Diabetes and Palliative Care

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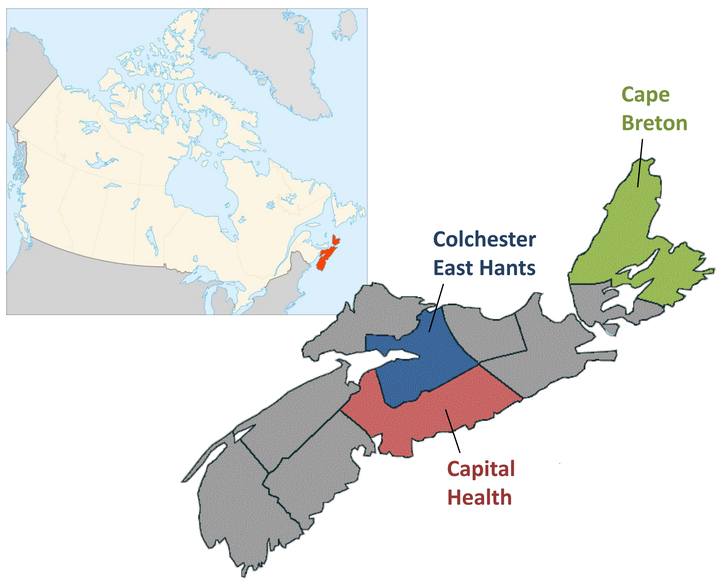
Palliative care is shifting from cancer to include other chronic diseases that can be life-limiting. Diabetes
- affects 1 in 10 people in Nova Scotia (NS), Canada,
- leads to conditions which shorten life span, and
- as a co-morbidity, can influence needs and care for persons with advanced disease. Investigation of connections between diabetes and palliative care is warranted.

Context

Diabetes Care Program of Nova Scotia (DCPNS) has registered cases of diabetes for over 15 years. DCPNS's mission is to improve the health of the people of NS living with, affected by, or at risk of developing diabetes, through leadership and partnering. The DCPNS focus has been on early identification and improved community based management of diabetes. DCPNS also understands the importance of addressing needs of hospitalized persons and those at end of life.

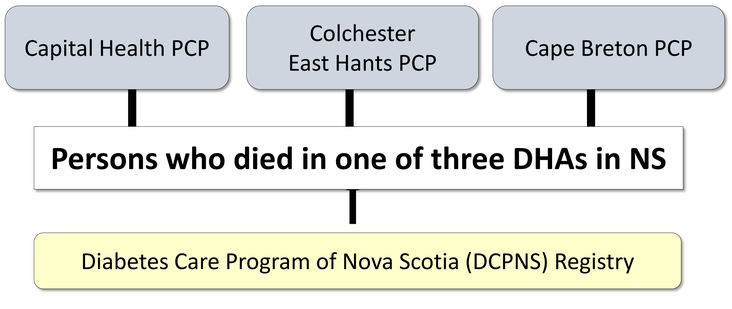
Capital Health (Halifax), Colchester East Hants, and Cape Breton District Health Authorities (DHA) are three of nine DHAs; they have 60% of population in NS. A palliative care program (PCP) is in each DHA.



Method

Death certificate, DCPNS, and PCP data were linked

Figure 1: Database Linkage



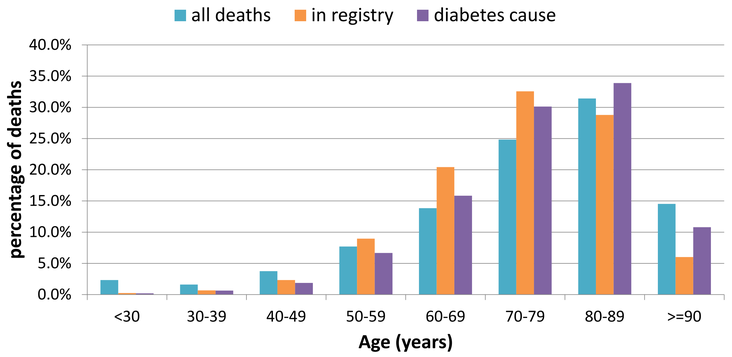
Study Population

All deaths from 1995-2009 in three DHAs in NS obtained from Vital Statistics (VS).

