Supplementary Table 1: Availability of data in the 12 studies in the CLIC pooled analyses of home pesticide exposure and the risk of leukemia in the offspring[1]

Description	Australia[2]	Canada[2]	Adele	ESCALE	Germany	Greece 1993-94	Greece 1996-97	Italy	New Zealand	UKCCS	COG E15[2]	NCCLS	Total cases (studies)
ALL													
In the 1-3 months before conception													
Pesticide						✓	✓		✓		✓	✓	2785 (5)
Professional pest control treatment											✓	✓	2660 (2)
Household insecticide/miticide											✓	✓	2529 (2)
Pet insecticide											✓	✓	2586 (2)
Plant/tree insecticide or fungicide											✓	✓	2699 (2)
Herbicide											✓	✓	2659 (2)
Rodenticide											✓	✓	2686 (2)
Molluscicide											✓	✓	2715 (2)
During pregnancy													
Pesticide		✓	✓	✓		✓	✓	✓	✓		✓	✓	5053 (9)
Professional pest control treatment	✓	✓						✓		✓	✓	✓	5660 (6)
Household insecticide/miticide		✓	✓	✓				✓			✓	✓	4792 (6)
Pet insecticide				✓				✓			✓	✓	3841 (4)
Plant/tree insecticide or fungicide		✓	✓	✓				✓			✓	✓	4938 (6)
Herbicide		✓	✓	✓				✓			✓	✓	4928 (6)
Rodenticide		✓									✓	✓	3492 (3)
Molluscicide		✓									✓	✓	3511 (3)

Description	Australia[2]	Canada[2]	Adele	ESCALE	Germany	Greece 1993-94	Greece 1996-97	Italy	New Zealand	UKCCS	COG E15[2]	NCCLS	Total cases (studies)
Personal repellant use (mother)		✓										✓	1603 (2)
After Birth													
Pesticide		✓	✓					✓	✓		✓	✓	4162 (6)
Professional pest control treatment	✓				✓			✓		✓		✓	3611 (5)
Household insecticide/miticide		✓	✓					✓			✓	✓	4032 (5)
Pet insecticide								✓			✓	✓	3050 (3)
Plant/tree insecticide or fungicide		✓	✓					✓			✓	✓	4006 (5)
Herbicide		✓	✓					✓			✓	✓	4066 (5)
Rodenticide		✓									✓	✓	3251 (3)
Molluscicide		✓									✓	✓	3256 (3)
Use of personal repellant (child)		✓										✓	1431 (2)
AML													
In the 1-(3) before conception													
Pesticide						✓	✓		✓			✓	173 (4)
During pregnancy													
Pesticide			✓	✓		✓	✓	✓	✓			✓	344 (7)
Professional pest control treatment								✓		✓		✓	388 (3)
Household insecticide/miticide			✓	✓				✓				✓	294 (4)
Pet insecticide				✓				✓				✓	266 (3)
Plant/tree insecticide or fungicide			✓	✓				✓				✓	302 (4)
Herbicide			✓	✓				✓				✓	304 (4)

Description	Australia[2]	Canada[2]	Adele	ESCALE	Germany	Greece 1993-94	Greece 1996-97	Italy	New Zealand	UKCCS	COG E15[2]	NCCLS	Total cases (studies)
After Birth													
Pesticide			✓					✓	✓			✓	198 (4)
Professional pest control treatment					✓			✓		✓		✓	468 (4)
Household insecticide/miticide			✓					✓				✓	167 (3)
Pet insecticide								✓				✓	126 (2)
Plant/tree insecticide or fungicide			✓					✓				✓	157 (3)
Herbicide			✓					✓				✓	172 (3)

1. Data were only included if two or more studies had compatible data, thus the numbers of studies available for each type of pesticide vary by leukemia type and time period

2.These studies only included ALL cases

Supplementary Table 2: Demographic characteristics of participants in the total sample and individual studies in the CLIC pooled analyses of parental occupational pesticide exposure and the risk of leukemia in the offspring

	Whole sample (12 studies) – ALL				Whole sample (9 studies) – AML				Australia, Aus-ALL				Canada, Quebec			
	Case (n= 7956)		Control (n = 15486)		Case (n= 1357)		Control[1] (n= 12443)		ALL case (n= 388)		Control[2] (n= 870)		ALL case (n= 790)		Control[2] (n= 790)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Type of ALL																
B lineage	6166	*77.5*							345	*88.9*			683	*86.5*		
T lineage	803	*10.1*							37	*9.5*			75	*9.5*		
Other	824	*9.3*							6	*1.5*			32	*4.1*		
Missing	28	*0.4*							0	*0.0*			0	*0.0*		
Sex																
Boy	4457	*55.7*	8066	*55.7*	401	*54.2*	6073	*56.0*	214	*55.2*	459	*52.8*	457	*57.8*	458	*58.0*
Girl	3499	*44.3*	6428	*44.3*	339	*45.8*	4774	*44.0*	174	*44.8*	411	*47.2*	333	*42.2*	332	*42.0*
Child's Age (years)[3]																
0-1	867	*10.9*	2149	*14.8*	220	*29.7*	1724	*15.9*	34	*8.8*	62	*7.1*	93	*11.8*	93	*11.8*
2-4	3731	*46.9*	5764	*39.8*	138	*18.6*	4101	*37.8*	177	*45.6*	390	*44.8*	410	*51.9*	413	*52.3*
5-9	2319	*29.1*	4225	*29.1*	180	*24.3*	3112	*28.7*	110	*28.4*	289	*33.2*	246	*31.1*	243	*30.8*
10-14	1038	*13.0*	2326	*16.0*	200	*27.0*	1906	*17.6*	67	*17.3*	126	*14.5*	41	*5.2*	41	*5.2*
15-16	1	*0.0*	30	*0.2*	2	*0.3*	4	*0.0*	0	*0.0*	3	*0.3*	0	*0.0*	0	*0.0*
Child's year of birth																

	Whole sample (12 studies) – ALL				Whole sample (9 studies) – AML				Australia, Aus-ALL				Canada, Quebec			
	Case (n= 7956)		Control (n = 15486)		Case (n= 1357)		Control[1] (n= 12443)		ALL case (n= 388)		Control[2] (n= 870)		ALL case (n= 790)		Control[2] (n= 790)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
1970-1987	2824	*35.5*	4692	*32.4*	234	*31.6*	2812	*25.9*	0	*0.0*	0	*0.0*	473	*59.9*	471	*59.6*
1988-1996	3676	*46.2*	6944	*47.9*	364	*49.2*	5861	*54.0*	97	*2.5*	219	*25.2*	284	*35.9*	286	*36.2*
1997-2007	1456	*18.3*	2858	*19.7*	142	*19.2*	2174	*20.0*	291	*75.0*	651	*74.8*	33	*4.2*	33	*4.2*
Child's reference year[3]																
1980-1992	2872	*36.1*	3924	*27.1*	90	*12.2*	1520	*14.0*	0	*0.0*	0	*0.0*	465	*58.9*	461	*58.4*
1993-1997	2533	*31.8*	5578	*38.5*	388	*52.4*	5343	*49.3*	0	*0.0*	0	*0.0*	187	*23.7*	191	*24.2*
1998-2008	2551	*32.1*	4992	*34.4*	262	*35.4*	3984	*36.7*	388	*100.0*	870	*100.0*	138	*17.5*	138	*17.5*
Birth order																
1st	3648	*45.9*	6456	*44.5*	323	*43.6*	4791	*44.2*	185	*47.7*	362	*41.6*	358	*45.3*	437	*55.3*
2nd	2706	*34.0*	5067	*35.0*	246	*33.2*	3849	*35.5*	118	*30.4*	293	*33.7*	295	*37.3*	237	*30.0*
3rd or more	1565	*19.7*	2920	*20.1*	162	*21.9*	2156	*19.9*	85	*21.9*	215	*24.7*	137	*17.3*	116	*14.7*
Missing	37	*0.5*	51	*0.4*	9	*1.2*	51	*0.5*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Mother's age at child's birth																
<25 years	2222	*27.9*	3563	*24.6*	222	*30.0*	2596	*23.9*	60	*15.5*	99	*11.4*	221	*28.0*	221	*28.0*
25-34 years	4837	*60.8*	9224	*63.6*	431	*58.2*	6930	*63.9*	262	*66.6*	574	*66.0*	500	*63.3*	522	*66.1*
>34 years	876	*11.0*	1682	*11.6*	83	*11.2*	1296	*11.9*	66	*17.0*	197	*22.6*	69	*8.7*	47	*5.9*
Missing	21	*0.3*	25	*0.2*	4	*0.5*	25	*0.2*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*

