CONGRESSO REGIONALE CALABRIA
SID - AMD
2022

SID Società Italiana di Diabetologia

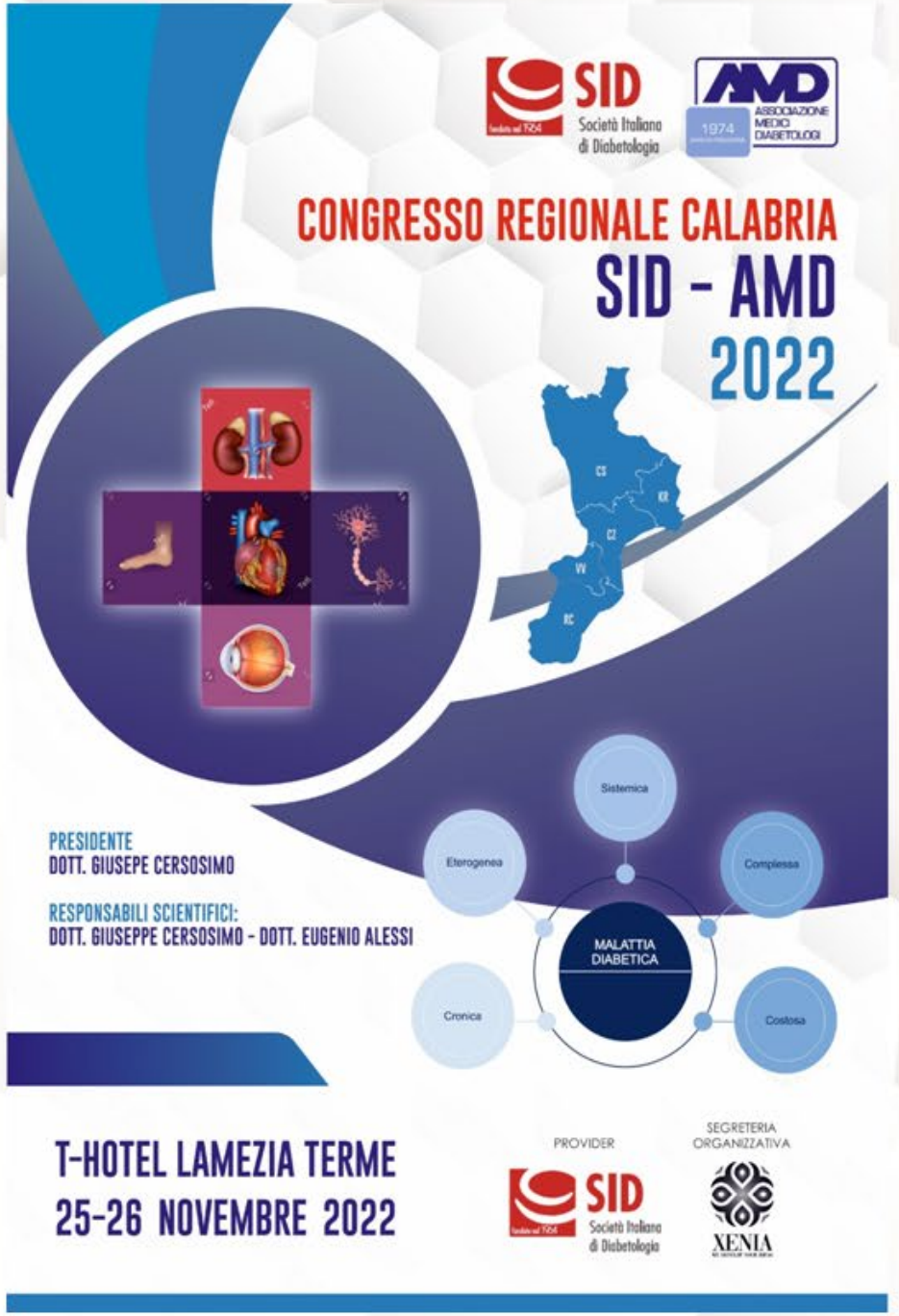
AMD 1974 Associazione Medici Diabetologi

T-HOTEL LAMEZIA TERME
25-26 NOVEMBRE 2022

Diabete e cancro

Domenico Voce

Diabetologia Crotone



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diabetes and covid-19

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4,774 results

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RESULTS BY YEAR

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2021-2022

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Treatment Mechanism Transmission More filters

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7,695 results

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RESULTS BY YEAR

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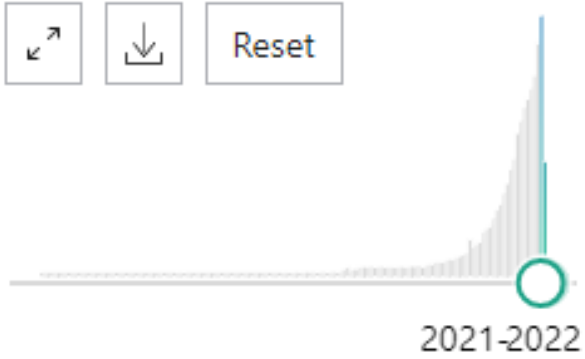

TEXT AVAILABILITY

Filters applied: in the last 1 year. Clear all

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Obesity, **Diabetes**, and Increased **Cancer** Progression.

Kim DS, Scherer PE.

Diabetes Metab J. 2021 Nov;45(6):799-812. doi: 10.4093/dmj.2021.0077. Epub 2021 Nov 22.

PMID: 34847640 **Free PMC article.** Review.

Many observations suggest that obesity and **diabetes** are associated with an increased risk of developing several types of **cancers**, including liver, pancreatic, endometrial, colorectal, and post-menopausal breast **cancer**. ...Here, we highlight the cellular and m ...

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3,228 results

Page 1 of 323

RESULTS BY YEAR

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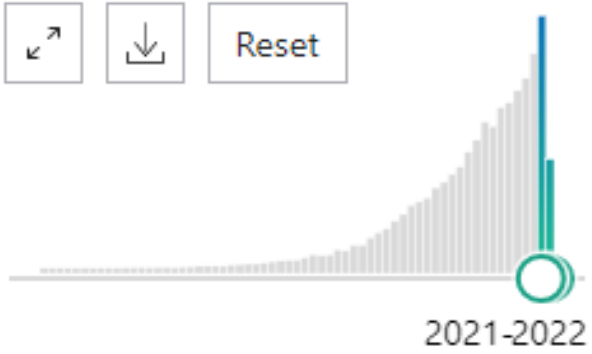

TEXT AVAILABILITY

Filters applied: in the last 1 year. Clear all

1

Cite

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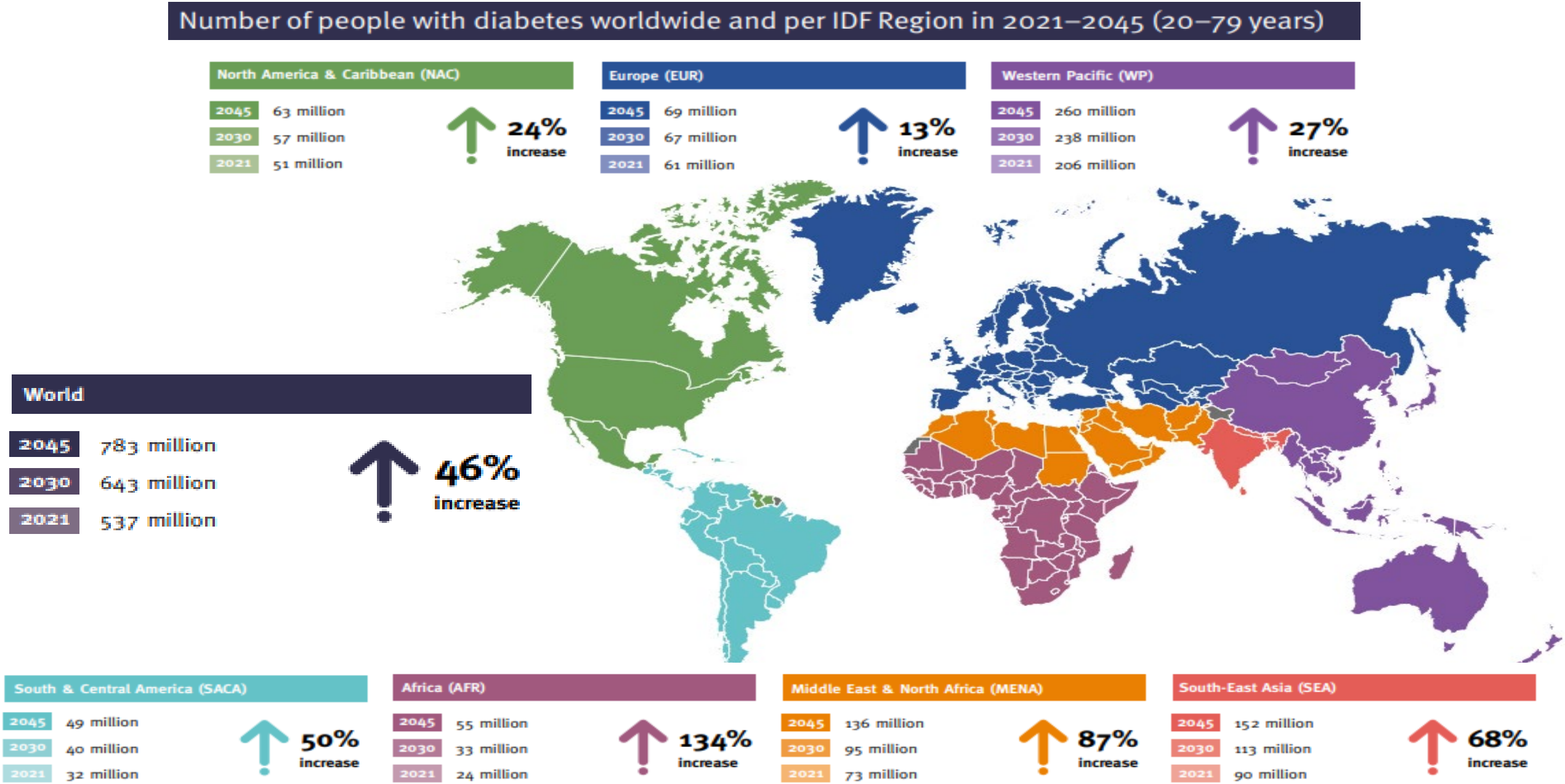
Diabetes, **stroke**, and neuroresilience: looking beyond hyperglycemia.

Krinock MJ, Singhal NS.

Ann N Y Acad Sci. 2021 Jul;1495(1):78-98. doi: 10.1111/nyas.14583. Epub 2021 Feb 26.

PMID: 33638222 Review.

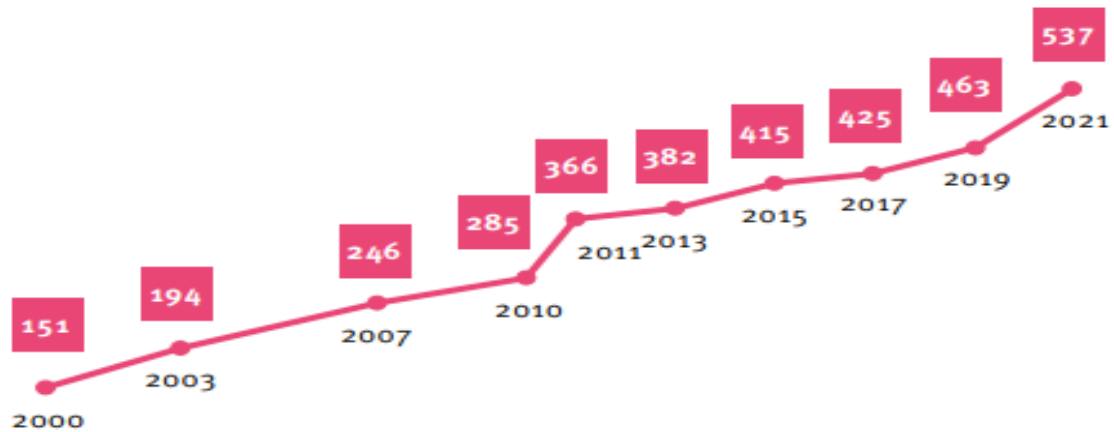
Additional research into clinical therapies directed at **diabetic** pathophysiological processes to prevent **stroke** and improve outcome for **diabetic stroke** survivors is necessary. ...Our review summarizes the underpinnings of **stroke** risk in **diabe** ...



