectiveness

For a full listing of the members of the Palliative Care Advisory Committee, see Appendix.

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Accepted for publication: February 15, 2007.

0885-3924/07/$–see front matter
doi:10.1016/j.jpainsymman.2007.02.019

Introduction

The Catalonia World Health Organization (WHO) Palliative Care Demonstration Project (CPCP) was developed in 1989 and started in 1990 as a collaboration between the Catalan Department of Health and the Cancer Unit at the WHO (Geneva). The aims were to 1) implement specialty palliative care services throughout Catalonia for all cancer and noncancer patients and 2) serve as a model for other countries.

CPCP activities have included revision of legislation governing opioid analgesics; review of legislation governing service delivery; training of all health care professionals in basic palliative care; development of a financing model for palliative care; integration of basic palliative care in conventional health care services; implementation of specialist palliative care services throughout the health care system; development of professional standards; and the development of a monitoring and evaluation strategy.[1]

CPCP has been evaluated periodically. Earlier results were published after 5 and 10 years.[2,3]

The Situation

Population demographics and mortality rates for Catalonia in 2005 are presented in Table 1.

Health Care System

Since 1981, Catalonia has had complete autonomy to plan, finance, and implement health care that is accessible and free of charge for all citizens. Health care services are provided by a mixture of public and nonprofit organizations. Political and planning leadership is provided by the Department of Health; finances are administered by the Catalan Health Service (CatSalut). Health care resource distribution is presented in Table 2.

Data Sources

The data presented in this paper were gathered from a number of sources. Epidemiological and statistical information came from the Catalan Department of Health; palliative care activity and workforce data came from the CatSalut registry; opioid consumption data came from the Pharmacy Service at CatSalut; and financial data came from CatSalut.

Results

Need

It is estimated that more than two-thirds of patients dying from chronic life-limiting illnesses will need some kind of palliative care intervention. Thus, in Catalonia in 2005, approximately 10,500 of the 16,000 patients dying of cancer and 9,200–21,200 patients dying of other, noncancer, long-term chronic conditions needed palliative care (total 19,700–31,700 patients, depending on mid or high estimation of the prevalence of chronic conditions[4]).

Coverage

During 2005, 79.4% of patients dying from cancer (12,700 of 16,000 patients) and 25%–56.5% of patients dying from another noncancer, long-term chronic condition (8,700 of 15,400–34,800 patients) received

Table 1
Catalonia Demographics, 2005

Population	7,100,000 (increased by 1 million in last 10 years)
Elderly (>65 years)	1,192,800 (16.8% of population; more in countryside than cities)
Elderly living with multiple pathologies and dependency	140,000 (11.7%)
Elderly living with dementia	60,000 (5%)
Mean life expectancy	Females: 82 years; males: 76 years
Mortality rate	Deaths per year
All causes	57,000 (8.48 per 1,000 population)
Cancer	16,000 (28% of deaths all causes)
Noncancer, long-term chronic conditions	15,400–34,800 (27%–61% of deaths all causes)[a]
AIDS	40

[a]Mid and high estimates of mortality rates.[4]

Table 2
Health Care Resource Distribution

Hospitals	64 facilities	14,600 beds
Socio-Health Centers (mid-term resources that offer rehabilitation, daycare and long-term care for the elderly)	103 facilities	2,500 mid-term beds, 5,800 long-term/nursing home beds
Other long-term care/nursing homes	—	44,200 beds
Extended primary care system	349 Primary health care teams	

care from a specialist palliative care service (Table 3).

Palliative Care Resources

Palliative care services in Catalonia are defined by specific legislation and standards.[5,6] They are registered and financed by CatSalut. Data are collected about all interventions/visits. Resource utilization is reviewed regularly.

There are three different models for organizing palliative care services depending on the population of the area being served: metropolitan, intermediate, or small districts. In metropolitan areas with around 500,000 habitants, there is typically a wide range of different resources, including home care support teams (HCSTs) and a palliative care unit (PCU) (e.g., l'Hospitalet-Baix Llobregat in south Barcelona and the reference PCU at the Institut Català d'Oncologia). In 14 intermediate sectors with 100,000–250,000 inhabitants, there is a comprehensive network for palliative care with a PCU, hospital support team (HST), and an HCST based in a socio-health center. Most smaller districts with less than 100,000 inhabitants have at least one specialist palliative care service, usually an HCST, that cares for geriatric, cancer, and other chronically ill patients in the local hospital, the socio-health center, and the community (usually without any specialty beds).