	Whole sample (12 studies) – ALL				Whole sample (9 studies) – AML				Australia, Aus-ALL				Canada, Quebec			
	Case (n= 7956)		Control (n = 15486)		Case (n= 1357)		Control[1] (n= 12443)		ALL case (n= 388)		Control[2] (n= 870)		ALL case (n= 790)		Control[2] (n= 790)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
Child has Down Syndrome																
Yes	97	*1.2*	6	*0.0*	39	*5.3*	3	*0.0*	6	*1.5*	2	*0.2*	6	*0.8*	0	*0.0*
Highest level of education of either parent																
Did not finish secondary education	1409	*17.7*	2491	*17.2*	173	*23.4*	2226	*20.5*	60	*15.5*	90	*10.3*	137	*17.3*	114	*14.4*
Completed secondary education	3312	*41.6*	5694	*39.3*	274	*37.0*	3985	*36.7*	162	*41.8*	316	*36.3*	227	*28.7*	243	*30.8*
Tertiary education	3186	*40.0*	6176	*42.6*	280	*37.8*	4503	*41.5*	166	*42.8*	464	*53.3*	426	*53.9*	433	*54.8*
Missing	49	*0.6*	133	*0.9*	13	*1.8*	133	*1.2*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Ethnicity																
White/Caucasian/European	6672	*83.9*	12797	*88.3*	590	*79.7*	9507	*87.6*	357	*92.0*	810	*93.1*	748	*94.7*	759	*96.1*
Other	1248	*15.7*	1615	*11.1*	145	*19.6*	1295	*11.9*	14	*3.6*	23	*2.6*	42	*5.3*	31	*3.9*
Indeterminate	17	*0.2*	39	*0.3*	0	*0.0*	2	*0.0*	17	*4.4*	37	*4.3*	0	*0.0*	0	*0.0*
Missing	19	*0.2*	43	*0.3*	5	*0.7*	43	*0.4*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Summary pesticide exposure data in the 1-3 months before pregnancy	3215	*40.4*	4242	*29.3*	173	*23.4*	1789	*16.5*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*

	Whole sample (12 studies) – ALL				Whole sample (9 studies) – AML				Australia, Aus-ALL				Canada, Quebec			
	Case (n= 7956)		Control (n = 15486)		Case (n= 1357)		Control[1] (n= 12443)		ALL case (n= 388)		Control[2] (n= 870)		ALL case (n= 790)		Control[2] (n= 790)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
Any professional pest control exposure data in the 1-3 months before pregnancy	2785	*35.0*	3635	*25.1*	Not shown as only data from 1 study				0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Summary pesticide exposure data during pregnancy	5053	*63.5*	7368	*50.8*	344	*46.5*	4664	*43.0*	0	*0.0*	0	*0.0*	786	*99.5*	787	*99.6*
Any professional pest control exposure data during pregnancy	5660	*71.1*	8938	*61.7*	388	*52.4*	5322	*49.1*	388	*100.0*	870	*100.0*	789	*99.9*	789	*99.9*
Summary pesticide exposure data after birth	4162	*52.3*	5179	*35.7*	198	*26.8*	2655	*24.5*	0	*0.0*	0	*0.0*	790	*100.0*	790	*100.0*
Any professional pest control exposure data after birth	3611	*45.4*	8388	*57.9*	468	*63.2*	7531	*69.4*	388	*100.0*	870	*100.0*	0	*0.0*	0	*0.0*

Supplementary Table 2: Demographic characteristics of participants in the individual studies in the CLIC pooled analyses of parental occupational exposure and the risk of leukemia in the offspring (continued)

	France, ESCALE						France, ADELE						Germany, GCCR					
	ALL case (n= 648)		AML case (n= 101)		Control (n= 1681)		ALL case (n= 240)		AML case (n= 36)		Control (n= 288)		ALL case (n= 751)		AML case (n= 130)		Control (n= 2458)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
Type of ALL																		
B lineage	565	*87.2*					183	*76.3*					680	*90.5*				
T lineage	67	*10.3*					30	*12.5*					71	*9.5*				
Other	16	*2.5*					20	*8.3*					0	*0.0*				
Missing	0	*0.0*					7	*2.9*					0	*0.0*				
Sex																		
Boy	349	*53.9*	54	*53.5*	932	*55.4*	144	*60.0*	19	*52.8*	168	*58.3*	448	*59.7*	72	*55.4*	1392	*56.6*
Girl	299	*46.1*	47	*46.5*	749	*44.6*	96	*40.0*	17	*47.2*	120	*41.7*	303	*40.3*	58	*44.6*	1066	*43.4*
Child's Age (years)[3]																		
0-1	75	*11.6*	35	*34.7*	369	*22.0*	21	*8.8*	12	*33.3*	51	*17.7*	87	*11.6*	40	*30.8*	448	*18.2*
2-4	275	*42.4*	19	*18.8*	464	*27.6*	113	*47.1*	6	*16.7*	85	*29.5*	353	*47.0*	23	*17.7*	809	*32.9*
5-9	197	*30.4*	27	*26.7*	466	*27.7*	73	*30.4*	6	*16.7*	102	*35.4*	220	*29.3*	40	*30.8*	749	*30.5*
10-14	101	*15.6*	20	*19.8*	382	*22.7*	32	*13.3*	11	*30.6*	50	*17.0*	91	*12.1*	27	*20.8*	450	*18.3*
15-16	0	*0.0*	0	*0.0*	0	*0.0*	1	*0.4*	1	*2.8*	1	*0.3*	0	*0.0*	0	*0.0*	2	*0.1*

	France, ESCALE						France, ADELE						Germany, GCCR					
	ALL case (n= 648)		AML case (n= 101)		Control (n= 1681)		ALL case (n= 240)		AML case (n= 36)		Control (n= 288)		ALL case (n= 751)		AML case (n= 130)		Control (n= 2458)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Child's year of birth																		
1970-1987	0	*0.0*	0	*0.0*	0	*0.0*	52	*21.7*	15	*41.7*	61	*0.0*	306	*40.7*	65	*50.0*	1178	*47.9*
1988-1996	198	*30.6*	34	*33.7*	584	*34.7*	186	*77.5*	16	*44.4*	219	*76.0*	445	*59.3*	65	*50.0*	1280	*52.1*
1997-2007	450	*69.4*	67	*66.3*	1097	*65.3*	2	*0.8*	5	*13.9*	8	*2.8*	0	*0.0*	0	*0.0*	0	*0.0*
Child's reference year[3]																		
1980-1992	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	206	*27.4*	38	*29.2*	680	*27.7*
1993-1997	0	*0.0*	0	*0.0*	0	*0.0*	227	*94.6*	33	*91.7*	181	*62.8*	545	*72.6*	92	*70.8*	1778	*72.3*
1998-2008	648	*100.0*	101	*100.0*	1681	*100.0*	13	*5.4*	3	*8.3*	107	*37.2*	0	*0.0*	0	*0.0*	0	*0.0*
Birth order																		
1st	327	*50.5*	44	*43.6*	708	*42.1*	107	*44.6*	15	*41.7*	140	*48.6*	391	*52.1*	61	*46.9*	1189	*48.4*
2nd	205	*31.6*	35	*34.7*	608	*36.2*	85	*35.4*	12	*33.3*	91	*31.6*	241	*32.1*	42	*32.3*	879	*35.8*
3rd or more	116	*17.9*	22	*21.8*	365	*21.7*	48	*20.0*	9	*25.0*	54	*18.8*	111	*14.8*	25	*19.2*	378	*15.4*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	3	*1.0*	8	*1.1*	0	*0.0*	12	*0.5*
Mother's age at																		

	France, ESCALE						France, ADELE						Germany, GCCR					
	ALL case (n= 648)		AML case (n= 101)		Control (n= 1681)		ALL case (n= 240)		AML case (n= 36)		Control (n= 288)		ALL case (n= 751)		AML case (n= 130)		Control (n= 2458)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
child's birth																		
<25 years	101	*15.6*	17	*16.8*	163	*9.7*	36	*15.0*	9	*25.0*	53	*18.4*	215	*28.6*	34	*26.2*	623	*25.3*
25-34 years	452	*69.8*	67	*66.3*	1235	*73.5*	171	*71.3*	23	*63.9*	191	*66.3*	475	*63.2*	84	*64.6*	1633	*66.4*
>34 years	95	*14.7*	17	*16.8*	283	*16.8*	33	*13.8*	4	*11.1*	44	*15.3*	58	*7.7*	10	*7.7*	198	*8.1*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	3	*0.4*	2	*1.5*	4	*0.2*
Child has Down Syndrome																		
Yes	7	*1.1*	4	*4.0*	0	*0.0*	0	*0.0*	1	*2.8*	0	*0.0*	10	*1.3*	8	*6.2*	1	*0.0*
No	641	*98.9*	97	*96.0*	1681	*100.0*	240	*100.0*	35	*97.2*	288	*100.0*	741	*98.7*	122	*93.8*	2457	*100.0*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Highest level of education of either parent																		
Did not finish secondary education	209	*32.3*	38	*37.6*	503	*29.9*	105	*43.8*	24	*66.7*	120	*41.7*	229	*30.5*	30	*23.1*	642	*26.1*
Completed secondary	136	*21.0*	18	*17.8*	292	*17.4*	31	*12.9*	1	*2.8*	32	*11.1*	238	*31.7*	53	*40.8*	846	*34.4*

	France, ESCALE						France, ADELE						Germany, GCCR					
	ALL case (n= 648)		AML case (n= 101)		Control (n= 1681)		ALL case (n= 240)		AML case (n= 36)		Control (n= 288)		ALL case (n= 751)		AML case (n= 130)		Control (n= 2458)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
education																		
Tertiary education	303	*46.8*	45	*44.6*	885	*52.6*	104	*43.3*	11	*30.6*	132	*45.8*	246	*32.8*	36	*27.7*	858	*34.9*
Missing	0	*0.0*	0	*0.0*	1	*0.1*	0	*0.0*	0	*0.0*	4	*1.4*	38	*5.1*	11	*8.5*	112	*4.6*
Ethnicity																		
White/Caucasian/European	601	*92.7*	89	*88.1*	1531	*91.1*	210	*87.5*	31	*86.1*	236	*81.9*	751	*100.0*	130	*100.0*	2458	*100.0*
Other	45	*6.9*	10	*9.9*	125	*7.4*	30	*12.5*	5	*13.9*	52	*18.1*	0	*0.0*	0	*0.0*	0	*0.0*
Indeterminate	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Missing	2	*0.3*	2	*2.0*	25	*1.5*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Summary pesticide exposure data in the 1-3 months before pregnancy	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Any professional pest control exposure data in the	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*