IDF diabetes atlas 2021

Figure 1 Estimates and projections of the global prevalence of diabetes in the 20–79 year age group in millions (IDF Diabetes Atlas editions 1st to 10th)

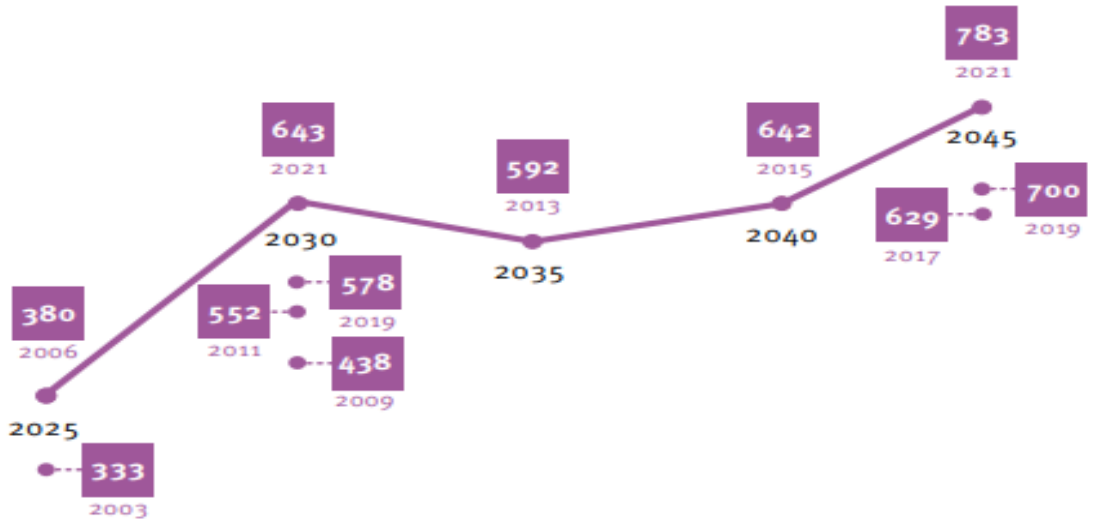
Estimates of the global prevalence of diabetes in the 20–79 year age group (millions)



Key

151 Number of people with diabetes in millions

Projections of the global prevalence of diabetes in the 20–79 year age group (millions)

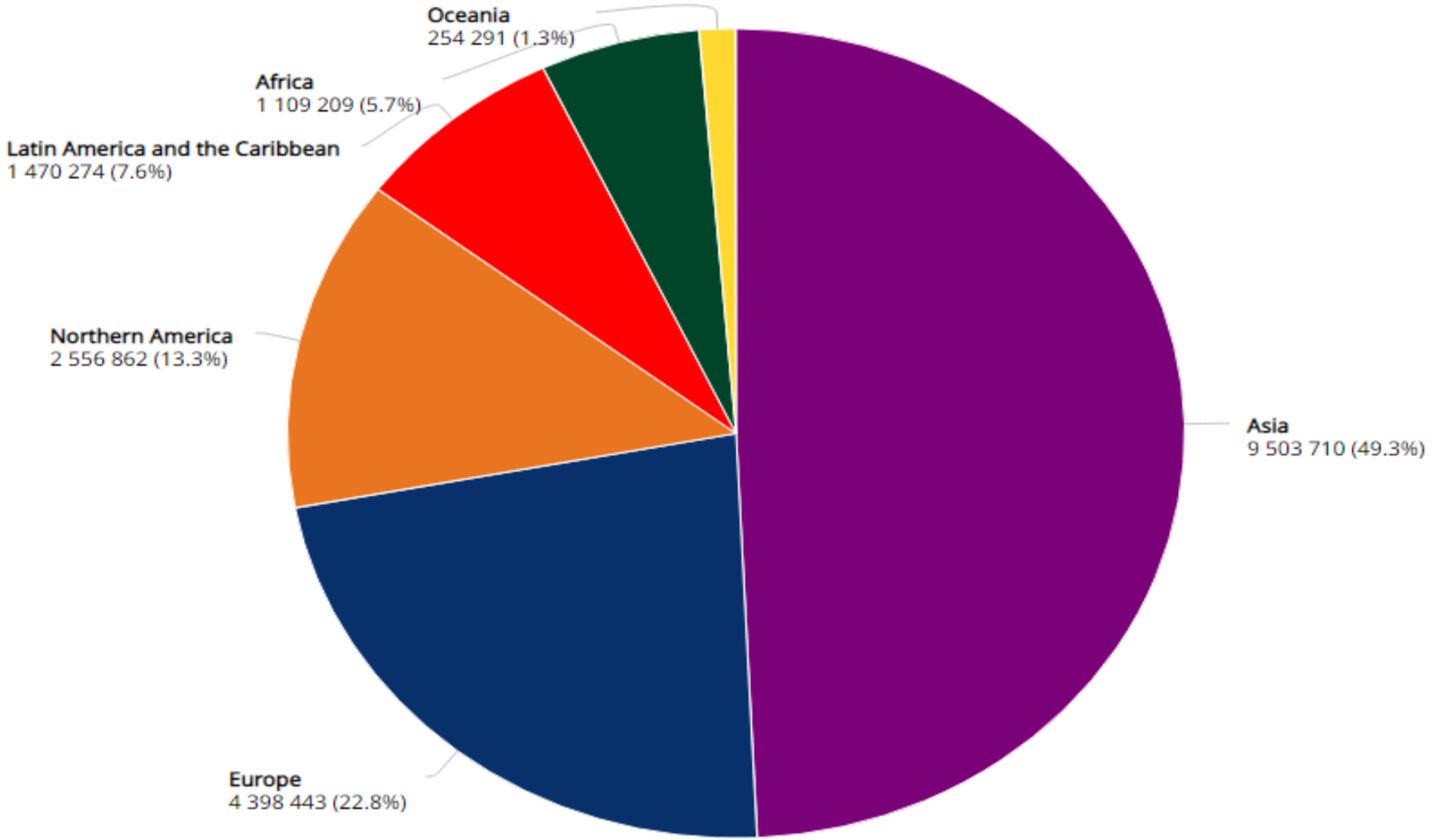


Key

333 Projection in millions

2003 Year projection made

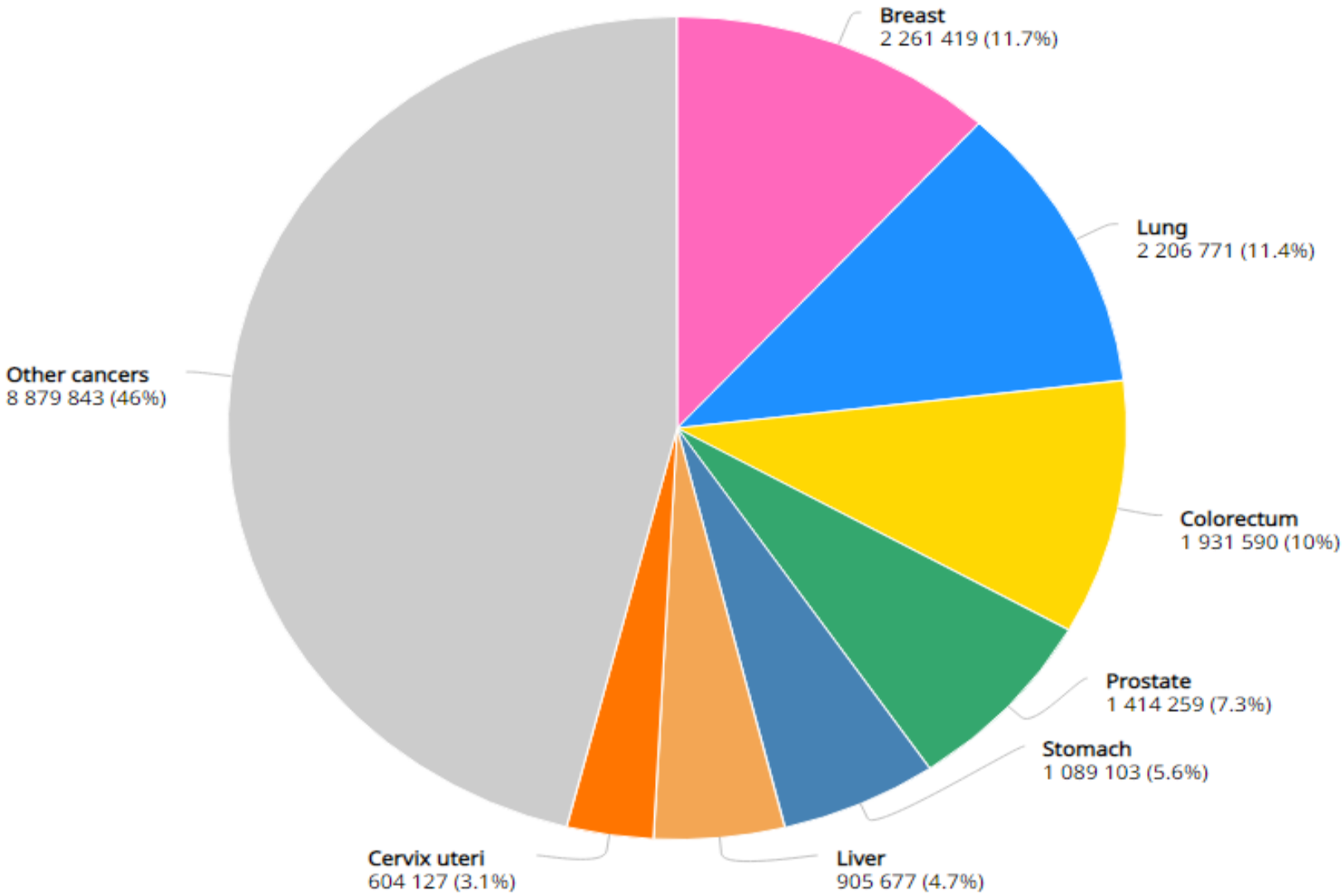
Estimated number of new cases in 2020, all cancers, both sexes, all ages



Total : 19 292 789

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

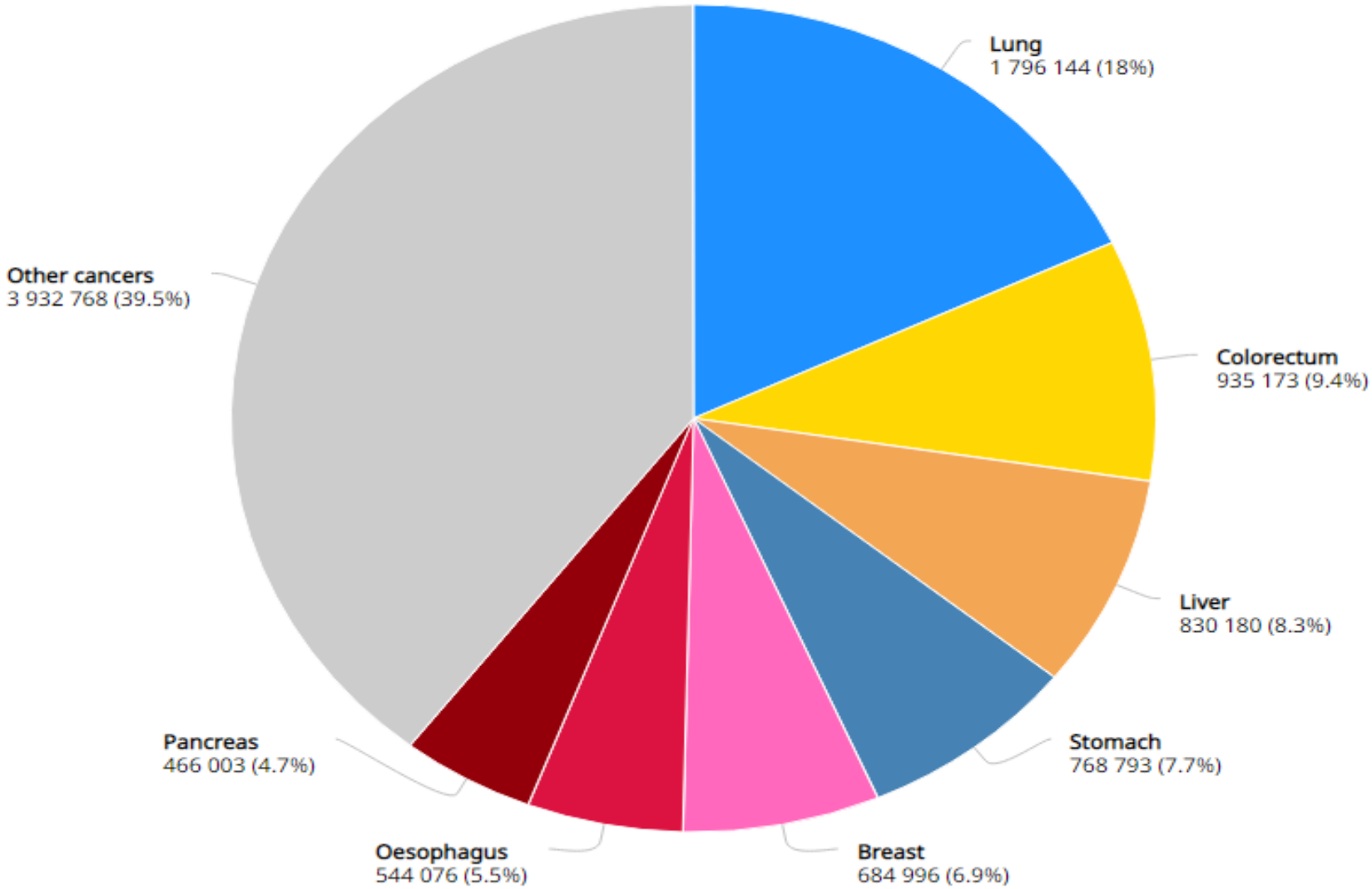
Estimated number of new cases in 2020, worldwide, both sexes, all ages



