Appendix 1.

Missing data pattern
The multiple imputation process assesses the pattern of missing data. Presence or absence of a monotone pattern indicates which approach to take. In this case the missing-value pattern was monotone therefore multiple imputation was performed using the monotone method.

Merged dataset - Missing data at 1st pregnancy
Proportions of missing data for each of the variables that were imputed

Variable	Missing data at 1st pregnancy	
	Stillbirth N = 6288 (%)	Livebirth N = 1,058,276
BMI	5,258 (83.6)	843,337 (79.7)
Smoking status	2,821 (44.9)	354,226 (33.5)
Marital status	718 (11.4)	76,061 (7.2)
Socioeconomic status	167 (2.7)	22,322 (2.1)
Gestational age at birth	31 (0.5)	3,270 (0.3)

Missing data
BMI was the variable with most missing data.

Finnish data
In Finland collection of maternal BMI commenced in 2003.

Variable	Stillbirth (2nd pregnancy)		Livebirth (2nd pregnancy)	
BMI	Missing (%)	Not missing (%)	Missing (%)	Not missing (%)
1987-2002	71.3	28.7	61.8	38.2
2003-2015	8.7	91.3	3.2	96.8

Lamont K, Scott NW, Gissler M, Gatt M, Bhattacharya S. Risk of recurrent stillbirth in subsequent pregnancies. Obstet Gynecol 2022;139.

Comparison between women in Finland with a stillbirth and women with a livebirth with and without BMI recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		BMI		BMI	
		Data missing (n = 1,042) 71.3%	Data not missing (n = 419) 28.7%	Data missing (n = 318,099) 61.8%	Data not missing (n = 196,400) 38.2%
Smoking status	n (%)	167 (16.0)	21 (5.0)	9,131 (2.9)	4,002 (2.0)
Marital status	n (%)	123 (11.8)	32 (7.6)	9,759 (3.1)	319 (0.2)
Social class	n (%)	-	-	-	-

Comparison between women in Finland with a stillbirth and women with a livebirth with and without smoking status recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Smoking status		Smoking status	
		Data missing (n = 188) 12.9%	Data not missing (n = 1,273) 87.1%	Data missing (n = 13,133) 2.6%	Data not missing (n = 501,366) 97.4%
BMI	n (%)	167 (88.8)	875 (68.7)	9,131 (69.5)	308,968 (61.6)
Marital status	n (%)	73 (38.8)	82 (6.4)	1,388 (10.6)	8,690 (1.7)
Social class	n (%)	-	-	-	-

Comparison between women in Finland with a stillbirth and women with a livebirth with and without marital status recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Marital status		Marital status	
		Data missing (n = 155) 10.6%	Data not missing (n = 1,306) 89.4%	Data missing (n = 10,078) 2.0%	Data not missing (n = 504,421) 98.0%
BMI	n (%)	123 (79.4)	919 (70.4)	9,759 (96.8)	308,340 (61.1)
Smoking status	n (%)	73 (47.1)	115 (8.8)	1,388 (13.8)	11,745 (2.3)
Social class	n (%)	-	-	-	-

There was no data missing on social class in the Finnish dataset as any missing are included in the 'others' group (20%).

Maltese data

In the Maltese data information on maternal BMI was available from 1999 and less than 10% was missing.

Comparison between women in Malta with a stillbirth and women with a livebirth with and without BMI recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		BMI		BMI	
		Data missing (n = 7) 9.0%	Data not missing (n = 71) 91.0%	Data missing (n = 1213) 6.9%	Data not missing (n = 16,333) 93.1%
Smoking status	n (%)	no data missing	no data missing	77 (6.3)	89 (0.5)
Marital status	n (%)	1 (14.3)	no data missing	3 (0.2)	27 (0.2)
Maternal education	n (%)	7 (100)	46 (64.8)	870 (71.7)	10,011 (61.3)

Comparison between women in Malta with a stillbirth and women with a livebirth with and without smoking status recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Smoking status		Smoking status	
				Data missing (n = 166) 0.9%	Data not missing (n = 17,380) 99.1%
BMI	n (%)	There were no data missing on smoking status in the stillbirth group		77 (46.4)	1,136 (6.5)
Marital status	n (%)			2 (1.2)	28 (0.2)
Maternal education	n (%)			134 (80.7)	10,747 (61.8)