	France, ESCALE						France, ADELE						Germany, GCCR					
	ALL case (n= 648)		AML case (n= 101)		Control (n= 1681)		ALL case (n= 240)		AML case (n= 36)		Control (n= 288)		ALL case (n= 751)		AML case (n= 130)		Control (n= 2458)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1-3 months before pregnancy																		
Summary pesticide exposure data during pregnancy	617	*95.2*	96	*95.0*	1635	*97.3*	239	*99.6*	36	*100.0*	279	*96.9*	0	*0.0*	0	*0.0*	0	*0.0*
Any professional pest control exposure data during pregnancy	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Summary pesticide exposure data after birth	0	*0.0*	0	*0.0*	0	*0.0*	237	*98.8*	36	*100.0*	281	*97.6*	0	*0.0*	0	*0.0*	0	*0.0*
Any professional pest control exposure data after birth	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	710	*94.5*	117	*90.0*	2339	*95.2*

Supplementary Table 2: Demographic characteristics of participants in the individual studies in the CLIC pooled analyses of parental occupational exposure and the risk of leukemia in the offspring (continued)

	Greece, NARCHEM 1993-1994						Greece, NARCHEM 1996-1997						Italy, SETIL					
	ALL case (n= 140)		AML case (n= 13)		Control (n= 300)		ALL case (n= 86)		AML case (n= 13)		Control (n= 99)		ALL case (n= 601)		AML case (n= 32)		Control (n= 1044)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Type of ALL																		
B lineage	124	*88.6*					73	*84.9*					467	*77.7*				
T lineage	16	*11.4*					13	*15.1*					98	*16.3*				
Other	0	*0.0*					0	*0.0*					17	*2.8*				
Missing	0	*0.0*					0	*0.0*					19	*3.2*				
Sex																		
Boy	78	*55.7*	7	*53.8*	168	*56.0*	45	*52.3*	9	*692*	54	*54.5*	327	*54.4*	15	*46.9*	562	*53.8*
Girl	62	*44.3*	6	*46.2*	132	*44.0*	41	*47.7*	4	*30.8*	45	*45.5*	274	*45.6*	17	*53.1*	482	*46.2*
Child's Age (years)[3]																		
0-1	20	*14.3*	5	*38.5*	29	*9.7*	7	*8.1*	6	*46.2*	12	*12.1*	74	*12.3*	6	*18.8*	156	*14.9*
2-4	47	*33.6*	2	*15.4*	95	*31.7*	39	*45.3*	1	*7.7*	39	*39.4*	309	*51.4*	6	*18.8*	489	*46.8*
5-9	47	*33.6*	0	*0.0*	108	*36.0*	24	*27.9*	1	*7.7*	27	*27.3*	190	*31.6*	16	*50.0*	341	*32.7*
10-14	26	*18.6*	6	*46.2*	67	*22.3*	16	*18.6*	4	*30.8*	21	*21.2*	28	*4.7*	4	*12.5*	58	*5.6*
15-16	0	*0.0*	0	*0.0*	1	*0.3*	0	*0.0*	1	*7.7*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Child's year of birth																		

	Greece, NARCHEM 1993-1994						Greece, NARCHEM 1996-1997						Italy, SETIL					
	ALL case (n= 140)		AML case (n= 13)		Control (n= 300)		ALL case (n= 86)		AML case (n= 13)		Control (n= 99)		ALL case (n= 601)		AML case (n= 32)		Control (n= 1044)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
1970-1987	59	*42.1*	6	*46.2*	124	*41.3*	18	*20.9*	6	*46.2*	22	*22.2*	1	*0.2*	0	*0.0*	2	*0.2*
1988-1996	81	*57.9*	7	*53.8*	176	*58.7*	68	*79.1*	7	*53.8*	75	*75.8*	385	*64.1*	25	*78.1*	661	*63.3*
1997-2007	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	215	*35.8*	7	*21.9*	381	*36.5*
Child's reference year[3]																		
1980-1992	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
1993-1997	140	*100.0*	13	*100.0*	300	*100.0*	86	*100.0*	13	*100.0*	99	*100.0*	0	*0.0*	0	*0.0*	0	*0.0*
1998-2008	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	601	*100.0*	32	*100.0*	1044	*100.0*
Birth order																		
1st	64	*45.7*	6	*46.2*	122	*40.7*	40	*46.5*	7	*53.8*	44	*44.4*	323	*53.7*	19	*59.4*	552	*52.9*
2nd	61	*43.6*	7	*53.8*	129	*43.0*	27	*31.4*	5	*38.5*	31	*31.3*	204	*33.9*	9	*28.1*	379	*36.3*
3rd or more	15	*10.7*	0	*0.0*	49	*16.3*	18	*20.9*	1	*7.7*	23	*23.2*	74	*12.3*	4	*12.5*	113	*10.8*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	1	*1.2*	0	*0.0*	1	*1.0*	0	*0.0*	0	*0.0*	0	*0.0*
Mother's age at child's birth																		
<25 years	41	*29.3*	7	*53.8*	123	*41.0*	25	*29.1*	6	*46.2*	31	*31.3*	84	*14.0*	3	*9.4*	140	*13.4*
25-34 years	84	*60.0*	5	*38.5*	156	*52.0*	47	*54.7*	6	*46.2*	54	*54.5*	407	*67.7*	25	*78.1*	741	*71.0*
>34 years	15	*10.7*	1	*7.7*	21	*7.0*	14	*16.3*	1	*7.7*	14	*14.1*	106	*17.6*	4	*12.5*	160	*15.3*

	Greece, NARCHEM 1993-1994						Greece, NARCHEM 1996-1997						Italy, SETIL					
	ALL case (n= 140)		AML case (n= 13)		Control (n= 300)		ALL case (n= 86)		AML case (n= 13)		Control (n= 99)		ALL case (n= 601)		AML case (n= 32)		Control (n= 1044)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
Missing	0	*0.0*	0	0.0	0	*0.0*	0	*0.0*	0	0.0	0	*0.0*	4	*0.7*	0	*0.0*	3	*0.3*
Child has Down Syndrome																		
Yes	0	*0.0*	0	*0.0*	0	*0.0*	1	*1.2*	0	*0.0*	0	*0.0*	5	*0.8*	0	*0.0*	0	*0.0*
No	140	*100.0*	13	*100.0*	300	*100.0*	85	*98.8*	13	*100.0*	99	*100.0*	596	*99.2*	32	*100.0*	1044	*100.0*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Highest level of education of either parent																		
Did not finish secondary education	32	*22.9*	4	*30.8*	127	*42.3*	28	*32.6*	6	*46.2*	28	*28.3*	200	*33.3*	15	*46.9*	282	*27.0*
Completed secondary education	51	*36.4*	6	*46.2*	104	*34.7*	36	*41.9*	4	*30.8*	44	*44*	307	*51.1*	11	*34.4*	544	*52.1*
Tertiary education	57	*40.7*	3	*23.1*	69	*23.0*	22	*25.6*	3	*23.1*	27	*27.3*	94	*15.6*	6	*18.8*	218	*20.9*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	2	*0.2*
Ethnicity																		
White/Caucasian/European	140	*100.0*	13	*100.0*	300	*100.0*	86	*100.0*	13	*100.0*	99	*100.0*	579	*96.3*	32	*100.0*	1011	*96.8*

	Greece, NARCHEM 1993-1994						Greece, NARCHEM 1996-1997						Italy, SETIL					
	ALL case (n= 140)		AML case (n= 13)		Control (n= 300)		ALL case (n= 86)		AML case (n= 13)		Control (n= 99)		ALL case (n= 601)		AML case (n= 32)		Control (n= 1044)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
Other	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	2	*0.2*	22	*3.7*	0	*0.0*	31	*3.0*
Indeterminate	0	*0.0*		*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	2	*0.2*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Summary pesticide exposure data in the 1-3 months before pregnancy	140	*100.0*	13	*100.0*	300	*100.0*	86	*100.0*	13	*0.0*	99	*100.0*	0	*0.0*	0	*0.0*	0	*0.0*
Any professional pest control exposure data in the 1-3 months before pregnancy	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Summary pesticide exposure data during pregnancy	140	*100.0*	13	*100.0*	300	*100.0*	86	*100.0*	13	*0.0*	99	*100.0*	536	*89.2*	30	*93.8*	942	*90.2*
Any professional pest control exposure data during pregnancy	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	568	*94.5*	31	*96.9*	999	*95.7*
Summary pesticide exposure data after birth	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	547	*91.0*	29	*90.6*	968	*92.7*
Any professional pest	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	566	*94.2*	30	*93.8*	1009	*96.5*

	Greece, NARCHEM 1993-1994						Greece, NARCHEM 1996-1997						Italy, SETIL					
	ALL case (n= 140)		AML case (n= 13)		Control (n= 300)		ALL case (n= 86)		AML case (n= 13)		Control (n= 99)		ALL case (n= 601)		AML case (n= 32)		Control (n= 1044)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
control exposure data after birth																		