Total : 19 292 789

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

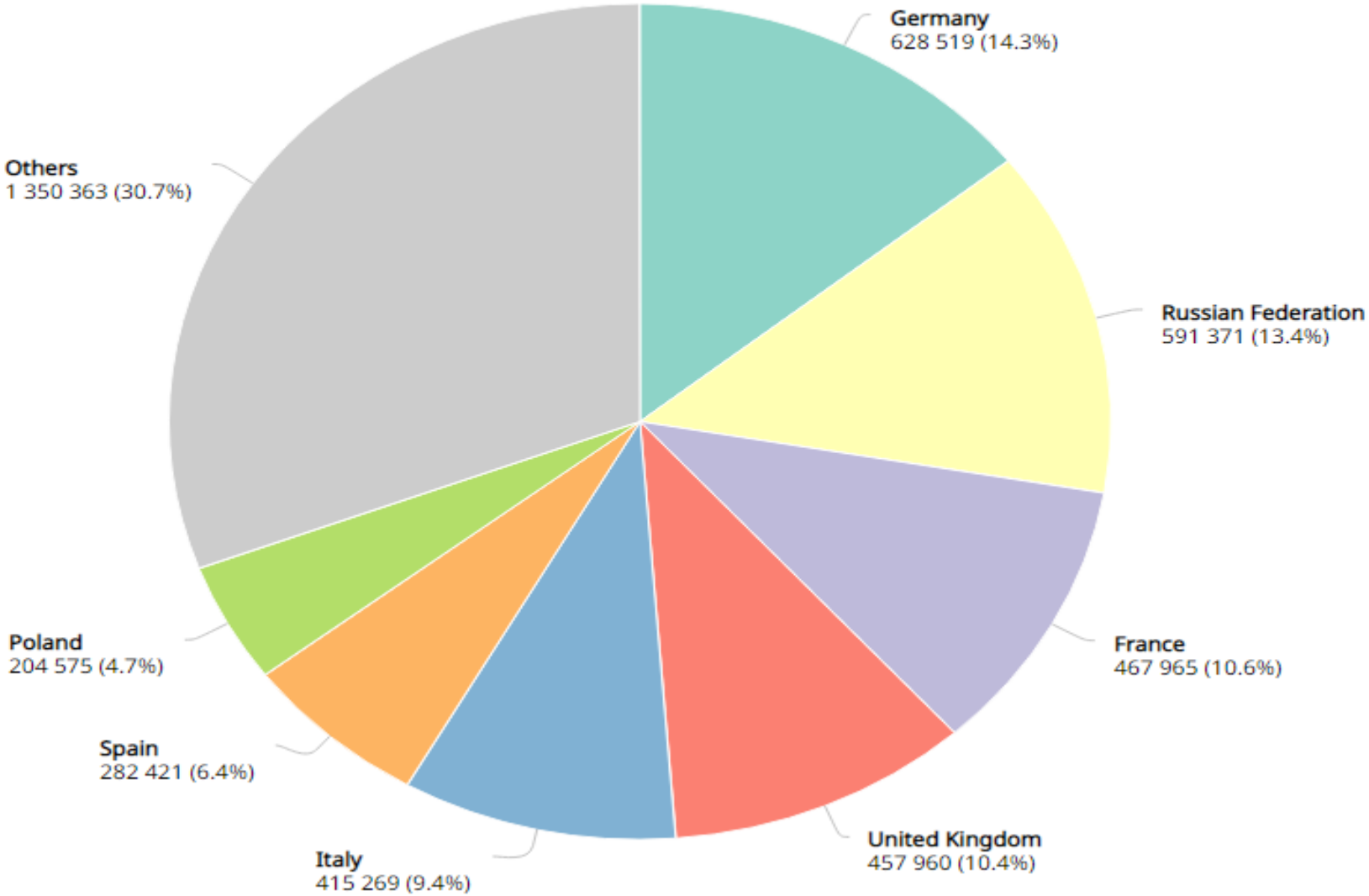
Estimated number of deaths in 2020, worldwide, both sexes, all ages



Total : 9 958 133

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

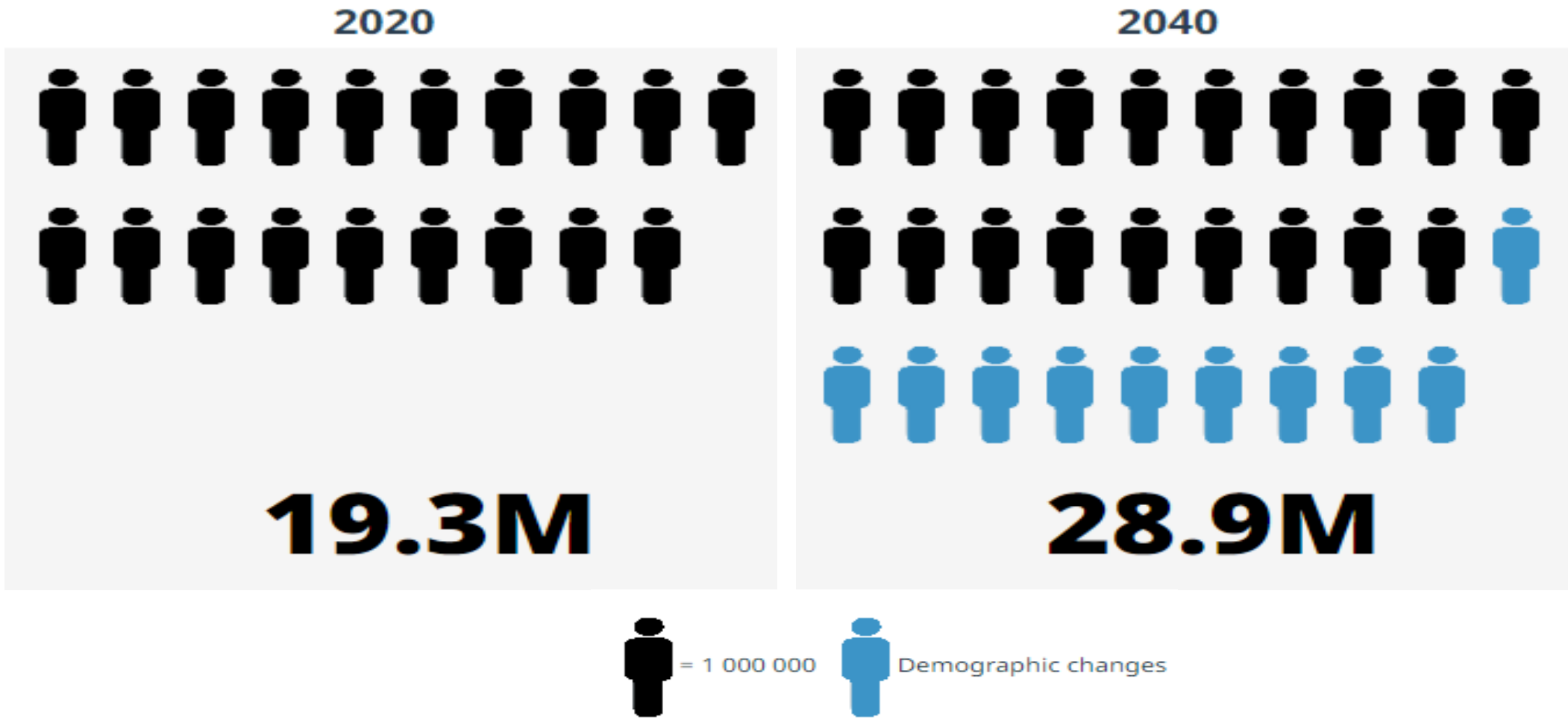
Estimated number of new cases in 2020, all cancers, both sexes, all ages



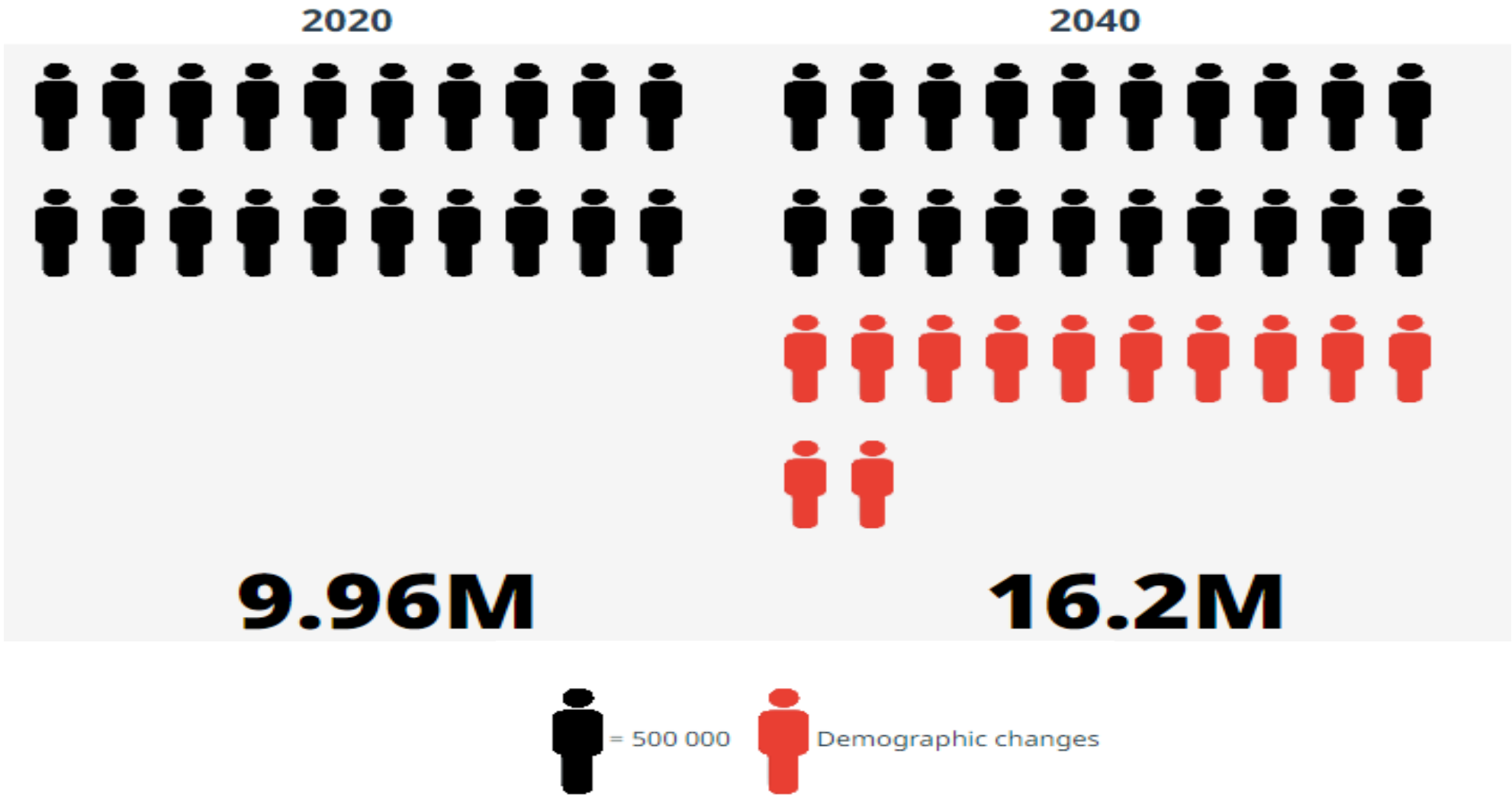
Total : 4 398 443

Data source:GLOBOCAN 2020
Graph production: Global Cancer Observatory (http://gco.iarc.fr/)

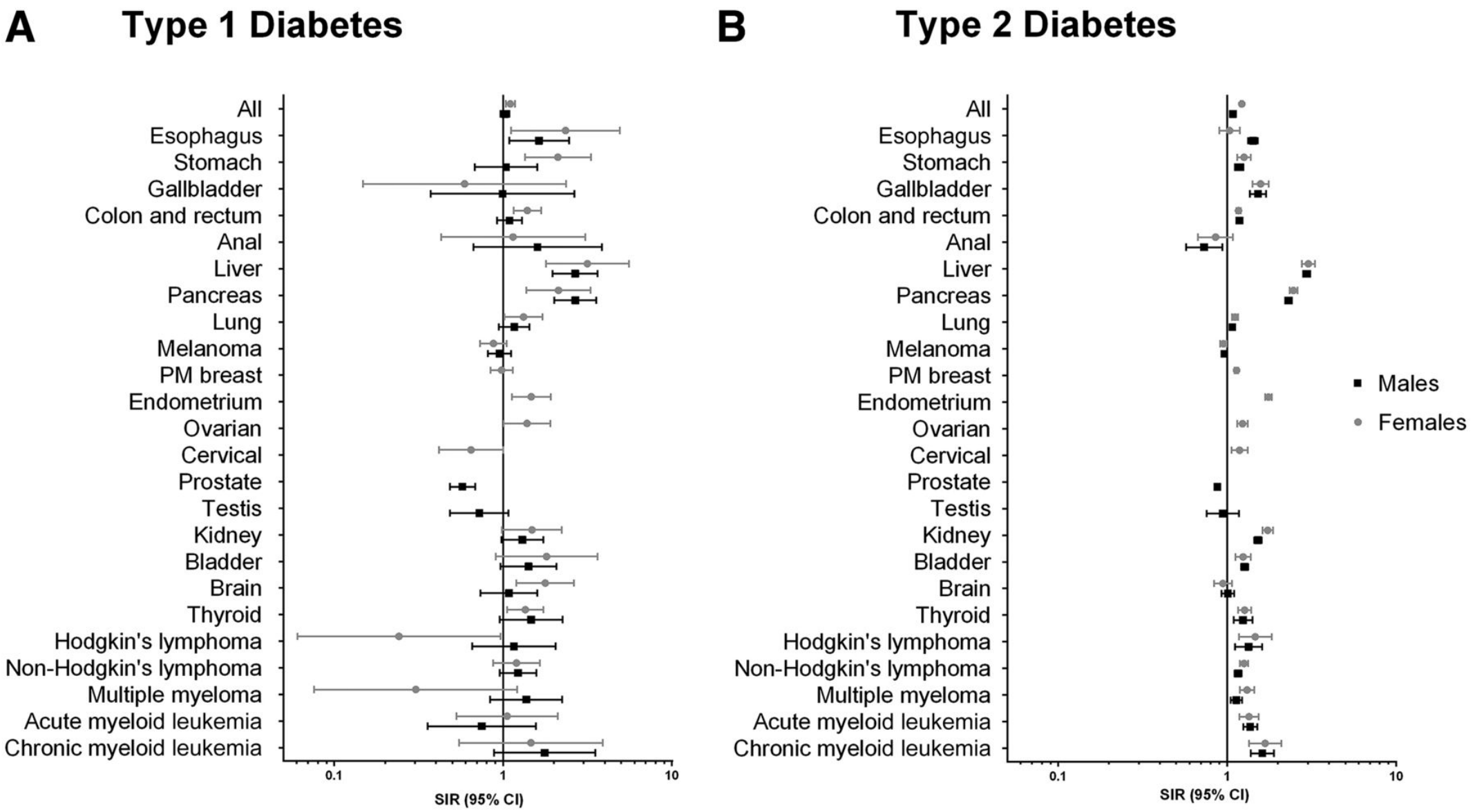
Estimated number of new cases from 2020 to 2040, Both sexes, age [0-85+]
All cancers
Africa + Latin America and Caribbean + Northern America + Europe + Oceania + Asia



