

## Supplementary material

**Table 1.** Chemical Industries' PRTR-Spain codes by Industrial Category.

**Table 2.** List of the tumors analyzed and their codes according to the International Classification of Diseases (ICD-9 and ICD-10).

**Table 3.** Agents classified as carcinogenic or probably/possibly carcinogenic to humans by the International Agency for Research on Cancer (IARC) and which are released by some chemical industry installations according to the PRTR register.

**Table 4.** Distribution of chemical industries by region and industrial category in Spain.

**Table 5.** Number of municipalities by population size (urban, semi-urban and rural) exposed to chemical industry sector and its categories.

**Table 6.** Relative Risks (RR) and 95% Credible Intervals (95%CrI) for mortality from cancers analyzed in the study in municipalities situated  $\leq 5$  km from chemical installations, estimated using spatial regression models and Integrated Nested Laplace Approximation (INLA) as a Bayesian inference tool for both men and women, by chemical industry category. Significant and the marginal associations (those with a value of 0.99 in the lower limit of the 95% credible interval) are marked in bold.

**Table 7.** Relative Risks (RR) and 95% Credible Intervals (95%CrI) for mortality from cancers analyzed in the study in municipalities situated  $\leq 5$  km from chemical installations, estimated using spatial regression models and Integrated Nested Laplace Approximation (INLA) as a Bayesian inference tool, statistically significant only in men, by chemical industry category. Significant and the marginal associations (those with a value of 0.99 in the lower limit of the 95% credible interval) are shown.

**Table 8.** Relative Risks (RR) and 95% Credible Intervals (95%CrI) for mortality from cancers analyzed in the study in municipalities situated  $\leq 5$  km from chemical installations, estimated using spatial regression models and Integrated Nested Laplace Approximation (INLA) as a Bayesian inference tool, statistically significant only in women, by chemical industry category. Significant and the marginal associations (those with a value of 0.99 in the lower limit of the 95% credible interval) are shown.

**Table 9.** Relative risks (RRs) and 95% credible intervals (95%CrI) for excess mortality from colorectal, gallbladder, pleural, ovarian and breast cancers in municipalities situated at  $\leq 5$  km from chemical installations using spatial regression models including altitude and

latitude of the municipalities, and Integrated Nested Laplace Approximation (INLA) as Bayesian inference tool.

**Figure 1.** Map of the regional and provincial administrative boundaries in Spain

**Figure 2.** Location of chemical industries by category

**Figure 3.** Relative risks and 95% Credible Intervals of dying from cancers analyzed in municipalities situated at a distance of less than 1, 2, ..., 15 km from chemical installations, estimated using spatial regression models and Integrated Nested Laplace Approximation (INLA) as Bayesian inference tool in both sexes, men and women.

**Table 1.** Chemical Industries PRTR-Spain codes by Industrial Category.

<b>PRTR code</b>	<b>CHEMICAL SECTOR</b>	<b>CATEGORY</b>
<b>4a</b>	<b>CHEMICAL FACILITIES FOR ORGANIC CHEMICAL TRANSFORMATION OF BASE</b>	<b>1.Organic Industries</b>
<b>4a.i</b>	Production of simple hydrocarbons	
<b>4a.ii</b>	Production of oxygen-containing hydrocarbons	
<b>4a.iii</b>	Production of sulfurous hydrocarbons	
<b>4a.iv</b>	Production of nitrogenous hydrocarbons	
<b>4a.v</b>	Production of phosphorous-containing hydrocarbons	
<b>4a.vi</b>	Production of halogenic hydrocarbons	
<b>4a.vii</b>	Production of organometallic compounds	
<b>4a.viii</b>	Production of basic plastic materials (polymers, synthetic fibres)	
<b>4a.ix</b>	Production of synthetic rubbers	
<b>4a.x</b>	Production of dyes and pigments	
<b>4ax.i</b>	Production of surface-active agents and surfactants	
<b>4b</b>	<b>CHEMICAL FACILITIES FOR INORGANIC CHEMICAL TRANSFORMATION OF BASE</b>	<b>2. Inorganic industries</b>
<b>4b.i</b>	Production of gases	
<b>4b.ii</b>	Production of acids	
<b>4b.iii</b>	Production of bases	
<b>4b.iv</b>	Production of salts	
<b>4b.v</b>	Production of no metals, metal oxides or other inorganic compounds	
<b>4c</b>	<b>CHEMICAL PRODUCTION OF PHOSPHOROUS, NITROGEN, OR POTASSIUM -BASED FERTILISERS</b>	<b>3.Fertilizer Industries</b>
<b>4d</b>	<b>CHEMICAL PRODUCTION OF BASIC PLANT HEALTH PRODUCTS AND OF BIOCIDES</b>	<b>4.Biocides Industries</b>
<b>4e</b>	<b>INSTALLATIONS USING A CHEMICAL OR BIOLOGICAL PROCESS IN THE PRODUCTION OF BASIC PHARMACEUTICAL PRODUCTS</b>	<b>5.Pharmaceutical Industries</b>
<b>4f</b>	<b>CHEMICAL FACILITIES OF EXPLOSIVES AND PYROTECHNIC PRODUCTS (Manufacture of explosives and pyrotechnic products)</b>	<b>6.Eplosives and pyrotechnic industries</b>
<b>4f.1</b>	Production of explosives	
<b>4f.2</b>	Production of pyrotechnic products	

**Table 2.** List of the tumours analyzed and their codes according to the International Classification of Diseases (ICD9 and ICD10).

	<b>TUMOUR</b>	<b>CIE9</b>	<b>CIE10</b>
1	Malignant neoplasm of oral cavity and pharynx	140-149	C00-C14
2	Malignant neoplasm of esophagus	150	C15
3	Malignant neoplasm of stomach	151	C16
4	Malignant neoplasm of small intestine	152	C17
5	Malignant neoplasm of colorectal	153, 154, 159.0	C18-C21
6	Malignant neoplasm of liver	155.0	C22.0
7	Malignant neoplasm of gallbladder	156	C23-C24
8	Malignant neoplasm of pancreas	157	C25
9	Malignant neoplasm of peritoneus	158	C45.1, C48
10	Malignant neoplasm of nasal	160	C30-C31
11	Malignant neoplasm of larynx	161	C32
12	Malignant neoplasm of lung	162	C33-C34
13	Malignant neoplasm of pleura	163	C38.4, C45.0
14	Malignant neoplasm of bones	170	C40-C41
15	Malignant neoplasm of connective and soft tissue	171	C49
16	Malignant melanoma of melanoma	172	C43
17	Other malignant neoplasm of skin	173	C44
18	Malignant neoplasm of breast	174	C50
19	Malignant neoplasm of vulva and vagina	184	C51, C52
20	Malignant neoplasm of uterus	179-182	C53-C55
21	Malignant neoplasm of ovary	183	C56, C57
22	Malignant neoplasm of prostate	185	C61
23	Malignant neoplasm of testis	186	C62
24	Malignant neoplasm of bladder	188	C67
25	Malignant neoplasm of kidney	189	C64-C66, C68
26	Malignant neoplasm of brain	191	C71
27	Malignant neoplasm of other central nervous system	192	C70, C72
28	Malignant neoplasm of thyroid gland	193	C73
29	Non-Hodkin's Lymphoma	200, 202	C82-C85, C96, C86
30	Hodkin's Lymphoma	201	C81
31	Myeloma	203	C90
32	Leukaemia	204-208	C91-C95

**Table 3.** Agents classified as carcinogenic or probably/possibly carcinogenic to humans by the International Agency for Research on Cancer and which are released by some chemical industry installations according to the PRTR register.

Group	Definition	Agents
1	Carcinogenic to humans	Arsenic, Cadmium, Chromium, Dioxins, Trichloroethylene, Vinyl Chloride, Benzene, Ethylene Oxide, Asbestos, Benzene Pyrene, Nickel Compounds, Polycyclic Aromatic Hydrocarbons, PM <sub>10</sub>
2a	Probably carcinogenic to humans	Polychlorinated Biphenyls, Tetrachloroethylene, Bromo diphenyl ethers (PBDEs)
2b	Possibly carcinogenic to humans	Lead, DDT, 1,2 Dichloroethane, Hexachlorobenzene

**Table 4.** Distribution of chemical industries by region and industrial category in Spain

	Organic chemistry		Inorganic Chemistry		Fertilisers		Phytosanitarios		Pharmaceutics		Exp & Pryrothechnics	
	N	%	n	%	n	%	n	%	n	%	n	%
Andalucía	8	4,12	6	7,79	4	16,00	2	10,53	0	0,00	13	16,05
Aragón	14	7,22	10	12,99	2	8,00	5	26,32	2	3,28	2	2,47
P. de Asturias	1	0,52	2	2,60	1	4,00	0	0,00	2	3,28	3	3,70
Islas Baleares	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	1	1,23
Islas Canarias	0	0,00	1	1,30	0	0,00	0	0,00	0	0,00	7	8,64
Cantrabria	4	2,06	6	7,79	0	0,00	0	0,00	0	0,00	0	0,00
Castilla-La Mancha	6	3,09	2	2,60	1	4,00	0	0,00	2	3,28	5	6,17
Castilla y León	9	4,64	1	1,30	1	4,00	0	0,00	3	4,92	5	6,17
Cataluña	104	53,61	22	28,57	7	28,00	10	52,63	40	65,57	1	1,23
C. Valenciana	7	3,61	11	14,29	6	24,00	1	5,26	0	0,00	22	27,16
Extremadura	1	0,52	1	1,30	0	0,00	0	0,00	0	0,00	1	1,23
Galicia	5	2,58	4	5,19	0	0,00	1	5,26	0	0,00	6	7,41
C. A. de Madrid	8	4,12	2	2,60	0	0,00	0	0,00	8	13,11	1	1,23
R. de Murcia	3	1,55	0	0,00	1	4,00	0	0,00	3	4,92	8	9,88
C. Foral de Navarra	4	2,06	0	0,00	1	4,00	0	0,00	0	0,00	1	1,23
País Vasco	20	10,31	9	11,69	1	4,00	0	0,00	1	1,64	5	6,17
<b>TOTAL</b>	<b>194</b>	<b>100</b>	<b>77</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>61</b>	<b>100</b>	<b>81</b>	<b>100</b>

**Table 5.** Number of municipalities by population size (urban, semi-urban and rural) exposed to chemical industry sector and its categories.

