Supplementary Figure 1 Diagram showing numbers of male pleural mesothelioma cases and controls across the years and their main characteristics, Italy, 2002-2004 and 2012-2016. Cases selected from the **same periods** of controls **(analysis A2)**. In the primary approach subjects ever employed in non-construction blue collar occupations for >5 years were excluded; in the secondary approach all subjects (also those ever employed in non-construction blue collar occupations for >5 years) were included.

Period	Year	N. cases Primary/secondary approach	Case source	Control source
2002-2004 and 2012-2016	2002	214/760	**NATIONAL MESOTHELIOMA REGISTRY** Living in any Region ReNaM questionnaire **Primary/secondary approach: N. 2156/6910**	**EAGLE** Living in 216 municipalities in five Lombardy Provinces (Milan, Monza, Brescia, Pavia, Varese) EAGLE questionnaire **Primary/secondary approach: N. 778/1617**
	2003	238/758		
	2004	246/768		
	2012	288/886		**MISEM** Living in five Regions (Apulia, Lombardy, Piedmont, Tuscany, Veneto) ReNaM questionnaire **Primary/secondary approach: N. 250/490** **CARA** Living in one Region (Emilia-Romagna) ReNaM questionnaire **Primary/secondary approach: N. 57/103**
	2013	304/979		
	2014	289/928		
	2015	283/921		
	2016	294/910		

CARA, Cholangiocarcinoma Aetiology: Role of Asbestos; EAGLE, Environment And Genetics in Lung cancer Etiology; MISEM, Multicentre Italian Study on the Etiology of Mesothelioma; ReNaM, Registro Nazionale Mesoteliomi

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Supplementary Figure 2 Diagram showing numbers of male pleural mesothelioma cases and controls across the years and their main characteristics, Italy, 2000–2018. Cases selected from the **same areas** of controls **(analysis A3)**. In the primary approach subjects ever employed in non-construction blue collar occupations for >5 years were excluded; in the secondary approach all subjects (also those ever employed in non-construction blue collar occupations for >5 years) were included.

Period	Year	N. cases Primary/ secondary approach	Case source	Control source
2000-2018	2000	134/389	**LOMBARDY MESOTHELIOMA REGISTRY** Living in six Regions (Lombardy, Piedmont, Veneto, Tuscany, Apulia, Emilia-Romagna) ReNaM questionnaire **Primary/secondary approach: N. 2690/8933**	
	2001	117/399		
	2002	114/405		**EAGLE** Living in 216 municipalities in five Lombardy Provinces (Milan, Monza, Brescia, Pavia, Varese) EAGLE questionnaire **Primary/secondary approach: N. 778/1617**
	2003	142/444		
	2004	134/443		
	2005	135/481		
	2006	125/419		
	2007	121/471		
	2008	129/469		
	2009	156/507		
	2010	142/482		
	2011	156/540		
	2012	176/532		**MISEM** Living in five Regions (Apulia, Lombardy, Piedmont, Tuscany, Veneto) ReNaM questionnaire **Primary/secondary approach: N. 250/490** **CARA** Living in one Region (Emilia-Romagna) ReNaM questionnaire **Primary/secondary approach: N. 57/103**
	2013	176/604		
	2014	146/505		
	2015	161/526		
	2016	188/592		
	2017	179/536		
	2018	59/189		

CARA, Cholangiocarcinoma Aetiology: Role of Asbestos; EAGLE, Environment And Genetics in Lung cancer Etiology; MISEM, Multicentre Italian Study on the Etiology of Mesothelioma; ReNaM, Registro Nazionale Mesoteliomi

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Supplementary Figure 3 Diagram showing numbers of male pleural mesothelioma cases and controls across the years and their main characteristics, Italy, 2002-2004 and 2012-2016. Cases selected from the **same periods and areas** of controls **(analysis A4)**. In the primary approach subjects ever employed in non-construction blue collar occupations for >5 years were excluded; in the secondary approach all subjects (also those ever employed in non-construction blue collar occupations for >5 years) were included.