Estimated number of deaths from 2020 to 2040, Both sexes, age [0-85+]
All cancers
Africa + Latin America and Caribbean + Northern America + Europe + Oceania + Asia



lancet 2018;392 2052-90



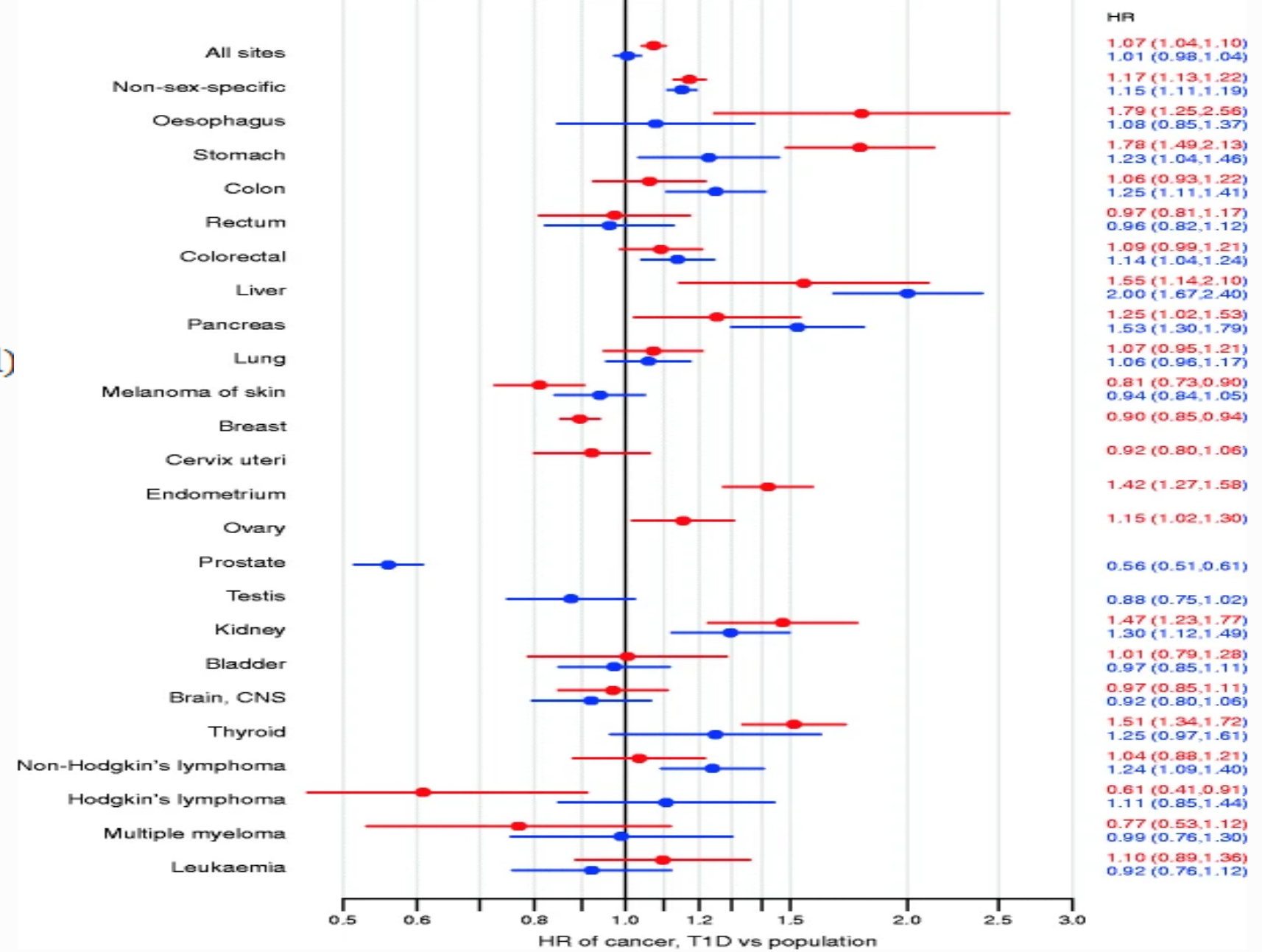
Cancer Risk Among People With Type 1 and Type 2 Diabetes: Disentangling True Associations, Detection Bias, and Reverse Causation

Jessica L. Harding; Jonathan E. Shaw; Anna Peeters; Bendix Cartensen; Dianna J. Magliano

Diabetes Care 2015;38(2):264–270

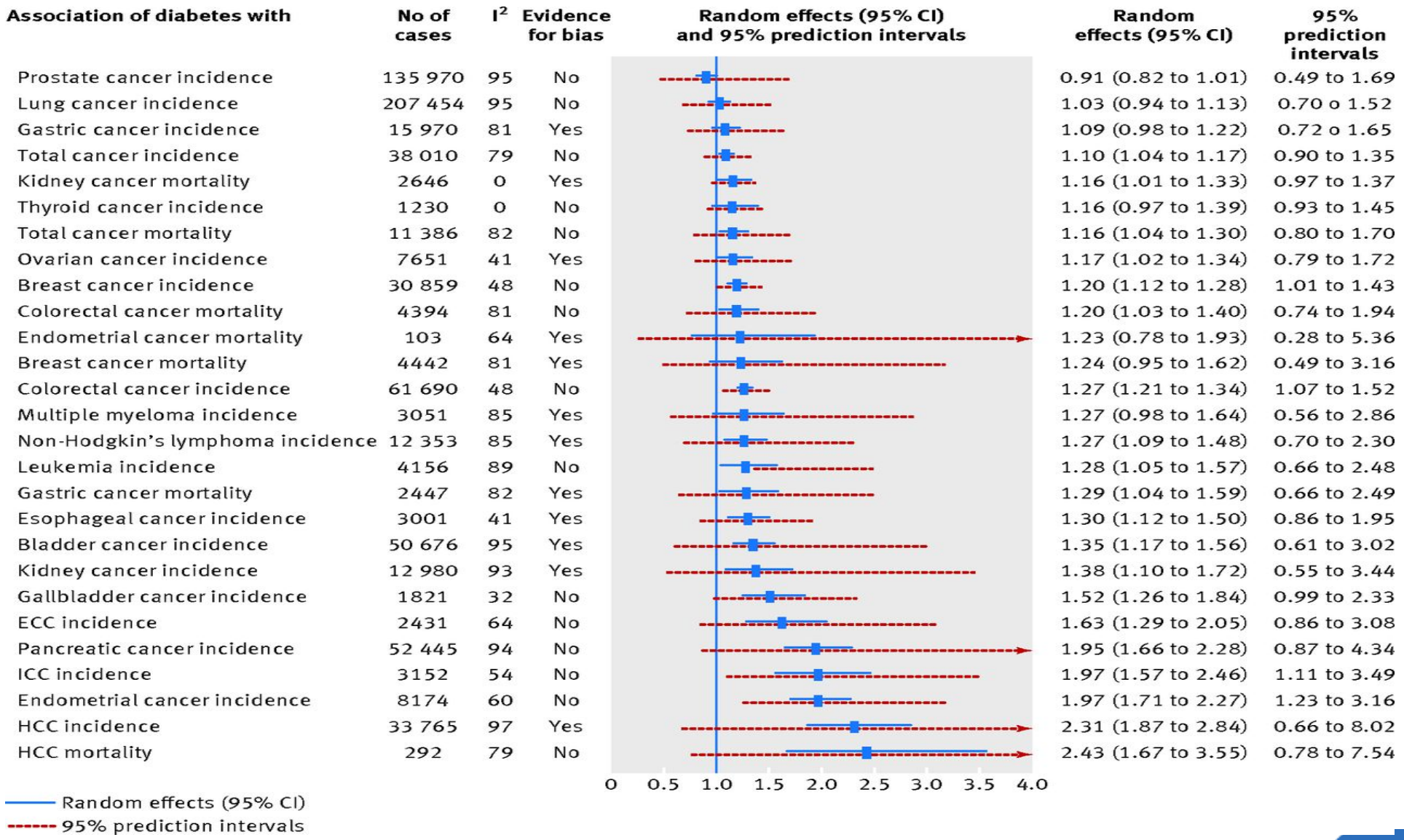
men (blue)

women (red)

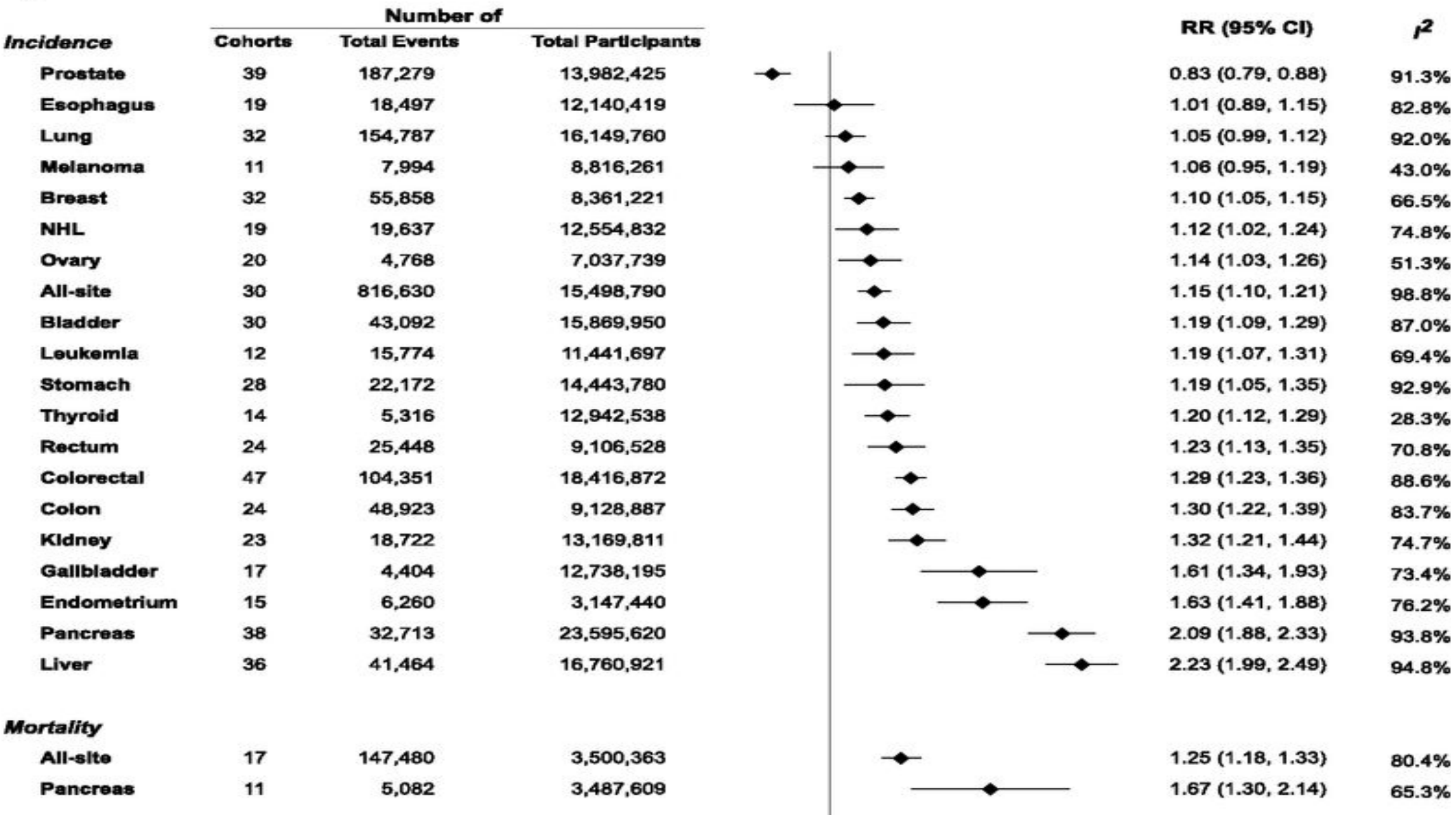


Carstensen, B.; Read, S.H.; Friis, S.; Sund, R.; Keskimäki, I.; Svensson, A.-M.; Ljung, R.;Wild, S.H.; Kerssens, J.J.; Harding, J.L.;et al.
Diabetes and Cancer Research Consortium. Cancer incidence in persons with type 1 diabetes: A five-country study of 9000 cancers in type 1 diabetic individuals.
Diabetologia **2016, 59, 980–988.**

Fig 2 Summary random effects estimates with 95% confidence and prediction intervals from 27 meta-analyses of type 2 diabetes and incidence of cancer or mortality (evidence for bias assessed with extrapolation of Egger regression line to study of infinite sample size and with excess significance test).