Supplementary Table 2: Demographic characteristics of participants in the individual studies in the CLIC pooled analyses of parental occupational exposure and the risk of leukemia in the offspring (continued)

	New Zealand, NZCCS						UK, UKCCS						US, COG -E15			
	ALL case (n= 97)		AML case (n= 22)		Control (n= 303)		ALL case (n= 1461)		AML case (n= 248)		Control (n= 3448)		ALL case (n= 1914)		Control[2] (n= 1987)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Type of ALL																
B lineage	88	*90.7*					1154	*79.0*					1165	*60.9*		
T lineage	7	*7.2*					145	*9.9*					180	*9.4*		
Other	0	*0.0*					162	*11.1*					569	*29.7*		
Missing	2	*2.1*					0	*0.0*					0	*0.0*		
Sex																
Boy	52	*53.6*	12	*54.5*	162	*53.5*	820	*56.1*	134	*54.0*	1932	*56.0*	1051	*54.9*	1076	*54.2*
Girl	45	*46.4*	10	*45.5*	141	*46.5*	641	*43.9*	114	*46.0*	1516	*44.0*	863	*45.1*	911	*45.8*
Child's Age (years)[3]																
0-1	11	*11.3*	4	*18.2*	53	*17.5*	146	*10.0*	69	*27.8*	438	*12.7*	208	*10.9*	270	*13.6*
2-4	48	*49.5*	6	*27.3*	98	*32.3*	698	*47.8*	50	*20.2*	1497	*43.4*	872	*45.6*	860	*43.3*
5-9	26	*26.8*	7	*31.8*	78	*25.7*	393	*26.9*	52	*21.0*	897	*26.0*	555	*29.0*	581	*29.2*
10-14	12	*12.4*	5	*22.7*	74	*24.4*	224	*15.3*	77	*31.0*	616	*17.9*	279	*14.6*	253	*12.7*
15-16	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	23	*1.2*
Child's year of birth																

	New Zealand, NZCCS						UK, UKCCS						US, COG -E15			
	ALL case (n= 97)		AML case (n= 22)		Control (n= 303)		ALL case (n= 1461)		AML case (n= 248)		Control (n= 3448)		ALL case (n= 1914)		Control[2] (n= 1987)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
1970-1987	46	*47.4*	13	*59.1*	173	*57.1*	479	*32.8*	112	*45.2*	1203	*34.9*	1362	*71.2*	1409	*70.9*
1988-1996	51	*52.6*	9	*40.9*	130	*42.9*	982	*67.2*	136	*54.8*	2245	*65.1*	552	*28.6*	578	*29.1*
1997-2007	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Child's reference year[3]																
1980-1992	71	*73.2*	19	*85.4*	250	*82.5*	262	*17.9*	33	*13.3*	590	*17.1*	1868	*97.6*	1943	*97.8*
1993-1997	26	*26.8*	3	*13.6*	53	*17.5*	1199	*82.1*	215	*86.7*	2858	*82.9*	46	*2.4*	44	*2.2*
1998-2008	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Birth order																
1st	37	*38.1*	9	*40.9*	106	*35.0*	653	*44.7*	101	*40.7*	1467	*42.5*	806	*42.1*	866	*43.6*
2nd	36	*37.1*	3	*13.6*	107	*35.3*	485	*33.2*	84	*33.9*	1199	*34.8*	690	*36.1*	688	*34.6*
3rd or more	24	*24.7*	10	*45.5*	90	*29.7*	313	*21.4*	61	*24.6*	769	*22.3*	418	*21.8*	433	*21.8*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	10	*0.7*	2	*0.8*	13	*0.4*	0	*0.0*	0	*0.0*
Mother's age at child's birth																
<25 years	36	*37.1*	10	*45.5*	98	*32.3*	458	*31.3*	85	*34.3*	1053	*30.5*	669	*35.0*	647	*32.6*
25-34 years	48	*49.5*	11	*50.0*	181	*59.7*	870	*59.5*	138	*55.6*	2057	*59.7*	1087	*56.8*	1198	*60.3*
>34 years	13	*13.4*	1	*4.5*	24	*7.9*	122	*8.4*	23	*9.3*	321	*9.3*	158	*8.3*	142	*7.1*

	New Zealand, NZCCS						UK, UKCCS						US, COG -E15			
	ALL case (n= 97)		AML case (n= 22)		Control (n= 303)		ALL case (n= 1461)		AML case (n= 248)		Control (n= 3448)		ALL case (n= 1914)		Control[2] (n= 1987)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	11	*0.8*	2	*0.8*	17	*0.5*	0	*0.0*	0	*0.0*
Child has Down Syndrome																
Yes	0	*0.0*	0	*0.0*	0	*0.0*	34	*2.3*	14	*5.6*	1	*0.0*	4	*0.2*	1	*0.1*
No	140	*100.0*	22	*100.0*	300	*100.0*	1427	*97.7*	234	*94.4*	3447	*100.0*	1910	*99.8*	1986	*99.9*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Highest level of education of either parent																
Did not finish secondary education	22	*22.7*	9	*40.9*	35	*11.6*	220	*15.1*	40	*16.1*	428	*12.4*	105	*5.5*	61	*3.1*
Completed secondary education	16	*16.5*	2	*9.1*	52	*17.2*	736	*50.4*	128	*51.6*	1778	*51.6*	1130	*59.0*	1150	*57.9*
Tertiary education	59	*60.8*	11	*50.0*	216	*71.3*	495	*33.9*	52	*31.5*	1226	*35.6*	679	*35.5*	776	*39.1*
Missing	0	*0.0*	0	*0.0*	0	*0.0*	10	*0.7*	2	*0.8*	16	*0.5*	0	*0.0*	0	*0.0*
Ethnicity																
White/Caucasian/European	73	*75.3*	11	*50.0*	242	*79.9*	1309	*89.6*	217	*87.5*	3152	*91.4*	1530	*79.9*	1721	*86.6*

	New Zealand, NZCCS						UK, UKCCS						US, COG -E15			
	ALL case (n= 97)		AML case (n= 22)		Control (n= 303)		ALL case (n= 1461)		AML case (n= 248)		Control (n= 3448)		ALL case (n= 1914)		Control[2] (n= 1987)	
	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*	n	*%*
Other	24	*24.7*	11	*50.0*	60	*19.8*	141	*9.7*	29	*11.7*	279	*8.1*	384	*20.1*	266	*13.4*
Indeterminate	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*
Missing	0	*0.0*	0	*0.0*	1	*0.3*	11	*0.8*	2	*0.8*	17	*0.5*	0	*0.0*	0	*0.0*
Summary pesticide exposure data in the 1-3 months before pregnancy	95	*97.9*	*22*	*100.0*	*300*	*100.0*	0	*0.0*	0	*0.0*	0	*0.0*	1758	*91.8*	1846	*92.9*
Any professional pest control exposure data in the 1-3 months before pregnancy	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	0	*0.0*	1856	*97.0*	1945	*97.9*
Summary pesticide exposure data during pregnancy	97	*100.0*	*22*	*100.0*	*303*	*100.0*	0	*0.0*	0	*0.0*	0	*0.0*	1826	*95.4*	1918	*96.5*
Any professional pest control exposure data during pregnancy	0	*0.0*	0	*0.0*	0	*0.0*	1237	*84.7*	216	*87.1*	3143	*91.2*	1870	*97.7*	1957	*98.5*
Summary pesticide exposure data after birth	96	*99.0*	*22*	*100.0*	*300*	*99.0*	0	*0.0*	0	*0.0*	0	*0.0*	1745	*91.2*	1734	*87.3*
Any professional pest	0	*0.0*	0	*0.0*	0	*0.0*	1266	*86.7*	223	*89.9*	3188	*92.5*	0	*0.0*	0	*0.0*

	New Zealand, NZCCS						UK, UKCCS						US, COG -E15			
	ALL case (n= 97)		AML case (n= 22)		Control (n= 303)		ALL case (n= 1461)		AML case (n= 248)		Control (n= 3448)		ALL case (n= 1914)		Control[2] (n= 1987)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
control exposure data after birth																

Supplementary Table 2: Demographic characteristics of participants in the individual studies in the CLIC pooled analyses of parental occupational exposure and the risk of leukemia in the offspring (continued)

	US, California State, NCCLS					
	ALL case (n= 840)		AML case (n= 145)		Control (n = 1226)	
	n	%	n	%	n	%
Type of ALL						
B lineage	639	*76.1*				
T lineage	64	*7.6*				
Other	2	*0.2*				
Missing	0	*0.0*				
Sex						
Boy	472	*56.2*	79	*54.5*	703	*57.3*
Girl	368	*43.8*	66	*45.5*	523	*42.7*
Child's Age (years)[3]						
0-1	91	*10.8*	43	*29.7*	168	*13.7*
2-4	390	*46.4*	25	*17.2*	525	*42.8*
5-9	238	*28.3*	31	*21.4*	344	*28.1*
10-14	121	*14.4*	46	*31.7*	189	*15.4*
15-16	0	*0.0*	0	*0.0*	0	*0.0*
Child's year of birth						

