No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
1	Hammond,	American Cancer	Cohort,	1955	187783/	Never-smoker	60	Referent	Age
	1958 ³⁸	Society cohort; USA, 1952	mortality	(NR)	185	Ever	77	1.57 (1.39-2.17)	
2	Hammond	Cancer Prevention	Cohort	1963	440558/	Never-smoker	152	Referent	Age:
_	1066 39	Study I: USA, 1959-	mortality	(NR)	343	Ever	191	1.13 (0.74-1.52)	Adjusted RRs but no 95% CIs (we calculated 95%
	1900	1960	,						CIs)
3	Severson,	Men of Japanese	Cohort,	1986	8006/	Never-smoker	63	Referent	Age
	1989 42	ancestry in Hawaii;	incidence	(NR)	174	Ever	111	0.88 (0.65-1.11)	
	1909	USA, 1965-1968				Current	65	0.87 (0.61-1.23)	
4	Thompson,	Rancho Bernardo,	Cohort,	1987	1776/54	Not-smoker	43	Referent	Age, whole milk and egg intake, BMI, diabetes,
	1989 44	California; USA,	incidence	(NR)	,	Smoker	11	1.3 (0.70-2.5)	heart disease, cholesterol;
	1707	1972-1974						, , , , , , , , , , , , , , , , , , ,	Prevalent cases were also reported. Only incident
									cases were considered for this analysis. 90% CIs
									were reported for the associations; we converted
									them to 95% CIs
5	Mills, 1989,	Adventist Health	Cohort,	1982	35000/	Never-smoker	90	Referent	Age
	1992 43,106	Study; USA, 1976	incidence	(NR)	172	Ever	82	1.07 (0.74-1.41)	
	1772			```		Current	3	0.49 (0.16-1.57)	
6	Akiba, 1990	Six-Prefecture	Cohort,	1981	122261/	Never-smoker	39	Referent	Age, observation period, prefecture of residence,
	45	Cohort Study; Japan,	mortality	(16)	147	Current	108	1.1 (0.7-1.5)	occupation
		1965	5	· · /		1-4 Cig/day	8	3.1 (1.4-6.4)	
						5-14	50	1.0 (0.7-1.6)	
						15-24	42	0.9 (0.6-1.4)	
						25-34	3	0.8 (0.2-2.1)	
						35+	5	3.0 (1.0-7.1)	
7	Hsing, 1990	Lutheran	Cohort,	1986	17633/	Never-smoker	52	Referent	Age
	46	Brotherhood	mortality	(20)	137	Ever	91	1.8 (1.1-2.9)	
		Cohort; USA, 1966	-			Current	26	1.6 (1.0-2.6)	
						1-19 Cig/day	12	1.6 (0.8-3.3)	
						20-29	11	1.7 (0.8-3.5)	
						30+	3	1.4 (0.4-4.4)	
8	Hsing, 1991	US veterans; USA,	Cohort,	1980	248046/	Never-smoker	1075	Referent	Age
	47	1954-1957	mortality	(NR)	4607	Ever	1864	1.16 (1.10-1.22)	
						Current	1047	1.18 (1.09-1.28)	
						1-9 Cig/day	260	1.11 (0.97-1.28)	

Supplementary Table 1a – Characteristics of the 48 studies included in the meta-analysis

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
						10-20	695	1.15 (1.05-1.27)	
						21-39	374	1.23 (1.09-1.38)	
						40+	78	1.51 (1.20-1.90)	
9	Tverdal,	Norway, five areas;	Cohort,	1988	44290/	Never-smoker	4	Referent	Age
	$1993 \frac{48}{1}$	Norway, 1972-1978	mortality	(13.3)	32	Ever	23	1.85 (0.71-7.78)	
						Current	15	1.92 (0.61-7.96)	
						1-9 Cig/day	7	3.95 (1.01-18.42)	
						10-19	5	1.18 (0.25-5.93)	
						20+	3	1.69 (0.25-10.00)	
10	Hiatt, 1994	Kaiser Permanente	Cohort,	1985	43432/	Never-smoker	79	Referent	Age, race, education, alcohol intake;
	49	Medical Care	incidence	(NR)	238	Ever	143	1.1 (0.9-1.4)	Retrospective cohort using insurance records
		Program; USA,				Current	49	1.2 (0.8-1.6)	
		1978-1985				1-19 Cig/day	24	1.0 (0.6-1.6)	
						20+	25	1.9 (1.2-3.1)	
11	Le	Hawaii State	Cohort,	1989	20316/	Non-smoker	NR	Referent	Age, ethnicity, income;
	Marchand,	Department of	incidence	(NR)	198	Ever	NR	1.0 (0.7-1.2)	Results were reported by quartiles. The
	1994^{50}	Health cohort; USA,				1-10 Cig/day	NR	0.9 (0.6-1.4)	interquartile range for cigarettes/day and pack-yrs.
		1975-1980				11-20	NR	1.0 (0.7-1.6)	were reported as 0-20 and 0-44, respectively. We
						21+	NR	1.0 (0.6-1.6)	considered following categories: 0, 1-10, 11-20,
						Cumulative use			and ≥ 20 cigarettes/day and 0, 1-22, 23-44, and
						1-22 pk-yr	NR	0.9 (0.5-1.5)	\geq 45 pack-yrs.
						23-44	NR	0.7 (0.4-1.2)	
						45+	NR	1.2 (0.8-1.8)	
12	Adami, 1996	Swedish	Cohort,	1991	135006/	Never-smoker	682	Referent	Age;
	53	Construction	incidence	(18)	2368	Ever	1686	1.10 (1.02-1.18)	
		workers; Sweden,				Duration			
		1971-1975				1-10 years	19	0.58 (0.43-1.07)	
						11-20	92	1.27 (1.02-1.58)	
						21-30	255	1.09 (0.94-1.26)	
						31-40	454	1.13 (1.01-1.28)	
						41+	228	1.07 (0.92-1.25)	
						Current	1069	1.11 (1.01-1.23)	
						Non-smoker	1348	Referent	
						1-4 Cig/day	282	1.06 (0.93-1.20)	
						5-14	459	1.10 (0.99-1.22)	
						15-24	239	1.14 (0.99-1.31)	
						25+	38	1.00 (0.72-1.38)	

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
			Cohort,	1991	135006/	Never-smoker	198	Referent	Same as above
			mortality	(18)	709	Ever	511	1.16 (0.99-1.32)	
			2	、 <i>/</i>		Current	343	1.26 (1.06-1.50)	
						1-4 Cig/day	80	0.99 (0.78-1.26)	
						5-14	141	1.13 (0.93-1.37)	
						15+	76	1.05 (0.82-1.35)	
						Duration			
						1-20 years	42	1.41 (0.99-1.99)	
						21-30	75	1.28 (0.98-1.67)	
						31-40	134	1.19 (0.96-1.48)	
						41+	85	1.28 (0.99-1.65)	
13	Coughlin,	Multiple Risk Factor	Cohort,	1990	348874/	Non-smoker	514	Referent	Age;
	1996 54	Intervention Trial;	mortality	(16)	826	Current	312	1.31 (1.13-1.52)	Adjusted RRs but no 95% CIs (we calculated 95%
		USA, 1973-1975				1-15 Cig/day	79	1.54 (1.08-2.20)	CIs)
						16-25	102	1.27 (0.92-1.75)	
						26-35	58	1.23 (0.89-1.69)	
						36-45	57	1.50 (0.99-2.26)	
						46+	16	1.22 (0.58-2.58)	
14	Engeland,	Migrant Study,	Cohort,	1993	11863/	Never-smoker	139	Referent	Age
	1996 55	Norway; Norway,	incidence	(NR)	707	Ever	568	1.0 (0.9-1.3)	
		1964-1965				Current	451	1.1 (0.9-1.3)	
15	Cerhan, 1997	Iowa 65+ Rural	Cohort,	1993	1050/71	Never-smoker	26	Referent	Age
	56	Health Study; USA,	incidence	(NR)		Ever	45	1.4 (0.7-2.0)	
		1981-1982				Current	15	2.2 (1.1-4.4)	
						1-19 Cig/day	6	1.8 (0.7-4.4)	
						20+	9	2.7 (1.2-6.0)	
						Cumulative use			
						1-30 pk-yr	14	1.3 (0.7-2.5)	
						31-55	12	1.3 (0.7-2.7)	
						56+	16	2.0 (1.1-3.8)	
16	Rodriguez,	Cancer Prevention	Cohort,	1991 (9)	450279/	Never-smoker	485	Referent	Age, race, education, alcohol intake, vegetable and
	1997 57	Study II; USA, 1982	mortality		1748	Ever	897	1.09 (0.98-1.19)	fat meat intakes, family history of prostate cancer,
						Current	339	1.34 (1.16-1.56)	vasectomy, exercise, BMI
						1-9 Cig/day	42	1.33 (0.96-1.83)	
						10-19	74	1.58 (1.23-2.03)	
						20-20	108	1.38 (1.10-1.71)	
						21+	107	1.25 (1.00-1.57)	

