The Potential of Linked Cancer Registry Data for Cancer Control

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Definition of cancer control

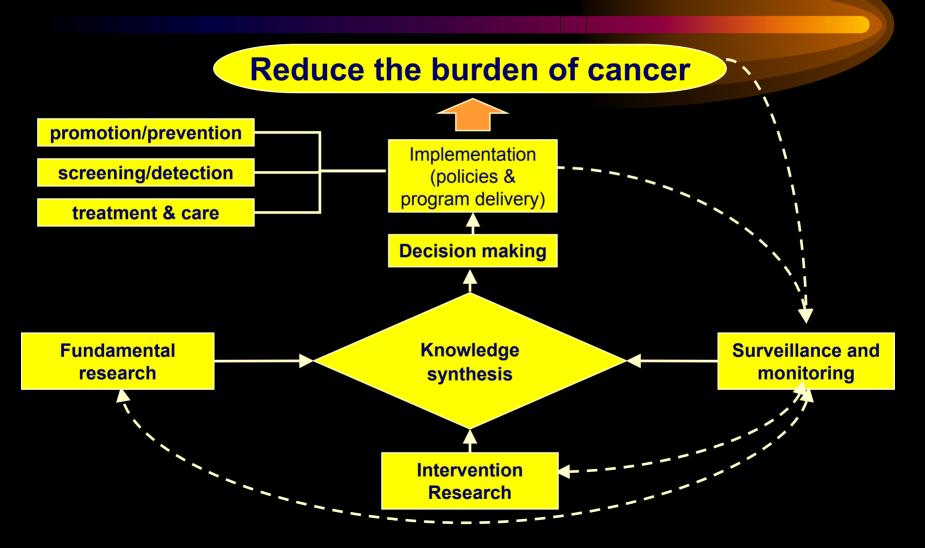
Cancer control aims to prevent cancer, cure cancer, and to increase the survival rates and quality of life for those who develop cancer by converting the cumulative knowledge gained through research, surveillance and outcomes evaluation into strategies and actions... Should be read in the context of the cancer continuum. (Canadian Strategy for Cancer Control)

All actions that reduce the burden of cancer in the community including every aspect of care, from prevention and early diagnosis to curative treatment and palliative care, all underpinned by the best scientific advice available. (National Cancer Control Initiative)

Cancer control spectrum

- prevention
- screening
- early detection
- treatment
- rehabilitation
- palliation

Analytic framework Canadian Strategy for Cancer Control



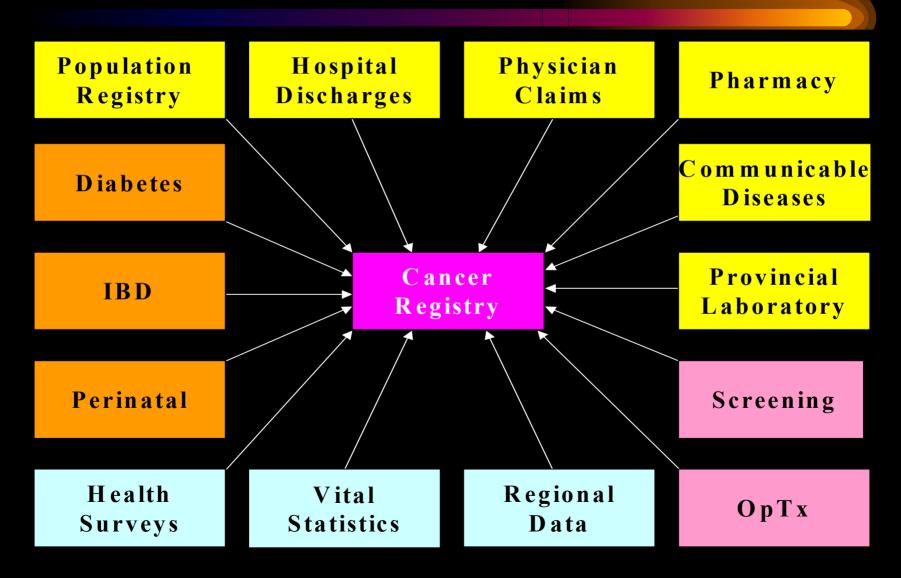
Foundations / Infrastructure

Role of cancer registry in cancer control

"The cancer registry is an essential part of any rational programme of cancer control, benefiting both the individual and society in which he lives." (Muir et al, 1985)

