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Figure S1 Associations between glycated haemoglobin (HbA1c) and incidence of secondary cancer outcomes

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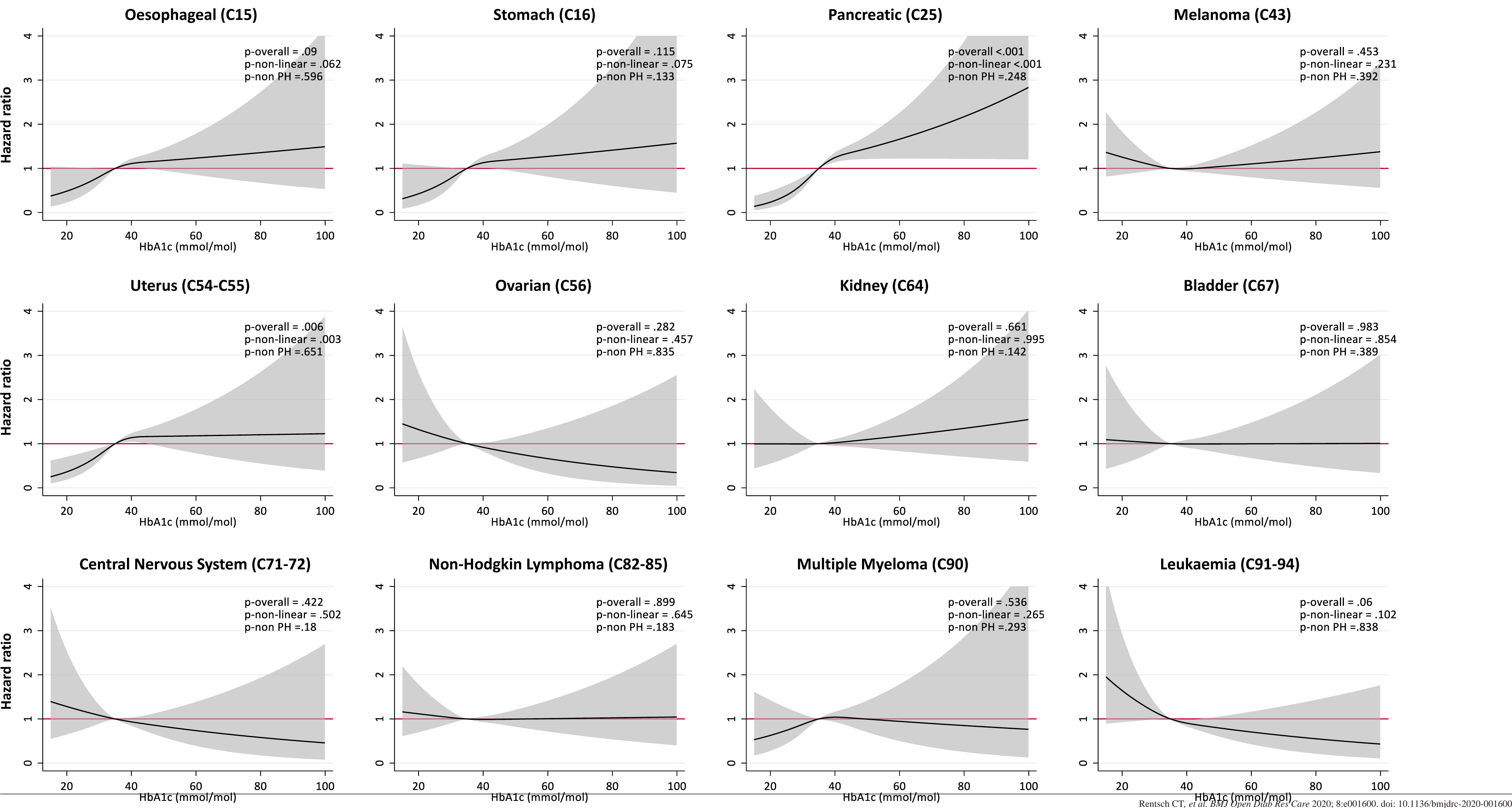
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Figure S2 Associations between glycated haemoglobin (HbA1c) and incidence of secondary cancer outcomes, excluding participants who reported diabetes diagnosis or metformin exposure at baseline