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
						Duration			
						1-25 years	13	1.36 (0.77-2.38)	
						26-35	43	1.65 (1.17-2.34)	
						36-45	118	1.39 (1.11-1.75)	
						46+	155	1.26 (1.04-1.53)	
17	Veierod,	Norwegian health	Cohort,	1992	24051/	Never-smoker	24	Referent	Age
	1997 ⁵⁹	screening; Norway,	incidence	(12.4)	72	Ever	45	0.6 (0.3-0.8)	
		1977-1983				Current	25	0.5 (0.2-0.8)	
						1-10 Cig/day	11	0.5 (0.3-1.1)	
						11+	14	0.6 (0.3-1.2)	
18	Giovannucci,	Health Professionals	Cohort,	1994	47781/	Never-smoker	38	Referent	Age, quintiles of intakes of calcium, total fat,
	1999 ⁶⁰	Follow-up Study;	mortality	(NR)	103	Ever	65	1.18 (0.76-1.57)	vitamin E and lycopene, BMI at age 21
		USA, 1986	-	. ,		Current	26	1.58 (0.81-3.10)	
						Cumulative use ^c			
						1-9 pk-yr	5	1.25 (0.50-3.10)	
						10-14	10	1.76 (0.91-3.42)	
						15+	11	2.06 (1.08-3.90)	
19	Heikkila,	Mobile Clinic Health	Nested	1991	16481/	Non-smoker	114	Referent	None
	1999 61	Examination Survey;	CCS,	(NR)	166 (300)	Current	52	1.31 (0.87-1.95) ^d	
	1777	Finland, 1966-1972	incidence	× ,	~ /				
20	Parker, 1999	Iowa farming; USA,	Cohort,	1995	1177/81	Never-smoker	23	Referent	Age;
	62	1986-1989	incidence	(NR)		Ever	55	1.4 (0.8-2.0)	Retrospective cohort
						Current	41	1.8 (0.6-2.9)	
						1-19 Cig/day	25	1.7 (0.8-3.8)	
						20+	16	1.9 (0.8-4.5)	
21	Will, 1999 ⁶³	Cancer Prevention	Cohort,	1972	305065/	Non-smoker	1267	Referent	Age
	,	Study I; USA, 1959-	incidence	(NR)	2523	Current	1256	1.00 (0.92-1.08)	
		1960							
22	Lotufo, 2000	Physicians' Health	Cohort,	NR	21985/	Never-smoker	443	Referent	Age, alcohol intake, aspirin assignment, beta-
	64	Study; USA, 1982	incidence	(12.5)	996	Ever	553	1.10 (0.97-1.28)	carotene assignment, physical activity, height, BMI
						Current	96	1.06 (0.83-1.29)	
						1-19 Cig/day	35	1.04 (0.73-1.48)	
						20+	61	1.07 (0.82-1.41)	
						Cumulative use		, , ,	
						<20 pk-vr	236	1.22 (1.04-1.43)	
						20-39	129	0.98 (0.81-1.19)	
						40+	126	1.14 (0.93-1.40)	

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
			Cohort,	NR	20375/	Never-smoker	45	Referent	Same as above
			mortality	(12.5)	113	Ever	68	1.28 (0.82-1.74)	
			_			Current	11	1.23 (0.63-2.41)	
						1-19 Cig/day	4	1.25 (0.45-3.49)	
						20+	7	1.22 (0.54-2.74)	
						Cumulative use			
						0.25-19 pk-yr	25	1.35 (0.82-2.23)	
						20-39	16	1.14 (0.64-2.05)	
						40+	12	0.91 (0.47-1.75)	
23	Lund-Nilsen,	Nord-Trøndelag;	Cohort,	1996	22895/	Never-smoker	222	Referent	Age
	2000 ⁶⁵	Norway, 1984-1986	incidence	(9.3)	644	Ever	336	0.97 (0.83-1.12)	
		-				Current	153	0.96 (0.78-1.19)	
						1-8 Cig/day	73	0.84 (0.64-1.10)	
						9-10	67	1.05 (0.79-1.39)	
						11-15	51	1.37 (1.00-1.88)	
						16+	45	1.27 (0.91-1.76)	
						Cumulative use			
						1-10 pk-yr	50	0.95 (0.70-1.30)	
						11-17	34	0.84 (0.58-1.21)	
						18-25	58	1.24 (0.92-1.67)	
						26+	73	1.22 (0.93-1.60)	
24	Nomura,	Honolulu Heart	Nested	1995	9413/	Never-smoker	87	Referent	Age
	2000 66	Program; USA,	CCS,	(NR)	249 (249)	Ever	238	1.2 (0.9-1.6)	
		1971-1977	incidence			Current	76	1.3 (0.8-2.0)	
						(cumulative use)			
						1-30 pk-yr	20	1.4 (0.7-2.9)	
						31+	56	1.2 (0.8-2.0)	
25	Visvanathan,	Campaign against	Nested	1996	10178/	Never-smoker	63	Referent	Age;
	2004 67	Cancer and Stroke	CCS,	(NR)	164 (324)	Ever	101	0.99 (0.63-1.36)	Of 10457 men included in the study, 279 men with
		(CLUE II); USA,	incidence			Current	14	0.82 (0.39-1.71)	cancer (other than non-melanoma skin cancer) at
		1989							baseline were excluded
26	Eichholzer,	Basel cohort study;	Cohort,	1990	2974/30	Non-smoker	16	Referent	None
	2005 08	Switzerland, 1971-	mortality	(NR)		Current	14	$1.16 \ (0.56-2.38)^{d}$	
		1973							
27	Hultdin,	Northern Sweden	Nested	NR	37776/	Never-smoker	115	Referent	None
	2005 69	Health and Disease	CCS,	(4.9)	254 (514)	Ever	124	$1.08 (0.79-1.48)^d$	
		Cohort; Sweden,	incidence			Current	45	0.93 (0.61-1.41) ^d	

No.	First author,	Study name (or description);	Study design,	Last FU	Total no.	Smoking category*	No. cases*	RR (95% CI)*	Variables the results were adjusted for; Other comments
	publication year	country, recruitment period	outcome	(FU ^a , yrs.)	men/ cases ^b				
		1985-1999							
28	Baglietto, 2006 ⁷⁰	Melbourne Collaborative Cohort Study; Australia, 1990-1994	Cohort, incidence	2003 (10.3)	16872/ 732	Never-smoker Ever Current	291 430 76	Referent 0.94 (0.81-1.07) ^d 0.73 (0.56-0.94) ^d	None
29	Giovannucci, 2007 ⁷¹	Health Professionals Follow-up Study; USA, 1986	Cohort, incidence	2002 (NR)	47750/ 3544	Never Current/former (quit ≤10yr)	NR NR	Referent 0.98 (0.89-1.07)	Age, time period, race, family history of prostate cancer, diabetes, intakes of total calories, processed meat, fish, α -linolenic acid, tomato sauce and vitamin E supplements, physical activity, height, BMI at age 21
			Cohort, mortality	2002 (NR)	47750/ 312	Never-smoker Current/former (quit ≤10yr)	NR NR	Referent 1.41 (1.04-1.91)	Same as above
30	Gonzalez, 2007 ¹¹	Vitamins and Lifestyle (VITAL); USA, 2000-2002	Cohort, incidence	2004 (3.3)	35244/ 832	Never-smoker Ever Current	303 516 62	Referent 0.92 (0.70-1.20) 0.94 (0.82-1.05)	Age
31	Huxley, 2007 12	Asia Pacific Cohort Studies Collaboration; Australia, New Zealand, 1966-1999	Cohort, mortality	NR (6.8)	54353/ 265	Never-smoker Current Increment of 5 Cig/day	NR 53 265	Referent 1.67 (1.12-2.45) 1.12 (1.03-1.22)	Age, diabetes, BMI; The median FU was the median of FU for individual studies, which varied from 2.5 to 24.7 years.
		Asia, 1961-1998	Cohort, mortality	NR (6.8)	266499/ 43	Never-smoker Current Increment of 5 Cig/day	NR 26 43	Referent 0.57 (0.24-1.32) 0.77 (0.56-1.05)	Same as above The Asian territories included China, Hong Kong, Japan, Singapore, South Korea, Taiwan
32	Ozasa, 2007 13	Japan Collaborative Cohort Study (JACC), 1988-1990	Cohort, mortality	2003 (12.5)	46178/ 150	Never-smoker Ever Current <15 Cig/day 15-24 25+ Duration <25 years 25-39 40+ Cumulative use	26 124 76 17 47 12 1 12 58	Referent 1.18 (0.79-1.57) 1.35 (0.88-2.09) 1.06 (0.58-1.94) 1.59 (0.99-2.55) 1.56 (0.78-3.13) 0.83 (0.10-6.42) 1.10 (0.52-2.30) 1.45 (0.92-2.27)	Age, area of study

