

SUPPLEMENTARY FIGURE 1: Information sources, methods, and exclusions for CAREX Canada exposure prevalence estimates (antineoplastic agents)

Occupation / Location	STEP 1		STEP 2		STEP 3		ADDITIONAL INFORMATION	
	Baseline Population Description	CAREX Baseline Population	CAREX Exposure Prevalence Rationale	CAREX Exposure Prevalence	Baseline Population x Exposure Prevalence	CAREX Numbers Exposed ¹	Information Source, Sex Breakdowns	Exclusions ²
PHARMACISTS IN COMMUNITY	All community pharmacists in Canada (sum of registered pharmacists in each province/territory) (A,B)	23,700	61% (1) and 63.7% (2) of responding pharmacies report weekly dispensation of 1 or more chemotherapy prescriptions	60%	23,700x60%	14,200	L	Assisting occupations in pharmacy settings (assistants, student interns, administrative staff)
PHARMACY TECHNICIANS IN COMMUNITY	All pharmacy technicians in Canada (extrapolation based on reported staffing ratios: 1.12 pharmacy technicians per 1 pharmacist) (D)	26,000		60%	26,000x60%	16,000	D	
PHARMACISTS IN HOSPITALS	All pharmacists employed in hospitals (A,B)	6,800	89% of hospital respondents report preparation of IV cytotoxic drugs in their pharmacy department (3) Surface contamination is likely common in pharmacies preparing antineoplastic agents (4)	85%	6,800x0.85%	5,800	L	
PHARMACY TECHNICIANS IN HOSPITALS	All pharmacy technicians employed in hospitals (extrapolation based on reported staffing ratios: 1.20 pharmacy technicians per 1 pharmacist) (C,D)	8,100		85%	8,100x0.85%	6,900	D	
REGISTERED NURSES (RNs) AND LICENSED PRACTICAL NURSES (LPNs) IN HOSPITALS	All direct care nurses (E,F) in:		Estimates proportion of nurses in each clinical area with potential exposure to antineoplastic agents (5,6) :				E,F	Nurse practitioners and nurses in areas where antineoplastic agents may be used infrequently, e.g., emergency, operating room
	Oncology	7,000	Oncology: 75.6%	75%	7,000x75%	5,300		
	Ambulatory	10,300	Ambulatory: 27.3%	27%	10,300x27%	2,800		
	Medical/Surgical	59,000	Medical/Surgical: 18.3%	18%	59,000x18%	10,600		
REGISTERED NURSES (RNs) AND LICENSED PRACTICAL NURSES (LPNs) IN GERIATRIC / LONG TERM CARE	All direct care nurses (E,F) in: Geriatric/Long-Term Care	65,000	1.8% of individuals in hospital continuing care and <1% in residential care receive chemotherapy (7)	1%	65,000x1%	700		
VETERINARIANS IN COMMUNITY	All veterinarians employed in small animal practice (G) ³	6,900	Antineoplastic agents most commonly used to treat companion animals (8)	40%	6,900x40%	2,800	G	Assisting occupations in veterinary settings (assistants, student interns, administrative staff)
	All veterinarians employed in mixed (small and large) animal practice (G) ³	1,000		20%	1000x20%	200		
VETERINARY TECHNICIANS IN COMMUNITY	All veterinary technicians employed in small animal practice: extrapolated from veterinarian numbers (H,I)	5,500	Surface contamination has been detected in both the US (9) and The Netherlands (10) Prevalence of antineoplastic agent use in veterinary practice ranges from 46% (11,12) up to 70.8% (13)	40%	5,500x40%	2,200	J	
	All veterinary technicians employed in mixed (small and large) animal practice: extrapolated from veterinarian numbers (H,I)	800		20%	800x20%	200		