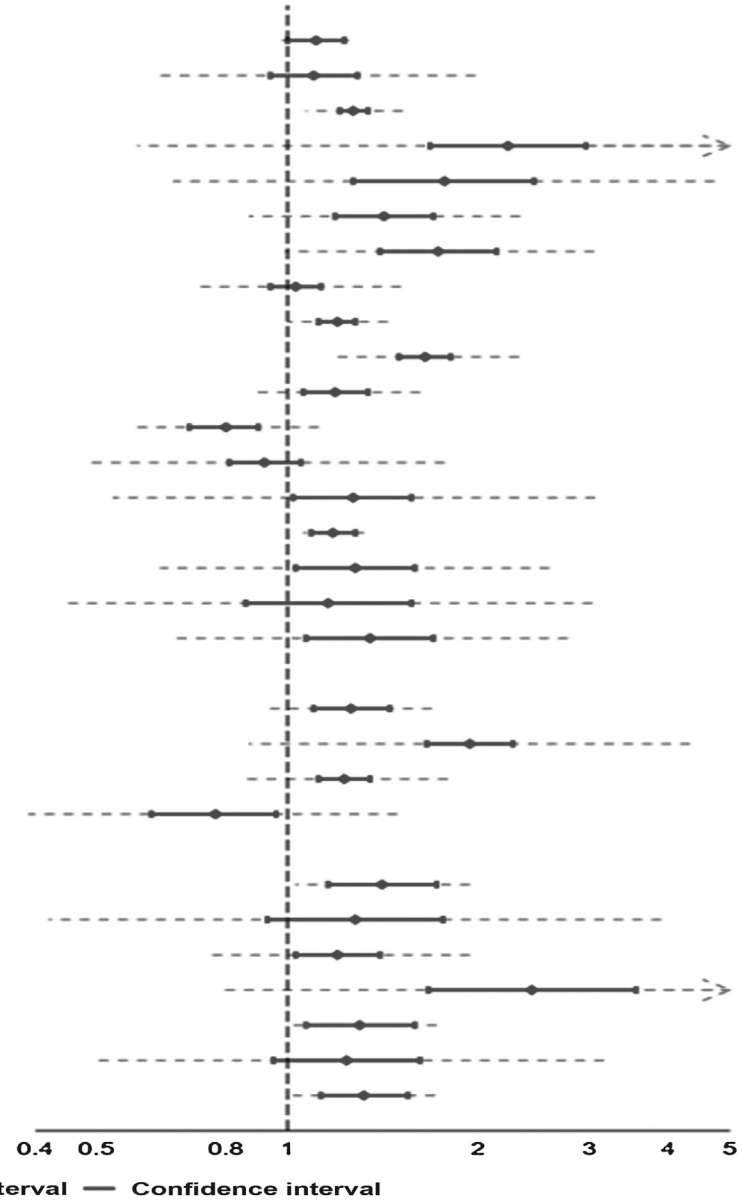
Konstantinos K Tsilidis et al. BMJ 2015;350:bmj.g7607



Association of Type 2 Diabetes With Cancer: A Meta-analysis With Bias Analysis for Unmeasured Confounding in 151 Cohorts Comprising 32 Million People

Diabetes Care 2020;43(9):2313–2322

Outcome	Evidence grade	No. of studies	No. of cases	I^2	Evidence of bias: Small study	Evidence of bias: Excess sig.	Random effects (95% CI)	95% Prediction interval
Incidence								
Oral	Weak	10	3,014	0	No	No	1.11 (1.00–1.23)	0.98–1.25
Gastric	NS	15	14,028	92	No	No	1.10 (0.94–1.29)	0.61–1.98
Colorectal	Strong	30	62,163	48	No	No	1.27 (1.21–1.34)	1.07–1.52
HCC	Highly suggestive	25	27,440	98	No	Yes	2.23 (1.68–2.96)	0.58–8.57
Cholangiocarcinoma	Weak	5	674	62	No	No	1.77 (1.27–2.45)	0.66–4.72
Biliary tract	Suggestive	9	3,101	66	No	No	1.42 (1.19–1.70)	0.87–2.33
Gallbladder	Highly suggestive	11	1,078	61	No	Yes	1.73 (1.40–2.14)	0.99–3.05
Lung	NS	21	198,771	95	No	No	1.03 (0.94–1.13)	0.71–1.51
Breast	Highly suggestive	20	30,680	51	No	No	1.20 (1.12–1.28)	1.00–1.44
Endometrial	Highly suggestive	22	16,224	73	No	No	1.65 (1.50–1.81)	1.17–2.32
Ovarian	Weak	14	6,050	44	No	No	1.19 (1.06–1.34)	0.87–1.62
Prostate (localized)	Suggestive	8	16,933	59	No	No	0.80 (0.70–0.90)	0.57–1.12
Prostate (total)	NS	29	118,003	97	No	No	0.92 (0.81–1.05)	0.48–1.77
Kidney	Weak	19	12,714	92	No	No	1.27 (1.02–1.57)	0.53–3.06
Thyroid	Suggestive	7	3,197	0	No	No	1.18 (1.09–1.28)	1.06–1.32
NHL	Weak	11	12,495	91	No	Yes	1.28 (1.03–1.59)	0.63–2.59
Myeloma	NS	6	5,226	88	No	No	1.16 (0.86–1.57)	0.45–3.03
Leukemia	Weak	8	10,733	91	No	No	1.35 (1.07–1.70)	0.66–2.77
Incidence/Mortality								
Esophageal	Suggestive	11	1,743	26	No	No	1.26 (1.10–1.45)	0.94–1.69
Pancreatic	Highly suggestive	35	21,698	94	No	No	1.94 (1.66–2.27)	0.87–4.32
Bladder	Suggestive	21	51,215	82	Yes	Yes	1.23 (1.12–1.35)	0.84–1.79
Glioma	Weak	10	18,314	78	Yes	Yes	0.77 (0.61–0.96)	0.39–1.49
Mortality								
Oral	Suggestive	5	1,851	0	No	No	1.41 (1.16–1.72)	1.03–1.94
Gastric	NS	9	3,168	97	No	No	1.28 (0.93–1.76)	0.42–3.89
Colorectal	Weak	11	11,002	81	No	No	1.20 (1.03–1.40)	0.74–1.94
HCC	Weak	7	292	79	No	No	2.43 (1.67–3.55)	0.78–7.54
Gallbladder	Weak	6	1,601	0	No	No	1.30 (1.07–1.59)	0.99–1.72
Breast	NS	5	4,538	81	No	No	1.24 (0.95–1.62)	0.49–3.16
Endometrial	Suggestive	5	2,070	0	No	No	1.32 (1.13–1.55)	1.02–1.71



Type 2 Diabetes and Cancer: An Umbrella Review of Observational and Mendelian Randomization Studies

Cancer Epidemiol Biomarkers Prev (2021) 30 (6): 1218–1228.

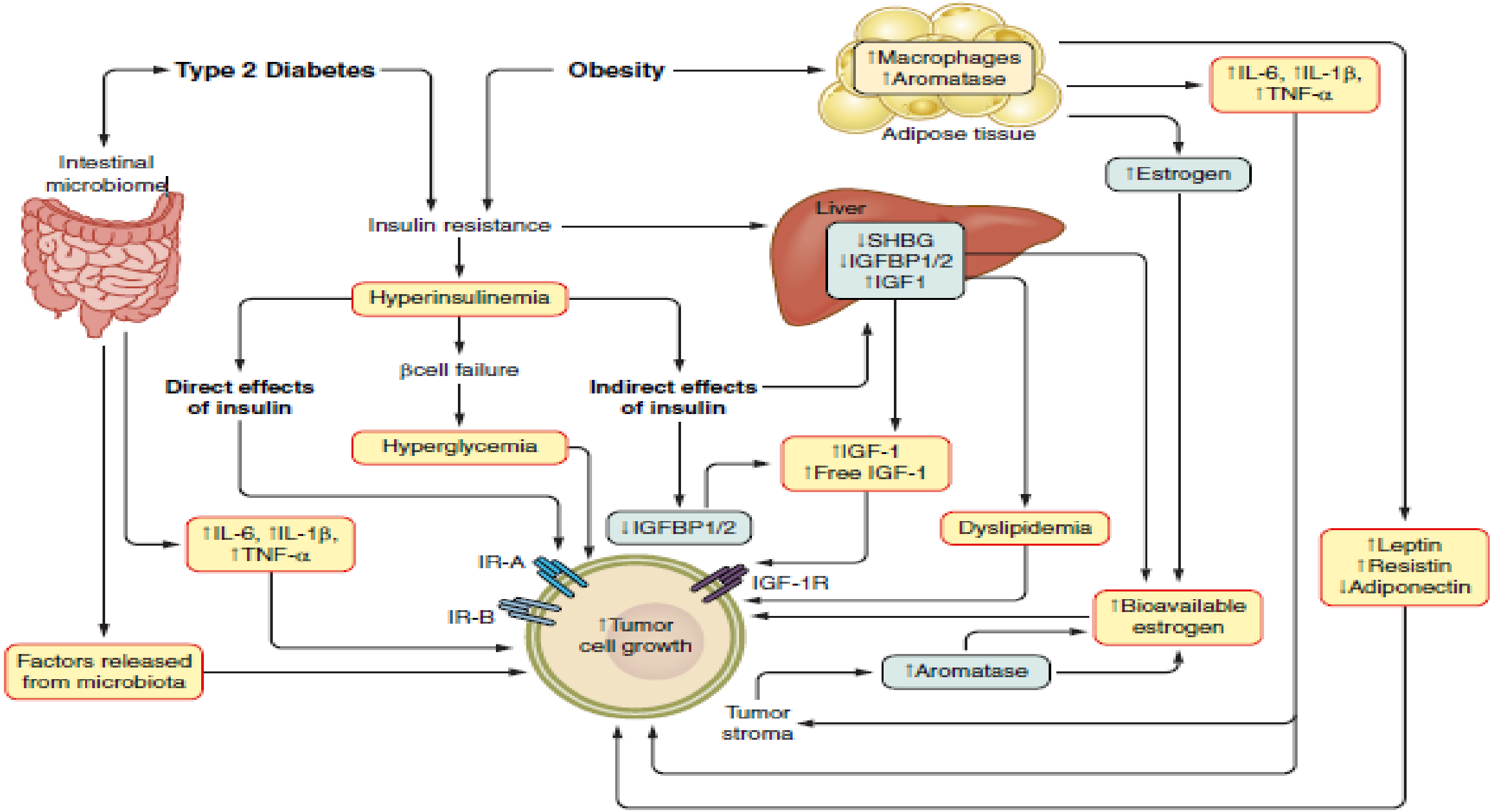
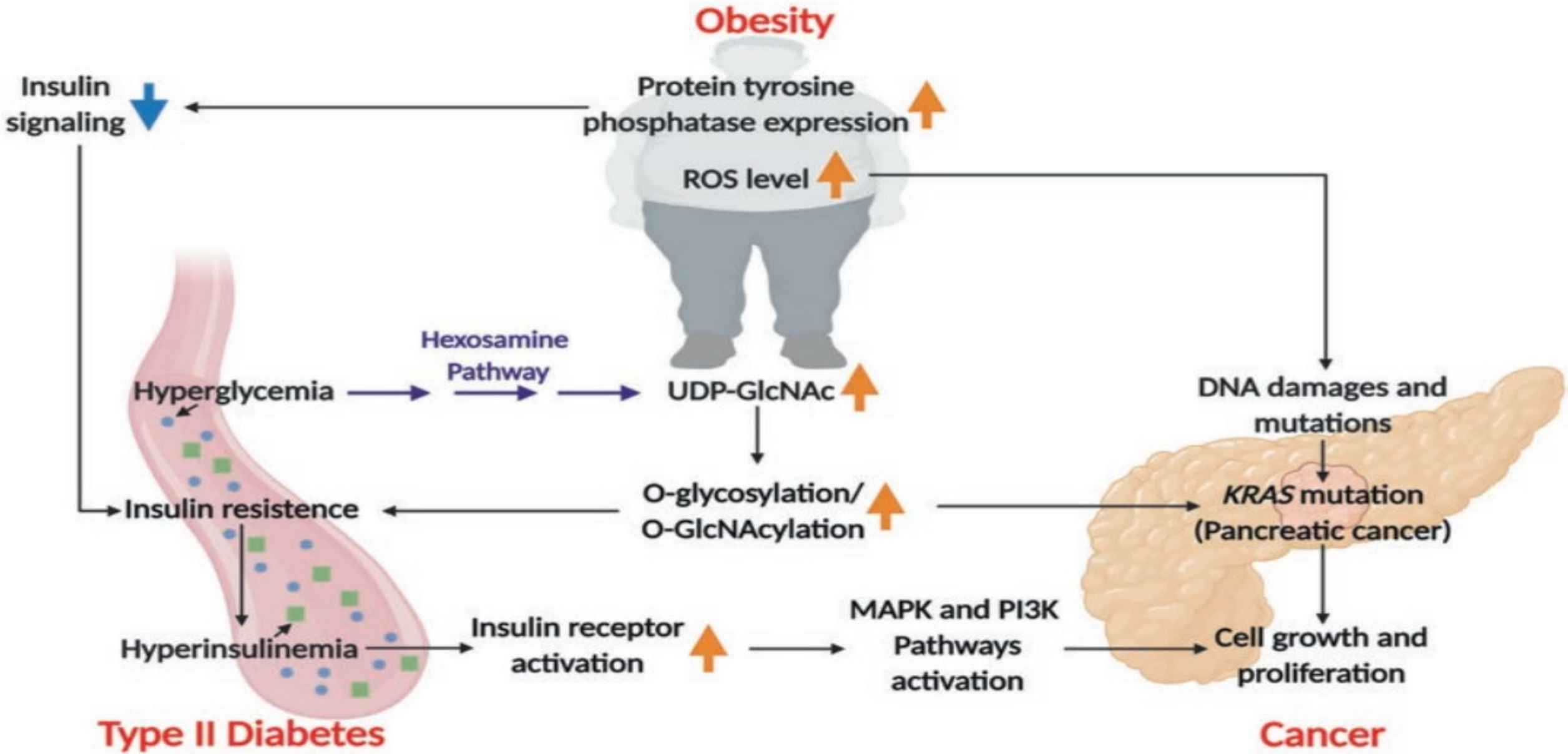


FIGURE 1. Mechanisms linking obesity, type 2 diabetes, and cancer.