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
						<20 pk-yr	4	0.71 (0.25-2.04)	
						20-39	33	1.58 (0.95-2.62)	
						40-59	27	1.41 (0.83-2.40)	
						60+	7	1.32 (0.57-3.05)	
33	Park. 2007 14	Multiethnic Cohort	Cohort,	2002 (8)	82483/	Never-smoker	1326	Referent	None
	,	Study; USA, 1993-	incidence		4404	Ever	3073	0.99 (0.93-1.06) ^d	
		1996				Current	673	$0.84 (0.76 - 0.92)^{d}$	
						1-9 Cig/day	264	1.07 (0.93-1.23) ^d	
						10-19	277	$0.89(0.78-1.02)^{d}$	
						20+	132	$0.54 (0.45 - 0.65)^{d}$	
34	Rohrmann,	Private census	Cohort,	1978	26810/	Never-smoker	34	Referent	Age
	2007 72	Washington County,	incidence	(NR)	147	Ever	88	1.16 (0.84-1.60)	
	_007	Maryland; USA,		. ,		Current	45	1.00 (0.63-1.59)	
		1963				1-9 Cig/day	5	0.52 (0.20-1.33)	
						10-19	23	1.03 (0.60-1.79)	
						20+	17	1.38 (0.75-2.54)	
			Cohort,	2000	226810/	Never-smoker	56	Referent	Same as above
			mortality	(NR)	240	Ever	161	0.97 (0.76-1.23)	
			2	· · /		Current	104	0.93 (0.67-1.29)	
						1-9 Cig/day	21	1.11 (0.67-1.84)	
						10-19	49	0.85 (0.57-1.25)	
						20+	34	0.95 (0.62-1.47)	
		USA, 1975	Cohort,	1994	28292/	Never-smoker	94	Referent	Same as above
			incidence	(NR)	351	Ever	213	1.01 (0.83-1.24)	
						Current	85	0.98 (0.73-1.33)	
						1-9 Cig/day	10	1.12 (0.58-2.15)	
						10-19	49	0.95 (0.67-1.35)	
						20+	26	1.01 (0.65-1.57)	
			Cohort,	2000	28292/	Never-smoker	44	Referent	Same as above
			mortality	(NR)	184	Ever	120	1.13 (0.85-1.49)	
						Current	59	1.25 (0.84-1.87)	
						1-9 Cig/day	5	1.12 (0.44-2.82)	
						10-19	31	1.11 (0.70-1.77)	
						20+	23	1.58 (0.94-2.64)	
35	Smit, 2007	Puerto Rico Heart	Cohort,	2005	9777/167	Never-smoker	51	Referent	None
	15	Health Program,	mortality	(NR)		Ever	116	1.16 (0.82-1.65) ^d	
		Puerto Rico, 1965-				Current	43	1.26 (0.82-1.94) ^d	

No.	First author,	Study name (or description);	Study design,	Last FU	Total no.	Smoking category*	No. cases*	RR (95% CI)*	Variables the results were adjusted for; Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	ycai	1968		y15.)	cases				
36	Butler, 2009 17	Singapore Chinese Health Study; Singapore, 1993- 1998	Cohort, incidence	2006 (10.4)	27293/ 250	Never-smoker Ever 1-12 Cig/day 13-22 23+ Duration 1-19 years 20-39 40+ Current	108 142 59 57 26 23 52 67 73	Referent 0.95 (0.74-1.16) 1.08 (0.79-1.49) 0.99 (0.71-1.37) 0.71 (0.46-1.10) 1.19 (0.76-1.87) 0.83 (0.59-1.15) 1.02 (0.74-1.41) 0.88 (0.65-1.19)	Age, interview year, dialect group, education, intake of vitamin D and black tea; Because of adjustment for dialect group, this article was considered as adjusted for race/ethnicity
37	Watters, 2009 ¹⁸	NIH-AARP; USA, 1995-1996	Cohort, incidence	2003 (NR)	283312/ 16640	Never-smoker Ever Current <21 Cig/day 21+	5512 11128 1446 931 515	Referent 0.89 (0.86-0.91) 0.85 (0.80-0.90) 0.91 (0.84-0.97) 0.75 (0.69-0.83)	Age, race, education, marital status, vigorous physical activity, family history of prostate cancer, diabetes, health disease, total energy, quintiles of intake of α -tocopherol, calcium, red meat, fish, tomato, α -linolenic acid, and selenium, height, BMI, digital rectal examination, PSA
			mortality	2005 (NR)	283312/ 394	Never-smoker Ever Current 1-20 Cig/day 21+	105 289 64 39 25	Referent 1.13 (0.93-1.34) 1.69 (1.25-2.27) 1.79 (1.27-2.52) 1.54 (1.01-2.34)	Same as above
38	Batty, 2011 19	Whitehall I study; UK, 1967-1970	Cohort, mortality	2007 (NR)	17934/ 551	Never-smoker Ever Current	123 428 203	Referent 1.03 (0.88-1.21) 1.14 (0.91-1.44)	Age, marital status, SES, physical activity, height, BMI, BP, FEV1, cholesterol, diabetes/ blood glucose
39	Grundmark, 2011 ²⁰	Uppsala Longitudinal Study of Adult Men (ULSAM); Sweden, 1970-1974	Cohort, incidence	2003 (26.5)	2045/ 208	Never-smoker Ever Current	69 139 86	Referent 0.67 (0.50-0.83) 0.60 (0.44-0.83)	None
40	Geybels, 2012 ²¹	Netherlands Cohort Study; Netherlands, 1986	Cohort, incidence	2003 (17.3)	58279/ 3451	Never Ever Current	492 2957 1084	Referent 1.01 (0.88-1.13) 0.98 (0.82-1.18)	Age, duration of smoking (smoking years), frequency of smoking (Cig/day)
41	Karlsen,	Danish Diet, Cancer	Cohort,	2000-	20914/	Non-smoker	81	Referent	None;

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ª,	men/				
	year	recruitment period		yrs.)	cases ^b				
	2012 22	and Health Study;	incidence	2002	129	Current	48	1.00 (0.70-1.43) ^d	Repeated data on tobacco use were also collected
		Denmark, 1993-1997		(NR)		1-10 gr/day	13	1.28 (0.71-2.30) ^d	in follow-ups. Here only data collected in the
						11-20	22	1.06 (0.66-1.69) ^d	baseline are considered
						21+	13	0.81 (0.45-1.45) ^d	
42	Karppi, 2012	Kuopio Ischaemic	Cohort,	2008	997/68	Non-smoker	57	Referent	None;
	23	Heart Disease Risk	incidence	(15)		Smoker	11	0.85 (0.76-0.95) ^d	Smoking defined as smoking within last 30 days;
		Factor; Finland,							Another article from the this study reported RR
		1984-1989							(95% CI) of 0.94 (0.82-1.09) per 10 pack-years,
									adjusted for age, BMI, physical fitness, and intake
									of alcohol, fat, fiber, and energy ¹⁰⁷
43	Shafique,	Collaborative study;	Cohort,	2007	6017/	Never	68	Referent	Age, social class, alcohol intake, tea intake, BP,
	2012 ²⁴	Scotland, 1970-1972	incidence	(28)	318	Ever	250	1.08 (0.84-1.32)	BMI, cholesterol
						Current	136	0.93 (0.69-1.26)	
44	Tseng, 2012	Taiwan Insurance;	Cohort,	2006	39135/	Non-smoker	41	Referent	Age, area of residence, BMI, diabetes type,
	25	Taiwan, 1995-1998	mortality	(NR)	105	Smoker	64	1.09 (0.82-1.46)	diabetes duration, insulin use;
									Retrospective cohort using a national insurance
									program's records
45	Bae, 2013 ²⁶	Seoul Male Cancer	Cohort,	2008	14450/87	Never-smoker	29	Referent	Age
	·	Cohort Study; South	incidence	(NR)		Ever	57	0.65 (0.40-0.90)	
		Korea, 1991-1992				1-10 Cig/day	1	1.16 (0.02-1.20)	
						11-20	10	0.82 (0.40-1.66)	
						21-30	20	0.56 (0.32-0.99)	
						31+	22	0.63 (0.36-1.08)	
						Duration			
						1-10 years	6	0.65 (0.27-1.57)	
						11-20	16	0.55 (0.30-1.01)	
						21-30	30	0.89 (0.54-1.48)	
						31+	5	0.53 (0.21-1.37)	
						Cumulative use			
						1-10 pk-yr	8	0.53 (0.24-1.14)	
						11-15	4	0.41 (0.14-1.14)	
						16-20	12	1.08 (0.56-2.09)	
						21-34	21	0.75 (0.43-1.29)	
						35+	8	0.55 (0.25-1.19)	
						Current	38	0.70 (0.43-1.13)	
46	Heikkila,	IPD-Work	Cohort,	2008	116056/	Non-Smoker	706	Referent	None;
		Consortium; Europe,	incidence	(12)	865	Current	159	0.70 (0.59-0.84) ^d	A pooled analysis of 12 independent studies in