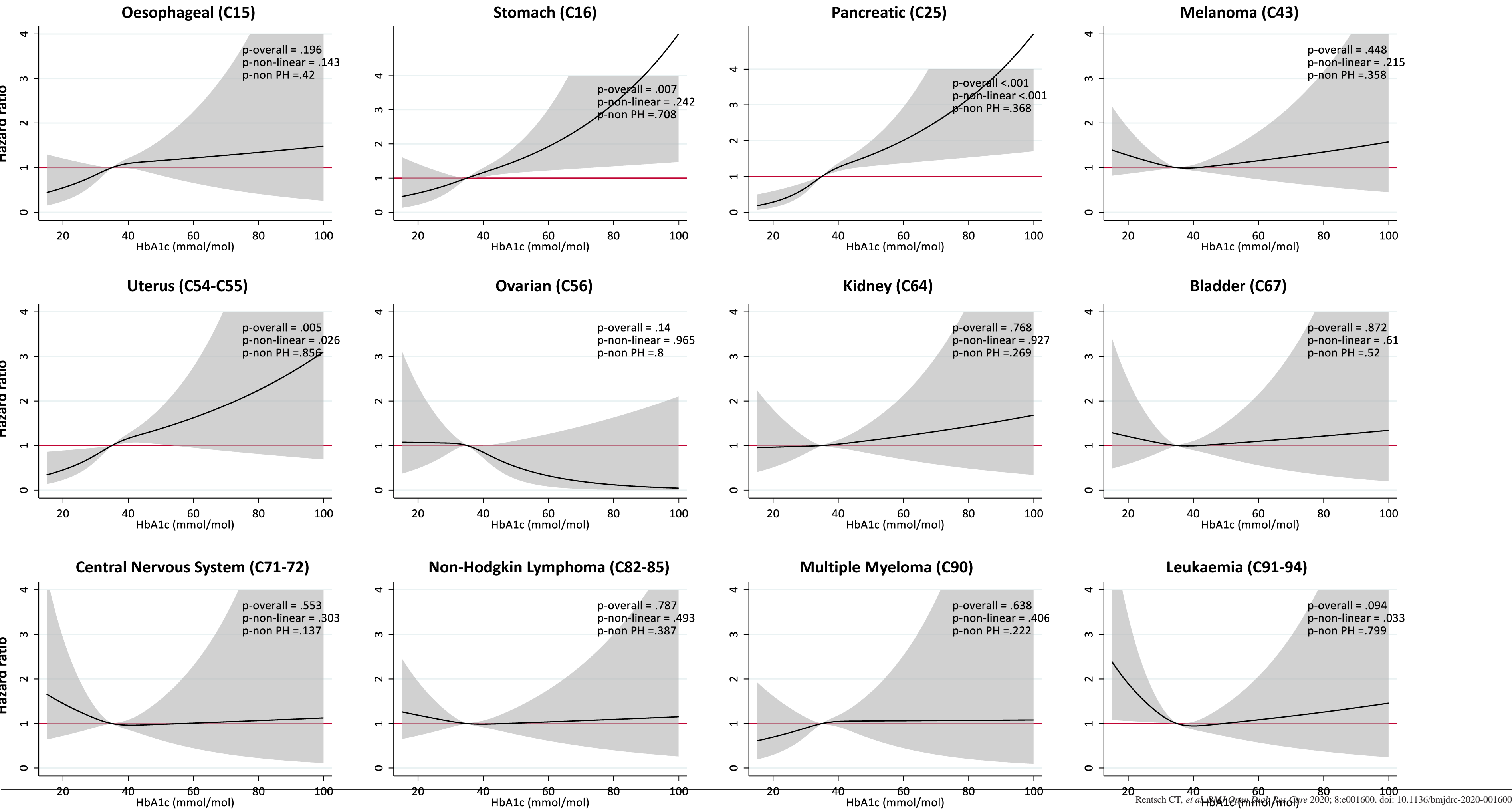
Figure S3 Associations between glycated haemoglobin (HbA1c) and incidence of 16 cancers, excluding participants with smoking history
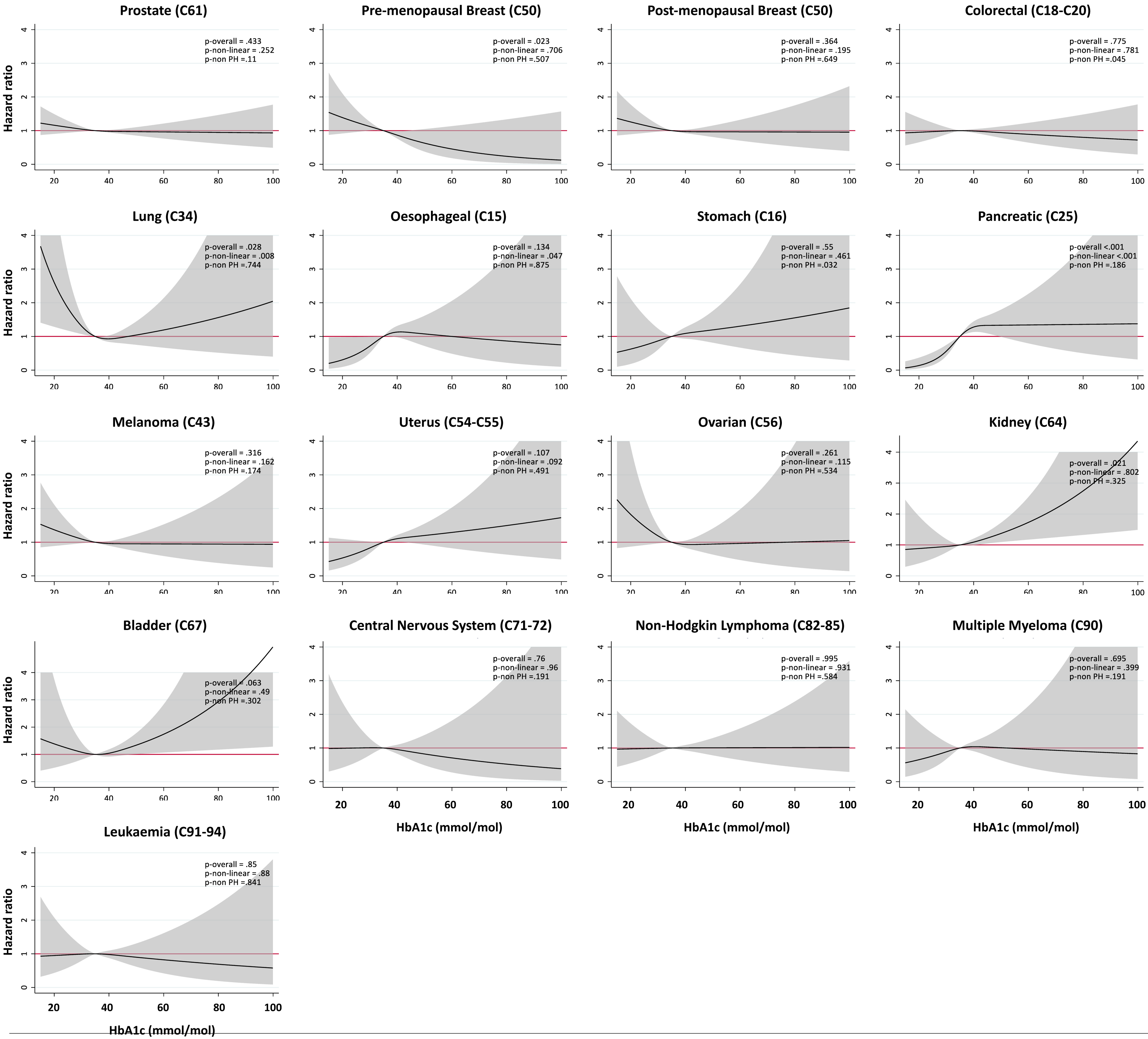
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Figure S4 Associations between glycated haemoglobin (HbA1c) and incidence of primary cancer outcomes, by time since baseline

