Chronic Disease Management

BRITISH COLUMBIA **Ministry of Health Services**

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The Failing Heart

Congestive heart failure is the final common pathway for many heart and lung disorders. Using a preliminary case definition to identify people with heart failure from administrative records, it is estimated that about 41,000 individuals suffered from heart failure in British Columbia during 2000/01 (Figure 1). International studies suggest that another 40,000 have congestive heart failure, but have not been diagnosed.

Current literature suggests that the best results are achieved when the disease is recognized early and management is initiated before failure is well established.

Once heart failure is established, life expectancy is limited. We tracked patients who were admitted to hospital during 1998/99 with a primary diagnosis of congestive heart failure, and found that the 50% survival rate was about 30 months (Figure 2).

Figure 1. Congestive Heart Failure Registry Patients

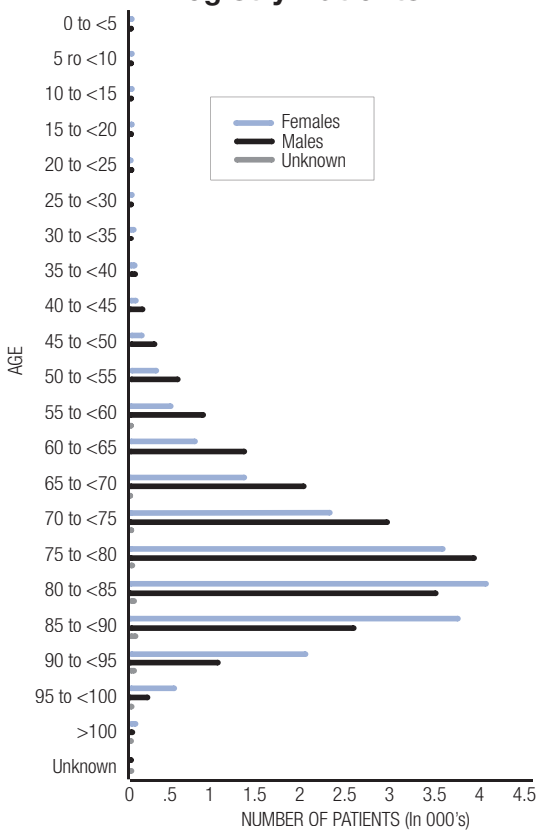
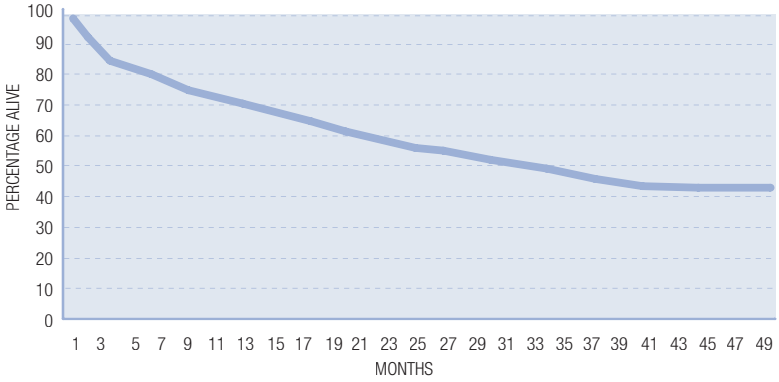


Figure 2. Survival Following Admission to Hospital



A number of patients require hospital care to control their congestive heart failure. Ministry of Health data for the year 2000/01 indicates there were 12,651 hospital admissions where congestive heart failure was the primary or secondary diagnosis. These cases generated 100,459 days of care, at a total estimated cost of $90,423,100 (see Notes on Method). Once controlled, these patients should be maintained in the community. Figure 3 shows an analysis of re-admissions for congestive heart failure during the year (limited to admission where congestive heart failure was the primary diagnosis).

Figure 3. Re-admissions during 2000/20001

Days from Discharge	Number Re-admitted
less than 15	445
16 to 30	203
31 to 45	159
46 to 60	98
61 or more	393

Relevant care

Experts recommend that patients with heart failure be treated with specific drugs. Angiotensin converting enzyme inhibitors (ACE-I) or angiotensin receptor blockers (ARBS) are recommended by international guidelines, and have been shown to reduce re-hospitalization rates. Beta-blockers and digoxin may be added for some patients. Diuretics are commonly used to control fluid overload. Whereas Pharmacare data is not complete for some patients under the age of 65 years, it nonetheless provides a fairly complete picture. The proportion of patients receiving at least two prescriptions for the recommended drugs during 2000/01 is shown in Figure 4.