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year 27	1085 2002		yrs.)	cases ⁵				Finland Erange the Notherlands Sweden
	2013	1963-2002							Denmark IIK Partial overlap with Lemonge et al
									2013 (GAZEL study) from which 252 prostate
									cancer cases were included in this pooled analysis.
									Last follow-ups in participating studies were
									generally after 1995
47	Koutros,	Prostate, Lung,	Nested	2009	28243/	Never-smoker	247	Referent	None
	2013 28	Colorectal and	CCS,	(3.4)	680 (824)	Ever	46	$0.70 \ (0.58-0.84)^{d}$	
		Ovarian Cancer	incidence			Current	381	$0.50 (0.36 - 0.69)^{d}$	
		Screening I rial							
		(PLCO); USA, 1995- 2001							
48	Lemogne,	GAZEL study;	Cohort,	2009	8877/	Never-smoker	NR	Referent	Age, occupation, alcohol intake, fruit and vegetable
	2013 29	France, 1989	incidence	(15.2)	412	Ever	NR	0.86 (0.73-1.00)	intake, BMI;
						Current	NR	0.70 (0.52-0.88)	Partial overlap with Heikkila et al 2013 (IPD-Work
						1-19 pk-yr	NR	0.76 (0.55-1.05)	Consortium)
40	0.1.1.0012		<u>C</u> 1.	2011	22022/	20+	NR	0.64 (0.44-0.95)	
49	$\begin{array}{c} \text{Onitilo, } 2013\\ 30 \end{array}$	Marshfield Clinic;	Cohort,	2011 (NIP)	33832/	Before DIVI onset	ND	Deferent	Date of birth, study time period, residence in the
		0.511, 1995-2009	incluence	(\mathbf{INIX})	5452	Ever	NR	0.92 (0.85 1.18)	comorbidities. We considered the results as
						After DM onset	1,11	0.02 (0.03 1.10)	adjusted for age as they were adjusted for both
						Never-smoker	NR	Referent	data of birth and study time period;
						Ever	NR	0.83 (0.74-0.94)	Retrospective cohort using medical records. In the
									article, ever-use was the reference group. In order
									to make these results consistent with results of
50	D - 1	E	Calcart	2000	145110/	Numero and alla	1547	Defenset	other studies, we changed the reference category
50	Konrmann,	Prospective	incidence	2009	145112/	INEVER-SMOKER	104/	Acterent	Age, study center, education, marital status, height,
	2013	Investigation into	menterice	(11.7)	1025	Current	1080	0.90 (0.83-0.97)	Conducted in Denmark France Germany UK
		Cancer and				1-14 Cig/dav	420	0.97 (0.87-1.08)	Greece, Italy, Spain, Norway, The Netherlands
		Nutrition (EPIC);				15-24	365	0.90 (0.80-1.01)	Sweden
		Europe, 1992-2000				25+	131	0.87 (0.73-1.05)	
		*				Duration			
						<10 years	10	0.78 (0.42-1.46)	
						10-19	24	0.91 (0.60-1.37)	
						20-29	94	0.87 (0.70-1.09)	
						30-39	401	0.90 (0.80-1.01)	

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
						40+	526	0.92 (0.82-1.02)	
			Cohort,	2009	145112/	Never-smoker	128	Referent	Same as above
			mortality	(11.9)	432	Ever	304	1.06 (0.87-1.24)	
						Current	121	1.27 (0.98-1.65)	
						1-14 Cig/day	40	1.19 (0.82-1.73)	
						15-24	40	1.31 (0.90-1.91)	
						25+	21	1.81 (1.11-2.93)	
						Duration			
						<10 years	0	-	
						10-19	1	-	
						20-29	7	1.26 (0.55-2.87)	
						30-39	33	1.28 (0.83-1.96)	
						40+	80	1.38 (1.01-1.87)	
51	Sawada,	Japan Public Health	Cohort,	2010	482018/	Never-smoker	257	Referent	Age, public health center area, marital status,
	2013 ³²	Center-based	incidence	(16)	913	Ever	647	0.80 (0.72-0.89)	diabetes, intake of alcohol, miso soup and Japanese
		Prospective Study				Current	380	0.79 (0.68-0.89)	tea, BMI
		(JPHC); Japan, 1990-				(cumulative use)			
		NR				1-19 pk-yr	53	0.67 (0.49-0.91)	
						20-39	194	0.84 (0.70-1.02)	
						40+	133	0.80 (0.65-1.00)	

No.	First author, publication year	Study name (or description); country, recruitment period	Study design, outcome	Last FU (FU ^a , vrs.)	Total no. men/ cases ^b	Smoking category*	No. cases*	RR (95% CI)*	Variables the results were adjusted for; Other comments
1	Weir, 1970 40	Labor union members, California; USA, 1954-1957	Cohort, mortality	1962 (7)	68153/ 37	Never-smoker Ever $\leq 0.5 \text{ pk-yr}$ ~ 1 1.5+	NR NR NR NR NR	Referent 0.78 (NR, NS) 0.58 (NR, NS) 0.98 (NR, NS) 0.78 (NR, NS)	Age, duration of smoking
2	Whittemore, 1984 ⁴¹	Former College Men and Women; USA, 1962-1966	Cohort, incidence	1978 (NR)	33915/ 16	NR	16	NR (NR, NS)	NR
			Cohort, mortality	1978 (NR)	33915/ 12	NR	NR	NR (NR, NS)	Same as above
3	Thune, 1994 51	Norway, three counties; Norway, 1972-1978	Cohort, incidence	1991 (NR)	42067/ 211	Increment of 10 Cig/day	211	1.08 (0.90-1.30)	Age
4	Gann, 1995 52	Chicago Heart Association cohort; USA, 1967-1973	Cohort, mortality	1979 (19.2)	22367/ 73	Increments of 5 Cig/day	73	1.02 (0.93-1.12)	Age, education, BMI, heart rate, BP, cholesterol, postload plasma glucose
5	Tulinius, 1997 ⁵⁸	Icelandic Cardiovascular Risk Factor Study; Iceland, 1967-1991	Cohort, incidence	1995 (NR)	11366/ 524	NR	524	NR (NR, NS)	NR
6	Doll, 2005 ⁷³	British Doctors cohort; UK, 1951	Cohort, mortality	2001	34439 /878	Never-smoker Current 1-14 Cig/day 15-24 25+	NR NR NR NR NR	Referent 1.01 (NR) 0.75 (NR) 1.11 (NR) 1.27 (NR)	Age; Mortality rates per 100,000 were 89.4 in never- smokers, 66.7 in 1-14 Cig/day, 99.6 in 15-24 Cig/day, and 113.3 among ≥25 Cig/ day current smokers
7	Chamie, 2008 ¹⁶	Northern California Veteran Affairs; USA, 1962-1971	Cohort, incidence	2006 (NR)	13144/ 363	Specific categories (see comments)	NR	0.78 (0.72-0.85)	Age, race, agent Orange exposure, BMI, finasteride use, preoperative PSA level; Smoking history was considered as a continuous variable as follows: 0, lifetime nonsmoker; 1, quit >14 years ago; 2, quit >7 years ago; 3, quit >4 years ago; 4, quit in the last year; and 5, current smoker
8	Li, 2011 ⁷⁴	Ohsaki Cohort Study; Miyagi	Cohort, incidence	2003	22458/ 230	Never or former smoker	127	Referent	None; As the reference group included former smokers,

Supplementary Table 1b – Characteristics of the six studies included in the systematic review but not in the meta-analysis due to lack of information

No.	First	Study name (or	Study	Last	Total	Smoking	No.	RR (95% CI)*	Variables the results were adjusted for;
	author,	description);	design,	FU	no.	category*	cases*		Other comments
	publication	country,	outcome	(FU ^a ,	men/				
	year	recruitment period		yrs.)	cases ^b				
		Prefecture, Japan,				Current	94	0.59 (0.45-0.77) ^d	this study was not included in our meta-analysis
		1995							

Adj., adjusted; BMI, body mass index; BP, blood pressure; CCS, case-control study; DM, diabetes mellitus; FEV1, forced expiratory volume in one second; FU, follow-up; NR, not reported; NS, non-significant (95% CIs or p-values were not reported, but the authors reported that were no significant association); pk-yr, pack-year; PSA, prostate-specific antigen; SES, socioeconomic status; yr, year * Data on cigarette smoking. For qualitative measures of use, data on current cigarette smoking (at baseline) are shown in this table. When these data were not available, quantitative data on ever smoking (if available) are presented. Quantitative measures of former smoking are not shown.