Comparison between women in Malta with a stillbirth and women with a livebirth with and without marital status recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Marital status		Marital status	
		Data missing (n = 1) 1.3%	Data not missing (n = 77) 98.7%	Data missing (n = 30) 0.2%	Data not missing (n = 17,516) 99.8%
BMI	n (%)	1 (100)	6 (7.8)	3 (10.0)	1,210 (6.9)
Smoking status	n (%)	no data missing	no data missing	2 (6.7)	164 (0.9)
Maternal education	n (%)	1 (100)	52 (67.5)	17 (56.7)	10,864 (62.0)

Comparison between women in Malta with a stillbirth and women with a livebirth with and without level of education recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Maternal education		Maternal education	
		Data missing (n = 53) 67.9%	Data not missing (n = 25) 32.1%	Data missing (n = 10,881) 62.0%	Data not missing (n = 6,665) 38.0%
BMI	n (%)	7 (13.2)	no data missing	870 (8.0)	343 (5.1)
Smoking status	n (%)	no data missing	no data missing	134 (1.2)	32 (0.5)
Marital status	n (%)	1 (1.9)	no data missing	17 (0.2)	13 (0.2)

Scottish data

In Scotland collection of maternal height and weight became compulsory in 2011.

Variable	Stillbirth (2nd pregnancy)		Livebirth (2nd pregnancy	
BMI	Missing (%)	Not missing (%)	Missing (%)	Not missing (%)
1981-2010	80	20	76	24
2011-2015	14.5	85.5	9.1	90.9

Comparison between women in Scotland with a stillbirth and women with a livebirth with and without BMI recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		BMI		BMI	
		Data missing (n = 1,592) 80.0%	Data not missing (n = 398) 20.0%	Data missing (n = 406,186) 76.0%	Data not missing (n = 128,488) 24.0%
Smoking status	n (%)	1,111 (69.8)	19 (4.8%)	272,169 (67.0)	2,966 (2.3)
Marital status	n (%)	100 (6.3%)	179 (45.0%)	19,561 (4.8)	60,008 (46.7)
Socioeconomic status	n (%)	36 (2.3)	no data missing	11,169 (2.7)	386 (0.3)

Comparison between women in Scotland with a stillbirth and women with a livebirth with and without smoking status recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Smoking status		Smoking status	
		Data missing (n = 1,130) 56.8%	Data not missing (n = 860) 43.2%	Data missing (n = 275,135) 51.5%	Data not missing (n = 259,539) 48.5%
BMI	n (%)	1,111 (98.3)	481 (55.9)	272,169 (98.9)	134,017 (51.6)
Marital status	n (%)	51 (4.5)	228 (26.5)	7,611 (2.8)	71,958 (27.7)
Socioeconomic status	n (%)	32 (2.8)	4 (0.5)	10,679 (3.9)	876 (0.3)

Comparison between women in Scotland with a stillbirth and women with a livebirth with and without marital status recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Marital status		Marital status	
		Data missing (n = 279) 14.0%	Data not missing (n = 1,711) 86.0%	Data missing (n = 79,569) 14.9%	Data not missing (n = 455,105) 85.1%
BMI	n (%)	100 (35.8)	1,492) (87.2)	19,561 (24.6)	386,625 (85.0)
Smoking status	n (%)	51 (18.3)	1,079 (63.1)	7,611 (9.6)	267,524 (58.8)
Socioeconomic status	n (%)	2 (0.7)	34 (2.0)	314 (0.4)	11,241 (2.5)

Comparison between women in Scotland with a stillbirth and women with a livebirth with and without socioeconomic status recorded at the second pregnancy

Variable		Stillbirth 2nd pregnancy		Livebirth 2nd pregnancy	
		Deprivation category		Deprivation category	
		Data missing (n = 36) (1.8%)	Data not missing (n = 1,954) (98.2)	Data missing (n = 11,555) 2.2%	Data not missing (n = 523,119) 97.8%
BMI	n (%)	36 (100)	1,556 (79.6)	11,169 (96.7)	395,017 (75.5)
Smoking status	n (%)	32 (88.9)	1,098 (56.2)	10,679 (92.4)	264,456 (50.6)
Marital status	n (%)	2 (5.6)	277 (14.2)	314 (2.7)	79,255 (15.2)

Appendix 2. Adjusted Hazard Ratios for Stillbirth in Any Subsequent Pregnancy by First Pregnancy Characteristics and Outcome in Women in Finland 1987-2015, Malta 1999-2015 and Scotland 1981-2015