Period	Year	N. cases Primary/ secondary approach	Case source	Control source
2002-2004 and 2012-2016	2002	114/405	**NATIONAL MESOTHELIOMA REGISTRY** Living in six Regions (Lombardy, Piedmont, Veneto, Tuscany, Apulia, Emilia-Romagna) ReNaM questionnaire **Primary/secondary approach: N. 1237/4051**	**EAGLE** Living in 216 municipalities in five Lombardy Provinces (Milan, Monza, Brescia, Pavia, Varese) EAGLE questionnaire **Primary/secondary approach: N. 778/1617**
	2003	142/444		
	2004	134/443		
	2012	176/532		**MISEM** Living in five Regions (Apulia, Lombardy, Piedmont, Tuscany, Veneto) ReNaM questionnaire **Primary/secondary approach: N. 250/490**
	2013	176/605		
	2014	146/504		**CARA** Living in one Region (Emilia-Romagna) ReNaM questionnaire **Primary/secondary approach: N. 57/103**
	2015	161/526		
	2016	188/592		

CARA, Cholangiocarcinoma Aetiology: Role of Asbestos; EAGLE, Environment And Genetics in Lung cancer Etiology; MISEM, Multicentre Italian Study on the Etiology of Mesothelioma; ReNaM, Registro Nazionale Mesoteliomi

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Supplementary Table 1 Pleural mesothelioma odds ratios (OR) and 90% confidence intervals (CI) by **length of employment** for selected occupations in men in the construction industry (ISIC-71 code 5000), Italy, 2000–2018. Results of the **primary approach** (subjects ever employed in non-construction blue collar occupations for >5 years excluded), **analysis A1**

Occupation (ISCO-68 code)	Cases	Controls	OR[a]	90% CI
Never employed in construction	2616	878	1.00	Reference
Length of employment (years)				
Bricklayers, stonemasons and other construction workers (95)				
0.5-19	370	33	3.98	2.92-5.43
20+	971	45	7.11	5.47-9.24
P-value for trend			<0.001	
P-value for trend, reference category excluded			0.02	
Bricklayers, stonemasons and tile setters (951)				
0.5-19	246	14	6.72	4.24-10.7
20+	788	34	7.61	5.64-10.3
P-value for trend			<0.001	
P-value for trend, reference category excluded			0.79	
Bricklayers (95120)				
0.5-19	233	14	6.27	3.95-9.96
20+	735	29	8.25	5.98-11.4
P-value for trend			<0.001	
P-value for trend, reference category excluded			0.44	
Construction workers not elsewhere classified (959)				
0.5-19	224	16	4.48	2.90-6.93
20+	90	6	4.78	2.36-9.68
P-value for trend			<0.001	
P-value for trend, reference category excluded			0.59	
Electrical wiremen (855)				
0.5-19	42	7	2.39	1.20-4.75
20+	55	9	2.30	1.25-4.21
P-value for trend			0.004	
P-value for trend, reference category excluded			0.61	
Plumbers and pipe fitters (871)				
0.5-19	90	6	5.48	2.71-11.1
20+	213	6	12.56	6.31-25.0
P-value for trend			<0.001	
P-value for trend, reference category excluded			0.20	
Painters (931)				
0.5-19	37	7	2.33	1.16-4.67
20+	64	10	2.11	1.18-3.76
P-value for trend			0.007	
P-value for trend, reference category excluded			0.65	

ISCO, International Standard Classification of Occupations (1968); ISIC, International Standard Industry Classification (1971)