^a The mean or median of follow-up in years.

^b The numbers in parentheses are the number of controls in nested case-control studies.

^c Cumulative use during previous decade

^d We calculated the risk estimates using frequency distributions only, comparing cases of prostate cancer (incident or death) with other participants. Evidently, time at risk was not considered in these calculations.

Variables the results	No. of	RR (95% CI)	\mathbf{I} statistics	P for
were adjusted for	articles	. ,		heterogeneity
Mortality				
Overall				
All articles	19	1.24 (1.18-1.31)	1	0.45
Age	16	1.26 (1.18-1.34)	14	0.29
Age, race/ethnicity	2	1.45 (1.17-1.80)	46	0.17
Age, SES	7	1.29 (1.18-1.40)	8	0.36
Age, BMI	8	1.32 (1.16-1.50)	31	0.17
Age, diabetes	6	1.30 (1.12-1.51)	46	0.09
Age, family history ^a	3	1.40 (1.24-1.59)	0	0.39
Age, SES, BMI ^b	4	1.29 (1.10-1.52)	49	0.12
<i>1995 or earlier</i> *		· · · · ·		
All articles	10	1.24 (1.17-1.31)	0	0.79
Age	8	1.24 (1.17-1.31)	0	0.65
Age. SES	3	1.31 (1.18-1.45)	0	0.64
Age. BMI	3	1.35 (1.17-1.55)	Ő	0.86
After 1995 *			-	
All articles	8	1.24 (1.11-1.39)	14	0.32
Age	7	1.24 (1.10-1.41)	24	0.24
Age SES	4	1.27 (1.06-1.51)	45	0.14
Age BMI	4	1 30 (1 07-1 58)	49	0.12
Incidence	•	1.50 (1.07 1.50)	17	0.112
Overall				
All articles	33	0.90 (0.85 0.96)	68	<0.001
Age	25	0.90(0.03-0.90)	59	<0.001
Ago raco (othricity	2.5	0.93(0.071.01)	32	0.23
Age SES	5	0.87 (0.87 - 1.04)	32 26	0.23
Age BMI	0 7	0.87 (0.82 - 0.73)	63	0.24
Age diabetes	, 5	0.89 (0.81 - 0.98)	62	0.01
Age family history ^a	2	0.09(0.00-0.90) 0.91(0.79,1.04)	85	0.05
Ago SES BMI ^b	2	0.91(0.75-1.04)	17	0.01
1005 or carlier *	5	0.04 (0.70-0.72)	1 /	0.30
All entitles	1 5		25	0.10
	13	1.00(0.96-1.15)	25	0.16
Age	15	1.06 (0.97-1.15)	29	0.14
Age, SES	1	1.20(0.81-1.77)	_	
Age, BMI	2	1.08 (0.88-1.55)	0	0.55
After 1995 *	10		F 0	0.004
All articles	18	0.84 (0.79-0.89)	58	0.001
Age	12	0.89 (0.84-0.93)	28	0.17
Age, SES	5	0.86 (0.83-0.91)	1	0.40
Age, BMI	5	0.86 (0.78-0.95)	66	0.02

Supplementary Table 2 – Association between cigarette smoking (current smokers at baseline) and prostate cancer incidence and mortality after various adjustments for potential confounding factors

BMI, body mass index; CI, confidence interval; SES, socioeconomic status; RR, relative risk ^a Family history of prostate cancer.

^b These factors were selected because of relatively higher number of articles with results adjusted for them.

* Last follow-up in 1995 or earlier versus after 1995. In the results for prostate cancer mortality, the last follow-up could not be abstracted from one of the articles,¹² in which the results were adjusted for age, diabetes, BMI, so the numbers of articles in the two time periods may not add up to the total number of articles. Only selected factors are shown, because the analysis stratified for other factors (race/ethnicity, diabetes, family history of prostate cancer, and combination of age, BMI, and SES) yielded only one or no articles for both mortality and incidence of prostate cancer.

Variables the results	No. of	RR (95% CI)	\vec{I} statistics	<i>P</i> for
	studies			neterogeneity
Mortality				
Overall	0			0.40
United States	9	1.28 (1.18-1.40)	27	0.19
Europe	6	1.23 (1.10-1.38)	0	0.96
Australia, New Zealand ^a	1	1.67 (1.12-2.45)	_	_
Asia ^a	4	1.10 (0.90-1.35)	5	0.37
<i>1995 or earlier *</i>				
United States	6	1.24 (1.16-1.32)	0	0.46
Europe	3	1.26 (1.07-1.49)	0	0.79
Australia, New Zealand	0	_	_	_
Asia	1	1.10 (0.70-1.50)	_	_
After 1995 *				
United States	3	1.30 (1.01-1.68)	59	0.06
Europe	3	1.20 (1.03-1.41)	0	0.81
Australia, New Zealand	0	_	_	_
Asia	2	1.16 (0.92-1.48)	0	0.42
Incidence				
Overall				
United States	16	0.94 (0.86-1.03)	66	< 0.001
Europe	13	0.89 (0.81-0.99)	74	< 0.001
Australia, New Zealand	1	0.73 (0.56-0.95)	_	_
Asia	3	0.80 (0.71-0.90)	0	0.70
<i>1995 or earlier *</i>		· · · · · ·		
United States	10	1.05 (0.95-1.16)	15	0.30
Europe	5	1.07 (0.92-1.23)	40	0.16
Australia, New Zealand	0	_ ` ` '	_	_
Asia	0	_	_	_
After 1995 *				
United States	6	0.85 (0.76-0.95)	74	0.002
Europe	8	0.84 (0.76 - 0.92)	59	0.02
Australia, New Zealand	1	0.73 (0.56-0.94)	_	_
Asia	3	0.80 (0.71-0.90)	0	0.70

Supplementary Table 3 – Association between cigarette smoking (current smokers) at baseline and prostate cancer incidence and mortality by geographic area

^a One of the studies ¹² reported the results on smoking and prostate cancer mortality in both Australia/New Zealand and Asian regions. For this reason, this study has been counted twice here.

* Last follow-up in 1995 or earlier versus after 1995. In the results for prostate cancer mortality, the last follow-up could not be abstracted from the above article, which reported on both Australia/New Zealand and Asian regions.¹²

First	Outcome	Categories	No.	RR (95% CI)*	Comment
author,		C	cases*	, , ,	
publication					
year					
Giovannucci,	Mortality			Increment of 15 pack-years of	The method of diagnosis of cancer was not
$1999 \frac{60}{1}$		1986-1994 (total)		cigarettes smoked in the prior decade	reported in this study, but the association between
		Metastatic	152	1.55 (1.04-2.33)	smoking and prostate cancer mortality was slightly
		Fatal	103	1.77 (1.11-4.07)	stronger in those who had a normal DRE early in
		1988-1994 (negative DRE in 1988)			the study, suggesting that prostate cancer might
		Metastatic	57	2.05(1.12-3.75)	progress more rapidly in smokers.
		Fatal	37	2.03(1.12-3.73) 2.40(1.17-4.91)	
Hultdin	Incidence		51	2.+0 (1.17-+.91)	PSA was done but results were not reported by
2005 ⁶⁹	melactice			_	smoking status. Cause of workup leading to
2005					prostate cancer diagnosis was routine health
					checkup (12%) local symptoms (55%) other
					causes (13%) or not registered/missing (20%)
Giovannucci	Incidence	_	_	_	PSA testing in the prior 2 years was asked
2007^{71}	mortality				biennially from 1994 to 2000. PSA screening
2007	mortanty				intensity was very high in the study population
					and relatively equal across categories of smoking:
					75% for never smokers and 70% for current
					smokers.
Gonzalez,	Incidence	_	_	_	PSA was done, but results were not reported by
2007 11					smoking status. In 83% prostate cancer cases and
2007					72% non-cases PSA test had been done within the
					two years prior to baseline.
Watters,	Incidence	PSA screened			Current smokers were less likely to have been
2009^{18}		Never	2684	Referent	screened with PSA (57%) and/or DRE (72%)
		Current	554	0.95 (0.86-1.04)	during the past 3 years than former and never
		No PSA test			smokers (PSA 73% and DRE 85% in both).
		Never	492	Referent	
		Current	213	0.92 (0.86-1.04)	
		Missing PSA test information			
		Never	2336	Referent	
		Current	697	0.76 (0.70-0.83)	
	Mortality	PSA screened			
		Never	36	Referent	
		Current	15	1.64 (0.95-2.83)	
		No PSA test			