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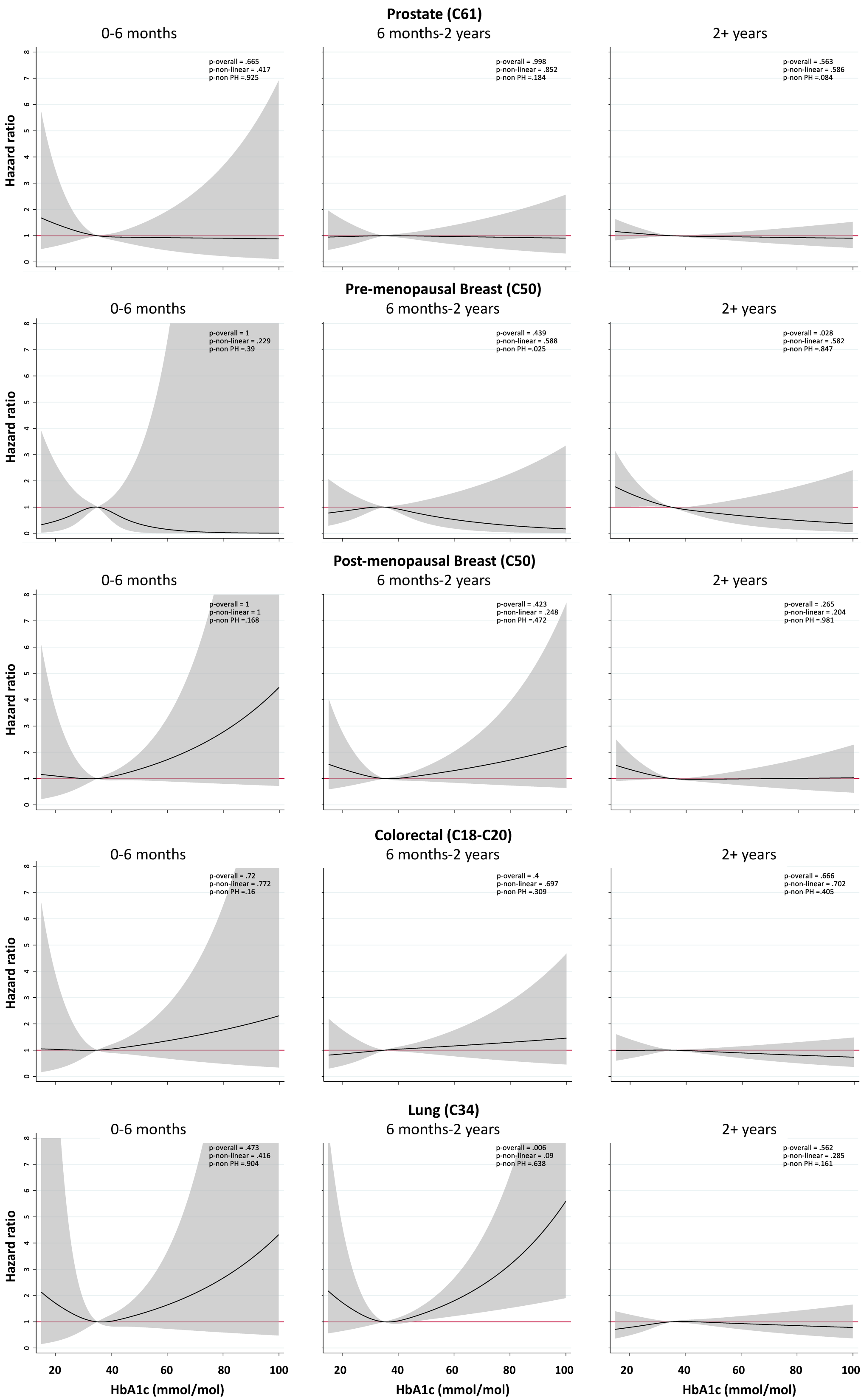
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Figure S5 Associations between glycated haemoglobin (HbA1c) and incidence of primary cancer outcomes, by time since