

## SUPPLEMENTARY ONLINE APPENDIX - Tables and figures

### List of contents

Table S2	Hazard ratios of ID in subgroups of boys and girls.....	3
Table S3	Hazard ratios of ID in subgroups by sex and preterm/term births.....	4
Table S4	Hazard ratios for ID in offspring of mothers with T1D in subgroups by maternal BMI.....	5
Table S5	Hazard ratios for ID in offspring of mothers with T1D in subgroups of size for gestational age.....	6
Table S6	Hazard ratios for ID in offspring of mothers with T1D in subgroups of HbA1c quintiles .....	7
Figure S1	Cumulative risk of ID in offspring of mothers with T1D compared with offspring of mothers without T1D.....	8
Figure S2	Hazard ratios for ID by maternal age for offspring of women with and without type-1 diabetes (T1D)...	9

**SUPPLEMENTARY ONLINE APPENDIX - Tables and figures**

**Table S1.** Diagnostic codes

<b>Diagnosis</b>	<b>ICD-10 code</b>
Intellectual disability	F70 Mild intellectual disabilities F71 Moderate intellectual disabilities F72 Severe intellectual disabilities F73 Profound intellectual disabilities F78 Other intellectual disabilities F79 Unspecified intellectual disabilities
Type 1 diabetes	E 10

ICD: International Classification of Diseases;

**SUPPLEMENTARY ONLINE APPENDIX - Tables and figures**

**Table S2.** Hazard ratios for ID in subgroups of boys and girls

Model	Boys			Number of subjects	Girls	
	Number of subjects	Rate (Cases; Person years)	Hazard ratio (95% CI)		Rate (Cases; Person years)	Hazard ratio (95% CI)
Crude	723,661	74 (5,172; 6,970,589)	1.69 (1.26 – 2.26)	682,780	51 (3,351; 6,582,630)	2.24 (1.63 – 3.07)
Adjusted#			1.52 (1.13 – 2.04)			2.00 (1.46 – 2.75)

# adjusted for birth year and parental age by natural spline and parental psychiatric history and education. CI: Two-sided 95% confidence interval; Rate: Cases per 100,000 person years

**SUPPLEMENTARY ONLINE APPENDIX - Tables and figures**

**Table S3.** Relative risk (Hazard ratios) of ID in offspring to mothers with T1D compared to mother without T1D diagnosis – by sex and preterms/term births.

Population	Preterm born children			Term born children		
	Number of subjects	Rate (Cases; Person years)	Hazard ratio (95% CI)	Number of subjects	Rate (Cases; Person years)	Hazard ratio (95% CI)
Male offspring, adjusted	43,923	189 (806; 426,182)	1.09 (0.70 – 1.70)	679,738	67 (4,366; 6,544,407)	1.28 (0.86 – 1.89)
Female offspring, adjusted	37,949	136 (506; 370,792)	0.75 (0.39 – 1.46)	644,831	46 (2,845; 6,211,837)	2.26 (1.58 – 3.24)

Note: Adjusted models, adjusted for birth year and parental age by natural spline and parental psychiatric history and education ; CI: Two-sided 95% confidence interval; Rate: Cases per 100,000 person years

**SUPPLEMENTARY ONLINE APPENDIX - Tables and figures**

**Table S4.** Hazard ratios for ID in offspring of mothers with T1D in subgroups by maternal BMI

<b>Maternal BMI</b>	<b>Number of subjects</b>	<b>Rate (Cases; Person years)</b>	<b>Crude hazard ratio (95% CI)</b>	<b>Adjusted hazard ratio (95% CI)</b>
Normal weight BMI <25	815,764	51 (3,994; 7,769,650)	1.69 (1.16 – 2.47)	1.55 (1.06 – 2.26)
Overweight BMI 25-30	307,938	68 (1,974; 2,917,424)	1.60 (1.05 – 2.44)	1.52 (1.00 – 2.31)
Obesity BMI 30-	145,241	116 (1,514; 1,310,585)	1.83 (1.19 – 2.82)	1.59 (1.03 – 2.45)

Model adjusted for fetal sex, parental age and psychiatric history; CI: Two-sided 95% confidence interval; Rate: Cases per 100,000 person years. BMI: Body Mass Index