Supplementary Table 4 – Studies with indication of data collection on prostate cancer screening

First	Outcome	Categories	No.	RR (95% CI)*	Comment
author,			cases*		
publication					
year					
		Never	15	Referent	
		Current	18	2.30 (1.18-4.48)	
		Missing PSA test information			
		Never	54	Referent	
		Current	31	1.49 (0.97-2.30)	
Grundmark,	Incidence	_	-	-	Very few prostate cancer cases ($<2\%$) were
2011 20					diagnosed using PSA screening.
Koutros,	Incidence	_	-	_	Men were randomized to either the control or
2013 28					screening arm of the trial. To the screening arm, a
					PSA test and digital rectal exam at baseline and
					annually thereafter for 3 years, followed by 2 years
					of screening with PSA alone was offered.
					However, PSA results were not reported by
					smoking status.
Sawada,	Incidence	All cases			Smoking had a significant inverse association with
2013 32		Never smokers	257	Referent	prostate cancer incidence in those who were
		0-20 pack-years	53	0.67 (0.49-0.91)	diagnosed with prostate cancer using screening,
		20-40 pack-years	194	0.84 (0.70-1.02)	but not in those who were diagnosed by subjective
		\geq 40 pack-years	133	0.80 (0.65-1.00)	symptoms.
		Cases detected by subjective			39% of prostate cancers detected by PSA
		symptoms (not screening)			screening and 45% of cancers detected by
		Never smokers	59	Referent	subjective symptoms were current smokers.
		0-20 pack-years	13	0.82 (0.44-1.54)	
		20-40 pack-years	46	0.95 (0.64-1.43)	
		≥40 pack-years	43	1.12 (0.74-1.69)	

DRE, digital rectal examination; PSA, prostate-specific antigen

Note: Here, only studies with any indication of collection of data on prostate cancer screening are presented. Some studies provided prevalence of screening in the countries where the studies were conducted or used a cutoff year as a surrogate for screening status. These studies were not included here as they did not provide information about actual screening prevalence in the study population (either population or opportunistic screening).





RR, relative risk.

Twenty one dots from 19 studies (two studies had two subgroups each).

The p-value for publication bias was 0.83 and 0.48 using the Begg and Mazumdar and the Egger's methods, respectively.

Supplementary Fig. 2 – Association between previous tobacco smoking (former smokers) and prostate cancer mortality

First author	Publication	Total case#	Tobacco Product			RR (95% CI)
	, 50.	50000			-	
Cigarette						
Hsing	1990	137	Cigarette			1.90 (1.10, 3.30)
Hsing	1991	4607	Cigarette		•	1.13 (1.03, 1.24)
Tverdal	1993	32	Cigarette		├	1.76 (0.47, 7.98)
Adami	1996	709	Cigarette	_	-	1.03 (0.84, 1.33)
Rodriguez	1997	1748	Cigarette	-	-	0.99 (0.87, 1.12)
Giovannucci	1999	103	Cigarette		•	1.12 (0.67, 1.57)
Lotufo	2000	113	Cigarette	-		1.30 (0.87, 1.95)
Ozasa	2007	150	Cigarette		•	1.06 (0.66, 1.68)
Rohrmann	2007	240	Cigarette: 1963 cohort		—	1.01 (0.70, 1.46)
Rohrmann	2007	184	Cigarette: 1975 cohort		—	1.02 (0.69, 1.50)
Smit	2007	167	Cigarette		←	1.10 (0.76, 1.61)
Watters	2009	394	Cigarette	_	-	1.03 (0.83, 1.27)
Batty	2011	551	Cigarette	-•	-	0.94 (0.76, 1.18)
Rohrmann	2013	432	Cigarette	-•	<u> </u>	0.96 (0.76, 1.21)
Subtotal (I-so	quared = 0.0%	, p = 0.61	7)		0	1.06 (1.00, 1.13)
Other product	ts					
Hsing	1990	137	Smokeless	_	•	1.80 (0.80, 3.90)
Rodriguez	1997	1748	Pipe/cigar±Cigarette	-•	-	0.91 (0.78, 1.08)
Subtotal (I-so	quared = 63.4%	%, p = 0.0	98)	<	>	1.14 (0.61, 2.14)
NOTE: Woigh	ate are from re	ndom effr	octe analysis			
			5013 analysis			
L				I I	l 1	I
				2.5 [·]	1 2 5	5

Supplementary Fig. 3 – Association between ever tobacco smoking and prostate cancer mortality

author	year	l otal case#	Use	Product	RR (95% CI)
Cigarette					
Hammond	1958	185	Ever	Cigarette	1.75 (1.39, 2.17
Hammond	1966	343	Ever	Cigarette	1.13 (0.74, 1.52
Akiba	1990	147	Current	Cigarette	1.10 (0.70, 1.50
Hsing	1990	137	Ever	Cigarette only	2.00 (1.10, 3.70
Hsing	1991	4607	Ever	Cigarette	1.16 (1.10, 1.22
Tverdal	1993	32	Ever	Cigarette	1.85 (0.71, 7.78
Adami	1996	709	Ever	Cigarette	1.16 (0.99, 1.3
Coughlin	1996	826	Current	Cigarette	1.31 (1.13, 1.5
Rodriguez	1997	1748	Ever	Cigarette	1.09 (0.98, 1.1
Giovannucci	1999	103	Ever	Cigarette	1.18 (0.76, 1.6)
Lotufo	2000	113	Ever	Cigarette	1.28 (0.82, 1.7
Fichholzer	2005	30	Current	NR	1 16 (0 56 2 3
Giovannucci	2007	312	Current	Cigarette	1 41 (1 04 1 9
Huxley	2007	43	Current	Cigarette: Asia	0.57 (0.24, 1.3)
Huxley	2007	265	Current	Cigarette: Australia/New Zeland	1 67 (1 12 2 4
07252	2007	150	Ever		1 18 (0 79 1 5
Rohrmann	2007	240	Ever	Cigarette: 1963 cobort	0.97 (0.76, 1.2
Pohrmann	2007	18/	Ever		1 13 (0.85 1 4)
Smit	2007	167	Ever		1 16 (0.82, 1.4
Wattors	2007	30/	Ever		1 13 (0 03 1 3
Ratty	2009	551	Ever		1.13 (0.93, 1.3
Teong	2011	105	Current		1.03 (0.80, 1.2
Debrmonn	2012	105	Ever	Cigarette	1.09 (0.82, 1.4)
Subtotal (I-so	quared = 36.1	432 %, p = 0.	044)		1.17 (1.11, 1.2
			,		
Other produc	ts		_		
Hsing	1990	137	Ever	Smokeless only	4.50 (2.10, 9.7
Hsing	1990	137	Ever	Pipe/cigar only	1.60 (0.70, 3.5)
Hsing	1991	4607	Ever	Pipe/cigar only	1.10 (0.99, 1.2
Hsing	1991	4607	Ever	Smokelss	1.17 (0.88, 1.5
Tverdal	1993	32	Current	Pipe	0.89 (0.02, 8.9
Adami	1996	709	Ever	Snuff	0.99 (0.82, 1.1
Adami	1996	709	Ever	Pipe	1.07 (0.92, 1.2
Rodriguez	1997	1748	Ever	Pipe/cigar±Cigarette	0.89 (0.78, 1.0
Rohrmann	2007	240	Ever	Pipe/cigar: 1963 cohort	0.94 (0.58, 1.5
Rohrmann	2007	184	Ever	Pipe/cigar: 1975 cohort	1.31 (0.77, 2.2
Batty	2011	551	Current	Pipe/cigar only	1.14 (0.91, 1.4
Subtotal (I-so	quared = 59.8	%, p = 0.	006)	\diamond	1.09 (0.97, 1.2
NOTE: Weigh	nts are from ra	andom ef	fects analy	sis	
					- <u>-</u>