Maternal and obstetric characteristics	non-MI HR	95%CI	*p*	MI HR	95%CI	*p*
1st pregnancy outcome						
Stillbirth	2.40	1.99 to 2.88	**<.001**	2.25	1.86 to 2.72	**<.001**
Livebirth	1.00					
Country						
Scotland	1.00					
Finland	1.08	0.99 to 1.17	0.079	1.08	1.01 to 1.15	**0.026**
Malta	1.41	1.09 to 1.82	**0.009**	1.41	1.14 to 1.74	**0.001**
Maternal age (years)						
<20	1.64	1.51 to 1.79	**<.001**	1.63	1.49 to 1.77	**<.001**
20-24	1.25	1.17 to 1.34	**<.001**	1.25	1.16 to 1.33	**<.001**
25-29	1.00					
30-34	1.05	0.96 to 1.14	0.292	1.06	0.97 to 1.15	0.193
35-39	1.07	0.92 to 1.25	0.393	1.08	0.93 to 1.27	0.317
≥40	1.65	1.08 to 2.55	**0.022**	1.68	1.09 to 2.58	**0.019**
BMI (kg/m^3)						
<18.5	1.09	0.75 to 1.57	0.658	1.02	0.81 to 1.28	0.893
18.5-24.9	1.00					
25-29	1.20	1.01 to 1.43	**0.043**	1.03	0.94 to 1.13	0.504
≥30	1.17	0.94 to 1.47	0.166	1.03	0.93 to 1.14	0.565
Not known	1.20	1.07 to 1.33	**0.001**			
Marital status						
Married/cohabiting/registered partnership	1.00					
Other	1.18	1.10 to 1.26	**<.001**	1.20	1.11 to 1.29	**<.001**
Not known	0.97	0.87 to 1.09	0.636			

Lamont K, Scott NW, Gissler M, Gatt M, Bhattacharya S. Risk of recurrent stillbirth in subsequent pregnancies. Obstet Gynecol 2022;139.
The authors provided this information as a supplement to their article.

Appendix 2 (continued). Adjusted Hazard Ratios for Stillbirth in Any Subsequent Pregnancy by First Pregnancy Characteristics and Outcome in Women in Finland 1987-2015, Malta 1999-2015 and Scotland 1981-2015

Maternal and obstetric characteristics	non-MI HR	95%CI	*p*	MI HR	95%CI	*p*
Smoking status during pregnancy						
Did not smoke	1.00					
Smoked during pregnancy	1.18	1.09 to 1.29	**<.001**	1.12	1.03 to 1.21	**0.006**
Stopped/former smoker	0.89	0.75 to 1.06	0.182	0.98	0.83 to 1.14	0.754
Not known	1.05	0.99 to 1.12	0.136			
High and low socioeconomic status						
High	1.00					
Low	1.16	1.08 to 1.24	**<.001**	1.14	1.06 to 1.22	**<.001**
Not known	1.15	0.93 to 1.41	0.199			
Pre-existing diabetes						
No	1.00					
Yes	2.37	1.85 to 3.05	**<.001**	2.42	1.88 to 3.11	**<.001**
Pre-existing hypertension						
No	1.00					
Yes	1.09	0.87 to 1.37	0.464	1.04	0.83 to 1.31	0.746
Pre-eclampsia						
No	1.00					
Yes	1.27	1.12 to 1.45	**<.001**	1.27	1.12 to 1.44	**<.001**
Placental abruption						
No	1.00					
Yes	1.41	1.07 to 1.85	**0.016**	1.41	1.06 to 1.86	**0.016**
Placenta praevia						
No	1.00					
Yes	1.12	0.72 to 1.74	0.616	1.13	0.73 to 1.75	0.595
APH						
No	1.00					
Yes	0.98	0.81 to 1.18	0.811	0.98	0.81 to 1.18	0.811

Appendix 2 (continued). Adjusted Hazard Ratios for Stillbirth in Any Subsequent Pregnancy by First Pregnancy Characteristics and Outcome in Women in Finland 1987-2015, Malta 1999-2015 and Scotland 1981-2015

Maternal and obstetric characteristics	non-MI HR	95%CI	*p*	MI HR	95%CI	*p*
IUGR						
No	1.00					
Yes	1.59	1.40 to 1.82	**<.001**	1.58	1.39 to 1.81	**<.001**
Gestational age at birth						
20-28 weeks	2.95	2.41 to 3.61	**<.001**	2.91	2.37 to 3.58	**<.001**
29-32 weeks	2.63	2.22 to 3.12	**<.001**	2.63	2.22 to 3.12	**<.001**
33-36 weeks	1.49	1.34 to 1.66	**<.001**	1.48	1.33 to 1.65	**<.001**
37-42 weeks	1.00					
>43 weeks	0.91	0.57 to 1.45	0.690	0.89	0.56 to 1.42	0.630
Not known	1.47	0.99 to 2.19	0.058			