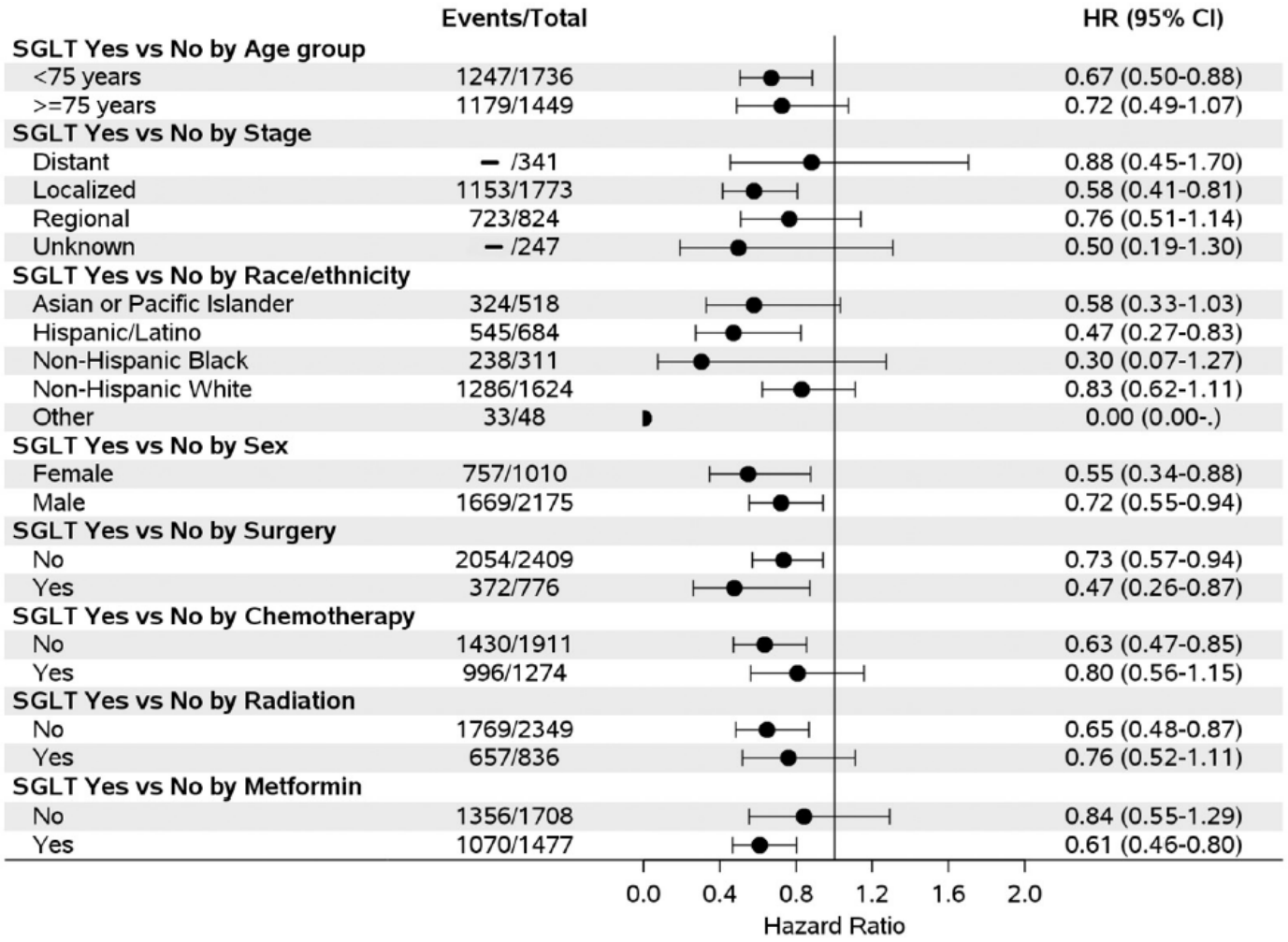
Diabetes and Cancer: The Epidemiological and Metabolic Associations

C. Zhang and A. Le

Part of the Advances in Experimental Medicine and Biology book series (AEMB,volume 1311)

3185 pz con hcc 143 usavano SGLT2 (4,3 %)
2426 morti no 2348 si 78

	Sensitivity analysis 1	
	Deaths/Patients	HR (95% CI)
SGLT2 inhibitor use		
No	86/137	Reference
Yes	78/137	0.50 (0.37–0.69)
Duration of use		
<12 months	51/85	0.52 (0.37–0.75)
≥ 12 months	27/52	0.47 (0.30–0.74)



Sodium-glucose cotransporter 2 (SGLT2) inhibitor initiation and hepatocellular carcinoma prognosis Michael Hendryx,Yi Dong,Jonas M. Ndeke,Juhua Luo

PLOS ONE | https://doi.org/10.1371/journal.pone.0274519 September 12, 2022

Retrospective, territory-wide cohort study of T2DM patients treated with SGLT2I or DPP4I between 1st, 2015 January, and 31st December 2019

SGLT2I (n=22154)
DPP4I (n=40545)

T2DM (n = 62699)

NAFLD development (n = 1090)

HCC development (n = 187)

SGLT2I lower risk of NAFLD
(HR: 0.39; 95% CI: 0.34-0.46)

SGLT2I lower risk of HCC
(HR: 0.46; 95% CI: 0.29-0.72)

SGLT2I lower risk of cancer-related mortality
(HR: 0.29; 95% CI: 0.23-0.37)

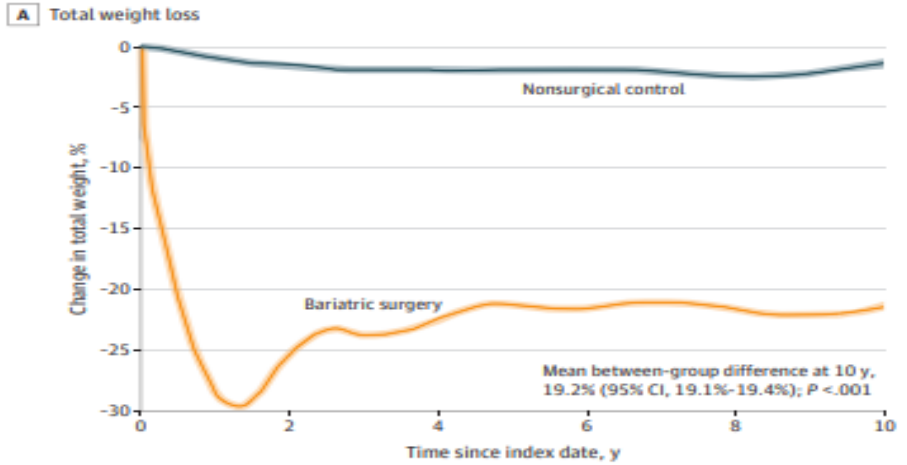
SGLT2I lower risk of all-cause mortality
(HR: 0.28; 95% CI: 0.25-0.31)

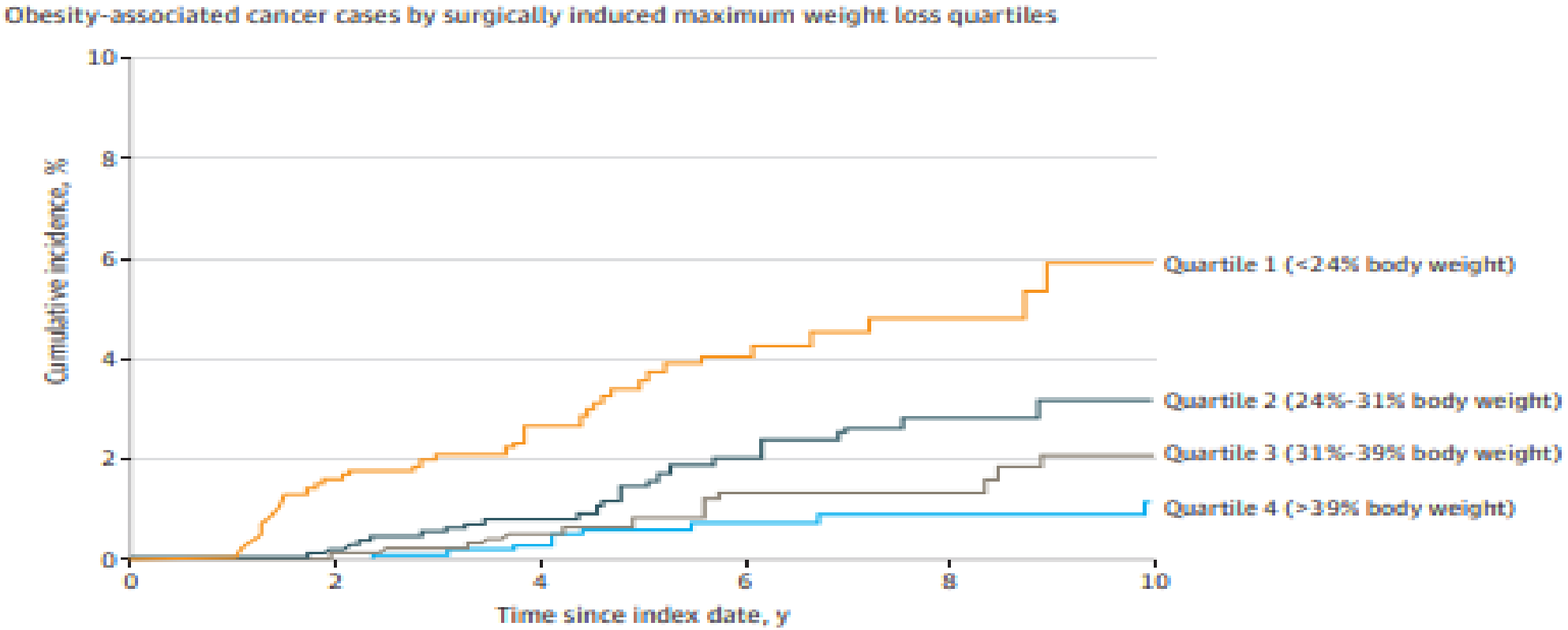
Patients on SGLT2I had a lower risk of NAFLD, and hepatocellular carcinoma compared to DPP4I after propensity scores matching and adjustments.

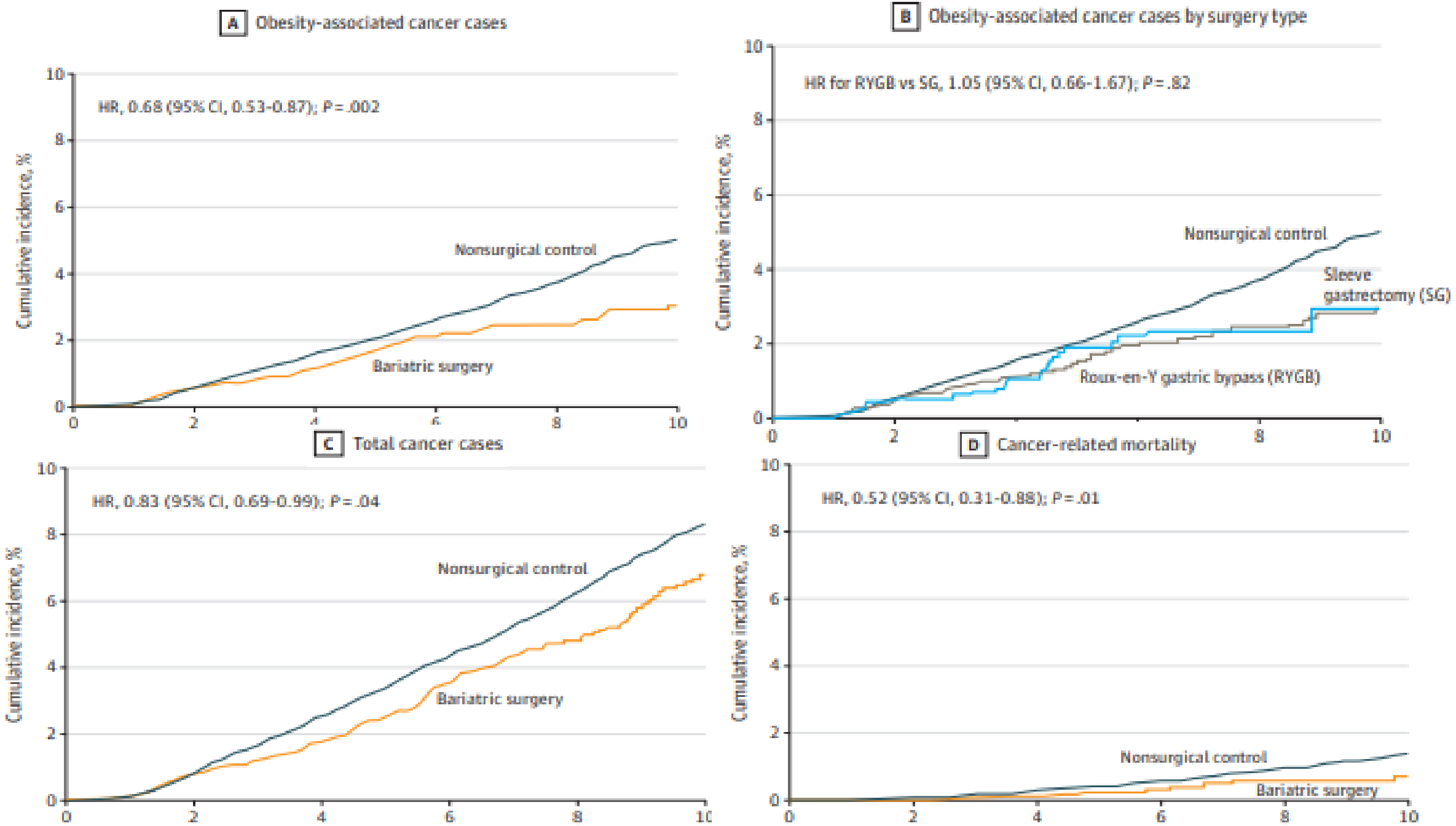
Lower risks of sodium glucose cotransporter 2 (SGLT2) inhibitors compared to dipeptidyl peptidase-4 (DPP4) inhibitors for new-onset non-alcoholic fatty liver disease and hepatocellular carcinoma in type 2 diabetes mellitus: A population-based study

Oscar Hou In Chou, Jing Ning, Raymond Ngai Chiu Chan, Cheuk To Chung, Helen Huang, Kenrick Ng, Edward Christopher Dee, Sharen Lee, Apichat Kaewdech, Tong Liu, Fengshi Jing, Bernard Man YungCheung, Gary Tse, Jiandong Zhou

Figure 4. Weight Loss and Cumulative Incidence of Primary End Point Stratified by Maximum Weight Loss Quartile







Cancer Risk and Mortality in Adults With Obesity Who Underwent Bariatric Surgery vs No Surgery