	US, California State, NCCLS					
	ALL case (n= 840)		AML case (n= 145)		Control (n = 1226)	
	n	*%*	n	*%*	n	*%*
1970-1987	28	*3.3*	17	*11.7*	49	*4.0*
1988-1996	347	*41.3*	65	*44.8*	491	*40.0*
1997-2007	465	*55.4*	63	*43.4*	686	*56.0*
Child's reference year[3]						
1980-1992	0	*0.0*	0	*0.0*	0	*0.0*
1993-1997	77	*9.2*	19	*13.1*	100	*8.2*
1998-2008	763	*90.8*	126	*86.9*	1126	*91.8*
Birth order						
1st	357	*42.5*	61	*42.1*	463	*37.8*
2nd	259	*30.8*	49	*33.8*	426	*34.7*
3rd or more	206	*24.5*	30	*20.7*	315	*25.7*
Missing	18	*2.1*	5	*3.4*	22	*1.8*
Mother's age at child's birth						
<25 years	276	*32.9*	51	*35.2*	312	*25.4*
25-34 years	434	*51.7*	72	*49.7*	682	*55.6*
>34 years	127	*15.1*	22	*15.2*	231	*18.8*
Missing	3	*0.4*	0	*0.0*	1	*0.1*

	US, California State, NCCLS					
	ALL case (n= 840)		AML case (n= 145)		Control (n = 1226)	
	n	*%*	n	*%*	n	*%*
Child has Down Syndrome						
Yes	24	*2.9*	12	*8.3*	1	*0.1*
No	814	*96.9*	132	*91.0*	1224	*99.8*
Missing	2	*0.2*	1	*0.7*	1	*0.1*
Highest level of education of either parent						
Did not finish secondary education	62	*7.4*	8	*5.5*	61	*5.0*
Completed secondary education	242	*28.8*	51	*35.5*	293	*23.9*
Tertiary education	535	*63.7*	86	*59.3*	872	*71.1*
Missing	1	*0.1*	0	*0.0*	0	*0.0*
Ethnicity						
White/Caucasian/European	288	*34.3*	54	*37.2*	478	*39.0*
Other	546	*65.0*	90	*62.1*	748	*61.0*
Indeterminate	0	*0.0*	0	*0.0*	0	*0.0*
Missing	6	*0.7*	1	*0.7*	0	*0.0*

	US, California State, NCCLS					
	ALL case (n= 840)		AML case (n= 145)		Control (n = 1226)	
	n	*%*	n	*%*	n	*%*
Summary pesticide exposure data in the 1-3 months before pregnancy	706	*84.0*	125	*86.2*	1090	*88.9*
Any professional pest control exposure data in the 1-3 months before pregnancy	804	*95.7*	140	*96.6*	1175	*95.8*
Summary pesticide exposure data during pregnancy	727	*86.5*	135	*93.1*	1108	*90.4*
Any professional pest control exposure data during pregnancy	808	*96.2*	141	*97.2*	1180	*96.2*
Summary pesticide exposure data after birth	747	*88.9*	111	*76.6*	1106	*90.2*
Any professional pest control exposure data after birth	686	*81.7*	98	*67.6*	995	*81.2*

[1.] Includes controls from all studies with AML cases(that is, all studies except Australia, Aus-ALL, Canada, Quebec and US, COG -E15).

[2.] This study only included ALL cases, so the controls were only included in the ALL analyses.

[3.] Age groups and reference years are based on the child's age at the censoring date. For case, this was the date at diagnosis and for controls, it was the date that the study investigators nominated (either the date of recruitment or the date of the questionnaire return).

Supporting information:

Meta-analysis methods and Results

Methods

Statistical analyses: Estimation and meta-analyses of study-specific ORs

Unconditional logistic regression (SAS version 9.4, SAS Institute Inc, Cary, NC, USA) was used to estimate study-specific ORs and 95 percent confidence intervals (95% CIs) for home pesticide exposures for the following three time periods: in the 1-3 months before conception; during pregnancy and between the child's birth and reference date. All models included child's age and sex and additional study-specific matching variables where applicable. Unconditional logistic regression adjusting for the original matching variables in originally individually-matched studies was used to optimize the number of available cases and controls.[1] The following variables were considered *a priori* to be potential confounders: birth order, ethnicity, maternal age, and highest level of education of either parent, and assessed individually for inclusion in the models. Parental education was the only common socio-economic level indicators that were available in all studies. Factors that met the empirical criteria for confounding (independently associated with both the outcome and exposure in the control group) were retained in the final models. The study-specific ORs were combined using the Metan procedure in a meta-analysis in Stata version 13.1 (StataCorp LP, College Station Texas, USA, 2009), using the random effects model (to acknowledge the between study heterogeneity[2] relating to issues such as study designs, definitions of exposure, and changes in paint composition over time). Summary ORs, 95% CIs, I^2 statistics (a measure of the variation across studies that is not

due to chance)[3] and forest plots were produced (see Supplementary Table 3 (ALL) and Supplementary Table 4 (AML) for details of the contribution of each studies to the meta-analyses).

Results

Meta-analyses of study-specific ORs

Although the numbers of studies which contributed cases varied by time period, the summary ORs for any home pesticide exposure and the risk of ALL in the 1-3 months before conception, during pregnancy and after birth were all elevated (Supplementary Table 5) with little evidence of heterogeneity among the ORs (Supplementary Figure 1). When individual studies were omitted in turn from each of the meta-analyses, the summary estimate changed by 10% (OR scale) during pregnancy and 5% for the other time periods. The summary estimates were similar for B cell and T cell in all time periods. Because three studies only had data about professional pest control treatment, the studies included in the meta-analyses of this exposure varied from overall any home pesticide, thus these results are also shown. The summary ORs for professional pest control treatments and the risk of ALL were also elevated for all three time periods (Supplementary Table 3 and Supplementary Figure 2)

For AML, the summary ORs for home pesticide exposure were based on less studies and smaller case numbers. While the summary OR was elevated for during pregnancy, the summary OR for exposure in the 1-3 months before conception was 1.88 (95% CI 0.73, 4.84) with a high degree of heterogeneity and there was no association with exposure after birth (Supplementary Table 4 and Supplementary Figure 3). For any

pest control treatments, the summary OR was only elevated for exposures after birth (Supplementary Table 5 and Supplementary Figure 4).

Reference List

1. Breslow N.E., Day N.E. Conditional Logistic Regression for Matched Sets. In: International Agency for Research on Cancer., editor. Statistical Methods in Cancer Research, Volume I - The analysis of case-control studies. IARC Scientific Publications No. 32 ed. Lyon: International Agency for Research on Cancer; 1980.

2. Riley RD, Higgins JP, Deeks JJ. Interpretation of random effects meta-analyses. Br Med J 2011;342:d549.

3. Higgins JP, Thompson SG, Deeks JJ, Altman DG. Measuring inconsistency in meta-analyses. Br Med J 2003;327(7414):557-560.

Supplementary Table 3: Characteristics of the eight studies in the CLIC pooled analyses of any home pesticide exposure and the risk of ALL

		Home exposures around the home				
		Cases		Controls		
Study	Original matching factors	Total n	% exposed	Total n	% exposed	Additional covariates in meta-analyses
1. In 1-3 months before conception (5 studies)						
Greece, NARECHEM 1993-4	Age, sex	140	1.4	300	1.0	Highest parental education, birth order
Greece, NARECHEM 1996-7	Age, sex	86	5.8	99	0.0	NA
New Zealand, NZCCS	Age, sex	95	60.0	300	45.3	Maternal age, highest parental education, ethnicity
US, COG-E15	Age, sex, ethnicity	1758	56.1	1846	47.6	Nil
US, NCCLS	Age, sex, Hispanicity, maternal race	706	64.0	1090	61.5	Highest parental education
Total sample for pooled analyses		2785	53.9	3635	46.5	
Total sample for meta-analyses[1]		2699 (4 studies)	55.5	3536	47.7	
2. During pregnancy (9 studies)						
Canada, Quebec	Age, sex	787	67.7	786	57.5	Nil
France, Adele	Age, sex, hospital, ethnicity	236	36.0	279	22.9	Nil
France, ESCALE	Age, sex,	617	55.3	1635	37.9	Nil
Greece, NARECHEM 1993-4	Age, sex	140	5.7	300	3.0	Highest parental education
Greece, NARECHEM 1996-7	Age, sex	86	3.5	99	0.0	NA
Italy, SETIL	Age, sex, region	536	59.5	942	56.3	Nil
New Zealand, NZCCS	Age, sex	97	72.2	303	64.4	Ethnicity
US, COG-E15	Age, sex, ethnicity	1826	72.0	1918	68.3	Nil
US, NCCLS	Age, sex, Hispanicity, maternal race	727	70.6	1108	66.8	Highest parental education
Total sample for pooled analyses		5055	63.0	7370	53.2	
Total sample for meta-analyses[1]		4969 (8 studies)	64.1	7271	53.9	
3. After birth[2] (6 studies)						
Canada, Quebec	Age, sex	790	82.2	790	81.6	Nil
France, Adele	Age, sex, hospital, ethnicity	237	53.6	281	39.9	Nil
Italy, SETIL	Age, sex, region	547	70.2	968	65.7	Nil
New Zealand, NZCCS	Age, sex	96	59.4	300	49.7	Highest parental education, ethnicity
US, COG-E15	Age, sex, ethnicity	1745	81.0	1734	77.2	Nil
US, NCCLS	Age, sex, Hispanicity, maternal race	747	89.7	1106	84.8	Highest parental education, birth order
Total sample for pooled and meta-analyses		4162	79.3	5179	73.1	

[1]One study did not have any exposed cases so it was excluded from the meta-analyses

[2] Any exposures between birth and the reference date for four of the studies (Canada, France (Adele), New Zealand and US (COG-E15)), reference years are based on the censoring date: the date at diagnosis for cases, and the date that the study investigators nominated for controls (either the date of recruitment or the date of the questionnaire return). For US (NCCLS), it was any exposures between birth and the child's third birthday (NCCLS) and for Italy, it was any exposure between the calendar year of birth and calendar year of diagnosis.