Notes on method

1. The preliminary congestive heart failure registry was developed by reviewing all MSP billings and all hospital discharges since April 1, 1992 and included those who met the case definition of: (a) one hospital discharge coded with ICD-9 code 428; or (b) at least two MSP services coded with ICD-9 428 within a year (further work is required to verify and improve the accuracy of the registry).
2. Pharmacare data is restricted to patients over 64 years, and those who exceeded the payment threshold of $800 in 2000/01.
3. Age standardized mortality figures were taken from the BC Vital Statistics database.
4. Hospital costs are based on an estimated cost of $3,500 per RIW.
5. All hospital data are restricted to discharges from acute/rehab or day care.

Figure 4. Proportion of Congestive Heart Failure Registry Patients Receiving at Least Two Prescriptions in 2000/2001 (per cent)

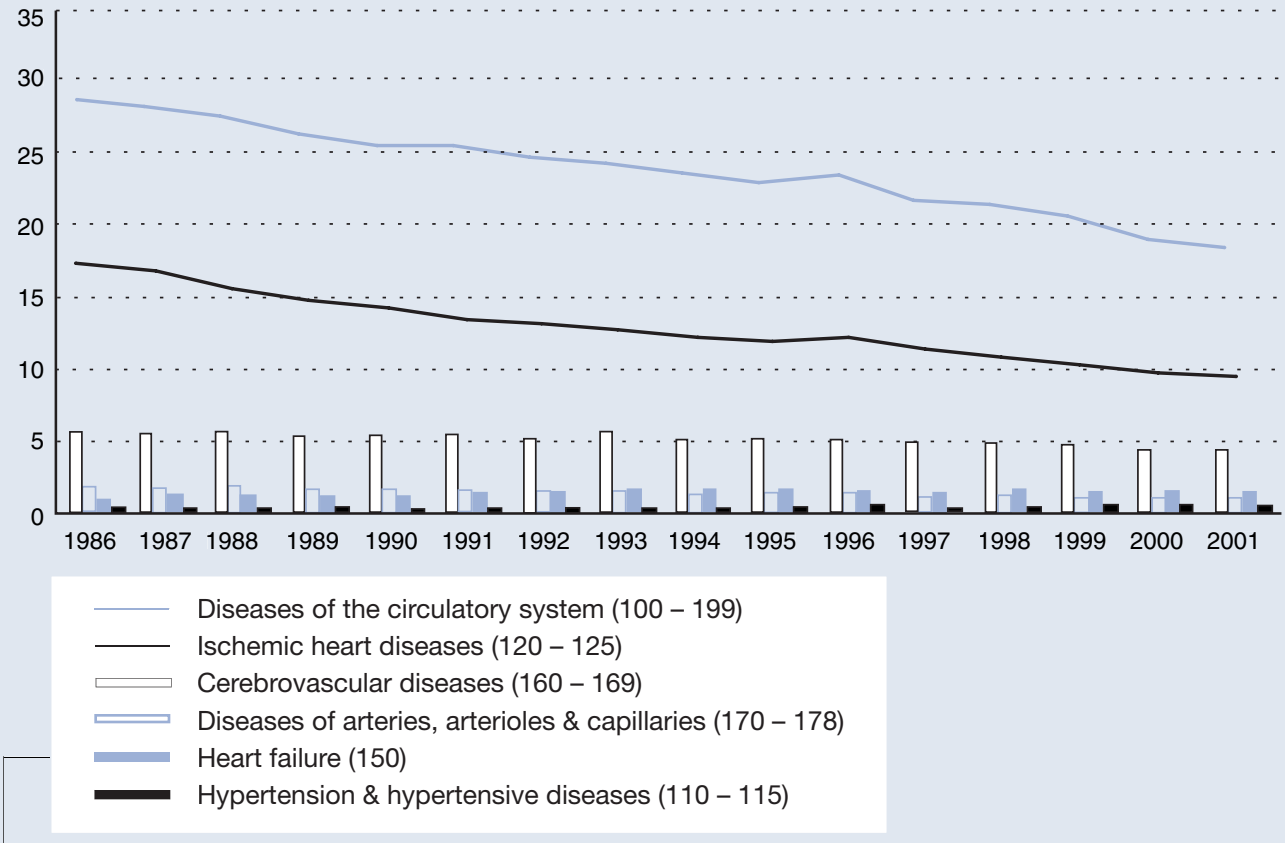
A guideline for congestive heart failure is under development by the British Columbia Guidelines and Protocols Advisory Committee. It is expected that the guideline will identify standards of care that, in turn, will lead to appropriate performance measures. In the interim, this drug utilization data is provided.