	No. of events/No. of person-years			
	Bariatric surgery	Nonsurgical control	Adjusted HR (95% CI)	*P* value for interaction
Sex				
Female	80/24923	680/131385	0.67 (0.51-0.87)	.65
Male	16/7291	100/37129	0.76 (0.44-1.31)	
Age, y				
<46	20/15475	160/88401	0.68 (0.42-1.09)	.80
≥46	76/16739	620/80114	0.63 (0.49-0.83)	
Body mass index[a]				
<45	46/14934	363/83807	0.77 (0.55-1.07)	.31
≥45	50/17281	417/84708	0.62 (0.45-0.85)	
Race				
Black	13/7652	143/39551	0.47 (0.27-0.84)	.19
White	79/23595	620/123422	0.71 (0.55-0.93)	
Other[b]	4/968	17/5542	1.58 (0.53-4.73)	
Taking a medication for diabetes				
No	58/20638	480/123242	0.69 (0.52-0.94)	.77
Yes	38/11577	300/45272	0.65 (0.46-0.94)	

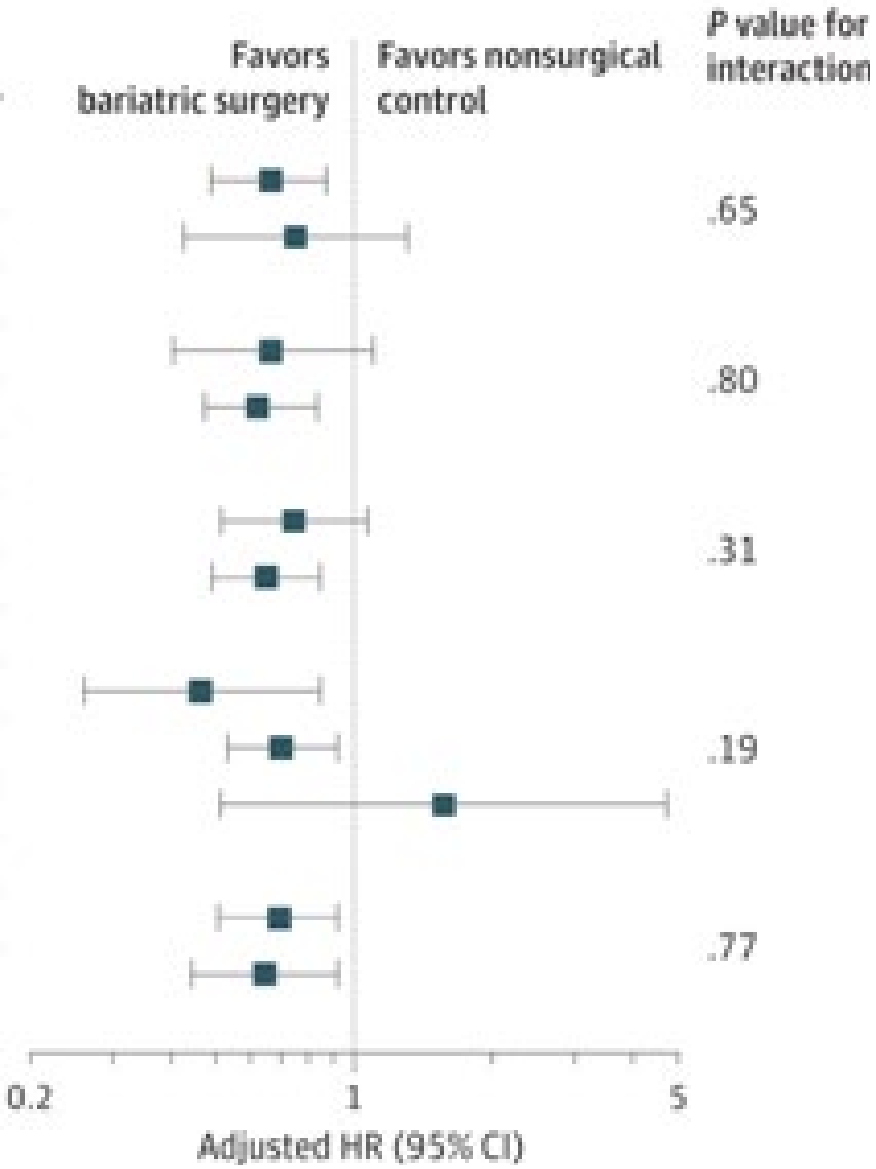


Tabella 1 ◆ **Effetti dei farmaci antitumorali sull'omeostasi glicemica**

FARMACI	GLICEMIA	HBA1C	MECCANISMO
Agenti ormonali - Agonisti GnRH (*triptorelina, leuprorelina*) - Anti-androgeni (*ciproterone acetate, flutamide, bicalutamide, nilutamide*) K prostata	↑ [64]	↑ [68]	Aumentata Ins-Res
Glucocorticoidi (*prednisone, prednisolone, metilprednisolone, desametasone*)	↑ [70, 71]	↑ [58, 71]	Aumentata Ins-Res
Inibitori mTOR (*everolimus, sirolimus, temsirolimus*) K mammella, neuroendocrini,renali	↑ [77]	↑ [58]	Aumentata Ins-Res
ICIs K polmonare,testa, collo,vescica, linfomi,melanoma - Anticorpi Anti-CTLA-4 (*ipilimumab*) - Inibitori PDL-1 (*atezolizumab, avelumab*) - Inibitori PD-1 (*nivolumab, pembrolizumab*)	↑ [89]	↑ [79]	Ridotta P/S Ins
Analoghi della somatostatina (*octreotide, lanreotide, pasireotide*) T neuroendocrini	↑ (pasireotide) [83] ↓ (octreotide) [84]	↑ [83]	Ridotta P/S Ins Ridotta P/S Gluc
L-asparaginasi Leucemia linfoblastica acuta	↑ [85, 86]		Ridotta P/S Ins
Agenti alchilanti (*cisplatino, carboplatino, oxaliplatino, ciclofosfamide, ecc.*) T. solidi	↑ [87-89]	↑ [58]	Ridotta P/S Ins?
Anti-microtubuli (*docetaxel, paclitaxel, vinorelbina, vincristina, ecc.*)	↑ [87, 90]	↑ [58]	Ridotta P/S Ins?
Anti-metaboliti (*5-fluorouracile, gemcitabina, capecitabina, metotrexate, ecc.*)	↑ [88, 91]	↑ [58]	Ridotta P/S Ins?
Antracicline (*doxorubicina, epirubicina, ecc.*)	↑ [87]		Ridotta P/S Ins?

Abbreviazioni: GnRH, gonadotropin-releasing hormone; Ins-Res, insulino-resistenza; HbA1c, emoglobina glicosilata; mTOR, mammalian target of rapamycin; ICIs, immune checkpoint inhibitors; CTLA-4, cytotoxic T-lymphocyte 4-antigen; PDL-1, programmed cell death ligand-1; PD-1 programmed cell death-1, P/S Ins, produzione/secrezione insulinica; P/S Gluc, produzione/secrezione glucagone.

End-of-Life Care

Recommendations

13.19 When palliative care is needed in older adults with diabetes, providers should initiate conversations regarding the goals and intensity of care. Strict glucose and blood pressure control are not necessary **E**, and simplification of regimens can be considered. Similarly, the intensity of lipid management can be relaxed, and withdrawal of lipid-lowering therapy may be appropriate. **A**

13.20 Overall comfort, prevention of distressing symptoms, and preservation of quality of life and dignity are primary goals for diabetes management at the end of life. **C**

The management of the older adult at the end of life receiving palliative medicine or hospice care is a unique situation. Overall, palliative medicine promotes comfort, symptom control and prevention (pain, hypoglycemia, hyperglycemia, and dehydration), and preservation of dignity and quality of life in patients with limited life expectancy (**111**,**115**). In the setting of palliative care, providers should initiate conversations regarding the goals and intensity of diabetes care; strict glucose and blood pressure control may not be consistent with achieving comfort and quality of life. Avoidance of severe hypertension and hyperglycemia aligns with the goals of palliative care. In a multicenter trial, withdrawal of statins among patients in palliative care was found to improve quality of life (**116**–**118**). The evidence for the safety and efficacy of deintensification protocols in older adults is growing for both glucose and blood pressure control (**88**,**119**) and is clearly relevant for palliative care. A patient has the right to refuse testing and treatment, whereas providers may consider withdrawing treatment and limiting diagnostic testing, including a reduction in the frequency of blood glucose monitoring (**120**,**121**). Glucose targets should aim to prevent hypoglycemia and hyperglycemia. Treatment interventions need to be mindful of quality of life. Careful monitoring of oral intake is warranted. The decision process may need to involve the patient, family, and caregivers, leading to a care plan that is both convenient and effective for the goals of care (**122**). The pharmacologic therapy may include oral agents as first line, followed by a simplified insulin regimen. If needed, basal insulin can be implemented, accompanied by oral agents and without rapid-acting insulin. Agents that can cause gastrointestinal symptoms such as nausea or excess weight loss may not be good choices in this setting. As symptoms progress, some agents may be slowly tapered and discontinued.

Different patient categories have been proposed for diabetes management in those with advanced disease (**55**).

A stable patient: Continue with the patient's previous regimen, with a focus on *1*) the prevention of hypoglycemia and *2*) the management of hyperglycemia using blood glucose testing, keeping levels below the renal threshold of glucose, and hyperglycemia-mediated dehydration. There is no role for A1C monitoring.

A patient with organ failure: Preventing hypoglycemia is of greatest significance. Dehydration must be prevented and treated. In people with type 1 diabetes, insulin administration may be reduced as the oral intake of food decreases but should not be stopped. For those with type 2 diabetes, agents that may cause hypoglycemia should be reduced in dose. The main goal is to avoid hypoglycemia, allowing for glucose values in the upper level of the desired target range.

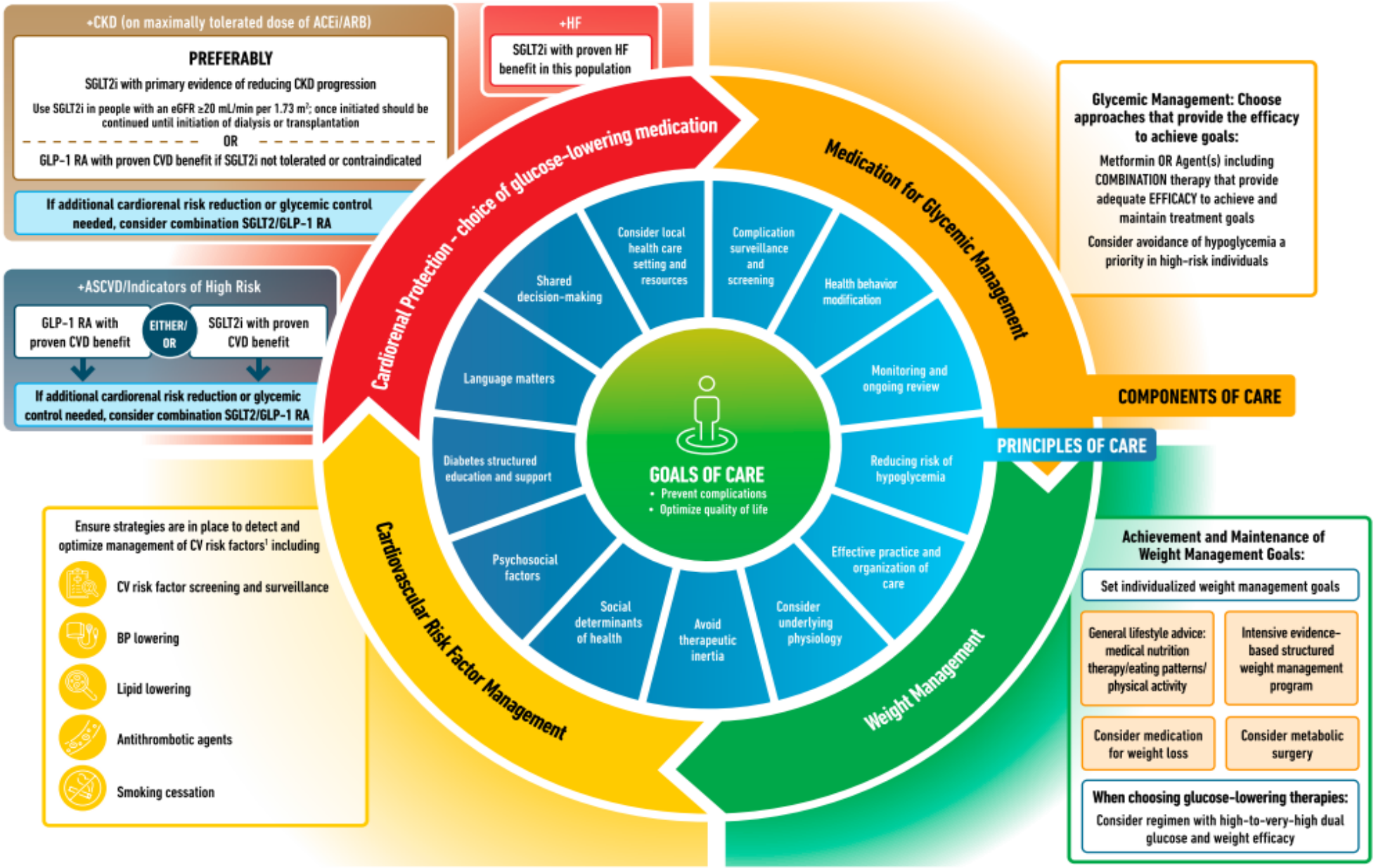
A dying patient: For patients with type 2 diabetes, the discontinuation of all medications may be a reasonable approach, as patients are unlikely to have any oral intake. In patients with type 1 diabetes, there is no consensus, but a small amount of basal insulin may maintain glucose levels and prevent acute hyperglycemic complications.