baseline, excluding participants who reported diabetes diagnosis or metformin exposure at baseline
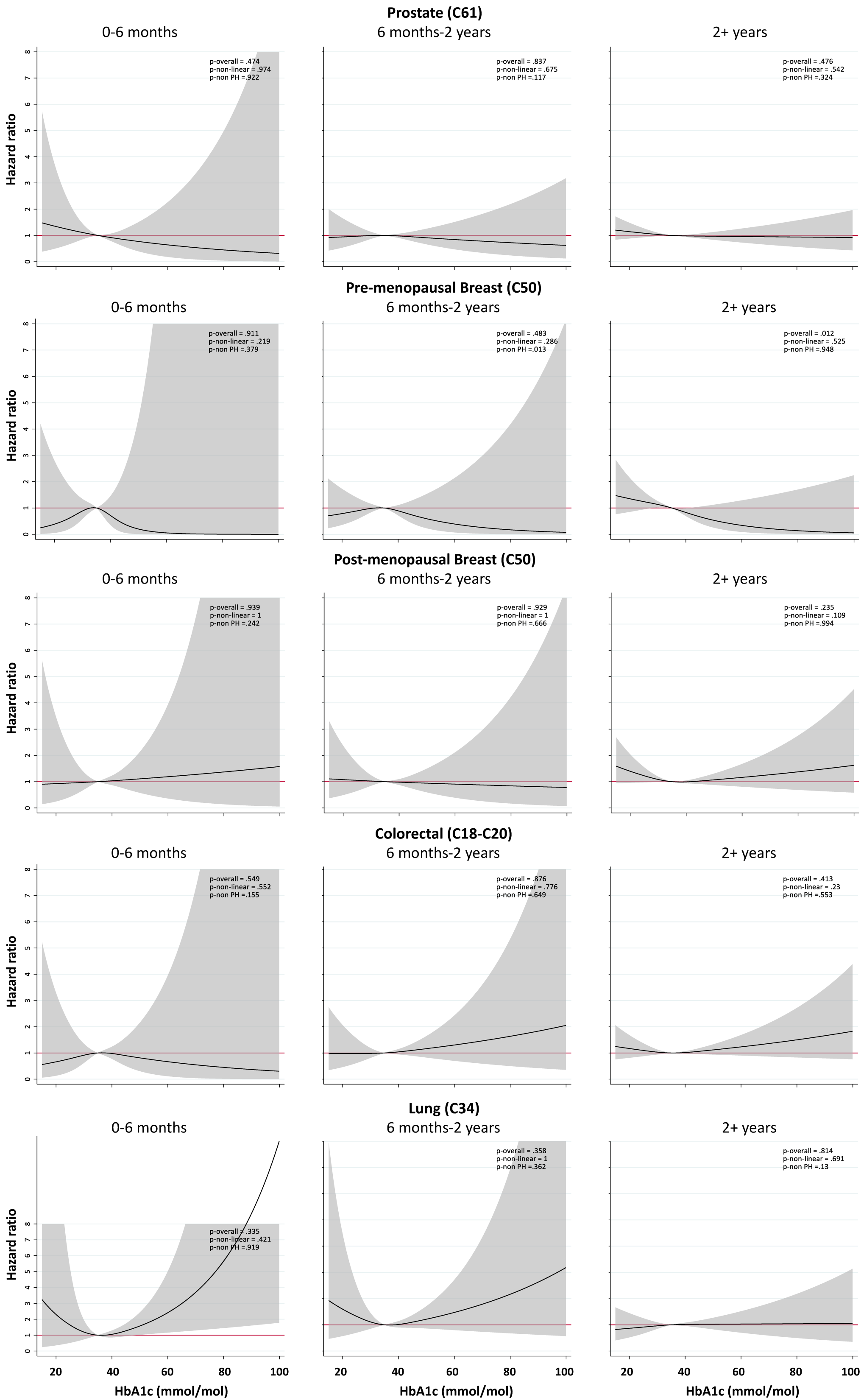
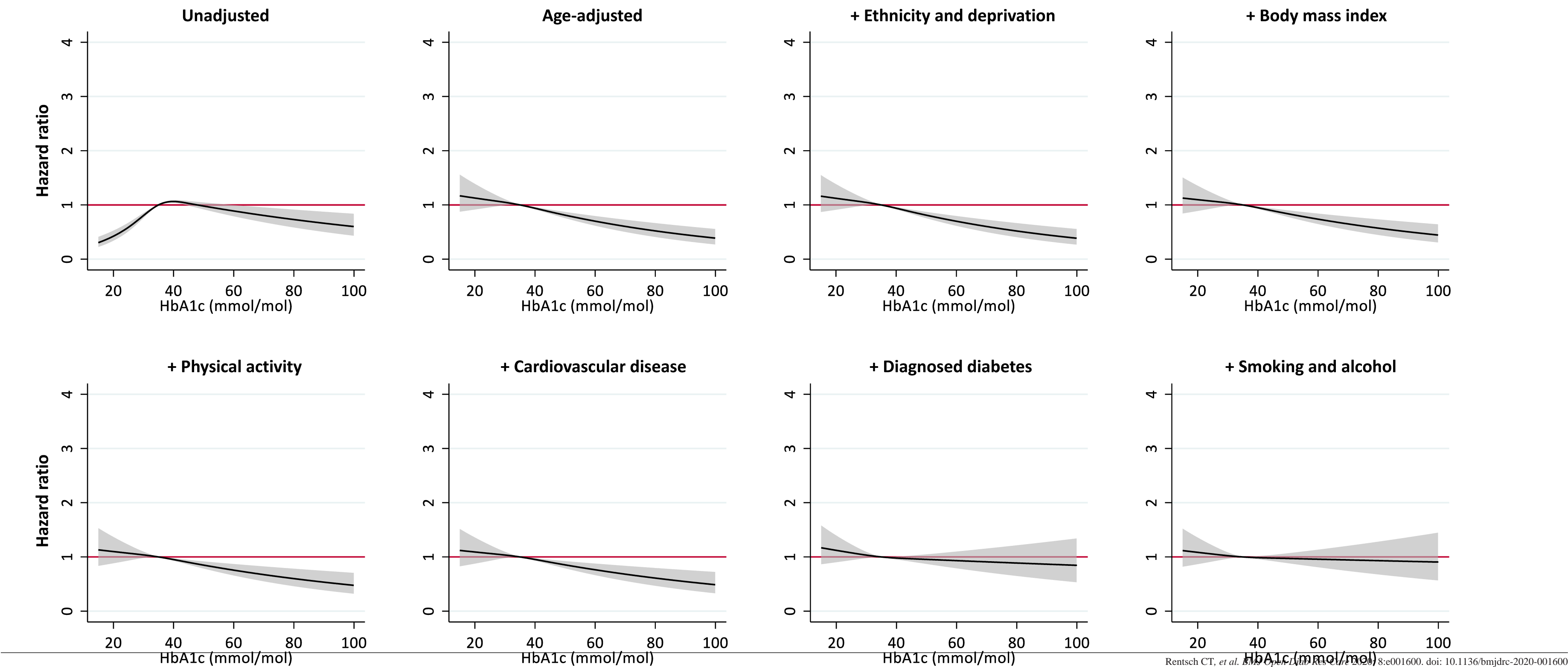**Figure S6** Prostate cancer and HbA1c at each additional confounder adjustment stage

