

APPENDIX D – Comparison of our Study Findings with Previous Scientific Reports

Cancer site	Outcome	Report	No. of studies used	Risk estimate (95% CI)	Comments
Bladder	Incidence	HSPH team	5	1.21 (1.00, 1.47)	
		CCO, 2004	2	Not estimable	
		Review of CCO	2	1.17 (0.74, 1.75)	Insufficient evidence
		Youakim, 2006	3	1.36 (1.01-1.80)	
	Mortality	HSPH team	15	1.34 (1.09,1.66)	
		CCO, 2004	7	1.36 (0.79, 2.35)	Insufficient data to determine
		Review of CCO	10	1.10 (0.81, 1.47)	Insufficient evidence
		Youakim, 2006	10	1.14 (0.96-1.33)	
	Summary risk estimate ³	Le Masters, 2006	11	1.20 (0.97, 1.48)	Unlikely
Qualitative literature review	Guidotti, 2003	7	Sufficient evidence: may reflect a true risk associated with occupation		
	McGregor, 2005	4	Limited evidence		
Brain & CNS	Incidence	HSPH team	5	1.08 (0.63, 1.85)	
		CCO, 2004	11	1.45 (0.84, 2.49)	Limited evidence
		Review of CCO	2	1.62 (1.03,2.43)	Probable
		Youakim, 2006	6	1.39 (0.90-2.05)	
	Mortality	HSPH team	18	1.27 (0.99, 1.63)	
		CCO, 2004	11	1.41 (0.97, 2.06)	Limited evidence
		Review of CCO	7	1.37 (1.07, 1.72)	Probable
		Youakim, 2006	15	1.09 (0.92-1.25)	
	Summary risk estimate ³	Le Masters, 2006	19	1.32 (1.12,1.54)	Possible
Qualitative literature review	Guidotti, 2003	4	Sufficient: may reflect true risk in certain subgroup		
	McGregor, 2005	14	Inadequate evidence		
Colorectal	Incidence	HSPH team	5	0.96 (0.72, 1.28)	
		CCO, 2004	4	1.08 (0.86, 1.35)	Limited evidence
		Review of CCO	4	1.06 (0.84,1.33)	Insufficient to determine
	Mortality	HSPH team	9	1.21 (0.99, 1.46)	
		CCO, 2004	9	1.24 (1.04, 1.47)	Limited evidence

		Review of CCO	9	1.31 (1.15,1.49)	Insufficient to determine
	Qualitative literature review	Tao, 2005	13	No association in incidence, statistically significant increased risk in mortality	
Colon	Incidence	HSPH team	6	1.23 (1.04, 1.45)	
		CCO, 2004	3	0.97 (0.69, 1.36)	Limited evidence
		Review of CCO	3	0.91 (0.65,1.25)	Insufficient evidence
		Youakim, 2006	5	1.06 (0.84-1.32)	
	Mortality	HSPH team	15	1.12 (0.99, 1.28)	
		CCO, 2004	7	1.83 (1.09, 3.08)	Limited evidence
		Review of CCO	7	1.12 (0.95,1.32)	Insufficient evidence
		Youakim, 2006	10	1.07 (0.95-1.18)	
	Summary risk estimate ³	Le Masters, 2006	25	1.21 (1.03,1.41)	Possible
	Qualitative literature review	Guidotti, 2003		Sufficient evidence existed to consider adding colon cancer to the presumption list	
Tao, 2005		15	No statistically significant association in incidence and mortality		
McGregor, 2007		19	Not sufficient evidence		
Rectal	Incidence	HSPH team	4	1.06 (0.80, 1.42)	
		CCO, 2004	3	1.25 (0.84, 1.85)	Limited evidence
		Review of CCO	3	1.21 (0.83,1.73)	Possible increased risk
	Mortality	HSPH team	15	1.25 (1.07, 1.47)	
		CCO, 2004	7	2.08 (0.92, 4.72)	Limited evidence
		Review of CCO	7	1.36 (1.04,1.73)	Possible increased risk
	Summary risk estimate ³	Le Masters, 2006	13	1.29 (1.10,1.51)	Possible
	Qualitative literature review	Tao, 2005	12	No association in incidence, statistically significant increased risk in mortality	
McGregor, 2007		19	Not sufficient evidence		
Esophagus	Incidence	HSPH team	3	0.89 (0.49, 1.62)	
	Mortality	HSPH team	9	0.95 (0.69, 1.31)	
	Summary risk estimate ³	Le Masters, 2006	8	1.16 (0.86,1.57)	Unlikely
	Qualitative literature review	McGregor, 2007	10	No evidence suggested to assume increased risk of esophagus cancer as a result of firefighting occupation	
Larynx	Incidence	HSPH team	3	1.21 (0.53, 2.76)	