[a]OR calculated with unconditional logistic regression models adjusted for age (categorical) and period
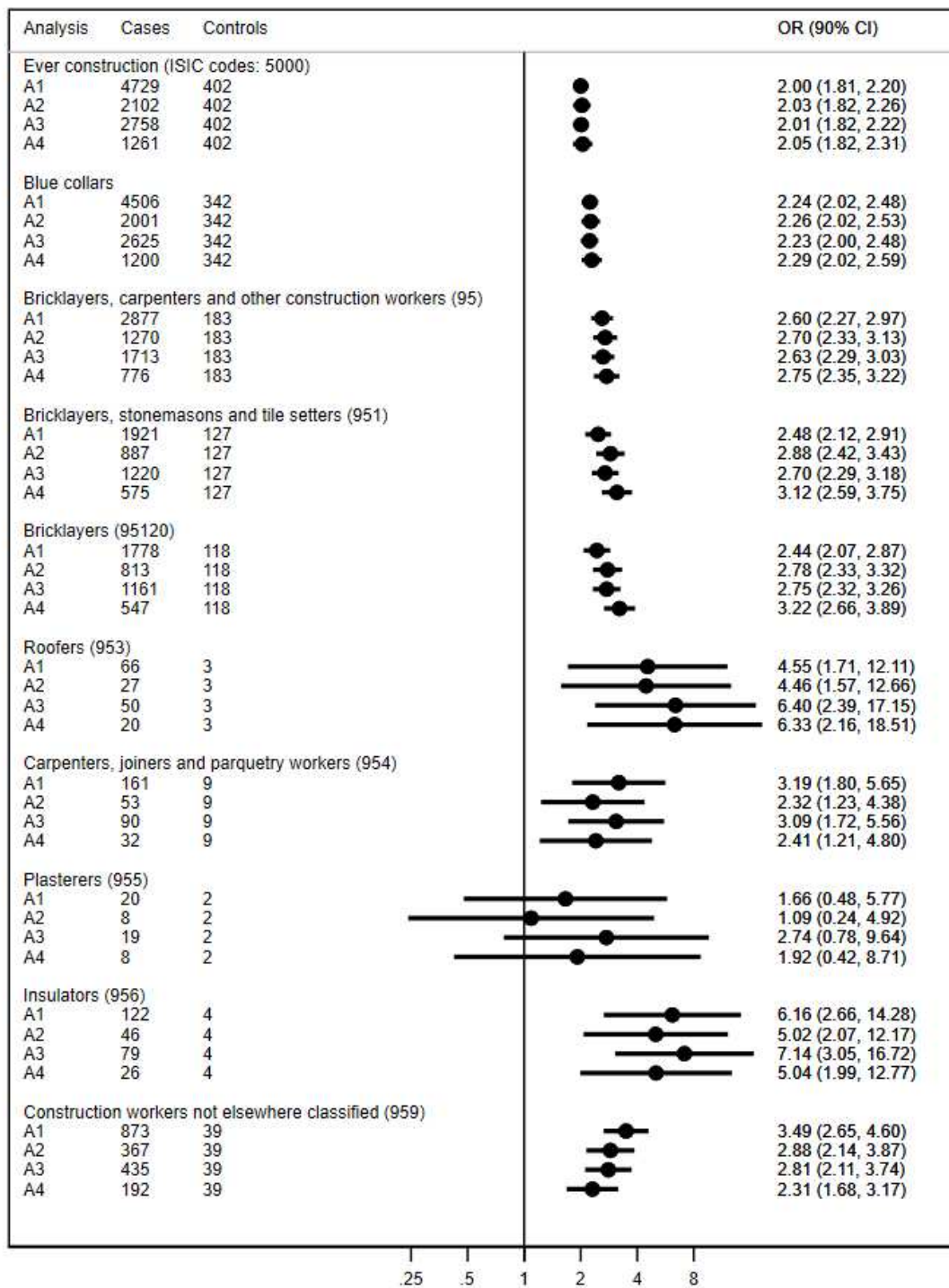
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Supplementary Table 2 Pleural mesothelioma odds ratios (OR) and 90% confidence intervals (CI) for selected occupations in men in the construction industry (ISIC-71 code 5000), Italy, 2000–2018. Results of the **secondary approach** (all subjects included, also those ever employed in non-construction blue collar occupations for >5 years), **analysis A1**