Figure S7 Pre-menopausal breast cancer and HbA1c at each additional confounder adjustment stage
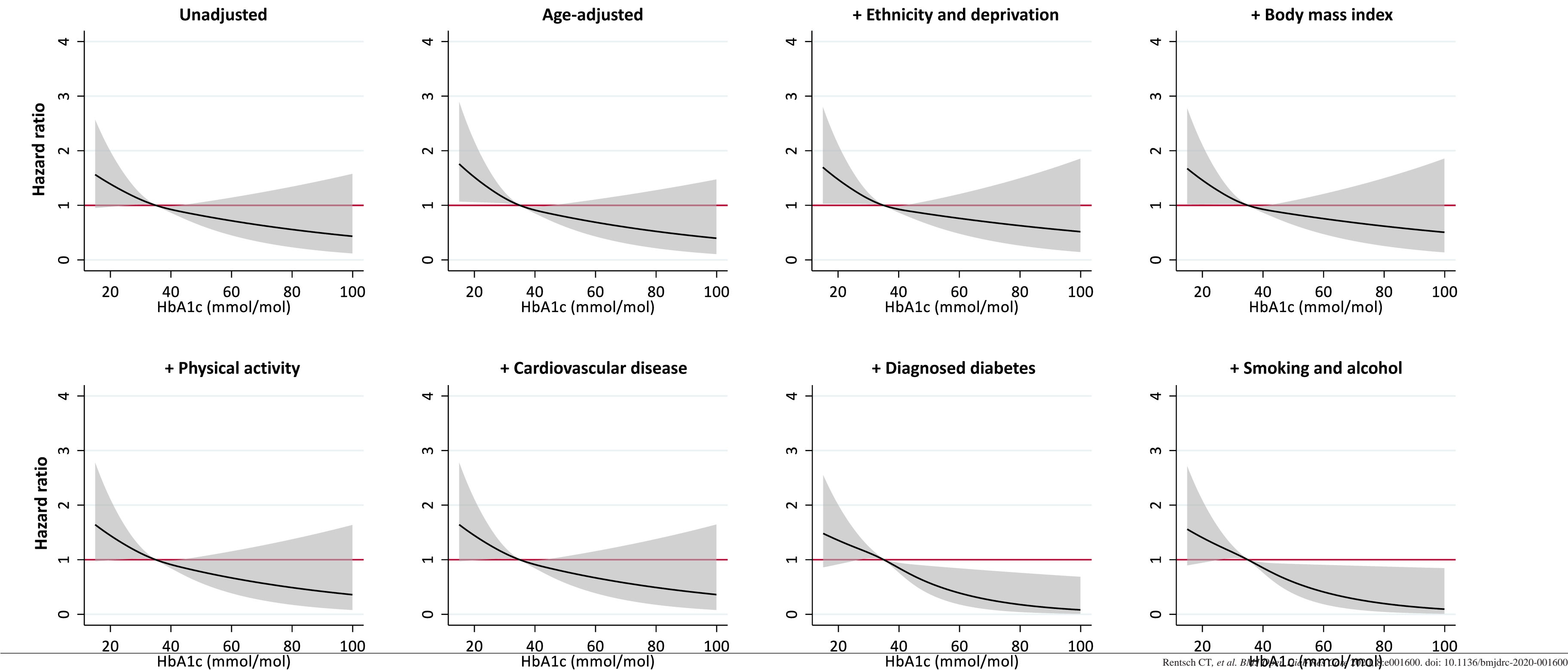
Figure S8 Post-menopausal breast cancer and HbA1c at each additional confounder adjustment stage
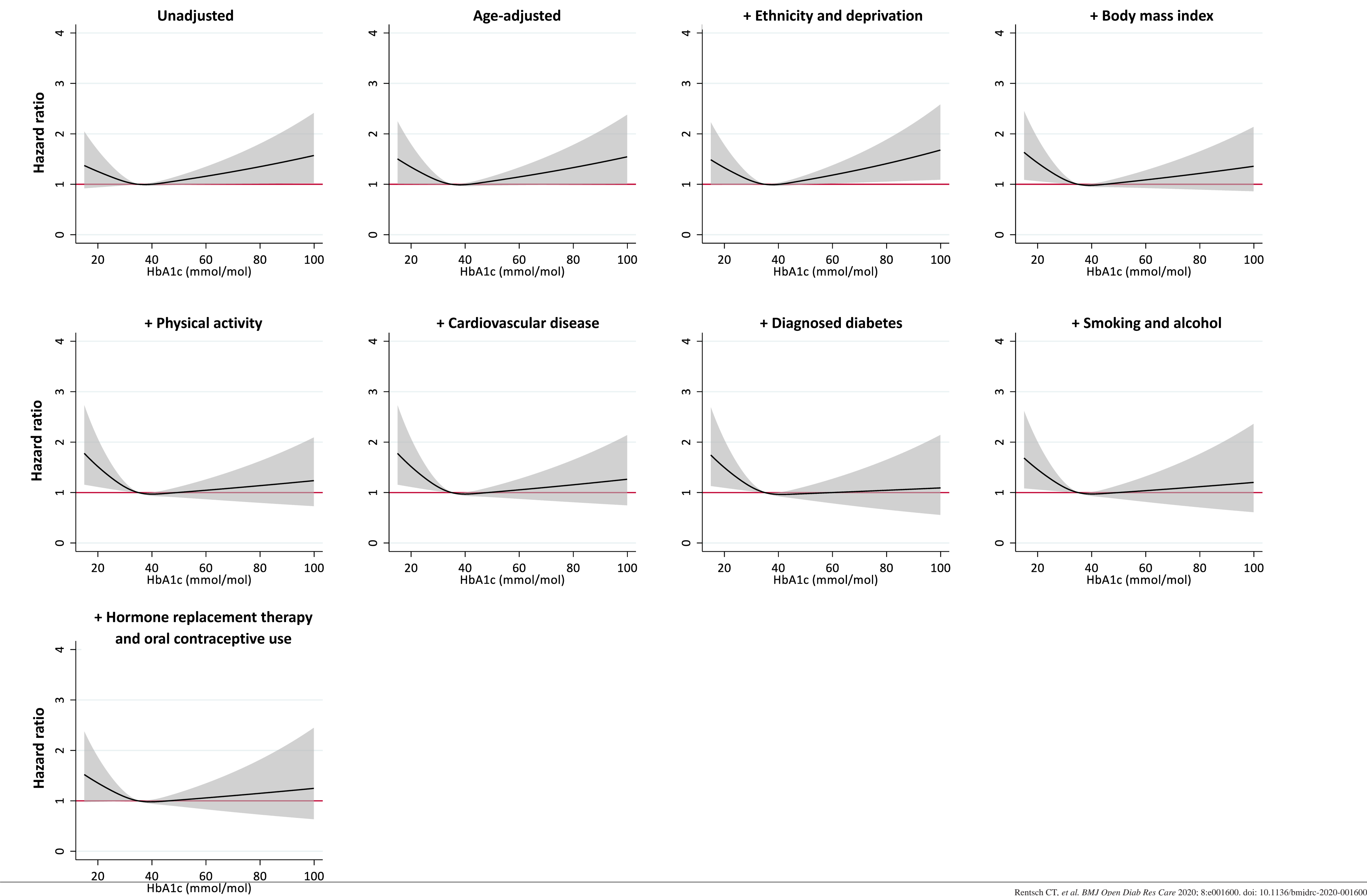
Figure S9 Colorectal cancer and HbA1c at each additional confounder adjustment stage