Chemical industry categories	Numbres of towns exposed	Urbans	Semi-urbans	Rurals
All Sector	575	213	184	178
Organic ind.	118	38	45	35
Inorganic ind.	79	29	25	25
Fertilizers ind.	33	8	6	19
Biocides ind.	13	7	2	4
Pharmaceutical ind.	32	10	6	16
Explosives and pyrothecnic	138	31	55	52

**Table 6.** Relative Risks (RR) and 95% Credible Intervals (95%CrI) for mortality from cancers analyzed in the study in municipalities situated  $\leq 5$  km from chemical installations, estimated using spatial regression models and Integrated Nested Laplace Approximation (INLA) as a Bayesian inference tool for both men and women, by chemical industry category. Significant and the marginal associations (those with a value of 0.99 in the lower limit of the 95% credible interval) are marked in bold.

TUMOR	Chemical Industry category	N <sup>a</sup>	BOTH			MEN			WOMEN		
			Obs <sup>b</sup>	RR	CrI95%	Obs	RR	CrI95%	Obs	RR	CrI95%
Oral and pharynx	All Sector	575	11144	1.03	0.97-1.09	9157	1.02	0.96-1.09	1987	1.05	0.94-1.17
	Organic Ind.	118	6630	1.01	0.93-1.11	5471	1.01	0.91-1.12	1159	1.01	0.87-1.18
	Inorganic Ind.	79	2855	0.99	0.89-1.11	2303	1.01	0.89-1.14	552	0.92	0.75-1.13
	Fertiliser Ind.	33	851	1.15	0.96-1.36	717	1.14	0.94-1.37	134	1.33	1.01-1.73
	Biocides	13	359	1.01	0.76-1.33	285	0.98	0.72-1.32	74	1.17	0.65-1.94
	Pharmaceutical Ind.	32	74	0.94	0.80-1.09	63	0.92	0.77-1.08	11	0.99	0.75-1.29
	Explosives & Pyrothecnic	138	375	<b>1.10</b>	<b>0.99-1.23</b>	318	1.09	0.98-1.22	57	1.13	0.94-1.35
Esophagus	All Sector	575	9009	1.02	0.96-1.08	7781	1.01	0.94-1.08	1228	1.05	0.90-1.23
	Organic Ind.	118	5334	1.03	0.94-1.13	4634	1.01	0.91-1.12	700	1.16	0.93-1.44
	Inorganic Ind.	79	2458	0.92	0.82-1.04	2093	0.92	0.82-1.05	365	0.95	0.71-1.25
	Fertiliser Ind.	33	648	1.05	0.86-1.25	565	0.98	0.80-1.19	83	1.32	0.87-1.97
	Biocides	13	221	1.05	0.77-1.41	186	1.05	0.75-1.44	35	1.03	0.47-2.06
	Pharmaceutical Ind.	32	60	0.98	0.83-1.15	50	0.97	0.82-1.15	10	0.94	0.63-1.38
	Explosives & Pyrothecnic	138	288	<b>1.14</b>	<b>1.00-1.24</b>	253	<b>1.11</b>	<b>0.99-1.24</b>	35	1.12	0.86-1.45
Stomach	All Sector	575	30322	<b>1.09</b>	<b>1.04-1.15</b>	18546	<b>1.12</b>	<b>1.06-1.19</b>	11776	1.04	0.98-1.11
	Organic Ind.	118	17410	<b>1.14</b>	<b>1.05-1.23</b>	10635	<b>1.18</b>	<b>1.08-1.29</b>	6775	10.7	0.98-1.17
	Inorganic Ind.	79	8431	<b>1.09</b>	<b>0.99-1.20</b>	5147	<b>1.11</b>	<b>1.00-1.23</b>	3284	1.03	0.92-1.15
	Fertiliser Ind.	33	2373	<b>1.16</b>	<b>1.00-1.34</b>	1440	<b>1.26</b>	<b>1.08-1.48</b>	933	1.01	0.85-1.20
	Biocides	13	891	1.07	0.86-1.34	557	1.20	0.94-1.53	334	0.94	0.69-1.25
	Pharmaceutical Ind.	32	179	1.06	0.93-1.22	120	1.08	0.93-1.25	59	1.03	0.88-1.20
	Explosives & Pyrothecnic	138	1038	1.03	0.95-1.11	647	1.05	0.96-1.15	391	1.01	0.91-1.12
Small Intestine	All Sector	575	649	1.00	0.83-1.19	362	1.04	0.83-1.30	287	0.97	0.76-1.25
	Organic Ind.	118	383	0.89	0.69-1.16	219	0.95	0.69-1.29	164	0.83	0.58-1.17
	Inorganic Ind.	79	174	0.91	0.64-1.28	97	0.94	0.60-1.43	77	0.86	0.55-1.36
	Fertiliser Ind.	33	52	0.55	0.28-0.99	27	0.35	0.12-0.87	25	0.76	0.34-1.52
	Biocides	13	12	1.19	0.44-2.73	4	0.93	0.19-3.20	8	1.47	0.40-4.20
	Pharmaceutical Ind.	32	5	0.97	0.61-1.50	2	1.25	0.71-2.09	3	0.68	0.32-1.32
	Explosives & Pyrothecnic	138	23	1.08	0.79-1.45	13	1.00	0.68-1.45	10	1.21	0.81-1.78
Colorectal	All Sector	575	61405	<b>1.08</b>	<b>1.04-1.11</b>	34615	<b>1.09</b>	<b>1.05-1.13</b>	26790	<b>1.06</b>	<b>1.03-1.10</b>
	Organic Ind.	118	35040	<b>1.09</b>	<b>1.05-1.15</b>	19804	<b>1.11</b>	<b>1.05-1.18</b>	15236	<b>1.08</b>	<b>1.02-1.14</b>
	Inorganic Ind.	79	17036	<b>1.08</b>	<b>1.02-1.14</b>	9491	<b>1.06</b>	<b>0.99-1.13</b>	7545	<b>1.12</b>	<b>1.05-1.19</b>
	Fertiliser Ind.	33	4904	<b>1.08</b>	<b>0.99-1.18</b>	2749	<b>1.13</b>	<b>1.02-1.25</b>	2155	1.04	0.94-1.15
	Biocides	13	1934	0.99	0.86-1.13	1089	1.03	0.86-1.21	845	0.94	0.78-1.13
	Pharmaceutical Ind.	32	334	1.07	0.98-1.15	190	<b>1.10</b>	<b>1.00-1.21</b>	144	1.03	0.94-1.13
	Explosives & Pyrothecnic	138	2157	<b>1.05</b>	<b>1.00-1.10</b>	1292	<b>1.08</b>	<b>1.02-1.15</b>	865	1.04	0.98-1.10