Table 3
CPCP Results, 2005

Coverage		No. of Patients	% of Estimated Need
Geographical			>95%
Primary diagnosis	Cancer	12,700	79.4%
	Another noncancer, long-term chronic condition	8,700	25%–56.5%
	Total	21,400	
		No. of Teams (No. per 100,000 Population)	No. of Interventions
Palliative care resources			
HCST		70 (1 per 100,000)	12,000
HST		34	11,400
PCU		63 (552 beds, 7.9 per 100,000)	9,800 (totaling 193,000 days)
ORC		16+	2,500
Total interventions		183	35,700
Doctors (full time)		140 (2 per 100,000)	
Annual costs			
HCSTs		€12,100,200	30%
HSTs		€6,856,780	17%
PCUs and ORCs		€20,973,680	52%
Opioids			<1%
Total annual cost		€40,334,000	
Annual savings			
Estimated savings per patient registered		€2,250 per patient	
Overall annual savings for CPCP		€48 million (€28 million for cancer patients)	
Net saving for the Ministry of Health		€8 million	
Opioid consumption (oral morphine equivalents)		Kilograms	
Community		86.7 kg (59% of total)	
Hospitals		60.3 kg (41% of total)	
Total (75% morphine, 9% buprenorphine, 9% fentanyl, 3% methadone, 3% oxycodone)		147 kg (21 mg per capita)	

Patients could be seen in more than one setting.

As of 2005, there were 183 specialized palliative care services covering 95% of Catalonia. They were integrated into all levels of the Catalan Health Care System, including acute care hospitals, socio-health centers, nursing homes, and in the community (Table 3).

Home Care Support Teams. Each of the 70 HCSTs covers a defined geographic area. They are typically staffed by one or more full-time physicians, two or three nurses (mean: 2.3), and a social worker. During 2005, HCSTs cared for a total of 12,000 patients (55% geriatric, 40% cancer patients), with an average of 171 patients per HCST. The average length of stay (LOS) with an HCST was seven weeks; 60% of these patients died at home.

Hospital Support Teams. Each of the 34 HSTs is based in an acute care hospital. Eight of the nine University hospitals have an HST. One HST is based in a pediatric hospital (St. Joan de Dèu Pediatric Hospital, Esplugues, Barcelona). Three new HSTs were implemented in 2006. These teams are typically staffed by one full-time physician, one nurse, one psychologist, and one full- or part-time social worker.

Palliative Care Units. There are 63 PCUs in Catalonia, with a total of 552 beds: four PCUs are located in acute care hospitals, 37 in socio-health centers, and 22 in nursing homes. Three PCUs are devoted to patients with AIDS; one is dedicated to the care of prisoners with advanced disease (Alberg de St. Joan de Dèu in Central Barcelona). In 2005, the average LOS in a PCU was 24 days (range: 9–38 days); 70% of these patients died in a PCU (range: 55% in acute care hospitals to 90% in nursing homes).

Outpatient Clinics. There are 16 outpatient referral clinics specializing in palliative care across Catalonia. Most of the HSTs also have outpatient clinics (ORCs).

Resource Utilization

The efficiency of palliative care services has been studied in both Catalonia and across Spain.[7,8] Both studies showed striking changes in the use of resources, including a reduction in the use of hospital beds, LOS, use of emergency rooms, and an increase in the proportion of deaths at home.

Costs

The overall cost of these specialized palliative care services was calculated by combining the overall cost of HCSTs, HSTs, PCUs, ORCs, and strong opioids (WHO Step III). This estimate included the specialist services registered and financed by CatSalut except for a few of the activities of HSTs that were not included, for example, hospital-based ORCs.

In 2005, the overall cost of specialist palliative care services in Catalonia was 40,334,000 Euros, including the cost of opioids. HCSTs were responsible for 30% of the cost, HSTs for 17%, PCUs for 52%, and strong opioids for less than 1% of the total cost (Table 3). The Catalonia and Spanish efficiency studies estimated that the savings per cancer patient admitted to a specialized palliative care service averaged 2,250 Euros (1,000 Euros for a four-week LOS and 3,000 Euros for a seven-week LOS).[7,8] Thus, the savings realized by specialty palliative care services in Catalonia in 2005 were approximately 48 million Euros per year (28 million Euros per year for cancer patients). This suggests that HCSTs have resulted in a net savings of 8 million Euros per year for the Ministry of Health.

Symptom Management

A prospective multicenter study was conducted to look at the effectiveness of symptom management. The study included 159 patients cared for by 111 palliative care teams. The severity of five common symptoms (constant [basal] and episodic pain, weakness, insomnia, and anxiety) was recorded at the first visit and one week later. Preliminary results showed a statistically significant reduction in the severity of every symptom seven days after the initial intervention.[9]

Opioid Consumption

To estimate opioid consumption, data were collected from 1) community and outpatient clinic prescriptions, and 2) hospital and inpatient unit dispensing data.

The estimated strong opioid consumption totaled 147 kg (21 mg per capita) oral morphine equivalents of which 59% was used in

the community and 41% in hospitals (mainly by palliative care specialist teams; Table 3).