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Figure S10 Lung cancer and HbA1c at each additional confounder adjustment stage

*Additionally adjusted for age at start and stop of smoking among former smokers and rate of smoking among current smokers

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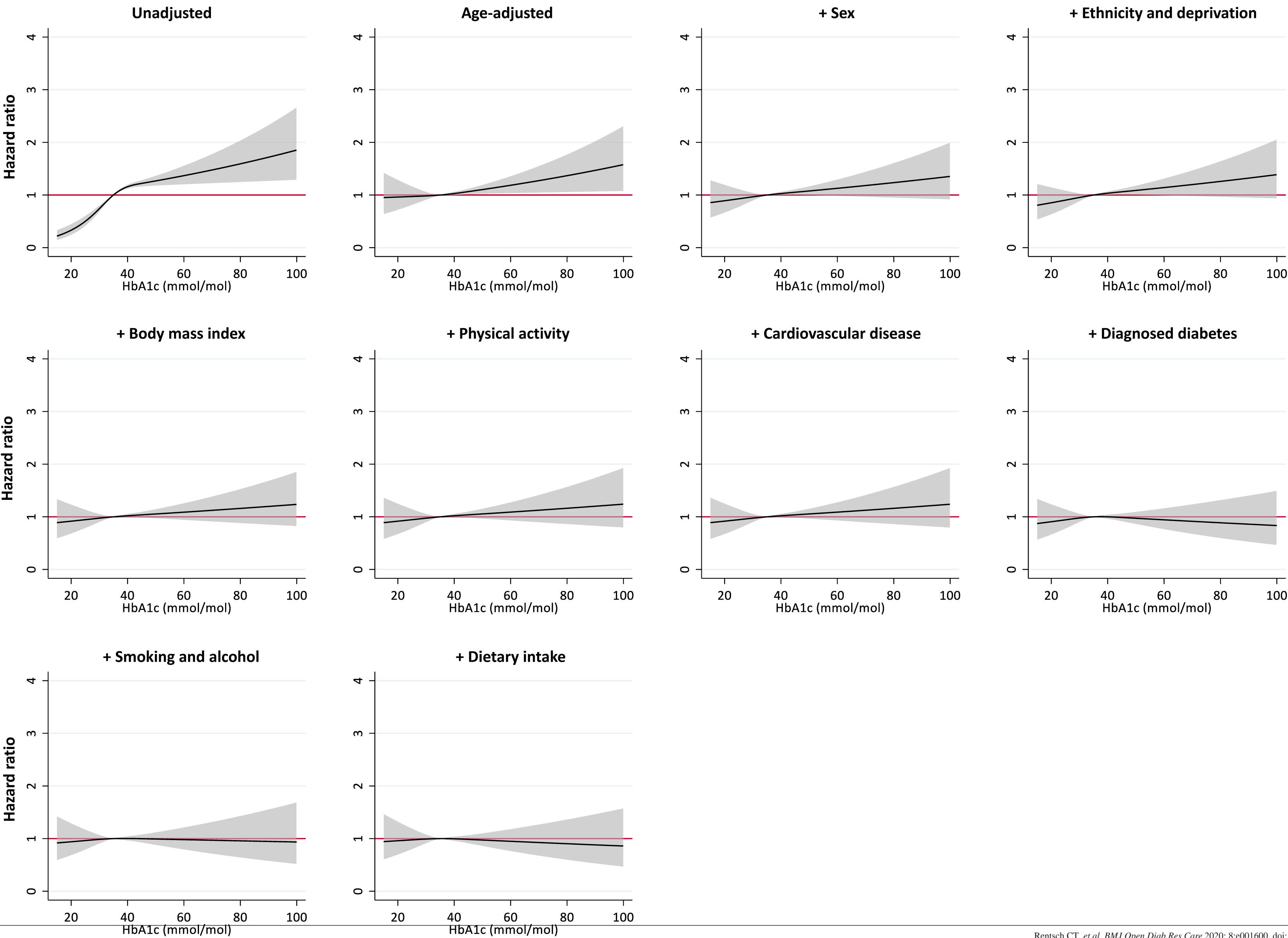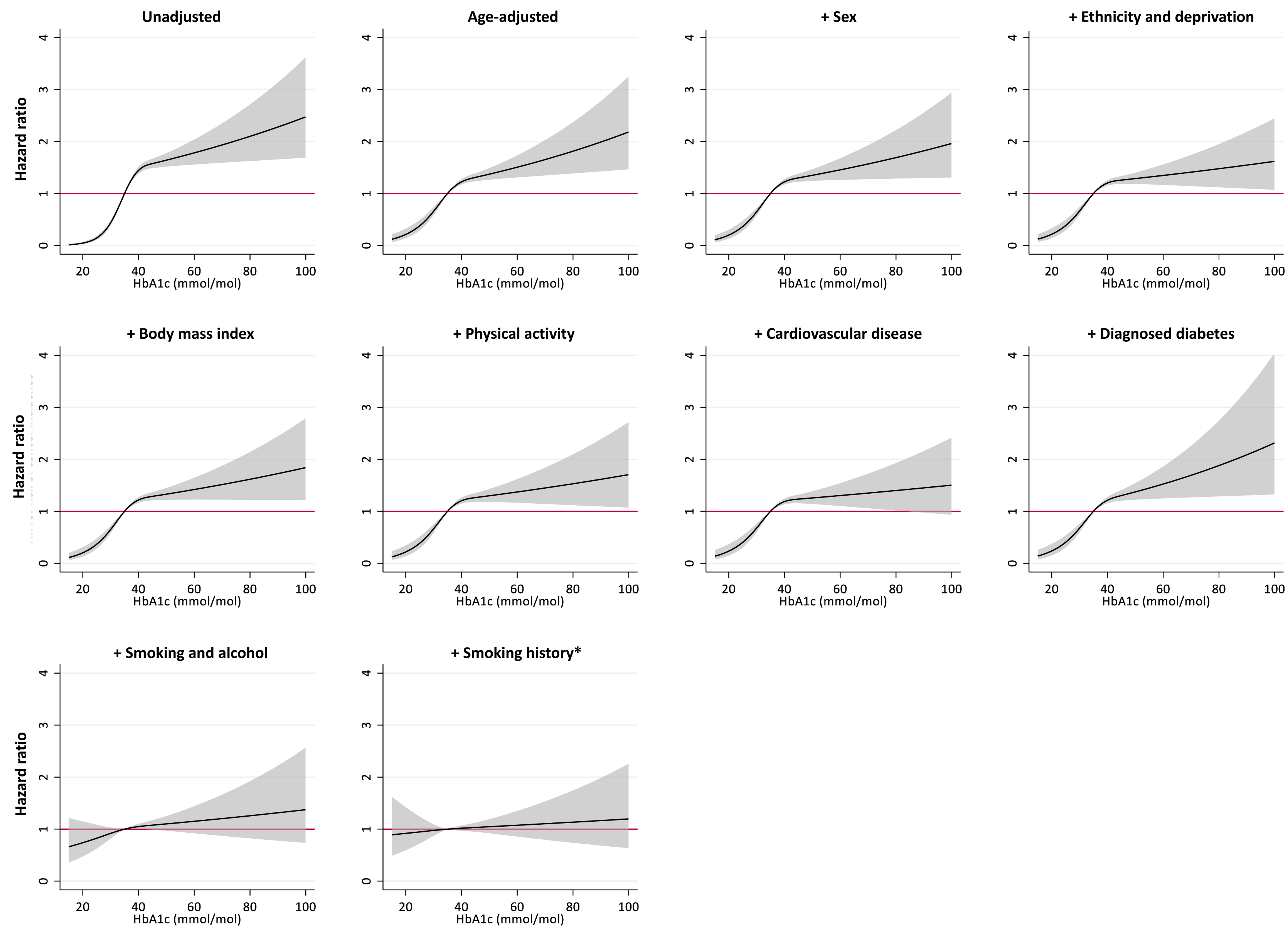
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Figure S11 Association between baseline diagnosis of type 2 diabetes and cancer incidence in the UK Biobank