Liver	All Sector	575	13097	<b>1.09</b>	<b>1.01-1.17</b>	9522	<b>1.12</b>	<b>1.04-1.21</b>	3575	1.04	0.92-1.17
	Organic Ind.	118	6928	<b>1.13</b>	<b>1.01-1.26</b>	5086	<b>1.08</b>	<b>1.06-1.33</b>	1842	1.05	0.88-1.25
	Inorganic Ind.	79	4397	1.06	0.93-1.22	3117	1.08	0.94-1.24	1280	1.04	0.84-1.29
	Fertiliser Ind.	33	887	<b>1.29</b>	<b>1.06-1.59</b>	651	<b>1.39</b>	<b>1.13-1.70</b>	236	1.12	0.80-1.54
	Biocides	13	402	1.24	0.92-1.68	305	1.25	0.98-1.72	97	1.36	0.83-2.15
	Pharmaceutical Ind.	32	81	0.98	0.82-1.19	57	1.01	0.84-1.23	24	0.88	0.66-1.18
	Explosives & Pyrothechnic	138	402	1.09	0.97-1.23	306	1.11	0.98-1.26	96	1.09	0.89-1.33
Gallbladder	All Sector	575	6649	<b>1.09</b>	<b>1.02-1.20</b>	2308	<b>1.25</b>	<b>1.13-1.39</b>	4341	1.02	0.93-1.11
	Organic Ind.	118	3837	<b>1.14</b>	<b>1.03-1.23</b>	1294	<b>1.20</b>	<b>1.03-1.40</b>	2543	<b>1.13</b>	<b>1.00-1.27</b>
	Inorganic Ind.	79	1891	0.98	0.86-1.13	658	1.12	0.92-1.37	1233	0.89	0.75-1.05
	Fertiliser Ind.	33	459	1.12	0.92-1.36	168	<b>1.39</b>	<b>1.05-1.81</b>	291	0.98	0.77-1.23
	Biocides	13	208	1.08	0.74-1.54	89	1.02	0.53-1.81	119	1.09	0.69-1.66
	Pharmaceutical Ind.	32	37	1.17	0.98-1.41	12	<b>1.47</b>	<b>1.14-1.87</b>	25	1.01	0.80-1.26
	Explosives & Pyrothechnic	138	217	1.05	0.93-1.19	87	<b>1.19</b>	<b>0.99-1.42</b>	130	0.99	0.85-1.14
Pancreas	All Sector	575	21369	<b>1.04</b>	<b>0.99-1.08</b>	11280	<b>1.05</b>	<b>1.00-1.11</b>	10089	1.02	0.96-1.07
	Organic Ind.	118	12091	1.04	0.98-1.11	6481	<b>1.09</b>	<b>1.01-1.17</b>	5610	0.99	0.91-1.07
	Inorganic Ind.	79	5996	1.04	0.96-1.12	3100	1.01	0.92-1.11	2896	<b>1.09</b>	<b>0.99-1.20</b>
	Fertiliser Ind.	33	1763	1.03	0.91-1.15	915	1.06	0.92-1.22	848	1.00	0.86-1.17
	Biocides	13	643	1.06	0.87-1.28	344	1.15	0.90-1.46	299	0.96	0.71-1.26
	Pharmaceutical Ind.	32	117	1.09	0.98-1.20	63	1.04	0.92-1.18	54	1.12	0.98-1.28
	Explosives & Pyrothechnic	138	759	1.05	0.98-1.13	377	1.07	0.98-1.16	382	1.05	0.96-1.15
Peritoneus	All Sector	575	1205	1.04	0.89-1.20	553	1.30	1.06-1.60	652	0.88	0.73-1.06
	Organic Ind.	118	670	1.09	0.89-1.34	306	<b>1.33</b>	<b>0.99-1.76</b>	364	0.94	0.73-1.20
	Inorganic Ind.	79	365	1.00	0.76-1.31	168	1.19	0.80-1.74	197	0.88	0.61-1.23
	Fertiliser Ind.	33	89	1.32	0.90-1.88	43	1.46	0.85-2.40	46	1.33	0.85-2.01
	Biocides	13	48	0.61	0.20-1.50	20	0.73	0.15-2.52	28	0.53	0.11-1.83
	Pharmaceutical Ind.	32	4	0.76	0.49-1.13	2	0.92	0.50-1.58	2	0.63	0.35-1.06
	Explosives & Pyrothechnic	138	29	1.04	0.80-1.33	14	<b>1.43</b>	<b>1.00-1.97</b>	15	0.70	0.49-0.98
Nasal	All Sector	575		0.93	0.75-1.16	338	0.97	0.75-1.26	149	0.81	0.57-1.17
	Organic Ind.	118	290	1.03	0.77-1.37	203	1.08	0.76-1.53	87	0.85	0.54-1.35
	Inorganic Ind.	79	131	0.81	0.54-1.20	92	0.96	0.60-1.50	39	0.50	0.21-1.08
	Fertiliser Ind.	33	33	0.96	0.50-1.71	25	1.07	0.49-2.13	8	0.75	0.24-1.92
	Biocides	13	14	0.00	0.00	10	1.00	0.00	4	0.01	0.00
	Pharmaceutical Ind.	32	0	0.95	0.56-1.55	0	0.66	0.31-1.29	0	1.59	0.75-3.12
	Explosives & Pyrothechnic	138	19	1.04	0.72-1.48	8	1.14	0.73-1.73	11	0.84	0.44-1.51
Larynx	All Sector	575	8734	1.00	0.94-1.07	8409	1.00	0.94-1.07	325	0.95	0.74-1.23
	Organic Ind.	118	5216	0.95	0.85-1.05	5041	0.95	0.86-1.06	175	0.87	0.61-1.22
	Inorganic Ind.	79	2251	0.99	0.87-1.12	2152	0.99	0.87-1.12	99	0.88	0.54-1.39
	Fertiliser Ind.	33	690	1.10	0.91-1.32	668	1.09	0.89-1.31	22	1.21	0.63-2.16
	Biocides	13	245	0.86	0.61-1.18	232	0.85	0.60-1.18	13	1.09	0.22-3.77
	Pharmaceutical Ind.	32	63	0.98	0.82-1.16	61	0.97	0.81-1.16	2	1.14	0.62-1.99
	Explosives & Pyrothechnic	138	269	1.02	0.92-1.14	255	1.02	0.91-1.14	14	1.03	0.68-1.54
Lung	All Sector	575	91436	<b>1.05</b>	<b>1.02-1.08</b>	80494	<b>1.06</b>	<b>1.03-1.10</b>	10610	0.96	0.90-1.02
	Organic Ind.	118	52913	<b>1.07</b>	<b>1.02-1.12</b>	46952	<b>1.09</b>	<b>1.04-1.15</b>	5961	0.95	0.86-1.04
	Inorganic Ind.	79	24496	1.04	0.98-1.10	21049	1.04	0.97-1.11	3447	1.00	0.89-1.12
	Fertiliser Ind.	33	7512	<b>1.16</b>	<b>1.06-1.26</b>	6682	<b>1.17</b>	<b>1.06-1.28</b>	830	0.97	0.81-1.15
	Biocides	13	2998	1.18	0.94-1.24	2672	1.11	0.95-1.29	326	0.90	0.67-1.19
	Pharmaceutical Ind.	32	540	1.05	0.97-1.15	494	<b>1.08</b>	<b>0.99-1.18</b>	46	0.86	0.74-1.00
	Explosives & Pyrothechnic	138	2977	0.98	0.93-1.03	2645	0.98	0.93-1.03	332	1.00	0.90-1.11
Pleura	All Sector	575	1119	<b>1.43</b>	<b>1.19-1.71</b>	814	<b>1.49</b>	<b>1.21-1.85</b>	305	<b>1.31</b>	<b>1.00-1.73</b>
	Organic Ind.	118	573	<b>1.42</b>	<b>1.10-1.82</b>	407	<b>1.52</b>	<b>1.14-2.04</b>	166	1.24	0.86-1.78
	Inorganic Ind.	79	328	<b>1.59</b>	<b>1.19-2.13</b>	243	<b>1.56</b>	<b>1.10-2.20</b>	85	1.38	0.87-2.17
	Fertiliser Ind.	33	114	<b>2.27</b>	<b>1.49-3.41</b>	86	<b>2.47</b>	<b>1.51-3.94</b>	28	<b>1.95</b>	<b>1.04-3.53</b>
	Biocides	13	55	0.78	0.25-2.01	43	0.85	0.23-2.52	12	0.61	0.06-3.40
	Pharmaceutical Ind.	32	5	1.32	0.87-1.97	4	1.21	0.73-1.97	1	1.47	0.81-2.56
	Explosives & Pyrothechnic	138	44	1.05	0.75-1.44	31	1.11	0.75-1.59	13	1.18	0.73-1.86
Bones	All Sector	575	1528	0.95	0.84-1.08	873	0.94	0.80-1.10	655	0.97	0.81-1.17
	Organic Ind.	118	913	0.90	0.76-1.07	512	0.89	0.71-1.12	401	0.92	0.71-1.18
	Inorganic Ind.	79	377	1.03	0.82-1.28	212	1.06	0.78-1.41	165	0.97	0.69-1.36
	Fertiliser Ind.	33	122	1.24	0.90-1.67	75	0.98	0.62-1.53	47	<b>1.59</b>	<b>1.03-2.37</b>
	Biocides	13	47	1.03	0.50-1.92	23	1.16	0.48-2.46	24	0.84	0.23-2.33