Occupation (ISCO-68 code)	Cases	Controls	OR*	90% CI
Total	15 592	2210		
Never employed in construction	10 863	1808	1.00	Reference
Ever employed in construction	4729	402	2.00	1.82-2.21
Blue collars (55, 56, 581, 628, 631, 7-9)	4506	342	2.24	2.02-2.48
Bricklayers, carpenters, and other construction workers (95)	2877	183	2.60	2.28-2.98
Bricklayers, stonemasons and tile setters (951)	1921	127	2.48	2.12-2.91
Bricklayers (95120)	1778	118	2.44	2.07-2.87
Reinforced concreters, cement finishers and terrazzo workers (952)	35	0	NC	
Roofers (953)	66	3	4.55	1.71-12.1
Carpenters, joiners and parquetry workers (954)	161	9	3.19	1.80-5.65
Plasterers (955)	20	2	1.66	0.48-5.81
Insulators (956)	122	4	6.16	2.66-14.3
Glaziers (957)	1	12	NC	
Construction workers NEC (959)	873	39	3.49	2.65-4.60
Other blue collar occupations				
Electrical wiremen (855)	298	40	1.38	1.03-1.83
Electrical linemen and cable jointers (857)	119	8	2.64	1.44-4.85
Plumbers and pipe fitters (871)	608	31	3.54	2.60-4.82
Welders and flame-cutters (872)	18	0	NC	
Sheet-metal workers (873)	33	1	7.06	1.32-37.8
Structural metal preparers and erectors (874)	121	3	7.37	2.81-19.4
Painters, construction (931)	241	33	1.25	0.91-1.71
Crane and hoist operators (973)	49	4	2.39	1.01-5.67
Earth-moving and related machinery operators (974)	100	23	0.69	0.47-1.03
Motor-vehicle drivers (985)	70	11	1.08	0.63-1.88
Labourers NEC (999)	101	5	3.21	1.50-6.88

ISCO, International Standard Classification of Occupations (1968); ISIC, International Standard Industry Classification (1971); NC, not calculable; NEC, not elsewhere classified.

*OR calculated with unconditional logistic regression models adjusted for age (categorical) and period.

Supplementary Figure 4 Pleural mesothelioma odds ratios (OR) and 90% confidence intervals (CI) for selected occupations in men in the construction industry (ISIC-71 code 5000) in four analyses, Italy, 2000–2018. Results of the **secondary approach** (all subjects included, also those ever employed in non-construction blue collar occupations for >5 years): ever employed in construction, blue collars, and three-digits ISCO-68 unit groups within minor group 95 "Bricklayers, carpenters and other construction workers". A1: overall analysis using all Italian cases, 2000-2018; A2: analysis with cases selected from the same periods of controls; A3: analysis with cases selected from the same areas of controls; A4: analysis with cases selected from the same periods and areas of controls. In parentheses the International Standard Classification of Occupations (ISCO, 1968) codes.

Analysis	Cases	Controls	OR (90% CI)
Ever construction (ISIC codes: 5000)			
A1	4729	402	2.00 (1.81, 2.20)
A2	2102	402	2.03 (1.82, 2.26)
A3	2758	402	2.01 (1.82, 2.22)
A4	1261	402	2.05 (1.82, 2.31)
Blue collars			
A1	4506	342	2.24 (2.02, 2.48)
A2	2001	342	2.26 (2.02, 2.53)
A3	2625	342	2.23 (2.00, 2.48)
A4	1200	342	2.29 (2.02, 2.59)
Bricklayers, carpenters and other construction workers (95)			
A1	2877	183	2.60 (2.27, 2.97)
A2	1270	183	2.70 (2.33, 3.13)
A3	1713	183	2.63 (2.29, 3.03)
A4	776	183	2.75 (2.35, 3.22)
Bricklayers, stonemasons and tile setters (951)			
A1	1921	127	2.48 (2.12, 2.91)
A2	887	127	2.88 (2.42, 3.43)
A3	1220	127	2.70 (2.29, 3.18)
A4	575	127	3.12 (2.59, 3.75)
Bricklayers (95120)			
A1	1778	118	2.44 (2.07, 2.87)
A2	813	118	2.78 (2.33, 3.32)
A3	1161	118	2.75 (2.32, 3.26)
A4	547	118	3.22 (2.66, 3.89)
Roofers (953)			
A1	66	3	4.55 (1.71, 12.11)
A2	27	3	4.46 (1.57, 12.66)
A3	50	3	6.40 (2.39, 17.15)
A4	20	3	6.33 (2.16, 18.51)
Carpenters, joiners and parquetry workers (954)			
A1	161	9	3.19 (1.80, 5.65)
A2	53	9	2.32 (1.23, 4.38)
A3	90	9	3.09 (1.72, 5.56)
A4	32	9	2.41 (1.21, 4.80)
Plasterers (955)			
A1	20	2	1.66 (0.48, 5.77)
A2	8	2	1.09 (0.24, 4.92)
A3	19	2	2.74 (0.78, 9.64)
A4	8	2	1.92 (0.42, 8.71)
Insulators (956)			
A1	122	4	6.16 (2.66, 14.28)
A2	46	4	5.02 (2.07, 12.17)
A3	79	4	7.14 (3.05, 16.72)
A4	26	4	5.04 (1.99, 12.77)
Construction workers not elsewhere classified (959)			
A1	873	39	3.49 (2.65, 4.60)
A2	367	39	2.88 (2.14, 3.87)
A3	435	39	2.81 (2.11, 3.74)
A4	192	39	2.31 (1.68, 3.17)