Occupation / Location	STEP 1		STEP 2		STEP 3		ADDITIONAL INFORMATION	
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CLEANING WORKERS IN HOSPITALS	All cleaning workers (NOC-S G931) in hospitals (NAICS 6220) and in nursing and residential care facilities (NAICS 6230) (J)	19,600	-20% of cleaning workers employed by hospitals in the province of British Columbia have physical contact with inpatient or outpatient oncology units (14)	15%	19,600x15%	2,900	J	Subcontracted cleaners
CLEANING WORKERS IN GERIATRIC / LONG TERM CARE		14,800		1%	14,800x0.01	100		
HOME CARE WORKERS (HOME SUPPORT WORKERS AND NURSE AIDES) IN COMMUNITY	All nurse aides (NOC-S D312) in home health services (NAICS 6216) (J)	3,600	Support workers and nurse aides mostly assist clients with basic activities; licensed nurses (RNs and LPNs) most frequently report administering medications (15) Antineoplastic agent contamination has been noted in home settings of individuals receiving chemotherapy treatment (10,16,17)	5%	3,600x5%	200	M	Case managers, respiratory therapists, dietitians, physicians, other para/professional groups
	All home support workers (NOC-S G811) in home health services (NAICS 6216) (J)	26,300		5%	26,300x5%	1,300		
HOME CARE WORKERS (REGISTERED NURSES (RNS) AND LICENSED PRACTICAL NURSES (LPNS)) IN COMMUNITY	All direct care nurses in home care (E,F)	14,200		10% of home care clients are living with cancer; 1% or fewer receive chemotherapy treatment at a given time (18)	5%	14,200x5%		
LAUNDRY WORKERS IN HOSPITALS	All laundry workers (NOC-S code G981) employed in hospitals (NAICS 6220) (J)	2,700	Antineoplastic agents are handled in most Canadian hospital facilities (3) Approximately 25-35% of laundry workers are in soiled laundry sorting areas (19) Exposure may occur via handling of contaminated linens (20)	20%	2,700x20%	500	J	N/A
LAUNDRY WORKERS IN 1) GERIATRIC / LONG TERM CARE 2) SUB-CONTRACTOR FACILITIES	All laundry workers (NOC-S G981) employed in nursing and residential care facilities (NAICS 6230) and in private laundry services (NAICS 8123) (J)	13,400	1.8% of individuals in hospital continuing care and <1% in residential care receive chemotherapy (7) Linen contamination has been detected in private laundry facilities (17,21)	2%	13,400x2%	300		
PHYSICIAN SPECIALISTS IN HOSPITALS	All medical oncologists, gynecologic oncologists (K)	500	Exposure prevalence of physicians specializing in medical or gynaecologic oncology reflects proportion used for oncology nurses Lower exposure prevalence of 25% used to address uncertainty in location of practice (e.g., oncology vs. non-oncology haematology)	75%	500x75%	400	K	Other medical doctors who may contact antineoplastic agents (patients or contaminated surfaces) through the course of their work
	Other relevant specialists (haematologists and paediatric haematologists) (K)	500		25%	500x25%	100		

NAICS = North American Industrial Classification System, 2002, **NOC-S** = National Occupation Classification System, 2006

¹Where occupations are grouped, numbers may not reflect proportion applied

²Occupations excluded due to insufficient data

³Individual provincial/territorial veterinary associations (n=12) were also consulted on a case-by-case basis

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EXPOSURE DEFINITION

PHARMACY WORKERS (Pharmacists and Pharmacy Technicians)
Preparing antineoplastic agents (any type)
AND/OR
Contact with contaminated surfaces
NURSES (Registered Nurses and Licensd Practical Nurses)
Administering antineoplastic agents (any type)
AND/OR
Contact with individuals receiving antineoplastic agents
AND/OR
Contact with contaminated surfaces or fluids
VETERINARY WORKERS (Veterinarians and Veterinary Technicians)
Preparing antineoplastic agents (any type)
AND/OR
Administering antineoplastic agents (any type)
AND/OR
Contact with individuals receiving antineoplastic agents
AND/OR
Contact with contaminated surfaces or fluids
CLEANING WORKERS
Contact with contaminated surfaces or fluids
AND/OR
Contact with contaminated linens
HOME CARE WORKERS (Home Support Workers and Nurse Aides)
Administering antineoplastic agents (any type)
AND/OR
Contact with individuals receiving antineoplastic agents
AND/OR
Contact with contaminated surfaces or fluids
LAUNDRY WORKERS
Contact with contaminated linens
PHYSICIAN SPECIALISTS
Contact with individuals receiving antineoplastic agents
AND/OR
Contact with contaminated surfaces or fluids