	<b>Pharmaceutical Ind.</b>	32	11	0.87	0.62-1.19	8	1.17	0.79-1.70	3	0.47	0.23-0.86
	<b>Explosives &amp; Pyrothechnic</b>	138	58	0.86	0.69-1.07	43	0.77	0.57-1.03	15	0.98	0.72-1.33
<b>Connective and soft tissue</b>	<b>All Sector</b>	575	2197	1.09	0.98-1.22	1137	<b>1.15</b>	<b>1.01-1.32</b>	1060	1.04	0.89-1.21
	<b>Organic Ind.</b>	118	1266	<b>1.18</b>	<b>1.02-1.37</b>	643	<b>1.25</b>	<b>1.04-1.49</b>	623	1.10	0.89-1.36
	<b>Inorganic Ind.</b>	79	616	1.09	0.90-1.32	326	1.14	0.89-1.46	290	1.04	0.78-1.36
	<b>Fertiliser Ind.</b>	33	166	1.03	0.77-1.39	84	0.93	0.61-1.36	82	1.08	0.71-1.61
	<b>Biocides</b>	13	59	1.12	0.64-1.86	29	1.79	0.93-3.16	30	0.59	0.19-1.45
	<b>Pharmaceutical Ind.</b>	32	17	1.06	0.82-1.37	12	1.20	0.86-1.66	5	0.95	0.65-1.38
	<b>Explosives &amp; Pyrothechnic</b>	138	73	1.04	0.87-1.26	43	1.09	0.86-1.37	30	0.96	0.74-1.25
<b>Melanoma</b>	<b>All Sector</b>	575	3903	1.04	0.97-1.13	2067	1.01	0.91-1.12	1836	1.09	0.98-1.22
	<b>Organic Ind.</b>	118	2150	1.02	0.92-1.13	1162	0.93	0.81-1.07	988	1.14	0.98-1.32
	<b>Inorganic Ind.</b>	79	1117	<b>1.20</b>	<b>1.05-1.37</b>	575	1.13	0.95-1.35	542	<b>1.29</b>	<b>1.07-1.55</b>
	<b>Fertiliser Ind.</b>	33	333	1.16	0.95-1.40	167	1.18	0.91-1.51	166	1.13	0.84-1.49
	<b>Biocides</b>	13	145	0.96	0.59-1.48	84	0.98	0.48-1.70	61	0.98	0.48-1.82
	<b>Pharmaceutical Ind.</b>	32	17	1.10	0.92-1.32	8	1.05	0.81-1.34	9	1.18	0.90-1.51
	<b>Explosives &amp; Pyrothechnic</b>	138	141	<b>1.16</b>	<b>1.03-1.31</b>	71	1.16	0.98-1.36	70	1.16	0.97-1.39
<b>Skin</b>	<b>All Sector</b>	575	2183	1.00	0.80-1.12	1209	1.00	0.86-1.15	974	0.98	0.83-1.15
	<b>Organic Ind.</b>	118	1345	0.98	0.83-1.16	747	0.92	0.74-1.13	598	1.01	0.80-1.28
	<b>Inorganic Ind.</b>	79	504	0.95	0.77-1.18	263	1.00	0.77-1.30	241	0.92	0.67-1.25
	<b>Fertiliser Ind.</b>	33	149	1.47	1.11-1.94	83	<b>1.58</b>	<b>1.12-2.19</b>	66	1.35	0.89-1.99
	<b>Biocides</b>	13	100	1.25	0.70-2.12	59	1.74	0.89-3.16	41	0.70	0.23-1.76
	<b>Pharmaceutical Ind.</b>	32	17	0.94	0.70-1.26	12	1.10	0.76-1.55	5	0.77	0.49-1.18
	<b>Explosives &amp; Pyrothechnic</b>	138	68	0.94	0.78-1.14	45	0.99	0.78-1.26	23	0.87	0.66-1.13
<b>Breast</b>	<b>All Sector</b>	575							29932	1.02	0.98-1.06
	<b>Organic Ind.</b>	118							17005	0.97	0.91-1.02
	<b>Inorganic Ind.</b>	79							8256	<b>1.10</b>	<b>1.03-1.18</b>
	<b>Fertiliser Ind.</b>	33							2545	1.04	0.93-1.15
	<b>Biocides</b>	13							924	0.91	0.77-1.09
	<b>Pharmaceutical Ind.</b>	32							175	1.00	0.92-1.10
	<b>Explosives &amp; Pyrothechnic</b>	138							1027	<b>1.06</b>	<b>1.00-1.13</b>
<b>Vulva and Vagina</b>	<b>All Sector</b>	575							1650	0.99	0.88-1.12
	<b>Organic Ind.</b>	118							962	1.02	0.84-1.23
	<b>Inorganic Ind.</b>	79							439	0.87	0.67-1.11
	<b>Fertiliser Ind.</b>	33							117	1.36	0.97-1.87
	<b>Biocides</b>	13							62	1.68	0.97-2.75
	<b>Pharmaceutical Ind.</b>	32							18	0.84	0.59-1.17
	<b>Explosives &amp; Pyrothechnic</b>	138							52	0.95	0.76-1.19
<b>Uterus</b>	<b>All Sector</b>	575							9250	0.97	0.92-1.03
	<b>Organic Ind.</b>	118							5608	0.93	0.85-1.01
	<b>Inorganic Ind.</b>	79							2293	1.00	0.90-1.12
	<b>Fertiliser Ind.</b>	33							707	0.93	0.79-1.09
	<b>Biocides</b>	13							266	1.18	0.90-1.52
	<b>Pharmaceutical Ind.</b>	32							69	1.02	0.89-1.18
	<b>Explosives &amp; Pyrothechnic</b>	138							307	1.02	0.92-1.12
<b>Ovary</b>	<b>All Sector</b>	575							9276	<b>1.10</b>	<b>1.04-1.16</b>
	<b>Organic Ind.</b>	118							5304	<b>1.10</b>	<b>1.02-1.20</b>
	<b>Inorganic Ind.</b>	79							2579	1.05	0.95-1.16
	<b>Fertiliser Ind.</b>	33							719	1.14	0.98-1.32
	<b>Biocides</b>	13							281	0.90	0.65-1.21
	<b>Pharmaceutical Ind.</b>	32							44	1.12	0.98-1.28
	<b>Explosives &amp; Pyrothechnic</b>	138							349	1.11	1.01-1.22
<b>Prostate</b>	<b>All Sector</b>	575				27092	1.00	0.96-1.04			
	<b>Organic Ind.</b>	118				16014	1.03	0.97-1.09			
	<b>Inorganic Ind.</b>	79				7097	1.01	0.94-1.09			
	<b>Fertiliser Ind.</b>	33				2165	0.98	0.87-1.10			
	<b>Biocides</b>	13				793	1.06	0.88-1.27			
	<b>Pharmaceutical Ind.</b>	32				165	0.97	0.87-1.07			
	<b>Explosives &amp; Pyrothechnic</b>	138				858	1.03	0.96-1.09			
<b>Testis</b>	<b>All Sector</b>	575				202	0.94	0.69-1.29			
	<b>Organic Ind.</b>	118				133	0.82	0.52-1.30			
	<b>Inorganic Ind.</b>	79				41	0.99	0.55-1.73			

	Fertiliser Ind.	33			17	0.79	0.30-1.82		
	Biocides	13			6	1.21	0.22-4.38		
	Pharmaceutical Ind.	32			0	0.56	0.19-1.44		
	Explosives & Pyrothechnic	138			5	0.86	0.50-1.43		
Bladder	All Sector	575	20789	<b>1.07</b>	<b>1.02-1.11</b>	17132	<b>1.09</b>	<b>1.04-1.14</b>	3657 0.98 0.90-1.06
	Organic Ind.	118	11978	<b>1.12</b>	<b>1.05-1.20</b>	9868	<b>1.15</b>	<b>1.07-1.24</b>	2110 1.00 0.89-1.12
	Inorganic Ind.	79	5674	1.00	0.92-1.09	4664	1.01	0.92-1.11	1010 0.97 0.83-1.13
	Fertiliser Ind.	33	1659	<b>1.14</b>	<b>1.00-1.29</b>	1379	<b>1.18</b>	<b>1.04-1.35</b>	280 0.97 0.77-1.21
	Biocides	13	706	0.95	0.76-1.17	588	0.96	0.76-1.21	118 0.92 0.56-1.45
	Pharmaceutical Ind.	32	118	1.09	0.97-1.22	99	1.12	0.98-1.26	19 1.00 0.81-1.22
	Explosives & Pyrothechnic	138	654	1.03	0.95-1.11	534	1.04	0.96-1.13	120 0.95 0.82-1.09
Kidney	All Sector	575		<b>1.10</b>	<b>1.04-1.17</b>	5958	<b>1.11</b>	<b>1.03-1.19</b>	3014 <b>1.10</b> <b>1.00-1.21</b>
	Organic Ind.	118	5114	<b>1.09</b>	<b>1.00-1.19</b>	3409	<b>1.10</b>	<b>1.00-1.22</b>	1705 1.06 0.93-1.21
	Inorganic Ind.	79	2497	<b>1.11</b>	<b>1.00-1.24</b>	1658	1.09	0.96-1.24	839 <b>1.18</b> <b>1.00-1.39</b>
	Fertiliser Ind.	33	711	1.10	0.94-1.30	465	1.15	0.95-1.38	246 10.3 0.79-1.33
	Biocides	13	242	1.01	0.73-1.35	168	1.02	0.69-1.45	74 1.02 0.60-1.63
	Pharmaceutical Ind.	32	47	<b>1.20</b>	<b>1.04-1.38</b>	31	<b>1.19</b>	<b>1.01-1.40</b>	16 1.21 0.97-1.49
	Explosives & Pyrothechnic	138	361	1.04	0.94-1.16	227	1.05	0.93-1.18	134 1.05 0.89-1.23
Brain	All Sector	575	11663	<b>1.07</b>	<b>1.01-1.12</b>	6430	1.04	0.98-1.11	5233 <b>1.10</b> <b>1.03-1.18</b>
	Organic Ind.	118	6688	<b>1.07</b>	<b>1.00-1.15</b>	3701	1.06	0.97-1.16	2987 <b>1.11</b> <b>1.01-1.23</b>
	Inorganic Ind.	79	3246	1.05	0.96-1.15	1758	1.05	0.94-1.18	1488 1.06 0.93-1.20
	Fertiliser Ind.	33	941	<b>1.16</b>	<b>1.01-1.33</b>	525	1.17	0.99-1.38	416 1.13 0.93-1.36
	Biocides	13	355	1.06	0.82-1.35	204	1.09	0.78-1.48	151 1.04 0.71-1.47
	Pharmaceutical Ind.	32	64	1.02	0.90-1.16	34	0.98	0.84-1.14	30 1.08 0.91-1.29
	Explosives & Pyrothechnic	138	369	<b>1.08</b>	<b>0.99-1.18</b>	208	1.08	0.97-1.19	161 1.10 0.97-1.24
Other Central nervous system	All Sector	575	440	1.16	0.90-1.50	214	2.21	0.88-1.67	226 1.03 0.72-1.48
	Organic Ind.	118	268	0.88	0.60-1.27	142	0.84	0.53-1.32	126 0.80 0.47-1.35
	Inorganic Ind.	79	83	<b>1.54</b>	<b>1.02-2.29</b>	40	<b>1.77</b>	<b>1.06-2.86</b>	43 1.37 0.75-2.41
	Fertiliser Ind.	33	61	1.27	0.65-2.36	19	0.96	0.35-2.25	42 1.51 0.62-3.36
	Biocides	13	13	2.21	0.70-5.74	4	2.93	0.80-8.40	9 1.00 0.10-5.73
	Pharmaceutical Ind.	32	5	0.87	0.43-1.65	4	0.83	0.30-1.95	1 0.82 0.31-1.94
	Explosives & Pyrothechnic	138	10	1.16	0.76-1.74	5	1.14	0.66-1.89	5 1.12 0.61-1.99
Thyroid Gland	All Sector	575	1377	1.04	0.91-1.18	452	1.15	0.94-1.43	925 0.97 0.83-1.15
	Organic Ind.	118	793	0.95	0.79-1.15	252	1.05	0.79-1.39	541 0.92 0.73-1.17
	Inorganic Ind.	79	361	0.93	0.72-1.18	114	1.20	0.83-1.73	247 0.82 0.59-1.11
	Fertiliser Ind.	33	118	1.06	0.73-1.52	47	1.33	0.77-2.18	71 0.91 0.55-1.44
	Biocides	13	40	1.23	0.61-2.25	18	1.15	0.32-3.23	22 1.28 0.55-2.62
	Pharmaceutical Ind.	32	12	0.96	0.69-1.32	4	1.15	0.67-1.86	8 0.88 0.58-1.31
	Explosives & Pyrothechnic	138	53	<b>1.28</b>	<b>1.03-1.59</b>	17	1.29	0.92-1.78	36 1.25 0.95-1.62
Non-Hodgkin's Lymphoma	All Sector	575	11835	<b>1.05</b>	<b>0.99-1.11</b>	6131	<b>1.09</b>	<b>1.01-1.17</b>	5704 1.00 0.93-1.08
	Organic Ind.	118	6903	1.02	0.94-1.11	3582	1.04	0.93-1.17	3321 0.99 0.89-1.10
	Inorganic Ind.	79	3108	1.07	0.96-1.18	1586	1.11	0.97-1.27	1522 1.02 0.89-1.16
	Fertiliser Ind.	33	969	1.04	0.88-1.21	511	1.07	0.87-1.31	458 1.04 0.84-1.27
	Biocides	13	374	1.00	0.77-1.29	200	0.85	0.57-1.23	174 1.20 0.85-1.68
	Pharmaceutical Ind.	32	79	1.05	0.92-1.20	37	1.08	0.90-1.30	42 1.03 0.86-1.22
	Explosives & Pyrothechnic	138	402	<b>1.09</b>	<b>0.99-1.20</b>	215	1.12	0.99-1.26	187 1.07 0.94-1.21
Hodgkin's Lymphoma	All Sector	575	1172	1.08	0.94-1.23	678	1.10	0.92-1.31	494 1.06 0.86-1.29
	Organic Ind.	118	661	0.98	0.81-1.18	389	1.03	0.81-1.30	272 0.91 0.70-1.21
	Inorganic Ind.	79	310	<b>1.30</b>	<b>1.03-1.63</b>	175	1.29	0.95-1.74	135 1.31 0.93-1.82
	Fertiliser Ind.	33	105	0.90	0.60-1.32	58	0.88	0.51-1.44	47 0.93 0.51-1.58
	Biocides	13	31	2.04	1.15-3.41	17	1.57	0.64-3.33	14 2.64 1.21-1.58
	Pharmaceutical Ind.	32	15	<b>1.53</b>	<b>1.13-2.05</b>	6	<b>1.86</b>	<b>1.27-2.65</b>	9 1.14 0.68-1.83
	Explosives & Pyrothechnic	138	50	0.90	0.80-1.14	33	0.86	0.62-1.17	17 0.96 0.68-1.34
Myeloma	All Sector	575	7568	<b>1.06</b>	<b>1.00-1.13</b>	3776	<b>1.08</b>	<b>0.99-1.16</b>	3792 1.05 0.97-1.14
	Organic Ind.	118	4319	1.06	0.97-1.16	2164	1.00	0.89-1.11	2155 <b>1.12</b> <b>0.99-1.25</b>
	Inorganic Ind.	79	2080	1.00	0.89-1.12	1005	1.11	0.96-1.28	1075 0.94 0.81-1.09
	Fertiliser Ind.	33	596	1.05	0.89-1.23	311	1.19	0.97-1.46	285 0.94 0.75-1.17
	Biocides	13	254	1.22	0.90-1.63	130	0.99	0.62-1.52	124 1.42 0.96-2.03
	Pharmaceutical Ind.	32	49	1.09	0.94-1.26	18	<b>1.26</b>	<b>1.05-1.52</b>	31 1.00 0.81-1.22
	Explosives & Pyrothechnic	138	270	<b>1.11</b>	<b>1.00-1.23</b>	148	<b>1.13</b>	<b>0.99-1.28</b>	122 1.10 0.96-1.25
Leukaemia	All Sector	575	14966	<b>1.07</b>	<b>1.02-1.12</b>	8347	<b>1.11</b>	<b>1.04-1.17</b>	6619 1.02 0.96-1.09