Supplementary Table 4: Characteristics of the eight studies in the CLIC pooled analyses of any home pesticide exposure and the risk of AML

		Home exposures around the home				
		Cases		Controls		
Study	Original matching factors	Total n	% exposed	Total n	% exposed	Additional covariates in meta-analyses
1. In 1-3 months before conception (4 studies)						
Greece, NARECHEM 1993-4	Age, sex	13	7.7	300	1.0	Highest parental education, maternal age
Greece, NARECHEM 1996-7	Age, sex	13	0.0	99	0.0	NA
New Zealand, NZCCS	Age, sex	22	63.6	300	45.3	Highest parental education, ethnicity
US, NCCLS	Age, sex, Hispanicity, maternal race	125	60.8	670	61.5	Highest parental education
Total sample for pooled analyses		173	52.6	1789	45.2	
Total sample for meta-analyses[1]		160 (3 studies)	56.9	3536	47.9	
2. During pregnancy (7 studies)						
France, Adele	Age, sex, hospital, ethnicity	36	38.9	279	22.9	Highest parental education
France, ESCALE	Age, sex,	96	56.3	1635	37.9	Nil
Greece, NARECHEM 1993-4	Age, sex	13	15.4	300	3.0	Highest parental education, maternal age
Greece, NARECHEM 1996-7	Age, sex	13	7.7	99	0.0	NA
Italy, SETIL	Age, sex, region	30	56.7	942	56.3	Nil
New Zealand, NZCCS	Age, sex	22	72.7	303	64.4	Highest parental education, maternal age, ethnicity
US, NCCLS	Age, sex, Hispanicity, maternal race	135	65.9	1108	66.8	Highest parental education
Total sample for pooled analyses		345	55.9	4666	46.2	
Total sample for meta-analyses[1]		332 (6 studies)	57.8	4567	47.3	
3. After birth[2] (4 studies)						
France, Adele	Age, sex, hospital, ethnicity	36	44.4	281	39.9	Nil
Italy, SETIL	Age, sex, region	29	65.5	968	65.7	Nil
New Zealand, NZCCS	Age, sex	22	45.5	300	49.7	Highest parental education, ethnicity
US, NCCLS	Age, sex, Hispanicity, maternal race	111	84.7	1106	84.8	Highest parental education, birth order
Total sample for pooled and meta-analyses		198	74.8	5179	69.1	

[1]One study did not have any exposed cases so it was excluded from the meta-analyses

[2] Any exposures between birth and the reference date for four of the studies (Canada, France (Adele), New Zealand and US (COG-E15)), reference years are based on the censoring date: the date at diagnosis for cases, and the date that the study investigators nominated for controls (either the date of recruitment or the date of the questionnaire return). For US (NCCLS), it was any exposures between birth and the child's third birthday (NCCLS) and for Italy, it was any exposure between the calendar year of birth and calendar year of diagnosis.

Supplementary Table 5: Summary ORs from Meta-analyses of home pesticide exposures and the risk of childhood leukemia

	Total N Case/control	Number of studies	Summary OR (95% CI)[1, 2]	$I\%^2$	Maximum percentage difference when individual studies removed in turn	Total N Case/control	Number of studies	Summary OR (95% CI)[1, 2]	$I^{2\%}$	Maximum percentage difference when individual studies removed in turn
	Any home pesticides					Any professional pest control treatments				
1. In 1-3 months before conception										
ALL	2699/3536	4[3]	1.39 (1.20, 1.61)	19.7	4.5	2749/3120	2[4]	1.23 (0.99, 1.54)	11.6	-26.8
B Cell	1896/3536	4[3]	1.44 (1.18, 1.76)	37.9	12.5	1856/3120	2[4]	1.23 (1.00, 1.52)	0.0	6.2
T Cell	221/3236	3[5]	1.22 (0.75, 1.97)	41.5	-27.8	239/3120	2[4]	0.81 (0.1, 6.43)	86.7	-160.3
AML	160/1690	3[6]	1.88 (0.73, 4.84)	61.2	70.8	NA (insufficient data)				
2. During pregnancy										
ALL	4969/7271	8[7]	1.51 (1.25, 1.82)	76.2	8.8	5272/8068	6[8]	1.20 (1.07, 1.34)	28.6	5.3
B Cell	3779/7271	8[7]	1.52 (1.25, 1.86)	75.3	9.5	3848/8068	6[8]	1.26 (1.14, 1.39)	0.0	3.4
T Cell	514/7271	8[7]	1.42 (1.10, 1.82)	30.3	8.6	526/8068	6[8]	1.25 (1.00, 1.56)	3.5	-7.9
AML	332/4567	5[9]	1.60 (1.02, 2.51)	60.7	-17.7	2613/5322	3[10]	1.20 (0.75, 1.90)	0.0	1.4
3. After birth[11]										
ALL	4162/5179	6[12]	1.44(1.19, 1.75)	66.4	-6.8	3611/8388	5[13]	1.31 (1.16, 1.48)	26.8	-5.0
B Cell	3834/5179	6[12]	1.45 (1.20, 1.75)	57.9	-6.3	2937/8388	5[13]	1.35 (1.18, 1.54)	0.0	2.9
T Cell	944/5179	6[12]	1.37 (0.93, 2.00)	44.0	13.6	307/6049	4[14]	0.94 (0.66, 1.33)	0.0	-11.6
AML	198/2655	4[15]	1.10 (0.76, 1.60)	0.0	-13.7	3228/7531	4[16]	1.33 (0.98, 1.81)	0.0	23.5

[1] The random effects model was used to calculate the summary OR

[2] OR comparing any exposure to no exposure (Reference group)
[3] Data from Greece (NARECHEM 1993-1994), New Zealand, US (COG-E15 and NCCLS). Greece (NARECHEM 1996-1997) had no exposed controls so did not contribute to this meta-analysis.
[4] Data available from US (COG-E15 and NCCLS).
[5] Data available from Greece (New Zealand, US (COG-E15 and NCCLS). Greece (NARECHEM 1993-1994 and NARECHEM 1996-1997) had either no exposed cases or controls so did not contribute to this meta-analysis.
[6] Data available from Greece (NARECHEM 1993-1994), New Zealand, US (NCCLS). Greece (NARECHEM 1996-1997) had no exposed controls so did not contribute to this meta-analysis.
[7] Data from Canada, France (Adele and ESCALE), Greece (NARECHEM 1993-1994), Italy, New Zealand, US (COG-E15 and NCCLS). Greece (NARECHEM 1996-1997) had no exposed controls so did not contribute to this meta-analysis.
[8] Data available from Australia, Canada, Italy, UKCCS, US (COG-E15 and NCCLS).
[9]Data from France (Adele and ESCALE), Greece (NARECHEM 1993-1994), Italy, New Zealand, US (NCCLS). Greece (NARECHEM 1996-1997) had no exposed controls so did not contribute to this meta-analysis.
[10] Data available from Italy, UKCCS, US (NCCLS).
[11] Any exposures between birth and the reference date for 3 of the studies (Australia, Canada, New Zealand and Italy), reference years are based on the censoring date: the date at diagnosis for cases, and the date that the study investigators nominated for controls (either the date of recruitment or the date of the questionnaire return). For US (NCCLS), any exposures between birth and the child's third birthday and for Italy, any exposures between the calendar year of birth until the calendar year of the child's censoring date.
[12] Data from Canada, France (Adele), Italy, New Zealand, US (COG-E15 and NCCLS).
[13] Data available from Australia, Canada, Germany, Italy, UKCCS, US (COG-E15 and NCCLS).
[14] Data available from Australia, Canada, Germany, Italy, UKCCS, US (COG-E15). US (NCCLS had no exposed cases so did not contribute to this meta-analysis.
[15] Data from France (Adele), Italy, New Zealand, US (NCCLS).
[16] Data available from Germany, Italy, UKCCS, US (NCCLS).