"The most important element within the cancer control surveillance system is the network of cancer registries..." (Greenwald et al, 1986)

Manitoba linkable databases



Prevention / Risk Factors

- abortion & breast cancer
- vasectomy & prostate cancer
- tubal ligation & breast, ovarian, endometrial cancers
- gastric surgery & colorectal cancer
- diabetes & various cancers
- endometriosis & various cancers
- inflammatory bowel disease & various cancers

Inflammatory bowel disease and cancer

Site IRR		95% C.I.	
Small intestine	10.4	3.0 - 36.1	
Colon	2.7	2.0 - 3.6	
Liver, biliary tract	4.4	1.5 - 12.4	
All cancers	1.2	1.1 - 1.3	

Screening

- characteristics of breast cancer patients by modes of mammography service delivery
- validity of mammograms of women on HRT
- modeling the impact of breast screening on mortality
- pap smears and cervical cancer among Aboriginals
- validity of self-reported mammograms
- validity of self-reported HRT use

HRT use and mammogram validity

HRT Use	% False +ve	% False -ve
Current	8.2	27.2
Previous	6.3	20.7
Never	6.9	14.2

Treatment / Outcomes

- breast
- rectal
- lung

Services for Stage IIIb/IV NSCLC patients since last chemotherapy

Service	Number	per person	per 100 PWs	
Databases				
Medical claims	4353	29.8	112.3	
Hospitalizations	271	1.9	7.0	
Prescriptions	3050	20.9	78.7	
Charts				
Tests	729	5.0	18.8	
Drugs	259	1.8	6.7	
Procedures	144	1.0	3.7	
Physician visits	135	0.9	3.5	
Other	213	1.5	5.5	

Treatment costs for NSCLC patients since last chemotherapy

Service	Total (\$)	Avg (\$)	per PM (\$)	0/0
Radiotherapy	43,231	296	48	2.7
Physician visits	113,459	777	125	7.2
Prescriptions	147,925	1,013	164	9.4
Hospitalizations	1,272,904	8,719	1,408	80.
Total (CAD)	1,577,520	10,805	1,745	100.0
(USD)	1,151,590	7,888	1,274	

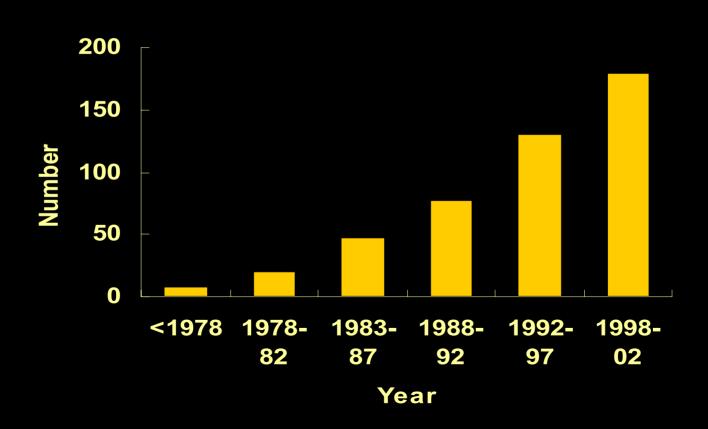
Medline search

(cancer OR neoplasms)

AND

("record linkage" OR "data linkage")

Cancer control and record linkage papers



Conclusions

- The value of cancer registries for cancer control can be greatly enhanced through record linkage.
- Given the potential of linked databases for cancer control, their use should be encouraged and supported.