<b>Organic Ind.</b>	118	8842	<b>1.07</b>	<b>1.01-1.15</b>	4991	<b>1.09</b>	<b>1.01-1.19</b>	3851	1.05	0.96-1.15
<b>Inorganic Ind.</b>	79	4065	1.06	0.97-1.16	2186	1.06	0.95-1.18	1879	1.06	0.94-1.20
<b>Fertiliser Ind.</b>	33	1055	1.08	0.95-1.22	592	1.12	0.96-1.30	463	1.03	0.87-1.23
<b>Biocides</b>	13	427	0.95	0.73-1.22	246	1.09	0.79-1.47	181	0.80	0.52-1.18
<b>Pharmaceutical Ind.</b>	32	68	0.98	0.88-1.10	44	1.01	0.87-1.16	24	0.96	0.82-1.13
<b>Explosives &amp; Pyrothechnic</b>	138	509	1.06	0.98-1.14	288	<b>1.11</b>	<b>1.01-1.22</b>	221	1.01	0.91-1.12

<sup>a</sup> N= Number of towns situated  $\leq 5$ km from at least one chemical industry; <sup>b</sup> Obs=Observed deaths.

**Table 7.** Relative Risks (RR) and 95% Credible Intervals (95%CrI) for mortality from cancers analyzed in the study in municipalities situated  $\leq 5$  km from chemical installations, estimated using spatial regression models and Integrated Nested Laplace Approximation (INLA) as a Bayesian inference tool, statistically significant only in men, by chemical industry category. Significant and the marginal associations (those with a value of 0.99 in the lower limit of the 95% credible interval) are shown.

TUMOR	Chemical Industry category	N <sup>a</sup>	Obs <sup>b</sup>	BOTH		MEN		WOMEN			
				RR	CrI95%	Obs	RR	CrI95%	Obs	RR	CrI95%
Esophagus	Explosives & Pyrothechnic	138	288	1.14	1.00-1.24	253	1.11	0.99-1.24	35	1.12	0.86-1.45
	All Sector	575	30322	1.09	1.04-1.15	18546	1.12	1.06-1.19	11776	1.04	0.98-1.11
Stomach	Organic Ind.	118	17410	1.14	1.05-1.23	10635	1.18	1.08-1.29	6775	1.07	0.98-1.17
	Inorganic Ind.	79	8431	1.09	0.99-1.20	5147	1.11	1.00-1.23	3284	1.03	0.92-1.15
	Fertiliser Ind.	33	2373	1.16	1.00-1.34	1440	1.26	1.08-1.48	933	1.01	0.85-1.20
	All Sector	575	30322	1.09	1.04-1.15	18546	1.12	1.06-1.19	11776	1.04	0.98-1.11
Colorectal	Fertiliser Ind.	33	4904	1.08	0.99-1.18	2749	1.13	1.02-1.25	2155	1.04	0.94-1.15
	Pharmaceutical Ind.	32	334	1.07	0.98-1.15	190	1.1	1.00-1.21	144	1.03	0.94-1.13
	Explosives & Pyrothechnic	138	2157	1.05	1.00-1.10	1292	1.08	1.02-1.15	865	1.04	0.98-1.10
Liver	All Sector	575	13097	1.09	1.01-1.17	9522	1.12	1.04-1.21	3575	1.04	0.92-1.17
	Organic Ind.	118	6928	1.13	1.01-1.26	5086	1.08	1.06-1.33	1842	1.05	0.88-1.25
	Fertiliser Ind.	33	887	1.29	1.06-1.59	651	1.39	1.13-1.70	236	1.12	0.80-1.54
Gallbladder	All Sector	575	6649	1.09	1.02-1.20	2308	1.25	1.13-1.39	4341	1.02	0.93-1.11
	Fertiliser Ind.	33	459	1.12	0.92-1.36	168	1.39	1.05-1.81	291	0.98	0.77-1.23
	Pharmaceutical Ind.	32	37	1.17	0.98-1.41	12	1.47	1.14-1.87	25	1.01	0.80-1.26
	Explosives & Pyrothechnic	138	217	1.05	0.93-1.19	87	1.19	0.99-1.42	130	0.99	0.85-1.14
Pancreas	All Sector	575	21369	1.04	0.99-1.08	11280	1.05	1.00-1.11	10089	1.02	0.96-1.07
	Organic Ind.	118	12091	1.04	0.98-1.11	6481	1.09	1.01-1.17	5610	0.99	0.91-1.07
	Organic Ind.	118	670	1.09	0.89-1.34	306	1.33	0.99-1.76	364	0.94	0.73-1.20
	Explosives & Pyrothechnic	138	29	1.04	0.80-1.33	14	1.43	1.00-1.97	15	0.70	0.49-0.98
Lung	All Sector	575	91436	1.05	1.02-1.08	80494	1.06	1.03-1.10	10610	0.96	0.90-1.02
	Organic Ind.	118	52913	1.07	1.02-1.12	46952	1.09	1.04-1.15	5961	0.95	0.86-1.04
	Fertiliser Ind.	33	7512	1.16	1.06-1.26	6682	1.17	1.06-1.28	830	0.97	0.81-1.15
	Pharmaceutical Ind.	32	540	1.05	0.97-1.15	494	1.08	0.99-1.18	46	0.86	0.74-1.00
Pleura	Organic Ind.	118	573	1.42	1.10-1.82	407	1.52	1.14-2.04	166	1.24	0.86-1.78
	Inorganic Ind.	79	328	1.59	1.19-2.13	243	1.56	1.10-2.20	85	1.38	0.87-2.17
Connective and soft tissue	All Sector	575	2197	1.09	0.98-1.22	1137	1.15	1.01-1.32	1060	1.04	0.89-1.21
	Organic Ind.	118	1266	1.18	1.02-1.37	643	1.25	1.04-1.49	623	1.10	0.89-1.36