Supplementary Table 6: Deterministic sensitivity analyses for paternal smoking as an uncontrolled confounder in the investigations of the association between home pesticide exposure and childhood leukemia

		ALL			AML		
Estimates of prevalence of paternal smoking[1]		Estimate of Relative risk relating paternal smoking to childhood leukemia[2]	OR (95% CI)	% Bias	Estimate of Relative risk relating paternal smoking to childhood leukemia[2]	OR (95% CI)	% Bias
Pesticide							
Exposed	Non-exposed						
Before pregnancy							
			Adjusted[3] 1.38 (1.25, 1.55)			Adjusted[4] 1.49, (1.02, 2.16)	
			Crude 1.35 (1.22, 1.49)			Crude 1.34 (0.98, 1.84)	
			External adjusted[5,6]			External adjusted[5,6]	
0.65	0.55	1.1	1.34 (1.21, 1.48)	1	1.5	1.29 (0.94, 1.77)	4
0.70	0.50	1.1	1.33 (1.20, 1.47)	2	1.5	1.24 (0.91, 1.70)	8
0.75	0.45	1.1	1.31 (1.19, 1.45)	3	1.5	1.20, (0.88, 1.64)	12
0.65	0.55	1.15	1.33 (1.20,1.47)	1	2	1.26 (0.92, 1.72)	6
0.70	0.50	1.15	1.32(1.20, 1.46)	3	2	1.19 (0.87, 1.63)	13
0.75	0.45	1.15	1.30 (1.18, 1.44)	4	2	1.11 (0.81, 1.52)	21
0.65	0.55	1.2	1.33 (1.20, 1.47)	2	2.5	1.24 (0.91, 1.70)	8
0.70	0.50	1.2	1.30 (1.18. 1.44)	4	2.5	1.15 (0.84, 1.57)	17
0.75	0.45	1.2	1.28 (1.16, 1.41)	6	2.5	1.06 (0.77, 1.45)	27
During pregnancy							
			Adjusted[1] 1.43 (1.32, 1.54)			Adjusted[2] 1.55 (1.21, 1.99)	
			Crude 1.50 (1.40, 1.62)			Crude 1.48 (1.18, 1.84)	
			External adjusted[5,6]			External adjusted[5,6]	
0.65	0.55	1.1	1.49 (1.38, 1.60)	1	1.5	1.40 (1.13, 1.74)	6
0.70	0.50	1.1	1.47 (1.37, 1.58)	2	1.5	1.32 (1.06, 1.64)	11
0.75	0.45	1.1	1.46 (1.36, 1.57)	3	1.5	1.25 (1.01, 1.54)	18
0.65	0.55	1.15	1.48 (1.38, 1.59)	1	2	1.36 (1.10, 1.69)	8
0.70	0.50	1.15	1.46 (1.36, 1.57)	3	2	1.30 (1.05, 1.61)	13
0.75	0.45	1.15	1.44 (1.34, 1.55)	4	2	1.22 (0.99, 1.51)	21
0.65	0.55	1.2	1.47 (1.37, 1.58)	2	2.5	1.39 (1.15, 1.72)	6

		ALL			AML		
Estimates of prevalence of paternal smoking[1]		Estimate of Relative risk relating paternal smoking to childhood leukemia[2]	OR (95% CI)	% Bias	Estimate of Relative risk relating paternal smoking to childhood leukemia[2]	OR (95% CI)	% Bias
0.70	0.50	1.2	1.45 (1.35, 1.56)	4	2.5	1.26 (1.02, 1.56)	17
0.75	0.45	1.2	1.42 (1.32, 1.53)	6	2.5	1.16 (0.94, 1.43)	27
After birth							
			Adjusted[3] 1.36 (1.23, 1.51)			Adjusted[4] 1.08 (0.76, 1.53)	
			Crude 1.36 (1.24, 1.50)			Crude 1.05 (0.77, 1.44)	
			External adjusted[5,6]			External adjusted[5,6]	
0.65	0.55	1.1	1.35 (1.22, 1.49)	1	1.5	1.00 (0.81, 1.24))	6
0.70	0.50	1.1	1.34 (1.22, 1.48)	2	1.5	0.94 (0.76, 1.17)	11
0.75	0.45	1.1	1.33 (1.21, 1.47)	3	1.5	0.89 (0.72, 1.10)	18
0.65	0.55	1.15	1.34 (1.22, 1.48)	1	2	0.99 (0.80, 1.23)	6
0.70	0.50	1.15	1.33 (1.21, 1.47)	3	2	0.93 (0.75, 1.15)	13
0.75	0.45	1.15	1.31 (1.19, 1.44)	4	2	0.87 (0.93, 1.15)	21
0.65	0.55	1.2	1.34 (1.22, 1.48)	2	2.5	0.97 (0.78, 1.20)	8
0.70	0.50	1.2	1.32 (1.20, 1.45)	4	2.5	0.90 (0.73, 1.12)	17
0.75	0.45	1.2	1.29 (1.17, 1.42)	6	2.5	0.83 (0.67, 1.02)	27

[1] Based on paternal smoking data in a sample of CLIC studies

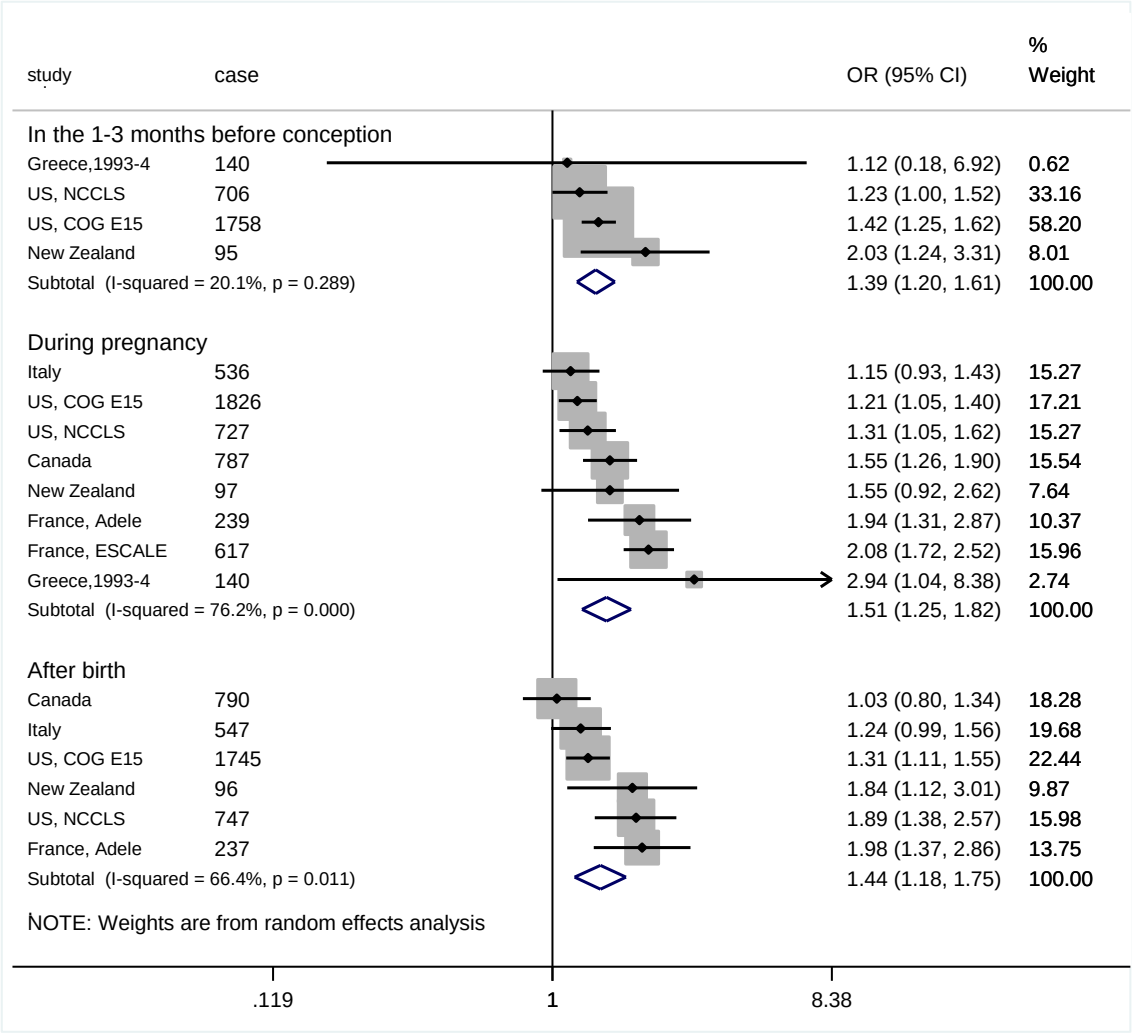
[2] Based on published estimates

[3] Adjusted for age, sex, birth year group, study, ethnicity and highest level of education of either parent.