Supplementary Fig. 4 – Association between current cigarette smoking at baseline and risk of prostate cancer death by the year of last follow-up (1995 or earlier and after 1995)

author	year	Country	Recruitment	Last Follow-up		RR (95% CI)
Last FU<=19	95					
Hsing	1991	United States	1954-1957	1980	+	1.18 (1.09, 1.28)
Akiba	1990	Japan	1965	1981		1.10 (0.70, 1.50)
Hsing	1990	United States	1966	1986	_	1.60 (1.00, 2.60)
Tverdal	1993	Norway	1972-1978	1988		→ 1.92 (0.61, 7.96)
Coughlin	1996	United States	1973-1975	1990		1.31 (1.13, 1.52)
Eichholzer	2005	Switzerland	1971-1973	1990	—	1.16 (0.56, 2.38)
Adami	1996	Sweden	1971-1975	1991		1.26 (1.06, 1.50)
Rodriguez	1997	United States	1982	1991	-	1.34 (1.16, 1.56)
Giovannucci	1999	United States	1986	1994		1.58 (0.81, 3.10)
Lotufo	2000	United States	1982	1995		1.23 (0.63, 2.41)
Subtotal (I-so	quared = 0.0%	, p = 0.786)			0	1.24 (1.17, 1.31)
Last FU>199	5					
Rohrmann	2007	United States	1963	2000		0.93 (0.67, 1.29)
Rohrmann	2007	United States	1975	2000		1.25 (0.84, 1.87)
Giovannucci	2007	United States	1986	2002		1.41 (1.04, 1.91)
Ozasa	2007	Japan	1988-1990	2003		1.35 (0.88, 2.09)
Smit	2007	Puerto Rico	1965-1968	2005		1.26 (0.82, 1.94)
Watters	2009	United States	1995-1996	2005		1.69 (1.25, 2.27)
Tseng	2012	Taiwan	1995-1998	2006	-	1.09 (0.82, 1.46)
Batty	2011	UK	1967-1970	2007		1.14 (0.91, 1.44)
Rohrmann	2013	Europe	1992-2000	2009		1.27 (0.98, 1.65)
Subtotal (I-so	quared = 13.6%	%, p = 0.321)			\diamond	1.24 (1.11, 1.39)
NOTE: Weigh	nts are from ra	ndom effects ana	lysis			

Rohrmann et al (2007)⁷² had two sub-populations.

Supplementary Fig. 5 – Association between current tobacco smoking and risk of incident prostate cancer

First . author	Publication year	Total case#	Tobacco Product		RR (95% Cl)
Cigarette					
Mills	1989	172	Cigarette	<→	0.49 (0.16, 1.57)
Severson	1989	174	Cigarette	+	0.87 (0.61, 1.23)
Thompson	1989	54	Cigarette	— • —	1.30 (0.70, 2.50)
Hiatt	1994	238	Cigarette	+ •	1.20 (0.75, 1.64)
Adami	1996	2368	Cigarette	◆	1.11 (1.01, 1.23)
Engeland	1996	707	Cigarette	- + +-	1.10 (0.90, 1.30)
Cerhan	1997	71	Cigarette	│ ——◆──	- 2.20 (1.10, 4.40)
Veierod	1997	72	Cigarette	•	0.54 (0.25, 0.84)
Heikkila	1999	166	Cigarette	++	1.31 (0.87, 1.95)
Parker	1999	81	Cigarette		1.78 (0.61, 2.94)
Will	1999	2523	Cigarette	+	1.00 (0.92, 1.08)
Lotufo	2000	996	Cigarette	_ _ _	1.06 (0.83, 1.29)
Lund-Nilsen	2000	644	Cigarette	_ _	0.96 (0.78, 1.19)
Nomura	2000	249	Cigarette	_ _	1.30 (0.80, 2.00)
Visvanathan	2004	164	Cigarette	+	0.82 (0.39, 1.71)
Hultdin	2005	254	NR	_	0.93 (0.61, 1.41)
Baglietto	2006	732	Cigarette	_	0.73 (0.56, 0.94)
Giovannucci	2007	3544	Cigarette	+	0.98 (0.89, 1.07)
Gonzalez	2007	832	Cigarette		0.92 (0.70, 1.20)
Park	2007	4404	Cigarette	+	0.84 (0.76, 0.92)
Rohrmann	2007	147	Cigarette: 1963 cohort	_	1.00 (0.63, 1.59)
Rohrmann	2007	351	Cigarette: 1975 cohort	_ _	0.98 (0.73, 1.33)
Butler	2009	250	Cigarette		0.88 (0.65, 1.19)
Watters	2009	16640	Cigarette	•	0.85 (0.80, 0.90)
Grundmark	2011	208	Cigarette		0.60 (0.44, 0.83)
Geybels	2012	3451	Cigarette	-4-	0.98 (0.82, 1.18)
Karppi	2012	68	Cigarette	+	0.85 (0.76, 0.95)
Shafique	2012	318	Cigarette		0.93 (0.69, 1.26)
Bae	2013	87	Cigarette		0.70 (0.43, 1.13)
Heikkila	2013	865	NR	- - -	0.70 (0.59, 0.84)
Koutros	2013	1122	Cigarette		0.50 (0.36, 0.69)
Lemogne	2013	412	Cigarette		0.70 (0.52, 0.88)
Rohrmann	2013	4623	Cigarette	•	0.90 (0.83, 0.97)
Sawada	2013	913	Cigarette	-	0.79 (0.68, 0.89)
Subtotal (I-squ	ared = 67.6%, p	o = 0.000)		0	0.90 (0.85, 0.96)
Other products					
Koutros	2013	1122	Pipe/cigar		0.79 (0.58, 1.09)
Subtotal (I-squ	ared = .%, p = .)	-	$\overline{\diamond}$	0.79 (0.58, 1.08)
NOTE: Weights	s are from rando	om effects a	inalysis		
				.2 .5 1 2	5



Supplementary Fig. 6 – Association between amount of cigarette smoking at baseline and prostate cancer incidence using meta-regression method

Supplementary Fig. 7 – Association between cumulative cigarette smoking and prostate cancer incidence using meta-regression method



Supplementary Fig. 8 – Association between previous tobacco smoking (former smokers) and risk of incident prostate cancer

First author	Publication year	Total case#	Tobacco Product	RR (95% Cl)
Cigarette				
Mills	1989	172	Cigarette	1.24 (0.91, 1.67)
Severson	1989	174		0.89 (0.61, 1.29)
Hiatt	1994	238		1.10 (0.80, 1.50)
Adami	1996	2368	Cigarette	1.09 (0.98, 1.22)
Engeland	1996	707	Cigarette	0.90 (0.70, 1.10)
Cerhan	1997	71	Cigarette	1.20 (0.70, 2.10)
Veierod	1997	72	Cigarette	0.60 (0.30, 1.10)
Parker	1999	81	Cigarette	1.30 (0.80, 2.20)
Lotufo	2000	996	Cigarette	1.11 (0.98, 1.28)
Lund-Nilsen	2000	644	Cigarette	0.98 (0.80, 1.19)
Nomura	2000	249	Cigarette	1.20 (0.80, 1.80)
Visvanathan	2004	164	Cigarette	1.07 (0.72, 1.60)
Hultdin	2005	254	NR	1.20 (0.84, 1.71)
Baglietto	2006	732	Cigarette	1.12 (0.96, 1.32)
Gonzalez	2007	832	Cigarette	0.94 (0.81, 1.06)
Park	2007	4404	Cigarette	1.05 (0.98, 1.12)
Rohrmann	2007	147	Cigarette: 1963 cohort	1.33 (0.85, 2.10)
Rohrmann	2007	351	Cigarette: 1975 cohort	1.04 (0.80, 1.36)
Butler	2009	250	Cigarette	1.06 (0.78, 1.44)
Watters	2009	16640	Cigarette •	0.90 (0.87, 0.93)
Grundmark	2011	208	Cigarette	0.82 (0.58, 1.18)
Geybels	2012	3451	Cigarette	1.03 (0.87, 1.23)
Shafique	2012	318	Cigarette	1.43 (1.05, 1.94)
Bae	2013	87	Cigarette	0.60 (0.34, 1.06)
Koutros	2013	1122	Cigarette	0.74 (0.62, 0.90)
Lemogne	2013	412	Cigarette	1.07 (0.87, 1.28)
Rohrmann	2013	4623	Cigarette	0.96 (0.90, 1.03)
Sawada	2013	913	Cigarette	0.84 (0.70, 1.00)
Subtotal (I-se	quared = 61.2	2%, p = 0.	000) 💠	1.00 (0.95, 1.06)
NOTE: Weig	hts are from r	andom ef	fects analysis	
L				
			.2 .5 1 2	5