	Mortality	HSPH team	8	0.96 (0.67, 1.36)	
	Summary risk estimate ³	Le Masters, 2006	7	1.22 (0.87-1.70)	Unlikely
Oral & Pharynx	Incidence	HSPH team	2	0.80 (0.50, 1.28)	
	Mortality	HSPH team	10	1.11 (0.83, 1.47)	
	Summary risk estimate ³	Le Masters, 2006	9	1.23 (0.96-1.55)	Possible
Kidney	Incidence	HSPH team	4	1.11 (0.34, 3.52)	
		CCO, 2004	4	0.89 (0.23, 3.39)	No evidence
		Review of CCO	3	0.48 (0.19,0.99)	Insufficient evidence
		Youakim, 2006	3	0.48 (0.19-0.98)	
	Mortality	HSPH team	12	1.24 (0.94, 1.64)	
		CCO, 2004	7	1.08 (0.58, 2.03)	No evidence
		Review of CCO	7	1.04 (0.72,1.46)	Insufficient evidence
		Youakim, 2006	9	1.22 (1.02-1.43)	
	Summary risk estimate ³	Le Masters, 2006	12	1.07 (0.78, 1.46)	Unlikely
	Qualitative literature review	Guidotti, 2003	5	Sufficient evidence existed to assume a general presumption of risk for kidney cancer for firefighters	
McGregor, 2005		8	Limited evidence		
Leukemia	Incidence	HSPH team	3	1.29 (0.68, 2.45)	
		CCO, 2004	2	Not estimable	
		Review of CCO	2	1.00 (0.36, 2.11)	Insufficient data to determine
		Youakim, 2006	4	1.34 (0.82-2.06)	
	Mortality	HSPH team	12	1.14 (0.97, 1.34)	
		CCO, 2004	3	0.94 (0.64, 1.36)	Insufficient data to determine
		Review of CCO	4	0.96 (0.71, 1.31)	Insufficient data to determine
		Youakim, 2006	9	1.08 (0.92-1.23)	
	Summary risk estimate ³	Le Masters, 2006	8	1.14 (0.98, 1.31)	Possible
	Qualitative literature review	Guidotti, 2003	4	Sufficient evidence existed to assume a general presumption of risk for leukemia for firefighters	
McGregor, 2007		14	not supportive of a conclusion that occupation of firefighting is an unequivocal risk factor for leukemia		
Liver & GB	Incidence	HSPH team	2	0.77 (0.41, 1.45)	
	Mortality	HSPH team	12	1.14 (0.92, 1.41)	

	Summary risk estimate ³	Le Masters, 2006	7	1.04 (0.72, 1.49)	Unlikely
Lung	Incidence	HSPH	6	0.71 (0.49, 1.04)	
		CCO, 2004	4	0.99 (0.79, 1.24)	No evidence
		Review of CCO	4	0.96 (0.77, 1.19)	No evidence
	Mortality	HSPH team	16	0.99 (0.89, 1.11)	
		CCO, 2004	8	1.02 (0.91, 1.15)	No evidence
		Review of CCO	7	1.01 (0.91, 1.11)	No evidence
Summary risk estimate ³	Le Masters, 2006	19	1.03 (0.97, 1.08)	Unlikely	
Lymphatic & Hematopoietic	Incidence	HSPH team	1	0.32 (0.08, 1.25)	
	Mortality	HSPH team	12	1.03 (0.80, 1.33)	
	Qualitative literature review	Guidotti, 2003	4	Insufficient evidence	
Multiple myeloma	Incidence	HSPH team	1	0.7 (0.10, 2.60)	
		CCO, 2004	2	Not estimable	Insufficient data to determine
		Review of CCO	2	0.89 (0.36, 1.90)	Insufficient data to determine
	Mortality	HSPH team	7	1.36 (1.07, 1.73)	
		CCO, 2004	1	Not estimable	Insufficient data to determine
		Review of CCO	3	1.39 (0.99, 1.91)	Insufficient data to determine
	Summary risk estimate ³	Le Masters, 2006	10	1.53 (1.21, 1.94)	Probable
Qualitative literature review	McGregor, 2007	6	No evidence suggested to assume increased risk of multiple myeloma as a result of firefighting occupation		
Non-Hodgkin's lymphoma	Incidence	HSPH team	4	1.75 (0.76, 4.00)	
		CCO, 2004	2	Not estimable	Insufficient data to determine
		Review of CCO	2	1.40 (0.46, 3.28)	Insufficient data to determine
		Youakim, 2006	4	1.34 (0.86-1.97)	
	Mortality	HSPH team	6	1.38 (1.19, 1.59)	
		CCO, 2004	1	Not estimable	Insufficient data to determine
		Review of CCO	2	1.47 (0.93, 2.21)	Insufficient data to determine
		Youakim, 2006	8	1.40 (1.20-1.60)	
	Summary risk estimate ³	Le Masters, 2006	8	1.51 (1.31, 1.73)	Probable
	Qualitative literature review	Guidotti, 2003	4	Sufficient evidence existed to assume a general presumption of risk for Non-Hodgkin's lymphoma for firefighters	

