

# The Use of Specialized Palliative Care and Place of Death among Cancer Patients in Denmark – a National Cohort Study

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## INTRODUCTION

How specialized palliative care is used and where people die are of interest in the health care system's organization of palliative care.

Linkage between nationwide registries can provide epidemiological knowledge of use of specialized palliative care units and place of death.

## STUDY AIM

To investigate Danish cancer patients' contact with the specialized palliative care (SPC) system and how it relates to place of death

- for the cohort as a whole
- according to cancer type registered as cause of death

## METHOD

A national cohort study using linkage between the Danish National Patient Registry (DNPR), the Danish Registry of Causes of Death (DCR) and the Cancer Registry (CReg).

People diagnosed with cancer (cptts) and registered in CReg, who died during 2012 to 2014, were included and linked with records from DNPR.

Specialized palliative care (SPC) units in Denmark are; hospices, palliative care teams and palliative care departments.

The outcomes were 1; contacts with SPC registered in DNPR, 2; death in hospice and 3; death in hospitals among those, who did not die in hospice.

Patients with a registered SPC-contact, where the latest SPC-contact were registered more than 1 year prior to death, were coded as having no contact with SPC at the time of death.

## RESULTS

60,648 people, who died in Denmark during 2012-2014, were registered in the Cancer Registry; 43,281 died from cancer (c\_dead) and 17,367 died from other causes (notc\_dead).

31% of registered cancer patients dying from cancer had contact with a SPC unit at the time of death; 18% died in hospice (N=7,593) and 13% died while in contact with a palliative care team or department (N=5,815).

At least one SPC-contact was registered among 42% of c\_dead and 5% of notc\_dead in the cohort. However, for 11% of c\_dead and 2% of notc\_dead, the latest SPC-contact had been more than one year prior to death.

54% of c\_dead died in hospital, if they had no contact with SPC (N=29,873 ~ 69% of all c\_dead; 25,100 never in SPC-contact and 4,773 with no SPC-contacts ≤ 1 year prior to death)

27% of c\_dead died in hospital, if they had contact with a palliative care team or palliative department (N=5,815)

While 18% c\_dead died in hospice, only 1% of notc\_dead did so.

While 13% of c\_dead had contact with a palliative care team or palliative departments at the time of death, only 2% of notc\_dead had a contact.

**Table 1** shows the relation between different causes of cancer deaths and their numbers and proportions of contacts with SPC.

Patients dying from female genital cancers or from tumors in the CNS-system had the highest frequencies of SPC-contacts, while patients dying from hemopoietic cancers had the lowest frequency of SPC-contacts at the time of death.

The authors have no conflicts of interests.

**Table 1:**  
Use of specialized palliative care (SPC) units in relation to cause of death, among cancer patients in Denmark 2012-2014

Cause of death (cancer types)	Number of deaths in 2012-2014			Percentage of Total				
	no_SPC contact *	hospices	teams or departments	Total	no_SPC contact *	hospices	teams or departments	Total
Cancer patients, dying from cancer								
female genital	1087	500	249	1836	59	27	14	100
CNS	712	290	208	1210	59	24	17	100
malignant melanoma	573	195	123	891	64	22	14	100
breast	2180	634	486	3300	66	19	15	100
GI**-cancer; upper GI	4034	1175	1043	6252	65	19	17	100
lung	7451	1931	1439	10821	69	18	13	100
unspecified	2520	655	510	3685	68	18	14	100
GI**-cancer; colon	2598	673	525	3796	68	18	14	100
Head and Neck	952	238	186	1376	69	17	14	100
GI**-cancer; rectum/anal	1035	248	216	1499	69	17	14	100
urinary cancer	1630	376	290	2296	71	16	13	100
prostate	2569	400	391	3360	76	12	12	100
hemopoietic	2511	277	171	2959	85	9	6	100
<b>All, dying from cancer</b>	<b>29852</b>	<b>7592</b>	<b>5837</b>	<b>43281</b>	<b>69</b>	<b>18</b>	<b>13</b>	<b>100</b>
Cancer patients, NOT dying from cancer								
<b>cause of death, NOT cancer</b>	<b>16864</b>	<b>163</b>	<b>340</b>	<b>17367</b>	<b>97</b>	<b>1</b>	<b>2</b>	<b>100</b>

\* no\_SPC contact: Patients, who never had contact with specialized palliative care units, or who had no contact with SPC in the last year prior to death  
\*\* GI: gastrointestinal

## CONCLUSION

Contact with SPC among registered cancer patients in Denmark happened eight times more frequently among those who died from cancer compared to those dying from other causes.

One in six registered cancer patients dying from cancer, died in hospice, compared to one in hundred among those dying from other causes.

Death in hospital occurred twice as frequently among those without SPC-team/department contact (54%), compared to those with SPC-team/department contact (27%).