	Cancer type		HR (95% CI)
Primary outcomes	Prostate (C61)		0.75 (0.66-0.86)
	Pre-menopausal Breast (C50)		1.00 (0.56-1.79)
	Post-menopausal Breast (C50)		1.14 (0.95-1.37)
	Colorectal (C18-C20)		1.23 (1.05-1.44)
	Lung (C34)		0.98 (0.81-1.18)
Secondary outcomes	Oesophageal (C15)		1.23 (0.91-1.68)
	Stomach (C16)		1.14 (0.78-1.67)
	Pancreatic (C25)		1.59 (1.21-2.09)
	Melanoma (C43)		0.89 (0.67-1.17)
	Uterus (C54-C55)		1.52 (1.13-2.04)
	Ovarian (C56)		0.99 (0.61-1.61)
	Kidney (C64)		1.26 (0.96-1.67)
	Bladder (C67)		1.60 (1.21-2.11)
	Central Nervous System (C71-C72)		0.83 (0.52-1.32)
	Non-Hodgkin Lymphoma (C82-C85		1.14 (0.88-1.48)
	Multiple Myeloma (C90)		0.78 (0.49-1.26)
	Leukaemia (C91-C94)		1.00 (0.71-1.40)

.5   1   2

Log hazard ratio (HR)

Figure S12 *Post hoc* analysis adjusting associations between HbA1c and pre-menopausal cancer (C50) for maternal age at first live birth

Primary analysis (n=78,046)

p-overall = .003
p-non-linear = .591
p-non PH =.291

Primary analysis among those with measures for maternal age at first live birth (n=46,548)

p-overall = .162
p-non-linear = .922
p-non PH =.92

Adjusted for maternal age at first live birth (n=46,548)

p-overall = .157
p-non-linear = .959
p-non PH =.938
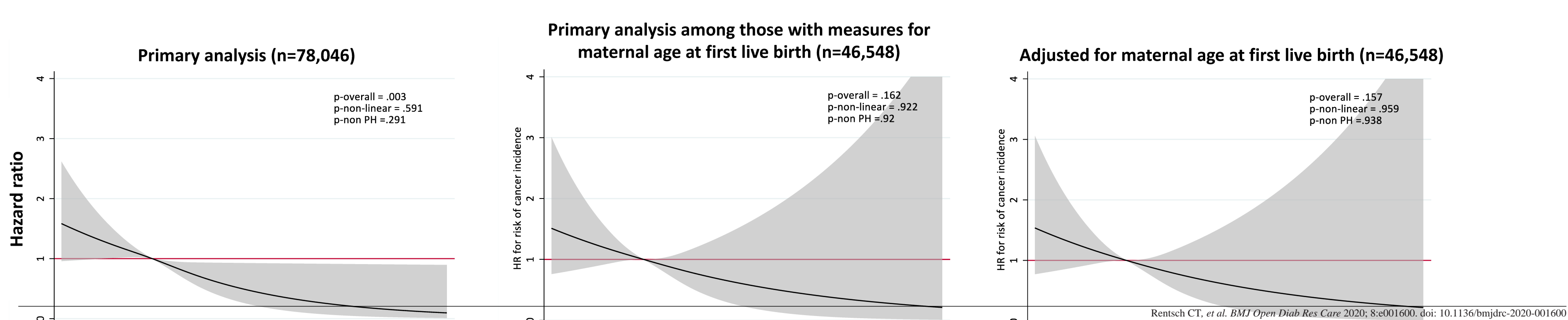
Figure S13 Associations between glycated haemoglobin (HbA1c) and incidence of common cancers in the UK Biobank, using age as time scale

<u>**(a) Full sample**</u> <u>**(b) Excluding diagnosed diabetes**</u>

Prostate (C61)

p-overall = .274
p-non-linear = .257
p-non PH =.822

p-overall = .248
p-non-linear = .248
p-non PH =.556

Pre-menopausal Breast (C50)

p-overall = .003
p-non-linear = .589
p-non PH =.821

p-overall = .003
p-non-linear = .185
p-non PH =.607

Post-menopausal Breast (C50)

p-overall = .137
p-non-linear = .05
p-non PH =.072

p-overall = .117
p-non-linear = .05
p-non PH =.093

Colorectal (C18-C20)

p-overall = .844
p-non-linear = .646
p-non PH =.32

p-overall = .209
p-non-linear = .556
p-non PH =.37

Lung (C34)

p-overall = .909
p-non-linear = .909
p-non PH =.247

p-overall = .888
p-non-linear = .703
p-non PH =.273