On average, patients with cancer-related pain used an opioid dose equivalent to 90 mg of morphine per day for 122 days at an average of 167 Euros per patient (1.35 Euros per patient day).

Patient Perceptions

In a survey of 98 patients regarding their satisfaction with the care they received in a PCU, the mean satisfaction score of 8.3/10 exceeded the mean satisfaction score of 7.2/10 for other health care services in Catalonia. Emotional management (support), communication, and perception of safety received the highest scores (CatSalut, Internal Document, 2003).

Education and Training

Palliative Care Courses. During 2005, 131 palliative care educational activities were carried out in either basic (128), intermediate,[2] or advanced level courses (one Master's course). Two hundred doctors and nurses completed the fifth cycle of the Master of Palliative Care course at the University of Barcelona.

Undergraduate/Postgraduate Training. All nursing schools had pregraduate basic training in palliative care. Although eight of nine University Hospitals had a palliative care team, only four of the medical faculties had an undergraduate module on palliative care. Most general practitioners spend time with a palliative care team during their postgraduate training.

Research. The Catalonian Palliative Cooperative Research Group (CATPAL) was established with a core of eight palliative care services. From 1998 to 2003, CATPAL conducted five epidemiological studies, three clinical trials, and five observational studies. These studies involved more than 2,300 patients, a mean participation of 48 teams (4–157, depending on the study) and a patient participation rate of 75%.[7,10–14]

CPCP Leadership Perceptions

Leadership impressions were gathered in two phases: 1) a semistructured survey of 10 dimensions of palliative care services was administered to a random sample of 20 clinical and organizational leaders of palliative care services, and 2) the same semistructured survey of the same dimensions was administered to the members of the CPCP Advisory Committee; they were asked to comment on program strengths, areas needing improvement, and future opportunities.

Strengths. The main strengths of the CPCP were the length of experience, high coverage for cancer patients, the expansion to noncancer patients (especially in the HCSTs and PCUs in socio-health centers), the integration into the health care system at all levels with a special emphasis in the community, the diversity of resources, the training and commitment of professionals, and the initial results on effectiveness, efficiency, and satisfaction. Today, palliative care is a highly valued, standard component of the health care system in Catalonia.

Priorities for Improvement. The priorities for improvement were the need for increased coverage for noncancer patients; the lack of specialist palliative care services and variability in some geographical areas and organizations (units in acute care hospitals); the variability of palliative care services in primary care, nursing homes, emergency, and oncology wards; the challenges of continuity of care and access to cancer patients; late palliative care referrals; the lack of bereavement services; the lack of evaluation of clinical outcomes and emotional impact; the academic recognition of professionals; the inequities in professional compensation; the financing system for PCUs in socio-health centers; and the lack of palliative care research.

Summary

This 15-year review of the planning and implementation of palliative care services in Catalonia demonstrates that there are a wide range of specialist palliative care services throughout Catalonia.

More than 75% of cancer patients receive palliative care. We believe this is appropriate as these patients are often the sickest and the most complicated to manage appropriately.[15]

The estimated specialist palliative care coverage needed for geriatric terminally ill patients

is more difficult to assess. We propose the use of the ratio of one cancer patient to 1.5–2 noncancer patients based on the evaluation of the needs and the experience of our home care teams.[4] Coverage in Catalonia remains low and there continues to be a great need to develop geriatric palliative care services, especially in acute bed hospitals, long-term facilities, and nursing homes.[16]

We have initial evidence that patients' symptoms are better controlled and their satisfaction is higher than with other health care services. These findings need to be supplemented with further more-specific comparative research.

Cancer patients are using strong opioids for a mean of four months at a mean cost of 1.35 Euros per patient day. This is consistent with a similar European cross-sectional survey.[17]

The LOS on a specialty palliative care service (mean, seven weeks) remains low, although there is considerable variability among different types of facilities.[18] Promotion of early and flexible referrals in HSTs and ORCs will improve this LOS.

The economic results found in two studies are striking and consistent with other results.[7,8] This suggests that palliative care networks with high patient coverage can be implemented with a very small proportion of the national health care budget. The cost of specialist PCUs is less than 50% of the cost of conventional acute care beds. The presence of palliative care services brings both efficacy and cost savings for the health care system.

While education and training have become a common activity of the palliative care teams in Catalonia, the Master of Palliative Care course will remain the most advanced educational course available until palliative medicine is formally recognized as a medical subspecialty in Spain. While undergraduate training in nursing schools is excellent, the lack of formal undergraduate training for doctors needs to be addressed.

After 15 years, there are many recognized strengths of the Catalan Palliative Care Program and many areas for improvement. In an effort to meet the evolving needs of Catalonia, the CPCP will undertake a number of performance improvement projects over the next 5–10 years.

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Appendix
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