SUPPLEMENTARY DATA

Supplementary Table S1. Baseline characteristics of participants that developed diabetes with missing data on age of diagnosis and diabetes risk among those with valid date of diabetes diagnosis

(a) Baseline characteristics

	Diabetes cases with missing data on date of diagnosis	Diabetes cases with data on date of diagnosis	*P* Value
Number	11,514	31,646	
Age, years	17.4 ± 0.4	17.5 ± 0.4	0.867
Male, number (%)	7,458 (64.8)	23,464 (74.1)	<0.001
Female, number (%)	4,056 (35.2)	8,182 (25.9)	
Male height, cm	173.1 ± 6.9	173.5 ± 7.0	0.001
Female height, cm	162.1 ± 6.2	162.0 ± 6.3	0.436
Male BMI, kg/m^2	23.2 ± 4.2	23.3 ± 4.2	0.112
Female BMI, kg/m^2	23.9 ± 4.4	24.0 ± 4.4	0.208
BMI categories, number (%)			0.186
Underweight	490 (4.3)	1,469 (4.6)	
Normal weight	7,784 (67.6)	21,204 (67.0)	
Overweight and obese	3,240 (28.1)	8,973 (28.4)	
Completed high school education, %	67	65	<0.001
Residential socio-economic status, %			0.005
Low	30	29	
High	20	20	
Cognitive performance level, %			<0.001
Low	18	20	
Medium	72	69	
High	10	11	
Country of origin, %			<0.001
Israel	8	6	
Former U.S.S.R.	12	11	
Asia	28	27	
Africa	25	27	
Europe	27	27	
Ethiopia	1	1	
Period of enrollment, number (%)			<0.001
1979-1988	7,322 (63.6)	21,946 (69.3)	
1989-1998	3,202 (27.8)	7,845 (24.8)	
1999-2008	990 (8.6)	1,855 (5.9)	
Unimpaired health, %	80	80	0.472
Duration of follow-up, years	29.3 ± 6.9	30.2 ± 6.3	<0.001
Age at end of follow-up, years	46.8 ± 6.9	47.7 ± 6.4	<0.001

Comparison of baseline characteristics at late adolescence for participants who developed diabetes by missing data on the age of diabetes onset. Characteristics were clinically similar between groups.
*Follow-up extended from initial medical assessment until December 31, 2016.

SUPPLEMENTARY DATA

(b)   Risk for incident diabetes when accounting only cases with valid date of diabetes diagnosis by the INDR as valid diabetes cases.

	Resolved acute pancreatitis	No history of pancreatic disease
OR $_{adjusted}$	2.40	1 (Reference)
95% CI	1.25-4.61	
P value	0.009	
OR $_{adjusted}$ (main analysis)	2.10	1 (Reference)
95% CI	1.15-3.84	
P value	0.016	

Assessing the association between resolved acute pancreatitis and incident diabetes when considering only cases in the Israel National Diabetes Registry that included data on the time of diabetes onset as valid cases. Model was adjusted as in Figure 2, and the data of the main analysis shown in figure 2 are shown to facilitate comparison. As judged from this analysis the point estimates are similar (2.4 vs. 2.1).

SUPPLEMENTARY DATA

Supplementary Table S2. Outcome variables and hazard ratios for diabetes using Cox proportional-hazards models*

	Resolved pancreatitis	No pancreatic disease
Study follow-up[†]		
Cumulative duration – person-years	5,672	39,590,849
Mean duration, years	20.3 ± 7.5	22.1 ± 8.1
Incidence rate of diabetes per 10,000 person-years	21.2	8.2
Participants, n	280	1,789,869
Cases, n	12	32,616
HR minimally adjusted	2.73	1 (Reference)
95% CI	1.55 – 4.81	
P value	<0.001	
Participants, n	274	1,756,586
Cases, n	12	31,646
HR adjusted	2.36	1 (Reference)
95% CI	1.34 – 4.16	
P value	0.003	
Time to diabetes diagnosis, years	18.7 ± 5.0	23.2 ± 7.2

*Plus-minus values are means ± SD

†Follow-up extended from initial medical assessment to diabetes diagnosis, death or December 31, 2016, whichever came first.

The risk for incident diabetes with a history of resolved pancreatitis was relatively similar to the odds ratios calculated in the main analysis when using Cox proportional-hazards models. Note that subjects who developed diabetes and for whom date of diabetes diagnosis was not available are not included in this table.

Models were adjusted for the same variables as in the main analysis presented in Figure 2.

SUPPLEMENTARY DATA

Supplementary Table S3. Odds ratio for diabetes in adulthood, according to different cut-offs of age of diagnosis

Age of diagnosis	Resolved Pancreatitis	No Pancreatic Disease
≤ 50 yr.		
Participants, n	274	1,756,586
Cases, n	12	30,125
OR $_{adjusted}$	2.74	
95% CI	1.46 – 5.11	1 (Reference)
P value	0.002	
≤ 45 yr.		
Participants, n	274	1,756,586
Cases, n	12	23,672
OR $_{adjusted}$	3.38	
95% CI	1.83 – 6.27	1 (Reference)
P value	<0.001	
≤ 40 yr.		
Participants, n	274	1,756,586
Cases, n	11	15,018
OR $_{adjusted}$	4.65	
95% CI	2.48 – 8.72	1 (Reference)
P value	<0.001	
≤ 35 yr.		
Participants, n	274	1,756,586
Cases, n	5	7,618
OR $_{adjusted}$	3.82	
95% CI	1.56 – 9.36	1 (Reference)
P value	0.003	
≤ 30 yr.		
Participants, n	274	1,756,586
Cases, n	2	3,421
OR $_{adjusted}$	3.31	
95% CI	0.82 – 13.37	1 (Reference)
P value	0.093	

SUPPLEMENTARY DATA

Supplementary Table S4. The association between chronic pancreatic disease and incident diabetes in adulthood

	Chronic pancreatic disease	No history of pancreatic disease
Participants, n	113	1,801,716
Cases, n	9	44,463
OR minimally adjusted	6.19	1 (Reference)
95% CI	2.93 – 13.08	
P value	$1.76*10^{-6}$	
Participants, n	110	1,768,100
Cases, n	9	43,160
OR adjusted	5.67	1 (Reference)
95% CI	2.62 – 12.25	
P value	$1.01*10^{-5}$	

Logistic regression analysis was applied to assess the OR for diabetes among 113 participants with chronic pancreatic disease compared to the unexposed group that included all those that had no history of pancreatic disease. The chronic pancreatic disease group included those with two events or more of acute pancreatitis, chronic pancreatitis, or history of subtotal or partial pancreatectomy. Pre-specified minimally adjusted model includes age, sex and birth year. Fully multivariable model was additionally adjusted for BMI, cognitive performance level, education level, socioeconomic status and country of origin.

SUPPLEMENTARY DATA

Supplementary Figure S1. Adjusted Cox proportional survival curves by resolved pancreatitis or no pancreatic disease.