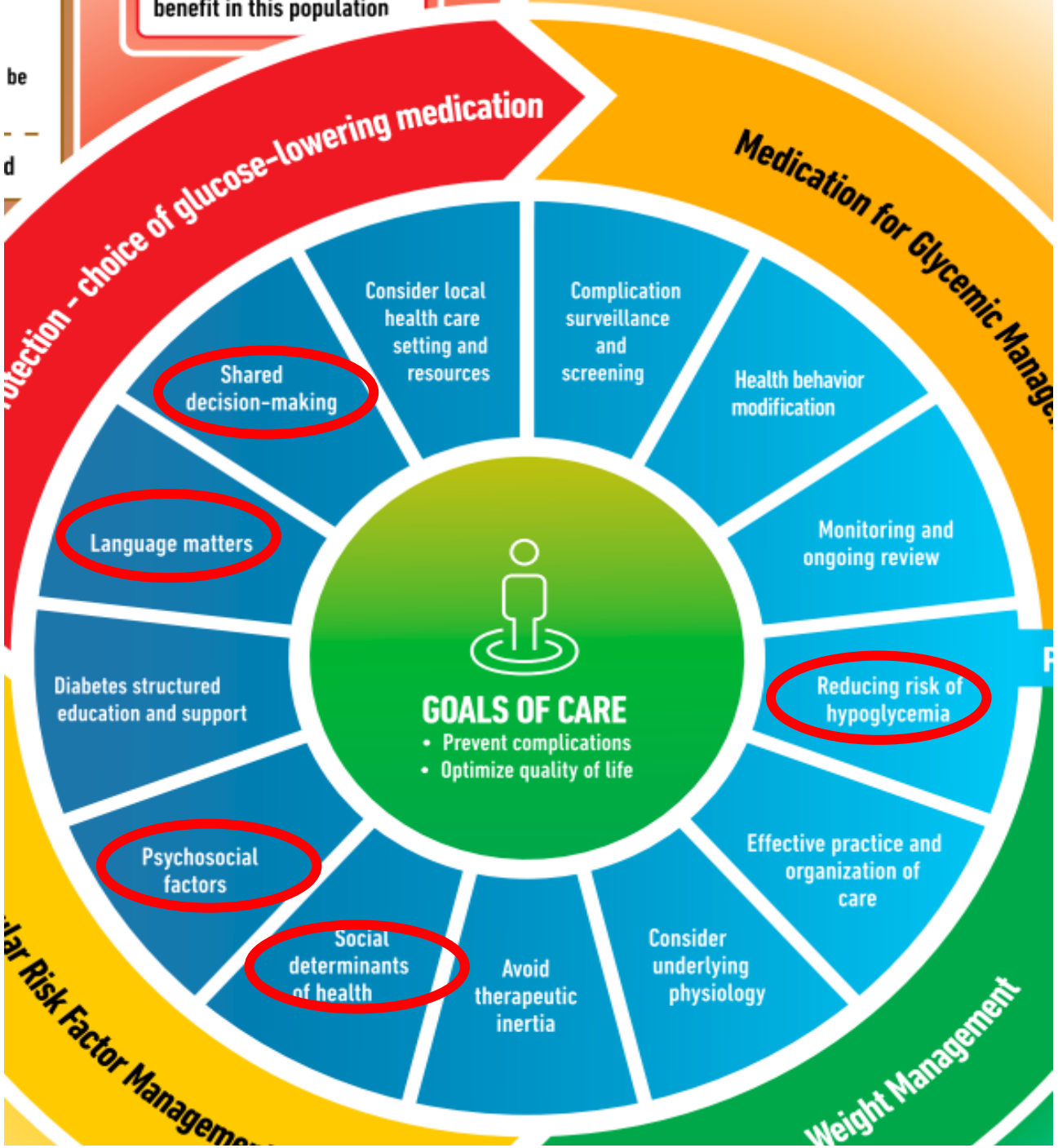
DECISION CYCLE FOR PATIENT-CENTERED GLYCEMIC MANAGEMENT IN TYPE 2 DIABETES

ASCVD = Atherosclerotic Cardiovascular Disease
CKD = Chronic Kidney Disease
HF = Heart Failure
DSMES = Diabetes Self-Management Education and Support
BGM = Blood Glucose Monitoring

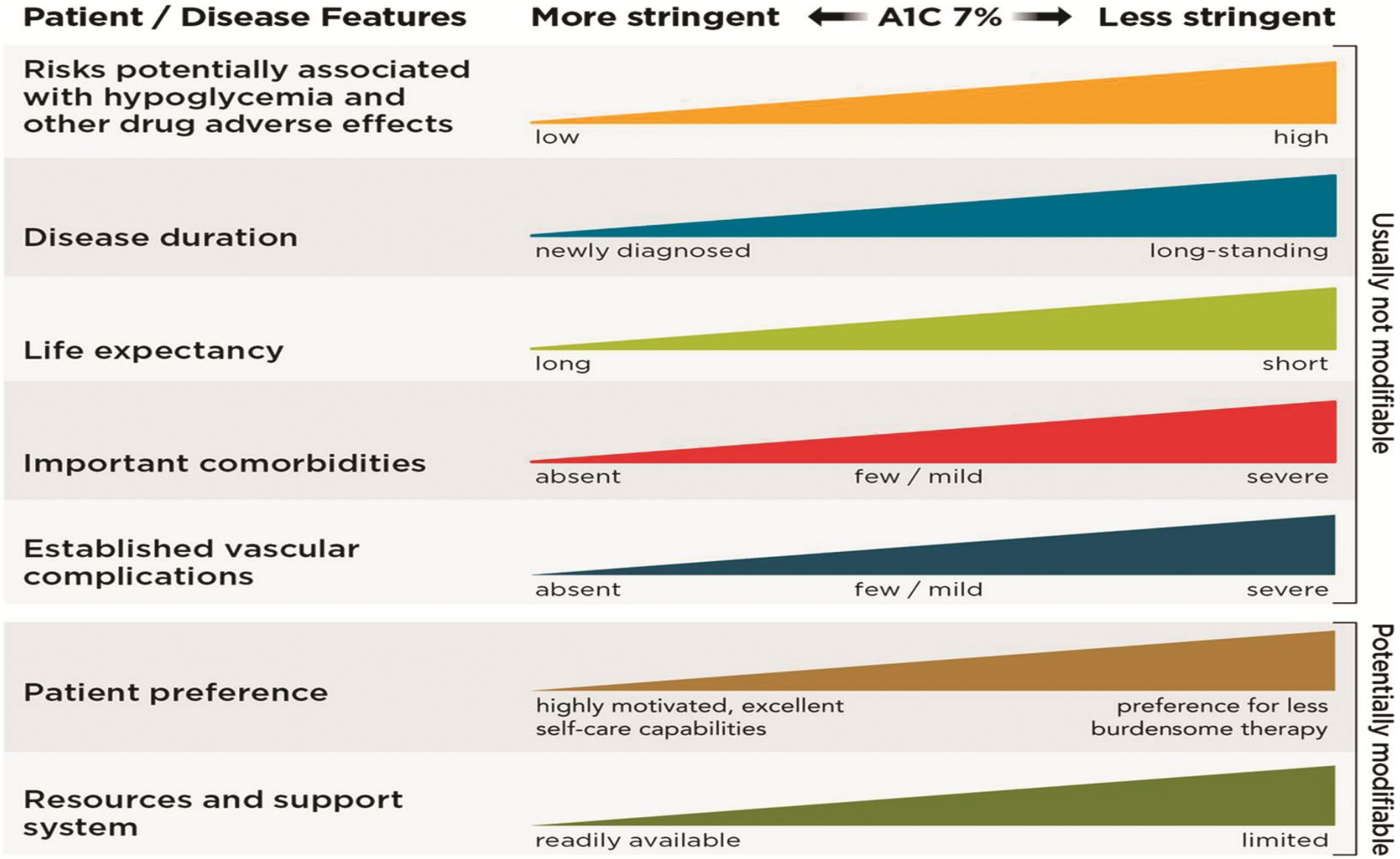
Diabetes Care. 2021;45(Supplement_1):S46-S59. doi:10.2337/dc22-S004

HOLISTIC PERSON-CENTERED APPROACH TO T2DM MANAGEMENT




benefit in this population
be
d
tection - choice of glucose-lowering medication
Medication for Glycemic Manage
Consider local health care setting and resources
Complication surveillance and screening
Health behavior modification
Monitoring and ongoing review
Reducing risk of hypoglycemia
Effective practice and organization of care
Consider underlying physiology
Avoid therapeutic inertia
Social determinants of health
Psychosocial factors
Diabetes structured education and support
Language matters
Shared decision-making
GOALS OF CARE
• Prevent complications
• Optimize quality of life
ar Risk Factor Managem
Weight Management

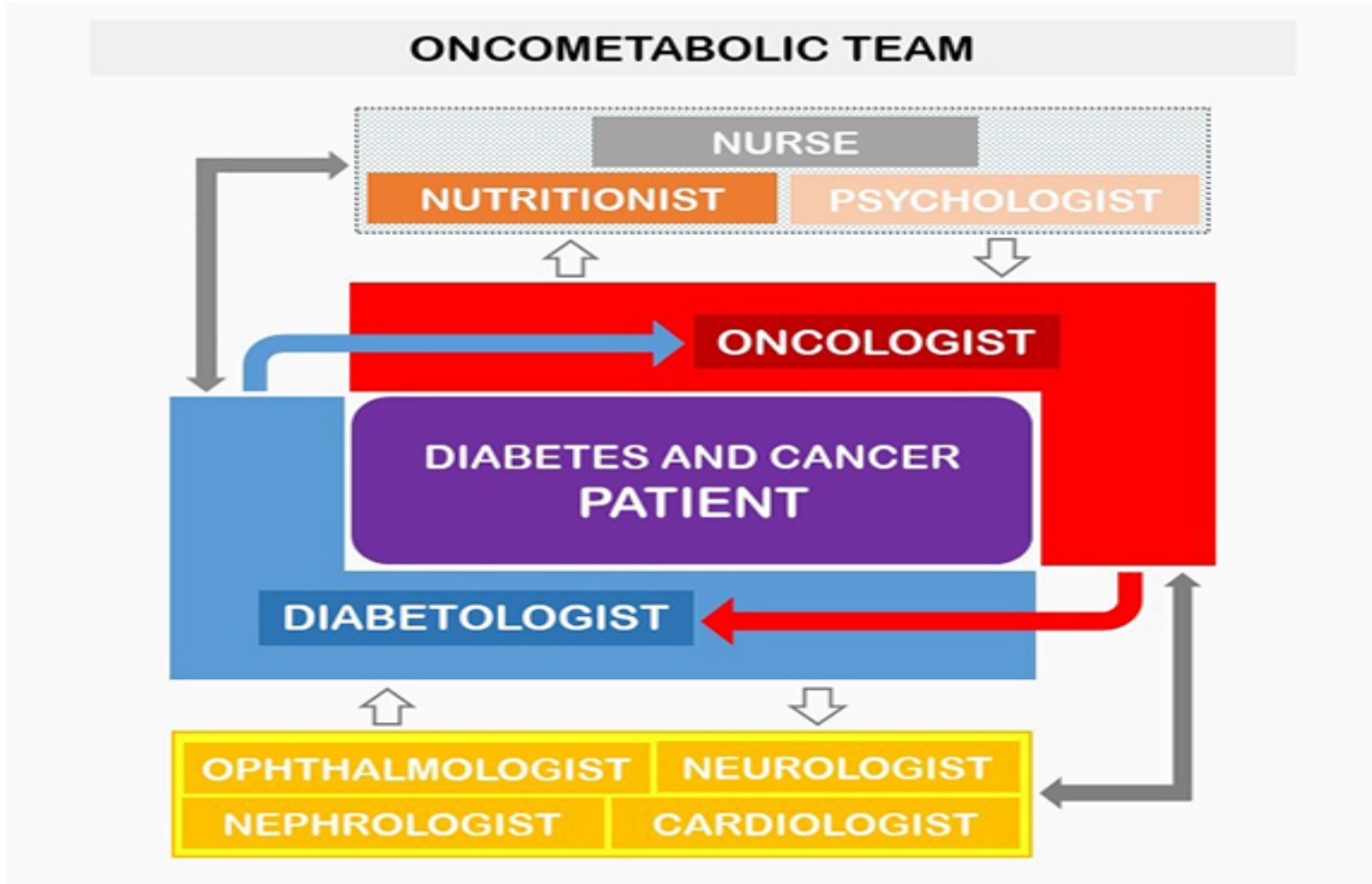
Approach to Individualization of Glycemic Targets



Diabetes Care. 2021;45(Supplement_1):S83-S96. doi:10.2337/dc22-S006

Grado 1 Glicemia mattutina **< 160** mg/dl	Continuare trattamento Dieta e modifiche sullo stile di vita Trattamento con metformina se iperglicemia permane nonostante dieta e modifiche sullo stile di vita
Grado 2 Glicemia mattutina **> 160 mg/dl < 250** mg/dl	Se sintomatico sospendere trattamento per 48-72 h fino al miglioramento Dieta e modifiche sullo stile di vita Trattamento con metformina Se FBG > 200 dopo 2 settimane aggiungere un 2° ipoglicemizzante Insulina per scarso controllo glicemico
Grado 3 Glicemia mattutina **> 250 mg/dl < 500** mg/dl	Sospendere trattamento programmato e riprendere con glicemia < 250 e asintomatico Modificare dose terapia Idratazione intravenosa Trattamento con metformina + un 2° agente ipoglicemizzante Dieta e modifiche sullo stile di vita Insulina per scarso controllo glicemico
Grado 4 Glicemia mattutina **> 500** mg/dl	Sospendere trattamento fino a risoluzione dei sintomi e riprendere trattamento con dose più bassa quando glicemia < 250 Idratazione intravenosa Insulina per rapido controllo glicemico Trattamento con metformina + un 2° agente ipoglicemizzante Dieta e modifiche sullo stile di vita

Modificata da Diabetes and Cancer: Risk, Challenges, Management and Outcomes Rabia K. Shahid , Shahid Ahmed ,* , Duc Le and Sunil Yadav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Domenico Voce
Diabetologia Crotone

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