Supplementary Fig. 9 – Association between ever tobacco use and risk of incident prostate cancer

author	year	case#	Use	Product	RR (95% CI)
Cigarette					
Mills	1989	172	Ever	Cigarette	1.07 (0.74, 1.41)
Severson	1989	174	Ever	Cigarette	0.88 (0.65, 1.11)
Thompson	1989	54	Current	Cigarette	1.30 (0.70, 2.50)
Hiatt	1994	238	Ever	Cigarette	1.14 (0.86, 1.41)
e Marchand	1994	198	Ever	Cigarette	0.96 (0.70, 1.22)
Adami	1996	2368	Ever	Cigarette	◆ 1.10 (1.02, 1.18)
Engeland	1996	707	Ever	Cigarette	1.00 (0.90, 1.30)
Cerhan	1997	71	Ever	Cigarette	1.35 (0.71, 2.00)
/eierod	1997	72	Ever	Cigarette	0.56 (0.33, 0.80)
leikkila	1999	166	Current	Cigarette	1.31 (0.87, 1.95)
Parker	1999	81	Ever	Cigarette -	1.43 (0.83, 2.03)
Vill	1999	2523	Current	Cigarette	1 00 (0.92, 1.08)
otufo	2000	996	Ever	Cigarette	1 10 (0.97, 1.28)
und-Nilsen	2000	644	Ever	Cigarette	097 (0.83 1 11)
Jomura	2000	249	Ever	Cigarette	1 24 (0.86, 1.63)
/isvanathan	2004	164	Ever	Cigarette	0.00 (0.63, 1.36)
Jultdin	2004	254	Ever	NP	1 08 (0.79, 1.48)
Pagliotto	2005	722	Ever		
Sayiletto	2000	2544	Current	Cigarette -	0.94 (0.81, 1.07)
Conzoloz	2007	00044	Ever	Cigarette	0.98 (0.89, 1.07)
Sonzalez	2007	032	Ever		
Park	2007	4404	Ever	Cigarette	
konrmann	2007	147	Ever	Cigarette: 1963 conort	
Rohrmann	2007	351	Ever	Cigarette: 1975 cohort	
Butler	2009	250	Ever	Cigarette	
Vatters	2009	16640	Ever	Cigarette	0.89 (0.86, 0.91)
Srundmark	2011	208	Ever	Cigarette	0.67 (0.50, 0.83)
seybels	2012	3451	Ever	Cigarette	
Carlsen	2012	129	Ever		1.00 (0.70, 1.43)
Carppi	2012	68	Current	Cigarette	0.85 (0.76, 0.95)
Shafique	2012	318	Ever	Cigarette	1.08 (0.84, 1.32)
Bae	2013	87	Ever	Cigarette	0.65 (0.40, 0.90)
leikkila	2013	865	Current	NR —	0.70 (0.59, 0.84)
Koutros	2013	1122	Ever	Cigarette	0.70 (0.58, 0.84)
emogne	2013	412	Ever	Cigarette	0.86 (0.73, 1.00)
Dnitilo	2013	1310	Ever	NR: After Diabetes onset	0.83 (0.74, 0.94)
Dnitilo	2013	2122	Ever	NR: Before diabetes onset	0.92 (0.85, 1.18)
Rohrmann	2013	4623	Ever	Cigarette	• 0.93 (0.89, 0.98)
Sawada	2013	913	Ever	Cigarette -	0.80 (0.72, 0.89)
Subtotal (I-squa	red = 67.9%, p =	0.000)			0.94 (0.90, 0.98)
Other products					
Adami	1996	2368	Ever	Snuff	▲ 1.02 (0.93. 1.12)
Adami	1996	2368	Ever	Pipe	★ 1.03 (0.95. 1.10)
Cerhan	1997	71	Ever	Cigar	1.50 (0.90, 2.60)
Cerhan	1997	71	Ever	Pipe	1,00 (0.60, 1.60)
Rohrmann	2007	147	Ever	Pipe/cigar: 1963 cohort	1.25 (0.75, 2.10)
Rohrmann	2007	351	Ever	Pipe/cigar: 1975 cohort	1,19 (0,83, 1,70)
Coutros	2013	1122	Current	Pipe/cigar	
Subtotal (Leaua	red = 0.0% p = 0	1439)	Sunon	- iporoigai	1 03 (0.07, 1.09)
	reu = 0.0%, p = 0		vala		1.03 (0.97, 1.09)
VOIE: Weights a	are trom random	ettects anal	ysis		

Supplementary Fig. 10 – Association between current cigarette smoking at baseline and risk of incident prostate cancer by the year of last follow-up (1995 or earlier and after 1995)

First	Publication			Last	
author	year	Country	Recruitment	Follow-up	RR (95% CI)
Last FU<=19	95				
Will	1999	United States	1959-1960	1972 🔶	1.00 (0.92, 1.08)
Rohrmann	2007	United States	1963	1978	1.00 (0.63, 1.59)
Mills	1989	United States	1976	1982	0.49 (0.16, 1.57)
Hiatt	1994	United States	1978-1985	1985	1.20 (0.75, 1.64)
Severson	1989	United States	1965-1968	1986	0.87 (0.61, 1.23)
Thompson	1989	United States	1972-1974	1987	1.30 (0.70, 2.50)
Hultdin	2005	Sweden	1985-1999	1990 —	0.93 (0.61, 1.41)
Adami	1996	Sweden	1971-1975	1991 🔶	1.11 (1.01, 1.23)
Heikkila	1999	Finland	1966-1972	1991	1.31 (0.87, 1.95)
Veierod	1997	Norway	1977-1983	1992	0.54 (0.25, 0.84)
Cerhan	1997	United States	1981-1982	1993	2.20 (1.10, 4.40)
Engeland	1996	Norway	1964-1965	1993	1.10 (0.90, 1.30)
Rohrmann	2007	United States	1975	1994 —	0.98 (0.73, 1.33)
Lotufo	2000	United States	1982	1995	1.06 (0.83, 1.29)
Nomura	2000	United States	1971-1977	1995	1.30 (0.80, 2.00)
Parker	1999	United States	1986-1989	1995	1.78 (0.61, 2.94)
Subtotal (I-so	quared = 24.6	i%, p = 0.177)		b	1.06 (0.98, 1.15)
Last FU>199	5				
Lund-Nilsen	2000	Norway	1984-1986	1996	0.96 (0.78, 1.19)
Visvanathan	2004	United States	1989	1996	0.82 (0.39, 1.71)
Giovannucci	2007	United States	1986	2002	0.98 (0.89, 1.07)
Park	2007	United States	1993-1996	2002 🔶	0.84 (0.76, 0.92)
Baglietto	2006	Australia	1990-1994	2003	0.73 (0.56, 0.94)
Geybels	2012	Netherlands	1986	2003	0.98 (0.82, 1.18)
Grundmark	2011	Sweden	1970-1974	2003	0.60 (0.44, 0.83)
Watters	2009	United States	1995-1996	2003	0.85 (0.80, 0.90)
Gonzalez	2007	United States	2000-2002	2004	0.92 (0.70, 1.20)
Butler	2009	Singapore	1993-1998	2006	0.88 (0.65, 1.19)
Shafique	2012	Scotland	1970-1972	2007	0.93 (0.69, 1.26)
Bae	2013	South Korea	1991-1992	2008	0.70 (0.43, 1.13)
Karppi	2012	Finland	1984-1989	2008 🛨	0.85 (0.76, 0.95)
Koutros	2013	United States	1993-2001	2009	0.50 (0.36, 0.69)
Lemogne	2013	France	1989	2009	0.70 (0.52, 0.88)
Rohrmann	2013	Europe	1992-2000	2009	0.90 (0.83, 0.97)
Sawada	2013	Japan	1990-NR	2010 🛨	0.79 (0.68, 0.89)
Heikkila	2013	Europe	Various 1985-2002	Generally >1995	0.70 (0.59, 0.84)
Subtotal (I-so	quared = 57.5	%, p = 0.001)		♦	0.84 (0.79, 0.89)
NOTE: Weig	nts are from r	andom effects a	nalvsis		
			,		
				.2 .5 1 2	5

Rohrmann et al (2007)⁷² had two sub-populations.