Health District	Patients	ACE	ARB	B-blocker	Diuretic	Digoxin
		%	%	%	%	%
Capital	3,516	61.9	10.0	16.0	76.3	41.2
Central/Van. Island	2,864	61.5	11.0	18.4	74.8	41.0
East Kootenay	836	62.7	6.2	20.1	77.2	33.7
Fraser Valley	2,836	65.0	11.6	21.4	73.2	36.6
Kootenay Boundary	1,112	65.1	12.5	17.6	75.6	38.9
North Shore/Coast	2,270	61.1	7.9	15.2	74.2	36.3
North West	575	53.7	9.6	17.9	57.7	33.0
Northern Interior	1,085	58.6	7.8	15.4	68.4	33.9
Okanagan	4,635	63.3	11.4	21.7	75.8	35.1
Peace Liard	373	64.3	6.4	28.4	73.2	37.3
Simon Fraser	4,190	61.5	9.9	16.7	76.0	39.5
South Fraser	5,244	62.3	10.1	19.1	74.5	36.1
Thompson/Cariboo	2,125	58.1	11.0	9.0	69.6	42.6
Upper Island	1,347	61.2	11.2	21.5	71.3	33.0
Vancouver/Richmond	6,565	60.2	11.3	21.3	74.8	37.6
Unknown	1,372	61.0	6.6	16.6	71.6	37.9
Total	**40,945**					

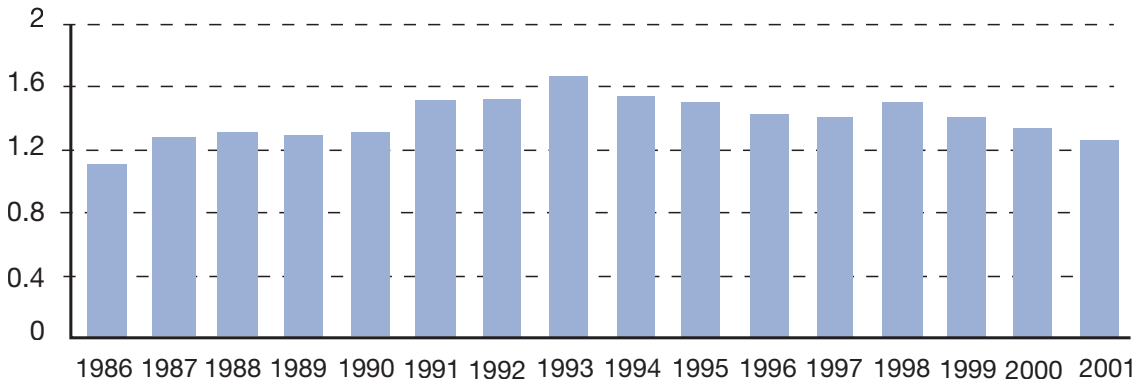
Some good news

The effort towards healthier lifestyles and improved care of cardiovascular disease appears to be paying off. Over the past several years the death rate from diseases of the circulatory system has been falling in BC. These figures show what has been achieved and should encourage further efforts (Figure 5). The overall improvement has not yet been seen for heart failure.

Figure 5. Age Standardized Mortality Rates, Selected Diseases of the Circulatory System, B.C. 1986 – 2001



Age Standardized Mortality Rates, Heart Failure B.C. 1986 – 2001



Resources

Ministry of Health Services Chronic Disease Web site: http://www.healthservices.gov.bc.ca/cdm/

Heart and Stroke Foundation: http://www.heartandstroke.ca/