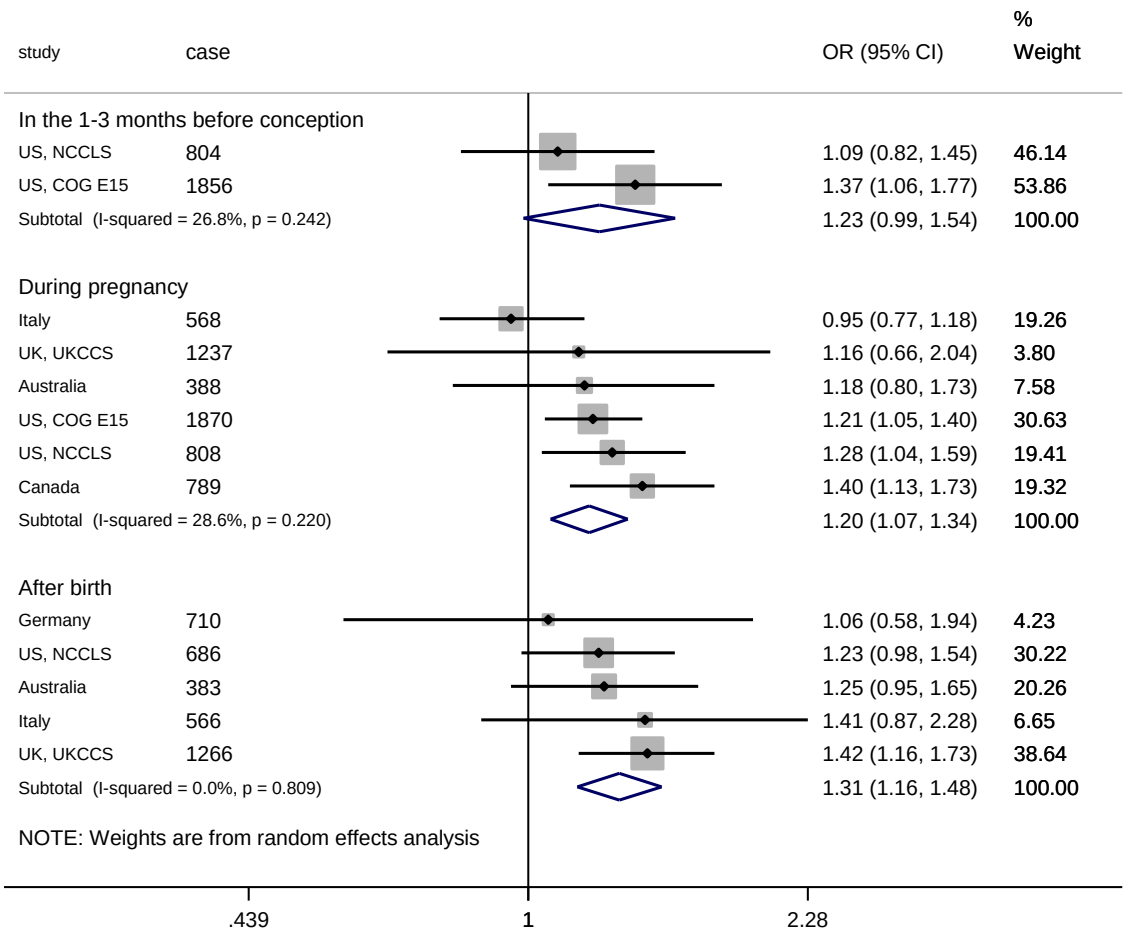
[4] Adjusted for age, sex, birth year group, study, ethnicity, birth order and highest level of education of either parent.

[5] OR Calculated using the Episensi procedure in Stata command (Orsini N, Bellocco R, Bottai M, et al 2008)

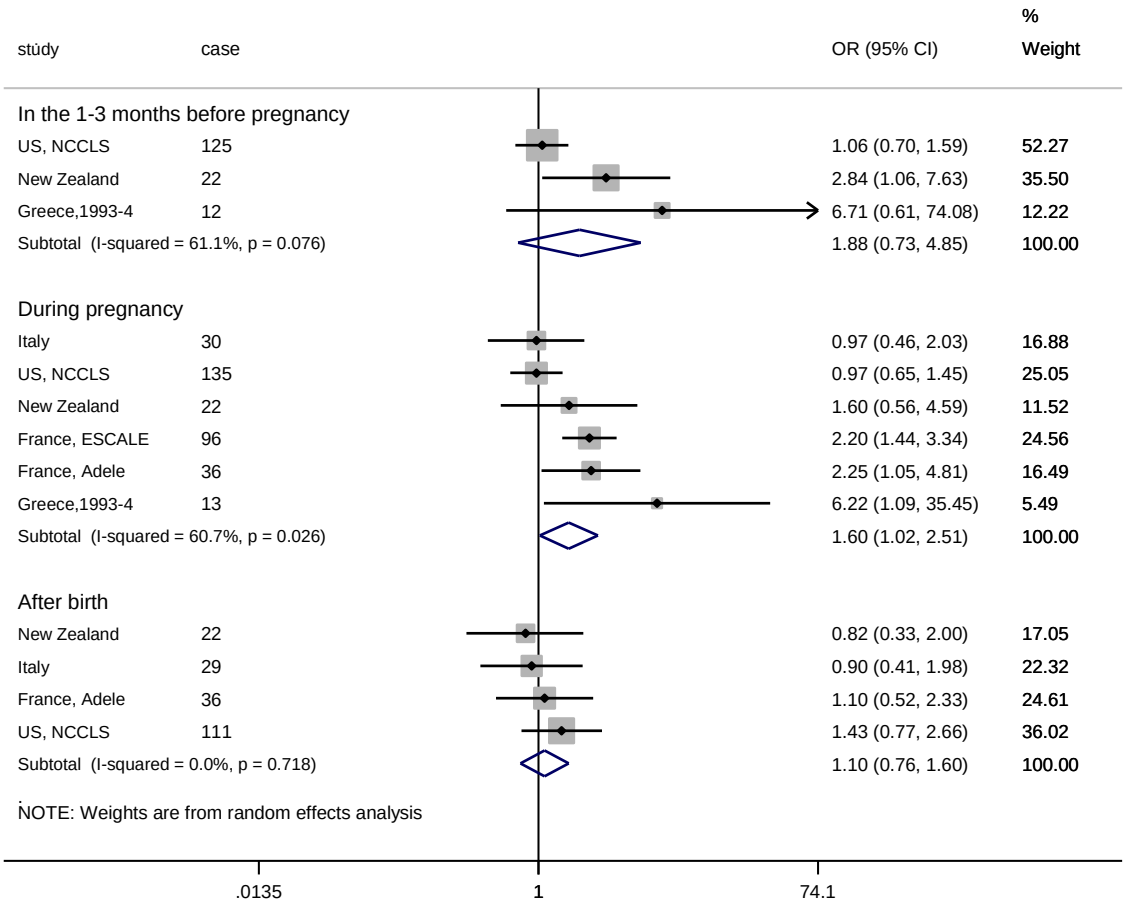
[6] 95% CI calculated using the following formula: 1.96* Standard error of crude ln(OR).



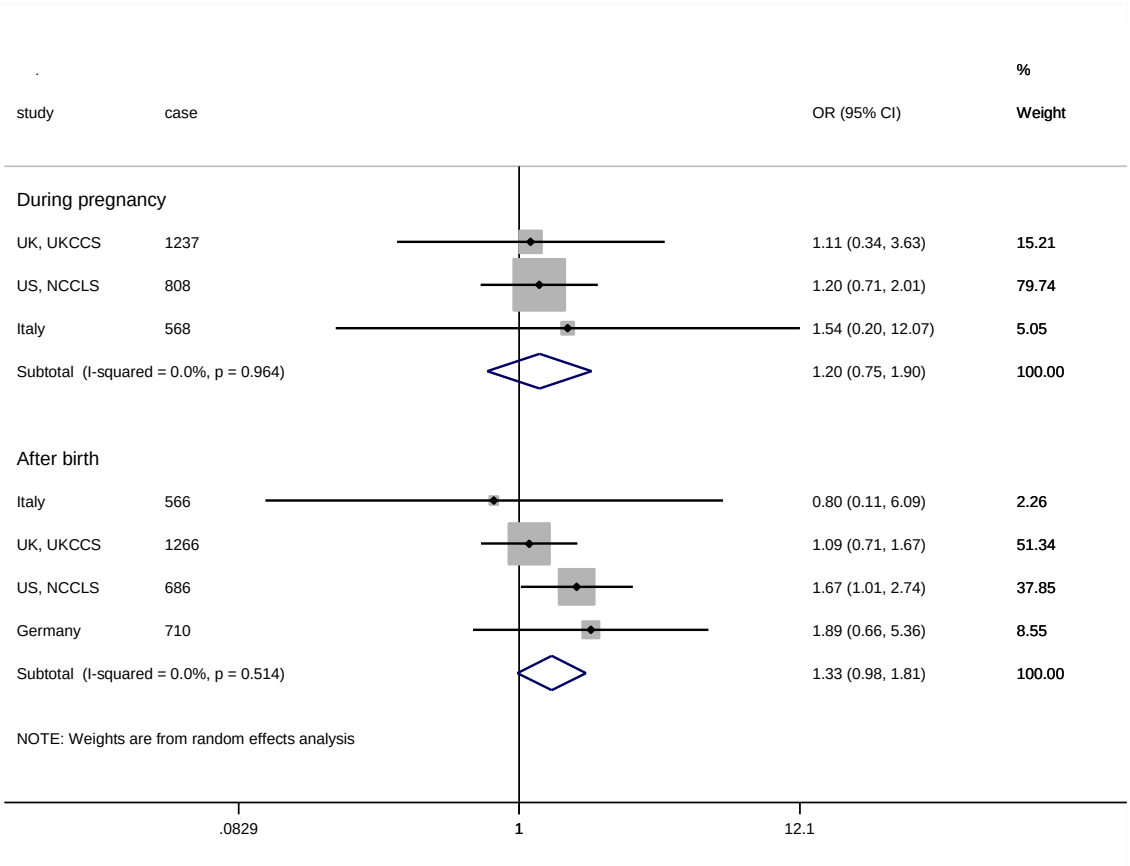
Supplementary Figure 1: Forest plot showing individual and summary odds ratios for home pesticide exposures and the risk of childhood ALL, using random effects models.



Supplementary Figure 2: Forest plot showing individual and summary odds ratios for home professional pest control treatments and the risk of childhood ALL, using random effects models.



Supplementary Figure 3: Forest plot showing individual and summary odds ratios for home pesticide exposures and the risk of childhood AML, using random effects models.



Supplementary Figure 4: Forest plot showing individual and summary odds ratios for home professional pest control treatments and the risk of childhood AML, using random effects models.