Skin	Fertiliser Ind.	33	149	1.47	1.11-1.94	83	1.58	1.12-2.19	66	1.35	0.89-1.99
Bladder	All Sector	575	20789	1.07	1.02-1.11	17132	1.09	1.04-1.14	3657	0.98	0.90-1.06
	Organic Ind.	118	11978	1.12	1.05-1.20	9868	1.15	1.07-1.24	2110	1.00	0.89-1.12
Kidney	Fertiliser Ind.	33	1659	1.14	1.00-1.29	1379	1.18	1.04-1.35	280	0.97	0.77-1.21
	Organic Ind.	118	5114	1.09	1.00-1.19	3409	1.10	1.00-1.22	1705	1.06	0.93-1.21
Other Central nervous system	Pharmaceutical Ind.	32	47	1.20	1.04-1.38	31	1.19	1.01-1.40	16	1.21	0.97-1.49
	Inorganic Ind.	79	83	1.54	1.02-2.29	40	1.77	1.06-2.86	43	1.37	0.75-2.41
Non-Hodgkin's Lymphoma	All Sector	575	11835	1.05	0.99-1.11	6131	1.09	1.01-1.17	5704	1.00	0.93-1.08
Hodgkin's Lymphoma	Pharmaceutical Ind.	32	15	1.53	1.13-2.05	6	1.86	1.27-2.65	9	1.14	0.68-1.83
Myeloma	All Sector	575	7568	1.06	1.00-1.13	3776	1.08	0.99-1.16	3792	1.05	0.97-1.14
	Pharmaceutical Ind.	32	49	1.09	0.94-1.26	18	1.26	1.05-1.52	31	1.00	0.81-1.22
	Explosives & Pyrothechnic	138	270	1.11	1.00-1.23	148	1.13	0.99-1.28	122	1.10	0.96-1.25
Leukaemia	All Sector	575	14966	1.07	1.02-1.12	8347	1.11	1.04-1.17	6619	1.02	0.96-1.09
	Organic Ind.	118	8842	1.07	1.01-1.15	4991	1.09	1.01-1.19	3851	1.05	0.96-1.15
	Explosives & Pyrothechnic	138	509	1.06	0.98-1.14	288	1.11	1.01-1.22	221	1.01	0.91-1.12

<sup>a</sup> N= Number of towns situated  $\leq 5$ km from at least one chemical industry; <sup>b</sup> Obs=Observed deaths.

**Table 8.** Relative Risks (RR) and 95% Credible Intervals (95%CrI) for mortality from cancers analyzed in the study in municipalities situated  $\leq 5$  km from chemical installations, estimated using spatial regression models and Integrated Nested Laplace Approximation (INLA) as a Bayesian inference tool, statistically significant only in women, by chemical industry category. Significant and the marginal associations (those with a value of 0.99 in the lower limit of the 95% credible interval) are shown.

TUMOR	Chemical Industry category	N <sup>a</sup>	BOTH			MEN			WOMEN		
			Obs <sup>b</sup>	RR	CrI95%	Obs	RR	CrI95%	Obs	RR	CrI95%
Pancreas	Inorganic Ind.	79	5996	1.04	0.96-1.12	3100	1.01	0.92-1.11	2896	1.09	0.99-1.20
Bones	Fertiliser Ind.	33	122	1.24	0.90-1.67	75	0.98	0.62-1.53	47	1.59	1.03-2.37
Melanoma	Inorganic Ind.	79	1117	1.20	1.05-1.37	575	1.13	0.95-1.35	542	1.29	1.07-1.55
Breast	Inorganic Ind.	79							8256	1.10	1.03-1.18
	Explosives & Pyrothechnic	138							1027	1.06	1.00-1.13
Ovary	All Sector	575							9276	1.10	1.04-1.16
	Organic Ind.	118							5304	1.10	1.02-1.20
Kidney	Inorganic Ind.	79	2497	1.11	1.00-1.24	1658	1.09	0.96-1.24	839	1.18	1.00-1.39
Brain	All Sector	575	11663	1.07	1.01-1.12	6430	1.04	0.98-1.11	5233	1.10	1.03-1.18
	Organic Ind.	118	6688	1.07	1.00-1.15	3701	1.06	0.97-1.16	2987	1.11	1.01-1.23
Myeloma	Organic Ind.	118	4319	1.06	0.97-1.16	2164	1.00	0.89-1.11	2155	1.12	0.99-1.25

<sup>a</sup> N= Number of towns situated  $\leq 5$ km from at least one chemical industry; <sup>b</sup> Obs=Observed deaths.

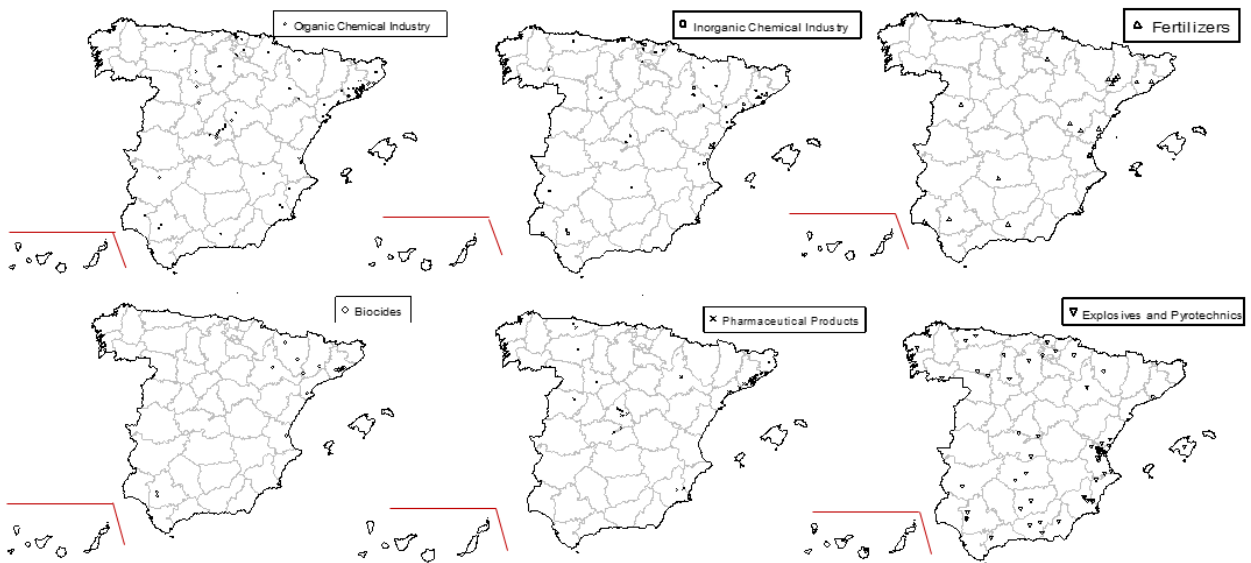
**Table 9.** Relative risks (RRs) and 95% credible intervals (95%CrI) for excess mortality from colorectal, gallbladder, pleural, ovarian and breast cancers in municipalities situated at  $\leq 5$  km from chemical installations using spatial regression models including altitude and latitude of the municipalities, and Integrated Nested Laplace Approximation (INLA) as Bayesian inference tool.