**SUPPLEMENTARY ONLINE APPENDIX - Tables and figures**

**Table S5.** Hazard ratios for ID in offspring of mothers with T1D in subgroups of size for gestational age

<b>Size for gestational age</b>	<b>Number of subjects</b>	<b>Rate (Cases; Person years)</b>	<b>Crude hazard ratio (95% CI)</b>	<b>Adjusted hazard ratio (95% CI)</b>
Small for gestational age	25,881	253 (629; 249,030)	1.73 (0.65 – 4.64)	1.65 (0.62 – 4.42)
Appropriate for gestational age	1,282,879	58 (7,105; 12,335,667)	2.28 (1.75 – 2.97)	2.04 (1.57 – 2.65)
Large for gestational age	53,768	68 (360; 529,303)	1.49 (0.98 – 2.25)	1.35 (0.89 – 2.05)

#Model adjusted for birth year and parental age by natural splines and parental psychiatric history and education.; CI: Two-sided 95% confidence interval; Rate: Cases per 100,000 person years.

**SUPPLEMENTARY ONLINE APPENDIX - Tables and figures**

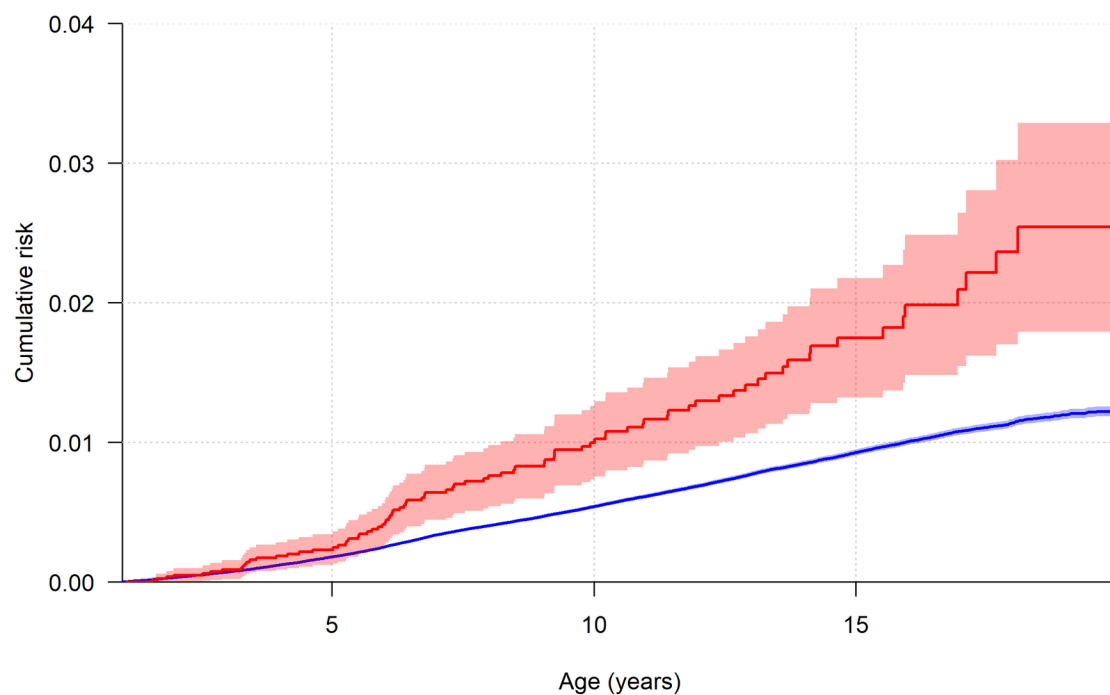
**Table S6.** Hazard ratios for ID in offspring of mothers with T1D in subgroups of HbA1c quintiles

<b>Quintile</b>	<b>HbA1c (mmol/ml)</b>	<b>Number of children</b>	<b>ID Children (%)</b>	<b>Preterm Children (%)</b>	<b>Maternal age</b>	<b>Compar- ison</b>	<b>Crude Hazard Ratio (95% CI)</b>	<b>Adjusted Hazard Ratio (95% CI)</b>
<b>Q1</b>	27 – 49	926	8 (0.86%)	132 (14.3%)	31.6	Reference	-	-
<b>Q2</b>	49 – 55	930	3 (0.32%)	170 (18.3%)	31.4	Q2 vs Q1	0.40 (0.11 – 1.52)	0.36 (0.09 – 1.35)
<b>Q3</b>	55 – 61	973	6 (0.62%)	210 (21.6%)	31.4	Q3 vs Q1	0.72 (0.25 – 2.07)	0.58 (0.20 – 1.68)
<b>Q4</b>	61 – 70	1048	9 (0.86%)	293 (28.0%)	30.8	Q4 vs Q1	1.05 (0.41 – 2.73)	0.80 (0.30 – 2.12)
<b>Q5</b>	70 - 177	978	5 (0.51%)	354 (36.2%)	29.5	Q5 vs Q1	0.65 (0.21 – 1.99)	0.44 (0.14 – 1.42)

Model adjusted for birth year and parental age by natural splines and parental psychiatric history and education.; CI: Two-sided 95% confidence interval; HbA1c data categorized into quintiles Q1: 0 to 20% of HbA1c, Q2: 20 to 40% of HbA1c, Q3: 40 to 60% of HbA1c, Q4: 60 to 80% of HbA1c, Q5: 80 to 100% of observed maternal HbA1c. mmol: micro mol; ml: milli Liter; ID: Intellectual disability; T1D: Type-1 diabetes.