Results

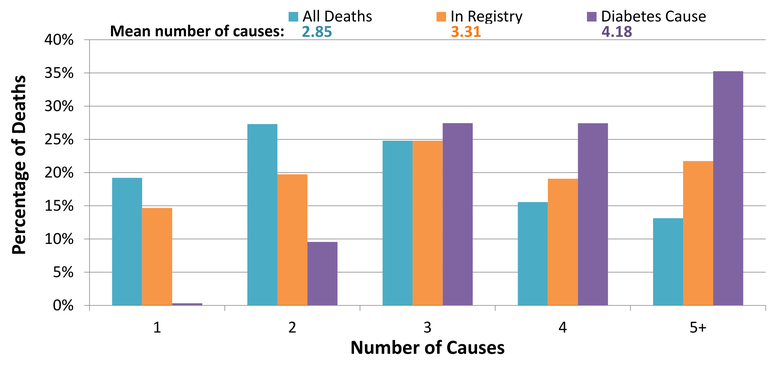
Of the 121,458 study decedents, 15.5% (18,883) had diabetes according to DCPNS Registry or their cause of death. Mean age of death was 74.5 years for all decedents and older (76.2 years) for those with a diabetes cause of death. Those in the DCPNS Registry are younger (73.7) than those with a diabetes cause of death. (Figure 2)

Figure 2: Age distribution of all deaths, DCPNS Registry deaths, and those with diabetes cause of death



Those with a diabetes cause of death had an average of 4.2 causes of death versus 2.9 for all decedents.

Figure 3: Number of causes of death recorded



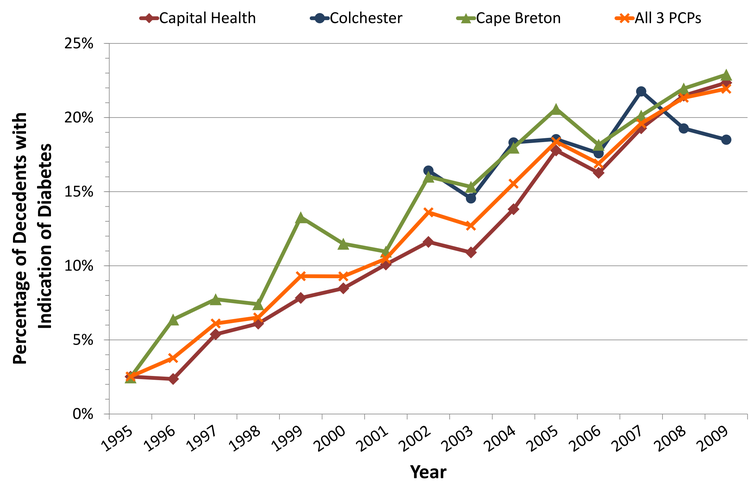
Among study decedents, 10.6% had a diabetes cause of death. Among those in DCPNS Registry, 42.4% had a diabetes cause of death. Those with a diabetes cause of death have lower rates of cancer and higher rates of cardiovascular and renal disease.

Figure 4: Cause of Death Frequencies

Disease	All Deaths (n=121,458)	Deaths in DCPNS Registry (n=10,470)	With Diabetes Cause of Death (n=12,848)
Diabetes	10.6%	42.4%	100.0%
Cancer	32.2%	33.1%	18.3%
Cardiovascular Disease	32.2%	41.4%	54.2%
Renal	8.8%	15.2%	18.4%
Pneumonia	11.7%	9.4%	10.1%
Chronic Obstructive Pulmonary Disease	11.5%	11.7%	12.5%
Dementia/Alzheimer's	10.2%	7.2%	9.8%

The three PCPs are seeing increasing numbers of persons with diabetes as a cause of death; 5% in 1990s to now over 20% have diabetes. (Figure 5)

Figure 5: Decedents with diabetes as a cause of death seen by PCP by year



The percent of decedents with diabetes (according to DCPNS Registry or cause of death) who were seen by each PCP: 22.6% (Capital Health), 26.2% (Cape Breton), and 33.9% (Colchester East Hants) (Figure 6), reflect the rates of non-cancer deaths in PCPs in the recent years. This might relate to the Colchester East Hants population being the oldest and most rural, while Capital Health is the youngest and most urban. Among the 1699 decedents from 2005 to 2009 who had indication of diabetes and were enrolled in a PCP, 536 (31.5%) were enrolled late, i.e., within two weeks of their death.

Figure 6: Enrollment of persons who died with diabetes in three PCPs

	Percent in PCP		
	Among decedents found in DCPNS Registry	Among those with a Diabetes Cause of Death	Among those with Diabetes Cause or in DCPNS Registry
Capital Health (1996-2009)	31.1%	14.3%	22.6%
Cape Breton (1996-2009)	32.6%	19.6%	26.2%
Colchester East Hants (2003-2009)	36.2%	27.0%	33.9%

Conclusions

The numbers of people with diabetes in palliative care is increasing, mirroring the increase in diabetes in the general population. Increasingly, palliative care programs and diabetes share a growing population. Thus, collaboration and shared learning is warranted. Palliative approaches by chronic disease programs should be considered.

Acknowledgement

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