Tumor	Variable		BOTH		MEN		WOMEN		
			RR	95%CrI	RR	95%CrI	RR	95%CrI	
Colorectal	Chemical industry category	All	1.052	1.022-1.084	1.063	1.026-1.102	1.048	1.009-1.088	
	Altitude		1	1.000-1.000	1	1.000-1.000	1	1.000-1.000	
	Latitude		1.023	1.018-1.028	1.026	1.021-1.032	1.014	1.008-1.021	
	Chemical industry category	Organics	1.063	1.016-1.113	1.071	1.013-1.132	1.058	1.000-1.119	
		Inorganics	1.056	1.000-1.115	1.027	0.960-1.098	1.103	1.030-1.182	
		Fertilizers	1.059	0.974-1.151	1.102	0.997-1.219	1.026	0.925-1.138	
		Biocides	0.958	0.836-1.097	0.990	0.837-1.172	0.921	0.764-1.111	
		Pharmaceuticals	1.028	0.952-1.109	1.059	0.966-1.160	1.004	0.914-1.103	
		Explosives/Pyrot	1.059	1.009-1.111	1.088	1.025-1.155	1.038	0.975-1.104	
	Altitude		1	1.000-1.000	1	1.000-1.000	1	1.000-1.000	
	Latitude		1.023	1.019-1.028	1.027	1.021-1.032	1.014	1.008-1.021	
	Gallbladder	Chemical industry category	All	1.081	1.006-1.162	1.225	1.098-1.366	1.009	0.925-1.101
		Altitude		1	1.000-1.000	1	1.000-1.000	1	1.000-1.000
Latitude			1.017	1.006-1.029	1.017	1.000-1.035	1.015	1.002-1.029	
Chemical industry category		Organics	1.112	1.001-1.235	1.168	0.999-1.365	1.095	0.967-1.24	
		Inorganics	0.975	0.850-1.120	1.1	0.898-1.351	0.893	0.755-1.057	
		Fertilizers	1.11	0.918-1.343	1.367	1.040-1.797	0.976	0.772-1.233	
		Biocides	1.066	0.740-1.534	0.997	0.538-1.848	1.09	0.705-1.685	
		Pharmaceuticals	1.144	0.956-1.369	1.422	1.105-1.831	0.981	0.783-1.228	
		Explosives/Pyrot	1.054	0.936-1.187	1.186	0.989-1.420	0.992	0.859-1.144	
Altitude			1	1.000-1.000	1	1.000-1.000	1	1.000-1.000	
Latitude			1.016	1.005-1.028	1.017	0.999-1.035	1.014	1.001-1.028	
Pleura		Chemical industry category	All	1.342	1.120-1.607	1.377	1.112-1.704	1.265	0.954-1.675
		Altitude		1	1.000-1.000	1	1.000-1.000	1	1.000-1.000
	Latitude		1.047	1.015-1.080	1.066	1.026-1.109	1.021	0.979-1.063	
	Chemical industry category	Organics	1.329	1.034-1.713	1.386	1.033-1.868	1.201	0.828-1.737	
		Inorganics	1.477	1.104-1.978	1.419	1.005-2.000	1.319	0.832-2.104	
		Fertilizers	2.147	1.429-3.215	2.275	1.424-3.622	1.873	1.018-3.459	
		Biocides	0.731	0.258-2.064	0.783	0.236-2.596	0.586	0.079-4.313	
		Pharmaceuticals	1.215	0.814-1.818	1.087	0.667-1.775	1.426	0.801-2.535	
		Explosives/Pyrot	1.037	0.746-1.428	1.084	0.744-1.564	1.142	0.708-1.822	
	Altitude		1	1.000-1.000	1	1.000-1.000	1	1.000-1.000	
	Latitude		1.045	1.013-1.078	1.064	1.024-1.107	1.021	0.978-1.064	
	Ovary	Chemical industry category	All					1.098	1.038-1.160
		Altitude						1	1.000-1.000
Latitude							1.002	0.994-1.011	
Chemical industry category		Organics					1.097	1.010-1.191	
		Inorganics					1.043	0.939-1.160	
		Fertilizers					1.131	0.972-1.318	
		Biocides					0.895	0.657-1.219	
		Pharmaceuticals					1.115	0.973-1.277	
		Explosives/Pyrot					1.108	1.009-1.218	
Altitude							1	1.000-1.000	
Latitude							1.002	0.994-1.011	
Breast		Chemical industry category	All					1.016	0.979-1.055
		Altitude						1	1.000-1.000
	Latitude						1	0.994-1.005	
	Chemical industry category	Organics					0.964	0.910-1.021	
		Inorganics					1.092	1.020-1.168	
		Fertilizers					1.030	0.928-1.144	
		Biocides					0.908	0.762-1.082	
		Pharmaceuticals					1.001	0.912-1.098	
		Explosives/Pyrot					1.062	0.998-1.129	
	Altitude						1	1.000-1.000	
	Latitude						1.001	0.995-1.006	

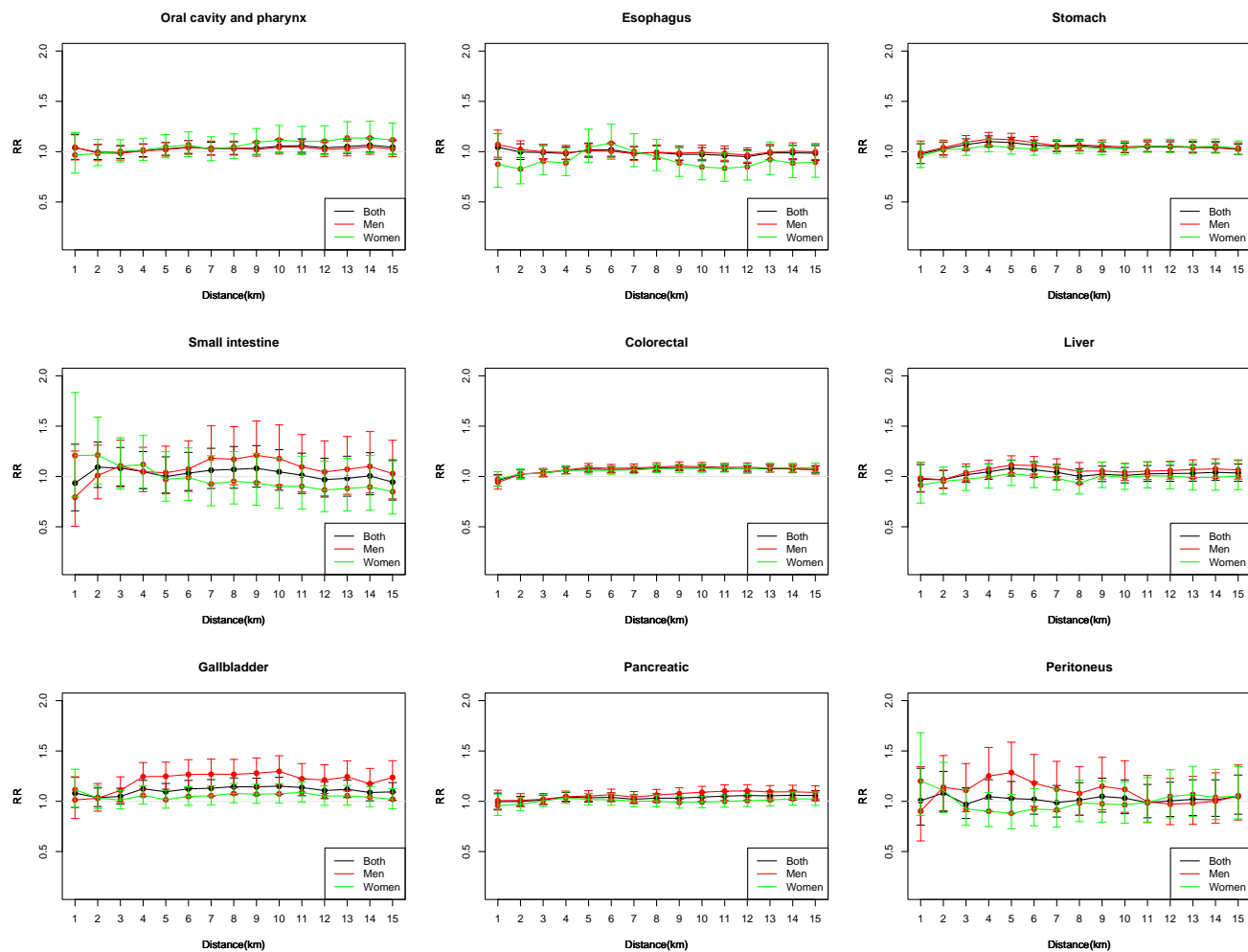
**Figure 1:** Map of the regional and provincial administrative boundaries in Spain

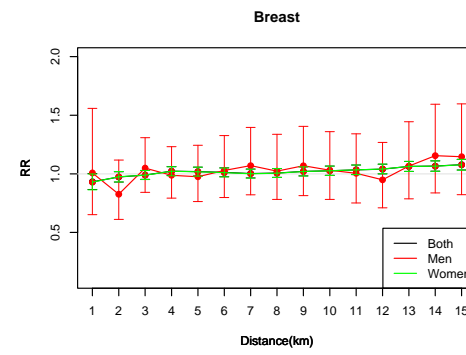
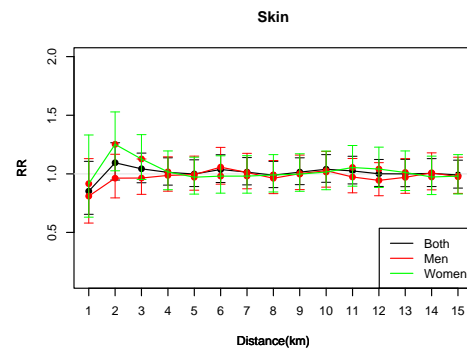
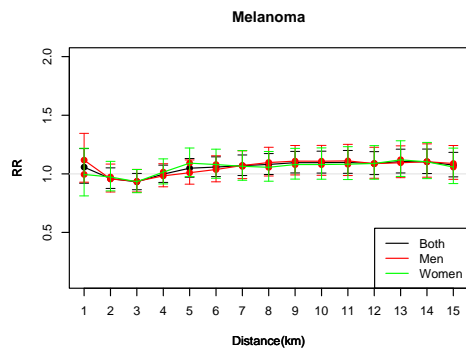
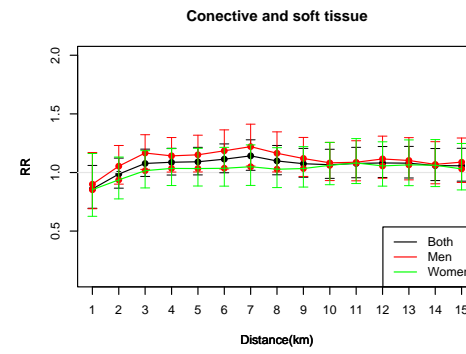
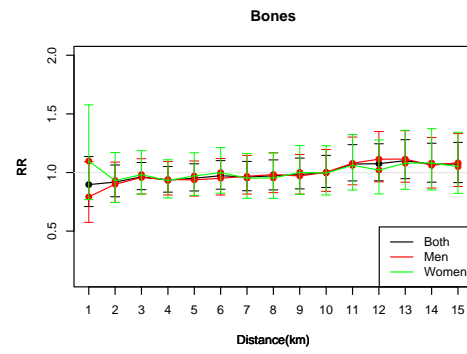
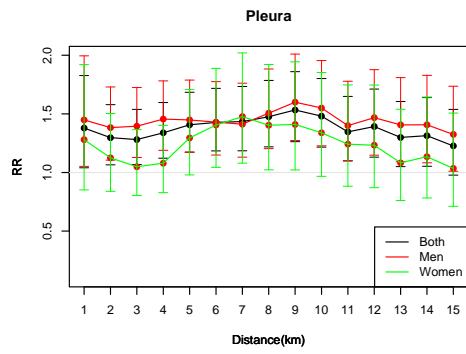
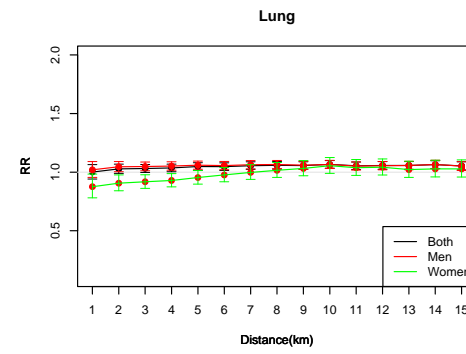
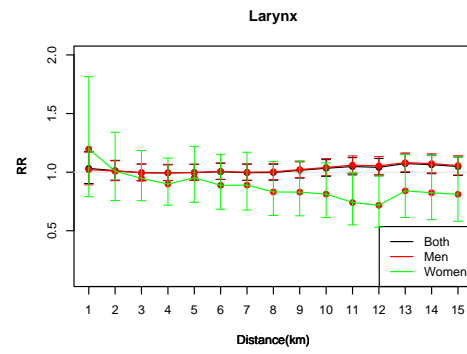
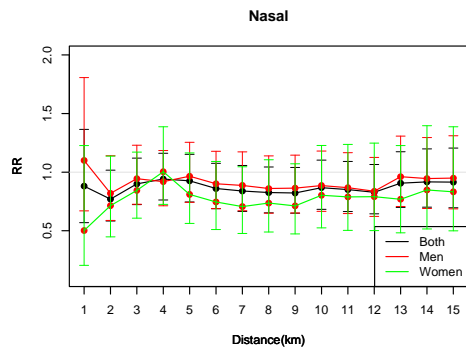