## SUPPLEMENTARY ONLINE APPENDIX - Tables and figures

**Figure S1.** Inverse Kaplan-Meier Survival curves estimating age-cumulative probability of ID in offspring to mothers with T1D, compared to offspring to mothers without T1D

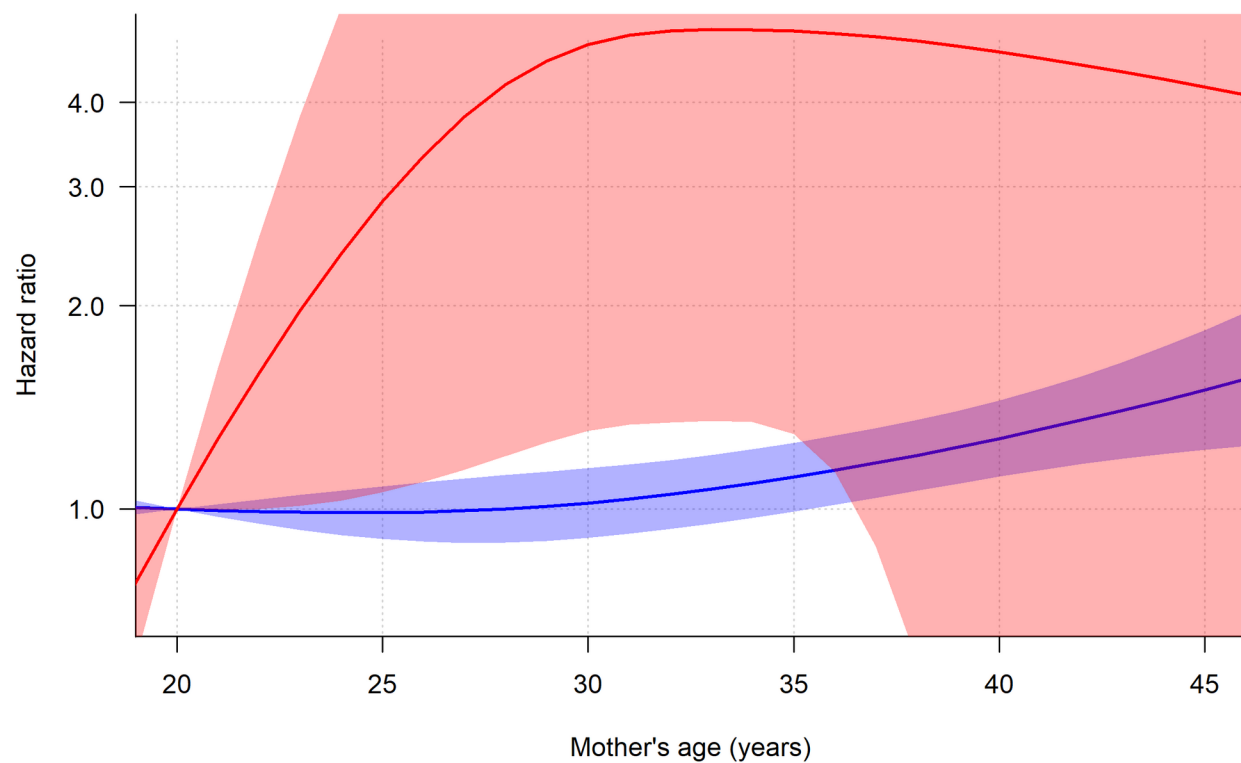


Note: Point estimates and two-sided 95% point-wise confidence intervals. T1D: type-1 diabetes; ID: Intellectual Disability



**SUPPLEMENTARY ONLINE APPENDIX - Tables and figures**

**Figure S2.** Risk of ID by maternal age for offspring of women with and without type-1 diabetes (T1D)



Note: Point estimates and two-sided 95% point-wise confidence intervals. T1D: type-1 diabetes; ID: Intellectual Disability