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Supplementary Figure 5 Pleural mesothelioma odds ratios (OR) and 90% confidence intervals (CI) for selected occupations in men in the construction industry (ISIC-71 code 5000) in four analyses, Italy, 2000–2018. Results of the **secondary approach** (all subjects included, also those ever employed in non-construction blue collar occupations for >5 years): other three-digit ISCO-68 unit groups. A1: overall analysis using all Italian cases, 2000-2018; A2: analysis with cases selected from the same periods of controls; A3: analysis with cases selected from the same areas of controls; A4: analysis with cases selected from the same periods and areas of controls. In parentheses the International Standard Classification of Occupations (ISCO, 1968) codes.

Analysis	Cases	Controls	OR (90% CI)
Electrical wiremen (855)			
A1	298	40	1.38 (1.04, 1.84)
A2	123	40	1.21 (0.87, 1.68)
A3	193	40	1.57 (1.17, 2.11)
A4	82	40	1.39 (0.97, 1.99)
Electrical linemen and cable jointers (857)			
A1	119	8	2.64 (1.44, 4.84)
A2	57	8	2.59 (1.35, 4.96)
A3	63	8	2.42 (1.29, 4.54)
A4	31	8	2.42 (1.20, 4.87)
Plumbers and pipe fitters (871)			
A1	608	31	3.54 (2.60, 4.82)
A2	285	31	3.43 (2.47, 4.77)
A3	335	31	3.44 (2.50, 4.73)
A4	159	31	3.35 (2.36, 4.76)
Sheet-metal workers (873)			
A1	33	1	7.06 (1.32, 37.76)
A2	17	1	10.34 (1.85, 57.79)
A3	16	1	5.23 (0.94, 29.09)
A4	7	1	6.16 (0.97, 39.12)
Structural metal preparers and erectors (874)			
A1	121	3	7.37 (2.81, 19.36)
A2	43	3	6.05 (2.20, 16.63)
A3	54	3	4.90 (1.82, 13.16)
A4	16	3	2.82 (0.95, 8.40)
Painters, construction (931)			
A1	241	33	1.25 (0.91, 1.71)
A2	114	33	1.40 (0.98, 1.99)
A3	147	33	1.29 (0.93, 1.79)
A4	68	33	1.43 (0.97, 2.11)
Crane and hoist operators (973)			
A1	49	4	2.39 (1.01, 5.66)
A2	22	4	3.01 (1.19, 7.61)
A3	25	4	2.18 (0.89, 5.36)
A4	11	4	2.55 (0.93, 7.00)
Earth-moving and related machinery operators (974)			
A1	100	23	0.69 (0.47, 1.02)
A2	52	23	0.74 (0.47, 1.17)
A3	65	23	0.77 (0.50, 1.18)
A4	32	23	0.70 (0.41, 1.19)
Motor-vehicle drivers (985)			
A1	70	11	1.08 (0.63, 1.87)
A2	33	11	1.41 (0.75, 2.64)
A3	42	11	1.18 (0.66, 2.11)
A4	21	11	1.63 (0.82, 3.23)
Labourers not elsewhere classified (999)			
A1	101	5	3.21 (1.50, 6.87)
A2	44	5	3.44 (1.52, 7.79)
A3	26	5	1.41 (0.61, 3.26)
A4	19	5	3.16 (1.29, 7.72)

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