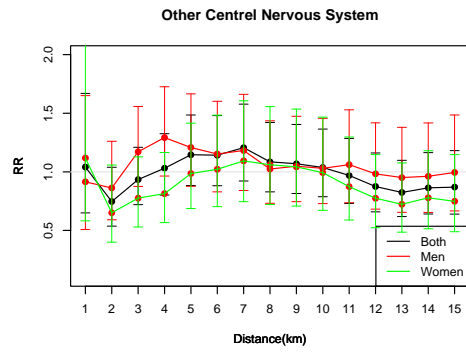
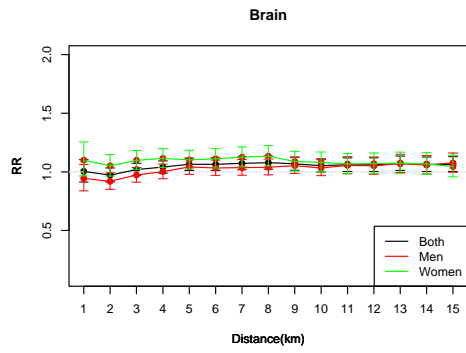
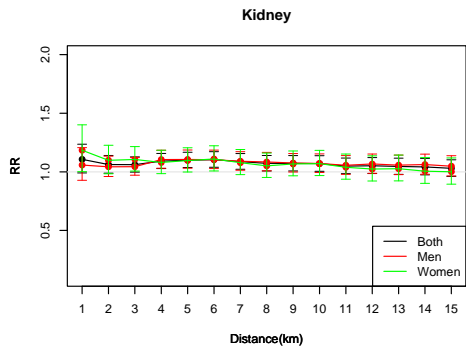
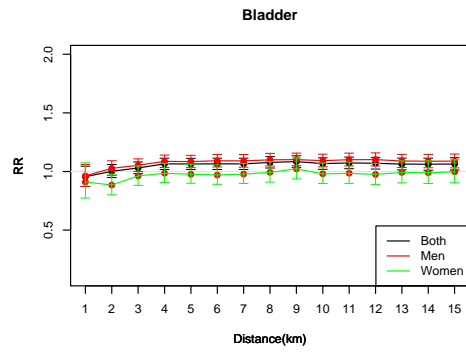
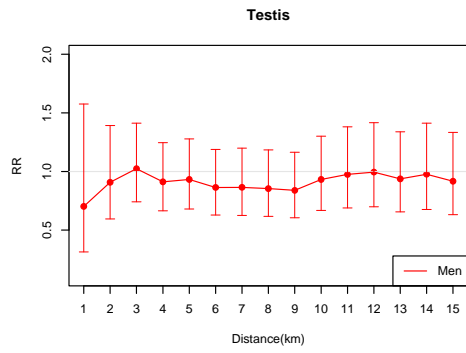
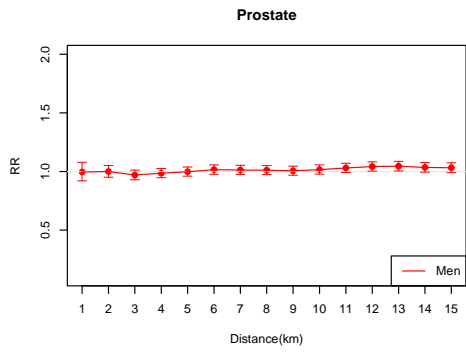
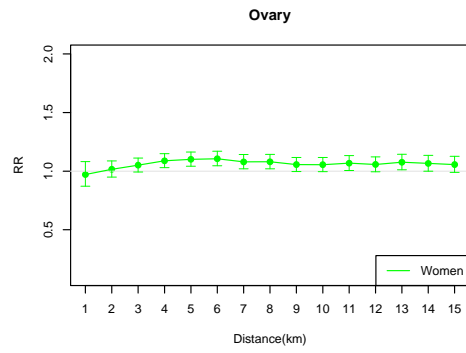
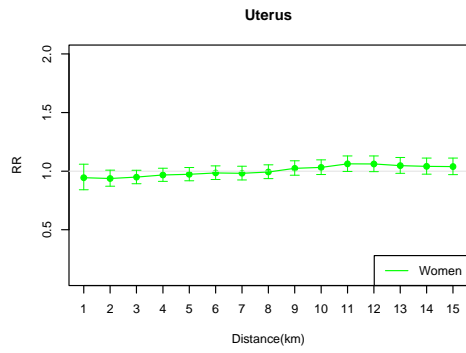
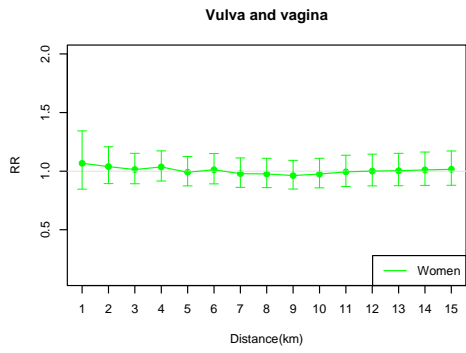
**Figure 2:** Location of chemical industries by category



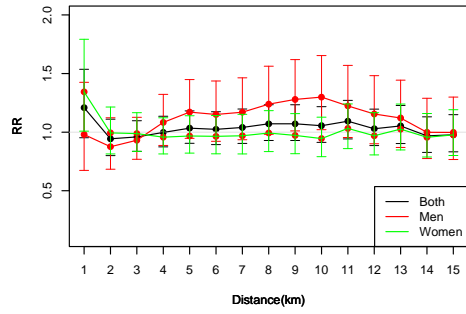
**Figure 3:** Relative risks and 95% Credible Intervals for mortality from the cancers analyzed in municipalities situated  $\leq 1, 2, \dots, 15$  km from chemical installations, estimated using spatial regression models for both, men and women.



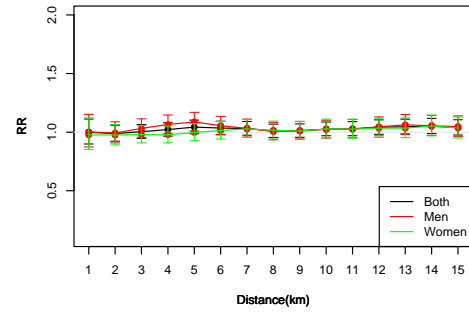




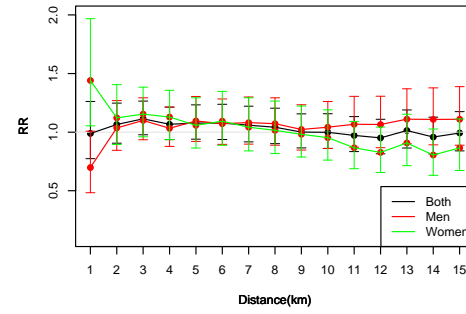
Thyroid gland



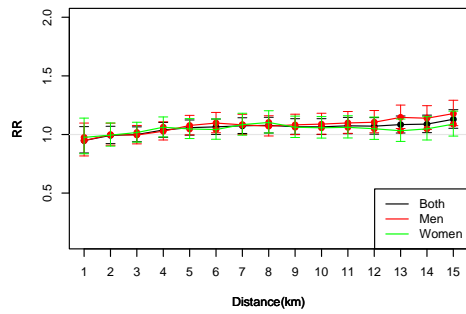
Non-Hodgkin's Lymphoma



Hodgkin's Lymphoma



Myeloma



Leukaemia