		McGregor, 2007	10	Firm conclusion can not be made. No clear mechanism between exposure and cancer development	
Hodgkin's lymphoma	Incidence	HSPH team	1	0.77 (0.38, 1.38)	
	Mortality	HSPH team	6	2.04 (1.35, 3.07)	
	Summary risk estimate ³	Le Masters, 2006	3	1.07 (0.59, 1.92)	Unlikely
Pancreas	Incidence	HSPH team	5	0.86 (0.57, 1.32)	
	Mortality	HSPH team	14	1.09 (0.93, 1.27)	
	Summary risk estimate ³	Le Masters, 2006	13	1.10 (0.91, 1.34)	Unlikely
	Qualitative literature review	McGregor, 2007	11	No evidence suggested to assume increased risk of pancreas cancer as a result of firefighting occupation	
Prostate	Incidence	HSPH team	9	1.28 (0.99, 1.65)	
	Mortality	HSPH team	15	1.31 (1.00, 1.70)	
	Summary risk estimate ³	Le Masters, 2006	13	1.28 (1.15, 1.43)	Probable
	Qualitative literature review	McGregor, 2007	15	No evidence suggested to assume increased risk of prostate cancer as a result of firefighting occupation	
Skin Melanoma	Incidence	HSPH team	4	1.20 (0.86, 1.68)	
	Mortality	HSPH team	5	1.65 (1.14, 2.39)	
	Summary risk estimate ³	Le Masters, 2006	10	1.32 (1.10, 1.57)	Possible
	Qualitative literature review	McGregor, 2007	6	No evidence suggested to assume increased risk of malignant melanoma as a result of firefighting occupation	
Skin Melanoma & non-melanoma	Incidence	HSPH team	3	0.98 (0.60, 1.59)	
	Mortality	HSPH team	8	1.20 (0.91, 1.57)	
	Summary risk estimate ³	Le Masters, 2006	8	1.39 (1.10, 1.73)	Possible
	Qualitative literature review	McGregor, 2007	6	No evidence suggested to assume increased risk of skin cancer as a result of firefighting occupation	
Stomach	Incidence	HSPH team	5	0.87 (0.45, 1.70)	
	Mortality	HSPH team	16	0.95 (0.80, 1.13)	
	Summary risk estimate ³	Le Masters, 2006	13	1.22 (1.04, 1.44)	Possible
	Qualitative literature review	McGregor, 2007	14	No evidence suggested to assume increased risk of stomach cancer as a result of firefighting occupation	
Testes	Incidence	HSPH team	5	2.16 (1.22, 3.80)	
		CCO, 2004	3	Not estimable	Insufficient data to determine
		Review of CCO	2	1.47 (0.82, 2.64)	Insufficient data to determine

	Mortality	HSPH team	3	1.80 (0.58, 5.54)	
		CCO, 2004	1	Not estimable	Insufficient data to determine
	Summary risk estimate ³	Le Masters, 2006	4	2.02 (1.30, 3.13)	Possible
	Qualitative literature review	McGregor, 2007	6	No evidence suggested to assume increased risk of testes cancer as a result of firefighting occupation	

1. HSPH: Represents the meta-analysis performed by the current team from the Harvard School of Public Health

2. CCO: Represents a previous report prepared by the Cancer Care Ontario group

3. Le Masters showed combined summary risk estimate for each cancer site using pattern of meta-relative risk associations (SMR, PMR, RR, SIR, OR).

4. Review of CCO: by Drs Pierre Band and David Parker, October 4th, 2004.